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Putnam et al's *Making Democracy Work*: A Re-Examination in Cross-National Perspective

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The objective of this article is to provide a critical evaluation of the empirical analysis in Robert Putnam et al's (2005) *Making Democracy Work: Civic Traditions in Modern Italy*. We propose new measurements of the major concepts and also incorporate information about income inequality as a factor in the determination of institutional and economic performance, all in cross-national perspective. This article has two concerns. Substantively, the research question posed is: what is the impact of the distribution of income on civic community, institutional performance and economic performance? We hypothesize that an equitable distribution of income leads to the development of a civic community, which in turn leads to institutional and socioeconomic performance. Methodologically, we consider the difficulties that arise examining this hypothesis in cross-national perspective, as well as proposed solutions, especially with regards to data harmonization and measuring the main concepts. The database of the World Values Survey (WVS) was used to test this hypothesis. The sample includes 49 countries that participated in the survey. Our re-examination synthesizes aspects of Putnam et al's book with the methodology of Knack and Keefer's (1997) *Does Social Capital Have an Economic Payoff? A key finding is that civism and active participation in organizations and associations, taken individually, have a negative effect on the determination of economic performance and consequently on institutional performance, a finding that differs from the results of Putnam et al (2005). The distribution of income had a negative and significant effect on economic performance in the sense that in countries where income inequality is greater, economic performance was proportionally lower. This article proposes an analysis that focused more on economic factors than the analysis proposed by Putnam et al.*

Key words: civic community; institutional performance; economic performance; socioeconomic development; income inequality

INTRODUCTION

Robert Putnam et al's (2005) *Making Democracy Work: Civic Traditions in Modern Italy*¹ is a pioneering work and a benchmark for subsequent studies on civic community and economic development. Putnam et al (2005) studied twenty regional governments in Italy between 1970 and 1989, seeking to understand which factors generated significant differences in their institutional performance. In the model proposed by Putnam et al, every path leading to an explanation of institutional performance and regional socioeconomic development begins with civic community. Putnam et al finds that more civically-minded regions had better institutional performance and, consequently, higher socioeconomic development than those less civically involved. According to Putnam et al, differences in institutional performance frameworks highlight regional disparities: Northeastern and Central Italy are more economically developed regions, while the South, with its lower institutional performance, is less economically developed. This approach is critical in the ongoing debate.

Putnam et al places civic community at the starting point of his model but does not strongly specify different forms civic community. Yet civic community is often rooted in economic factors, such as comparatively greater levels of equity in distribution of income. In a civic community, trust is more likely to take hold, providing greater integration among individuals focused on collective action. This occurs in a society in which people generally share similar circumstances, i.e. where there is equity in material terms, rules and values – a situation provided by lower inequality in income. When considering Putnam et al's study, it is therefore worth asking: what is the effect of the distribution of income on civic community, institutional performance and consequently on socioeconomic development?

In terms of the measurement of concepts, we see various problems with Putnam et al's study. In the variables tested by Putnam et al, trust stems from civic traditions and not from income distribution. Scholarship based on Putnam et al's thesis would benefit from a cross-national examination. This article reexamines Putnam et al's arguments – specifically the impact of the distribution of income on the civic community and institutional performance – in cross-national perspective.

The object of this article is to provide a critical evaluation of the empirical analysis in Putnam et al (2005). We propose new measurements of the major concepts and incorporate information about income inequality as a factor in the determination of institutional and economic performance, all in cross-national perspective. The article has two concerns. Substantively, the research question posed is: what is the impact of the distribution of income on civic community, institutional performance and economic performance? We hypothesize that an equitable distribution of income leads to the development of civic community, and that in turn leads to

institutional and socioeconomic performance. Methodologically, we consider the difficulties that arise when examining this hypothesis in cross-national perspective, as well as proposed solutions, especially with regards to data harmonization and quantification of the main concepts. Our re-examination synthesizes aspects of Putnam et al's book with the methodology of Knack and Keefer's (1997) *Does Social Capital Have an Economic Payoff?*

Civic community, institutional performance and socioeconomic development

In *Community and Democracy*, Putnam et al analyzes the influence of socioeconomic factors on institutional performance in the light of socioeconomic modernity.² The possibility of this influence is linked to the consequences of the Industrial Revolution, when large crowds migrated from the countryside and agricultural activity gave way to urban and suburban factory work.

To test this assertion, Putnam et al evaluated the correlation between economic modernity and institutional performance. The economic modernity indicator used by Putnam et al is measured by a factor score based on per capita income and gross regional product, the plots of the workforce employed in agriculture and industry and in the fields of value added for agriculture and industry, all in the period 1970-77 (Putnam et al, 2005, footnote 4, p. 222). The crossing of economic modernization and institutional performance variables results in a correlation of 0.77. This result, according to Putnam et al (2005), pales before a stronger correlation between institutional performance and civic community. This leads the author to claim that economic modernization is not a key variable explaining institutional performance; he then focuses his research on civic community as an explanation of institutional performance.

According to Putnam et al, a civic community is characterized by its members' participation and interest in public issues and the collective welfare rather than in purely individual and private concerns (Putnam et al 2005). The civic community variable is composed by four indicators of regional civic life: sociability, civism, mass media consumption (newspaper readers), index of voter turnout and the composite index of preferential voting. The author also considered the origin of civic community through history. According to Putnam et al (2005), civic community originates in the traditions of civic participation of Italian society, i.e. the continuity of civic values and the building on historical antecedents to contemporary Italy. This variable is based on five indicators of traditions of civic participation in the period 1920-1960, namely: membership in societies of mutual assistance; number of cooperatives per capita; the strength of socialist and popular parties; voter turnout; and local associations founded before 1860. Civic community is a contemporary variable rooted in civic traditions.

Community participation and involvement in programs and projects supporting regional development are closely linked to cultural characteristics related to trust, to norms of civic cooperation and to the accumulation of social capital (Putnam et al, 2005). Civic community and institutional performance correlate at 0.92 according to Figure 4, Chapter 4. Putnam et al (2005) compares this result to the correlation between socioeconomic modernity and institutional performance, finding that institutional performance is more strongly correlated to civic community than to socioeconomic modernity. Putnam et al's empirical analysis leads him to conclude that a "culturalist" thesis is the best explanation of institutional performance in Italy.

This "sociocultural" hypothesis, which Putnam et al contrasts with a materialist outlook, is understandable. However, the composition of the variables used in his statistical analyses is unclear. Although Putnam et al defines trust as the foundation of civic community, none of the variables that comprise civic traditions and civic community have indicators of equality, cooperation or trust among their constitutive elements. We therefore see an unclear theoretical relationship between, on the one hand, the concept of civic community and its origin and, on the other, the variables tested in Putnam et al's research. Furthermore, the connections Putnam et al draws between "socioeconomic factors" and "modernity" and between "sociocultural" factors and "civic community" are also murky. This lack of clarity presents some problems. We propose that, in the context of equality, cooperation and trust, civic community may have deeper roots extending to a factor of a more economic sort: the equitable distribution of income.

The degree of political participation of a society involves both the presence and strength of certain features within the community: trust, norms of cooperation – social capital – equity and equality of conditions. The strength of these features – as well as their potential for development – is linked to income equality. In democratic societies where power is not monopolized and property is not held in the hands of the few, where social gaps are relatively small and there are equal opportunities, it is expected that communities are able to promote a network of ties and can work towards making full use of regional capabilities. This, in turn, leads to increased development (Ramos and Marino 2004). According to Paiva (2004), social capital, which results from social interaction, boosts the economic system (increasing production and productivity of the system), thereby becoming an economic resource that is not privately appropriable. Capital thus finds its basis in a solid trading system which itself depends on trust.

Therefore, as a society develops, a more equitable distribution of income generates overall trust and cooperative mechanisms such as social capital. These, in turn, reduce transaction costs and facilitate economic activities, promoting socioeconomic development. The institutional performance of governments is related to their capacity to respond to economic demands as well as social ones.

When the conditions that give rise to economic development intensify, so do the requirements for government efficiency.

Putnam et al (2005) considers good institutional performance as entailing the ability to solve problems and serve the community through the efficient use of available resources. In his view, civic community consists of informed individuals (such as newspaper readers) who interact politically through active participation in debates and discussions with peers about the problems that affect them; these individuals deliberate on how to address such issues. Yet, institutional performance is characterized by “meeting the demands of the community,” whereas civic community is, by definition, an organized community which has expressed its collective interest. We suspect a tautology, here. Civic and democratic cultures are both indicators of civic community; they generate civilized and democratic practices, which are themselves indicators of institutional performance.

Putnam et al points out that horizontal systems of civic participation are the foundation of civic community and that “trust itself is an emergent property of the social system, as much as a personal attribute” (2005, p. 186) and further that this social context is anchored in history. Yet he does not make explicit enough the origin of civic community.

When developing such arguments, Putnam et al’s analysis proceeds from economic elements: “the prospects for real democracy depend on social development and economic well-being” (Putnam et al, 2005, p. 26). These forms of organization, the horizontal and vertical systems highlighted by Putnam et al, can be determined by factors such as income distribution, consisting of an alternative vision of income distribution, which helps assess civic community, institutional performance and socioeconomic development. We argue that an equitable distribution of income produces trustworthy behavior. That is, democratic societies with fair procedural rules, good governance and substantial equity in income develop standards of reliability and advance social trust more significantly than ethnic and cultural homogeneity (You 2005).

DATA AND VARIABLES

Our methodology relies on the work of Knack and Keefer (1997), who highlight the relevance of ethno-cultural homogeneity associated with the generation of trust and civic norms. However, the tests presented here are not depicted as a response to the ones devised by Knack and Keefer (1997), since, beyond the adjustments made to the data, the hypothesis tested in their study has different specifications. We used their test only as a reference on which to base our analysis.

We used an expanded sample and developed empirical tests³ using the databases from the World Values Survey (WVS) for the period 2005-2006⁴ and European

Values Survey (EVS) (2000) for 49 countries. The World Value Survey 2005-2006 contains data from 76,303 respondents in 52 countries, with one country observed in 2004, 13 countries observed in 2005, 21 countries observed in 2006, 15 countries observed in 2007 and two countries in 2008. Among these it was necessary to eliminate three. Andorra was discarded as no data was obtained from the IMF and the World Bank regarding per capita income at the beginning of the period, annual growth rates over the period and the Gini income at the beginning of the period, which would have been detrimental for inclusion in the regression testing. Hong Kong was discarded as the questionnaire was incomplete and information on group participation differed. Finally, Iraq was rejected as no reliable data was obtained for the growth rate of GNP over the period and many questions about the degree of trust in public institutions were either unanswered or had a small number of respondents.

As a result, the combination of these two datasets yielded 49 countries. It is important to emphasize that we adjusted the sample using the WVS of 2005 as the basis. It is also important to clarify that we did not simply add information about countries from each dataset since sometimes the same country appeared in multiple waves of the surveys. And lastly, as noted, some countries were not used due to insufficient information on them in the databases.

The remaining 49 countries were classified according to the reliability of the information available using the following criteria: 1) the number of years with available information on GNP, and only those for which complete information was obtained from 1980 to 2006 were considered reliable enough; 2) the existence of information on independent variables for this period. Only those countries that relied on information consistent with contemporary values that were then used as proxies of these variables over the period were considered reliable; 3) the availability of all the values used in the construction – by aggregation or mean of different indicators – of variables serving as independent compound indices. Only countries that provided all of the relevant information were considered reliable.

It is important to emphasize that the questionnaires used in the both surveys have been modified over time. Moreover, the number of countries where these surveys are being applied has broadened. Thus, there was a variation both in the countries where the surveys were carried out, as well as in the questions and possible responses. Due to the research's lack of uniformity – marked by a strong tendency to expand the sample and increase the quality of informational questionnaires over time – it was necessary to reconcile the information from the period, which allowed us, where justified, to operate with essentially the information from the World Values Survey of 2005 - 2006 as a *proxy* for past years.

It is worth paying attention to the following cases:

1) Germany: the data for this country referred to the period before unification (1990) and therefore relates exclusively to West Germany.

2) China: it was not characterized as a capitalist country that has undergone conversion because it has not yet gone through the socially and politically disruptive processes that characterized the former USSR and other countries which adopted a collectivist system after World War II in Eastern Europe.

3) Colombia: the civism variable was not able to be fully calculated, as no information was available for responses to “whether it can ever be justified to avoid a fare on public transport.” All other information was available, and in order not to exclude the research about this country, the value of the arithmetic mean of the other three items which make up the civism variable, and which were available for Colombia, were applied to this question.

4) Egypt: our variable “mean trust in public institutions” is obtained by the arithmetic mean of trust in 10 institutions with public functions. In the case of Egypt, information was collected only regarding trust in the press, television, trade unions and public services. In order not to exclude this country, for which all other information was available, we included only these four items in the “mean trust in public institutions” variable.

5) Moldova: the sample did not include people interviewed without college degrees. It is believed that this fact is due to a peculiarity of the sample that is not strictly representative of the population. This is evidenced by the fact that the mean years of schooling of the population of Moldova (6.14) is superior to those of other countries and a significant percentage of Moldova’s population has a college degree.

6) Peru: none of the questions used to calculate the civism variable was reported in research carried out in this country.

7) Rwanda: the questions “trust in the military” and “trust in government” were not subject to survey research. The “mean trust in public institutions” variable was thus calculated on the basis of the other 8 items.

8) Trinidad and Tobago: the per capita income in the initial period is surprisingly high. Throughout the period, the per capita income falls systematically until the year 1989, when it reaches the value of U.S. \$ 3569.04. In 1993 it is U.S. \$ 3675.43. And at the end of the period in 2006 it is U.S. \$ 14,923.46. Apparently, the variations are highly influenced by the exchange rate and do not correspond strictly to the standard of living of the inhabitants of the country.

9) Vietnam: It was not characterized as a capitalist country which has undergone conversion as explained in the case of China above.

Variables

Institutional performance indicators

Putnam et al considers trust in public institutions to be a good measure of the quality of government. According to the him, “to exhibit good performance, a democratic institution has to be both sensitive and effective, responsive to the demands of their electorate and effective in its use of limited resources to solve those demands” (Putnam et al, 2005: 25). Therefore, substantial trust in public institutions is a characteristic of a society satisfied with the performance of the government.

Like Knack and Keefer, we adopted the faith in government as a proxy variable of institutional performance used by Putnam et al. We identified the degree of trust in government with the percentage of respondents in the WVS and EVS who had “great trust” and “medium trust” in public institutions: a) Armed forces, b) Print Media; c) TV Media, d) Unions; e) Police f) Judicial System; g) Government h) Political parties; i) Parliament; j) Public Services according to items listed below. We combined those who responded with “little trust,” “no trust” and “do not know.”

Trust, civism and group indicators

The variable “trust”⁵ (trust in 2005) is measured by the percentage of people who agree more with the statement “most people can be trusted” than with the statement “you need to be very careful in dealing with people” within the total of respondents, after removing “do not know” responses. The variable “trust” that is being presented at this time is a measure of generalized trust. Trust in people is anonymous and not only in groups with kinship or friendship. This variable corresponds to the trust variable used by Knack and Keefer (1997). This variable was composed of measures related to the first half of 1980, the first half of 1990 and the first half of 2000. As mentioned earlier, the design of the WVS database originated in Europe in 1981 and was expanded from that time to countries worldwide. As a result of this expansion, it should be noted that for the year 1980 there is information for only 12 countries, for 1990 the data is available for only 13 countries. In other words, for the two periods mentioned, there is no data for the totality of the 49 countries of the sample.

Due to the small number of cases for the years preceding the period 2000-2005, we performed a correlation test for the measures “trust 80,” “trust 90” and “trust 05” which resulted in a high correlation and thus stability in trust over time. This reflects the fact since trust is an aspect of the cultural life of people and thus one that does not change abruptly. As a result, we were able to use “trust 05” as a proxy for trust in past years where the latter information was not available.

The civism variable proposed by Knack and Keefer was reconstructed using the WVS database in the period 2005 to 2006.⁶ As used in this article, this variable is measured by the sum of the averages of responses to four items:

- a) *whether it can ever be justified to claim government benefits to which you are not entitled;*
- b) *whether it can ever be justified to avoid a fare on public transport;*
- c) *whether it can ever be justified to cheat on taxes if you have a chance;*
- d) *whether it can ever be justified for someone to accept a bribe in the course of their duties.*

The result is the average approval, measured by individual scores from 1 to 10. In the scale used WVS questionnaire, higher numbers indicated greater acceptance of the acts in question, and thus we reversed the scale, such that high values would indicate less tolerance for these acts and thus a greater sense of civism.

The indicators that comprise the civism variable (Civic) used in this study do not coincide with the component indicators of the civism variable used by Knack and Keefer (1997) because the questionnaire administered in the 2005-2006 version of the WVS survey has changed. Fortunately, these changes follow the same direction as the WVS database – 1990 towards achieving the proposed objective, causing no damage to the reconstitution of this variable.

It is worth detailing the difference in the composition of our civism variable and that of Knack and Keefer (1997). The civism variable used in our work is composed of four indicators, as mentioned above. The civism variable used by Knack and Keefer (1997) is composed of five indicators of civism, of which the first three are identical. Their final two variables concern (d) whether it is ever justifiable to keep money that you have found and (e) whether it is ever justifiable to fail to report damage you've done accidentally to a parked car; our fourth variable, concerns (d) whether it is ever justifiable for someone to accept a bribe in the course of their duties.

Another difference between these two variables is that Knack and Keefer use a scale of one to ten for five response options which make up the civism variable. Thus the maximum value for this scale is 50 points while the minimum is five points. Our civism variable uses the average score over the four questions presented.

Like the trust variable, the number of countries for which the civism variable can be calculated is low in earlier years of the survey. In the early 1980's there is only information relating to 10 countries, while the early 1990's still only provide information for 21. As we did for the trust variable, we tested the correlation of the civism variables in 1980, 1990 and 2005 to determine whether the 2005 variable could be used as a proxy for the entire period. A very low level of correlation suggested that that the Civic 2005 variable is not a particularly good proxy for the civism variable as a whole.

It is worth noting that this result is not surprising, since the variable is defined by civic attitudes toward cooperating with others (strangers) or regarding the expected behavior of people. According to Knack and Keefer (1997), the correlation between civism and trust resulted in a correlation coefficient of 0.39. Knack and Keefer suggest this result is probably due unreliability of the civism variable, since one cannot know whether people do as they say, i.e. if survey responses correspond to real behavior. Nevertheless, the civism variable – Civic 2005 – measured by the sum of the averages of the four categories previously referred to in the period of 2005, has been maintained as a proxy for civism in previous years.

Following Knack and Keefer (1997) we constructed variable groups: P-groups (Putnam et al groups) and O-groups (Olson groups) for the WVS - 2005/2006. These variables were constructed according to the requirements present in the 2005/2006 version of the WVS questionnaire. Since these questions do not fully match those of the same questionnaire that serves as a reference for the work of Keefer and Knack, the P-groups and O-groups used in this work are also not strictly identical. Nevertheless, we sought to preserve the criteria used by Knack and Keefer in differentiating the groups.

To compose the variables “Gruperten05” (membership in a group) and “Grupativo05” (degree of activity within those groups) we used as reference the results of the questionnaires from the World Values Survey - WVS (2005 - 2006),⁷ in which a list of organizations / voluntary associations was shown and the following questions were asked:

“Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member or not a member of that type of organization? (Read out and code one answer for each organization):

- a) church or religious organization;
- b) sport or recreational activity;⁸
- c) art, music or educational organization;
- d) labor union;
- e) political party;
- f) environmental organization;
- g) professional organization;
- h) humanitarian or charitable organization;⁹
- i) consumer organization;¹⁰
- j) any other (write in).”

If the respondent belongs to and participates in an organization or association, he or she is assigned the value of two. If the respondent belongs to but does not participate in any organization or association, he or she is assigned the value of one, and if he or she does not belong to any organizations or associations, he or

she is assigned the value zero (Gruperten05). The questionnaire used for WVS - 90 had the following possible answers to this question: “belongs” and “does not belong.” In the questionnaire used for WVS 2005/2006 the answer options are “active member,” “inactive member” (Grupativo05) and “does not belong.” Due to this change in the WVS survey instrument - 2005/2006, and in order to make it compatible with the information used by Knack and Keefer for the WVS - 90, we merged “active member” and “inactive member” into a single category of “belongs” in order to have equivalence with previous surveys for the Gruperten05 variable.¹¹ This item corresponds to those who belong to independent groups, regardless of their level of involvement. From this, we combined the number of respondents who belong to any organization for all items that match the construction of the indicator and divided that number by the total respondents.

Comparing our results with the study made by Knack and Keefer (1997) presented before and looking at the data from WVS 2005/2006, we found that the ten items collected in this question – corresponding to those used by Knack and Keefer – are different because the questionnaires changed during this period. However, since the purpose of this article is to perform analysis using data for the years 1981, 1990 and 2005/2006, it was necessary to reconcile the information over the period in question.¹²

Before doing so, we matched the items from both years, namely 1990 and 2005/2006 for the construction of the variable Groups - 2005. In a second step, we tried to replicate the construction of indicators for WVS -1981 and WVS - 1990 and to harmonize them with the items WVS - 2005/2006.¹³ Reconciliations of these are available upon request to the authors.

To compose the P-groups (Putnam et al groups) and O-groups (Olson groups) variables, we used the same indicators used by Knack and Keefer. The variable “P-GrupKK05” refers to sports or recreational organizations/associations, artistic, musical or educational organizations/associations, and others that were identified as those groups least likely to act as “distributional coalitions” but which involved social interactions that can build trust and cooperative habits. The variable “O-GrupKK05” includes trade unions; political parties, and consumer organizations/associations, which were considered most representative of groups with redistributive goals.

Indicators of Trust in the System

While the proxies of the variables used by Putnam et al and developed by Knack and Keefer seem relevant based on available information in the WVS and it was worthwhile reproducing them in the tests conducted in this study, they are not strictly equivalent to the variables with which Putnam et al operates. He used

a number of years and a sizable volume of primary interviews and surveys which enabled the increasing refinement of the variables. While being critical of the construction of some variables in Putnam et al's work through factor analysis, there is no doubt that they synthesize a set of cultural elements as well as trust and sociability patterns much broader than the simple variables articulated by Knack and Keefer (1997) from WVS questionnaires that were updated here.

We argue that the civism variable, obtained from WVS and based on the self-reported behavior, is unreliable. The same argument can be brought up in regards to the relevance of the group variables. Especially in countries where non-participation in communal and religious activities is likely to be frowned upon (as in Muslim countries, for example), it is expected that a non-negligible number of respondents who declare themselves members – active or not – of such organizations are, in fact, non-members.

The trust variable, as constructed by Knack and Keefer (1997), retrieves only the trust of respondents in other individuals, but not the trust in social institutions. In particular, it is not concerned with trust in an ethical and socially consistent pattern of relationships established within civil society that are not strictly individual, but are permeated by the action of institutions focused on commercial gain.

In seeking to address this set of limitations, we established a new indicator from available information in the WVS which we called “Trust in the System.” This indicator consists of the following variables:

TrComp– The variable “work pays” is measured by the percentage of those who agree more with the words “long-term work pays” than the phrase “getting rich is a matter of relationships and luck.”

ExGanGan– This variable refers to the percentage of respondents who reported more agreement with the words “wealth can grow so there's enough for everyone” than with the term “people can only get rich at the expense of others.”

ConfGrandEmpr– This variable is the sum of the percentages of respondents who reported “a great deal” and “quite a lot” as a measure of trust in big business, as opposed to those who responded “not very much” or “not at all.”

Economic performance indicators

Putnam et al uses a socioeconomic development variable measured by economic modernity, recognizing that it is a static measure of end point, i.e., that it is analyzed at the end of the period. Therefore in the tests carried out in this study we chose to use economic performance, a dynamic variable measured by the variation rate of gross national product during the studied period. Economic performance is measured by TxvarPNB, which is the geometric average of annual variation of GNP measured in national currency at constant prices.¹⁴

As with Knack and Keefer (1997), the GDP80 variable was used to measure income per capita at the beginning of the studied period. The authors emphasize that the impact of trust on growth should be higher in poorer countries, i.e., trust is essential in places where contracts are not properly enforced by the legal system and where access to formal credit is more limited due to the presence of an underdeveloped financial sector.

Consequently, the variable used here to measure per capita income in the early period was PNBpercapinper, measured by mean gross national product of the first four years of the studied period, in U.S. dollars and calculated at current exchange rates.¹⁵

Income indicators

The distribution of income variable was measured by the Gini index, which measures income inequality in several countries. This variable presents some peculiarities, as the Gini indices of each country are not comparable. Those characteristics are the indicators used in research to measure the income of the population in several countries. In Brazil, for example, a survey of census data with regard to family monetary income refers to the month of the survey. Also, the income indicator used in population censuses somewhat reduces the effective real income, since beyond their monetary income, these families have agricultural production for self-consumption, which is noted but not counted.

Agricultural production for self-consumption is also not counted for developed capitalist countries, but in these countries the percentage of rural population is significantly lower, so the underestimation of the real income of growers caused by this accounting standard is proportionally less. By contrast, some countries with a high percentage of rural population adopt standards of accounting for family income that are not only based on money. This will imply different standards of accounting of the value of rural, non-monetary income in a gradient that goes from the value that similar goods (grains, milk, fresh produce, and the like) have in the urban environment to the monetary value that could be achieved by the sale of such products in rural areas. Objectively, what matters here is that, depending on the standard of accounting for non-monetary rural income and the expression of this portion of product in overall national income, one can obtain more distinct levels of concentration of income in the same country.

Due to this fact, researchers at the United Nations University (UNU) generated different indicators of income distribution to calculate the rate of inequality of income and consumption for a large number of countries, utilizing official criteria that have been adopted in various parts of the world.

This type of research was developed further by an academic at the Department of Political Science, University of North Carolina at Chapel Hill, Frederick Solt,

who used in his research two types of Gini indices, namely, a Gini index of gross income inequality with values before government taxation, i.e. the amount that people earn before tax, and a Gini index based on net available income, corresponding to the amount of people's income after taxation. It is necessary to draw this distinction because in countries where most of the taxes are levied directly on income (e.g. income tax) the amount received in terms of income is different from the amount that people enjoy, i.e. available income.¹⁶

For this reason, two measures of income inequality were used in our article:

– GiniNetSolt80-85 = mean (over the years 1980 and 1985) of the Gini indices of net income countries calculated by Frederick Solt within the program “Standardized World Income Inequality Database” (SWIID);

– GiniGrossSolt 80-85 = mean (for the years 1980 and 1985) of the Gini indices of gross income countries in SWIID.

Education indicators

The education variable (*Analf15years80*) is measured as the percentage of illiterate persons among the total population over 15 years of age in the early 1980's. This indicator was obtained for the year 1980 or the closest year for which census information was available in the sample countries. The sources of information were obtained from UNESCO and the Central Intelligence Agency (CIA).

Capitalist conversion

The capitalist conversion variable is a *dummy* variable that specifies whether a country underwent conversion from a socialist to capitalist system during the period for which we have information about the average performance of the sample countries. This variable was introduced to prevent the economic disturbances associated with the turmoil of revolution from masking any positive contributions to development of trust and economic growth resulting from income and property distribution.

This masking could be understood as follows: 1) the countries with a socialist past have relatively democratic distributional patterns even now, despite the concentration of ownership associated with conversion to capitalism; 2) the political turbulence associated with the process of capitalist restructuring strongly depressed economic growth rates over several years; and 3) this period of low growth (or even negative growth) has had a significant impact on the average rate calculated for these countries, especially where the conversion process was associated with the earlier dismemberment of large political units (in particular for the USSR and Yugoslavia). In these cases, the number of years for which there is information on the economic performance of the new market economies

is comparatively lower than the number of years for which there is available information for countries that did not experience these processes. There were two alternatives regarding the use of information for these countries: excluding them completely, which would have meant losing a representative portion of the sample, or including them and regarding them as a transitional stage in which some countries had, for some years, very low economic growth rates compared to others. We chose the latter.

It is also important to emphasize that PNB, education indicators and capitalist conversion variables were included in the models as controls, to help make comparisons between the countries.

RESULTS

This section summarizes the empirical findings of our research about the impact of economic factors on civic community and institutional performance.

One of our aims was to determine which variables – among those used by Putnam et al (civism and groups) or those linked to the socioeconomic hypothesis (in the sense discussed in our article) – are privileged by the system solely due to empirical-statistical determinations. To determine which factors explain institutional performance, we used linear regression with a *stepwise* method in order to identify effective independent variables (relevant and significant) among a wide set of variables, called here “potential independent variables”; i.e., variables that are part of different theoretical models (and even to some degree, competitors like the one we advocated in this article and Putnam et al’s hypothesis) of explanation for institutional performance. The aim of this method is to allow our statistical *software* (SPSS 14.0 in this case) to select the variables that enter into the equation gradually, due to their significance and representativeness in the determination of the dependent variable and without the researcher’s interference and induction. It should be remembered that the statistical software used does precisely that: it selects the variables that enter into the equation gradually due to their significance and representativeness in the determination of the dependent variable without interference and induction of the researcher. Accordingly, the software may exclude a variable because it is not significant or presents high correlation with other variables (multicollinearity). One important aspect that should be stressed is that we used separated models, and thus cannot talk about reciprocal or indirect effects. Although the use of simultaneous models, such as Structural Equation Models, would have allowed us to do so, we were limited by the small number of cases we had (49 countries).¹⁷

The variables entering the *stepwise* regression test are:

– Dependent Variable: ConfMediaInstPub (mean trust in public institutions)

– Potential independent variables: TxvarPNB, PNBpercapinper, GiniNetSolt80-85, GiniGrosSolt80-85, ReconyKista, ConfGrandEmp, TrComp, ExGanGan, Trust (2005), Civic (2005), Gruperten05, Grupativo05, P-GrupKK05, O-GrupKK05, Analf15anos80

The results are expressed in the following equation,¹⁸ which has an adjusted coefficient of determination (R^2) of 0.659.¹⁹

$$(1) \text{ConfMédiaInstPúb} = \mathbf{0.648} \text{ ConfGrandEmp} + \mathbf{0.281} \text{ TxvarPNB} + \mathbf{0.190} \text{ Trust (2005)} + e$$

Note that there is a functional relationship between institutional performance, as measured by average trust in the institutions, and the remaining variables in the equation: trust in large companies, the growth rate of gross national product and generalized trust. The other independent variables that were also present in the regression test were excluded by the stepwise method.

The interpretation of the above equation is that trust in public institutions is related to trust in large companies (private sector), with a regression coefficient of 0.648 (sig 0.000)²⁰ and with economic performance (TxvarPNB), where the regression coefficient is 0.281 (sig 0.003).²¹ This implies that trust in government and institutional performance are not disconnected from material reality or economic factors, as asserted by the socioeconomic hypothesis. Rather, there is trust in government when there is trust in the economic system. This result is not surprising, since it is elementary that in countries that have shown good economic performance with high growth rates of national product for years, the trend is increased public trust in institutions. The equation shows that trust in public institutions, although showing a weak regression coefficient of 0.190 (sig 0.032)²² is positively related to trust in general, i.e. the more generalized the trust, the greater the trust in institutions.

But what factors determine generalized trust? What explains the reliance on big business and economic performance? To answer these questions it is necessary to explain what determines trust in large companies, the growth rate of gross national product and trust.

Regression tests were performed to check this. We used the *stepwise* method, including its potential independent variables mentioned above, but with each variable retained in equation (1) as the dependent variable. The tests are reproduced below.

Trust (2005) as the dependent variable

The results are presented in the following equation, which has an adjusted coefficient of determination R^2 of 0.457:²³

$$(2) \text{ Trust (2005) = -0.737 GiniNetSolt80-85 - 0.430 Reconvkista + e}$$

Note that among all variables in the regression test, only GiniNetSolt80-85 remained, with a regression coefficient of -0.737, as well as the capitalist conversion variable, with a regression coefficient of -0.430.

These results show that, without doubt, trust depends on the distribution of income, i.e. in countries where there is greater income inequality, trust is lower. At the same time – and as was expected – trust was shown to be relatively lower in countries that have experienced capitalist conversion due to political turbulence and institutional disorganization inherent in any revolutionary processes.

It is worth remembering that in the previous equation, trust (Trust 2005) appears as a *proxy* variable determinant of institutional performance (ConfMédiaInstPúb) but the reverse is not true: using the variable Trust (2005) as the dependent variable, the variable ConfMédiaInstPúb is excluded from the regression. The other two variables maintained in equation (1) but excluded from equation (2) are trust in large companies (ConfGrandEmpr) and growth rates of gross national product (TxvarPNB). This shows that these variables do not influence trust. Note that trust in large companies appears in equation (1) as the main explanatory variable of trust in public institutions, followed by the growth rate of gross national product variable and the trust variable. This occurs when the trust in large companies variable (ConfGranEmpr) is used as the dependent variable in a *stepwise* regression test, where all variables are present but only those with significant results in determining the dependent variable remain.

The results of this test are produced in the following equation, which has an adjusted determination coefficient R^2 of 0.614:²⁴

$$(3) \text{ ConfGrandEmp = 0.716 ConfMédiaInstPúb + 0.256 GiniNetSolt80-85 + e}$$

While transformed into a dependent variable, it should be noted that trust in large companies is a direct function of trust, with a regression coefficient of 0.716 (sig 0.000) – corroborating the result obtained in equation (1) – and of income distribution (Gini), with a regression coefficient of 0.256 (sig 0.007). It is worth noting that this result explains the exclusion of the variable GiniNetSolt80-85 in equation (1), as the distribution of income is not directly related to trust in public institutions, but is represented in both generalized trust and in trust in large companies.

According to equation (1), the other variable that influences trust in public institutions is the growth rate of gross national product - TxvarPNB. This variable is considered in our study as a measure of economic performance. As used by Knack and Keefer (1997), economic performance is a dynamic variable observed over the study period, unlike the socioeconomic development variable used by Putnam et al, which was measured at the end of each period.

To check the effect of other potential independent variables in economic performance, the variable ConfMediaInstPub (institutional performance) was removed from the regression test presented below,²⁵ but all other potential independent variables were used. The results of this test are produced in the following equations, which has a coefficient of determination R^2 of 0.584:²⁶

$$(4) \text{TxvarPNB} = -1.120 \text{ReconvKista} - 0.534 \text{PNBpercapinper} - 0.518 \text{Civic} \\ (2005) - 0.457 \text{GiniNetSolt80-85} - 0.275 \text{Grupativo05} + e$$

According to the results of equation (4), economic performance measured by TxvarPNB is an inverse function of capitalist restructuring, with a regression coefficient of -1.120 (sig 0.000). This result shows that the variation rate of gross national product is lower in countries that have experienced capitalist conversion than in those that did not experience this process, either because they preserved socialist institutions (even if within a more open market, like China and Vietnam), or because they have not gone through any revolutionary processes or revolution against socialism (as it is the case in most countries in the sample, which operated as market systems throughout the considered period).

The negative regression coefficients (-0.534, sig = 0.000) of the gross national product per capita at the beginning of the period show that the poorest countries (with a lower per capita national product in the early period) grow at higher rates, i.e. they show a growth rate of gross national product larger than those initially richer (higher per capita national product in the beginning of the period).

The most interesting result reproduced in equation (4) is that the civism variable (Civic (2005)) and active groups variable (Grupativo05) appear in the regression with a negative sign. Civism has a regression coefficient of -0.518 (sig = 0.000), and the active groups variable has a regression coefficient of -0.275 (sig = 0.022). This shows an inverse functional relationship between variables, i.e., the civism and active groups variables each have a negative effect on the determination of economic performance and consequently on institutional performance, contrary to the results achieved by Putnam et al in his study.

Income distribution (GiniNetSolt80-85), however, remains in the equation with a relevant regression coefficient (β) of -0.457 (sig 0.002), showing that in countries where income inequality is greater, economic performance is smaller.

Keefer and Knack (1997) suggest, the civism variable is not a reliable variable, as answers given by individuals in surveys may not correspond to the attitudes of these individuals in their day to day lives and thus may not reflect actual behavior.²⁷ Because of this, another test was conducted without the presence of those variables, (civism and groups).²⁸ The adjusted coefficient of determination R^2 was equal to 0.396.²⁹

$$(5) \text{TxvarPNB} = -0.733 \text{ReconvKista} - 0.556 \text{PNBpercapinper} - 0.403 \text{GiniNetSolt80-85} + e$$

The results of equation (5) reaffirm the results of equation (4), as the variable GiniNetSolt80-85 is still present, with a regression coefficient of -0.403 (sig 0.011), as well as the ReconvKista variable, with a regression coefficient of -0.733 (sig 0.000) and the PNBpercapinper variable, with a regression coefficient of -0.556 (sig 0.000).

Importantly, income distribution (GiniNetSolt80-85) surpasses the generalized trust variable, the variables that measure trust in the system, namely ConfGrandEmp, TrComp, ExGanGan, and also the variable Analf15anos80, which was excluded by the *stepwise* method on this regression test.

Therefore, all of our attempts to break down equation (1) further yielded results with the presence of income distribution as an explanatory variable in determining the dependent variables, i.e., the Gini variable is present in the explanation of economic performance, trust in large companies and generalized trust. Because these three variables are explanatory of institutional performance, it was concluded that the distribution of income is, ultimately, one of the determinants of institutional performance. With these results, we conclude that one of the determinations of Putnam et al's civic community is the distribution of income. Thus, civic community is a function of, among other things, generalized trust, which itself is a function (although not exclusively) of Gini.

CONCLUSIONS

Our hypothesis that income inequality is a determinant of generalized trust and thus of institutional performance has empirical support. Using a larger and more updated database and a statistical technique of linear regression with the stepwise method we were able to demonstrate that institutional performance,³⁰ which is the dependent variable in Putnam et al's model, is explained by the variables for trust in large companies, rate variation of gross national product and generalized trust. All other independent variables considered here as potential determinants of institutional performance were excluded from the model by the statistical

software. The civism variable, considered by Putnam et al as the main determinant of institutional performance, was expelled from the stepwise regression model, not because there is high correlation between it and the trust variable, but because it was not statistically significant. This result cannot be interpreted as demonstrating the irrelevance of civism. In fact, it is believed that the exclusion of this variable is due, first of all, to the fact that the WVS items on civism relies solely on the statements of respondents about their willingness to adopt socially sanctioned behaviors. The variables for trust, as well as “trust in the system” and trust in large companies, eventually absorb the functions that Putnam et al assigns to the civic community itself (which he evaluates mainly through participation in mutual support groups).

But if the above argument is correct, to what extent is it possible to state that the results obtained here suggest changes to Putnam et al’s thesis? According to our interpretation in this article, the results suggest changes to this thesis as Putnam et al does not strongly highlight the difference between “civic and cultural determinations” and “socioeconomic” determinations.

From the point of view adopted in this article, a certain level of civism is essential in order to bring transaction costs within the market down sufficiently to allow the economic system to innovate and develop. Civism is a category of “culture” with a socioeconomic foundation. We feel that Putnam et al simplified the matter, and that this simplification led him to not adequately highlight the material determinations of civic culture.

Finally, the last regression model performed in our study suggest that, in addition to “trust” and “trust in large companies,” institutional performance is also a function of economic performance. This merits two observations. Firstly, since we used a stepwise method, which excludes any variable that has high correlation with others, it is clear that economic performance is not an exclusive function of culture or an institutional framework marked by a high degree of trust and low transaction costs. When one examines the determinants of economic performance, income distribution is among them. Income distribution – which is at the basis of trust – is an important variable for growth, beyond its impact on culture. In short, civism, generalized trust, trust in public and private institutions appear to be essential. But they should be taken neither as a starting point, nor as a sufficient variable to explain economic development.

NOTES

- 1 We base our reconsideration of this work on the Portuguese translation of this book: Putnam, Robert D.; Leonardi, R.; Nanetti, R.Y. 2005. *Comunidade e democracia: a experiência da Itália moderna*. 4 ed. Rio de Janeiro: Editora da FGV.

- 2 We thank Putnam et al who provided his dataset to the authors of this article; all the correlations and factor analyses that led to his main variables have been rerun by the authors.
- 3 Primarily correlation analysis and multivariate regressions with stepwise techniques.
- 4 The representativeness of the sample is verified by a patch made with a weighting variable that provides the weight value for the respondent in each country. Some countries have a weight value of one, resulting in no correction for that country. The reason for this has not been verified within the documentation of WVS/EVS.
- 5 The indicator of institutional performance used by Putnam et al is composed of cabinet stability, budget promptness, statistical and information services, reform legislation, legislative innovation, number of day care, number of familiar clinics, industrial policy instruments, ability to make expenditures in agriculture, local sanitary unit expenditures, housing and urban development and sensitivity of the bureaucracy.
- 6 The construction of the civism and trust variables are based on the questions asked in the version of the WVS questionnaire used in Brazil in 2006.
- 7 The questions used in this article refer to the instrument applied to Brazil by the Center for Public Opinion Research at the University of Brasilia DATAUnB - Applied Social Research, 2006.
- 8 Item (b) was not used by Knack and Keefer, as reported in the footnote (24) on page 1272, because there are few countries with data reported for this item in WVS - 1990. However, due to the importance of that item in the study by Putnam et al, it was reconciled with Knack and Keefer's item (h), youth organization, and maintained in this work.
- 9 Our item (h) was considered to be an amalgamation of Knack and Keefer's items (a), social welfare services for elderly, handicapped or needy persons, and (g), third world development or human rights organizations.
- 10 Item (i) is not in the instrument used in years 81 and 90, so it was excluded in the construction of variable Groups - 2005.
- 11 Because the WVS - 81 is equivalent to WVS - 90, the compatibility of information reaches the entire period under consideration.
- 12 It is important to emphasize also that a correlation test was performed for the variables Groups, P-groups and O-groups, with results below our expectations due to changes in these variables during the period.
- 13 This process of harmonization related to the three periods result in the presence or absence of some indicators. For example: item (f) community local actions towards issues such as poverty, employment, housing and racial equality, were excluded because they were not present on WVS-. 2005/2006.
- 14 Source: World Economic Outlook, 2009, FMI.
- 15 Source: World Economic Outlook, 2009, FMI.
- 16 For discussion, see Frederick Solt at www.siuc.edu/~fsolt/.
- 17 In a classic Monte Carlo study, Boomsma (1982) evaluated the robustness of Confirmatory Factor Analysis solutions for small N (25–400). He found that the percentage of proper solutions, the accuracy of parameter estimates, the sampling variability in parameter estimates, and the appropriateness of the Maximum Likelihood χ^2 test statistic were all favorably influenced by larger values of N (see also Boomsma & Hoogland, 2001; Gerbing & Anderson, 1993). He recommended that N should be at least 100, but that 200 or more was desirable. Marsh et al. (1998) and others (e.g. MacCallum, Widaman, Zhang & Hong, 1999; Velicer & Fava, 1998) argued that concerns about the minimum N for factor analysis have produced many guidelines but limited empirical research.
- 18 The full models is available upon request to the authors.
- 19 The values of the variables correspond to standardized regression coefficients (β).

- 20 The regression coefficient (β) shows the effect of individual independent variables on the dependent variable in standard deviation units. In statistical terms this result means that for every additional unit of standard deviation for trust in large companies, the trust in public institutions increases on average 0.648 standard deviation units.
- 21 This means that for every additional unit of standard deviation for the rate of change of gross national product, the average trust in public institutions increases on average 0.281 standard deviation units.
- 22 This means that for every additional unit of standard deviation for generalized trust, trust in public institutions increases on average 0.190 standard deviation units.
- 23 The values of the variables correspond to standardized regression coefficients (β).
- 24 The values of the variables correspond to standardized regression coefficients (β).
- 25 As mentioned previously, the variable TxvarPNB alone does not explain trust in institutions, because the influence of economic performance on institutional performance seems obvious, so we chose to exclude the variable trust in institutions from the list of potential independent variables in explaining economic performance.
- 26 The values of the variables correspond to standardized regression coefficients (β).
- 27 We argue that the variable Grupativo05 is a variable of low reliability for two reasons: 1) because the division / classification of groups in various surveys in the WVS has changed over time, and 2) because interviewees' statements as "belonging" or "not belonging" to an organization / association cannot be taken as a strictly faithful expression of their degree of participation.
- 28 Here the excluded variables are: Gruperten05, Grupativo05, P-and O-GrupKK05.
- 29 The values of the variables correspond to standardized regression coefficients (β).
- 30 It is worth noting that Putnam et al recognizes and confirms that the measure of institutional performance is highly correlated with popular participation and satisfaction. Therefore, if the population participates and is pleased with the performance of government, it relies on public institutions. Thus, the measure of institutional performance used in this article, namely trust in public institutions is feasible.

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