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**Rules of the Game and Rules Inside the Game:
a Complex Framework of European Development Policies***

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Following the transaction-costs politics (TCP) approach (Dixit 1996), this paper tries to spell out the making of that development policy, as prevailing in the Objective 1 area in Europe from 1999, based on decentralization and multilevel governance, and essentially implied from the success of endogenous growth paradigm. The TCP approach allows for the explanation of both the genesis and evolution of a policy in real time, by considering (i) the policy-making as a set of general rules and of individual intervention actions, and (ii) this set in the same way of incomplete, flexible and dynamic contracts (Williamson 1985). In this theoretical context we reconsider the underlying innovative notion of decentralization, that consists in a devolution process of political power to local agents and their communities, by promoting local partnership rather than a mere administrative delegation of function from central to local level (Bardhan 1996). The outcome (success or failure) of this development policy approach is strictly connected either with new frame of governance rules or with their feasible "use": this means that a rules scheme would be not neutral with respect to objectives choices (Stiglitz 2001). In short, we refer to the agency model in order to explain either the enforcement process of rules or local implementation of specific development policies and measures. Finally the outcome policy will be not predetermined, but it will depend from how the agents (formal, informal, individual, groups, organisations) interact inside a community, that benefits by the set of development measures (complementarity) (Aoki 2001;Ray 2000).

Keywords: development policies, transaction-costs, agency model ,multiprincipals, multiagents, collusion, social norms, complementarity .

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1. Introduction

Dixit (1996, 2001), expanding the original intuition of North (1990) by which transaction costs matter *even* in politics, devotes more and more attention to build a theoretical scheme of the economic policy-making, that is explained in positive terms as a complex decision-process emerging and working “in real time, i.e. governed and conditioned by history” (Dixit 1996, p.5). This process is considered as a system of both strategic and non strategic interactions among all relevant actors (like legislators, politicians, bureaucrats, lobbies, formal organisations, informal social groups, leaders, etc), that are inevitably affected by problems of asymmetric information and power, credible commitments and rent seeking behaviours, and reputation. Therefore, either the bargaining over specific parties interests or the effective implementation of reached agreements depend on *how* and *which* agents interact and, basically, reflect those particular rules, humanly devised and/or adopted by those agents, just to interact each other. Within the current evolution of the political debate (Eggertsson 1998; Hoff and Stiglitz 2001) and the new institutional theory (Bardhan 2000; Klein 1977) about the old dichotomy “market versus government”, the transaction-costs politics (TCP) seems to provide a feasible view to overcome, respectively, specific market failures and government failures, observable in many different types of countries or regional areas.

Following this TCP approach, our paper tries to spell out the decision-making of that development and cohesion policy as prevailing in Objective 1 area of European Union, recently reformed and financed by three Structural Funds.¹ As well known, this policy is based on decentralisation principles and on a multilevel governance structure, and it is, in some sense, implied from successful results of the endogenous growth paradigm (Eberlein and Kerwer 2002). The TCP approach could allow, namely, for the explanation of both genesis and evolution of this policy (i.e. its design, enforcement mechanism, and implementation process), by considering not only the policy-making process as a previous design of a set of general rules and of connected intervention actions and corrective measures, but essentially considering this set, in some way, of incomplete, flexible and dynamic contracts (Williamson 1985).

In short, the analysis of this topic is intended to provide some new results and views, and they - even if referred to a bundle of similar case-studies, all interested from the uniform development policy and measures of EU - don't supply a general theoretical scheme, neither an impact evaluation method of this public policy, neither a complete description of the reality. But it supplies a hopefully useful "as if" framework with respect to the real multiple interactions among different actors of that local policy and, therefore, to feasible improvements of its enforcement mechanism and implementation ways.

There are, obviously, numerous approaches in the most recent development literature, that we could use to face the problems investigated in our paper; indeed, as well known, there are some works of empirical type, characterised by comparative descriptive analysis, and many approaches of theoretical type, that aim to unfold the mechanisms of policy in order to generate new development

¹ The new course of regional development policies in Europe began with (i) The Single European Act (1986) that institutionalised a cohesion policy, explicitly aimed to reduce development differentials existing and/or persisting across territorial areas, and to clean the delay of less favourites areas and (ii) with the reform of Structural Funds about

paths, just by assuming the basic elements underlying any theory of the economic growth (i.e. impulses of driving forces and propagator mechanisms). This current debate presents a lot of open frontiers that are drawn by various neighbouring social sciences, but that will be not discuss explicitly in our paper; instead, we focus our attention exclusively on some methodological points, that seem to be relevant for this process of regional development policies in objective 1 Euro areas.

In particular, because of the hypotheses, founding the normative design of European development policies as “soft laws” - such that the bundle of those inside-rules of the game, just created, played and sustained from bottom-up, is relevant in order to achieve the objectives of these policies in a local system (section 2) -, it follows that the TCP seems to be, nowadays, one of the most suitable approaches to explain and improve how these development policies are working *or* how they could fail “in the real time”. What makes the difference for the TCP approach, is that it does *not* treat “institutions” as a set of complete normative solutions (i.e. coordination/cooperation tools), designed by policy-makers, supposed to be exogenous players, perfectly rational and informed, like in mainstream of the new-institutional literature and of the theory of political economy (Dixit 1996). Namely, according to the mainstream economics, the positive economic policy would be fully determined in a way of unique equilibrium solution (Eggertson 1998). On the contrary it is strongly different to how local economic systems - even if driven by an identical set of new policies and corrective measures - are working “in the real time”.

Our interest for this topic sources from some experiences as economists working within an Objective 1 Euro area: we consider ourselves in that local actors, directly involved in a regional development process, that is assumed to be enforced by institutional linkages between political projects, the real economic environment and the social “atmosphere”, and to be improved by inside-rules of the game, i.e. of a “community” (Aoki 2001). Therefore, an “as if” framework may provide, in some ways, additional knowledge as close as possible to the reality, and further it could be an useful tool to devise better inside-rules of the game, and to promote complementary among agents at local level.

The paper is structured as follows: in section 2 we recall the well known aims and tools of the recent development policies of EU (starting from the Reform 1999); in section 3 we discuss some theoretical points, intentionally selected within the most complex literature of either New Institutional Economics (NIE) or Development Economics, and propose some ideas for our “as if” framework; in section 4 we clarify the assumptions and build a particular agency model; and finally in section 5 we provide some conclusions, both at methodological and political level.

2. The general rules of regional development policy of EU (2000 - 2006)

In order to support our theoretical investigation by facts, some principles, that regulate the European Development Policy for Objective 1 area, should be take previously into account. The Objective 1 area includes those less developed regions, characterised by a per capita GDP that is less than the 75% of the per capita average GDP in the European Union. The regions, with that

financing rules, definition of priority, endowment of resources, new criteria for monitoring and initial impact evaluation method.

features, are localized in nine countries of Union, over these we have to consider either the areas with less density of population, belonging to Finland and Sweden, or North Ireland in that involved in the PEACE program. The available funds for these zones, during the period 2000-2006, will be equal to €135,9 billions correspondent to the 69,7 % of the total amount of Structural Funds. The beneficiary people is equal to the 22% of the whole population of the European Union.

The building block of European policies, explicitly thought for regional development, at the end of last century, is the innovative notion of decentralisation. It consists, namely, in a devolution process of political and decisional power to intermediate territorial institutions, local agents and their communities, by promoting and enlarging partnership, vertical and horizontal subsidiarity, rather than a simple administrative delegation of specific competencies from central authority to local ones (Bardhan 1996; Hooghe 1996).

The development scheme for this type of depressed areas is based on some fundamental aspects. Firstly the definition of a development strategy, that introduces the idea of a more wide integration between the public choice and the action of the market, as necessary. The aims are: the development of the investment in infrastructures and social capital by national, regional and local partnership; the promotion and the impulse to the local development initiatives, strongly connected to the needs and to the characteristics of the territory, by stimulating the cooperation from bottom up. Secondly the definition of a scheme of public resources allocations, that is built, essentially, by considering the following aspects: the maximum comparison between all the agents involved; the different program-ideas on the basis either of the needs to fulfilling or of objective to ensuing; the analysis and the verification of the priority of interventions, and of the obtained results in the different phases of the programs; the selection, by this way, of the best experiences and more efficient and effective development action that, just for this reason, may be stimulated and, in some ways exported.

In short, by using this approach, the policy's objective is to point out problems and needs directly from the monitoring, that the involved actors carry out in the depressed areas and, subsequently, to propose interventions in terms of priority choices and strategic actions for economic development and social cohesion.

The new programming process is founded on the transparency of the choices and on the attribution of the responsibilities: the fundamental principle is that anyone may proposes and benefits of the development interventions, she or he plays, at same time, the role of monitoring quality and coherence of these actions.

Trough the evaluation method, applied in this programming process, it becomes feasible to determine the solution of the priority choices, by forecasting their capacity of weighing positively upon on the development paths. The evaluation have to be correct, effective and timeliness. That constitutes the fundamental elements in order to guarantee the quality of development strategy.

This type of programming owns, at the same time, the characteristics both of uniqueness - because the development strategy is only one -, and of institutional plurality - because a multiplicity of subjects are involved. Finally, it is possible to underline some meaningful elements within the key rules of the Structural Funds, that represent, in some sense, a synthesis of a particular background of analysis: the concentration of the objectives, of the areas and of intervention instruments; the relevance of the partnership and the evaluation in order to improve the responsibility of all actors; the role of the Commission that plays as strategic guidance and

programmatically overseeing; the distinction between operative programming and complementary programming, in order to separate the partnership phase of the development strategy from that operative and managerial phases of the policy making itself; the “**efficacy reserve**” by which incentives are introduced just to improve the efficiency and the efficacy of the operative programming; the financial mechanisms that provide better conditions for investments and, moreover, allow timeliness in the payment and, then, in the expenditures; the role of the management authority that supervises the management aspects; the control of the intervention functioning as a tool to guarantee a more efficient distribution of responsibilities; the Principle of Phasing out that is used to assure the gradual discharge from the objective 1 area of those regions that were belonging to this zone during the programming cycle 1994-1999.

3. An “as if” framework

3.1 The idea

Because a lot of stories can be told about the experiences that, “in the real time”, are linked to public policies, an “as if” framework seems to be useful to explain and enforce the regional development policy of EU. Our basic idea is the following: the outcomes of this policy reachable at local level (success or failure) will be not predetermined, but they will strictly be connected, in an experimental way, both with the new scheme of general policy rules - that is designed *ex ante* - and with the feasible, effective or potential, “uses” of this scheme by all agents or by their subgroups and organizations, who are working at different decisional levels. In other words: the policy outcomes will depend, in fact, on the specific and repeated linkages, that are realised in a country or in a region, between the frame of general rules, on one hand, and those peculiar choices set-up by all local agents (private, social, organizations, etc.) on the other hand. These agents are considered, namely, to be able to perceive, previously, those benefits and additional opportunities, provided just from the new frame of development policy rules and, subsequently, to be prone, in some way, to adapt their behaviours and plans of actions in order to exploit them.

In short, the intuition is that a new frame of general policy rules and of formal institutions represents only the necessary condition of a new regional development path, giving an initial impulse to reach the goals announced by the development policy for an economy. Whereas the sufficient conditions for these aims are constituted by the “in-the-real-time” bundle of behaviours, norms of exchange and choices, realized by local actors and their organisations and, essentially, by many feasible interactions, that are played among them, and that are driven-by and consistent-with the new frame of general policy rules.²

According to Aoki (2001) and Ray (1998), we try to model formally this idea with the game-theoretic language (section 4): the feasible outcomes of a regional development policy will be considered as one of the multiple equilibrium solutions of a game (bad or good), played jointly and repeatedly by various political and social economic actors, each of them with different roles and characteristics. The politicians play, namely, in the political domain in order to negotiate, select and establish, *ex ante*, the rules of the game, i.e. a set of general formal rules and corrective incentives.

² See Garofalo et al. (2002) for an application of this scheme to implementation of local welfare reform (L. 328/2000) in Italy.

Within the same real context, local actors - like individuals, intermediate institutions, temporary or informal groups, networks of firms, free associations of commons, etc. - play in the social economic domain, in order to project innovative and specific actions, and to implement the foreseen corrective measures.

The key-elements of our model are: the set of the general rules of the game; the set of unwritten rules inside the game that are “humanly devised” (North 1991) and, therefore, endogenously created in order to govern potential conflicts and interactions among local agents (these shape the historical nexus of “complementarity”: Ray 1998); and, finally, the specific and repeated linkages between these two sets (these shape the “institutionalised linkages”: Aoki 2001). Furthermore, the core of the model could be sketched in this way: (i) the specification of the enforcement mechanisms of general rules, development strategies and foreseen corrective measures. Particular attention is for the existing relationships between the European Commission - i.e. the organization that superintends to Structural Funds - and many different level of governance inside a national system: these interdependencies would be analysed in terms of an agency scheme, in that able to investigate the trade-offs between monitoring costs and monetary and non monetary incentive schemes. (ii) The specification of the repeated and specific interrelations among different types of local agents, that generate, in facts, a bundle of informal even if institutional rules, “enabling” to regulate their choices and exchanges (North 1993), in particular by reducing transaction costs - i.e. the costs of coordination and monitoring -, and by producing positive and non-pecuniary externalities - i.e. the advantages of a fair cooperation (Bardhan 2000).

With respect to this framework, it would be crucial for building our model and for finding feasible equilibrium solutions, to distinguish how the set of general rules of the game are generated and are working, from how a particular bundle of local rules inside the game is emerging and eventually produces complementarity at local level, as well as how the strategic links among these sets are historically (self)enforced. However, to build our “as if” framework, the distinction among these three elements is concerning only the preliminary phase of conceptualisation, relative to the process of an economic policy "in the real time". Namely, even if there is a growing consensus about the fact that “political institutions contribute to determine the choice of economic policies, which, in turn determine economic success” (Aghion at al. 2002, p.2), there are not yet unambiguous views³ about these aspects: first about which are the feasible influences and power relations among different types of agents and domains of a complex system (Grossman 2000); second about the basic assumptions on what and who are exogenous or endogenous elements of the game (Basu 2000; Dixit 1996); and, finally, about the actual and potential weight of the path dependence hypothesis *versus* the expectation hypothesis (Ray 1998).

Furthermore this preliminary phase is useful only to identify “who does what” in a game and

³ Bardhan (2000) classifies the literature relative to “institutions influencing or impeding development” in two main strands: the first strand is associated to imperfect information literature and explains the rationality of institutional agreements (both formal and informal) in terms of strategic behaviours among different parties: the institutions are substitutes of perfect rules and markets under asymmetric information and moral hazard; the second strand produces comparative analyses of historical development processes, by emphasising the nexus between scale economies, specialisation, and transaction costs. Lin and Nugent (1995) are quoted by Rodrick (2000, pp. 2-3) for an excellent survey of huge literature on “institutions that are influencing development like as social infrastructure, bureaucratic quality, social capability and institutions of conflict management”.

to simply differentiate the role of political institutional set-up from that of actual implementation of institutional exchange rules and political aims.⁴ Our emphasis is on *how* to enforce and implement these rules and aims, that means *how* to induce private coordination, *how* to incentive cooperation instead of adverse competition, *how* to promote learning of norms and rules, and finally *how* to sustain compatibility of decisions and interactions among government, bureaucrats and private agents. As said before, the core of our framework consists of “institutionalized linkages” as well as of the historical complementarity. It means that aspects like the genesis and the design of new policies and new formal rules of the social economic game are left out our agency model; whereas how this setting are legitimated and, in some way, self enforced constitutes the core of our model, that formalised potential interdependencies between the utility functions of different players.

To summing up, there is a naïve question that underlies the paper: do public policies and institutions modify the pre-existing patterns of individual or social behaviours, promote effective procedures of decisions, and then affect territorial and power relations? If local agents, both private and public, internalise these policy strategies and institutional rules, how does a particular regional/local system move from a given development path to another? In other words: can the policy and institutional rules be an effective vehicle of the development policy objectives in the reality?⁵ And, if yes, how?

Moreover, there is a key question that guides both sketching of our theoretical framework and building of the our evolutionary game, in a way of strict compatibility with the peculiar development and regional policies of EU, founded on partnership and horizontal and vertical subsidiarity. The key question sounds like a challenge to social economic disparities that persist within EU: how can an uniform regulatory system (in our case the EU cohesion policy) take into account, effectively, the historical legacies and many regional political-institutional traditions, and, in addition, how can it alter territorial and power relations generated by sub-national authorities? In other words: can the uniform policy of EU initiate a convergence of development paths across and within national systems, that are characterized, actually, by persistent and new phenomena of dualism? (Hooghe 1996) Vice versa, observing the non homogeneous economic performances across local systems and within a national or supranational system, that, any way, are driven by a uniform development policy, but enforced and implemented by different propagator mechanisms: should they be evaluated as a success of that uniform policy, i.e. as multiple equilibria?

3.2 The literature

In order to answer - even if roughly - all the above questions, it is preliminary to clarify what we mean by using terms like “policy rules”, “institutions” or “institutional(ised) rules” and, more essentially, what we think by asserting that “policy and institutions matter” to induce a development path of “high quality” (Rodrick 2000) in any specific economic system.

⁴ Roughly speaking when we use the term “political institutional” (instead of “political” and “institutional” as two different terms) we are referring to the complex system of formal rules, criteria to encompass divergent interests and the negotiated hierarchy. The term “social economic institutional” is referred to the creation of informal rules and of exchange actions, that produce a specific context of norms.

⁵ Stiglitz (2001) investigates on the nexus between policy rules and policy objectives, asserting that policy rules are not neutral with respect to the intended objectives: he discusses this position with respect to the nexus between democratic procedures of decisions and social economic development objectives.

At the first glance, looking at the updated new institutional theory or evaluating the added values of direct knowledge derived from many comparative analyses, it seems to be not yet available a complete taxonomy of all the existing and potential rules, that constitute the appropriate institutional support for a better functioning of a variety of social and economic systems, in that differentiated at local and historical level. Furthermore, the current political debate is still open, and not only in the European context: that is because, on one hand, the consensus in favour of development incentives (micro and macro, monetary or not) is rising, but “incentives would not work or generate perverse results in the absence of adequate institutions” (Rodrick, p.2), on the other hand. The set-up of development incentives is salient, namely, only within a context of a regulatory apparatus against moral hazard and anticompetitive behaviours, of well-defined property rights, of trust and cooperation, of a clean government and bureaucracy and of institutions for macroeconomic stabilization and social insurance. In turn, the expected efficacy of an appropriate set-up of incentives depends on how are built and “acquired” those institutions that, in fact, could matter against local and persistent disparities.

With respect to our case study: the pervasive process of reallocation of authority upwards, downwards and side way from central States assigns political legitimacy to a multilevel governance structure (Hooghe and Marks 2001) and to a wider participation in the process of institutional design and political decisions. In addition, the not yet definitely solved problem about how this structure should be, in fact, organized, assigns theoretical legitimacy to the previous assumption on the dependence of policy measures and rules (i.e. the incentives set-up) from a locally appropriate institutional apparatus, as usually shaped by written rules and “tacitness”. The participatory approach and the democratic decisional rules constitute a “meta-institution” to build “good institutions” for a development process (Rodrick) and, therefore, it is supposed to be strongly complementary and not neutral to a multilevel structure for local governance (Stiglitz).

In other words: because there is neither a superior and unambiguous definition of salient development institutions, nor a unique way to acquire, internalise and implement these institutions, it follows that (i) the theoretical usefulness of such definitions and (ii) the political efficacy of a real building strategy of an institutional apparatus, are correlated to the specific aim of the analysis (Aoki), and that, therefore, guides the selection of the literature.

(i) About the definition of institutions and their interdependencies, North (1990) represents a crucial starting point for the following reasons: institutions are not more considered alike to technological constraints and resources endowments, that exogenously restrict the opportunity set of individual choices, but, on the contrary, they are humanly devised rules of behaviours, that enabling agents to guess their feasible set of choices and, therefore, to transact; and, institutions - as rules of an economic game - are assumed to be distinct from the players of the game (organizations, policy makers).

North sheds some lights on our aim, that is to formalize a better strategy for building/implementing an appropriate multilevel governance, leaving aside the model aspects relative to the formal phase of legislative design and of incentives set-up.⁶ The core of our agency

⁶ Basu (2000) rejects the standard view such that policy makers are “immaterial” and social norms and institutions are an exogenous black box, and develops a “more socially inclusive view” about the economic intervention of the State, by treating government’s people as players of the economic game, each of them characterized by personal motivations and strategies. Dixit (1996) is quoted as a pioneer in this theoretical strand. But, even if this perspective seems to be attractive – because nothing is completely exogenous -, it will be not adopted in our paper, where, instead, we will develop only an inclusive view of social norms and institutions of an economy.

model is, namely, to specify if and how the set of formal rules could effectively be implemented. That consists in formalizing under which historical conditions the problem of enforceability of these rules could be effectively solved, by generating, in an endogenous manner, a local appropriateness between formal “prior” rules of the game and informal rules of the game. In short, “even if good formal rules are borrowed from without, tension may be created since indigenous, informal rules are inert or difficult to change. As a result a borrowed institution may be neither enforceable nor functional” (Aoki pp. 1-2).

Economists usually solve this question of enforceability in game theoretic terms, such that the strategic and repeated interactions of the agents, according to their motivations, create endogenous norms, that subsequently became self enforcing. This is conceptualized by the notion of institution as an outcome equilibrium that is selected from many others outcomes, all of them are equally feasible. A particular outcome equilibrium depends on how the model about these interactions is specified and, in fact, depends from the context in which agents are socially embedded (Aoki).⁷ Therefore multiple, Pareto sub-optimal equilibria could be generated as solution of a game. But the problem is concerning on how.⁸

Our main reference is Aoki (2001). Following his innovative conceptualization (pp.10-21; 205-241), the key elements of an institution are the shared beliefs, a summary representation of an equilibrium and endogenous rules of the game. An institution is characterized, namely, “as a self-sustaining system of shared beliefs about a salient way in which the game is repeatedly played”, i.e. about a class of rules of the game, that is not exogenously desired or imported from “culture” or “polity”. These rules are endogenously created, because the interacting agents share some beliefs “in a self sustaining manner” and, basically, these beliefs are considered “relevant to the consequence of their choice....The content of the shared beliefs is a *summary representation (compressed information)* of an equilibrium of the game” (Aoki, p.10). It implies that, if the agents behave reciprocally according to informal rules (beliefs, common incomplete information), that is because they have recognised them, tacitly and repeatedly, as a source of an equilibrium that coordinates their beliefs, i.e. as an institution that guides the playing of the game. In sum “a representation is an institution only if the agents mutually believe in it. From this perspective, statutory law and regulation *per se* are not institution if they are not necessarily observed” (Aoki p.13).

Again following Aoki, there are at least two theoretical advantages linked, to this equilibrium approach, for our investigation. Firstly it helps to decode the endogenous genesis and implementation of the rules of the game in an economic game and to solve the infinite regression concerning the problem of how are generating, endogenously in other exchange domains (social, political) those rules, that are, however, relevant in the economic domain. “The institution - as-an equilibrium approach provides a conceptualisation of the *interdependencies of institutions* operating within the economy” (Aoki p. 17; *cursive is ours*). For the aim of our analysis, it means that a development policy, a legislative design and a complex regulatory apparatus can achieve the expected objectives only if they are historically implemented in an adequate way, or only if the

⁷ Basu compares three notions of social norm: rationality limiting norm, preferences changing norm and equilibrium solution norm, and points out that only the last one is compatible with individual interests of economic agents, who select an equilibrium “if more than one are available” (p.73). this notion is considered most relevant for economics. Furthermore, Aoki uses the recent evolutionary game theory in order to explain the “synchronic problem” relative to the genesis of an institution.

⁸ Aoki discusses to view of institution as an equilibrium solution: the evolutionary spontaneous order and the sub game perfect equilibrium.

economic agents perceive and internalise the benefits of them. In short, the policies rules - i.e. the rules of the game - are locally consistent and mutually reinforcing with the economic rules - i.e. the rules of playing in the economic domain or the rules inside the game. Institutional interdependencies take the form of either institutionalized linkages and institutional complementarities. The main differences between these two classes of nexus consist in the consequences associated to them. By the former, agents play across different domains (political, economic) and they are supposed to repeat interaction *strategically*: they are producing positive externality from coordination of their choices that benefit all or some the agents playing within the economic domain. By the latter “agents may *not strategically* coordinate their choices across different domains because of limited scope of their choices [and] limited perception...as a consequence then may arise interdependencies of institutions across domains” (Aoki p.208; course is ours), conceptualized as complementarities.⁹

(ii) About the strategies of building and implementing an appropriate institutional apparatus, Dixit (1996, 2001) represents a critical starting point with respect to the standard approach of political economy and policy reform, as summarised by the well known work of Buchanan. His point regards, namely, a successful policy design just by altering those “institution and organizations in the desired direction”, i.e. to “anticipate transaction cost” and, therefore, to “cope asymmetric information and self enforcing problems” (Dixit 2001, p. 2). The methodological core of this debate is concerning the ambiguous relations between the normative/political level of an economy and the implementation phase of a policy. The expected outcome and the effective economic actions depend on the basic action assumptions either about how agents play their game, respectively in the political and economic domain, or about the interdependencies within any specific domain and across different domains.

The standard view of Buchanan is a deterministic solution, in that he doesn't maintain, by hypothesis, no degree of freedom for agents. In particular, he distinguishes “two stages of policy process: designing the constitution or setting up the basic institutions of policy making on one hand, and the operation of these institutions in individual instances of taking and implementing policy decisions, on the other hand” (Aoki p.3). In terms of a strategic game, the interactions among the agents are, respectively, the design of the rules of the game and the play of the game. Finally, because the constitutional writing stage takes place behind the veil of ignorance, it follows that an unanimous consent for generally fair rules is achieved at the policy making and intervention stage.

Alternatively, the more realistic assumptions - like as asymmetric information and moral hazard, distribution of power, elites and special interest - should be introduced in order to characterize the features of political and economic agents as well as their interactions. It implies that the optimal design of a development policy and institutional rules take the only feasible form of incompletely written, dynamic and flexible contracts and agency relations, to be implemented, historically and locally, as desired and expected. Indeed, any political proposal of pooling an economy out of one development phase to another represents only the start up of a medium long run process: it is, typically, endowed with a wide degree of freedom, and it is shaped by legislative frame, its emendations and ways of implementations up to the formation of a supervision organization and its activities.

⁹ See Ray (2000, p.6): “the basic idea of complementarity” is “a particular form of externality in which the taking of an action by an agent increases the marginal benefit to other agents from taking the same (or similar) action”.

Again following Dixit, “the reality spans a continuous spectrum between the two categories” relative to the design of rules and play of the game. In terms of mechanism design literature, three stages of asymmetric information could be distinguished within a this spectrum: ex - ante, interim and ex - post. “At the ex - ante stage there is a great deal of uncertainty but not asymmetric information...at interim stage, information starts to get revealed but in an asymmetric way... the ex - post, if it ever comes, information is fully and publicly revealed... Most attempts at policy reform occur not at the ex - ante stage but at an interim in the evolution of information in a society... Information emerges and special interests evolve all time” (Dixit 2001 pp. 4-5). Finally, the underpinning ideas of this literature could be summarized as follows: to be successful, a new development policy should include a necessary condition and a sufficient condition: the former concerns the re-designing of an appropriate institutional apparatus, and the latter consists in the founding this policy on equilibria of repeated social interactions, that give credibility to the policy.

4. Some preliminary considerations in order to construct a simple Model

We have n agent and n principal , the principals are risk - neutral and the agents are risk - averse. X represents the level of output feasible at the end of the contract, furthermore we consider the probability that X can take two values: X_H , X_L that denote respectively high level of output and low level of output. Now we have to describe more precisely the scenario of this model, essentially we have a situation in which there are, simultaneously, more than one principal (n principal) and more than one agent (n agent).

The characteristics of the Principals

We consider a set of principals constituted from two subset: one subset of principals A, in the formal grand contract (*rules of the game*), cannot get any information, in some case, on the agent effort. The other subset B is constituted from of principals as well supervisors, they built the *rules of the game* together with the principals of subset A and know all information about the contract and the agents efforts. We define $b_j X$ is the benefit of principal j. We assume that each principal receive a positive benefit B and for this reason, we can affirm that the total benefit of whole set of principals will be equal (Dixit 1996):¹⁰

$$\sum_{j=1}^n b_j X$$

$$0 \leq b \leq 1$$

$$\sum_{j=1}^n b_j X_H > \sum_{j=1}^n b_j X_L$$

The aggregate benefit in the case of high effort is higher than that in low effort case.

Finally we assume that the principals are risk - neutral, thus their purpose is to build a contractual framework that maximizes their own expected monetary return.

The characteristics of the Agents

The agents constitute a group, each of them chooses an effort level, but the result of all effort will be a single output X for the whole group. The output can take two values: X_H , X_L that denote respectively high level of output and low level of output. Each agent has a reservation utility U^* , which is exogenously given, thus the principals should provide the agent an expected utility of at least U^* , as we well know this represents, in the principal - agent theory, the participation constraint. In this context we have n agents, thus we can write the total effort of agents group that could generate the output X_H or X_L by the following expression:

$$\sum_{i=1}^n h_i$$

We want to underline that, at this point, we don't specify the type of effort (high or low) and we remind that principal consider only a single value of output for whole group of agent.

Finally, we assume that all the agents have the identical level of reservation utility.

Linkages between effort and level of output

The level of output depends from the efforts of each agent belonging to group. We suppose that the agents can choose between two different levels of effort h :

$$h_L = 0$$

or

$$h_H = 1$$

Thus we can conclude that if all agents put in effort $h_L = 0$ the probability of X_H will be equal to q , on the contrary if all agents put in an effort $h_H = 1$ the probability of X_H will be equal to p , clearly $p > q$. When $h_H = 1$ there will be a cost Ch_H for the agent and furthermore there is no cost in case of low effort.

¹⁰ We want underline that this is a different case because in the Dixit model we have multiprincipal, multitask and a single agent, whereas in our context we consider multiprincipal, multiagent, without multitask.

$$X = \begin{cases} X_H \text{ with probability } p \text{ if } \sum_{i=1}^n \mathbf{h}_{Hi} \\ X_L \text{ with probability } q \text{ if } \sum_{i=1}^n \mathbf{h}_{Li} \end{cases}$$

The Utility function

We know that each agent is risk - averse and perceives a monetary payment w , so we have the following utility function of money:

$$U = U(w)$$

This function has two fundamental characteristics: is strictly increasing and concave function. The second characteristic will be express by the inequality:

$$\begin{aligned} \mathbf{J}U(w_1) + (1-\mathbf{J})U(w_2) < U(\mathbf{J}w_1 + (1-\mathbf{J})w_2) \\ 0 < \mathbf{J} < 1 \end{aligned} \quad (1)$$

In the (1) w_1 and w_2 represent two different values of agent's income and \mathbf{J} correspond to a proper fraction. This inequality implies that the agent expected utility is lower in the case of two uncertain levels of income than in the case when he will receive surely the monetary income.

Three fundamental assumptions

Assumption 1: when $\mathbf{h}_H = 1$ there will be a cost $C\mathbf{h}_H$ for the agent, thus the cost of efforts will be positive if and only if there exists just one agent i , belonging to set of agents, that put in an effort \mathbf{h}_H

$$\text{iff } \exists \mathbf{h}_{Hi} = 1 \Rightarrow C \sum_{i=1}^n \mathbf{h}_{Hi} > 0$$

Assumption 2 (Ray 1998): a high effort $\mathbf{h}_H = 1$ of all agents maximizes expected net surplus of group and is Pareto efficient.

Formally we can show that:

$$pX_H + (1-p)X_L - C \sum_{i=1}^n h_{Hi} > qX_H + (1-q)X_L \quad (3)$$

thus after some simple passages

$$(p-q)(X_H - X_L) > C \sum_{i=1}^n h_{Hi} \quad (4)$$

Assumption 3 (Ray 1998): given the first assumption, whatever the actual choice of effort, the expected net output produced is in any cases enough to grant the agents of group their reservation utility U^* .

Formally we can write the following inequality:

$$qX_H + (1-q)X_L \geq w^* \quad (5)$$

The term on the right hand side of inequality represent the payment that will provide each agent his reservation utility, so we can write :

$$U(w^*) = U^* \quad (6)$$

Finally we assume that all the agents have the identical level of reservation utility.

First Best Scenario

In this case we assume that the group of principals get all information about the agent's effort (the behaviour of agents is perfectly observable, thus the difference between principals and principals - supervisors doesn't exist). For this reason the principals "cooperate" because either the subset A of principals either the subset B (supervisors - principals) have the same information. The group of principals can state that should correspond to agents a certain payment w_H if each agent make an effort $h_H = 1$.

Clearly, the group of principals, by first assumption, will prefer the effort $h_H = 1$ and pay w_H instead of the effort h_L paying w^* described above. Thus everybody knows everything, everyone principal, belonging to subset A and B, has the complete information about each agent, this implies

that inevitably everyone agent put in an effort $h_H = 1$ and this is what the principal exactly wants. In this context is necessary to consider only the participation constraint, without use the incentive constraint.

In the context of perfect knowledge, for all the actors, we consider the hypothesis that the principals offer a wage w_H to each agent in the case of a high output, and a wage w_L in the case of a low output, obviously $w_H \neq w_L$.

The principals want to maximize the benefit, so their objective is to correspond each agent a payment that assure almost the level of his reservation utility.

Formally we can write:

$$zU(w_H) + (1 - z)U(w_L) = U^* \quad (7)$$

Where z is the probability of high output where the agent put in the h_H effort.

Consider the expected payment w^\bullet that is:

$$w^\bullet = zw_H + (1 - z)w_L \quad (8)$$

We know that each agent is risk averse, thus his utility function is concave and strictly increasing, consequently we can write:

$$U(w^\bullet) > zU(w_H) + (1 - z)U(w_L) \Rightarrow \quad (9)$$

$$\Rightarrow U(w^\bullet) > U^* \quad (10)$$

The (10) show that if the principals offer two different payment, as a result should correspond to agent a payment that provide more than his reservation utility.

Elementary we can argue from (10):

$$\begin{aligned}
U(w^\bullet) - U^* &= q \\
q &> 0 \\
\Rightarrow U(w^\bullet) - q &= U^* \qquad (11)
\end{aligned}$$

Clearly the principals try to maximize their benefit minimizing the payment under the value w^\bullet , originated from the existence of two level of payment, reducing it exactly of value θ .

We can conclude that in our case, because of perfect information, the solution of the problem is to correspond exactly a fix payment that assures to each agent his reservation utility. It is trivial that, with perfect visibility, of efforts the value of z will be 1, consequently we can rewrite:

$$U(w_H) = U^* \qquad (7\text{bis})$$

$$w^\bullet = w_H \qquad (8\text{bis})$$

$$U(w^\bullet) = U^* \qquad (10\text{bis})$$

$$q = 0$$

The best solution in perfect information is to stabilise a fix payment in the contract for a “determinate” and visible effort, that cover exactly the reservation utility of the agents. Moreover it is fundamentally to underline that we have multiagent and multiprincipal that, exactly, act as one principal and one agent, because of perfect visibility of behaviour, we don't show up the presence of free - rider in the set of agent and in the set of principal. All the principals maximize in the same way, and all the agents have an identically utility reservation and put in the same level of effort.

The Second Best scenario

In this context the effort of agents aren't observable from principals, but the principal cooperate and act exactly as one principal. The principals - supervisors inform the other "simple principals" about all their knowledge on the behaviour of agents. Thus all the principals belonging to set A and set B have the same level of information, so the effort of agents will hidden for both group.

The principals decide to pay on the base of results, corresponding a high payment w_H for high output and a low payment w_L for low output. In this background the objective of principals will be to induce all the agents to put in the high effort. On the other side we consider another complex situation, namely the output is unique for whole group, this implies the possibility, for some agent, to put in low effort because either all principals or other agents cannot observe their actions. The principals build the incentive constraint considering the fact that isn't possible to know the actions of agents and trying to stimulate the cooperation between agents.

The fundamental problem of Principals is what happens inside the group of agent. In this background we observe the rise of the "*rules inside the game*"; namely each agent can choose his strategy given the same set of strategy for each player {Cooperate, Defect}. Moreover it's credible to image two possible second best scenario, one in which the agents know that they act in one shot

game and another in which they choose the action considering to be involved in a repeated game. Finally the Principals have to consider the existence of community norm that influence the choice of strategy of each agent (Aoki 2001). Basically this implies the necessity to modify the structure of incentive constraint and participation constraint in order to induce all the agents to put in a high effort and to reduce the probability to defect to 0.⁶

The Third Best Scenario

In this case we suppose that the principals, belonging to the set A, can't observe the efforts of agent; on the contrary the principals - supervisors observe perfectly the efforts of agent. Thus we consider different level of information in the group of principals, this implies two possibilities for the supervisor: report the true or report the false. In the first case there will be cooperation between the principals, while, in the second case, the principals - supervisor will decide to maximize their benefit function, above described, in a different way. This eventuality generates a complex situation in the group of principals and, inevitably, influences the behaviour of the group of agents.

We know that the output is unique for whole group; the agents, in that situation, know that their efforts will be perfectly observable only from the principals - supervisors. This determine the possibility of the rise of transaction cost due to the collusive side contracting between supervisor and supervises (Laffont, 2001); There is the probability that supervisors may be use their information to obtain advantages, not only by their benefit function, but also from a side contracting with agents. As well agents may be collude with supervisors in order to put in low effort and obtain a high payment. The result is the existence of a formal grand contract (*rules of the game*) that links the group of principals and the group of agents and several informal side - contract (*rules inside the game*) between agents and principals supervisors. Naturally, if the group of agent cooperate and each agent chooses to put in high effort, the probability of collusive side contracting disappear and the transaction cost originated by this become 0, this depend from what kind of community norms are operative inside the group (Aoki 2001). Thus the principals have to design the incentive constraint and the participation constraint, considering this complexity, in order to maximize the benefit for the whole group of principals. This is a setting in which the contractual arrangements, by which is determined the incentives for agents, are not designed by a single central planner , but are the consequence of a game among multiple non - cooperatively acting principals (Kerschbamer and Koray 2001).

4.1. Why European Development Policies are a complex framework

The reform of the structural funds modified substantially the European Development Policies, the fundamental aim is to reduce disparities in development and promote economic and social cohesion in the European Union. First of all the European Commission decided to reduce the number of Objectives from seven during the previous period (1994-99) down to three for 2000-06 and defined the Objective 1 areas, objective 2 areas and objective 3 areas. Subsequently the Member States

⁶ This problem was previously face by Demski and Sappington (1984) and Mokherjee (1984).

submitted development and conversion plans, including: a precise description of current situation in the region (disparities, lags, development potential); a description of the most appropriate strategy for achieving the stated objectives; indications as to the use and form of the contribution from the Funds. Evidently the programming involves the preparation of multiannual development plans and is undertaken through a partnership-based decision-making process, in several stages; thus for Objective 1 areas the fundamental documents are: the Community Support Frameworks (CSFs) translated into Operational Programmes (OPs). Both documents approved by the Commission in agreement with the Member State concerned, containing several information as: the Member State's and the Funds' strategy and priorities for action, their specific objectives, the contribution from the Funds and the other financial resources.

The role of European Commission is to negotiate with the Member States, on the basis of their programming documents, and to make an indicative allocation of the Funds to each form of assistance for each Member State.

Respect to previous European Development Policies we underline the choice to expand partnership by including the regional and local authorities, the economic and social partners and other competent bodies and by involving the partners at all stages, starting with approval of the development plan.

The new Structural Fund rules establish that each Member States have to appoint a managing authority for each programme in order to check the implementation, the correct management and the effectiveness of the programme (collection of statistical and financial data, preparation and transmission to the Commission of annual reports, organisation of the mid-term evaluation). The Monitoring Committees, chaired by a representative of the managing authority, ensure the efficiency and quality of the implementation of the structural measures.

The evaluation of programming is articulated in three stages: the *ex-ante* evaluation is under the responsibility of the competent authorities in the Member States; the mid-term evaluation must be carried out by the authority managing the programme in collaboration with the Commission before 31 December 2003; and the *ex-post* evaluation is the responsibility of the Commission, in collaboration with the Member State and the managing authority.

After this short description of the tools of European Development Policies we can underline that, in this complex framework, the objective for all principals (European Commission, Member State, Local Authorities) is to reduce disparities in development and promote economic and social cohesion in the European Union. It is also important to consider the importance of the role of the partnership that involves some principals – supervisors (Member State, Local Authorities) and a group of agents (social partners and other competent bodies).

This framework (*rules of the game*) could generate collusive behaviour (*rules inside the game*) ?

Clearly in our model the output correspond to quality of all the projects belonging to programming, a high quality implies a high effort, but this is really true? The answer depends from the behaviour of principals - supervisors and of agents.

In reality the actors (Principal - Supervisor and agent) of the development in the Objective 1 areas have an informative advantage respect to European Commission. The European Commission could

not know the capacity of the actors (adverse selection) and the effort of them in order to generate development mechanism (moral hazard)⁷.

5. Concluding remarks

The conclusions are, inevitably, provisional: they are looking on both (i) some methodological premises of our “as if” framework and (ii) a few implications for a locally better implementation of a public policy, in a way that they are carried by a specific strand of NIE, as recently drawn for supporting the development path of less favourites countries or regions.

With respect to point (i): on the comparative institutional approach of this literature (Aoki, Bardhan, Dixit, Ray) it is founded our belief in favour of an institutional variety, that seems, namely, consistent to those facts of persistent differentials observable within EU, to be corrected by regional development policies and Structural Funds (2000-06) (see section 2). Because these policy rules of the game are intentionally designed by legislator as “soft laws”, rather than a compulsory regulation, and they are thought to amplify the potential of the multilevel governance structure (Eberlein and Kerwer), it follows that a feasible theory for government’s policies and policy reform should be not more built on fundamentals but, on the contrary, on direct “on time” knowledge of local systems. Furthermore, it means that, because the theory cannot provide, ex ante, a complete mapping of all the existing and potential institutions, then a theoretical framework, relative to the genesis of an appropriate institutional apparatus, should be built by using an experimental and inductive approach. In turn, the policy rules design as well as their effective implementation, at local level, will be not conducive to a deterministic equilibrium solution, but, essentially, to multipla equilibria.

A feasible bridge between methodological questions and the political suggestions of the paper, is provided by the notion of institution as an equilibrium solution (see section 3.2), such that less/underdeveloped systems are explained as “interacting equilibrium” (Ray), instead of a kind of failures of some economic, cultural or political parameter.

With respect to point (ii): a theoretical challenge thrown out by the policy making of EU is to suggest adequate strategies for institutions building and implementing at local level: our simple agency model is intended just to this aim.

Within this framework, the crucial step to pass from the building phase to the implementing one is, essentially, concerning a variety of monetary and non-monetary incentives created to sustain, from bottom up, the sourcing of “institutional interdependencies”, supposed as necessary to convert the historical institutional inertia in to a new development path, in a way that it should be coherent with the expectations of the new development policy. But, nowadays, because the financing of Structural Funds are recently reformed, there are no enough information to know if the institutionalized linkages between the formal rules of policy domain and local agents in economic domain are at work. Therefore, we are not yet able to evaluate if the ex ante stage of the policy design is correctly perceived and, for that, internalized by local actors. In the short run, the motivations and the action plans of local actors are still a hidden information, whereas it is only the

⁷ We can remind the following expression: “the Nash equilibrium with multiple principals is not Pareto optimal, but to improve upon the equilibrium it is necessary to change the rule of the game played by the principals (Dixit 2001 p. 19).

medium run that their behaviours and preferences are revealed and, eventually, a new set of development incentives will be supplied and some formal rules of the game will be emended.

In the short run, there is, direct knowledge only about the past history of a local community, i.e. of its endowment of social capital and externalities. There is not yet, namely, additional and specific information in order to evaluate if local agents are producing the desired complementarities, such that special interests and collusive behaviours (i.e. negative externalities) are changing in to a fair cooperation. In this case, the benefits provided by the new development policy and formal rules will be generalized within a community, by producing positive externalities. But, again, it is only in the medium run that the rules inside a game could be modified by monitoring of behaviours and a more appropriate scheme of incentives.

References

- Aghion P., Alesina A., Trebbi F., “Endogenous Political Institutions”, NBER, Working Paper n. 9006, 2002.
- Aoki, M., Toward a Comparative Institutional Analysis, Cambridge, MIT Press, 2001.
- Bardhan, P., “Decentralized Development”, Indian Economic Review, 30(2), 139-156.
- Bardhan, P., “Understanding Underdevelopment: Challenges for Institutional Economics from the Poor Countries Perspectives”, DSE Workshop Series, 2000.
- Basu, K., Prelude to Political Economy. A Study for the Social and Political Foundations of Economics, Oxford, Oxford University Press, 2000.
- Demski, J., Sappington, D., "Optimal incentives with Multiple Agents", Journal of Economic Theory, 33, 152 - 171.
- Dixit, A., The Making of Economic Policy: A Transaction-Cost Politics Perspectives, Cambridge, MIT Press, 1996.
- Dixit, A., “Some Lessons from Transaction-Cost Politics for Less-Developed Countries, Mimeo, Princeton University, 2001.
- Eberlein, B., Kerwer, D., “Theorising the New Models of European Union Governance”, European Institutional online Paper, 6(5), 2002.
- Eggertsson, T., “Limits to Institutional Reforms”, Scandinavian Journal of Economics, 100(1), 335-357, 1998.
- Esteban, J., Ray, D., “Social Decision Rules Are Not Immune to Conflict”, Economics of Governance, 2, 59-67, 2000.
- Faure-Grimaud, A., Laffont, J.J., Martimort, D., “Transaction Costs of Collusion and Organizational Design”, University of Southern California Law School, Research Paper n. C01-17, 2001.
- Grossman, H.I., “The State: Agent or Proprietor?”, Economic of Governance, 1, 3-11, 2000.
- Hooghe, L., (ed. by), Cohesion Policy and European Integration: Building Multilevel Governance, Oxford, Oxford University Press, 1996.
- Hooghe, L., Marks, G., “Types of Multilevel Governance”, European Institutional online Paper, 5(11), 2001.

- Klein, P., "An Institutional View of Development Economics", Journal of Economic Issues, 11(4), 1977.
- Kerschbamer, R., Koray, S., "Multiprincipal Multiagents Incentive Design" Review of Economic Design, 6, 2001.
- Lin, J.Y., Nugent, J.B., "Institutions and Economic Development", in Behrman, J. and Srinivasan, T.N., eds, Handbook of Economic Development, 3A, Amsterdam, North-Holland, 1995.
- Marino, A.M., Matsukawa, J.G., "Decision Processes, Agency Problems and Information: An Economic Analysis On Budget Procedures", University of Southern California – Marshall School of Business, Working Paper Series n. 01-5, 2001.
- Mookherjee, D., "Optimal incentive schemes with many agents", Review of Economic Studies, 51, 433-446
- North, D.C., "A Transaction Cost Theory of Politics", Journal of Theoretical Politics, 2(4), 355-367, 1990.
- Ray, D., Development Economics, Princeton, Princeton University Press, 1998.
- Ray, D., "What's new in Development Economics", Mimeo, New York University, 2000.
- Rodrick, D., "Institutions for High Quality Growth: What They Are and How to Acquire Them", NBER, Working Paper n. 7540, 2000.
- Stiglitz, J., In un Mondo Imperfetto. Mercato e Democrazia nell'Era della Globalizzazione, Roma, Ed. Donzelli, 2001.
- Williamson, O., The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting, New York, The Free Press, 1985.