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CULTURAL DETERMINANTS OF ECONOMIC GROWTH: THE CASE OF EUROPEAN COUNTRIES

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ABSTRACT
The economic growth is based on a complex set of determinants, inside which the "pure" economic variables plays an important but not unique role. The "soft" factors like information and social institutions, rules and behaviours, as well as the elements of the dominant cultural paradigm could not be easily included in the "and others" category.
Thus, the aim of this paper is to provide a possible framework for the analysis of this type of determinants, able to deal especially with the interactions between culture and growths.

Part I deals with the theoretical foundation by argue that "in long run" the social dynamic is not influenced only by resources and technology but also by the way in which the social actors interact in the primary distribution of the resources and in their social reallocation taking into account the cultural restrictions and requirements.

Part II is an attempt to examine some empirical evidences in the favour of some results derived from this foundation.
The main conclusion of the paper could be resumed by the thesis that the process of the sustainable growth could not be comparer with a linear voyage in a modern train "from here to eternity". Rather is a trip into unknown with a colour and noisy caravan.

Keywords: Sustainable growth, "soft determinants", cultural paradigm
JEL Classification: O1, C5, E6, Z1

1. The problem

Social development architecture is based on a complex set of factors. Some of these are "hard" factors (the territory, the population, the natural resources, the technology), and some of these are "soft" factors (quality of institutional system, social customs, the behaviour and the other components of dominant "cultural paradigm").

Traditionally, the literature has focused on the first category of factors. The different analyses and the given solutions tried to draw a "vertical" economic growth model. This kind of approach offers too few answers to a crucial question: how can we explain the fact that two economic systems, identically endowed with resources, have, in the long run, different performances?
One of the most credible ways to explain such differences is to take into account the connections that relate social and legal conditions to economic well being. These connections are still treated in a diversity of approaches. As KANATAS and STEFANIDIS [2005;p.2] notes: „ This literatures follows two main approaches. The first identifies the protection of private property rights as critical for economic prosperity...the second approach has received much attention from sociologists and emphasizes a society's culture and work ethic as important determinants of economic development and growth...".
In our opinion, the property rights nature or the ethics of labour are components of a *cultural paradigm* – a model used in collective mindset to establish the values hierarchy, which defines the social space. If we take this into account we could develop a unifying conceptual framework, which could enlight the behavioural and institutional aspect of durable economic growth.

Following this approach, the paper intends: (i) to address some questions about the differences between the *economic growth* and the *durable economic development*; (ii) to propose a model of the resources allocation as a critical engine of the long run evolution of an economic system inside the social mandate framework; (iii) to advance some possible explanations for the links between the cultural paradigm and the social mandate for a durable growth.

2. Growth and development

Growth is a complex phenomenon that still remains a continuing challenge for the economists. Over the years, economists like SCHUMPETER [1951], KUZNETS [1966, 1971, 1977], SOLOW [1956], DENNISON [1966], LUCAS [1988], BARRO [1996], ROMER [1986, 1987, 1990] and others tried to explain the economic and social determinants of growth. But even today, we do not fully understand why some countries get rich and others stay poor. As TANZI & SCHUKNECHT [2003] puts it, "the miracle of growth remains as mysterious as most miracles and attempts to explain it through the behaviour of single or few variables (capital, labour, technology, human capital, etc.) often prove disappointing".

After some important punctual contribution on growth economics made by classic economists such as SMITH, RICARDO or MARK, the first serious contribution on growth theory was represented by the Harrod-Domar model (HARROD [1939], DOMAR [1946, 1947]). They considered that investments are not only an autonomous component of demand, but also a key factor to boost supply. In this context, the equilibrium in the goods market is reached when the rate of increase in investment equals the ratio between the average propensity to save and the capital output ratio (the so-called "warranted rate of growth"). This model encountered two major problems. First, if the firms expect demand to grow at a rate different than the warranted one, this could cause an excess demand or an excess supply (HARROD's instability). Second, having in mind that the natural rate of growth is given by the sum of the growth rate of population and the

rate of output growth per employed person due to technical progress, there is not an automatic mechanism to ensure the convergence of the natural and warranted rate of growth.

Neoclassical economists removed the Keynesian hypothesis regarding the independence of investment decision. In this new framework, using the variability of capital-output ratio as the automatic convergence mechanism, SOLOW [1956] solved the convergence problem and showed that the warranted rate of growth will tend to the natural one. In the economy, if the firm's expectations are not important anymore, as in the previous models, then growth will be influenced by the availability of production factors (capital and labour).

Post-Keynesian approach for analysing growth is based on the idea that there is a connection between capital accumulation and income distribution. In this context, the convergence mechanism is given by the variability of the average propensity to save determined by the changes in income distribution. So, all the factors that are influencing income distribution have an impact on growth.

The different growth theories presented above do not put the problem of long-run growth. All of these theories consider the long-run growth determinants as given (exogenous growth). Starting from this point, a new strand of growth theory was born: endogenous growth theories. ROMER [1986] proposed as a key factor for growth the technological progress as the outcome of learning by doing. ROMER [1987, 1990] GROSSMAN and HELPMAN [1991] took this line of thought further, by studying the impact on growth of the progress generated by specific research and development activities aimed at appropriating all of the benefits deriving from a monopoly on knowledge. LUCAS [1988] showed that human capital and also plays an important role in the growth of an economy.

In recent years, an important body of academic work emphasized the importance in the growth process of a diversity of social factors (such as life expectancy, fertility rate, accumulation of human capital, urbanization, religious affiliation), political factors (propensity to enjoy democracy or political rights), and economic factors (natural resources, inflation).

But, despite these theoretical efforts, the empirical evidence does not fully explain the core determinants of the growth of economies. Although, there are many empirical studies, which links the growth rate by a variety of factors: economical, social or political.
BARRO [1996] proved for a panel of around 100 countries, with data from 1960 to 1996, that for a given starting level of real per capita GDP, the growth rate is enhanced by higher initial schooling and life expectancy, lower fertility, lower government consumption, better maintenance of the rule of law, lower inflation, and improvements in the terms of trade. Also, the obtained results show that, in countries with low levels of political rights, an increase in political freedom fosters the economic growth.
Recently, a major attempt aimed at explaining the Sources of Economic Growth in OECD Countries has been made by the OECD [2003]. This study has looked at many factors that may contribute to growth. Its major conclusion is that "long-term sustainable economic growth has many sources and cannot be fully steered by policy-makers".

An important issue related to economic growth is development. If growth could be quantified by the increase in income or in material wealth of a country, development is a much broader

concept, which integrates also some social aspects like reduction of poverty, health improvements, life expectancy, education, the environment. As ACOCELLA [2001] considers, development occurs when human well-being improves. The best measure of development so far is the Human Development Index proposed by the UNITED NATIONS [1990], which concentrates three essential elements of human life: longevity, level of knowledge and living standard.

3. The mandate theory and the resources allocation: the „oasis model"

In our previous paper (TALPOS et al [2005;p.5]), we had defined the state as the dominant agencies under a certain social space as follows: "**The state"** represents the **macro-agency** or the **dominant agency** of exerting "natural" and "achieved" rights, overtaken from social subjects from certain territory, formed by voluntary association of a number of individual **agencies** or as a result of some violent actions against other **agencies**, against their clients or against own clients, which could limit by effects and temporarily any breaking of its monopoly by other existing or virtual entities, and which is authorized by its clients, for preventive goals, to action in a re-distributive manner for the non-members". This paper deals with the last point concerning the involvement of the *agency* in the control and (re) distribution of the *social vital resources*. More exactly, we are trying to formulate a possible answer to the next questions: what are the mechanisms that underlying the involvement of the *agency* in the production, primary distribution and redistribution of a certain set of resources that are critical for the social development? How could this involvement be justified in the frame of the "social contract"? What are the components of the dominant "cultural paradigm" which influence a certain manner of the *agency* to exercise its (re) distributive powers?

The output of the paper could be synthesized by the thesis that the *agency* activities as a (re) distribution social centre depends both on its prerogatives included in the "social contract" as this is formal formulated as well as on the power relations with its individual clients, with *negotiation associations / parallel associations* and with non-members and are modulated in concordance with the dominant paradigm.

As a starting point, let's examine some conditions in which the primary and secondary distributions of the social resources could take place. Suppose, for instance, that there is a social space formatted in a desert environment with a single water resource. The members of this social space had transferred their *achieved right* of oasis exploitation because their own costs associated with this activity, $k(1-x)$, are higher than the *agency* ones ($ak(x,\alpha,\beta)$ -with x being the fraction of the specific *achieved right* which is transferred to the *agency* and the last two parameters, α the number of members of an individual *agency* and β the number of associated *agencies* which form the dominant *macro-agency*, standing for the *institutional costs* -"organization costs", as well as "coordination costs"-). Let $x=1$ so that the delegation is totally. If the social utility of each water unit is equal with w and the fraction of water exploitation output kept by the *agency* for its own member is aw, the "net" utility derived from the delegation for an individual social subject will be $u_i(1)=(1-aw)w+k_i(0)$ and the "relative" utility will be expressed as $ru_i(1)=\dfrac{(1-aw)w+k_i(0)}{w-k_i(0)}$. The equivalent utility for the *agency* is $au(1)=aw^{*}w-ak(1,\alpha,\beta)$.

Suppose that the cost of the *agency* as well as the equivalent costs for the individual subject vary along the path $(ak(t),k(t))$ from state "0" to state "1" ($ak(t),k(t)$ are assumed to be differentiable in t). The change in the global social "net" utility, $\Delta^g u(0;1)$, is represented by:

$$\Delta^g u(ak(0),k(0);ak(1),k(1)) = \sum_{i=1}^{N} \int_{k_i(0)}^{k_i(1)} u_i(ak(t),k(t))\,dk_i(t) =$$

$$= \sum_{i=1}^{N} \int_{k_i(0)}^{k_i(1)} u_i(ak(t),k(t))\,\frac{dk_i(t)}{dt}\,dt \qquad (1)$$

Let $\Delta k^a(0;1)$ be the change in the average individual costs of oasis exploitation in the transition from one state to the other one:

$$\Delta k^a(0;1) = \frac{\sum_{i=1}^{N} k_i("1") - \sum_{i=1}^{N} k_i("0")}{N}$$

The state "1" potentially dominates state "0" if:

$$\left[\sum_{i=1}^{N} \int_{k_i(0)}^{k_i(1)} u_i(ak(t),k(t))\,\frac{dk_i(t)}{dt}\,dt\right] - \left[\frac{\sum_{i=1}^{N} k_i("1") - \sum_{i=1}^{N} k_i("0")}{N}\right] > 0 \quad (2)$$

Relation (2) summarizes the first delegation condition:

C_0 : *The delegation will took place as long as the changes in the agency cost does not generate a decrease in the global social "net" utility below the one provided by an individual water production.*

Formally, the relationships between the *agency* and its clients could be synthesized in a "social contract" which should include a minimal set of elements such as:

- The list of the basic social services provided by the *agency* (water extraction, transport to the individual subjects areas or water preservation);
- The costs of some supplementary services (protection against water thieves' actions);
- The amount and the mechanism of the *preventive compensation* paid to the non-members, which have no access to the oasis.

The existence of the *preventive compensation* will modify the "net" and the "relative" utility for an individual subject ($u_i(1) = (1 - aw - s(1,NM))w + k_i(0) + \Lambda(1,\theta,NM)$,

$ru_i(1) = \frac{(1 - aw - s(1,NM))w + k_i(0) + \Lambda(x,\theta,NM)}{w - k_i(1)}$ - with s the level of the compensation as a function of the non-members number and Λ the cost beard by the *agency* for guarding/recuperating the potential output claimed by the non-members) but not necessary the dynamic of the global social "net" utility since it does not modify the individual / *agency* production costs[1].

[1] The necessity of such compensation is justified in TALPOS et al [2005; p.7] as follows:" … the existence of other non-members of *the agency*, X_{NM} would generate, for its clients the risk of an attempt to get hold of the output of the exerting of their rights equivalent to a part 0 or the whole. If the cost beard by the agency for

The contract should also include the re-negotiation mechanism: if there are significant changes in the water production/distribution and/or there are new reports with the non-members the fraction aw and /or the level and the conditions of the *preventive compensation* should be subjects of a reformulation in order to adequate them to these modifications. Of course, any major reformulation of the contract will involve some specific costs ($rn(aw,\alpha,\beta)$) so that it will generate a comparative reduction in the global social "net" to the previous state and it could be initiated only if:

$$\left[\sum_{i=1}^{N}\int_{k_i(0)}^{k_i(1)} u_i\left(ak(t),k(t)\right)\frac{dk_i(t)}{dt}dt\right]-\left[\frac{\sum_{i=1}^{N}k_i("1")-\sum_{i=1}^{N}k_i("0")}{N}\right]-rn(aw,\alpha,\beta)>0\ (3)$$

So that the condition C_0 could be reformulated as follows:

C_0' : *The delegation will took place as long as the changes in the agency cost does not generate a decrease in the global social "net" utility below the one provided by an individual water production. The re-negotiation of the relations between the clients (as* ***principals*****) and** ***agency*** *(as* ***agent****) in the water production and distribution could take place only if the involved costs does not diminished the global social "net" utility bellow a certain ("zero") critical level.*

So far, the "draft" of the foundation describes a situation in which the *agency* is delegate to use a single critical social resource, to distribute the output to its members and to pay a *preventive compensation* to the non-members. There are at least to "hidden hypothesis": 1) there are only three groups that claims or could claims the water (the clients, the *agency*'s members and the non-members);

2) there are not any type individual exploitation costs lower that the *agency*'s ones so that there is no economic justification for a private water production/distribution and the delegation is complete.

But how "realistic" is such a postulate framework? For instance, it is hard to imagine that there is no condition for *parallel associations* to initiate a private activity in the oasis[2]. From a pure "economic" perspective, such activity could take place if there are some individual costs that fulfill the condition:

$$(1-aw-s(1,NM))w+k_i(0)+\Lambda(1,\theta,NM)\le w-k_i(0)$$

$$\Rightarrow k_i(0)\le\frac{aw*w+s(1,NM)w-\Lambda(1,\theta,NM)}{2}\ (4)$$

Or in other words:

C_1 : *A* ***parallel association*** *could initiate a private exploitation of a critical social resource if its own costs are lower than a certain amount ("half") of the sum between the outputs kept by the* ***agency*** *for its members and the "net"* ***preventive/guarding*** *cost (the difference of the* ***preventive compensation*** *and the* ***guarding/recuperating*** *cost).*

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guarding/recuperating this output $\Lambda(x,\theta,NM)$ are superior to the *preventive compensation* that *the agency* would decide to pay to non-members because the output of their rights is inferior to that equivalent for its clients ($s(x,NM)$) or if the recuperation, partial or integral, of the output achieved is not possible, then, it seems logical that X_1 would permit the agency to act in a redistributive manner".

[2] For the conditions involve, see also TALPOS et al [2005].

The claim from the condition C_1 must be more careful analysed. As is mentioned in TALPOS et al [2005; p.13]: "Thus, clients will choose to exert their rights extra-territorially, outside the *agency* only if the gained output surplus will exceed the costs of renouncing the delegation of the rights as well as the penalties imposed by the *agency* $\xi(x,\tau,\iota)$". The question of such penalties is an important one. Indeed, it could be admitted that there is a low probability that the *agency* will admit a private exploitation of the resources from some of its clients due to a set of reasons. The most simple and evident of them consists in the fact that if there could appear an *imitation effect*: if a certain number of clients decide to leave the *agency* their actions could be imitated by others members in a multiplicative chain. However, the penalties are applied as long as the cost $\psi(x,\tau,\iota)$ of application is inferior to the fraction of output lost by the *agency*. If this condition is fulfilled and the *agency* decides to take measures against the *defeating clients*, the relation should be modified as follows:

$$(1-aw-s(1,NM))w+k_i(0)+\Lambda(1,\theta,NM)\le w-k_i(0)-\xi(x,\tau,\iota)(0)$$

$$\Rightarrow k_i(0)\le\frac{aw^*w+s(1,NM)w-\Lambda(1,\theta,NM)+\xi(x,\tau,\iota)}{2} \qquad (4')$$

C'_1 : *A **parallel association** could initiate a private exploitation of a critical social resource if its own costs are lower than a certain amount ("half") of the sum between the outputs kept by the **agency** for its members, the "net" **preventive/guarding** cost (the difference of the **preventive compensation** and the **guarding/recuperating** cost) and the penalties imposed by the agency to the **defeating** clients.*

Of course, any private activity will require a certain availability of the technical means for water production/distribution: a *parallel association* could act if :(i) there is a technology which could be obtain and used at a efficiency level that is, at least, comparable with the *agency* conditions; (ii) there are individual subjects that have the necessary knowledge/ skills and they agree to quite the *agency* in the favour of the association. Even more, (iii) the distribution conditions could not be, from the association clients' point of view, less favourable that the ones that could be obtain from the *agency*.

These conditions are necessary but not sufficient for the existence of the private water production/distribution. Indeed, suppose that there are some naturally phenomena that reduce the total volume of water that could be extract from the oasis so that the potential output of the current period will be inferior to previous periods one. In order to prevent a diminution of the water supply, the *agency* could stockpile a part of the fraction aw distributed to its own members in water abundance periods or, alternatively, could produce more than the social aggregate demand for this purpose[3]. Indifferent of the adopted solution, the entire idea could appear as a

[3] Apparently, the second solution could be seen as the favorite one. But it should be remember that any increase of the variable costs induce by a supplementary production will leads to a lower net result of the *agency* activity according to a descending return's evolution up to a certain critical volume of water production. As a consequence, the members of the *agency* could accept a smaller fraction of the output in order to preserve the global *agency*' efficiency, depending on the relations between the *agency* and its members. If the *agency* had the position of the *dominant macro-agency* only for a short time period and its capacity to control the clients' demands is still weak, it could be forced to face the clients' fears that any supplementary water extraction could endanger the oasis environment and to accepted a reduction in aw for prudential reasons. If, *per a contrario*, the *agency* is consolidated and the capacity of the individual clients to negotiate a better environmental preservation is reduced, the adopted solution will be more in the favor of the *agency's* members (still, the actions of *negotiating associations* interested in the environment preservation should be taken into account).

controversial one: what is the ultimate reason to constitute prudential water stocks? On can suppose that there is a special clause of the *social contract* where is mentioned a fixed quantity of water that should be produced and distributed each time period. But how "naturally" is such a clause in the logic of the advanced framework?

The relations (1) and (2) make no assumptions concerning a time dependency of the w: the changes in the global social "net" utility do not depend on the unitary individual utility that remains unchanged over the time. Such statement does not hide the fact that the perception of this utility has an important "subjective" component: if there is a decrease in the available quantity of water, the social subjects could or could not modify the estimated level of each water unit utility. If this is true, a formal specification of the periodical water production could be inserted in the *social contract* only if the social subjects adjust their perceptions about water utility according to the changes in the water supply and wants to preserve a certain level of utility in a multi-periodic time framework. If there is no formal clause, the existence of prudential water stocks will depends on the *agency* decisions: it could try to preserve for its clients a "target" level of the utility or it could forced them to correspondently adjust it at least as long as:

$$aw * w_1 - ak_1(1, \alpha, \beta) + sk(1) \geq aw * w_0 - ak_0(1, \alpha, \beta)$$

$$\Rightarrow aw\,\Delta w \geq \Delta ak(1, \alpha, \beta) - sk(1) \qquad (5)$$

where sk is the corresponding costs of water stockpiling.

Thus:

C_2 : *If there is an adjustment in the perceived utility of a water unit connected with the changes in the global level of water production, such adjustment could take place as long as the "positive" variation of the utility will remain higher than the difference between the* ***agency's*** *costs variation and the costs of water stockpiling*.

If the *agency* decides to proceeds to a prudential stockpiling of the water, what will happen with the members of a *parallel association*? Briefly speaking, at least two solutions could be adopted in this case: (1) the association could decided to preserve itself a certain amount of water and to support the corresponding costs, ska; (2) the members of the association could decide to transfer to the *agency* a certain amount of their current output, skt, designed in this purpose.

The main question here consists in the difference between ska and skt. Indeed, let's suppose that the water preservation reclaim the construction of one or more reservoirs and other supplementary expenses. If the *agency* is able to build such reservoirs at lower costs that the association ones, then it will makes sense to choose the solution (2) if:

$$(w_1 - skt) - k_1(0) \leq (w_0 - ska) - k_0(0)$$

$$\Rightarrow \Delta w - \Delta k \leq (skt - ska) \qquad (6)$$

C_3 : *The relative preference of a* ***parallel association*** *for a prudential water stockpiling realized by the* ***agency*** *will appear if the variation of its own "net" utility is lower than the difference between the values of its output transferred in this purpose to the* ***agency*** *and the presumed costs supported if the* ***association*** *decides to preserve itself the water .*

The same logic could be applied to the problem of the *preventive compensation* paid by the *associations*: any private activity implies not only a renouncement at the production/distribution services provided by the *agency* but also at the compensation paid by it. As a consequence, there should be initiated some alternative mechanisms to prevent any attempt of non-members to claim

a certain fraction of the association output[4]. But such mechanisms will involve specific costs supported by the *associations*. As in the case of the *prudential* water stockpiling, they could decide to support it themselves or to translate it, partially or totally, to the *agency*.

$$(w_1 - \Lambda(x,\theta,NM)) - k_1(0) \le (w_0 - \Lambda(0)) - k_0(0)$$

$$\Rightarrow \Delta w - \Delta k \le (\Lambda(x,\theta,NM) - \Lambda(0)) \qquad (7)$$

where $\Lambda(0)$ is the fraction of the of the *associations*' output which could be the subject of potential claims from the non-members or others *associations*.

C_4 : *The relative preference of a* ***parallel association*** *to transfer the payment of the* ***preventive compensation*** *to the* ***agency*** *could be non-null if the variation of its own "net" utility is lower than the difference between the values of its output transferred in this purpose to the* ***agency*** *and the presumed costs supported if the* ***association*** *decides to pay itself this compensation.*

The conditions C_3 and C_4 could be combined into a single one as follows:

$$(w_1 - skt - \Lambda(x,\theta,NM)) - k_1(0) \le (w_0 - ska - \Lambda(0)) - k_0(0)$$

$$\Rightarrow \Delta w - \Delta k \le (skt - ska) + (\Lambda(x,\theta,NM) - \Lambda(0)) \qquad (8)$$

C_5 : *The relative preference of a* ***parallel association*** *to entrust to the* ***agency*** *a mandate for a prudential water stockpiling as well as for the payment of the* ***preventive compensation*** *is manifested if the variation of its own "net" utility is lower than the difference between the values of its output transferred in this purpose to the* ***agency*** *and the presumed costs supported if the* ***association*** *decides to preserve itself the water and to pay itself the compensation.*

The main idea behind the C_5 is that there are at least to reasons (with a *prudential* nature- the stockpiling of the water and the payment of the *preventive* compensation) for which the *associations* could take into consideration the transfer of a fraction of their output in the favor of the *agency* in the framework of a certain *mandate* even if there is no transfer of the achieved *right* for the water production/distribution.

At this stage, we conclude that the *agency* is entitlement to collect a certain fraction of the social output both from its own clients as well from the *associations* and to redistribute a part of this in the favor of the non-members. It should be noted the fact that from the advanced argumentation the relations between the *agency*, *associations* and non-members are based on mutual agreements: all parts involved in such relations have their own motivations for the output transfer. But is this the complete picture? Could be there situations in which the initiative for the transfers is formulated solely by the *agency*?

In TALPOS et al [2005] we formulate two complementary observations: 1) for the "new generations" the existence of the *agency* is a given social fact: they did not participate at its formation and at the initial formulation of the *social contract*; 2)"… some of the agency's clients are "recruited" as a result of a violent action made by the *agency* or that they may become the subjects of such an action after they earn the client statute" (*op.cit.*,p.9). So that, the *agency* could impose a *non-voluntary* transfer from its members/from *association* in the favour of others clients/non-members. There are at least two reasons for such transfers: 1) the attempt of the *agency* to preserve in a multiple-period time framework a certain level of the global social "net"

[4] It is interesting to note that one could conclude that the association's members are, at least theoretically speaking, in the same position as the non-members. But is not *ab initio* obviously that the *agency* is choosing to treat the *defeating* members in the same manner as it treats the non-members. For instance, they could be subjects of certain *persuasive/punitive* actions (in the purpose to prevent the *contagion effect* as well as the diminution of the *agency* output).

utility; 2) the desire of the *agency* to posses some control mechanism over its own clients/ *associations*.
The statement about the first reason is in fact the idea that a "mature" *agency* will have the capacity to claim from all the social subjects (including the non-members) a fraction of the social output for *prudential* reasons in order to prevent the changes over time in the **perceived** social utility of its activity. Of course, even if this assertion is accepted, one still could ask if there is any special reason for an *agency* to proceed in this way. A partial argumentation could be formulated by observing the fact that if the current level of water production is bellow the *target* levels, due to the changes in the characteristic exploitation conditions and/or to the actions of the non-members, some of the *agency* 'clients could be tempt to denounce the mandate entrusted to the *agency* and, alternatively, to initiate a private exploitation of the oasis. If so the case, output per *agency* members will decrease. In order to avoid this, the *agency* will try to ensure an *optimal* level of *prudential* water stocks and to pay the *necessary* amount of the *preventive compensation*[5].
The second reason could be seen as a complement of the first one. In a certain way, his foundation could be funded in the *specialization argument*: due to the fact that the *agency* is the major entity involved in the water production, it could always argue that its knowledge about water production condition justify a change in the level of the output fraction which is destined to form the *prudential* stocks. But such changes in the transfers from the clients/ non-members have the potential of a *recompense /punishment* mechanism. Indeed, there could be described various modality of a non-uniform modification of the transfers all based on the same principle: "less from the loyal clients / non-problematic non-members - more from infidel clients / problematic non-members". In other words, *agency* could discriminate in the setting of the transfer level. This argument raises the problem of the *agency*-clients relationship nature.
Indeed, one could notice the fact that the nature of the *social contract* is critic for the soundness of the entire proposed argumentation. As HIRSHLEIFER [2001; p.126] note: "It is useful to distinguish *vertical* from *horizontal* social contracts. The vertical alternative, Thomas Hobbes's version, would be represented by arrangements such as hierarchical in the biological realm or dictatorship on the human level. John Locke's version, the horizontal alternative, corresponds to more egalitarian arrangements in either sphere".

If such a distinction is take into account, it could be argued that at the beginning, in the period of *agency* formation, the conglomerate of the social contracts established with its clients is dominate by the *horizontal version*: the *agency* is too weak to impose a standardized version of the contract to clients and non-members. So that, the free will of all the part involved in the formulation of the mandate entrusted to the *agency* is ensured and each individual social subject could propose its own version of the contract. But an increasing standardization process accompanies the consolidation of the agency position in order to reduce the *negotiation costs* and even more the uniform *vertical* version of the contract is imposed to all the new generations of the clients and non-members.
One of the major problems with this description consists in the absence of any description for the mechanisms that leads such a process. Indeed, if it could be argued that the first clients will agree with the introduction of the uniform clauses in the *social contract* for any new clients, it is

[5] It is obviously that the computation of these two variables is subject of the *agency* forecasts and they could be expressed only in probabilistic terms: it is more accurate to talk about the **presumed** *optimal* level of water stockpile and the **presumed** *necessary* amount of the *preventive compensation*.

unclear that such argument could hold in a multi-generational perspective. In several parts of our argumentation, we insist that for a new generation of social subjects the existence of the *agency* as well as the standardized *social contract* are components of a *given* social reality. But could this claim to be a substitute for a more detailed explanation? Of course, the answer is no. For instance, we need to provide at least a reasonable argument for the fact that there is no an automatic process of re-negotiation of the *social contract* between each new generation of *agency*'s member and each generation of clients: the *persistence postulate* is a necessary condition for the substitution of the initial *horizontal* set of contracts with an standardized *vertical* one argument.

An incomplete argumentation could be advanced by considering the *status quo* conditions: if there are no changes in the water production conditions and the initial arrangements between the clients, non-members and *agency* are "optimally" ones, there are no reasons for the new generations to change them. This statement could be refine by observing that the "optimality" attribute is a question of an at least partially subjective judgment. A "new born" potentially client could accept of reject the *paretian* character of the social configuration generated by the initial formulation of the *social contract*. In the last case, he/she could consider that its position in front of a "mature" *agency* is too weak to impose a re-negotiation and consequently could decide to become a *de jure* client or, alternatively, could choose the non-member status[6]. In the mean time, a *negotiation association* could try to modify some particular clauses of the "social contract" (and some time could succeed to do this). But it should be noted the fact that for a global modification of the contract there are necessary both a "significant" change of the initial condition as well as an involvement of a "critical mass" of the social subjects. In the absence of these conditions, and, supplementary, if the C'_0 is not fulfilled, only partial modifications of the "social contract" could take place. There existence is conditioned by the capacity of the *negotiation associations* to impose them and also by the possibility to initiate a private concurrent activity by a *parallel association*.

If this argument holds, then there could be found at least some reasons for the *agency* to balance between the preservation of the usual relationship with the clients and non-member and the introduction of some supplementary transfers.

Suppose that these transfers, $T_i(k_i)$, are continuously from the current state "0" to state "1" and also suppose that the *agency* eventually use a fraction f from their amount to conserve the level of the current global utility.

The dynamic condition involved could be formally described as:

$$\left[\sum_{i=1}^{N}\int_{k_i(0)}^{k_i(1)}\left[u_i\left(ak(t),k(t)\right)+f_iT_i\left(k(t)\right)\right]\frac{dk_i(t)}{dt}dt\right]-\left[\frac{\sum_{i=1}^{N}k_i("1")-\sum_{i=1}^{N}k_i("0")}{N}\right]-$$

$$-rn\left(aw,\alpha,\beta\right)-\sum_{i=1}^{N}\int_{k_i(0)}^{k_i(1)}\left[\left(1-f_i\right)T_i\left(k(t)\right)\right]\frac{dk_i(t)}{dt}dt>0 \qquad (9)$$

[6] As we argue in TALPOS et al [2005; p.18]:" … an individual social subject, confronted with the existence of an agency at which formation he did not contribute, has not the possibility, in an isolate way to modify the way of its functioning (being able only to accept the quality of non-member) and the clauses of the "social contract". This is thus obliged to sign a "social contract" already written. If its content is not satisfactory, his only solution is that of associating with other social subjects to form *an association of negotiation / a parallel association...*".

C_6 : *The delegation will took place as long as the changes in the agency cost does not generate a decrease in the global social "net" utility below the one provided by an individual water production. The re-negotiation of the relations between the clients (as* ***principals*****) and** ***agency*** *(as* ***agent****) in the water production and distribution could take place only if the involved costs does not diminished the global social "net" utility bellow a certain ("zero") critical level. The unilateral "net" transfers from the social output initiated by the* ***agency*** *should preserve the critical level of this utility.*

It should be noted that in the proposed framework the transfers could not be seen as a form of economic *rent* gain by the agency as an owner of the economic means involved in the water production[7]. The fact that the *agency* kept a part of the social output derives in the initial stage from the mandate entrusted by its clients. This is the counterpart of the provided services and could be seen as a "just" one since is the negotiated price on the base of the clients' free will. Even more, the agency's members themselves produce the means for water production[8] and there is no alternatively market for "water services" and consequently there are no "market base" costs to form the "competitive price". A more complex situation could be identified in later stages whit the appearance of the *parallel associations*:

- A private market of the water production generate a referential for the *agency*'s production costs but
- The increase of the producers' number will leads to the asymmetric information problem and thus is not an implicit guarantee for the *perfect competition* existence[9]. Or, the condition of a *perfect* market is a critic one for the *pure rent* definition.

It could be argue that the *agency* appears as a competitor for the *parallel associations* and as a consequence obtains a *rent* in competitions with these. The validity of this observation is limited by the fact that the *agency* is not a "normal" economic agent: the *scale* effect will place it in an *almost-monopolistic* position. In other words, despite the existence of the *parallel associations*, the *agency* preserves its capacity to control the "largest" fraction of the social output and its activity could not be judge in the market usual context. The transfers imposed by the *agency* have from its point of view an *operational* nature and are destined, at least in principle, to be returned in the future periods, to the clients and non-members. So those, in this argumentation, the transfers are not a form of *rent;* only the "normal" fraction aw, which is the price of agency's services, could be seen as a *monopolistic rent*. The main conclusion that could be derived from this argumentation is that the transfers are **not** the direct result of an *exploitation process* since the conditions for such process are not fulfilled[10]. But as we had mentioned above, the transfers

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[7] For this concept, we use the SØRENSEN [2000;p.20] definition: "Rents are payments to assets that exceed the competitive price or the price sufficient to cover costs and therefore exceeding what is sufficient to bring about the employment of the asset."

[8] As a simplification, this is postulate to be true both for the "first" generation of the production means as well as for the next generations. The situation in which these means are provided by some *parallel associations* is more complex but could also bee seen in the mandate framework with the *agency* as a *principal*.

[9] As WRIGHT [2000; p.3] notes: "Perfect competition is a quite demanding condition. It implies *perfect information* and a complete *absence of any power relations* between actors within a market".

[10] For a list of such conditions, see for instance WRIGHT [1999; 2000] where are mentioned *the inverse interdependent welfare principle*, *the exclusion principle* and the *appropriation principle*: in a "dynamic" sense, the transfers does not permanently reduce the clients and non-members' welfare, nor implies a definitive increase in the *agency*'s members based on their labour effort.

are a mean of social control exercised by the *agency* against its clients as well as against the non-members by simply imposing for them unequal individual levels[11].

This argumentation is not intended to suggest that there is an *ethical* justification of the transfers[12]; rather, is just a simple recognition of their existence and of some "economic" reasons for this.

Thus the following definition could be advanced for the transfers:

D_0 : *The transfers represent* ***operational*** *flows retained by the* ***agency*** *in the current period for* ***prudential*** *purposes and destined to be used, totally or partially, to conserve the" net" global utility in the next period(s). In opposition with the fraction of the output kept by the* ***agency*** *as a counterpart of its services' prices, the transfers are not an* ***economic rent*** *but could be used by the* ***agency*** *as a mean to control its clients and the non-members*.

For analytical purposes, is useful to distinguish between the *prudential* transfers ($fpT_i(k_i)$) and *social control* transfers ($fc_iT_i(k_i)$). Only the first category contributes to the preservation of the social utility and represents the "normal" level of the water stockpile, which could be estimate base on the historical, and current available information and which is imposed on a "uniform". The second one represents the part that exceeds this "normal" level and is unilaterally established by the **agency** on a "discretionary" base. Of course, in practice it is hard to make a clear distinction between these two components due to the fact that there is an asymmetric repartition of the information poses by the **agency**, clients and non-members: the **agency** could always claims that a certain level of the transfers is the "just" one and that level was established base on its "long experience" in water production conditions' forecast. In the mean time, the differences between the individual levels of transfers could be much easier observed. The **agency** could proceeds in two opposite/complementary ways if it decides to impose such inequalities: 1) try to cover their existence by appealing to "secret" individual clauses with some category of clients/ non-members; 2) accept their public recognition as a *fidelity bonus* in the favor of the best clients/ non-problematic members and/or as a *punishment* for the *problematic* clients/non-members. The adopted solution will depends on the **agency**'s relative social power and will change over time as a consequence of the changes in its capacity to control the social environment: an **agency** in the first formation stages will tend to appeal more to "non-transparent" mechanisms of preferential transfers implementation comparative to a "mature" one. In other words, if the **agency**'s control over the social space is beyond some "critic" levels the *bonus/punishment* practice could be much easy recognize as a "standard" one.

In order to take into account these two components of the transfers, the C_6 condition should be rewrite as:

[11] Of course, a distinction should be done between the situations in which such inequalities are unilateral imposed by the *agency* and the situations in which they appear as a result of the *negotiation associations'* activity.

[12] The most "sensible" part of the transfers is from this point of view the one which represents the *preventive compensation* (for a more detailed discussion about this aspect, see TALPOS *et al* [2005]).

$$\left[\sum_{i=1}^{N}\int_{k_i(0)}^{k_i(1)}\left[u_i\left(ak(t),k(t)\right)+fpT_i\left(k(t)\right)\right]\frac{dk_i(t)}{dt}dt\right]-\left[\frac{\sum_{i=1}^{N}k_i("1")-\sum_{i=1}^{N}k_i("0")}{N}\right]- \qquad C'_6:Th$$

$$-rn\left(aw,\alpha,\beta\right)-\sum_{i=1}^{N}\int_{k_i(0)}^{k_i(1)}\left[(1-fp+fc_i)T_i\left(k(t)\right)\right]\frac{dk_i(t)}{dt}dt>0 \qquad (10)$$

e delegation will took place as long as the changes in the agency cost does not generate a decrease in the global social "net" utility below the one provided by an individual water production. The re-negotiation of the relations between the clients (as ***principals*****) and** ***agency*** *(as* ***agent****) in the water production and distribution could take place only if the involved costs does not diminished the global social "net" utility bellow a certain ("zero") critical level. The unilateral "net" transfers from the social output initiated by the* ***agency*** *should preserve the critical level of this utility so that the total level of the* ***social control*** *transfers should not exceed the "net" level of the* ***prudential*** *transfers.*

Also the whole definition of the transfers should be change in:

D'_0 : *The transfers represent* ***operational*** *flows retained by the* ***agency*** *in the current period for* ***prudential*** *purposes and destined to be used, totally or partially, to conserve the" net" global utility in the next period(s). In opposition with the fraction of the output kept by the* ***agency*** *as a counterpart of its services' prices, the transfers are not an* ***economic rent*** *but could be used by the* ***agency*** *as a mean to control its clients and the non-members. The transfers consists in a* ***prudential*** *component which is the solely part that directly contributes to the preservation of the social "global" utility and a* ***social control*** *component. The last one could be subject of non-transparent clauses of the "social contract" or could be public implemented by the* ***agency*** *as parts of different* ***bonus/punishment*** *mechanisms.*

The relation (10) suggests that the clients / non-members who does not benefit from the **agency'** *bonus* or who are subjects of a *punishment* procedure will react only if the current ratio between the *prudential* "net" transfers and the *social control* transfers violate condition C'_6. In other words, they will not *apriori* contest any difference between the *de facto* level of transfers and their own estimation of the "normal" level derived from their forecasts of production conditions (if they makes such forecasts) and they will not *apriori* protest against any observed difference in the transfers' individual levels (if they notice such a difference). The contestation of the *social control* transfers will appeal only if this ratio is higher that the "optimal level". In this paper, we do not intend to go in a more detailed analysis of this aspect. We provisory argue that the clients and the non-members could agree with the **agency** that the *necessary* level of the *prudential* transfers per social subject exceeds the individual capacity to support it. In this case, the actions of those social subjects who refuse to accept *de facto* these transfers but who claims that they are *de jure* entitled to benefit from the *prudential stocks* on the base of an initial agreement with the **agency** could affect the global social utility and could not be always counterbalanced by an increase in the transfers obtained from the *loyal* subjects/non-problematic non-members[13]. So that, in order to preserve the efficiency of the **agency**'s *prudential* actions, the "majority" will

[13] In others words, they knows (or they learn from the experience of the past failures) that the "optimal" solution of the "prisoner dilemma" could be obtained only if all the participants at the prudential mechanism managed by the **agency** cooperates.

accept the existence of the *social control* transfers. Discretionary initiated by the *agency*, these transfers are finally accepted on a consensual base by a "significant" number of clients/non-members. Of course, this argument is too schematic and does only "scratch the problem". As a consequence, in this framework the question of the social subjects' reaction to the existence of the *social control* transfers remains an open one.
Another controversial aspect is connected with the "dual" motivation of the **agency**'s members themselves to impose the *social control* transfers as it is suggested above: 1) to ensure the dynamic preservation of the social utility and 2) to have some mechanisms of control over the clients/non-members. If the first component could be seen as a "pure" economic one, 2) could be derived not only from the objective to enforced 1) but from a more complex agenda including "non-economic" purposes. For instance, the *agency* could use the transfers in order to reconfigure the **relative social position** of its clients or of its own member's *vis-à-vis* to the non-members by simply chancing the $\frac{fp}{fc_i}$ ratio beyond the "optimal level"[14][15]. Of course, it should be explain how the **agency**'s member's utility function evolves by incorporating non-economic ("political") decisional variables. But for this purpose, the present framework is too limited so that we simply statues that such evolution from an "economic" to a "political" entity could be observed in latest development phases of the **agency**. If this claim holds, then the description of the (re)allocation process should incorporate not only a limitative set of "pure" economic factors but rather a complex of social and cultural variables. In other words, the analysis should be extended to take into account, among others, the influence exercised in this process by the dominant cultural paradigm.

4. Culture and "vertical" growth: the connection

According to the "Merriam-Webster" dictionary, culture is "the act of developing by education, discipline, and social experience" or "training or refining of the moral and intellectual faculties". In a different view, COZZ I[1998], understand by culture a "social asset" whose acquisition by an agent generates no individual utility but has positive external effects.

In TALPOS *et al* [2005; p.20] we provide the next definition of the **paradigm**: "*Through **paradigm** we understand the dominant collective mental model that individualizes a society from another. This paradigm represents a societal integration factor, by offering common values and goals for the members of the society. Also, this represents the subject of some learning and inter-generational transmission process, which slowly modifies itself, in "long cycles"*.

Regarding this definition, one could make the following commentaries:
It could be noticed that using the concept of "cultural paradigm" tends to reflect the product character of collective mindset. In other words, culture is a model produced by the collective mindset, through which it sets the accepted values in a social space. The cultural act is a

[14] In this context, we define the **relative social position** as the relative capacity to control and to benefit from the social global output.
[15] The analysis of the **agency**'s motives to discriminate some categories of social subjects exceeds the objectives of this paper. We just note that, if the **agency** intends to discriminate, it has in the social transfers a powerful mean.

valorisation act which sets the values hierarchy commonly accepted by the society. And through this hierarchy, the culture gives the social meanings and sets the social objectives. The culture is the act through which the individual and the society answer to the following questions: (i) who am I / are we? (ii), which is the meaning of my existence / our existence?

As mentioned before, we consider *the paradigm* as representing "something much more" then a set of "shared values". This way, one could remark that an interesting definition for the culture as "shared values" is, for instance, the definition given in KROEBER and KLUCKHOHN [1952] (cited by ADLER [1986]). According to this, culture consist of patterns, explicit and implicit of and for behaviours acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artefacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of future action.

Culture is:
- Something that is shared by all or almost all members of some social group;
- Something that the older members of the group try to pass on to the younger members; and,
- Something (as in the case of morals, laws and customs) that shapes behaviour, or structures one's perception of the world.

Our vision is much closer to HOFSTEDE [1991] who defines culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another". Like him, we emphasize that culture is, at least partially, learned, and not only inherited.

If culture is the framework in which the society establishes the *value's hierarchy*, than it could be noticed the fact that different social groups could derived their own combination between the "hard" ("material") values and the "soft" ("spiritual")[16] ones. More exactly, inside the same unitary *paradigm* one could identify different levels of the cultural variables **heterogeneity**. From AU [2000] point of view the defining variable of the *intra-cultural heterogeneity* could be grouped in less than two categories: 1) *the ideological heterogeneity ("ideology variation")* and *motivational heterogeneity* ("satisfaction variable"). The *ideological heterogeneity* reflects those intra-cultural heterogeneity determinants leaded to the **economic freedom** as the public sector role, the competition and the processes involved by social assets forming. The *motivational heterogeneity* refers to a complex of economic-social factors. These variables tend to be "positively "inter – correlated and both of them tends to influence the level and the structure of the social transfers.

More exactly, it could be noticed the fact that the increase in the *ideological coagulation* tends to be associated with an increase in the dimension and force of the *negotiation associations*: if the number of the social subjects sharing a **common vision** about how the society should works is increasing, it becomes more probably to appears a smaller number of *associations* with a clear agenda of *social contract* renegotiation. So that, a higher ideological uniformity will induces a higher tendency of the clients/ non-members to control the formation mechanisms and the destinations of the social transfers according to a specific set of objectives. These objectives could be or could not be the same as the **agency**'s ones.

[16] These terms are pure intuitive. We do not want to develop any rigorous definition of them.

Similarly, greater *motivation* uniformity is supposing to increase the tendency of the social subjects to form *parallel associations* and to decrease their propensity to delegate to the **agency** the production and the distribution of the social resources.
In other words, the capacity of the **agency** to impose social transfers is much weaker in the more *homogenous* social spaces.

Thus, the **heterogeneity** of the *paradigm*' components leads to different relationships between the "hard" and "soft" values which are specific for the *agency*, clients and non-members and could, as a consequence, influence the $\frac{fp}{fc_i}$ ratio since it affects the architecture of the *social power*. If one admits that this ratio is a factor of the economic growth, than depending on the specific configuration of the cultural values, the paradigm will affect the stability of the socio-economic dynamic.

Formally, for each social group i, the *sub-paradigm* could be described as a combination of the "hard" and "soft" values:

$$\alpha_i S \oplus \beta_i H \quad (11)$$

where:
S, H denotes the matrix of the "soft" and , respectively, of the "hard" values;
α, β are the weights (the relative importance) of the each values type;
$\oplus$ operator reflects the fact that the combination of the "hard" and "soft" values is a non-"linear" one.

With these notations:

Figure 1: The cultural heterogeneity and the stability of the economic growth

	Agency	**Clients**	**Non-members**
Agency	**1.** $\alpha_a <> \beta_a$ **un-stable** **2.** $\alpha_a = \beta_a$ **stable**	**1.** $\alpha_a < \alpha_c$ **or** $\beta_a < \beta_c$ **un-stable** **2.** $\alpha_a = \alpha_c$, $\beta_a = \beta_c$ **stable**	**1.** $\alpha_a < \alpha_{nm}$ **or** $\beta_a < \beta_{nm}$ **un-stable** **2.** $\alpha_a = \alpha_{nm}$, $\beta_a = \beta_{nm}$ **stable**
Clients	**1.** $\alpha_a < \alpha_c$ **or** $\beta_a < \beta_c$ **un-stable** **2.** $\alpha_a = \alpha_c$, $\beta_a = \beta_c$ **stable**	**1.** $\alpha_c <> \beta_c$ **un-stable** **2.** $\alpha_c = \beta_c$ **stable**	**1.** $\alpha_c < \alpha_{nm}$ **or** $\beta_c < \beta_{nm}$ **un-stable** **2.** $\alpha_c = \alpha_{nm}$, $\beta_c = \beta_{nm}$ **stable**
Non-members	**1.** $\alpha_a < \alpha_{nm}$ **or** $\beta_a < \beta_{nm}$	**1.** $\alpha_c < \alpha_{nm}$ **or** $\beta_c < \beta_{nm}$	**1.** $\alpha_{nm} <> \beta_{nm}$ **un-stable**

	un-stable **2.** $\alpha_a = \alpha_{nm}$ $\beta_a = \beta_{nm}$ **stable**	**un-stable** **2.** $\alpha_c = \alpha_{nm}$ $\beta_c = \beta_{nm}$ **stable**	**2.** $\alpha_{nm} = \beta_{nm}$ **stable**

where the sub-scripts a, c, nm denotes the *agency*, the clients and the non-members.

The thesis that the *paradigm* affects the relations between different categories of social subjects, in general, and, as a consequence, the nature of the primary distribution and redistribution of the social resources, and also affects the **economic freedom**, in particular, represents the main point of our argumentation.
A strong counter-argument against this thesis could be formulated by raising the next question: how plausible is to formulate an "indirect" link between some determinants of economic development and the cultural variables? And, even more, how significant could be the connection between institutional and behavioral variables and the economic dynamic?
As is explained in 2, we are interested in the long-run causes of the economic trajectory and we located this causes in the institutions and social groups interactions. So, such an approach does not expressly establish a formal correlation between the *paradigm* and current economic evolution.

It is interesting to note the fact that a limited version of this thesis could be empirically tested:
P_e : *In **caeteris paribus** conditions, the differences in the degree of **economic freedom**, as a key variable of the economic dynamic stability, could be explained by the **cultural differential**.*
For instance, it is possible to create equivalence between the *paradigm* components and the factors used by HOFSTEDE (1980)[17] to explain the cultural differences (using some limitation in their sphere and content). These factors are[18] :

- *Power Distance* (*PD*);
- *Individualism* (*I*);
- *Masculinity* (*M*);
- *Uncertainty Avoidance* (*UAI*).

The *PD* represents the acceptance degree by the members of society that the power (and all which could be associated with it) is unequal distributed.
In a high power distance society, inequality is reckoned as natural, the power-relationships being the foundation of society. Therefore, to hold the power is essential, who hold it defining the content of the society's basic values. The dependence relations are a main feature for the great majority of such type of society's members (who are placed outside of the power or on the lowest level of it). Instead, the independence is an attribute for those who concentrate decisions, an elitist socio-political, economic, cultural or even racial minority, designated by public choice or auto-designated. The political system is characterized by the small dimension political class (which could be assimilated with an oligarchy), which assure the power, and the elective process

[17] Realized in 1968-1973 starting from approximately 66 non-socialist countries, this study collected information from more than 117000 forms, completed by the IBM employees in this countries
[18] For this analyzes purposes, the main advantage in using these factors is the quantification of the relevant elements, which could be used, in an empirical approach of the mentioned thesis. The factors interpretation realized here is larger that the one strictly derived from this study.

is dominated by whose have access to the basic resources. In terms of resources collection and allocation, the power holders establish what is necessary, how much is necessary and whom is necessary a certain resource. Governs are autocrat and centralized. In economical structure, agriculture and low value added industrial sector are high-weighted. From social point of view, the middle class is low-weighted, an important social rule being associated with public administrative personnel. There are latent conflicts between powerful and powerless.
By opposite, in a low power distance index society, the basic belief is that the inequality must to be minimized. The way in which power is used is essential, who's exercised it doing this for those are represented by them and starting from the essential values defined by the society. The dominant relations in society have a multiple and mutual interdependence character. Temporary power-holders haven't a total independence in exercising of power. The political system is dynamic; the political class is in a continuous change; the political power is obtained as a result of elective process rigorous supervised by civil society. The resources collection and allocation process is transparent and public debated, with widely wealth distribution. For local community is allotted a strong decisional power. The judicial system has a preventive character. In economical structure, high-technology industrial sector and services are high-weighted. It is registered high social mobility and significant importance for middle class. The conflicts don-t missed, but they are accepted as a progress sources.

UAI quantifies the tolerance degree accepted by the society's members for the anxiety induced by the ambiguous and unstructured future situations.
The societies with high uncertainty avoidance are concerned on build-up some methods to minimized this anxieties. Therefore, plans are essentials, based on detailed and rigorous forecasting. Such societies are, typically, young democracies or developing countries for which the changes are of "fissure" type (even violent), being inherent, with an important political, social and economic impact. The political system is dominated by the personalities with a high-recognized expertise. The resources collection and allocation process is centralized, detailed planning – based, being carry out by a huge administrative apparatus, which dominate the society. It is specific a strong needs for consensus, so that members of such culture demonstrate a low tolerance for dissident opinions and tendencies.
Per a contrario, the societies with a low level of uncertainty avoidance admit the fact that the risk and uncertainty belong to the real life, couldn't be totally avoided. Creativity and innovation represent two significant features. Such societies are, typically, developed countries or old and strong traditional democracies, where the changes are cyclic, with high frequency and gradual impact. The political system was outlined in time, and the political class is in a continuous change; the differences between political generations are not very significant. The resources collection and allocation process is decentralized, the "subsidiary principle" being recognized and applied; corrections in the (re) allocation mechanisms are frequently. Public debates are numerous, with various themes, and different opinions and currents are accepted.

I measure the identity: communitarian or personal, respectively the relations established by the individuals with others members of the community. A collectivistic society (with a strong communitarian identity) valorises the group, the collective space, which create a perception of a common propriety. A series of values, such as liberty or solidarity are conditioned by the group's life and beliefs. Equality/uniformity is preferred to equity. Such countries are, typically, low-developed societies, with centralized, paternalistic, time-durable and strong popular support governments. The social mobility is small, its dynamic confines to the affiliation social and

demographic category. The traditional economical sectors are high-weighted. The resources collection and allocation process are focused on, rather, general shorts and long - term needs satisfaction, pursue, primary, regional and social equalization, with a less consideration for efficiency index or long – term interest satisfaction. Collectivism is characterized by a strong distinction between in- and out-group members. This implies a strong preference for different *bonus* mechanisms for best clients/ non-problematic members *versus problematic* clients/non-members.
An individualistic society valorised the own "ego", family, individual and private space. Time belongs to individuals, and values such as liberty and solidarity are determined by personal beliefs. There is a great appreciation for efficiency, ambitious and life success. The equity is more important than equality. Such countries are, typically, high-developed societies, with a powerful industry and a high degree of urbanization. Such societies reckon a significant role for local administration and regional governments. They are characterized by a high social mobility; group borders do not restrict its dynamic, movement between groups depending primary by the own willing. The middle class is very important, representing an "engine" for social and economical development. The resources collection and allocation mechanism follow principles such as efficiency or stimulating of high potential regional and economic area, with a risk of developing discrepancy's creation between regions or communities.

M does not imply the discrimination of the cultural values on sexes; rather it reflects some fundamental values shared by all society members. More precisely, it is considered that the "masculine" societies are those where the dominant values are connected with the social affirmation, the material results and the decisional freedom. In this conditions the performance is measured using the terms of reaching and maintaining a reference **social status** and the material achievements are considered more important that the spiritual ones. Public services or educational system are oriented to performance. The economic growth is more important than nature or environmental protection. The political system is centred upon competition, and specific member of political class is middle age (or third - age) male, with rich political expertise or wealth. The (re) allocation process are modelled around clearly defined performance criteria and pursues the economic growth as an ultimate objective. In opposition, the "feminine" societies have as dominant values: the equality, the solidarity and the consensus, the social tension avoidance, the centralization of the social-economic trades and the conservation or the spiritual values, tided to the "quality of life" and to the inter-human relationships. Public systems and services are focused on social adaptation environmental protection is more important than pure economical growth, and social responsibility represents a main feature of organizations belonging to this kind of culture. There are not significant inferences between public/professional sphere and private space. The (re) allocation process pursues to insure equal development conditions for everyone, together with high social protection.

We consider that taking them into consideration and using them to characterize three types of *paradigm*, characteristic for three types of societies, could be useful:

- "X" society (*closed society)*;
- "Y" society *(semi-opened society)*;
- "Z" society *(opened society)*.

Closed societies are characterized by the tendency (at least formal shown) of attenuation at the unequal power distribution level, by a pronounced collectivism, by promoting the "feminine

"values (searching for consensus and not for competition) and by a pronounced incertitude and risk aversion.

In *semi-opened societies* all these parameters have medium values; the *opened societies* valorize more the acceptance of the unequal power distribution, as "natural" status, the individualism and the social affirmation, the performance and the material result, the incertitude acceptance as a status, which could generate action opportunities[19].
These cultural variables influence both the level and the structure of the production and transfers.
In the society with a high level of *PD*, the delegation process to the *agency* is seen as a "natural" process and the inequality between the exerting capacities of different rights is pregnant pointed out. So that, the **agency** has the control over the production/distribution conditions and reallocate the resources in an authoritarian manner; the discrepancies in the $\frac{fp}{fc_i}$ ratio are pronounced and even more they are perceived as "naturally" ones. The *associations* have a reduced negotiating power and they are not able to appear like an important social agent in the (re) allocation processes.
If the level of *UAI* is very high, the social subjects will be tempted, in a significant way, to delegate their rights' exertion, having as a purpose the social dispersion of the involved risks. *The agency* is seen as a "safety structure" that has as the main function the creation of a "safe" social environment. As a consequence, the level of the *prudential* transfers is high and the *punishment* component of the *social control* transfers is largely accepted.
In the societies with a high level of *M*, the accent on the individual achievement will have an adverse effect to the delegation process: the social subjects will prefer to exert themselves a higher volume of their rights. The **agency** controls a reduced fraction of the social output. The performance criteria are extremely important in the clauses of the social contract and there is a strong tendency to form private *associations*. Thus, in these societies the **agency** controls a smaller part of the social output and the *prudential* transfers are less important.
In a similar way, for a high level of *I*, the social subjects will prefer, in a reduced degree, to delegate the exerting of their rights and the **agency** will have a smaller size. In the structure of the prudential transfers the weight of the *preventive compensation* will be reduce and the *social control* transfers will be much easier contested.

The structural and institutional aspects of an economic system could be, at least partially, captured by using the *Economic Freedom of the World* (**EFW**) index. This index measures the degree of economic freedom present in five major areas:

- Size of Government: Expenditures, Taxes and Enterprises;
- Legal Structure and Security of Property Rights;
- Access to Sound Money;
- Freedom to Exchange with Foreigners;
- Regulation of Credit, Labour, and Business.

The components of Area 1 indicate the extent of country's reliance on the freedom of individual economic subjects' choices and power of deregulated markets, by measuring the intensity of the

[19] For more details about the characteristics of this societal taxonomy, see TALPOS *et al* [2005].

substitution effect between the private resources allocation and the public expenditures, the extent of using private rather than public enterprises to produce goods and services and the level of taxes on economic resources in the redistribution process.
Area 2 deals with the key ingredients of the legal system which are compatible with the economic freedom: rule of law," security" of property rights, an independent judiciary, and an impartial court system.
The Area 3 treats the subject of the financial stability. The components of this Area are correlated with the consistency of monetary policy (and of monetary authorities) with long-term price stability. They also measure the easy use degree of other currencies *via* domestic and foreign banks.
The elements of Area 4 are designed to reflect a wide variety of restraints that affect international exchanges. These include tariffs, quotas, hidden administrative restrains, exchange rate and capital controls. In order to get a high rating in this area, a country must have low tariffs, a large external trade sector, efficient customs administration, a freely convertible currency, and few controls on capital.
The Area 5 reflects the conditions of the domestic credit market (the banks ownership, the commercial banks sector competition, the credit extension, the avoidance of interest rate controls and regulations), the characteristics of the labour markets (minimum wages, dismissal regulations, centralized wage setting, extensions of union contracts to non-participating parties, unemployment benefits, and conscription), and the regulation of business activities (price controls, administrative conditions for new businesses, government bureaucracy, import and export permits, business licenses, tax assessments etc.).

5. Some empirical evidences

The connections between the **EFW** index and the HOFSTEDE's cultural variables are revealed in the Annex 1. The sample includes data for the 25 members of the European Union. The analysis period is between (annually data) 1996-2006. The model is specified with the inclusion of *random effects*:

$$EFW_{it} = (\alpha_{it} + \nu_{it}) + \beta_{it} C_{it} + \varepsilon_{it} \quad with\ E(\nu_{it}\varepsilon_{it}) = 0 \quad (12)$$

where C is the matrix of the cultural variables.

The values of the Student, of the Durbin-Watson-statistics, of the Akaike and Schwartz info criterion as well as the tests for the autocorrelations in the ε_{it} residuals (not reported here) suggests that the results are "acceptable" from a statistical point of view.
According to the results listed in Annex 1, all the implied cultural variables seem to exercise a statistical significant influence on the **EFW** index. Since the values of this index are ranked from "5" (the "worst" case) to "1" (the "best" case), *Power Distance* and *Individualism* affects directly the degree of economic freedom, while *Masculinity* and Uncertainty *Avoidance* exercise an "indirect" influence on **EFW**. From these, the *Masculinity* is the weakest explanatory variable.
It should be noticed that the validation force of this test is affected by methodological and econometric problems.

For instance, the presumption of the **caeteris paribus** conditions for all the EU countries is a "heroic" one, since there are important differences between the "old" and the "new" members.
Also, the appeal to the HOFSTEDE's cultural variables could be criticized due to the fact that these have obviously a certain self-referential in the "occidental" culture and are not able to sustain a more accurate distinction between the characteristics of the cultural artefacts.
In the econometric field should be mentioned the relatively small number/periods of observation and the fact that the use of some *fix effect* methods for the *pool* estimation could change the results.
Despite these limitations, we consider that such tests could be used on a largely scale in order to provide a stronger empirical support. However, it seems that there is a case for P_e and is justified a more detailed analysis.

6. Conclusion

The proposed model is an attempt to describe the complex web of the interactions between the **agency**, its clients and the non-members in the production/(re) distribution processes.
It argues that there is an economic base for the mandate theory and it tries to explain the causes and the formation mechanisms of the social transfers, as a key ingredient of the *social power system*, system that is presumed to be the "basis" of the *long-run* socio-economic evolutions.

One could notice a lot of week points in the entire advanced argumentation. Among them, could be mentioned the intrinsic limitation of the mandate theory which are not solve; the absence of an solid argumentation for the multigenerational evolutions of the relations between **agency** and the others social subjects; the "blank field" of the changes in the **agency**'s utility function with the inclusion of some "politic" variables; the obscure description of the $\frac{fp}{fc_i}$ ratio; the not enough developed analysis of the linkage between the cultural variables and the social transfers, the absence of any description of the possible "transmission" mechanism of the "institutional" and "behavioural" impact on the *sustainable development* as well as the absence of any EU case study particularity description and many others things.

But, beyond of the unfinished character of the construction, the model is intended to promote a better understanding of the social space and to support an "optimal" selection of its configuration in order to sustain the "vertical" socio-economic evolution. Finally, the last "frontier" of this evolution is designed inside our own fears and hopes.

Annex 1: The connection between the cultural variables and the *economic freedom*

Method: Pooled EGLS (Period random effects)
Sample: 1996 2006
Included observations: 11
Cross-sections included: 25
Total pool (balanced) observations: 275
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (degree of freedom corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.509132	0.185128	13.55350	0.0000
P	-0.002766	0.000359	-7.710897	0.0000
I	-0.007580	0.001454	-5.211676	0.0000
M	0.001607	0.000396	4.053999	0.0001
UAI	0.005008	0.000765	6.544060	0.0000
Random Effects (Period)				
1996--C	0.214275			
1997--C	0.136829			
1998--C	0.115664			
1999--C	0.079586			
2000--C	0.047132			
2001--C	-0.054718			
2002--C	-0.055231			
2003--C	-0.102886			
2004--C	-0.094387			
2005--C	-0.094387			
2006--C	-0.191877			

Effects Specification

Period random S.D. / Rho	0.140310	0.1392
Idiosyncratic random S.D. / Rho	0.348887	0.8608

Weighted Statistics

R-squared	0.244132	Mean dependent variable	1.051109
Adjusted R-squared	0.232934	S.D. dependent variable	0.398354
S.E. of regression	0.348887	Sum squared residuals	32.86504
F-statistic	21.80130	Durbin-Watson stat	0.121817
Prob(F-statistic)	0.000000		

Un-weighted Statistics

R-squared	0.219307	Mean dependent variable	2.360531
Sum squared residuals	37.78677	Durbin-Watson stat	0.133998

Source of data: Hofstede Geert, (2003) & Index of Economic Freedom (2006)

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