

## 8. Ownership Preferences: The *B*-index

The data available for analyzing the Transition in the Economic System are not made for the purpose. I use two indices: The present chapter considers the *B*-index of preferences for the economic system, and Chapter 9 considers the *F*-index measuring the actual system. The indices are weakly correlated, but they do tell the same story about the transition.

Both indices cover a short time span only. Therefore, Chapter 8 starts with a brief survey of the history of economic systems in a longer perspective, suggesting that there is a transition (s1). Then the relevant theoretical literature is surveyed (s2). Next follows a description of the ownership item in the VWS item explaining how the *B*-index is constructed (s3), and it is discussed how the index should be understood (s4). The transition curve is estimated for the 279 observations of the index (s5). The development over time in the index has some cyclicity due to the big swings in ideology in the world (s6). The main direction of causality is from development to the *B*-index, but there is some simultaneity (s7). Finally, some multivariate results are reported (s8).

### 8.1 *Traditional and modern economic systems*

Economic systems change during development, and in the end, all modern economic systems have converged to similar *mixed systems*, even when the way to this system has differed considerably. This chapter and the next suggest that there is a general pattern.

***The traditional economic system*** was feudal, with large landowners and tenant farmers. Income was low, and there was a large element of subsistence production. Thus, the fraction of the produce sold in markets was limited, and hence towns were small.<sup>1</sup> Trade was taxed when goods left and entered towns. What is known today as industrial products were made in small quantities by skilled artisans who were members of guilds with monopoly power. Public sectors produced law and order, defense, and the conspicuous consumption required to glorify the royal house. It was difficult to tax, and public sectors were small, like 10-15% of GDP, except in times of war. The Church was the biggest supplier of three big welfare goods – i.e. education, healthcare and social protection – but it also had to pay for the Church itself. Church

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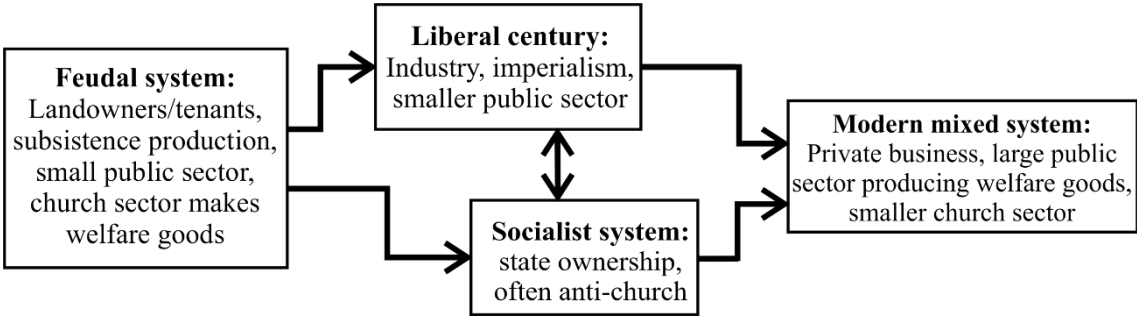
<sup>1</sup> Populations were small too. All of Western Europe had about 80 million inhabitants in year 1700, with France (21) and present Germany (15) as the two largest populations. China and India had 140 and 165 million, respectively.

expenditures were financed by the tithe, voluntary donations and income from land owned. It amounted to 8-12% of GDP, so the expenditures on the three welfare goods were small, such as 5% of GDP.

*The modern economic system* is a mixed system where trade and industry is private and a substantial public sector dominates the supply of welfare goods. The borderline between the public and private sectors is drawn a bit differently from one country to the next, but the convergence of the developed countries is also a convergence of economic institutions.

Between the two steady states much happened: The period between the Napoleonic Wars and the First World War is often termed the *Liberal Century* in the West, where industry developed and the feudal system vanished. In the rest of the world, this was the period of large-scale colonialism, where the West came to rule Africa and Asia, and Russia kept extending eastwards until it reached Alaska. At the end of the century, the public sectors started to grow.

Figure 1. A nutshell history of the transition of the economic system



Chapter 9 discusses the decreasing role of the church sector.

In many countries, the transition included a detour via *socialism*, i.e. public ownership to business as sketched on Figure 1. It became a strong possibility after the establishment of the Soviet Union (discussed in Chapter 3) after the First World War.

The ex-colonies started their new life with economic systems formed by the colonial powers. The new countries wanted an industrialization, and the infant industry argument said that young industries needed protection to develop. The original argument was that protection should decrease once the firm was up and running.<sup>2</sup> However, protection generated *rents* that

<sup>2</sup> The story of LDC socialism is told in Paldam (1997a). It includes rather sad descriptions of visits to 10 SOEs in 5 countries. The World Bank (1995) is a large-scale study of the SOEs in the LDC-world. It documents that overstaffing of SOEs consumes substantial parts of public incomes that could be better used, e.g. for education, healthcare and infrastructure.

had many users, who quickly became addicted. Thus, many LDCs developed into rent-seeking societies, where the infants bloomed into bloated consumers of public fund, so that they became barriers to development.

The theory of Karl Marx saw socialism as the end in the progression of economic systems caused by development; from the slave societies of antiquity to feudalism and on to capitalism, which inevitably leads to socialism – a glorious goal that was only vaguely sketched. During the first half of the 20<sup>th</sup> century, it appeared that the working class in the advanced capitalist countries cared more about their increasing standard of living than about socialism. This caused a big turn-around in the theory of socialism; instead of being the goal of capitalism, socialism became a proposal for a *short cut* to faster development bypassing capitalism.

From the socialist idea of the short cut to development, the infant industries became *SOEs*, State-Owned Enterprises. The goal of SOEs often developed into the creation of employment, which gave over-staffing, so firms came to need permanent protection. In the LDC-socialist model, the state leads development by taxing agriculture and foreign trade to acquire funds to build a modern industry of SOEs. Thus, there is no need for capitalism, and as it was associated with the colonial empires, it was viewed as a bad economic system. Therefore, large businesses were either nationalized or subjected to many regulations.

All LDCs have large informal sectors with a dense net of small firms (the bazar/market), which constitutes an important sector in the economy. The informal sector is difficult to regulate and tax. In the Soviet model of development, the informal sector was rigorously suppressed – even exterminated – especially in the countryside, though it was sometimes allowed in heavily controlled pockets of the economy. However, in other socialist models it had/has a big role in the economy, giving a dual development. The influential work of Hernando de Soto (2000) argues that the many regulations of private business, also in the informal sector, and the lack of secure ownership, also to land, caused the many firms in the urban informal sector to be excluded from the banking system, which forced them to remain small and footloose.

Russia and China were poor countries, where, after big and bloody wars and revolutions, the communist parties won power and implemented Soviet socialism (see Chapter 3). The two big countries claimed that they carried out a successful and rapid modernization. Their extravagant claims were widely believed, especially far away in the LDC world.<sup>3</sup> During the 1960s, various versions of socialism came to dominate in many countries in the form of African socialism, Arab socialism, Latin American structuralism, etc. Thus, there was a large-scale

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<sup>3</sup> It was also easy to convince many political leaders that they should control business.

movement in poor countries from feudalism to some sort of socialism. During the 1980s and 90s, it became increasingly obvious that the socialist road to development was a dead end.

A notable case is the story of African growth. The colonial powers left Africa with mixed market economies and moderate growth. From the early 1960s, most African countries started to implement African socialism, as advocated by the OAU (Organization of African Unity). It took a decade to build, but once it was in full bloom, growth went south. The African growth tragedy lasted from 1970 to 1994, when income decreased in the average Sub-Saharan country. From about 1985, a whole wave of structural adjustments was made to move economic systems back toward the market. After a decade of reforms, growth resumed. Paldam (2017) reviews the many explanations proposed to explain the tragedy. Most of these explanations are time-invariant, so they are inconsistent with the growth after 1994. The only consistent explanation I found is the large zigzag in the economic system. Thus, both when the African countries moved into African socialism and when they moved back toward the market, the policies were greatly influenced by growth expectations and growth experiences.

The reader may also consider the reforms in China in 1978 pushed by Deng Xiaoping. They were made in order to create development, and they were probably inspired by the great success of the Asian Tigers.<sup>4</sup> Once the reforms started to succeed, they were extended in all directions. And after some time, they spread to Vietnam, India, and almost all East and South Asian countries.

## 8.2 *Theories about the link from economic systems/ownership to development*<sup>5</sup>

In a democracy – even an imperfect one – people’s preferences should cause the actual outcome. Hence,  $B \Rightarrow F \Rightarrow y$ . However, as just argued, it is likely that people’s expectations/experiences shape their preferences, so that  $y \Rightarrow B \Leftrightarrow F \Rightarrow y$ , i.e., we are dealing with simultaneity.

People have a *natural tendency* to pursue *cost maximization* – especially when they are a cost themselves. If this tendency is allowed to develop, it destroys development, as the stories

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<sup>4</sup> It is forgotten today that the four Asian Tigers: Hong Kong, Singapore, South Korea and Taiwan in the 1960s and 70s for long were ignored, as they were barred from the organization of the (non-aligned/left leaning) Bandung Conference of most less developed nations. Hong Kong and Singapore were British colonies that became trading nations, while South Korea and Taiwan were aligned with the USA, and had American military bases.

<sup>5</sup> The *general sources* used are Blaug (1997) on Marx and Marxism, and the readings in Pejovich (1997) on the property rights school. The interpretations of history in the light of property rights are found in North (2005) and Pipes (1999), which both contain good surveys of the literature. The cross-country pattern in property rights is discussed by de Soto (2000). Acemoglu *et al.* (2005) is a survey of the Primacy of Institutions view, by the main proponents. The Grand Transition view originated gradually from a set of essays republished in Kuznets (1965); see also Chenery and Syrquin (1975). Authors referred to in the general sources are listed with first names the first time they are mentioned.

of many SOEs show. Thus, strong mechanisms are needed to prevent the natural tendency from letting the economy slide into inefficiency. In the Soviet model, a whole set of very labor intensive central administrative controls were used for this purpose. In a market system, two decentralized mechanisms do the job: competition and property rights.

In the neoclassical theory of markets, competition punishes firms that give in to the natural tendency, so competition leads to competitive cost reductions. The property rights school has analyzed the importance of ownership; see Pejovich (1997). The key idea is that when the owner is the decision-maker and the residual claimant, he can and will do much to turn the ‘natural tendency’ of cost maximization into cost minimization. It is debatable if competition or private ownership is the strongest factor enforcing efficiency, but experience shows that it is difficult to make public firms compete. In practice, private ownership and competition go hand in hand, and deeply influence society. This suggests that the economic system – as measured by the  $B$ -index or the  $F$ -index – causes  $y$ :  $B \& F \Rightarrow y$ .

Several schools of thought broaden the property rights approach and argue that it determines the path of development. This was already a central part of the theory of Karl Marx, in which the economic ‘basis’ of ownership/production shapes the ‘superstructure’ that includes politics and culture. The theory claimed that ownership systems contained dynamic processes, which generated irreversible stepwise system changes in the long run. The two final steps in Marx’s long-run development model were (i) from feudalism to capitalism. Due to the steady increase in the working class during capitalism, it would (ii) turn into socialism, which was seen as a highly desirable system. Thus, Marxism predicts that the correlation between the  $B$ -index and income is negative. It is found to be positive below.

The research group behind the Fraser Index insists that countries (governments) choose policies, and argues that they should choose market-friendly policies with protection of property rights and free trade precisely to get development. Here the choice of institutions is the exogenous element in development. However, success may be dynamic. The causality might be of the chicken-egg variety, where causation is circular. Once a government starts down a path, it will continue on this path if it is successful:  $F \Rightarrow y$ .

Theoreticians of history, as Douglass North and Richard Pipes, have explored the broader macro-aspects to develop the links between political and economic institutions and economic development. Recently, the Primacy of Institutions (PoI) school of Daron Acemoglu and associates (ref) has considered how the property rights system (considered as the key institution for development) has developed. They 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 provide private property rights for the great mass of people. However, once development starts, it undermines the power structure;  $F \Rightarrow y \Rightarrow F$ , etc.

The argument so far has provided little clarity a regards causality. In the Three Pillars Model of Chapter 7, the key factor is development itself that changes the political institutions, and it appears logical that they also come to change the economic institutions. The book argues that the underlying long-run causality is from development to institutions. However, the process of the Grand Transition is fraught with simultaneity and collinearity, as interacting transitions take place in many fields. Thus, it is a strong but fuzzy relation.

This gives two predictions: Income is causal to the  $B$ -index, and this leads to the  $F$ -index.<sup>6</sup> Thus, the PoI and GT views lead to the same prediction with respect to the correlation between income and the  $F$ - and  $B$ -indices, but the correlation is caused by reverse causalities. The causality tests find that the short-run results support the PoI school, while the long-run results support the GT view. The causality between institutions and development is complex.

Perhaps the discussion may be summed up as follows: If preferences were perfectly stable, and did fall from the sky, the causal interpretation would be that  $B$  caused  $F$  that caused development. The countries with the most capitalist preferences got more capitalism and hence became wealthier. This is the causal interpretation of the group behind the Fraser Index. Chapter 3 argued that the world has seen waves of opinion changes of a cyclical nature. If these changes are exogenous, the pure Fraser interpretation still holds.

However, if preferences change with income, the causal interpretation starts with income causing  $B$ , and then  $B$  causes  $F$ . We do find that the long-run causality is from income to both  $F$  and  $B$ , and thus the pure Fraser interpretation becomes dubious.

An alternative explanation would be that development started in countries with a good location for trade. Trade is difficult to carry out as a public sector activity, and successful private trade created wealth that caused people to prefer liberal institutions, and then further success became dynamic. This interpretation is further discussed at the end of Chapter 9.

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<sup>6</sup> It has been discussed by many authors; see e.g. Knack and Keefer (1995), Acemoglu *et al.* (2005), de Haan (2007), Engerman and Sokoloff (2008), and Blume *et al.* (2009). On beliefs and values and development, see, e.g., Knack (2002), Uslaner (2002) and Bjørnskov (2010).

### 8.3 WVS ownership preference item: Defining the B-index and calculating the values <sup>7</sup>

The WVS-questionnaire has been asked to 513,529 respondents of whom 420,083 have expressed an ownership preference; see Table 1. Economists like to think that important preferences are constant and cause the actual economic system, but it is hard to believe that preferences are unaffected by experience, and the index moves a great deal over time.

Table 1. The waves of the World Values Survey

Wave		Countries/polls	New countries	Respondents
W1	1981-84	24	24	32,964
W2	1990-94	43	20	62,771
W3	1995-98	69	26	118,943
W4	1999-04	78	19	125,311
W5	2005-09	58	12	83,975
W6	2010-14	60	11	89,563
Sum		332 polls	112 countries	513,527

The ownership item is not covered by W1. It is polled 295 times in 110 countries of which 6 are *partial* states: Bosnia SrpSka, Cyprus N, Hong Kong, Ireland N, Kosovo and Palestine. For 3 of these, income data has been interpolated. Bjørnskov and Paldam (2012) analyze the representability of the sample. The 112 countries have about 90% of the world's population, but they are about 30% more wealthy than the average country. Also, the West and the post-socialist countries are overrepresented.

The item appears on a list about the preferences of the respondents for the way society should be organized. One of the items deals with the ownership to business – as it is part of a list, it does not read well:

*‘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 two sentences of the item are somewhat contradictory. The first sentence uses the word ‘increased’ that points to a *change* of ownership. The second sentence asks people about their preferred *level* of ownership. The answers are interpreted in line with the second sentence. The next section demonstrates that this is in accordance with the answers of most respondents, but it adds a bit of uncertainty to the answers.

The answers are thus the preference for socialism (low numbers) vs capitalism (high numbers). This corresponds to the *S*- and the *C*-indices in Table 2. Below, the *C*-index is used

<sup>7</sup> The index is from Christoffersen and Paldam (2006). This part is based on Bjørnskov and Paldam (2012), who bring more details especially on the relation between the index and other time series.

to give a measure that is positively correlated with the  $F$ -index discussed below. The answers are taken to measure mass *ideology* as an ownership preference.

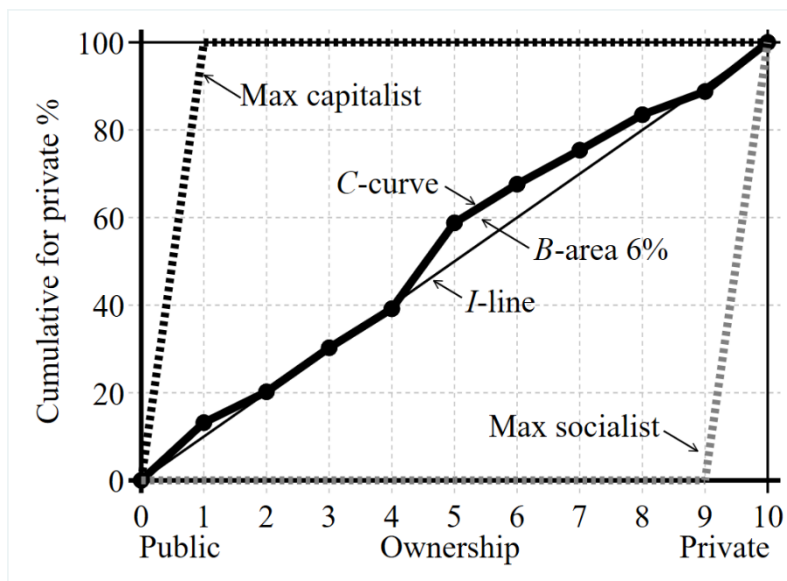
The preference is measured in a period of considerable actual change. Table 2 brings the number of respondents giving each answer  $n = 1, \dots, 10$  and the frequencies in percent of the answers. The two indices give the  $C$ -curve and the  $S$ -curve, which are the cumulative frequencies for capitalism and socialism, depicted on Figure 2. Per construction  $C(n) + S(n+1) = 100$  for all  $n$ , so most of the discussion will use the  $C$ -curve only. The  $C$ -curve is evaluated relative to the  $I$ -line, which represents indifference. The respondents are indifferent when they choose the ten possible answers ( $n = 1, \dots, 10$ ) with equal probability, so the expected frequency for each  $n$  is 10%. Hence, the cumulative frequency is the straight line from (0,0) to (10,100).

Table 2. The ownership item: All 420,083 answers reported

$n$	Private										Public
	1	2	3	4	5	6	7	8	9	10	
Number	55,354	29,633	42,204	37,403	82,388	27,053	32,634	34,011	22,248	47,155	
Percent	13.2	7.1	10.0	8.9	19.6	8.8	7.8	8.1	5.3	11.2	
Data for	Cumulative preferences: $C = C(n)$ and $S = 100 - C(n-1)$ . Figure 2 shows the $C$ -index as a curve										
$C$ -index	13.2	20.2	30.3	39.2	68.8	67.6	75.4	83.5	88.8	100	
$S$ -index	100	86.8	79.8	69.7	60.8	41.2	32.4	24.6	16.5	11.2	

The  $C$  and the  $S$  indices are the cumulative preferences for capitalism and socialism, respectively. 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. Polls with 1-2000 respondents have measurement errors of 1-2 pp when the questions are clear and concrete. Items that are not salient to the respondent have larger measurement errors.

Figure 2. Calculating the  $B$ -area from the data of Table 2





The  $C$ -curve is used for the  $B$ -index, which is the area between the  $C$ -curve and the  $I$ -line. With single-issue majority voting, the  $B$ -index reflects the ownership preference of the median voter. Under standard Downsian median-voting assumptions, all we need to see is if the  $C$ -curve is above or below the  $I$ -line at the intersection with the 50% line. However, logrolling is a fact of life, and decisions about property rights are typically made in the form of long-run political compromises involving other issues. Thus, the ideal  $B$ -index should also reflect the intensity of the preferences, which is measured as a distance relative to indifference, i.e., to the  $I$ -line. To measure the aggregate intensity, these intensities have to be added up. The sum is the area under the  $B$ -curve minus the area under the  $I$ -line. The first area is a set of trapezoids, which consist of rectangles with a triangle on top. The second area is a triangle, which is half the area of the whole graph. The steps between the  $n$ 's are 1, and the curve starts in  $C(0) = 0$  and ends in  $C(10) = 100$ , making the calculations rather simple:

$$(1) \quad B_1 = \int_0^{10} [C(n) - I(n)] dn = \sum_{n=1}^{10} \left[ C(n-1) + \frac{1}{2}(C(n) - C(n-1)) \right] - \frac{1}{2} \cdot 10 \cdot 100 =$$

$$\frac{1}{2} \sum_{n=1}^{10} [C(n-1) + C(n)] - 500 = \sum_{n=1}^9 C(n) - 450$$

$$(2) \quad B = 100 B_1 / 450$$

The index in equation (1) is termed  $B_1$ . It has a linear relation to the average of the  $C$ -curve.<sup>8</sup> The final step is to calculate the index in percent. Figure 2 shows the two most extreme possibilities for the preferences: The *max capitalist* curve where all respondents answer '10' and the *max socialist* curve where they answer '1'. The  $B_1$  calculation for the max capitalist curve is 450, which is rescaled into the  $B$ -index by equation (2), which is in percent. Formulas (1) and (2) are used to calculate the 295  $B$ -values listed on the data page. The  $C$ -curve on Figure 2 shows a small excess support for capitalism of 6%.

The  $B$ -index is anchored at zero for indifference between the answers, yet this is not the only way people can be neutral toward capitalism and socialism. Neutrality means that the distribution of the answers is symmetric with respect to the mid-point, so that the two cumulative curves are exactly the same in reverse:  $C(n) = S(11-n)$ , for all  $n = 1, \dots, 10$ . Thus, other neutral curves have symmetrical areas  $A$  over and  $B$  below the  $I$ -line, where  $A = -B$ . Hence, they deviate from the  $I$ -line by  $A + B = 0$ . This means that if the  $I$ -line is replaced with

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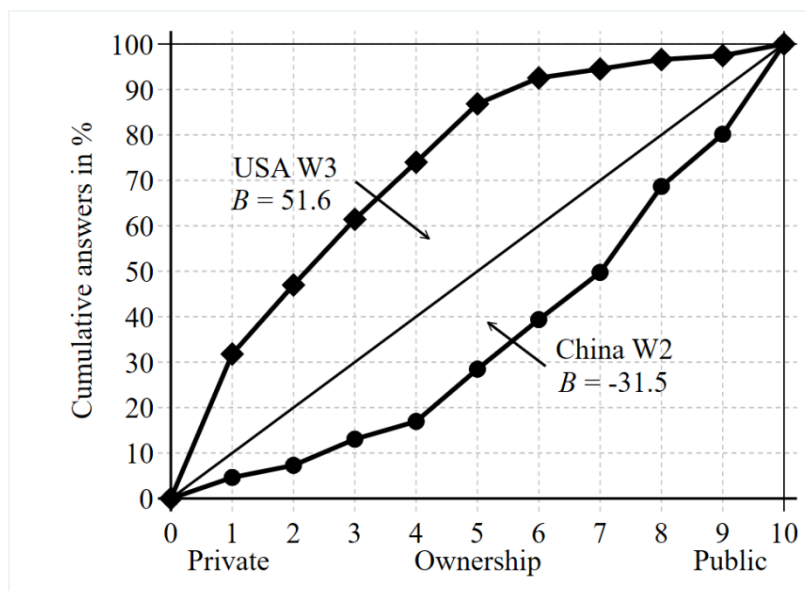
<sup>8</sup> The average  $C$ -curve is:  $AvrC(n) = (\sum_{n=1}^{10} C(n)) / 10$ , so that  $B_1 = \sum_{i=1}^9 C(n) - 450 = 10(avrC(n) - 55)$ .

any neutral curve in the definition of the  $B$ -index, it will produce precisely the same index.<sup>9</sup>

Figure 3 shows the  $C$ -curves behind two of the most extreme  $B$ -values: The US and China, which were the main powers with strong ideological stands, and thus the countries which most aggressively defended capitalism and socialism.

In principle, the  $B$ -index ranges from  $-100$  to  $+100$ . However, as each index is calculated from an average of all respondents at a poll, the law of averages tells us to expect the results to be non-extreme. The closeness of the cumulative curve to the neutrality line confirms this idea. The respondents in the full data set have a capitalist ideology, but only by 6%.

Figure 3. The  $C$ -curves for two extreme values of the  $B$ -index



#### 8.4 The level problem in the formulation of the ownership item

The last section mentioned that the WVS ownership item has a level problem due to the term ‘increased’ in the first sentence of the wording of the item. This is contradicted in the second sentence, so two alternative hypotheses seem possible: (H1) People take the item as a question about the changes they want in the existing level of ownership. (H2) People consider the item as a question about their preferred level of ownership, as assumed until now.

Let us – for a moment – accept (H1). This leads to a prediction about the  $B$ -index in politically competitive democracies. Here the  $B$ -index must adjust to the will of people, so after some time the median voter will want no more changes. Thus, the  $B$ -index converges to zero.

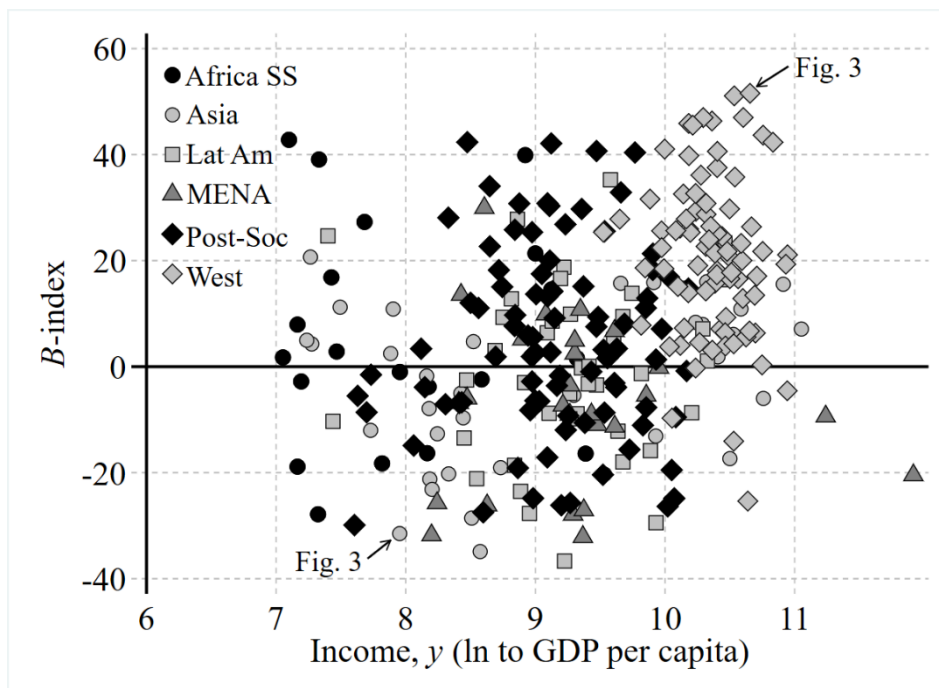
<sup>9</sup> Imagine a neutrality curve that is zero until (answer category) 5 and then jumps to 100. Relative to the  $I$ -curve, the triangle with the corners (0,0), (5,50) and (5,0) is added, and the triangle with the corners (5,50), (5,100) and (10,100) is subtracted. As the two triangles are equivalent, the  $B$ -index does not change.

This gives a prediction for three country groups: In the old West,  $B$  should have converged to zero. The *Convergers* are ‘new’ Western countries that used to be middle-income countries (MICs) with little democracy. Thus,  $B$  might not have converged, and the same applies to the Asian Tigers, which are new democracies/developed countries (DCs) as well. The average  $B$ -index in these groups is 29.9, 11.6 and 13.0, respectively. This is the reverse of the prediction from the convergence-to-zero property. The consistently high positive indices in the oldest and most stable capitalist democracies are particularly revealing. These observations are inconsistent with (H1). Thus, most people must answer the question as a *level* item, as assumed.

### 8.5 The transition in the $B$ -index

The distribution of the  $B$ -index values is displayed as a scatter over income in Figure 4a. It includes the six groups listed on the data page. Also, arrows point to the extreme countries from Figure 3. Figure 4a shows that the  $B$ s have a range from  $-38$  to  $+52$ , which is 90 pp (percentage points).

Figure 4a. The scatter of the  $B$ -index values



The transition-curve on Figure 4b,  $\Pi^B(y)$  covers about one fifth of this range and the correlation between income and the  $B$ -index is 0.32. The  $B$ -data scatter a lot around the curve, and the West sticks out as the group of countries with the strongest support for capitalism. The

$\Pi^B(y)$ -curve is close to the linear estimates in the regression of Table 4, where the  $B$ -index increases by about 4-6 pp for each  $lp$  (logarithmic point). The full transition of 4.4  $lp$  thus gives a  $B$ -change of about 18-25 pp. The positive slope on  $\Pi^B(y)$  is contrary to Marxist theory, but it is in accordance with both PoI and GT theory. To distinguish between these theories, an analysis of long-run causality is needed. It follows in Section 7.

Figure 4b. The kernel  $B = K(y, 0.5)$  in the Main sample

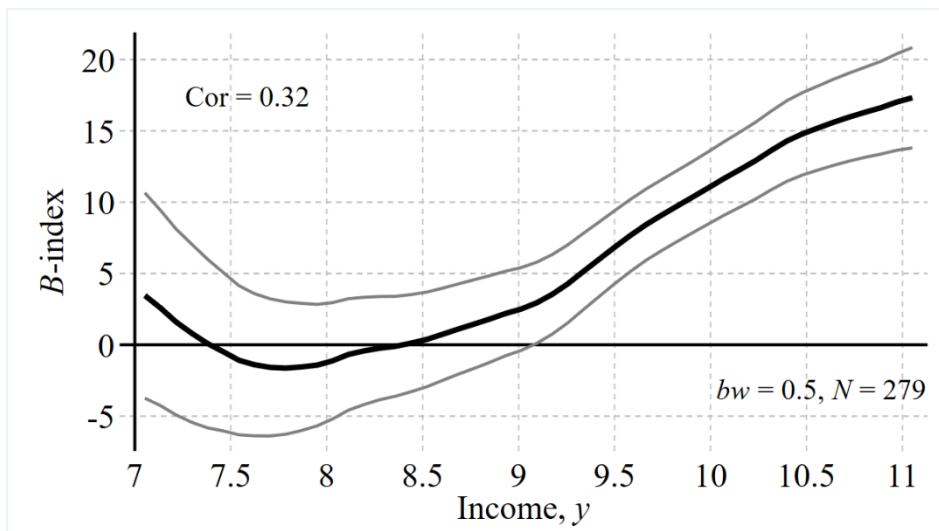


Figure 5a. Robustness of kernel to  $bw$ -variations

Figure 5b. Reverse kernels for beauty-test

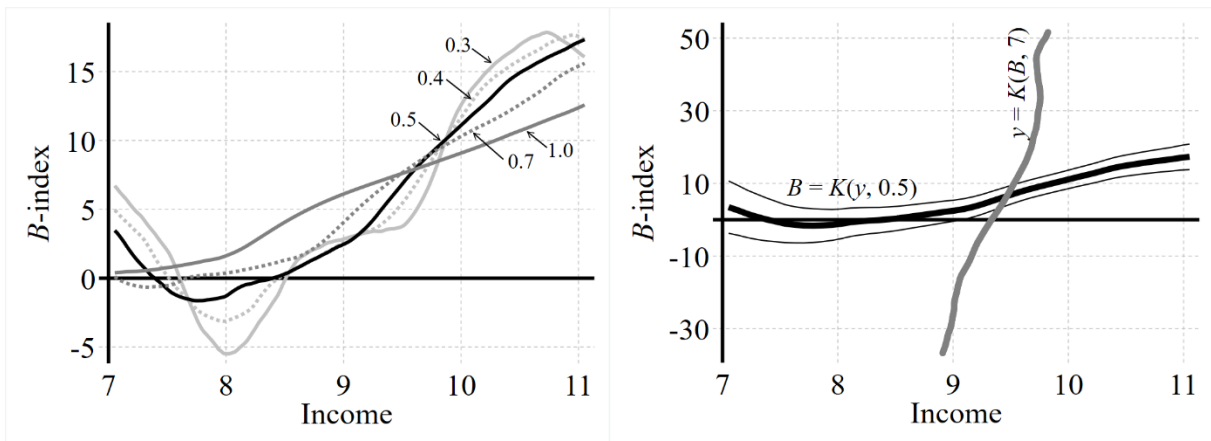
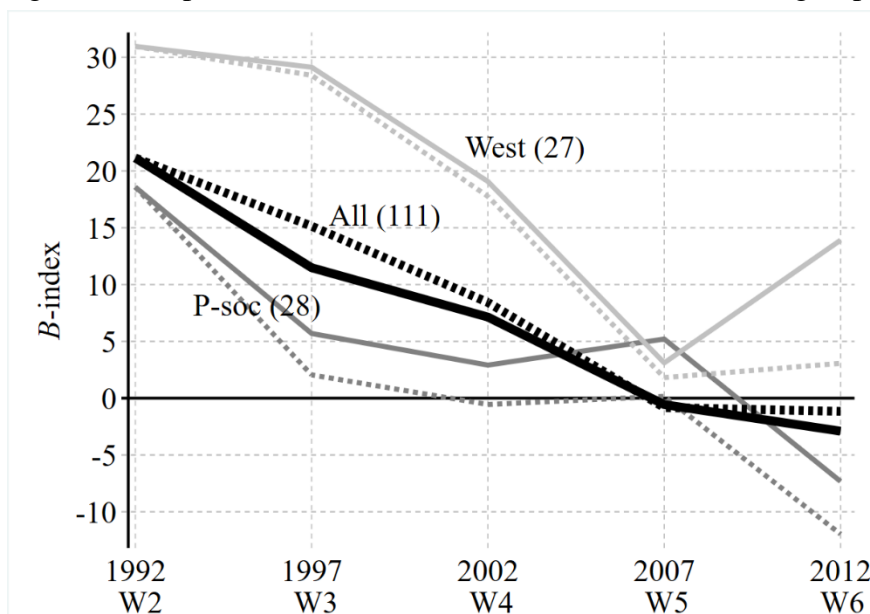


Figure 4b is estimated on  $N = 279$  observations. This is too few to allow most of the robustness tests. However, Figure 5a shows that the form of the kernel is fairly robust to the bandwidth. Figure 5b is the beauty-test. It is clear that the  $B = K(y, 0.5)$  looks better than the reverse  $y = K(B, 7)$ -kernel, but the difference is not big.

### 8.6 The path of the *B*-index over time

The preference item started in 1990, which saw the triumph of capitalism: No less than 23 of the countries covered changed from socialism to capitalism, and many other countries privatized SOEs around that time, as discussed in Chapter 3.<sup>10</sup> The last two waves may be affected by the international bank/debt crises in 2007 to 2012.

Figure 6. The path over time for the *B*-index, divided in three groups



Unbroken lines are all available observations. The broken lines are started from the average in wave W2. The observation for wave W3 is reached by adding the average for all available first differences W2/W3, etc.

Figure 6 analyzes the path over time. The 92 countries are divided in three groups: *West*, *PCom* and *All*. The figure 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 bias in the data, so it is reassuring that the deviations are small. Three observations follow from the figure:

(i) The *B*-index for all countries falls throughout the period, on average by almost 25 points. Even if 1990 was an unusual year, the shift toward socialism is still substantial.

(ii) The *West* differs by being much more pro-capitalist than other country groups, just as on Figure 3. The fall is the same as for all countries, but it turns up at the end.

(iii) The post-socialist group was fairly pro-capitalist in W2 (1990-94), then the *B*-indices

<sup>10</sup> 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).

fell rapidly. The fall is probably due to the big costs of the change of economic system. However, the *Bs* turned up in W5 (2005-9), but in the last polls it has dropped one more time and it is now negative, i.e. pro-socialist. However, as seen on Figure 3.1, the economic development has been rather good since 2005, so it is surprising that the support for the system keeps falling.

### 8.7 The DP-test for long-run causality (from Chapter 2.8)

The DP-test shows that long-run causality is from income to the *B*-index, while the test the other way does not work. However, there is a problem.

Table 3. The DP-test for long-run causality from income to the *B*-index

Dependent variable: <i>B</i>		Main model	Robustness of model to instrument variation			
Estimate		(1)	(2)	(3)	(4)	(5)
No. of countries		61	66	61	61	93
OLS estimates						
(1)	Income, <i>y</i>	<b>6.19</b>	<b>7.30</b>	<b>6.19</b>	<b>6.19</b>	<b>6.69</b>
	t-ratio	(3.5)	(4.3)	(3.5)	(3.5)	(4.2)
(2)	Centered $R^2$	0.16	0.22	0.16	0.16	0.16
IV estimates: <i>y</i> is instrumented						
(3)	Income, <i>y</i>	<b>11.07</b>	<b>11.24</b>	<b>8.23</b>	<b>7.04</b>	<b>9.91</b>
	t-ratio	(3.4)	(4.0)	(2.8)	(2.6)	(3.7)
(4)	Instruments	<i>biofpc</i> , <i>geofpc</i>	<i>bioavg</i> , <i>Geoavg</i>	<i>animals</i> , <i>Plants</i>	<i>axis</i> , <i>size</i> , <i>climate</i>	<i>coast</i> , <i>maleco</i>
(5)	First stage partial $R^2$	0.34	0.41	0.37	0.42	0.36
(6)	CD F-statistic	<b>15.12</b>	<b>21.58</b>	<b>17.05</b>	<b>13.79</b>	<b>17.05</b>
	CD critical value	19.93	19.93	19.93	22.30	22.30
(7)	Sargan test	<b>0.67</b>	<b>0.54</b>	4.71	<b>3.72</b>	<b>2.17</b>
	<i>p</i> -value	0.41	0.46	0.03	0.16	0.34
Hausman test for parameter consistency of OLS and IV estimates						
(8)	C-statistic	3.90	3.65	<b>0.77</b>	<b>0.17</b>	2.39
	<i>p</i> -value	0.05	0.06	0.38	0.68	0.12
Check for reverse causality (none works and all are smaller )						
(9)	CD F-statistic	6.84	8.68	6.09	3.11	5.22

The observations are averages of waves 2-6 of the World Values Survey. All specifications include a constant term (not reported).

The TSIV-estimates in row (3) are larger than the OLS results in row (1). The average IV estimate is 9.5, and the OLS estimate is 6.5. Thus, the valid IV estimates are roughly 50% larger than the OLS estimates. The difference is significant in columns (3) and (4). As a minimum, it suggests that in addition to the long-run transition, other factors may operate in the short to medium run. The difference between causality in the medium run and very long run

also applies to associations between income and other measures of institutions and basic political beliefs and values.

Table 4. The *B*-index explained by income, culture and WVS-waves

Included	Income		Waves		Country groups		Waves and groups	
	(1a)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)	
Income	<b>6.12</b> (5.5)	<b>6.33</b> (6.2)	<b>6.21</b> (6.1)	1.88 (1.3)	<b>2.04</b> (11.5)	<b>3.78</b> (2.8)	<b>3.79</b> (2.8)	
Africa				-9.67 (-0.8)	<b>-10.81</b> (-2.7)	<b>12.76</b> (2.8)	<b>13.63</b> (3.3)	
Asia				-18.47 (-1.4)	<b>-19.90</b> (-6.4)	0.18 (0.1)		
La Am				-18.42 (-1.4)	<b>-19.86</b> (-6.5)			
MENA				-24.67 (-1.8)	<b>-26.12</b> (-7.2)	-4.03 (-1.0)		
Post-soc				-12.52 (-1.0)	<b>-13.95</b> (5.8)	4.11 (1.4)	<b>4.94</b> (2.2)	
West				1.65 (0.1)		<b>14.72</b> (4.3)	<b>14.53</b> (5.4)	
W2		<b>-39.35</b> (-3.9)	<b>22.52</b> (7.6)			-23.36 (-1.8)	<b>-24.16</b> (-1.9)	
W3		<b>-47.59</b> (-4.9)	<b>14.25</b> (5.5)			<b>-29.94</b> (-2.4)	<b>-30.63</b> (-2.5)	
W4		<b>-52.23</b> (-5.4)	<b>9.63</b> (3.9)			<b>-34.29</b> (-2.7)	<b>-35.38</b> (-2.8)	
W5		<b>-59.69</b> (-6.1)				<b>-42.02</b> (-3.3)	<b>-42.75</b> (-3.4)	
W6		<b>-63.83</b> (-6.4)				<b>-42.37</b> (-3.2)	<b>-43.65</b> (-3.3)	
Constant	<b>-51.10</b> (-4.8)		<b>-60.68</b> (-6.2)					
N	295	295	295	295	295	295	295	
Adj R <sup>2</sup>	0.09	0.34 <sup>a)</sup>	0.26	0.32	0.32	0.41	0.41	

The fixed effects for country groups and for waves sum to 1, so when either is in, the constant is excluded. The gray areas show excluded variables. Regressions (2a), (3a) and (4a) are the starting ones. They are modified in (2b) and (2c) by being tested down to significant coefficients only, and in (2c) and (3c) is a tested down version which starts with all country groups except the least significant.

### 8.8 The multivariate analysis of Table 4

A number of regressions have been run trying to explain the *B*-index. The explanatory variables are from four types of factors: (1) As usual, development is operationalized as *income*, *y*. (2)

Fixed effects for the main country groups defined as listed in the Countries file on the data page.

(3) Fixed effects for the waves of the WVS.

Table 4 is a set of regressions using the three sets of variables available for all 295 polls. The table shows that income and the waves of the WVS have little collinearity, while income and the country groups have strong collinearity. One of the groups, the *West*, can be replaced by income. The coefficient on *West* is thus fully explained by the relative income. The effect of income falls from 6 to 4 when relations (1a) and (4) are compared, and the coefficients on the country club dummies change even more when (3b) and (4b) are compared. This means that the group-coefficients also reflect the average income differences between the groups.

The fact that the high *B*-indices of the *West* seem to be due to the high income of the *West* is interesting for three reasons. (1) It confirms that the *B*-index is a preference for a level of property rights. (2) It contrasts to the *West-is-different* story presented by de Soto (2000). (3) The *West* is the best example of a *convergence club* of countries that have achieved much the same standard of living, and globalization has historically been particularly strong within the *Western* group. This has caused the *B*-index to cluster as well – as appears on Figure 3.