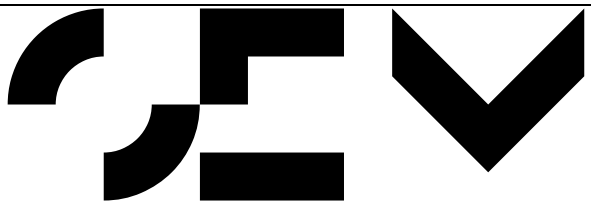

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# The spirits of capitalism and socialism
# A cross-country study of ideology

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# The spirits of capitalism and socialism

## A cross-country study of ideology

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*Abstract:* The World Values Survey contains an item on ownership, which is polled 200 times in 92 countries at the four waves of 1990, 1995, 2000 and 2005. It is developed into the CS-score that measures the aggregate mass support for capitalism and socialism. Four hypotheses are advanced and tested to explain the wide cross-country variation in the CS-score: (A1) It is partly due to the cross-country distribution of income, and consequently the West stands out as the most capitalist-minded area of the world. (A2) It is associated with the institutions of the country such as legal quality. (A3) It is related to the left-right dimension in politics. (A4) It is influenced by cultural differences.

Jel.: O43, P14.
Keywords: Property rights, ideology, institutions

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# 1. Introduction: The mass support for capitalism and socialism

The most fundamental institutional choice countries face, is the choice of economic system, as characterized by the two main types of ownership: What ought to be privately owned and what should be publicly owned? The decision is taken politically at the national level. Our analysis deals with the popular basis for the decision, i.e. the preferences of the population.

The WVS (World Values Survey) contains an item asking the respondents whether they prefer public or private ownership. It appears in a series of questions about preferences that respondents may have about society. It is formulated as: '*Private vs state ownership of business and industry should be increased: Indicate preference on a scale from 1 to 10. 1 is strongest preferences for private and 10 is the strongest preference for public ownership.*'

The item has been polled in 92 countries, at least once in the four waves of 1990, 1995, 2000 and 2005, giving a total of 200 polls. This appears to be by far the most comprehensive dataset on ownership preferences available. The item may have a level problem by being formulated as a preference for *increases* in property rights, similar to the other preference questions. However, most respondents seem to treat it as a preference for the level of property rights, as discussed in section 3.2.

We define a measure that aggregates each poll into one measure: the *CS-score* – for *capitalism* versus *socialism* – is done as explained in section 3.[1] The scores are taken to measure mass *ideology* as an aggregate, political preference for the two types of ownership.

The literature in political economy and public choice study how the choice of ownership system relates to the economic and political system.[2] Studies have found a complex causal network where choices about the legal system, public bureaucracy and democratic institutions are associated with economic development. In its turn, it is related other relevant types of outcomes such as corruption and subjective wellbeing. Yet, while overall economic development influence institutional quality, recent studies find that beliefs and basic values are also associated with these choices.

The four waves start in the year of 1990s, which saw the triumph of capitalism: No less than 29 countries changed from socialism to capitalism, and many other countries privatized state owned enterprises around that time.[3] The respondents' stated preferences

1. The score was introduced in Christoffersen and Paldam (2006) to discuss privatizations in Denmark.
2. Causality between institutions and development is complex, see e.g. Knack and Keefer (1995), Acemoglu et al (2005), Haan (2007), Engerman and Sokoloff (2008), Paldam and Gundlach (2008) and Blume et al (2009) and on beliefs and values and development see e.g. Knack, (2002), Uslaner (2002) and Bjørnskov (2009).
3. The privatization wave is analyzed in Parker and Saal (2003) and (for Western Europe) in Köthenburger et al (2006); see also Megginson and Netter (2001).

differ between countries and have changed over time, enabling us to draw conclusions about the factors shaping the economic system. The CS-scores reflect *preferences* that may be related to almost any institutional and political structure. Consequently, we look at four broad areas where countries differ:

(A1) Development: Preferences may be related to the level of development.
(A2) Institutions: Preferences may be related to actual institutions.
(A3) Ideology: Preferences may be related to other aspects of ideology.
(A4) Culture: Preferences may be related to the culture of countries.

As far as we know, these data have never been analyzed before, even though they deal with large questions which have been endlessly discussed by social scientists, historians and philosophers. Thus, they raise questions that may arguably seem 'too big to analyze', especially since the data only consists of 200 observations from 92 countries for 1½ decades. This is only two observations per country on average. Furthermore, the observations have considerable measurement error and a potential level problem. It is important to emphasize that in most cases throughout this paper, it is easy to present alternative explanations. We do establish causality in the very long run from income to the CS-score, and we attempt to present a logically coherent overall structure; but a handful of variables are discussed, and the short and medium-run dynamics may differ from the long run.

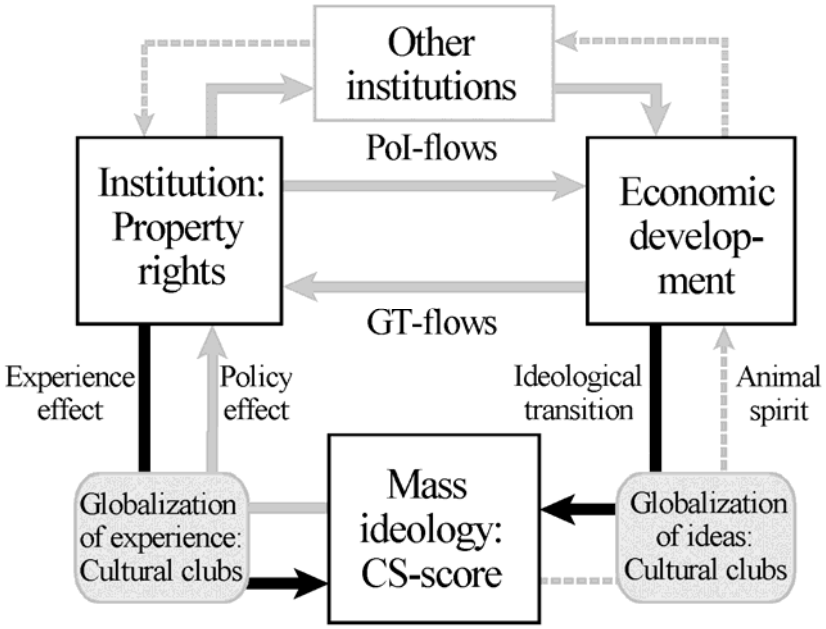
The rest of the paper proceeds as follows. Section 2 briefly sets out the parts of the potentially large and complex structure discussed, and hence which part of the literature we refer to. Section 3 defines the CS-score and brings some graphs and tables to present the new data. Section 4 contains a long-run causality test between the CS-score and income. Section 5 is a more systematic multivariate analysis, while section 6 briefly surveys the conclusions. An appendix lists the 200 scores calculated, classifies the countries etc.

## 2. One part of a complex causal structure

The introduction suggested that the CS-score may be linked to (A1) development, (A2) other institutions, (A3) other measures of ideology and (A4) culture. This section tries to operationalize these hypotheses. The variables used to test the hypotheses in the following are defined in Table A1 (Appendix). Figure 1 shows our understanding of the potential causal relations (arrows) between the CS-score, development and other institutions.

The paper concentrates on the two black arrows, while the eight gray arrows are discussed in the present section only. Three of the arrows of the outer rim are thin and broken to suggest that they may be too weak to matter much. They are left out in sections 2.1 and 2.2, which discuss the inner part of 2 *x* 3 symmetrical arrows: The top three say that institutions determine development, and the bottom three say that development determines institutions.[4] The long-run is taken to be well represented by the cross-country variation.[5]

Figure 1. Ownership, other institutions and development




4. Sections 2.1 and 2.2 build on Paldam and Gundlach (2008) who survey the literature and the mixed evidence in favor of the Primacy of Institutions and the Grand Transition views. Blaug (1997) gives a survey of the literature on Marx and Marxism. The property rights school is covered by the readings in Pejovich (1997), while North (2005) and Pipes (1999) interpret history and de Soto (2000) discusses the cross-country pattern. Acemoglu et al (2005) is a survey of the Primacy of Institutions view. The Grand Transition view originates from Kuznets (1968) and Chenery and Syrquin (1975).

5. The equivalence of the long-run and the cross-country pattern cannot be formally tested in our case as the CS-scores are only available for 1½ decades. However, the equivalence holds for similar cases where data are available (see Gundlach and Paldam 2009b) so it is taken as the default.

### *2.1 The Primacy of Institutions flows: i.e. CS ➔ income*

Several schools of thought argue that the property rights system shapes the path of development. This was a central part of the theory of Karl Marx. It argued that the system of ownership determined everything, including politics and culture. It predicted that public ownership would generate great welfare gains. However, the theory also claimed that ownership systems contained dynamic processes which in the long run generate irreversible stepwise system changes. The final steps in Marx's long-run development model were from feudalism to capitalism, and then to socialism through a political takeover by the proletariat.[6] Consequently the theory predicts that income increases cause a fall in the CS-score, so that the correlation between the CS-score and income is negative.

The importance of ownership was taken up in a microeconomic perspective by the *property rights* school of Armen Alchian, Svetozar Pejovich and others. They looked at the causal relation from property rights to economic effectiveness, and argued that private ownership, enforced by effective and politically independent legal institutions, generated large efficiency gains. As shown by e.g. North and Weingast's (1989) study of the Glorious Revolution, the property rights school appears to tally well with the historical facts.

The broader macro-aspects were reintroduced by theoreticians of history such as Douglass North and Richard Pipes, who further developed the link between political and economic institutions, and economic development. Recently, the macro-perspective has been developed by the *Primacy of Institutions* (PoI) school of Daron Acemoglu and associates. It considers the property rights system to be the key institution for development, and use periods with fragmented political power to explain why fair enforcement of effective property rights arose. In contrast, societies where political power is concentrated in small elites fail to develop incentives to enforce private property rights for the great mass of people. This theme was also developed by Hernando de Soto, who studies the wide gulf between formal and informal property rights systems in LDCs. [7]

The PoI school predicts that the causal flow from property rights to development. Accordingly, support for capitalism as measured in our CS-scores would cause capitalism that in turn causes economic development. Thus causality is from the CS-score to income, and the correlation between the two variables is positive.

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6. The data generated by the 20th century has largely rejected Marxist theory. This is illustrated by the many system changes which took place: Most changes to socialism were made by foreign military power (notably by the Red Army of the USSR). They often occurred in semi-feudal societies. An equally high number of system changes were from socialism to capitalism. They happened due to the poor economic performance of socialism.

7. The World Bank terminology is used: It divides countries in DCs (developed) and LDCs (less developed), which are once again divided in LICs (low income) and MICs (middle income).

### *2.2 The Grand Transition flows: income ➔ CS*

The reverse causality is argued by the *Grand Transition* (GT) view, which sees development as an interacting set of transitions in most fields, including economic structures, politics, and individual beliefs. This view was pioneered by Simon Kuznets and Hollis Chenery. It suggests that the change of ownership is a transition caused by development, which is also reflected in beliefs, world views and political demands (see Inglehart and Baker, 2000).

A transition of a variable *x* is defined as follows: The long-run/cross-country pattern in *x* has a sizable correlation (such as 0.4) to income, and the dominating long-run causality is from income to *x*. It is defined as a transition even if the short-run causal pattern is complex and includes other variables. The archetypical transition is the agricultural one, but transitions also occur for certain institutions such as democratic rights, civil liberties and corruption.

The process of the Grand Transition is fraught with simultaneity and collinearity as interacting transitions take place in many fields. Average income (GDP per capita) is treated as the best proxy for the whole process. GT-theory suggests a *transition in the CS-score*: mass support for capitalism increases, when countries become wealthier and thus 'proves' the success of capitalism. This means that income raises cause an increase in the CS-score and in capitalism. This should appear as a positive correlation between the CS-score and income.

Thus, the PoI and GT views lead to the same prediction as regards the cross-country correlation between income and the CS-score, but it is caused by the reverse causality. To sort out the causality, section 4 presents a set of IV regressions using instruments with a high degree of exogeneity.

### *2.3 Is the CS-score related to the degree of socialism in the country?*

Socialism and capitalism are somewhat loaded terms that are often loosely defined. To be precise, we define the terms as implied in the CS-score.[8] That is, GDP, $Y$, is divided into: $Y = Y_K + Y_S$, where $Y_K$ is produced by privately owned real capital, while $Y_S$ is produced by publicly owned real capital. Hence, the shares of capitalism, $k$, and socialism, $s$, are:

$$Y_K/Y + Y_S/Y = k + s = 1.$$

A country is thus capitalist if $k > s$, and vice versa. Western countries have $k$'s in the range from 0.7 to 0.8. The old *communist* bloc of the Soviet Union and its allies had $k$'s in the

8. Our definition of *socialism* appears the most widespread, but others exist. The term *communist* is used for countries ruled by a communist party. Nearly all communist countries were/are socialist as well, though China and Vietnam are gradually changing into de facto capitalist communist countries.

reverse range, i.e. from 0.1 to 0.3. A good dataset for *k* and *s* for all countries does not exist, but the Fraser Economic Freedom Index has a related component. Section 5 studies the relation between the CS-score and the components of this index.

### *2.4 The experience effect: The short to medium term*

We have termed the CS-score a measure of ideology, but it must also reflect experiences. Hence there is a black arrow from institutions to the CS-score at the bottom left side of the picture. It is well-known that people and polities have a bias for the status quo, so a change of ownership system is a slow and somewhat random process (Fernandez and Rodrik, 1991). The same applies to political systems where changes need more than 50% support, i.e. if the system has veto players or complex coalition politics (Buchanan and Tullock, 1962).

The sample contains 23 PCom (post-communist) countries that changed to capitalism from 1990 onwards after half a century of socialism. The costs of the system change were larger than expected, as they were in the order of 1-2 years of GDP and took 2-3 decades.[9] This predicts that the CS-score will have a cyclical path in these countries: Initially, people wanted a system change, but during the early stages of the change, the score fell due to the disappointed expectations. Later when the new systems started to work, the score went back up. Similar, but weaker cycles may be seen in countries going through smaller reforms.

Finally, mass ideology may also affect economic development directly, as indicated in Figure 1 by the *Animal Spirit* arrow. The CS-score may proxy for the amount of entrepreneurial spirit in the population. It may reflect beliefs about the returns to private efforts or the social status of entrepreneurs, e.g. if efforts are associated with increased factor productivity (Bjørnskov 2005). It could also be due to an exogenous (?) bourgeois work ethic, serving as a precondition for capitalist development (McCloskey 2009).[10]

### *2.5 Cultural clubs and the transition: Within and between groups*

The arrows at the bottom of the graph in Figure 1 pass through two gray *globalization* boxes. They point to a mediating element in the relations that is hard to handle. People are surely

9. In the official GDP-data the loss is twice as large. However, these data exaggerate the loss, as parts of the loss was due to abolition of the production of useless goods and the dismantling of the massive Soviet military-industrial complex; see the assessments in Åslund (2002) and Paldam (2002b; 92-97).

10. Many have noted that the theory of development lacks some driving force. It has often been called *entrepreneurial spirit* or (by Keynes) *animal spirit*. However, this is often another name for the residual. One potential reason to disregard this arrow is the *China-puzzle* that China has a rather large negative CS-score and at the same time China seems unusually well endowed with 'animal spirit'. On the other hand, the Chinese data from the WVS have been questioned. Uslaner (2002), for example, notes a number of discrepancies between the structure among different norms in most countries and in the Chinese polls.

most influenced by the perceived experiences of their own country, but the media tell about the policies pursued in other countries, and many people travel and have friends and family abroad, so political and economic experiences spread across borders. Also, it is well-known that many ideas and fads have large international elements.

A particularly complex part of globalization is that it partly happens in 'clubs' instead of a fully global experience. The 'neighbors' of Spain are Germany, Belgium and even Sweden more than it is Morocco. In its turn, the relevant globalization experience of Morocco is the one of Syria and Egypt rather than the one of Spain. Thus, there is an Arab and a Western 'club', and countries within the clubs tend to converge to the same standard of living at the same time as average living standards of the two clubs diverge.[11] We try to catch the phenomenon of cultural clubs by including a set of regional dummies defined in the appendix. Since our data are from 92 countries only, we are forced to work with a crude division in 3-7 groups only.[12]

The cultural clubs imply that countries influence each other much more within the club (within-group) than between clubs (between-groups): The within-group convergence means that a good deal of the Grand Transition is a between-group phenomenon. When the pattern in the CS-score is explained by a set a cultural dummies, it consequently hides part of the Grand Transition in the patterns of group averages that are caused by medium-run cultural spillovers. The club dummies and income may be alternative representations of the Grand Transition, just as is the case for the transition of corruption (e.g. Paldam, 2002a).

In summary, existing theories provide different views on what to expect from the cross-country structure of the CS-scores. Before we proceed to test the broad patterns between economic development, institutions and the CS-score, we define the CS-score and show how the main pattern in these data looks.

11. These trends are documented in Paldam (2009). On the Latin American continent there is also some convergence, while the African countries diverge, though not as much as they do to the rest of the world

12. The classification is chosen as the most common one; see e.g. Huntington (1996). It is straightforward except for three countries, which are placed in the residual group. The groups broadly correspond to the main regional international organizations. We have also experimented with a classifications based on the colonial experience and hence legal systems of countries. They improve the explanations a little, but they do not change the results presented and are not included to save space.

## 3. The CS-score: The (marginal) preference for socialism/capitalism

The ownership item in the World Values Survey (WVS) is repeated in Table 1, which also gives the answers for all 270,345 answers reported.

Table 1. The ownership item: All 270,345 answers reported

| Private vs state ownership of business and industry should be increased: Indicate preference on a scale from 1 to 10. 1 is strongest preferences for private and 10 is the strongest preference for public ownership | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Private | | | | | | | | | Public |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Number | 39,877 | 20,239 | 27,910 | 24,182 | 50,414 | 22,538 | 18,898 | 21,165 | 13,861 | 31,261 |
| Percent | 14.8 | 7.5 | 10.3 | 8.9 | 18.6 | 8.3 | 7.0 | 7.8 | 5.1 | 11.6 |
| For | Cumulative preferences | | | | | | | | | |
| Capitalism | 14.8 | 22.2 | 32.6 | 41.5 | 60.2 | 68.5 | 75.5 | 83.3 | 88.4 | 100 |
| Socialism | 100 | 85.2 | 77.8 | 67.4 | 58.5 | 39.8 | 31.5 | 24.5 | 16.7 | 11.6 |

Note: Figure 2 shows the cumulative preferences for capitalism. The item is V251 in Inglehart et al (1998) and E036 in Inglehart et al (2004). It is V117 in the root version of the WVS 2005-2006 questionnaire.

As of the fifth wave of the ownership item has been included in 200 polls, so the average number of respondents per poll is 1,352. Table 1, brings percentages and cumulative scores for capitalism and socialism in the aggregate data for all polls. The cumulative preferences show a small excess support for capitalism, which consequently is defined as a positive CS-score, while a fully neutral support for the two systems is defined as a CS-score of zero.

### *3.1 Defining and calculating the CS-score*

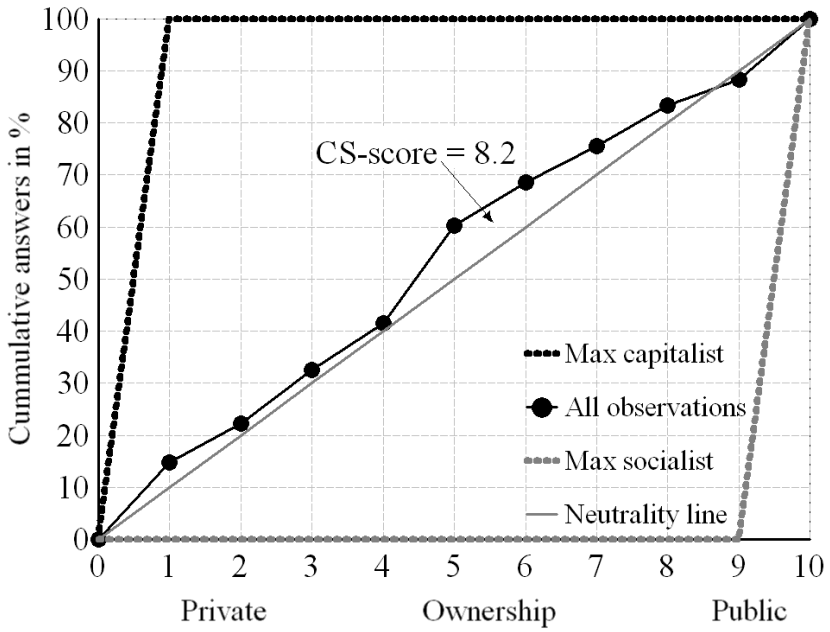
The cumulated (marginal) preference for capitalism from Table 1 is the *all observations* curve shown in Figure 2. In the data for one country it is termed the *country curve*. The straight line from (0, 0) to (10, 100) is termed the *neutrality line*, as the population is neutral toward socialism and capitalism in the particular way that 10% give each answer. The *max capitalist* curve is the strongest preference for capitalism possible, where all respondents answer 1. The *max socialist curve* is the symmetrically opposite case where everybody answers 10.

The *CS-score* is the area between the country curve and the neutrality line, calculated (as the Gini) in percent of the total area between the neutrality line and the *max capitalist* curve. In principle, it ranges from −100 to +100. However, as each score is calculated from an average

of 1,352 respondents, the law of averages tells us to expect the results to be non-extreme[13] and to cluster due to globalization making the experience and ideas of other countries broadly available. The closeness of the cumulative curve to the neutrality line confirms these ideas. The respondents in all data have a capitalist ideology, but only by 8.2%.

The CS-score is measured in per cent. The difference between two scores is thus measured in pp, percentage points.

Figure 2. Calculating the CS-score from the data of Table 1




Note: The lines drawn are explained in text

### *3.2 The level problem: The false convergence-to-zero prediction*

The introduction mentioned that the WVS ownership item had a level-problem. It is due to the term '*increased*' in the wording of the item. If the respondents take this word at face value, it has a clear consequence that applies in stable democracies. Here the CS-score adjusts to the will of people and this should cause CS-score to *converge to zero*.

Table A2 contains 3 groups of democracies: The 'old' West where stable ownership systems are combined with old democracies. The 'convergers' are 'new' western countries, which used to be MICs with little democracy, and the Asian Tigers, which are new democra-

13. The 200 CS-scores have a near-normal distribution though they have relatively few extreme observations. Another sign of the built-in 'moderation' is that response 5 is chosen too often, as illustrated in the three graphs shown on Figures 2 and 3. This is a typical feature of many questions scaled 1-10 in the WVS. It should also be mentioned that Egypt and Iraq in 2005 are as extreme as Russia in 1995.

cies/DCs as well. The average CS-scores in these groups are 29.9, 11.6 and 13.0 respectively. This is the reverse of the prediction from the convergence-to-zero property. The consistent high positive scores in the oldest and most stable capitalist democracies are particularly revealing. Consequently, we conclude that the structure is consistent with most people answering the question as a *level* item. The result will be interpreted accordingly.

### *3.3 The representativity of the data and the range of the CS-score*

Table 2 gives different aspects of the representativity of the CS-date. The world has approximately 225 countries, so the 92 countries included are less than half: It is almost all DCs and the larger LDCs. These countries hold 89% of the world population; but using countries as the unit, the sample is biased toward richer countries by no less than 54%.

Table 2. Representativity of the data

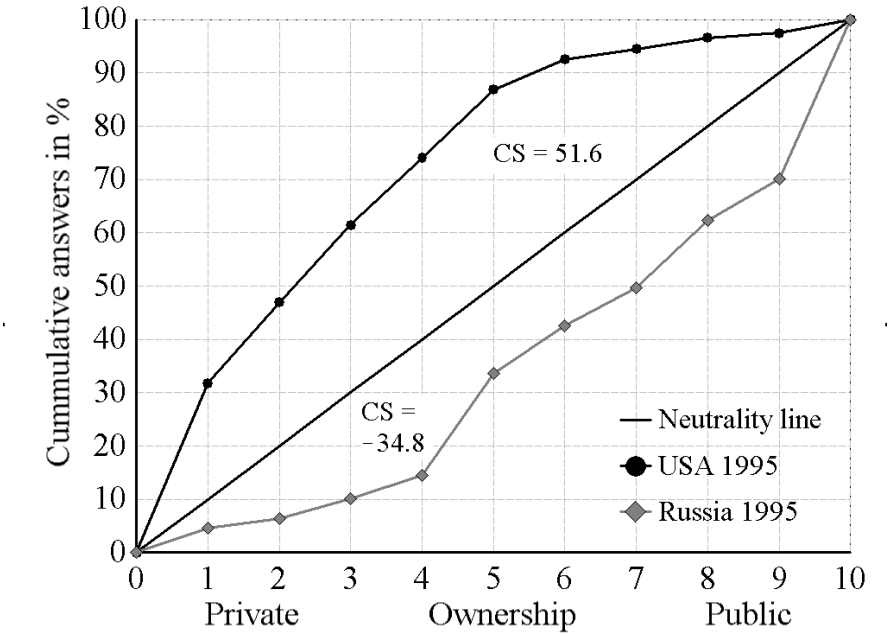
| | |
|---|---|
| Covers $N$ = 200 polls for $M$ = 92 countries | |
| (1) Population of the 92 countries relative to world population, 1998 | 89.0% |
| (2) Unweighted average income of the 92 countries relative to world gdp, 1995 | 1.54 |
| Different averages of the CS-score | |
| (3) For all data (from Table 1) | 8.2 |
| (4) For the 200 polls: Unweighted average | 9.7 |
| (5) For the 200 polls: Median | 10.3 |
| (6) For the 92 countries: Unweighted average | 9.2 |
| (7) For the 92 countries: Weighted with population | -0.8 |
| (8) Same calculation without China | 5.5 |

Rows (3) to (8) of the table show six averages of the CS-scores. The first four are close and indicate a robust average of about 9. However, if the countries are weighted with country size, the result changes to about zero. As shown in the last row, this is largely due to the large negative CS-score for China.

Figure 3 shows two extreme CS-scores: The US and Russia were the main powers in the cold war, and thus the countries which most aggressively defended capitalism and socialism. The two extreme scores are from 1995, well after the end of that 'war', but they still show the range of 85 pp.[14]

14. The US-score of 52% supports the argument in 3.1 that people treat the item as a level item. It would appear impossible that so many Americans want the country to privatize more than what is already private.

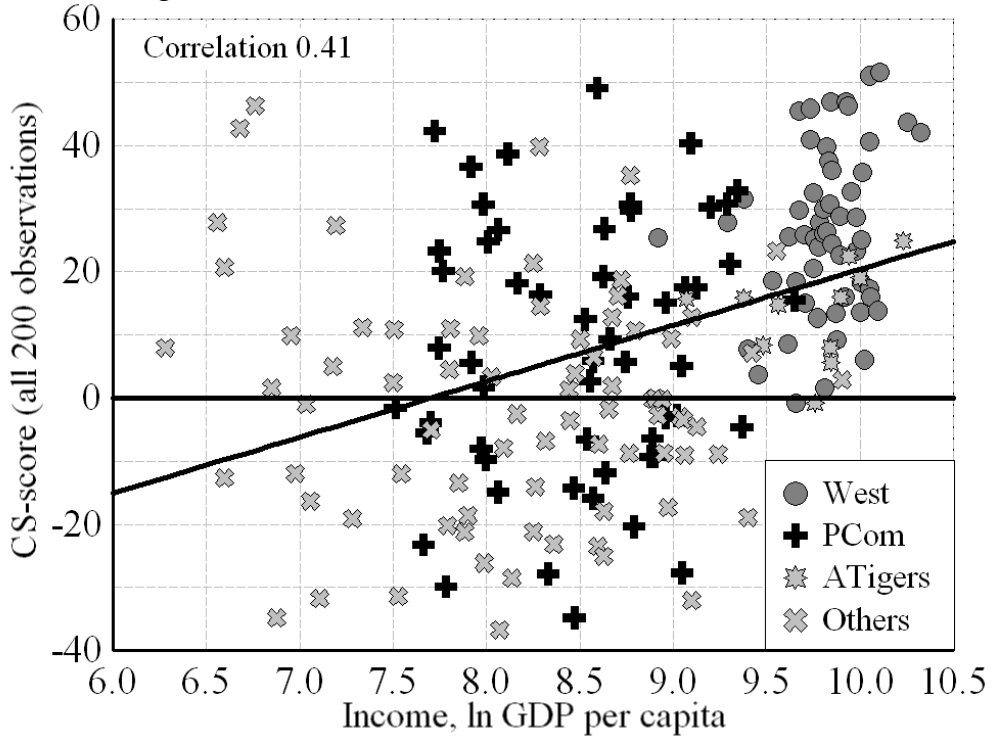
Figure 3. The distributions for two extreme CS-scores




### *3.4 A first look at the pattern in the data: Income or clubs?*

Figure 4 shows the distribution of the 200 CS-scores over income with a few clubs included: the *West*, the *ATigers* (Asian Tigers), the *PCom* countries and *Others*, as listed in Table A2.

Figure 4. The relation between all CS-scores and income




Note: *PCom* are the Post Communist countries. *ATigers* are Asian Tigers. The countries are listed in Table A2. The regression line "explaining" the scores with income is estimated as the regression (1) in Table 5.

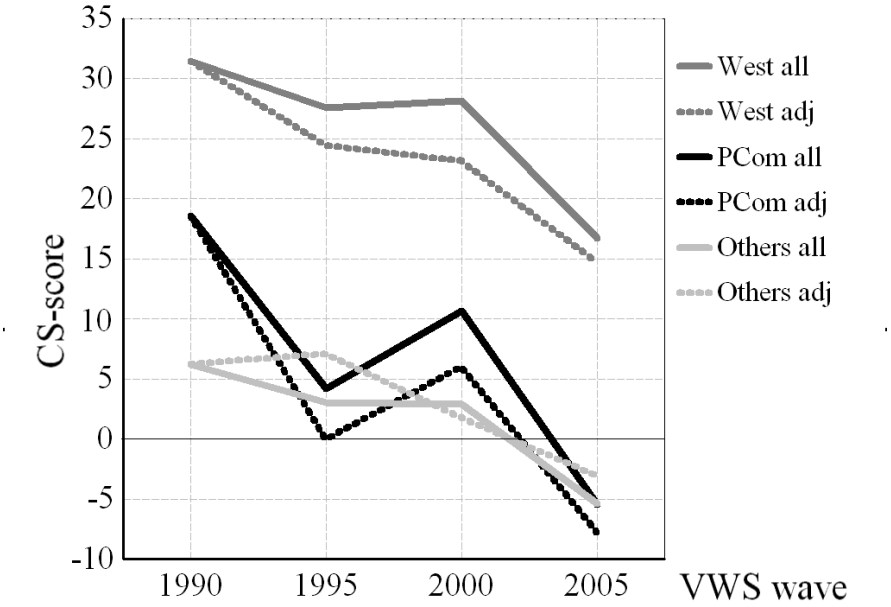
Two observations follow from Figure 4. The regression line covers about one third of the range of the data, and data scatter a lot around the line. The West is the group of countries with the strongest support for capitalism in Figure 5.

The correlation between income and the CS-score in 0.41.[15] This is contrary to Marxist analysis that predicts a negative correlation, but it is in accordance with both PoI and GT theory. To distinguish between these theories, we need an analysis of long-run causality. Before we turn to this analysis in section 4, we want to look at the development over time, i.e. over the four waves of polls.

### *3.5 The development over time for three groups*

The years around 1990 saw the system change from socialism to capitalism in 29 countries.[16] Consequently 1990 was probably a year with a very high CS-score. The 92 countries are divided in three groups: *West*, *PCom* and *Others*.

Figure 5. The path over time for the CS-score, divided in three groups




Note: The groups are defined in Table A2. Unbroken lines are *all* available observations. They may suffer from selection bias. The broken lines are started from the average in 1990. The figure for 1995 is reached by adding all the available first differences 1990/95. The figure for 2000 is then reached by adding all first differences 1995/00, etc.

15. If the 200 observations are divided in West (55), PCom (57) and Others (88) the correlations within the groups between income and the CS-scores are 0.25, 0.11 and 0.09 respectively. This indicates that the within-group correlation is smaller than the between-group correlation, as will be further discussed below.

16. The VWS-data cover 23 of these countries. In 1989 the *Socialist Block* of countries ruled by the Communist Party consisted of 17 countries, divided into various groups. These countries are now split into 36 countries, of which 2-3 have remained socialist.

Figure 5 reports two curves for each group: one for *all* observations and one adjusted for sample consistency as explained in the note. The deviation between the two lines points to selection biases in the data. It is reassuring that the curve-pairs are fairly similar for all three groups. Three observations follow from Figure 5. Firstly, the CS-score falls throughout the period in all three groups, on average by about 16 points. Even if 1990 was an unusual year, the shift toward socialism is still substantial. Secondly, the *West* differs by being much more pro-capitalist than other country groups.

Thirdly, the *PCom* countries are close to other non-Western countries, but show the cyclicality predicted. People in these countries wanted a capitalist system in 1990, [17] but the cost of the system change proved unexpectedly high. Thus, it is no wonder that capitalism has become less popular by 1995, but then it turned up again as the new economic systems stabilized. However, for unknown reasons the trend once again turned down between 2000 and 2005 in line with the global pattern.

Table 3 contains a distribution free test for the significance of trends in the CS-score over time. It appears that the fall from 1990 to 1995 is significant, while there is no significant movement from 1995 to 2000. The fall from 2000 to 2005 is significant as well. Clearly, the big wave of privatizations, most notably in Central and Eastern Europe, influenced a lot of people, including those outside the post-communist world, to be more skeptical as regards private ownership.

Table 3. Binominal trend tests

| | 5 years | | | 10 years | | 15 years | |
|---|---|---|---|---|---|---|---|
| From | 1990 | 1995 | 2000 | 1990 | 1995 | 1990 | All |
| To | 1995 | 2000 | 2005 | 2000 | 2005 | 2005 | |
| Possible | 30 | 33 | 27 | 30 | 28 | 20 | 168 |
| a. Increase | 8 | 15 | 7 | 11 | 4 | 2 | 47 |
| b. decrease | 22 | 18 | 20 | 19 | 24 | 18 | 121 |
| Net: a − b | -14 | -3 | -13 | -8 | -20 | -16 | -74 |
| Test 2-sided | 1.6% | 72.8% | 1.9% | 26.5% | 20.0% | 0.0% | 0.0% |
| Result | Fall | | Fall | | | Fall | Fall |

Note: *Possible* are the cases where both observations for both waves are available.

17. Two additional points should be made: The implementation of mass privatization is a very difficult process, which in most countries passed through a period of unclear property rights where former state property changed hands in murky ways. The expected life span at birth in post-communist countries is only around 70 years, so five years is 7% of the life span. Thus cohort effects may explain a bit of the changes. We do not believe it is important for the movements observed, but to sort out opinions changes from cohort effects would need a long-run study of the micro data.

## 4. The long-run causality between income and the CS-score

We now turn to the long run. Economists chase causality, and the chase often starts from an observed correlation, such as the one between income and the CS-score. If long-run causality can be established, it would shed some light on the big discussions surveyed in section 2. Also, it would allow us to say if income or cultural clubs matter the most in the long run. Non-marginal changes in the ownership system are rare, and in some countries, such as the US, there have been none. Most West European countries saw a change out of feudalism in the first half of the 19th century, but the CS-score is not formulated to catch that change. So we are dealing with a variable that may have deep roots. Thus, instruments that are exogenous with a long horizon are needed.

### *4.1 The test: comparing OLS and IV cross-country estimates using DP-instruments*

The long-run causal direction is analyzed by the method developed in Gundlach and Paldam (2009a). It uses a set of extreme variables that tries to catch the nature-given bio-geographical *Development Potential* of countries in Neolithic time. The biological variables are counts of the number of domesticable animals (*animals*) and arable plants (*plants*). The geographical variables look at climate (*climate*, *frost*) and ease of communication (*axis*, *coast*, *size*). Malaria prevalence is covered by (*maleco*). The variables are mostly used as averages (*bioavg*, *geoavg*) and – in our main model version – as principal components (*biofpc*, *geofpc*). We believe that these instruments are truly exogenous (see Table A4). They allow us to make two comparisons of the cross-country patterns of income and CS-scores: An OLS estimate and an IV estimate that gives a causality test:

A. Causality from income to the CS-score is tested by comparing the OLS-estimate of the relation explaining the CS-score by income with a two-stage estimate of the same relation, where the first stage instruments income with sets of DP-variables.
B. Check for reverse causality from the CS-score by analyzing if the DP-instruments work for the CS-score as well – the gray part of the table.

### *4.2 The test results: Causality is from income to the CS-score*[18]

The test works in case A though some of the CD-tests are on the borderline. Fortunately the CD-test rejects the instruments (as it should) in case B. Thus causality in the long run from

18. In regression (1) the four overseas western countries are treated as they were in Neolithic times. In regression (2) they are treated as transferred West European countries. It is reassuring that it does not matter.

income to the CS-score is accepted.

Table 4. The long-run causality between income and the CS-score

| | Test of causality from income, *y*, to the CS-score | | | | |
|---|---|---|---|---|---|
| Time *t* is 1995 | Main model | Robustness of model to instrument variation | | | |
| Dependent variable: $CS_i$ | (1) | (2) | (3) | (4) | (5) |
| No. of obs. (countries) | 57 | 62 | 57 | 57 | 83 |
| | OLS estimates | | | | |
| *Income*, $y_{it-1}$ [a)] | **5.25** (2.5) | **6.70** (3.4) | **5.25** (2.5) | ***5.30*** (1.8) | **7.39** (4.0) |
| Centered $R^2$ | 0.102 | 0.110 | 0.102 | 0.102 | 0.156 |
| | IV estimates: *y* is instrumented | | | | |
| *Income*, $y_{it-1}$ | **11.36** (3.1) | **10.43** (3.6) | **8.78** (2.6) | **5.25** (2.5) | **8.85** (3.2) |
| Instruments | *biofpc, geofpc* | *bioavg, geoavg* | *animals, plants* | *axis, size, climate* | *coast, frost, maleco* |
| | Hausman test for parameter consistency of OLS and IV estimate | | | | |
| C-statistic (p-value) | 0.03 | 0.07 | 0.18 | 0.98 | 0.47 |
| | Tests of validity of the IV-procedure | | | | |
| First stage partial $R^2$ | 0.360 | 0.483 | 0.378 | 0.493 | 0.448 |
| Sargan test (p-value) | 0.76 | 0.75 | 0.07 | 0.10 | 0.37 |
| | Cragg-Donald test for the strength of the instruments in the IV estimate | | | | |
| Presumed causality: $y \Rightarrow CS$ | 15.19 | 27.61 | 16.42 | 17.17 | 21.41 |
| CD critical value (size) | 19.93 | 19.93 | 19.93 | 22.30 | 22.30 |
| | Cragg-Donald test for the reverse causality analysis | | | | |
| Reverse causality: $CS \Rightarrow y$ | 5.65 | 6.77 | 5.30 | 2.50 | 3.73 |

Notes: Coefficients that are significant at the 5% level are bolded. Borderline significant coefficients (at the 5-10% level) are bold and in italics. All observations for income and the CS-score are averages for 1990 to 2005; z-tests in parentheses. All specifications include a constant term (not reported). A Cragg-Donald (CD) statistic *above* the critical value (10 percent maximal test size, all results are accepted at the 15% critical value) indicates the rejection of weak instruments. The Sargan test for overidentification tests the joint null hypothesis that the instruments are valid and correctly excluded from the estimated equation. (a) the coefficient estimates in this line differ due to sample only.

The results have a puzzling feature. They show that instrumented income in the IV-regressions explains the cross-country pattern in the CS-score better than the current income in the OLS-estimate. Thus, we have proved that in addition to the long run transition, other factors must be strong in the short to medium run or due to reverse causality. The difference between causality in the medium-run and very long run most probably also applies to associations between income and other measures of institutions and basic political beliefs and values.[19]

19. See Inglehart and Baker (2000), Gundlach and Paldam (2009a) and Paldam and Gundlach (2008).

## 5. The effects of culture, institutions and ideology

We now turn to the medium-run regression analysis that holds more immediate political implications. Table 5 uses all available CS-scores, but once the institutional and ideological variables are included, the sample is reduced by about 40%. Section 5.1 explains the techniques used. Sections 5.2 to 5.4 report the results. The findings are interpreted in sections 5.5 to 5.7.

### *5.1 The regression technique: pooled OLS and panel corrected standard errors*

The 200 CS-data has a panel structure of 92 countries and 4 waves. Table A3 shows how the 200 observations are distributed over the panel: 29 countries have only 1 observation; 33 countries have 2 observations, of which 19 are consecutive; 15 countries have 3 observations, of which 8 are consecutive; only 15 countries have observations for all 4 waves, so the panel structure is barely usable. Table 5 uses explanatory variables that are available for all 200 observations. Tables 7 and 8 include other variables that are available for less countries and periods, further eroding the panel structure.

We hence decided to disregard the panel structure and use pooled OLS, with fixed effects for periods, and panel corrected standard errors using the method of Beck and Katz (1995). The fixed effects for time turn out to matter little. However, whether they are included or not had so little effects on the other coefficients that they are dropped in most regressions.

### *5.2 The effects of income and culture*

Table 5 is a set of regressions using the variables of Figures 4 and 5. The table shows that income can be replaced with country clubs. This means that the club coefficients reflect the average income within the groups. Thus, we have two observationally equivalent explanations: The CS-score is explained by income or it is explained by culture. If the latter effect is causal it implies that income is explained by culture contrary to the findings of section 4.

As shown in columns (3) to (5), *West* is the main cultural club variable. This is also shown on Figures 4 and 5, indicating that the cultural explanation is mainly a theory that the 'West-is-different'. It is related to two observations: (1) The West is the best example of a *convergence club* of countries that have converged to much the same standard of living,[20] and (2) globalization is particularly strong within the Western group. A more detailed version of

20. Using the measure of σ-convergence (defined as the standard deviatin to ln GDP per capita) the coefficient of convergence has fallen from 0.5 to 0.2 in the period of 1950 to 2005 in the West, while the coefficient has remained well over 0.5 for the other country-clubs by the authors' calculations based on the Maddison dataset.

the West-is-different story is presented by de Soto (2000).[21]

Table 5. CS-scores explained by income, country clubs and WVS-waves, $N = 200$

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| *Constant* | **-68.31** (4.6) | **-54.08** (3.6) | -13.66 (0.8) | 3.05 (0.2) | **7.01** (2.3) |
| *Income* | **8.87** (5.5) | **8.25** (5.2) | 2.94 (1.5) | 0.48 (0.2) | |
| *West* | | | **17.64** (5.7) | **24.74** (6.2) | **25.54** (9.6) |
| *ATigers* | | | | **13.33** (3.1) | **14.11** (4.3) |
| *PCom* | | | | **6.47** (2.0) | **6.65** (2.0) |
| *W1990* | | **-9.12** (2.7) | **-6.96** (2.1) | **-7.19** (2.2) | **-7.24** (2.2) |
| *W2000* | | ***-6.44*** (1.9) | -5.05 (1.6) | -4.66 (1.5) | -4.69 (1.5) |
| *W2005* | | **-18.82** (5.7) | **-16.63** (5.2) | **-15.42** (4.8) | **-15.40** (4.8) |
| $AR^2$ | 0.162 | 0.252 | 0.335 | 0.351 | 0.354 |

Note: See notes to Table 4. Variables defined in Table A1. Brackets hold t-ratios. $AR^2$ are the $R^2$ adjusted for degrees of freedom. All regressions have F-scores below the 0.005 level.

The two groups of DCs included in Table 5 are West and Asian Tigers. The average CS-score for the groups is different, suggesting that the longer the country has been a DC, the larger is the CS-score. The 'new' western countries of the PCom countries also have positive CS-scores, but still smaller. Table 5 thus supports the idea of a transition of ideology: The longer you are successful, the higher the level of support for the economic system becomes, which again suggests that people understand the WVS-ownership item as a level question.

### *5.3 The effect of institutions and ideology – income and culture are kept separate*

Table 6 is divided into two parallel parts: Table 6a reports the results of estimating the effects on the CS-score of income, the Fraser Index components, and the two ideology variables; Table 6b replaces income with a set of five regional dummies. As they sum to 1, the constant is omitted, and the West which is the largest group comes to act as the constant.

As already shown, this makes the $AR^2$ increase, even when the true explanatory power of the variables does not increase. Tables 7 and 8 confirm that the CS-scores are positively associated with average income, as expected.

21. The analysis of de Soto is that the legal framework for ownership of capital is unavailable to most people in the LDC world, limiting capitalism to the small-scale, non-formal businesses sector. This tallies well with the findings regarding the positive effect on the CS-score of legal quality discussed in 5.5 below. We add that this is recognized by people in the non-western countries creating a lack of support for capitalism.

Table 6a. Explaining the CS-score by income, economic system and left-right variable

| 4a. Left-right scale for 5-year average, *LR5* | | | | | | |
|---|---|---|---|---|---|---|
| Fraser Index component *x* | (C1) Government size | (C2) Legal quality | (C3) Sound money | (C4) Free to trade | (C5) No regulation | (FI) Aggregate |
| *x* | **-2.27** (-2.1) | **6.27** (5.1) | -0.01 (-0.0) | **-3.64** (-2.1) | -0.42 (-0.3) | -0.29 (-0.2) |
| *LR5* | 2.57 (1.1) | 1.94 (0.9) | 0.41 (0.2) | 0.41 (0.2) | 0.08 (0.0) | 0.21 (0.1) |
| *Income* | **7.10** (3.6) | -0.57 (-0.2) | **7.99** (3.4) | **11.10** (4.3) | **8.31** (3.9) | **8.23** (3.2) |
| *Constant* | **-39.78** (-2.0) | -25.29 (-1.3) | **-60.06** (-3.3) | **-62.74** (-3.5) | **-60.30** (-3.4) | **-60.26** (-3.4) |
| N | 161 | 161 | 161 | 160 | 162 | 160 |
| $AR^2$ | 0.161 | 0.244 | 0.136 | 0.160 | 0.136 | 0.136 |
| 4b. Left-right scale for 20-year average, *LR20* | | | | | | |
| *x* | ***-2.36*** (-1.7) | **6.44** (5.2) | -0.11 (-0.1) | -2.92 (-1.2) | 1.97 (1.2) | 1.04 (0.4) |
| *LR20* | ***5.35*** (1.7) | 2.12 (0.7) | 2.02 (0.7) | 1.18 (0.4) | 0.80 (0.3) | 1.27 (0.4) |
| *Income* | **4.91** (2.1) | -2.42 (-0.9) | **5.98** (2.2) | **8.52** (2.5) | ***4.84*** (1.9) | ***5.25*** (1.8) |
| *Constant* | -20.87 (-0.9) | -11.86 (-0.6) | **-43.23** (-2.0) | **-46.33** (-2.2) | **-46.01** (-2.3) | -44.38 (-2.2) |
| N | 122 | 121 | 122 | 122 | 122 | 121 |
| $AR^2$ | 0.111 | 0.221 | 0.089 | 0.101 | 0.098 | 0.090 |

Table 6b. Explaining the CS-score by culture, economic system and left-right variable

| 5a. Left-right scale with 5-year average, *LR5* | | | | | | |
|---|---|---|---|---|---|---|
| Fraser Index component *x* | (C1) Government size | (C2) Legal quality | (C3) Sound money | (C4) Free to trade | (C5) No regulation | (FI) Aggregate |
| *x* | -0.17 (-0.1) | ***2.35*** (1.8) | **-1.44** (-2.2) | **-3.89** (-3.0) | ***-2.31*** (-1.9) | ***-2.80*** (-1.8) |
| *LR5* | 3.07 (1.5) | 2.48 (1.2) | 3.03 (1.5) | ***3.87*** (1.8) | ***3.40*** (1.7) | ***3.53*** (1.7) |
| *Africa* | **-14.58** (-2.6) | -7.10 (-1.0) | **-17.97** (-3.1) | **-22.21** (-3.54) | **-15.82** (-2.9) | **-18.49** (-3.2) |
| *Asia* | **-24.37** (-6.2) | **-19.01** (-4.7) | **-26.54** (-7.0) | **-29.53** (-7.8) | **-26.53** (-7.1) | **-27.2**6 (-7.2) |
| *LaAm* | **-30.68** (-7.1) | **-23.76** (-4.6) | **-35.32** (-9.1) | **-35.46** (-9.1) | **-32.81** (-9.2) | **-34.42** (-8.8) |
| *Mena* | **-29.30** (-6.1) | **-23.40** (-4.3) | **-32.95** (-7.1) | **-35.47** (-7.0) | **-33.07** (-6.8) | **-33.27** (-6.8) |
| *PCom* | **-18.72** (-4.3) | **-11.46** (-2.3) | **-23.68** (-5.1) | **-22.84** (-5.3) | **-21.49** (-4.7) | **-23.63** (-5.0) |
| *West/Const* | **27.46** (4.5) | 6.91 (0.6) | **39.78** (6.3) | **56.60** (5.6) | **41.96** (5.1) | **47.23** (4.2) |
| N | 161 | 161 | 161 | 160 | 162 | 160 |
| $AR^2$ | 0.362 | 0.366 | 0.380 | 0.395 | 0.365 | 0.374 |
| 5b. Left-right scale with 20-year average, *LR20* | | | | | | |
| *x* | 0.40 (0.3) | 1.17 (0.7) | **-2.12** (-2.6) | **-4.40** (-2.4) | -2.28 (-1.4) | **-4.23** (-2.1) |
| *LR20* | ***5.98*** (1.9) | ***5.53*** (1.9) | **7.40** (2.6) | **7.70** (2.6) | **8.02** (2.7) | **8.62** (2.9) |
| *Africa* | **-13.45** (-2.4) | -9.44 (-1.2) | **-18.41** (-3.0) | **-22.79** (-3.1) | **-15.00** (-2.7) | **-19.89** (-3.1) |
| *Asia* | **-22.65** (-5.2) | **-19.56** (-3.8) | **-26.07** (-5.8) | **-28.19** (-6.1) | **-25.31** (-5.2) | **-27.53** (-5.7) |
| *LaAm* | **-31.06** (-6.4) | **-26.30** (-3.6) | **-36.87** (-8.0) | **-35.88** (-7.6) | **-32.98** (-7.2) | **-36.52** (-7.3) |
| *Mena* | **-28.04** (-5.4) | **-24.33** (-3.6) | **-32.93** (-6.4) | **-34.64** (-5.8) | -32.23 (-5.3) | **-34.25** (-5.8) |
| *PCom* | **-13.73** (-2.4) | -10.54 (-1.5) | **-21.59** (-3.6) | **-17.98** (-3.2) | **-17.82** (-3.0) | **-21.41** (-3.5) |
| *West/Const* | **22.57** (2.7) | 14.60 (0.9) | **44.81** (5.6) | **59.38** (4.0) | 40.82 (3.3) | **57.17** (3.6) |
| N | 122 | 121 | 122 | 121 | 122 | 121 |
| $AR^2$ | 0.336 | 0.338 | 0.371 | 0.371 | 0.345 | 0.358 |

Note to Tables 7a and b: See notes to Table 5. All regressions have Wald $\chi^2$ (7) values above the 0.00 pr

Half the coefficients to the five components of economic freedom are significant. The two most robust components are C2 (legal quality) and C4 (freedom to trade internationally), while the other components are less robust. The pattern in these effects is discussed in section 5.5 and 5.6. The two variables for left/right ideology (defined in 5.7), *LR5* and *LR20*, always give positive coefficients, and in Table 6b most are significant. The *LR20* is always the largest of the two ideology variables, and it is significant throughout when allowing for geographical convergence clubs. This finding is discussed in section 5.7.

### *5.4 The variance between and within groups*

Table 5 suggested that explanations of the CS-score by either income or cultural dummies work very much the same. Table 7 combines the Fraser index variables, income and the cultural dummies. Here income remains significant in most cases, although the size of the coefficient is cut roughly in half. This is not surprising since the cultural dummies take care of a substantial part of the between-group variation, and the remaining smaller coefficient to income in Table 7 essentially says that the within-group variation due to income, though significant, should not be overestimated in the short to medium run.

Table 7. Comparing income and culture

| Fraser Index component x | (C1) Government size | (C2) Legal quality | (C3) Sound money | (C4) Free to trade | (C5) No regulation | (FI) Aggregate |
|---|---|---|---|---|---|---|
| *x* | 0.94 (0.9) | **2.94** (2.4) | ***-1.12*** (-1.7) | **-4.48** (-3.4) | ***-1.83*** (-1.6) | -1.71 (-1.1) |
| *Income* | 3.31 (1.4) | 0.57 (0.2) | ***5.07*** (1.9) | **7.28** (3.0) | **5.17** (2.0) | ***4.71*** (1.7) |
| *Africa* | -10.19 (-1.3) | -6.52 (-0.8) | -8.39 (-1.1) | -8.94 (-1.2) | -6.28 (-0.8) | -9.01 (-1.1) |
| *Asia* | **-21.54** (-5.4) | **-16.88** (-4.5) | **-19.80** (-5.6) | **-20.83** (-5.9) | **-19.63** (-5.6) | **-20.29** (-5.7) |
| *LaAm* | **-27.93** (-5.7) | **-20.61** (-4.6) | **-27.44** (-6.6) | **-26.84** (-6.6) | **-25.39** (-6.1) | **-26.52** (-6.4) |
| *Mena* | **-26.01** (-4.5) | **-21.03** (-3.6) | **-24.87** (-4.6) | **-25.90** (-4.6) | **-24.88** (-4.4) | **-25.02** (-4.6) |
| *PCom* | **-15.67** (-3.4) | **-11.47** (-2.4) | **-17.19** (-3.7) | **-16.40** (-3.6) | **-16.23** (-3.5) | **-18.03** (-3.7) |
| *West/Const* | -10.11 (-0.4) | -3.18 (-0.1) | -12.38 (-0.5) | -9.47 (-0.4) | -11.39 (-0.5) | -6.45 (-0.3) |
| N | 174 | 174 | 178 | 173 | 177 | 173 |
| $AR^2$ | 0.347 | 0.357 | 0.349 | 0.381 | 0.343 | 0.348 |

Note: See notes to Table 5. All regressions have Wald $\chi^2$ (6) values above the 0.00 probability level.

The four groups, PCom, Asia, LaAm and Mena, have much the same average income and also much the same CS-score, while Africa has coefficients much like the West once income is controlled for. Perhaps we can conclude that African socialism has been unusually unsuccessful. The least homogenous group is Asia. Figure 4 shows what happens when the

Tigers are singled out: They behave almost as western countries. This division strengthens the evidence for the income dependence in the between-group observations suggested by Table 5, as these countries as recently as the early 1960s were politically quite similar to other developing countries.

### *5.5 Institutions and policies: The effects of the Fraser Index and four of its components*

We now discuss the five *x*-rows in Tables 7 and 8 that provide estimates of the effects on the CS-score of the components of the Fraser Index. The results are not independent, as they are estimated on the same data with variants of the same model. So the five estimates of each coefficient provide a weak test of robustness. Even then only two of the six variables yield some cross-estimate stability: It is C2 and C4. The effect of C4 is discussed in section 5.6.

Legal quality (C2) has positive signs, even though it is highly collinear with income: The better the legal quality, the more people support capitalism. In other words, people seem in general to prefer capitalism without excesses. They recognize that capitalism generates wealth, but may include the possibility of leading to 'plunder',[22] so they seem to prefer some kind of regulated capitalism. It is interesting that also the last two components – C1 and C3 – and the aggregate index – have mostly negative signs. Due to the definitions of these variables, it means that the larger the public sector and the rate of inflation, the more people accept capitalism. However, these results are usually insignificant.[23]

### *5.6 The negative coefficient to C4, the freedom to trade internationally*

Component C4 is a measure of globalization. It generates a negative coefficient, indicating that more globalization is associated with less support for capitalism. Trade theory predicts that globalization has two consequences: countries get richer, but have to make adjustments in the composition of firms and even sectors. Consequently, one may see the negative sign as an indication that people like the status quo. This finding tallies well with the persistence of popular support for tariffs and other trade regulations in spite of all advice by economists (cf. Fernandez and Rodrik, 1991).

22. Firms may act as roving or stationary bandits. The second possibility appears to be the best engine of wealth creation we know. The path of the CS-score in the PCom countries shown on Figure 5 illustrates this argument.
23. The instability of the coefficient is consistent with the idea that high inflation makes people reject the system they have. See Paldam (1987) for evidence on this connection. Under this interpretation the coefficient should vary by the existent system, and hence not be stable for the CS-score. The greatest inflations in our data occurred in the PCom countries at the stage where the economic system was rapidly changing. Also, of course, the traditional communist model had fixed prices. It was the availability of goods that varied.

Table 8. Explaining the CS-score with alternative measures of globalization

| | Globalization measure | | | | | |
|---|---|---|---|---|---|---|
| | Fraser (C4) | | KOF index | | Trade share | |
| Column | (1) | (2) | (3) | (4) | (5) | (6) |
| Globalization | **-3.41** (2.1) | **-3.51** (2.1) | -0.19 (1.4) | -0.15 (1.2) | -0.03 (1.2) | -0.03 (1.2) |
| Country size | - | **1.58** (2.8) | - | **1.43** (2.3) | - | **1.23** (2.2) |
| Income | **11.18** (4.7) | **11.08** (4.5) | **11.54** (4.4) | **10.92** (4.2) | **9.01** (5.2) | **9.12** (5.2) |
| N | 173 | 170 | 160 | 160 | 174 | 174 |
| $R^2$ | 0.170 | 0.197 | 0.166 | 0.189 | 0.162 | 0.182 |

Note: See notes to Table 5.

However, it is difficult to compile a valid globalization index, and the various attempts to compile such an index have produced a range of indices. We note that the Fraser Institute globalization index has been found problematic by some researchers, e.g., Berggren and Jordahl (2005).

Table 8 checks if the coefficient on C4 is stable to two alternative measures of globalization. The KOF-index developed by Dreher (2006), and the trade share, i.e. the sum of export and import of goods and services in per cent of GDP (from WDI). All three estimates are controlled for *country size* measured as the (natural) logarithm to the population. This variable is proposed by Alesina et al (2005) to account for the fact that trade matters less in countries with large domestic markets. This control is always significant, but has little effect on the size of the coefficients on globalization.

The results reveal that the negative association of the Fraser Institute globalization measure (C4) cannot be replicated using two obvious alternatives. While coefficients are in general negative, they are insignificant. The association between globalization and the CS-score is not as strong as suggested by the Fraser Index.

### *5.7 The relation to other measure of ideology: The effect of left-right orientation*

We go on to test the association between the CS-score and an alternative measure of ideology. Table 6 includes two versions of a measure of the political ideology of the *incumbent* government on a left-right scale: The LR-index. It is defined and analyzed in Bjørnskov (2008). It is constructed by coding parties in three categories (left = -1, center = 0, and right = 1) and weighing the ideology of parties in government with their number of seats in parliament. Though it is an uncertain assessment in some countries, it will be taken as granted at present.

The *LR5*-variable and *LR20*-variable used in the regressions are averages over 5 and

20 years of the LR-index. *LR5* is closer to short run policy, while *LR20* represents the more permanent opinions of the group supporting the government.

Neither LR-variable work in Table 6a, but they do in Table 6b, where the relations are controlled for culture. Here *LR20* is always significant. As the CS-score measures a key element in the traditional left-right dimension of politics, this is reassuring. The two measures, although they are independently calculated, tell much the same basic story.

The timing of the variables used is made to analyze the causal link from the ideology variable to the CS-score, but both variables have a lot of inertia, so the indication of causality is weak. It shows, however, that the longer the time horizon for the ideology variable, the larger and more significant is the coefficient. This seems more consistent with a situation in which the CS-score captures ideological traditions instead of short-run fluctuations in political fashion or saliency. It is worth noting that the measure of long-term left/right ideology is statistically significant when a dummy for formerly communist countries is entered.

The association between LR-ideology and the CS-score is not only statistically significant, but also of political significance. If a hypothetical country moves from a purely left ideology (a score of -100) to a fully right ideology (+100), this would, according to the estimates, shift the CS-score upward by 12-26 points, all other things being equal. That corresponds to the distance between the average country and the level of the United Kingdom.

It is possible to try a great many additional explanatory variables for the CS-score, but as this is a new measure we have concentrated on trying out the most obvious. By and large they have confirmed that the CS-score measures what it supposed to measure.

## 6. Conclusions

The paper has developed the Gini-like CS-score, which measures the mass support for capitalism (positive scores) and socialism (negative scores). The CS-score is calculated from a World Values Survey item that has been polled 200 times in 92 countries in the survey waves from 1990 to 2005. The item is formulated as a marginal item where people are asked to indicate the direction of change in ownership they want, but it appears that the answers rather reflect the ownership system they prefer.

In the very long run, the CS-score is caused by income, so that it rises when income does. Thus the score has an underlying long-run transition, but, in addition, it moves considerably over time and has a wide variation across countries. It is likely that the data has substantial measurement error; but we have explained about 40% of the pattern:

The average CS-score was well above zero in 1990, where capitalism triumphed. Since then it has fallen by 16 pp (percentage points) to just above zero. When the WVS-data for 2010 becomes available, it seems likely that the crisis of 2009 in the world economy will cause a further fall to make the average CS-score close to neutrality. In the Post Communist countries the score has had a characteristic cyclical path, generated by high post transition expectations, a disappointment, and a convergence to the typical score in the West.

Four explanations of the cross-country variation have been examined: (1) About half the variation is associated with the cross-country pattern of income; (2) When countries are sorted in the main cultural groups, most of the income effect appears between groups; (3) The CS-score is positively associated with legal quality; and (4) the CS-score is correlated with other indices of ideology.

The most noticeable feature of the cross-country pattern is that the West stands out as the most capitalist-minded area of the world, with a clustering of CS-scores around +25. This tally well with the fact that the West has been relatively successful for the last 3-4 centuries and has reached an income level that is a great deal higher than most other countries.

The pattern in the score has many political implications. One such implication is that it points to countries that are most likely to be able to form stable unions. Obviously it is easier if countries have the same basic economic ideology. Thus the clustering of the West may be one reason why the European Union has managed to survive so far.

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Malaria ecology dataset: www.earth.columbia.edu/about/director/malaria/index.html#datasets

Martin Paldams's working papers: http://www.martin.paldam.dk

Polity data are from the INSCR Data Page: http://www.systemicpeace.org/inscr/inscr.htm

Transparency International is at: http://www.transparency.org/

WDI, World Development Indicators from http://www.worldbank.org

World Values Survey is available from: http://www.worldvaluessurvey.org

# Appendix: Documenting the data

Table A1. Variables used in the regression analysis

| | |
|---|---|
| CS-score | A summary of each of the 200 ownership polls calculated as explained in section 3.1. The values calculated are given in table A3. They are calculated in per cent. Differences between scores are thus given in percentage points, pp. |
| Development (A1) | Income measured as the logarithm to gdp, which is GDP per capita. Data from Maddison (2003) as updated on the Maddison home page. Assessed for a few countries using the WDI. |
| Institutions (A2) | The Fraser Institute Economic Freedom Index, *FI*, and its five components: *C1*, government size; *C2*, legal quality; *C3*, sound money; *C4*, freedom to trade; *C5*, freedom from regulations. They are scaled to increase when the economy moves toward the laissez faire |
| Ideology (A3) | *LRX* is the measure of government ideology on a left-right scale from Bjørnskov (2008). It is averaged over $X = 5, 20$ years |
| Culture (A4) | Six country 'clubs' given as binary dummies: Sub Sahara *Africa*, *Asia* net of Middle East. The *Asian Tigers* may be singled out; *LaAm* is Latin America; *Mena*, Middle Eastern and North African, *PCom* are Post Communist, and *West*. The countries are listed in Table A2 |
| Time | Fixed effects for the 4 waves: W1990, W1995, W2000 and W2005. Also used as dummies for some waves, using W1995 as basis (going into the constant) |

Table A2. A classification of 92 countries into seven clubs

| | |
|---|---|
| Africa, Sub Saharan, 10: | Burkina Faso, Ethiopia, Ghana, Mali, Nigeria, Rwanda, Tanzania, Uganda, Zambia, Zimbabwe |
| Arabia six: | Algeria, Egypt, Iraq, Jordan, Morocco, Saudi Arabia |
| Far East 11: | China, Indonesia, Japan, Malaysia, Philippines, Thailand, Vietnam and five developed countries often known as the Asian Tigers: Hong Kong, Japan, Singapore, South Korea, Taiwan |
| Indian Subcontinent three: | Bangladesh, India, Pakistan, |
| Latin America 12: | Argentina, Brazil, Chile, Colombia, Dominican R., El Salvador, Mexico, Peru, Puerto Rico, Trinidad, Venezuela, Uruguay |
| Post Communist 23[a)]: | Albania, Armenia, Azerbaijan, Belarus, Bosnia, Bulgaria, Croatia, Czech R., Estonia, Georgia, Hungary, Kyrgistan, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Ukraine |
| Residual countries three: | Iran, South Africa, Turkey |
| West 24: | Andorra, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, New Zealand, Norway, Sweden, Switzerland, UK, Ulster, USA and the following *convergers* Cyprus, Malta, Portugal, Spain. They grew fast to catch up with the old West |
| Note: | When we include a few country groups e.g. on figures, the other countries are termed *Others*. |
| a. | Mostly in Eastern Europe. The club includes some Asian countries that used to be parts of the USSR. |

Table A3a. Summary of Table A3b

| | 1990 | 1995 | 2000 | 2005 | All | Countries |
|---|---|---|---|---|---|---|
| Number | 42 | 53 | 57 | 48 | 200 | 92 |
| Average | 21.14 | 8.15 | 11.14 | -0.31 | 9.70 | 9.24 |
| St. dev | 18.63 | 19.57 | 20.26 | 17.91 | 20.52 | 18.87 |
| St. error | 2.87 | 2.69 | 2.68 | 2.58 | 1.45 | 1.33 |
| Median | 26.06 | 8.34 | 14.54 | 1.67 | 10.30 | 8.68 |

Note: If $(9.70 \pm 2 \cdot 1.45) = (6.80, 12.6)$ is taken as the confidence interval of the long-run value then both 1990 and 2005 deviate.

Table A3b. The 200 observations and the 92 countries

| | | 1990 | 1995 | 2000 | 2005 | | | 1990 | 1995 | 2000 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Albania | | 42.4 | 36.7 | | 47 | Latvia | 30.3 | 2.7 | | |
| 2 | Algeria | | | 9.9 | | 48 | Lithuania | 17.5 | 12.5 | 16.1 | |
| 3 | Andorra | | | | 13.7 | 49 | Macedonia | | 30.7 | 38.7 | |
| 4 | Argentina | 35.3 | 9.4 | -3.5 | -32.1 | 50 | Malaysia | | | | -4.5 |
| 5 | Armenia | | -14.9 | | | 51 | Mali | | | | -12.0 |
| 6 | Australia | | 37.6 | | 13.8 | 52 | Malta | 25.4 | | | |
| 7 | Austria | 45.9 | | 46.3 | | 53 | Mexico | 18.7 | 16.2 | -0.2 | -2.8 |
| 8 | Azerbaijan | | -1.5 | | | 54 | Moldova | | -29.9 | -23.2 | -9.7 |
| 9 | Bangladesh | | 20.7 | 46.3 | | 55 | Morocco | | | 19.2 | 3.4 |
| 10 | Belarus | -9.2 | -14.2 | 5.7 | | 56 | Netherlands | 25.3 | | 25.2 | |
| 11 | Belgium | 32.6 | | | | 57 | New Zealand | | 25.7 | | 30.0 |
| 12 | Bosnia | | 20.2 | 19.3 | | 58 | Nigeria | -16.3 | -1.0 | | |
| 13 | Brazil | 9.3 | 6.5 | | 1.9 | 59 | Norway | 26.5 | 23.2 | | |
| 14 | Bulgaria | 26.8 | 5.9 | | -6.4 | 60 | Pakistan | | | 10.9 | |
| 15 | Burkina | | | | 9.9 | 61 | Peru | | -2.5 | -21.1 | -23.2 |
| 16 | Canada | 47.0 | | 35.8 | | 62 | Philippines | | -5.0 | -20.2 | |
| 17 | Chile | -8.8 | -9.0 | -8.9 | -18.9 | 63 | Poland | -6.5 | -11.8 | -9.3 | -27.7 |
| 18 | China | -31.5 | -21.2 | -28.6 | -25.1 | 64 | Portugal | 27.8 | | 18.6 | |
| 19 | Colombia | | -23.5 | | -18.0 | 65 | Puerto Rico | | 7.2 | 23.3 | |
| 20 | Croatia | | 49.1 | 30.7 | | 66 | Romania | 18.2 | 26.7 | 24.8 | 16.4 |
| 21 | Cyprus | | | | 8.6 | 67 | Russia | -3.1 | -34.8 | -15.9 | |
| 22 | Czech Re | 40.4 | 5.1 | 17.5 | | 68 | Rwanda | | | | 1.6 |
| 23 | Denmark | 39.8 | | | | 69 | Saudi Arabia | | | -0.2 | |
| 24 | Dom Re | | -18.6 | | | 70 | Serbia | | 8.0 | 23.3 | 1.7 |
| 25 | Egypt | | | -26.1 | -36.7 | 71 | Singapore | | | 6.1 | |
| 26 | El Salvador | | -13.5 | | | 72 | Slovakia | 15.1 | -20.4 | | |
| 27 | Estonia | 30.8 | -2.7 | -4.6 | | 73 | Slovenia | 32.9 | 21.3 | | 15.6 |
| 28 | Ethiopia | | | | 27.8 | 74 | South Africa | 39.9 | 21.4 | 14.5 | 1.3 |
| 29 | Finland | 41.0 | 29.9 | 28.8 | 18.2 | 75 | Spain | 7.8 | 3.8 | -0.8 | 1.6 |
| 30 | France | 26.1 | | 32.6 | | 76 | Sweden | 27.9 | 23.9 | | 16.0 |
| 31 | Georgia | | -3.9 | | | 77 | Switzerland | | 47.0 | | 17.3 |
| 32 | Germany | 45.6 | 20.6 | 24.5 | 9.3 | 78 | Taiwan | | 8.3 | | 5.6 |
| 33 | Ghana | | | | -19.1 | 79 | Tanzania | | | 7.9 | |
| 34 | Hong Kong | | | | 24.9 | 80 | Thailand | | | | -17.4 |
| 35 | Hungary | 29.7 | 9.4 | | | 81 | Trinidad | | | | 2.9 |
| 36 | Iceland | 36.1 | | 40.6 | | 82 | Turkey | -7.3 | 12.8 | 10.7 | -8.7 |
| 37 | India | 5.0 | 11.2 | -12.0 | 4.5 | 83 | Uganda | | | 42.8 | |
| 38 | Indonesia | | | -7.9 | -14.0 | 84 | UK | 15.1 | 12.7 | 16.0 | |
| 39 | Iran | | | -3.5 | -1.8 | 85 | Ukraine | | -8.0 | 5.6 | -27.8 |
| 40 | Iraq | | | -31.8 | -34.9 | 86 | Ulster | 18.5 | | 22.7 | |
| 41 | Ireland | 31.6 | | 28.7 | | 87 | Uruguay | | 0.1 | | |
| 42 | Italy | 26.0 | | 30.8 | 13.5 | 88 | USA | 51.1 | 51.6 | 43.7 | 42.1 |
| 43 | Japan | 8.0 | 16.0 | 19.1 | 22.5 | 89 | Venezuela | | 12.8 | -3.0 | |
| 44 | Jordan | | | -6.8 | 3.9 | 90 | Vietnam | | | 2.5 | 11.1 |
| 45 | Korea, South | 15.7 | 15.9 | 14.8 | -0.8 | 91 | Zambia | | | | -12.7 |
| 46 | Kyrgistan | | | -5.5 | | 92 | Zimbabwe | | | 27.3 | |

Table A4. Definitions and sources of the DP-variables used in Table 5

| | |
|---|---|
| *animals* | Number of domesticable big mammals, weighing more than 45 kilos, which are believed to have been present in prehistory in various regions of the world. Source: Olsson and Hibbs (2005). |
| *bioavg* | Average of *plants* and *animals*, where each variable was first normalized by dividing by its maximum value. Source: Hibbs and Olsson (2004). |
| *biofpc* | The first principal component of *plants* and *animals*. Source: Olsson and Hibbs (2005). |
| *maleco* | Measure of malaria ecology; combines climatic factors and biological properties of the regionally dominant malaria vector into an index of the stability of malaria transmission; the index is measured on a highly disaggregated sub-national level and then averaged for the entire country and weighted by population. Source: Kiszewski and Sachs et al. (2004). |
| *plants* | Number of annual perennial wild grasses known to have existed in various regions of the world in prehistory, with a mean kernel weight exceeding 10 milligrams. Source: Olsson and Hibbs (2005). |
| *axis* | Relative East-West orientation of a country, measured as east-west distance (longitudinal degrees) divided by north-south distance (latitudinal degrees). Source: Olsson and Hibbs (2005). |
| *climate* | A ranking of climates according to how favorable they are to agriculture, based on the Köppen classification. Source: Olsson and Hibbs (2005). |
| *coast* | Proportion of land area within 100 km of the sea coast. Source: McArthur and Sachs (2001). |
| *frost* | Proportion of a country's land receiving five or more frost days in that country's winter, defined as December through February in the Northern hemisphere and June through August in the Southern hemisphere. Source: Masters and McMillan (2001). |
| *geoavg* | Average of *climate*, *lat*, and *axis*, where each variable was first normalized by dividing by its maximum value. Source: Hibbs and Olsson (2004). |
| *geofpc* | The first principal component of *climate*, *lat*, *axis* and *size*. Source: Olsson and Hibbs (2005). |
| *lat* | Distance from the equator as measured by the absolute value of country-specific latitude in degrees divided by 90 to place it on a [0,1] scale. Source: Hall and Jones (1999). |
| *size* | The size of the landmass to which the country belongs, in millions of square kilometers (a country may belong to Eurasia or it may be a small island). Source: Olsson and Hibbs (2005). |

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