TRUST AS SOCIETAL CAPITAL:

Economic growth in European regions

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Abstract

The neo-institutional approach to economic phenomena has forwarded the institutional framework within a society as a fundamental determinant of economic performance. Cultural characteristics, also referred to as “societal capital”, have gained specific attention in this respect. Basically, a culture that is characterised by trust is increasingly considered as a competitive advantage. This paper fits in this neo-institutional perspective. We outline an integrated conceptual framework that articulates the direct and indirect channels through which a culture may influence the economic record.

Confining to economic growth as an indicator of economic performance and using data from the European Value Study, we subsequently investigate empirically the link between cultural values and economic performance, hereby focusing on a European sample that includes regions as units of observation. This empirical evidence indeed seems to confirm the trust-growth hypothesis. Building on this result, we finally consider a number of possible policy implications. We hereby envisage the government as the main designer of the formal institutional framework within which economic agents interact. In addition, we emphasise the government’s exemplary role as a visible emanation of societal values.

Keywords: societal capital, economic performance, European regions

1. Introduction

Major historical events sometimes put their mark on scientific developments in ways that may seem surprising at first. One might have predicted that the spectacular collapse of the Soviet-style economies would everything but threaten the solid position of the neo-classical paradigm in the economics discipline. One might have claimed, as some actually did, that historical facts proved the definite ideological victory of the market metaphor. One might once again have come up with the key-symbol of the "invisible hand", in this particular instance displaying an ultimate, triumphant gesture. But to a large extent, one would have been wrong.

As a matter of fact, the subsequently emerging transition issue provided an impetus for some scholars to reflect thoroughly on the capacity of the traditional neo-classical framework in providing workable policy guidelines. As economic historian and 1993 Nobel Prize Winner Douglas C. North put it (1994), "the neo-classical paradigm is devoid of institutions[…] The […] models of economists do not confront the issue of the underlying incentive structure that is assumed in their models. These lacunae in our understanding have been forcefully brought to the attention of economists by the events in Central and Eastern Europe…where the challenge is to restructure the economies… Can that restructuring be done without deliberate

The rising importance of the neo-institutional approach is accompanied by a similarly increasing attention to relatives such as constitutional economics, a field addressing the choice of rules rather than the traditional problem of choice within a given set of rules (see e.g. the journal Constitutional Political Economy). Moreover, even within the "mainstream" the relative sterility of traditional models is regarded as received wisdom and profound evolutions are taking place. To quote but one example, in a remarkable book the leading economist Joseph Stiglitz (1994) brings together several objections against the standard neo-classical paradigm in its capacity of providing a fundamental insight into the workings of a market economy. In doing so, he frequently resorts to the increasingly popular jargon of the economics of (asymmetric) information, incentives, and contracts. In this area, still rooted in neo-classical economics and building to a large extent on mathematical analysis, commonsensical rationales can be provided for politico-institutional phenomena such as e.g. the separation of powers (e.g. Persson, Roland and

Tabellini, 1997), government decentralisation (e.g. Caillaud, Jullien and Picard, 1996) or, more broadly, the internal organisation of government (Tirole, 1994). Thus, at least within the economics profession itself, the crucial importance of the institutional embedding of economic processes is sufficiently recognised. It is then only a minor logical step to acknowledge the influence of institutions on the outcomes, i.e. the performance, of these processes.

This last point is evident even from the way in which institutions are commonly defined. Take for instance the definition provided by Kasper and Streit (1998, p. 30): "Institutions are rules of human interaction that constrain possibly opportunistic and erratic individual behaviour, thereby making human behaviour more predictable and thus facilitating the division of labour and wealth creation." Thus, 'institutions' and 'rules' can be used interchangeably.[1] They rule out certain actions, they narrow the scope of possible reactions, or in other words help to *order* human interactions.

In all its straightforwardness, this definition hides a rather fundamental point of view regarding the status of the individual in its relationship to other individuals. While institutions are undeniably man-made, they are usually experienced as external in an inter-individual relationship. In other words, by introducing institutions one needs to bring a new party into the picture explicitly. Specifically, the society and the culture to which individuals belong become important in understanding what may have been regarded before as purely inter-individual relationships. In other social sciences this may seem the most obvious of statements to pronounce, but as far as the "social mechanics" of the economics discipline is concerned it amounts to quite a different thing. The species of Homo Economicus that still populates the vast majority of our textbooks is not embedded in any culture whatsoever. But as was stated above, this sterile species seems to become somewhat endangered.

A second noteworthy point of the above definition is that an appropriate set of institutions is beneficial in a narrow economic sense. By virtue of their streamlining function they allow to channel scarce resources to the economic process stricto sensu. They have been characterised, quite rightly, as the lubricant of the

[1] Note that, as opposed to everyday language, institutions are in this perspective clearly distinct from "organisations" which are not rules but particular, structured combinations of resources. The latter may embody their own implicit or explicit rules, their own "culture". Or, concerning the opposite relationship, institutions may be more effective if they have sufficient organisation back up.

economic system.[2] In a similar vein, culture has recently been re-interpreted, equally rightly, as the "societal capital" of a society.

In the next section, we will elaborate the issues just raised and, next to introducing some more concepts, we present a conceptual framework that aims at capturing the influence of institutions and of societal capital on economic performance.

The ordering function of institutions, of rules, alters the a priori believes of economic agents. In a way we further develop below, this amounts to the statement that they can introduce trust into inter-individual relationships. It is the presence of trust, itself originating from appropriate institutions, that is supposed to account for improved economic performance. At first sight it may be difficult to check this particular relationship empirically. However, inter alia fuelled by results of the World Values Survey (WVS), this framework has become subject to empirical testing in the literature. We briefly discuss some of the more recent studies that aimed at such testing in section 3. These analyses where largely confined to the national level. In section 4 we present regressions on a European data set that includes regions as units of observation.

The neo-institutional framework and the growing number of empirical studies that are indicative of its validity evidently carry several important policy implications. At a very basic level, they raise new questions about the economic aims and instruments of governments. All the more so in an environment where the macroeconomic stabilisation task, traditionally emphasised as government's economic playing field (or battlefield) *par excellence*, is increasingly constrained and carried out by new actors. On top of this the environment is also characterised by surging factor mobility. Hence one may ask whether national or regional governments can actually still influence, let alone control, the performance of their national or regional economy. The neo-institutional framework provides the message that there is still ample room for such influencing, albeit of a subtler (but arguably more substantial) nature. This is also clearly acknowledged outside of academia, as can e.g. be witnessed upon reading the recent European Union's *Sixth Periodic Report on the Regions* (1999). We will succinctly address the issue of policy implications in section 5.

[2] Recalling that e.g. the commonly accepted use of (paper) money is an institution, this

2. Institutions and performance: a general framework.

In this section we clarify how institutions, normally taken as given in neo-classical economic analysis, can have an impact on the economic performance of a collection of individuals, e.g. those living in the same region or country. The proposed explanation is based on the accompanying figure 1, which aims at disentangling some key notions and indicating some of the links between them.

The first point that one needs to observe in the figure is that everything is happening between two poles, viz. the “individual” pole on the one hand and “culture” on the other. Although various inter-linkages exist, as we will discuss briefly below, the two are indeed clearly distinct (“a new-born baby has no culture”, an individual can belong to several (sub)cultures at the same time, etc). For didactical purposes, we will therefore consider an (inter-)individual realm and an extra-individual realm (respectively the top and lower half of the figure).

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characterisation seems indeed quite convincing.

Let us start with the individual. Two constitutional elements of human existence are taken as crucial here. First and foremost there is the knowledge problem, the limited individual capacity to develop, test and apply knowledge. We opt to put this characteristic first since it implies a serious rupture relative to traditional (often implicit) assumptions. To be sure, this assumption does not necessarily entail that one has to abandon the essential methodological hypothesis of individual rationality. As economists fundamentally deny that any agent's action is essentially arbitrary, this knowledge problem is operationalised by assuming that individuals are boundedly rational. The other constitutional element is that the individual is not alone, but is confronted with other individuals from the cradle to the grave. In other terms, an individual human being is bound to interact, to transact with others, who themselves are in turn faced with the knowledge problem. Since we take as given that individuals are rational within the limits of the information they have, we also assume that the observed need for interaction is vital in the sense that it fosters the broadly set goals and aspirations of the individual. This, by the way, implies that human actions are considered as purposeful.

The pervasiveness of the knowledge problem and the truly vital need for interaction both imply that, in an individual's dealings with other individuals, some form(s) of friction will enter the process of interaction. Basically, this is because one cannot truly know the individual with whom one is interacting. This can mean several things. For example, it may pertain to the fact that one has to search for the person most apt to interact with for a particular purpose. Or, it may mean that, even if one has found such an individual, one has to interact on the basis of the individual beliefs about the motives and goals of the other. Economists label these forms of friction as transaction costs. In a narrow sense, they could be defined as the costs of running an economic system of (mutually beneficial) exchange. We here stick to the broader interpretation of unavoidable individual costs incurred when aiming for individual benefits through inter-individual transactions.

As can be seen on the figure, it is these transactions costs which have an influence on performance. This is quite intuitive. When interpreted in their usual, narrower sense, it implies that the costs of running an economic system come at the expense of the outcomes of such a system. If the acting of trading is costly, less trading will take place. Or, as in the famous Akerlof model of the market for lemons, there could be no trade at all even if it might have been mutually beneficial. If an

insurance company has to deal with moral hazard phenomena on the account of the insured, this will show up by constraining the scope of feasible insurance contracts (thus reducing the resultant potential welfare gains of such an interaction). If an agent's effort cannot be measured adequately, costly monitoring devices need to be set up. If citizen's earnings capacities cannot be observed directly, distortive income taxation has to be resorted to. In short, there are a plethora of examples to provide which all serve to highlight the fact that transaction costs reduce the range of feasible transactions, thereby constraining the range of economic performance.

Transaction costs are quite crucial in this analysis. We tried to exemplify this in the figure by making the other components literally hinge on that notion. They are depicted as a key-explaining factor for performance. It is also there where the (inter)-individual sphere meets its institutional counterpart.

Let us thus devote some attention to the lower half of the picture. To recall, this counterpart is taken as extra-individual. The fundament here is culture, i.e. a set comprising values and a rule system, as well as the more tangible elements of social interaction in a community. Its extra-individual nature thus becomes quite explicit: it is a means to bridge the tension between an individual and the society of other individuals to which it belongs. It follows that 'belonging to the same culture' must be understood as sharing the same set of learned rules and the values that underpin it.

Just as other authors, we consider rules as synonymous to "institutions". The question regarding the rationale for rules can then be answered by recalling the explicitly teleological argument provided above. Given that institutions are rules, notably rules of human interaction, they serve to narrow down the scope of possible interactions in inter-individual relationships. They accomplish this purpose by imposing sanctions if the rules are not obeyed. Indeed, it is important to recognise that institutions, formal or informal, *always* imply some kind of sanction for rule violations in order to be effective.

The careful reader no doubt has noticed that we just made the distinction between formal and informal institutions. To give some more meaning to these terms, note that their mutual distinction basically hinges on the origin of both kinds of rules. That is, formal institutions are usually defined (see e.g. Kasper and Streit, 1997) as

being imposed and enforced from above, having been designed and established by agents who are authorised by a political process. Formal institutions are coupled with explicit sanctions that are imposed in formal ways and may be enforced by the legitimated use of force. Legislation is a frequently cited example of such formal institutions. Informal institutions, on the other hand, evolve from human experience and incorporate solutions that have tended to serve people best in the past. Examples are customs, ethical norms, good manners and conventions in trade. Violations of informal institutions are normally sanctioned informally, e.g. by others in the community.

While the two can be clearly distinguished, formal and informal institutions are to a large extent interrelated. A glance at figure 1 yields the commonsensical explanation that this is to be expected given that they are ultimately rooted in the same culture. However, the observation of mutual influencing is still worthwhile enough to emphasise. Especially with respect to the formal institutions it is frequently of key importance that, since they exist by design, care is taken not to deviate substantially from the whole of informal institutions. Or to put it differently: in order to be acceptable or "legitimate" (in the sense of falling within a broader common frame of reference), the formal rules-cum-enforced-sanctions must in a certain sense be derived from the "pre-existing" informal institutions. In this sense then, the latter are of a somewhat more fundamental nature than their formal counterparts.

Coming back to our figure, it is then easy to see why the cultural-institutional sphere is of profound importance to (economic) performance. In its capacity as provider of constraining elements to the latter, it can influence ex ante transaction costs considerably. A common culture is likely to make human behaviour more predictable. This is all the more so when such rules help to constrain possibly opportunistic and erratic individual behaviour. It moreover follows again that their is a clear normative case for formal ("imposed") rules that are as much as possible in accordance with the informal institutions.

By helping to order actions, institutions may then establish trust. The latter concept is somewhat difficult to grasp, and various definitions of it have been provided in the literature. With an eye towards the economics discipline, some operational description can however be provided. Trust is then an individual's belief regarding

the event that another agent (or several other agents) acts non-opportunistically in "vulnerable" circumstances. Being a belief, it is regarded as intimately linked with settings of imperfect information. To act opportunistically is regarded here in Williamson's (1985) sense as self-interested action with guile. That is, individually rational, albeit probably boundedly rational, action that (partially) influences the well being of others in a negative way (cf. the element of vulnerable circumstances in the above definition). The latter description is clearly and deliberately reminiscent of a "gaming situation", i.e. the kind of interactions studied by economists in game-theoretic models. Moreover, the belief can be related directly to the outcomes (pay-offs) of such games, played by rational players. Trust, in these terms, refers on the most fundamental level to uncertainty regarding the constituent elements of such games. As shown in Moesen, Cherchye and Van Puyenbroeck (1998), when explicit or implicit sanctions are introduced in archetypal games such as the prisoner's dilemma, people can alter their beliefs about the likelihood that their "opponents" will cheat. If in this way a culture of co-operation emerges, then frequently a better performance ("a higher pay-off") will result.

When linked to the concept of "performance", it is clear that formal or informal rule systems can to some extent be judged on the basis of the criterion whether indeed they help to reduce transaction costs sufficiently. This perspective still builds on an individualistic conception of society rather than an organic one (the citizen-over-the-state point of view rather than the opposite). When seen in this light, "good" institutions are e.g. those who facilitate the division of labour, the exchange of goods and services, or other preconditions of economic prosperity.

To conclude this section, note that until now we have kept the individual and institutional realms distinct, depicting a situation where the two meet at the nexus of transaction costs which in turn have an impact on performance. Evidently, this can only be maintained for reasons of expository convenience. The two clearly are related: individuals have to learn (to internalise) the values and rule systems of the culture to which they belong. Similarly, culture is not a static concept, but evolves under the influence of external events or experiences with other cultures as perceived by the individuals. These last points are indeed important and need further elaboration. They will show up again when we will address the question of policy implications. But before we do so, we first ask whether there is indeed any empirical evidence that may corroborate the story we have just presented.

3. A culture of trust, a record of growth?

To capture any possible influence of (informal) institutions on economic performance, we will confine ourselves in this section to economic growth as an indicator of such performance. This clearly contrasts with earlier work (Moesen, Cherchye and Van Puyenbroeck, 1998), where we explicitly criticised the disadvantages of focusing on a single indicator. Instead, we presented an indicator that synthesised several dimensions of (relative) macroeconomic performance, notably those figuring in the OECD magic diamond. The nature of the data set in that study, i.e. the use of (OECD) nations as units of observation, allowed us to collect data on inflation and the current account. Given our present aim of extending the study to the regional level, the regional counterparts of these indicators are not readily available. This would leave us, at best, with a similar indicator that is severely reduced in scope (i.e. bringing together growth and unemployment) and therefore offers little or none value added. Turning our attention to the regional level, and recognising the presence of data problems, we will therefore concentrate on economic growth as being indicative of performance.

Somewhat ironically, this narrowing makes our investigation highly comparable to the recent empirical literature on economic growth and its relationship with the institutional environment. Indeed, the questions our empirical model is addressing are related to those posed by La Porta et al. (1997) who examine the effect of trust on large organisations such as governments and firms, and even more directly to the growth models of Mauro (1995) and Knack and Keefer (1995, 1997). Especially the last of these references is an interesting point of comparison for our own empirical study. We will therefore briefly discuss this empirical literature and its background.

Most of these references find their origins in the well-known article of Barro (1991) which served as an important renewed impetus to empirically oriented issues of economic growth. This literature focuses on the so-called convergence hypothesis that can be derived from neo-classical theoretical growth models or models that incorporate technological diffusion. This general convergence hypothesis can be given at least two operational meanings (see e.g. Sala-I-Martin, 1996). A first definition of convergence is based on the cross-sectional dispersion of per capita income over time. Usually this dispersion is measured by taking the standard

deviation of cross-sectional data for each observational period, a feature which explains the use of the term σ-convergence, and checking whether there is any steady decline of this indicator over the examined period. While we will briefly touch again upon this notion below, a more relevant concept for our purposes is the so-called β-convergence. Put somewhat loosely, this concept is used to check the catching-up hypothesis, i.e. the idea that poorer countries or regions grow faster than their richer counterparts. The prefix β is reminiscent of the use of regression analyses as the empirical means to check the convergence hypothesis. More specifically, it points at the coefficient attached to the initial income level in a regression explaining growth over a particular period (say, T years) for a cross-section of observations. The most basic of such regressions would look something like the following:

$$(1/T) \log (y_{i,t}/y_{i,t-T}) = \alpha + \beta \log (y_{i,t-T}) + u_{it}$$

On account of the convergence hypothesis, the β-coefficient is hence expected to be negative.

At this point the reader may rightfully wonder what, if any, relevance this convergence hypothesis has for our specific purposes of examining the impact of trust on economic performance. In order to explain why it serves as a valuable take-off board, we need to introduce the concepts of unconditional and conditional β-convergence respectively. The equation above serves to measure unconditional β-convergence: the growth of all nations or regions (as indexed by the subscript i) is exclusively steered by one exogenous variable being the initial per capita income level. Technically, one speaks of a mean reversion process. However, typically the explanatory power of such regression increases considerably if more variables are added to the above equation. Barro (1991) in this respect talks of conditional β-convergence: the convergence hypothesis holds conditional on the levels of other control variables. Somewhat restated, conditional β-convergence implies that there may be "structural" differences between the growth paths of the observed economies. Structural, in the sense that they relate to factors such as e.g. that nation's cost level or school enrolment level (human capital). But also, and here the link with the rest of our story becomes evident, with various political and institutional indicators or measures of societal capital.

For example, Barro himself added political stability factors such as the number of revolutions and coups in a particular country or the number of (political) assassinations. Mauro (1995) constructed composite indices of bureaucratic inefficiency and political instability and used them, next to an indicator of corruption, as regressors. Knack and Keefer (1995) sought to capture threats to property and contractual rights more directly and used institutional indicators based on e.g. expropriation risk, contract repudiation by government, corruption in government and the quality of bureaucracy. Their study, on the basis of composite indices, revealed the importance of constructing direct indicators of institutional influence to be used in empirical analysis of economic performance. Furthermore, they also showed that such measures are capable of capturing a profound influence of institutions on growth (or investment). An influence which, on the basis of some of their regressions, can be considered as rivalling the more well known effects of education.

But if there is some ground of validity in the theoretical model we presented in the previous section, then the empirical studies just cited, however valuable they are, are actually side-stepping the vital link between institutions and (growth) performance. Trust as such is nowhere appearing as explanatory variable, let alone being explained itself. The empirical study of La Porta et al. (1997) does not address issues of economic growth, but is indeed an important reference in so far that these authors did use a measure of trust, taken from the WVS, to regress it on several (actually 14) indicators of performance in large organisations including e.g. government effectiveness. The same trust measure did also figure prominently in a series of empirical growth equations presented by Knack and Keefer (1997). The authors built further on the line of research introduced by Barro and provided an extensive empirical analysis of the effect of trust and so-called “civic norms” within a nation on that nation’s growth history, thus revealing their significantly positive influence on the latter. Not surprisingly, it is especially the last of these empirical studies that served as a direct source of inspiration for our own work.

4. Trust and regional performance: an empirical investigation

The purpose of this section is to check whether the empirical questions as posed by e.g. Knack and Keefer also hold at the level of European regions. The possibility of carrying out such a study is greatly facilitated by the existence of the European

Value Study (EVS). The latter does not only provide a regional breakdown of its results since its second, 1990 version, but is also highly congruent in nature with its WVS counterpart which was used by some of the authors mentioned above. In particular, the general trust measure that figures in some of the aforementioned papers is readily retrievable in the EVS. Let us therefore have a somewhat closer look at it. We already mentioned in section 2 the relative fuzziness of the trust concept, even in theory. Moreover, the operational definition that we put forward was clearly and deliberately developed with an eye to game-theoretical analysis and does as such not possess a directly observable counterpart. Instead, what is being taken as indicative of a society's trust level is based on the rather direct question "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"[3] The TRUST variable is then constructed as the percentage of people who provide the answer that "most people

One may of course raise several criticisms against the use of this variable as an exact measure of trust. However, in its capacity as a proxy variable it seems quite justifiable (see e.g. the discussion by Knack and Keefer on the [WVS] TRUST variable they used and its comparability to other indicators of trust). A potentially more serious problem that is well known in this empirical literature is that TRUST may be an endogenous regressor: it is conceivable that the trust level could itself be higher due to better economic performance. We will come back on these two points below, but we already note that we mitigate the second of these problems by concentrating on growth data for the period 1990-1995. In other words, the trust measure we use was recorded before the actual growth figures were realised.

The trust measure and similar EVS-indicators we used pertain to a subset of 28 countries and regions of the complete EVS data set (see appendix 1 for more details). These data are taken from Delmartino and Schoenmakers (1998), who have examined the same sample. The data set covers national as well as regional figures simultaneously so that the regressions to follow must not be considered as exclusively focusing on the effect of trust on regional economic performance. Nevertheless, the results have useful indicative value, all the more since we specifically focus on a European sample.

[3] Question 241 in the 1990 EVS questionnaire.

Our growth figures are based on the national and regional GDP per capita figures in purchasing power standards as published by Eurostat.[4] A lack of regional price data, notably data on relative price levels of investment goods, prevented us from incorporating "cost factors" in our regressions. This is to be regretted as such data are usually included as significant control variables in growth equations that take the national level as the observational unit.

Table 1 shows that the results of our study do provide evidence in favour of the positive effect of trust on per capita income growth. This evidence is even more convincing given the limited size of our sample. Before discussing the trust effect in more detail, we first point out that our regressions provide rather weak support for (national/regional) convergence in our European sample for the 1990-1995 period. While the estimated coefficient on the log of the initial GDP per capita level (GDP90) is everywhere negative as should be expected on the basis of convergence theories, virtually nowhere this coefficient is obtained at reasonable levels of statistical significance. Actually, this should not be that surprising. Neven and Gouyette (1995) reveal the strong differences in the convergence pattern with respect to sub-periods and subsets of European regions, with e.g. the Southern regions stagnating at the end of the eighties after a period of catching up, and the reverse story holding for the regions in the North of Europe. Taking great care of the most appropriate choice of territorial units, Paci (1997) found that while there was clear empirical evidence in favour of convergence of aggregate labour productivity across European regions, this did not hold for the kind of dependent variable considered by Neven and Gouyette or in our own regressions. That is, per capita income did not show any tendency to converge at the European regional level over the 1980s. On the basis of our data set this situation seems to have been unaltered in the first half of the 1990s. This is also apparent if one uses the previously discussed concept of σ-convergence as appendix 2 shows.

[4] Following ERECO-methodology, the average growth over the period 1990-1995 of gross domestic product per capita in purchasing power standards (GDP) was calculated as $100 * \exp[\ln(GDP_{95}/GDP_{90})/5]$. The purchasing power standard (pps) measures of GDP adjust for differences in national price levels -there are no regional pps data- which are not necessarily reflected in the prevailing exchange rate.

Table 1: determinants of per capita income growth 1990-1995 in Europe

Equation **method**	**1** **OLS**	**2** **OLS**	**3** **TSLS**	**4** **TSLS**
Constant	0.308	0.237	0.320	0.394
	(1.788)	(1.493)	(1.853)	(1.837)
GDP90	-0.030	-0.022	-0.032	-0.040
	(-1.668)	(-1.365)	(-1.757)	(-1.778)
TRUST	0.059		0.082	0.072
	(2.022)		(1.794)	(2.423)
TRUSTFAM		0.028		
		(1.679)		
Adj. R^2	.17	.12	(.16)	(.16)

Note: The instruments for TRUST in equation 3 are the constant, GDP90 and TRUSTFAM; TRUST instruments in equation 4 are the constant, GDP90, TRUSTFAM and the rank of the TRUST indicator in the sample. The t-statistics are in parentheses. These are computed on the basis of White Heteroskedasticity-consistent standard errors.

Let us now turn to the empirical evidence regarding the effect of trust on per capita income growth. In a majority of cases the TRUST coefficient is significantly positive at the 5% level, and in all cases this significance is established well below the 10 % confidence level. The magnitude of the TRUST coefficient of 0.059 in the basic equation 1, estimated with ordinary least squares, indicates that a ten-percentage point increase in the number of respondents revealing themselves as "generally trusting others" is associated with a rise of per capita income in purchasing power standards of three-fifths of a percentage point. This effect rises when slightly different specifications or estimation methods are used (equation 3-4). We also report the effect of another indicator of trust, viz. the trust that respondents claim to have in their family members (TRUSTFAM), which is far less convincing both in terms of coefficient magnitude and in terms of statistical significance (equation 2).[5]

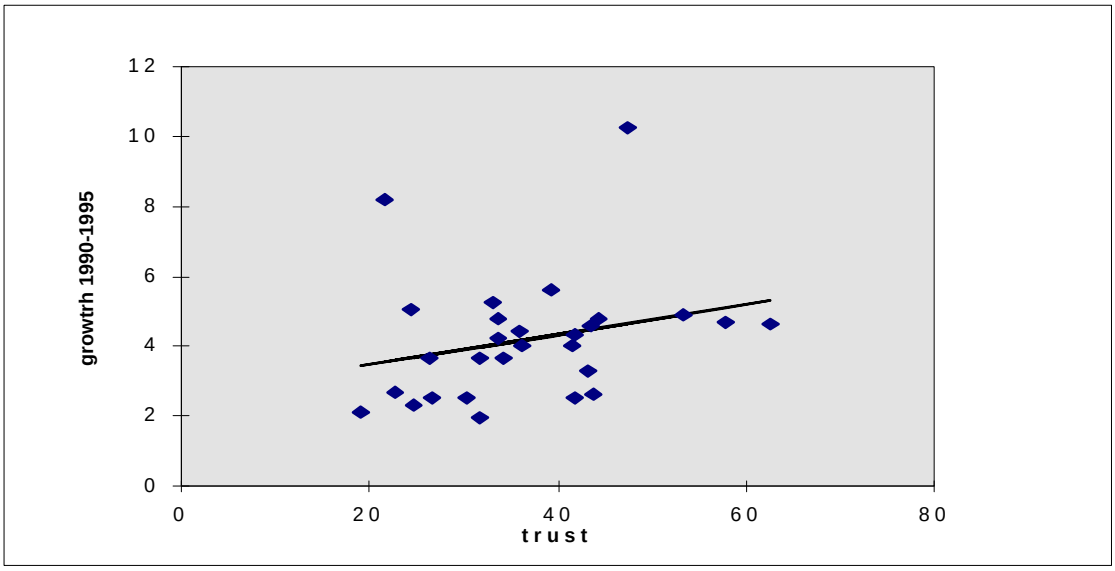
Recalling the potential endogeneity problem associated with the relationship between (general) trust and economic performance, we also ran regressions with TRUSTFAM as instrumental variable (i.e. we contend that trust in family members has no effects on growth performance other than through its effect on the general trust level)[6]. Equation 3 is thus the instrumental variable counterpart of equation 1. Further, given our earlier comments about the approximative nature of the TRUST

[5] TRUSTFAM values are obtained as the percentage of respondents that trust their family completely.
[6] Simple correlation between TRUST and TRUSTFAM for our sample was 0.43, and 0.26 between TRUSTFAM and our growth figures.

variable, we also estimated a variant of our basic equation using the sample rank of TRUST as instrument (equation 4).

To conclude this discussion, we depict the relationship between TRUST and economic performance graphically. Figure 2 shows the (univariate) positive relation between the two.

Figure 2: Trust and per capita income growth



5. Policy implications

In this final section we regard how the results reported in the previous section can be translated into policy implications. In the introduction of this paper we already mentioned that such implications might in fact even pertain to very fundamental matters, notably to amendments (some would be inclined to talk of re-amendments) to the illustrious “allocation-redistribution-stabilisation” list of economic functions traditionally attributed to government in a mixed economy. Indeed, certainly in the current time-period and for the kind of territorial units we analysed in our own empirical exercise, the stabilisation task is effectively as good as beyond the control of policy makers. Also, factor mobility is a similar constraining factor on tax setting, even more on regional tax setting, especially for the kind of buoyant taxes that are needed for large-scale redistributive policies. Instead, at least if one is willing to acknowledge that institutions are a particular variant of public goods, the neo-institutional approach seems to emphasise the allocative task of government. Admittedly, this only holds if one allows for a somewhat enlarged interpretation of this allocative task. Or rather, an old interpretation that risks being overlooked

somewhat in the neo-classical treatment of the public good problem. Government is then not merely a back-up that is invoked to correct market failures (associated with externalities / public good provision), but also complements the market mechanism by partially embedding it in an institutional system (most obviously by securing property rights and stable currencies)

Somewhat restated, "even" a regional government still finds itself capable of establishing formal rules that may (or are created precisely to) influence inter-individual relationships. Of course, economic relationships form an integral part of the latter, even though they are sometimes portrayed as being exclusively realised in the seemingly distinct sphere of "the market". The neo-institutional framework rightly reminds us that this sphere is everything but distinct. Furthermore, it sees its claim confirmed that the actual choice of the rules influences the outcomes of choices within these rules. The characteristic of government as being interventionist still holds, but this kind of interventionism is definitely far more of an ex ante nature relative to its more traditional conceptions. The workings of the economic mechanism are in this perspective not mainly to be influenced by corrective measures (e.g. macroeconomic "fine-tuning"), but rather by creating good preconditions.[7] Remarks on the normative tasks of government such as the ones just forwarded are not new of course, but they appear to regain much of their pertinence in an era where factor mobility increasingly provokes intra-territorial "institutional competition" (e.g. in the case of attracting major foreign direct investment).

As regards the actual policy prescriptions that could be derived from the framework we presented above, it is in any case fairly obvious that no policy maker can command a higher trust level with the sole justification that this is likely to increase economic performance. Trust, in the theoretical framework we discussed, is defined as being subjective and thus by its very definition impossible of being commanded. However, in the same game-theoretical framework the individual is considered as (boundedly) rational, which inter alia implies that its subjective beliefs will be updated given earlier events or actions of the opponent. It is here that the notion of trustworthiness becomes important, viz. as a strategic option available to the

[7] Note that we are referring to the "workings" rather than the "outcomes" of the economic (market) mechanism. Issues of redistributive justice may evidently still beg the need for redistributive policies,

"trustee" that in itself is likely to generate more co-operative behaviour by the trustor. It is in other words by paying attention to its own trustworthiness that an organisation, certainly a large-scale organisation such as the government, may influence the trust level of the citizenry. Or still otherwise, it is by being a trustworthy partner that the government may foster an improved performance of the economy at large.

The influencing factors of such trustworthiness in general are the "ability" (e.g. skill level) incorporated in the organisation concerned, its "benevolence", and its "integrity" (see e.g. Mayer, Davis and Schoorman, 1995). It is hence these factors, which are to a large extent controllable by those in charge of the public sector, which can be employed as instruments for trust building. Especially the notion of integrity seems of vital importance for the particular case of government: adhering to a set of acceptable principles is all the more compelling for those whose major task is to design rules for society at large. The same holds regarding the policing of the rules that are being designed (e.g. in the case of tax evasion). Finally, recalling the essential rationale of rules to introduce some clarity in inter-individual relationships, any designer of formal institutions should at least check whether the whole of rules that are designed are indeed in accordance with this basic function.

Due to the government's special, symbolic role as a visible emanation of society, the values that are underlying such trustworthiness could well be internalised in the shared value-system that is a defining component of society's culture itself. When seen in this respect, the trustworthiness of the government, or -in more blunt terms- the "value for tax money" which citizens receive, becomes in itself an instrument of economic policy. It provokes an increase in trust on the level of the individuals that belong to its constituency. It raises, in other terms, the level of societal capital to a higher level. This is notably the case in mixed economies, in which the private and public sector co-exist per definition, and "conducting effective policy" is ultimately a matter of partnership. The relative quality, rather than the sheer quantity, of government may indeed be at least as profound a determinant of a mixed economy's performance.

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even if one considers equality of opportunity as the criterion for judging on inequity within the society.

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Appendix 1: List of observations and key data (+ sample ranks)

Unit	GDP/cap '95 (ECU-PPS)	Growth 90-95	TRUST (%)
Austria	19171 (8)	1,97 (28)	31,8 (19)
Belgium	19629 (6)	5,23 (4)	33,2 (18)
Britain	16613 (15)	2,64 (22)	43,7 (6)
Denmark	19555 (7)	4,70 (9)	57,7 (2)
Finland	16668 (14)	4,61 (10)	62,7 (1)
France	18433 (10)	2,67 (21)	22,8 (26)
Ireland	16070 (18)	10,22 (1)	47,4 (4)
Italy	17768 (11)	3,66 (17)	34,2 (15)
The Netherlands	18567 (9)	4,91 (6)	53,3 (3)
Portugal	12059 (26)	8,19 (2)	21,7 (27)
Spain	13316 (25)	4,04 (15)	36,1 (13)
Andalusia	9851 (28)	3,65 (18)	31,8 (19)
Bavaria	21818 (3)	4,77 (8)	33,8 (16)
Basque Country	15970 (19)	4,21 (14)	33,6 (17)
Baden-Württemberg	21779 (4)	4,02 (16)	41,5 (11)
Catalonia	16526 (17)	4,45 (12)	35,9 (14)
Est	16830 (13)	2,12 (27)	19,2 (28)
Flanders	20220 (5)	5,59 (3)	39,2 (12)
Hamburg	33621 (1)	4,81 (7)	44,4 (5)
Lombardy	22975 (2)	3,27 (20)	43,2 (8)
Northern Ireland	13462 (24)	4,57 (11)	43,6 (7)
Ouest	15393 (22)	2,52 (25)	26,7 (22)
Scotland	16592 (16)	4,33 (13)	41,8 (9)
Sicily	11492 (27)	3,64 (19)	26,3 (23)
Sud-Est	17191 (12)	2,30 (26)	24,8 (24)
Sud-Ouest	15595 (21)	2,54 (23)	30,2 (21)
Wallonia	15688 (20)	5,05 (5)	24,5 (25)
Wales	13748 (23)	2,53 (24)	41,8 (9)

Sources: GDP per capita 1995 in PPS terms: Eurostat

TRUST indicator: Delmartino and Schoenmaekers (1998)/ EVS 1990

Appendix 2 : absence of convergence in our sample

In the main text we already mentioned that little empirical evidence exists in favour of the convergence hypothesis in per capita income terms for the case of the European Regions. The two diagrams below show that the same holds for our sample. The first is indicative of the lack of σ-convergence over the period considered. It indeed reveals the absence of a steady decline in per capita income dispersion (as measured in ECU). The second implicitly refers to the (unconditional) β-convergence concept by bringing together growth and intial levels. Also in this case a clear (negative) relationship cannot be discerned.