

Attacking Poverty: Is It Globalisation? ... Or Is It the Institutions?*

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ABSTRACT

We empirically analyze the relationship between globalisation and poverty. Deviating from the mainstream literature, we use 'synthetic' globalisation and poverty indicators, which combine multiple single indicators into single-valued statistics. Further, we study a sample that includes OECD countries as well as non-OECD countries, which allows us to examine the effect of structural differences between countries (summarized in a OECD dummy). Our results reveal no significant effect of globalisation on poverty when correcting for the OECD effect. We argue that this suggests institutional quality as a more fundamental determinant of a country's poverty performance than the degree of integration with the global economy. On the methodological level, our use of synthetic indicators entails a parsimonious specification of the globalisation-poverty relationship, which increases its transparency.

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I. INTRODUCTION

The relationship between globalisation and poverty has become topical within the recent economic literature - as well as in the streets¹. Pitted against each other are on the one side those who presume that globalisation can be a major weapon in the attack on poverty reduction and on the other side the skeptics who cannot exclude that globalisation actually aggravates the poverty problem.

Both sides find support for their position in economic theory:

Arguments favoring globalisation as a means of poverty reduction abound in basic economic theory. As far as trade is concerned, the factor price equalization theorem (e.g., Samuelson (1948)) is in this respect emblematic; it predicts that wages and interest rates will be equalized between free-trading nations. International capital mobility as implied by financial integration can but accelerate and deepen this equalization. This optimism that originated in a static context carries over to growth theory. International capital mobility will hasten the transition to the steady state in a Solow growth model, so entailing convergence (e.g., Romer (1996) p.27). In models of endogenous growth, globalisation contributes to growth and convergence by increasing the flow of ideas and of technological knowledge (e.g., Romer (1992)). Adding to all that the idea that growth is good for the poor (e.g., Dollar and Kraay (2001)) and the upshot is that globalisation is a potent means of poverty reduction.

But economic theory can also be used by the other side of the argument. It is generally admitted that opening an economy to trade and international capital flows entails adjustment costs. But the adverse impact of globalisation may well transcend such a short run perspective. As for trade, there is the possibility that low income countries have an initial comparative advantage in sectors with low growth potential, either because in these sectors there are no economies of scale or because there is little scope for technical progress. If the opposite holds for developed countries, trade liberalization will lead to international divergence (e.g., Matsuyama (1992)). Inequality within developing countries will increase if trade deepens the gap between the wages of the skilled and those of the unskilled and if the underdevelopment of the national capital market prevents unskilled workers from accumulating human capital (e.g., Beyer et

al. (1999) and Galor and Zeira (1993)). Next, openness to capital markets may generate adverse effects due to the asymmetric access of developing countries to international capital markets: in good times access is easy; in bad times there are credit constraints. Such asymmetric access to international capital markets is pro-cyclical, increasing volatility of interest rates and dampening growth (e.g., Agenor (2001)). Finally, if foreign capital flows disproportionately to skill intensive sectors, the wage gap between the skilled and unskilled workers will further increase (e.g., Agenor (2002)).

This theoretical discussion calls for empirical investigation, which has indeed inspired a growing body of literature. Most studies within that literature employ GDP per capita (levels or changes) as the dependent variable, hereby implicitly assuming that growth benefits the poor as well as the rich². Evidently, such assumption may be questioned by some. Therefore, other studies have focused on specific distributional aspects to capture poverty performance. For example, Agenor (2002) uses the poverty rate as the dependent variable and Dollar and Kraay (2001) employ income inequality (such as the GINI index) as the variable to be explained.

Our study fits within that empirical literature. The specific contribution of the paper is two-fold:

1. On the empirical level, we consider a sample that includes high-income countries, in addition to low-income and middle income countries. This allows us to identify structural differences in the relationship between globalisation and poverty according to the country-type (specifically, OECD versus non-OECD)³.
2. On the methodological level, we use ‘aggregated’ or ‘synthetic’ measures for poverty and globalisation, whereas existing research relates single poverty indicators to single globalisation indicators. The need for synthetic indicators appears when recognizing that the perception of poverty generally refers not only to the poverty rate but also to other distributional aspects (e.g., the GINI index)⁴; some may argue that (especially in a cross-country analysis) a poverty index should also include GDP per capita. Similarly, globalisation refers to integration with the global capital market as well as with the world market for goods and services. Aggregating the different dimensions into single-valued statistics has the advantage that it allows for a parsimonious specification of the empirical link

between globalisation and poverty, which may reveal a more transparent ‘global picture’ of the relationship under study.

The remainder of the paper unfolds as follows. In the next section we introduce the method that we use for constructing ‘synthetic’ globalisation and poverty indicators. As we will indicate, we use a method that employs ‘benefit-of-the-doubt’ weighting to merge the different single indicators associated with poverty and globalisation. Section III contains our empirical application. Finally, section IV provides some concluding discussion.

II. SYNTHETIC INDICATORS

Consider the general case of m (globalisation/poverty) policy indicators for n countries, and let y_{ij} be the value of indicator i in country j . We want to merge these individual indicators into a single-valued synthetic indicator, defined as the weighted average of the original set of m single-dimensional indicators. The quality of this indicator depends crucially on the weighting of the constituent single indicators. If we interpret the synthetic indicators as policy indicators⁵, the weights associated with each (poverty or globalisation) dimension should reflect the policy priority that is given to it. Clearly, it is difficult to specify *a priori* any generally acceptable weights to be accorded to each indicator. Therefore, we adopt a weighting procedure that is based on the principle of ‘benefit-of-the-doubt’⁶. The specific procedure was originally proposed in the context of macroeconomic performance evaluation by Melyn and Moesen (1991); see also Cherchye (2001) for a methodological discussion. Since then, similar methods have been applied to other types of macro-level assessments. For example, Mahlberg and Obersteiner (2001) and Cherchye and Kuosmanen (2002) adopted benefit-of-the-doubt weighting for cross-country assessments of human development and sustainable development performance, and Storrie and Bjurek (2000) analyze the labor market performance of EU countries; in a closely related study Cherchye et al. (2003a,b) use the same method for measuring performance of EU-countries in the combat against poverty and social exclusion. We will explain the method in three steps: the normalizing of the single indicators, the weighting problem and, finally, the construction of a synthetic indicator.

A. Normalizing single indicators

In a first step, the construction of a synthetic indicator involves normalizing the original data, i.e. the country-specific values of the single indicators. We note here that some indicators in our following discussion can be considered as ‘bads’ (i.e. higher values represent worse performance) while others can be considered as ‘goods’ (i.e. higher values represent better performance). For example, within the context of poverty-oriented policy evaluation, the poverty rate and the GINI index can clearly be interpreted as bads, while the GDP per capita acts as a good. Similarly, within the evaluation of globalisation policy, international trade in goods or foreign investment can be interpreted as ‘goods’, in the sense that higher values indicate a higher degree of integration with the global economy⁷.

To render goods and bads commensurable, we normalize the original indicator values. We denote the normalized counterpart of each y_{ij} by y_{ij}^n . To simplify notation, we further use y_i^{\min} to refer to the lowest value for the i -th indicator over all countries in the sample, and y_i^{\max} to refer to the highest value. The normalization method takes the difference between the single indicator value of country j and the corresponding value of the worst-performing country, and divides this difference by the observed sample range. Thus, when the i -th indicator is a good, we have:

$$y_{ij}^n = \frac{y_{ij} - y_i^{\min}}{y_i^{\max} - y_i^{\min}}.$$

And alternatively, if the i -th indicator is a bad, we have:

$$y_{ij}^n = \frac{y_i^{\max} - y_{ij}}{y_i^{\max} - y_i^{\min}}.$$

In both cases, the values of the normalized indicators vary between 0 and 1, 0 always corresponding to the worst performance in the sample and 1 corresponding to the best performance.

B. The weighting problem

After normalization, the next step typically involves aggregation, per country, of the single-dimensional performance indices into a weighted sum. The central issue here pertains to the specification of

the weights. Aggregation/weighting questions have been extensively studied in the literature on productivity indices; see, e.g., Balk (2002) for a discussion. The procedure for constructing synthetic indicators discussed below is firmly rooted in that literature.

Normalized indicators can in principle be aggregated in several ways. In the simplest case one uses predetermined weights associated with each single indicator. For example, one can take the average of the different single indicators, which implies equal weighting. However, as discussed above, we believe that the indicator weights should be sensitive to national policy priorities. In that respect, it seems hardly tenable that each country *de facto* assigns equal weights to the different policy dimensions. In fact, the specification of *a priori* weights seems a very difficult task when differing policy priorities prevail over countries.

By contrast, the procedure that we adopt *reconstructs* ‘implicit’ (or ‘shadow’) policy weights *from the observed performance* (i.e. *a posteriori*). More specifically, the relative weight accorded to each dimension is *endogenously* determined in the performance evaluation model, and reflects the associated relative performance of the country under evaluation. Stated otherwise, good relative performance in a particular dimension is seen as ‘revealed’ evidence of setting high national policy priority to that dimension. This seems an attractive second best route in the absence of full information about the true policy priorities.

C. A graphical illustration

The weighting method that we use can be considered as a special case of the methodology known under the general denomination ‘Data Envelopment Analysis’ (DEA; after Charnes et al. (1978)). As DEA does not yet belong to the standard toolkit of the economist, we first provide a brief graphical introduction; we present a more general, algebraic treatment in the next subsection. Specifically, we graphically illustrate the construction of our synthetic globalisation indicator⁸.

DEA generally evaluates productive performance by relating the inputs that are used to the outputs that are produced. Translated towards the current setting, the outputs are (normalized data on) foreign trade and foreign direct investment (see Section III for definitions and discussion of the globalisation indicators that we use); the input

is supposed to be the same for each country. In fact, our assumption that each country uses the same input boils down to assuming that each country faces the same (input) policy constraints⁹. Admittedly, this supposition is rather heroic, but it conveniently allows us to graphically summarize the country data as in Figure 1.

In that figure, each point represents a country. To focus our following discussion, we restrict attention to Belgium (B), Guyana (G) and Denmark (D). We are specifically interested in comparing the overall 'globalisation' performance of these three countries. Generally, relative performance is evaluated with respect to some 'benchmark' performance. Obviously, different methods can be employed for identifying such benchmark transformation of input into output (from a sample of observations). For example, one could average out the best and the worst performances, which is typical practice in the more conventional parametric approaches. Underlying such approach is the assumption that all countries are equally efficient; within that perspective, deviations from the fitted line are somehow accidental and, consequently, should not be taken seriously. The DEA approach that we adopt in this paper takes a completely different stance. It identifies the benchmark transformation curve as the 'envelope' of the data, as shown in Figure 2. In this kind of analysis, extreme data are no longer considered as aberrations; they actually figure as the benchmarks for the other countries (that lie within the data envelope). A result is that only observed best practices are considered as (relatively) efficient; the performance of other (inefficient) countries is measured relative to the performance of these benchmark countries.

From Figure 2, we identify Guyana (G) and Belgium (B) as the benchmark countries in our sample; they get a synthetic indicator value of unity (100%). All other countries obtain a lower globalisation performance value (between 0% and 100%; higher values indicate a higher degree of globalisation). Graphically, the synthetic indicator value for a particular country is calculated as the ratio of the distance of that country point from the origin over the distance from the origin to the nearest point on the data envelope. For example, Denmark (D) obtains a performance score of OD/OF, which amounts to slightly more than 50 %. In other words, using the same input (which is assumed to be identical for all countries; see above) Belgium and Guyana achieve almost double the output of Denmark; this can be interpreted as evidence for a less globalisation-oriented policy in Denmark *vis-à-vis* Belgium and Guyana.

FIGURE 1

Foreign trade and foreign direct investment (normalized values); scatter plot

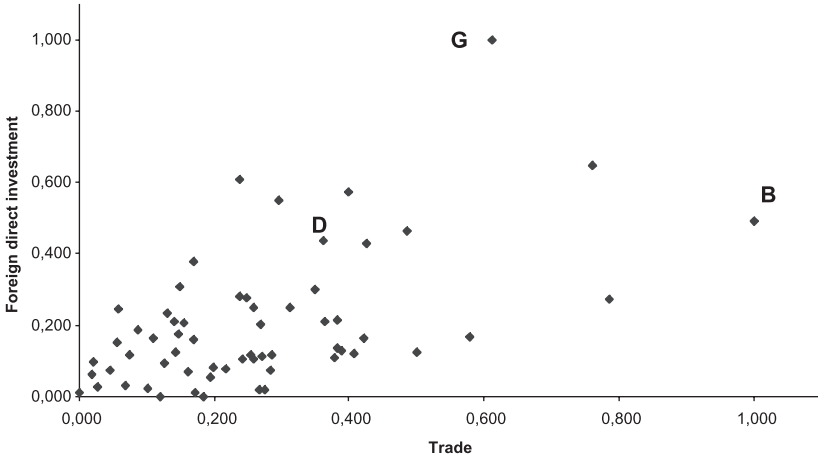
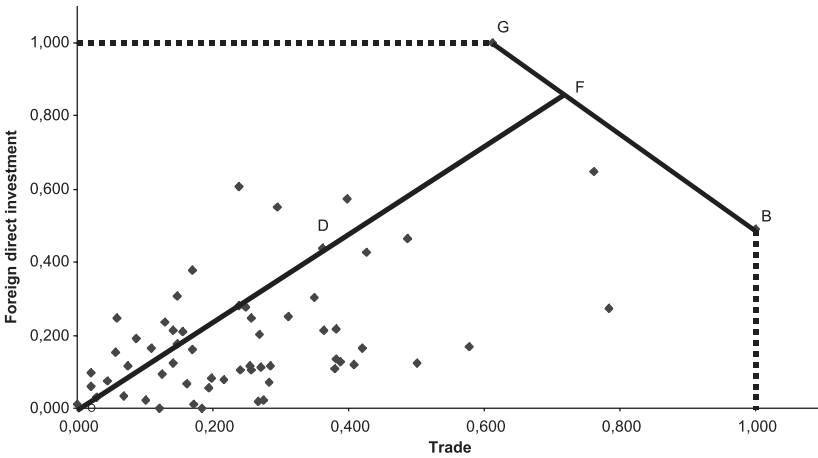


FIGURE 2

The data envelope and a relative performance indicator



In terms of the revealed policy weighting discussed above, Denmark's synthetic indicator value is obtained as the ratio of the weighted output sum of Denmark over that associated with Belgium and/or Guyana, where the weights of the two outputs (foreign trade and foreign direct investment) are selected as most favorable from

the Danish point of view (i.e., they maximize the ratio of the weighted output sums). Indeed, it is quite easy to check that taking for example equal weights for the two outputs obtains a score for Denmark that is less than 50 % of the Guyana score (which corresponds to the highest sum of equally weighted outputs). Assessing the relative performance of a country in terms of the best possible weights for that country captures the very essence of the benefit of the doubt weighting procedure that we employ. We next explain algebraically how these weights are determined in practical applications.

D. A formal presentation

Generally, we can define a synthetic policy indicator as the ratio of a country's actual performance over its 'benchmark performance', where performance is measured as a weighted sum of the single indicator values. Benchmark performance is represented by the (normalized) benchmark vector y^* of indicator values. Using w_i ($i = 1, \dots, m$) to represent the weight accorded to each indicator i and y_i^* ($i = 1, \dots, m; y^* = (y_1^*, \dots, y_m^*)$) to indicate benchmark performance in each policy dimension i , we get for each country j ($j = 1, \dots, n$):

$$\frac{\sum_{i=1}^m y_{ij}^n w_i}{\sum_{i=1}^m y_i^* w_i}.$$

Two questions remain in making this relative performance measure operational: (1) we need to define benchmark performance, and (2) we need to specify the relative weights accorded to the different policy dimensions.

The first question is easy to solve. We identify best practice from observed performance; we simply select the country which maximizes the overall performance value under the weights w_i ($i = 1, \dots, m$) as the benchmark, i.e.:

$$y^* = \arg \max_{y_k: k \in \{1, \dots, n\}} \left(\sum_{i=1}^m y_{ik}^n w_i \right).$$

Note that, since the weights are country-specific, nothing precludes that each country is compared with its proper best practice; other countries can be associated with different benchmark observations.

The solution to the second question has been informally introduced above: we select the weights that maximize the resulting performance values for the country (j) *under evaluation*. At this stage, we only impose that the weights cannot be negative, i.e., that the synthetic value is a non-decreasing function of the individual indicators. This gives the following performance measure for each country j (where SI stands for ‘Synthetic Indicator’):

$$SI_j = \max_{w_i \geq 0, i=1, \dots, m} \frac{\sum_{i=1}^m y_{ij}^n w_i}{\max_{y_k: k \in \{1, \dots, n\}} \sum_{i=1}^m y_{ik}^n w_i}. \quad (1)$$

Clearly, as $\sum_{i=1}^m y_{ij}^n w_i \leq \max_{y_k: k \in \{1, \dots, n\}} \sum_{i=1}^m y_{ik}^n w_i$ for each weighting scheme w_i

$w_i (i = 1, \dots, m)$, we have $0 \leq SI_j \leq 1$; and higher indicator values can be interpreted as better overall performance. The generosity of the method is immediate: the weights are chosen in such a way that no other weight combination would yield a higher relative performance value for country j . And if $SI_j < 1$, there are other countries $k \in \{1, \dots, n\} \setminus \{j\}$ in the rest of the sample that would obtain a higher overall indicator value, *even when using country j 's most favorable weights*.

The synthetic indicator can also be expressed in a linear programming form. To see this, note that only relative weights matter; multiplying all weights $w_i (i = 1, \dots, m)$ by a common factor will not alter the indicator value. We can consequently normalize the weights so

that $\max_{y_k: k \in \{1, \dots, n\}} \sum_{i=1}^m y_{ik}^n w_i = 1$, and thus re-express (1) as:

$$SI_j = \max_{w_i} \sum_{i=1}^m y_{ij}^n w_i; \quad (2)$$

s.t.

$$\sum_{i=1}^m y_{ik}^n w_i \leq 1 \quad \forall k = 1, \dots, n,$$

$$w_i \geq 0 \quad \forall i = 1, \dots, m.$$

Hence, standard linear programming suffices to compute the aggregated indicator value, which is evidently an appealing feature for practical applications.

Finally, the model is readily complemented with additional weight restrictions. For example, in our empirical application we will use the following restriction:

$$w_i \geq \frac{1}{5} \left(\sum_{k=1}^m w_k \right) \quad \forall i = 1, \dots, m. \quad (3)$$

This restriction imposes that any policy dimension that is considered in the model should get an (implicit policy) weight of at least 20% in the synthetic indicator value. In our empirical application we consider synthetic indicators that are computed with and without restriction (3). We will compare the associated results with those for equally weighted synthetic indicators, which are constructed as the arithmetic average of the normalized indicator values (see above).

III. EMPIRICAL APPLICATION

A. *Single and synthetic indicators*

We consider a sample of 61 countries, which consists of 20 OECD countries and 41 non-OECD countries; see Table A1 in the appendix¹⁰. The data for our empirical analysis are taken from the “World Development Indicators” of the World Bank (2003). We consider three single poverty indicators¹¹:

1. GINI index: the extent to which the distribution of income among individuals or households deviates from a perfectly equal distribution;
2. Poverty rate: the percentage of people living below the national poverty line;
3. GDP per capita: the gross domestic product divided by midyear population, converted to 1995 US\$ using purchasing power parity rates.

The GINI index and the poverty rate are frequently used indicators to evaluate the “fairness” of the income distribution of a country. We complement these indicators with GDP per capita (corrected

for purchasing power differences) as it may indeed be argued that one country outperforms another in terms of poverty if it achieves a higher average income, even if both countries attain the same poverty rate and GINI index values. For brevity, we summarize these three dimensions under the header ‘poverty’ in our following discussion¹². To check for the sensitivity of our findings with respect to incorporating the GDP per capita ratio, we consider two synthetic poverty indicators: an indicator that includes GDP per capita (labeled as ‘Pov1-SI’) and one that does not include GDP per capita (labeled as ‘Pov2-SI’).

Further, we select two globalisation indicators:

1. Trade in goods (as a percentage of goods GDP)¹³: the sum of merchandise exports and imports divided by the value of GDP after subtracting value added in services;
2. Gross foreign direct investment (as a percentage of GDP): the sum of the absolute inflows and outflows of foreign direct investment in the balance of payment financial account divided by the value of GDP.

These indicators refer to the two essential dimensions of international integration: foreign trade and international factor movements. The synthetic globalisation indicator (labeled as ‘Glob-SI’) merges these two dimensions into a single-valued statistic, which indicates the overall degree of integration with the global economy. Attractively, this indicator represents the degree of globalisation as a continuous variable. This contrasts with the binomial approach adopted by Dollar and Kraay (2001), who subdivide their country sample in so-called ‘globalizers’ and ‘non-globalizers’.

Our empirical application uses average values for each of these single indicators over the 10 years period 1992-2001. A summary of the indicator values is given in Table 1. We observe –not very surprisingly– a clear distinction between OECD and non-OECD countries: the former group of countries is generally associated with a high level of globalisation (i.e., a high proportion of trade in goods and foreign direct investment) and a low level of poverty (i.e., a low GINI index, a low poverty rate and a high GDP per capita ratio), while the latter group generally combines a relatively low level of international integration with a higher degree of poverty. This may be interpreted as suggesting that globalisation enhances

poverty performance; integration in the world economy apparently helps in abating poverty. Still, it may also indicate a structural difference between OECD and non-OECD countries. In that perspective, OECD countries are situated in a so-called ‘high-level equilibrium’, which is generally characterized by good poverty performance and a high degree of international integration; in a similar vein, non-OECD countries are in a ‘low-level equilibrium’ position. We will return to these alternative interpretations in our further discussion.

TABLE 1
Single indicators; summary statistics

	GINI index	Poverty	GDP per capita (constant 1995 US\$)	Trade in goods (% of goods GDP)	Gross foreign direct investment (% of GDP)
<i>All</i>					
Average	40.038	27.621	8756.542	121.595	4.433
st. dev.	9.507	19.416	13030.184	61.375	4.103
min.	24.440	2.100	157.871	37.867	0.000
max.	60.320	86.000	44809.905	352.643	21.694
<i>OECD</i>					
Average	31.567	9.840	24302.542	144.798	6.582
St. dev.	7.002	3.514	12423.420	72.385	4.222
min.	24.440	2.100	3118.319	46.543	0.623
max.	51.860	16.900	44809.905	352.643	14.029
<i>Non-OECD</i>					
Average	44.171	36.295	1173.127	110.276	3.385
st. dev.	7.674	18.011	1257.568	52.545	3.654
min.	30.330	4.600	157.871	37.867	0.000
max.	60.320	86.000	4781.379	285.074	21.694

Table 2 contains summary statistics for the synthetic indicators Pov1-SI, Pov2-SI and Glob-SI. (The corresponding country-specific indicator values are tabulated in Table A1 in the Appendix.) As indicated in Section II, we compute for each synthetic indicator a version based on equal weighting (see ‘EW’ in Table 2), a version that lets the (endogenously defined) policy weights completely free (i.e., that imposes no weight restrictions; see ‘No WR’ in Table 2) and a version that imposes a minimal weight of 20% for each policy dimension that is captured (see ‘WR’ in Table 2). As can be

expected, we observe the same pattern as in Table 1: OECD countries attain generally higher poverty performance (recall that higher Pov1-SI and Pov2-SI values reveal a better poverty record) and are characterized by a higher degree of integration with the world economy than non-OECD countries. This overall picture is not sensitive to including GDP per capita in the synthetic poverty index (compare the Pov1-SI and Pov2-SI results) or the weighting scheme that is employed (compare the EW, No WR and WR results for the different synthetic indicators). Further, it is worth to point out the intermediate position of the WR version of the different synthetic indicators: the associated average values always lie between those of the EW and No WR versions. In fact, this intermediate position has conceptual appeal: it seems hardly reasonable that every policy dimension gets the same policy weight in practice (as in the EW version), but it seems equally unlikely that all weight in the poverty/globalisation policy process is accorded to a single dimension (a scenario that is not excluded *a priori* in the No WR version).

Two final notes pertain to our particular use of synthetic indicators. First, it is clear that such practice is all the more useful in cases where the correlation between the different constituent single indicators is not too strong; if these indicators were perfectly correlated, there would be no information loss from restricting the analysis to a sole indicator. In our particular application the correlation between the different single indicators (of poverty and globalisation) is far from perfect: it lies everywhere between 54.713% and (minus) 57.574% (see Table A2 in the Appendix). This suggests value-added from the use of synthetic indicators. Second, it is evident that synthetic indicators are all the more valuable if they adequately reflect the information in each of the single indicators that are included (given that the correlation between the single indicators is rather weak); the indicator preferably gives a 'balanced' indication of the 'aggregate' performance in the different dimensions that are captured. We can check this informational criterion by looking at the correlation between each synthetic indicator and its single indicator components. Again, such correlation check favors our focus on synthetic indicators: the corresponding correlation coefficients lie everywhere between 64.543% and (minus) 94.751% (see Table A3 in the Appendix).

TABLE 2
Synthetic indicators; summary statistics

	Pov1-SI			Pov2-SI			Glob-SI			
	EW	No	WR	EW	No	WR	EW	No	WR	
<i>All</i>										
average	63.054%	73.618%	70.1139%	48.455%	74.357%	62.849%	23.516%	32.571%	31.876%	
st. dev.	21.805%	20.386%	20.771%	22.156%	21.046%	22.290%	16.894%	21.935%	21.844%	
min.	10.758%	21.516%	17.548%	7.358%	21.516%	13.530%	0.549%	1.099%	0.953%	
max.	98.091%	100.000%	100.000%	94.493%	100.000%	100.000%	80.597%	100.000%	100.000%	
<i>OECD</i>										
average	85.456%	93.135%	91.032%	74.995%	95.348%	88.349%	32.154%	42.979%	42.480%	
st. dev.	10.867%	5.958%	7.870%	13.021%	5.218%	9.245%	18.710%	24.569%	24.488%	
min.	57.022%	82.360%	77.354%	40.477%	86.916%	65.680%	2.814%	3.598%	3.598%	
max.	98.091%	100.000%	100.000%	94.493%	100.000%	100.000%	74.592%	100.000%	100.000%	
<i>Non-</i>										
<i>OECD</i>										
average	52.126%	64.098%	59.947%	35.509%	64.118%	50.410%	19.303%	27.494%	26.703%	
st. dev.	16.846%	17.977%	17.116%	11.482%	17.991%	14.865%	14.364%	18.825%	18.635%	
min.	10.758%	21.516%	17.548%	7.358%	21.516%	13.530%	0.549%	1.099%	0.953%	
max.	77.584%	97.020%	89.459%	52.800%	97.020%	75.586%	80.597%	100.000%	100.000%	

A. Raw correlation analysis

We next study the relationship between poverty and globalisation in greater detail. As a first exploration, we consider the correlation between our synthetic poverty indicators and our globalisation indicators. For the sake of brevity, we concentrate our empirical analysis on the poverty indicator that does not include the GDP per capita ratio (i.e., Pov1-SI) and that imposes every poverty dimension to get a weight of at least 20% in the main text (i.e., the WR version); as discussed above, that version takes an intermediate position between the EW and No WR indicator. Similarly, we select the WR version of Glob-SI¹⁴.

Figure 1 gives the scatter plot and the associated correlation coefficient for the full sample. This suggests a positive relationship between globalisation and poverty: integrating with the global economy seems to reduce poverty rather than to augment it. This is evidenced by a clear positive inclination of the linear fit of the data, and a fairly high correlation coefficient (which amounts to 36.644%).

Still, our discussion of Tables 1 and 2 suggested a structural difference between OECD and non-OECD countries. This in turn pleads for considering the OECD and non-OECD subsamples separately. If the relationship between globalisation and poverty is genuinely positive, it should also be confirmed at the level of these structurally different subsamples. The corresponding scatter plots and correlation coefficients are given in Figures 2 and 3. Although we again find that integration with the global economy does not seem to aggravate the poverty problem, these figures reveal a much less clear picture concerning any positive relationship between globalisation and poverty performance: the positive slope coefficient of the linear fit is much smaller. Also, while the correlation stays relatively strong for the OECD subsample (which suggests a fairly good fit in that case), it becomes much less pronounced for the non-OECD subsample.

These findings lead us to the following ‘interim’ conclusions. When taking OECD and non-OECD countries together, globalisation seems to reduce poverty. However, this argument weakens considerably when correcting for the (structural) difference between OECD and non-OECD countries. Of course, these conclusions are very preliminary, since they merely build on raw correlations. It calls for a more profound examination; we next investigate the same issues by means of regression analysis.

FIGURE 3

Globalisation and poverty; scatter plot; all countries (Poverty1; WR results)

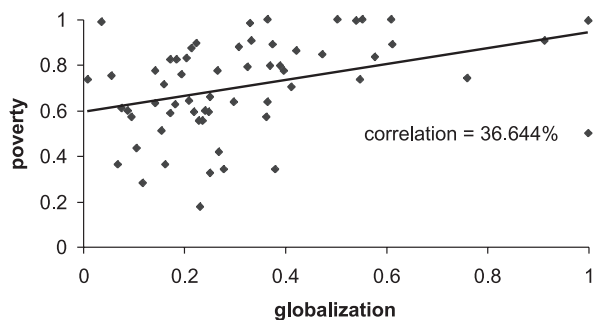


FIGURE 4

Globalisation and poverty; scatter plot; OECD countries (Poverty1; WR results)

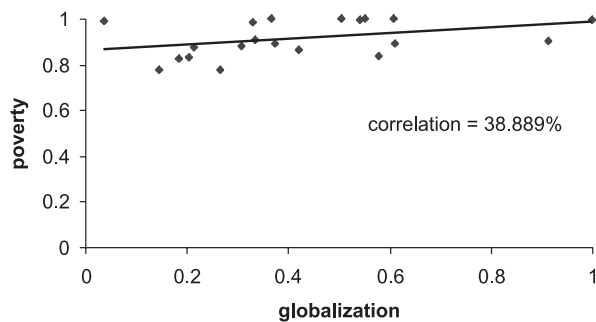
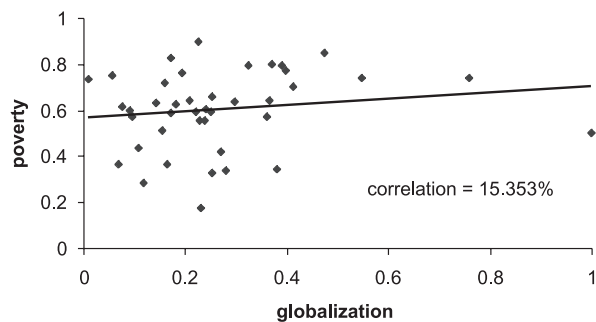


FIGURE 5

Globalisation and poverty; scatter plot; non-OECD countries (Poverty1; WR results)



B. Regression analysis

We start our regression analysis by considering the overall relationship between globalisation and poverty, which corresponds to Figure 1 above. The results, given in Table 3, confirm our earlier conclusion: for the full sample of 61 (OECD and non-OECD countries) we find a significantly positive relationship between poverty and globalisation; this finding is robust with respect to including GDP per capita in the synthetic poverty indicator (compare the Pov1-SI estimation with the Pov2-SI estimation).

This may entail the conclusion that globalisation efforts benefit poverty performance rather than worsen it. Still, the apparent structural difference between OECD and non-OECD countries (discussed above) suggests conducting a similar regression exercise for the two subsamples separately. Again, these findings confirm our earlier conjecture; see Table 3. For non-OECD countries the case for integrating with the world economy as a poverty-reducing strategy is no longer supported empirically (for the Pov1-SI and Pov2-SI estimation results). For completeness, we should add that the argument that such integration aggravates poverty is also rejected empirically: the (non-significant) slope coefficient is positive. For the OECD subsample, the results are fairly similar: although the positive slope coefficient is slightly more significant (although it remains insignificant even in two-sided 10% tests), the estimated coefficient value is much lower in absolute terms than for the regressions where all countries are simultaneously considered (for both Pov1-SI and Pov2-SI as the dependent variable).

When comparing the OECD and non-OECD estimation results, we find that they differ primarily in terms of the intercept term (0.857 versus 0.562 for Pov1-SI; 0.852 versus 0.464 for Pov2-SI), while the slope coefficients are practically the same (0.125 versus 0.141 for Pov1-SI; 0.139 versus 0.151 for Pov2-SI). This suggests a final regression exercise that uses all country observations and that includes an OECD dummy in addition to Glob-SI. These results reveal the following picture (for Pov1-SI as well as Pov2-SI): the slope coefficient for the globalisation measure is positive but hardly significant (e.g., it does not pass a two-sided 10% test); by contrast, the coefficient of the OECD dummy is significantly positive at any reasonable significance level. Further, the R^2 values (0.519 for Pov1-SI; 0.667 for Pov23-SI) show the adequacy of this specification; it explains a great deal of the variation in the observed poverty performances¹⁵.

TABLE 3
Regression results

	<i>Pov1-SI</i>				<i>Pov2-SI</i>			
	<i>All (1)</i>	<i>OECD</i>	<i>Non-OECD</i>	<i>All (2)</i>	<i>All (1)</i>	<i>OECD</i>	<i>Non-OECD</i>	<i>All (2)</i>
<i>Constant coefficient</i>	0.590 (0.044)	0.857 (0.034)	0.562 (0.047)	0.564 (0.034)	0.498 (0.047)	0.825 (0.040)	0.464 (0.041)	0.465 (0.030)
<i>p-value</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Glob-SI coefficient</i>	0.348 (0.115)	0.125 (0.070)	0.141 (0.145)	0.134 (0.092)	0.409 (0.122)	0.139 (0.083)	0.151 (0.125)	0.145 (0.082)
<i>p-value</i>	0.004	0.090	0.338	0.152	0.001	0.112	0.236	0.083
<i>OECD-dummy coefficient</i>				0.290 (0.043)				0.356 (0.038)
<i>p-value</i>				0.000				0.000
<i>R²</i>	0.134	0.151	0.024	0.519	0.161	0.135	0.036	0.667
<i>adjusted R²</i>	0.120	0.104	-0.001	0.503	0.147	0.087	0.011	0.655
<i># observations</i>	61	20	41	61	61	20	41	61

Notes: Standard errors of the estimated coefficients are between brackets; “p-value” stands for the probability that the coefficient equals zero under normality.

We can draw the following general conclusions from our empirical examination. First, globalisation does not appear to affect poverty (neither negatively, nor positively). By contrast, structural features of an economy seem to do a better job in explaining poverty. See in this respect our results for the OECD dummy, which we can interpret as a rough overall proxy for structural differences between countries.

C. *If it is not globalisation, is it institutions ?*

A natural next question pertains to the identification of the structural features that benefit poverty performance. Referring to our earlier terminology, which country characteristics make that OECD countries are situated in a ‘high-level equilibrium’ and non-OECD in a ‘low-level equilibrium’? A full treatment of such question falls beyond the scope of the current study. Still, some preliminary results (discussed below) indicate an important role for the quality of a country’s institutional environment. We follow Kasper and Streit (1998) in defining institutions as “rules of human interaction that constrain possibly opportunistic and erratic individual behaviour”.

Stressing institutions as determinants of poverty performance falls in line with a growing body of literature that suggests institutional differences as a chief determinant of economic prosperity. See, among many others, Mauro (1995), Knack and Keefer ((1995), (1997)), Easterly and Levine (1997), Moesen (1998), Hall and Jones (1999), Knack and Zak (2001) and Olsson and Hibbs (2002).

We investigate structural differences between OECD and non-OECD countries by correlating the OECD dummy to a number of institutional indicators taken from Easterly and Levine (1997)¹⁶. A selection of correlation results is reported in Table 4. These results generally suggest important institutional differences between OECD and non-OECD countries: OECD-countries are characterized by higher-quality government (see ‘Black market premium’, ‘Democracy’ and ‘Rule of law’), a better educational system (see ‘Education’) and a more favorable physical infrastructure (see ‘Telephones per worker’ and ‘Paved roads’). These differences in the institutional environment between OECD and non-OECD countries become even more apparent when relating the OECD dummy to a synthetic indicator of the ‘institutional infrastructure’; the associated correlation coefficient amounts to no less than 93.548%¹⁷.

TABLE 4
OECD dummy; correlation with institutional indicators

	correlation with OECD dummy	number of observations
Black market premium	-71.832%	32
Democracy	73.834%	31
Education	79.414%	28
Telephones per worker	91.840%	31
Paved roads	80.350%	30
Rule of law	90.343%	30
synthetic; equal weights	93.548%	32

These results suggest that the essential difference between OECD and non-OECD countries boils down to institutional features. The combination of this finding with our above conclusion (that not so much the degree of globalisation but mainly the OECD dummy explains observed differences in poverty performance), indicates the introduction of high-quality institutions as a far more successful remedy for the poverty problem than integrating with the global econ-

omy. Of course, this issue should be studied in greater detail in order to enable more robust statements. (For example, one can argue that international integration benefits the institutional quality and so indirectly poverty; still, the least we can infer from our results is that this globalisation channel is not the sole determinant of institutional quality; in fact, the relationship between institutional quality and globalisation seems rather weak¹⁸.) But the results in Table 4 do suggest this as a potentially fruitful research avenue within the search for effective policy prescriptions in the battle against poverty.

IV. CONCLUSION

We have empirically analyzed the relationship between globalisation and poverty. Our analysis uses synthetic ‘policy’ indicators, where the different (poverty and globalisation) policy dimensions are merged on the basis of a method that extracts ‘revealed’ policy priorities from the actual policy results. Our cross-country regression employs a sample that includes OECD and non-OECD countries. This allows us to investigate the residual ‘globalisation effect’ on poverty after controlling for structural differences between countries (summarized in a OECD dummy). Our main findings are the following:

We observe that the apparent globalisation effect vanishes when correcting for the structural differences between OECD and non-OECD countries. This result suggests that, from the poverty point of view, the current topical nature of the globalisation issue is ill-justified; there may well be no direct relationship at all between poverty performance and the degree of integration with the global economy.

By contrast, our results do suggest the quality of the institutional environment as a far more influential determinant of poverty performance. Specifically, it appears that structural differences between OECD and non-OECD countries, which explain an important part of the variation in poverty performance, mainly boil down to institutional differences. In a way, this moves away the debate on globalisation and poverty from ideology to measurable indicators of policy performance and governance. Further, some may argue that ‘openness to trade’ (see our globalisation measure) can in fact be considered as an institutional feature. From that perspective, our results should be interpreted as revealing it as less important than

other features (e.g., related to government quality, education and physical infrastructure).

On the methodological level, our empirical exercise shows that the use of synthetic policy indicators, which entails a parsimonious specification of the relationship between globalisation and poverty, allows for identifying a clear overall picture of the relationship under study. Such overall picture is easy to communicate and easy to visualize¹⁹.

In sum, this study primarily provides a ‘helicopter’ view on the relationship between poverty on the one hand and globalisation and institutions on the other. Our results suggest a main focus on institutional quality as a probably fruitful policy avenue. Still, our results should be interpreted with sufficient caution; the following limitations of the current study should be taken into account:

The robustness of our results can be more profoundly investigated. For example, limited data availability made us focus on a cross-section analysis of 61 countries; it seems interesting to extend the analysis for a panel data sample, possibly including a larger number of countries. Also, greater data availability can allow for looking at the same relationship for other (and possibly better) poverty and globalisation indicators.

A second line for further research pertains to the identified significant relationship between poverty and institutional quality. Given our prime focus on the link between poverty and globalisation, we have not scrutinized this relationship in much detail; our results should be interpreted as ‘orientating’ rather than ‘conclusive’. Further examining the specificity of the institutional channel is likely to be a rewarding avenue. For example, it may be interesting to investigate which type of institutions feature as the ‘deepest’ determinants of poverty performance. In this respect, it also looks obvious that the ‘optimal’ institutional configuration will be specific to each country. It can be dangerous to infer country-specific conclusions from cross-country regression results; the country-type should be taken into consideration when formulating possibly far-reaching policy prescriptions (compare with Rodriguez and Rodrik (2000); see Note 3).

Further, we have ignored possible effects of reverse causation in our analysis. Still, it may well be argued that causality goes in the two directions: the degree of globalisation or institutional quality may impact poverty performance, but poverty performance may also be expected to affect respectively the degree of global integration or

institutional quality. At least, our results suggest a stronger correlation between poverty and the institutional environment than between poverty and globalisation policies (where we cannot reject the hypothesis that there is no relationship at all). The specific study of the direction of the institutions-poverty relationship may constitute a fruitful avenue for future work.

Finally, it can be argued that globalisation benefits the quality of institutions (e.g., through an increased degree of international competition) and so indirectly affects the poverty performance. At least our results suggest that globalisation is not the sole determinant of the institutional quality; in fact, the relationship between institutional quality and the degree of integration with the global economy appears to be rather weak. We note that this observation falls in line with argument of Rodrik et al. (2002) and Rodrik and Subramanian (2003), which claim the primacy of institutions. But, again, a full treatment of this question falls beyond the scope of the current study. It may, however, constitute a worthwhile starting point for future work.

NOTES

1. See Fisher (2003) for quantitative evidence on the exponentially increasing importance of the globalisation theme (e.g., in newspapers and on the internet).
2. See, e.g., Frankel and Romer (1999); Baldwin (2002) provides a survey of the empirical literature.
3. We note that such exercise falls in line with Rodriguez and Rodrik's (2000) suggestion to look for contingent relationships in cross-national work.
4. Simultaneous consideration of an absolute poverty indicator and an income inequality indicator avoids the pitfall of selecting that indicator that best fits the ideological preferences; compare with Ravallion (2003). Indeed, it has been observed that the poverty headcount has been a favorite among globalisation optimists while globalisation pessimists seem to prefer Gini-coefficients.
5. It will be clear from our further exposition that we evaluate globalisation policy by outcomes and not in terms of the policy measures that generate these outcomes (e.g., the institution of trade tariffs is a policy measure that is frequently considered in the globalisation literature). We are well aware that outcomes reflect constraints as well as preferences (and thus policies). In identifying outcomes with policies, we implicitly assume that the constraints are the same for the sample countries. Under that assumption, differences in outcomes reveal differences in preferences; this actually expresses the very idea behind the "benefit of the doubt" weighting procedure that we employ (cf. *infra*). While this practice may entail interpretation problems at the level of individual countries, we can reasonably expect that this intuitive 'short route' gives reliable 'average' results; this justifies our focus on central tendencies in our empirical application in section III. Evidently, an interesting avenue for further research consists in unveiling the specific relationship between policies and outcomes, especially when the core focus were on the policy performance of individual countries.

6. This section is adapted from Cherchye et al. ((2000); section II), where the same procedure is proposed for constructing synthetic indicators of social inclusion performance. We refer to that study for an in-depth discussion of the method (including different refinements).
7. The globalisation ‘performance’ indicators measure the degree of integration with the global economy; they reflect the position that policies that stimulate international integration are ‘good’. Evidently, this should be distinguished from the interpretation of such policies as ‘good’ in the sense that they effectively reduce poverty, which forms the subject of our empirical analysis.
8. Note that we also use weight restrictions in the practical computation of our synthetic globalisation and poverty indicators (see also our formal treatment in the next subsection). To keep the exposition simple, we abstract from such restrictions in this introductory illustration.
9. Compare with Note 5.
10. Our sample of countries is determined by the criterion that consistent (poverty and globalisation) data were available for at least one year in the period that we consider (1992-2001).
11. The World Bank (2003) provides poverty rates for a limited number of countries. We have replaced the missing data with poverty rates reported in the “Human Development Report” of the United Nations Development Program (2002).
12. It should be noted that this synthetic poverty indicator is specifically based on the distribution of incomes. This contrasts with the UNDP Human Development Index (HDI) which includes indicators of average income, health and education attainment. Given the specific focus of our study, we think that the use of distributional indicators is well-justified; this is conventional practice in the literature. But, evidently, it could be interesting to compare our results with those obtained for a similar regression exercise based on the HDI; this may constitute a rewarding research avenue.
13. Our trade indicator does not correct for country size, which would have been desirable if trade as a proportion of GDP depended significantly on country size. We checked this latter relationship by successively correlating our trade indicator on two country size measures (viz., GDP in current US dollars (corrected for purchasing power) and population, both series averaged over the 1992-2001 period). The correlation coefficients were indeed negative but did not exceed 23%, which made us decide to stick to the uncorrected indicator. Further, lack of data prevents us to explicitly consider integration with the world market for services in our empirical analysis; we implicitly assume that such integration is (roughly) proportional to the integration with the global market for goods.
14. Table A4 in the Appendix contains the pairwise correlation results for all synthetic performance measures. That table reveals a grossly similar pattern for every pair of indicators. Also, it shows a very strong correlation between the different versions of Pov1-SI, Pov2-SI and Glob-SI, which suggests that our main findings are robust with respect to the specific weight restriction that is employed (see (3) in section II).
15. We note that this R^2 value is higher than for similarly specified single indicator regressions. For example, using the GINI index or the poverty rate as the dependent variable (with Glob-SI and the OECD dummy as independent variables) gives an R^2 of respectively 0.395 and 0.451 (versus 0.519 for the corresponding synthetic index Pov1-SI). Similarly, using trade in goods and gross foreign investments as separate independent variables (instead of Glob-SI) does not yield higher R^2 values and reveals even lower significance for the globalisation effects (both for Pov1-SI and Pov2-SI as the dependent variables). In our opinion, these results favor our option to use synthetic indicators for investigating the relationship between globalisation and poverty.

16. See <http://www.worldbank.org/research/growth/ddeale.htm> for sources and definitions. In Table 4, 'Black market premium', 'Democracy', 'Education', 'Telephones per worker', 'Paved roads' and 'Rule of law' relate respectively to Easterly and Levine's (1997) 'BLCK', 'DEMOC', 'LSCHOOL', 'LTELPW', 'PAVROAD' and 'RULELAW'. We do not have matching institutional data for all 61 countries in our sample; the number of observations that can be used for each correlation coefficient is given in Table 4. Further, we use the data that pertain to the decade 1980-1989; we can reasonably expect the correlations to be stronger than those tabulated in Table 4 for similarly constructed institutional indicators that pertain to the 10 years period 1992-2001, provided those were available.
17. We use an equal weighting procedure for constructing the synthetic institutional indicator because we are confronted with missing data for a number of single indicators. In the cases where no country data are available for some institutional indicator(s), we compute the synthetic indicator by taking the arithmetic average of those normalized single indicators (constructed by using the normalization procedure in section II) for which data are available for the evaluated country.
18. This argument is further supported by computing the correlation between the OECD dummy (as a rough indicator for the institutional quality; see the results in Table 4) and our globalisation indicators. For example, the corresponding correlation coefficients for the WR version of Glob-SI amounts to only 34.178%; the respective coefficients for our trade in goods and gross foreign direct investment indicators are 26.241% and 36.879%.
19. See also Note 15, where we compare the 'synthetic' results with those based on single-dimensional poverty and globalisation indicators.

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TABLE A1

Synthetic indicators; country results

	Pov1-SI			Pov2-SI			Glob-SI		
	EW	No WR	WR	EW	No WR	WR	EW	No WR	WR
<i>OECD</i>									
Australia	77.749%	85.459%	83.009%	67.814%	88.202%	81.319%	16.173%	20.481%	20.481%
Austria	86.504%	89.869%	89.204%	80.244%	94.504%	91.336%	25.881%	38.871%	37.484%
Belgium	95.584%	99.467%	99.467%	84.776%	99.551%	95.532%	74.592%	100.000%	100.000%
Canada	83.785%	87.247%	86.523%	71.145%	89.840%	84.267%	32.614%	42.226%	42.226%
Denmark	95.406%	99.758%	99.758%	89.987%	100.000%	98.410%	39.879%	50.483%	50.483%
Finland	96.596%	99.335%	99.335%	84.821%	100.000%	97.167%	42.245%	55.007%	54.102%
France	84.918%	92.968%	90.438%	77.275%	96.773%	90.747%	26.223%	33.378%	33.378%
Germany	77.585%	93.564%	87.843%	74.581%	98.152%	89.251%	23.588%	30.816%	30.816%
Hungary	95.232%	100.000%	100.000%	66.881%	100.000%	83.261%	28.114%	36.578%	36.578%
Italy	76.634%	85.578%	82.631%	65.600%	88.025%	79.928%	12.454%	19.473%	18.551%
Japan	93.648%	98.857%	98.655%	94.493%	100.000%	100.000%	2.814%	3.598%	3.598%
Mexico	57.022%	90.465%	77.681%	40.477%	90.465%	65.680%	19.232%	27.150%	26.696%
Netherlands	85.053%	92.849%	90.421%	77.696%	96.780%	90.970%	70.419%	91.273%	91.273%
Norway	95.258%	98.299%	98.299%	89.522%	100.000%	99.298%	26.046%	33.021%	33.021%
Poland	84.361%	88.677%	87.620%	58.451%	88.677%	76.616%	16.604%	21.362%	21.362%
Slovak Republic	98.091%	100.000%	100.000%	68.129%	100.000%	87.842%	37.259%	57.815%	55.203%
Sweden	96.538%	100.000%	100.000%	85.363%	100.000%	96.743%	48.655%	60.878%	60.878%
Switzerland	83.599%	91.418%	88.970%	89.066%	100.000%	98.183%	47.558%	61.163%	61.163%
United Kingdom	77.193%	86.532%	83.433%	66.476%	89.074%	80.914%	42.283%	60.790%	57.879%
United States	68.368%	82.360%	77.554%	67.105%	86.916%	79.511%	10.447%	15.217%	14.429%
<i>Non-OECD</i>									
Burundi	67.290%	75.223%	73.450%	44.861%	75.223%	59.234%	0.549%	1.099%	0.953%
Cambodia	57.511%	59.476%	59.141%	38.433%	59.476%	50.885%	17.684%	22.067%	22.067%
Chile	42.589%	77.235%	63.864%	31.844%	77.504%	54.300%	27.441%	37.971%	36.599%
China	76.409%	97.020%	89.459%	51.308%	97.020%	75.586%	15.146%	24.525%	22.521%
Cote d'Ivoire	62.264%	65.886%	65.690%	41.943%	65.886%	53.534%	18.537%	25.518%	25.297%

	Pov1-SI			Pov2-SI			Glob-SI		
	EW	No WR	WR	EW	No WR	WR	EW	No WR	WR
Dominican Republic	56.924%	77.950%	70.075%	39.120%	77.950%	59.359%	29.252%	42.151%	41.176%
Egypt, Arab Rep.	73.711%	75.209%	75.184%	49.839%	75.209%	65.153%	4.033%	6.141%	5.744%
El Salvador	35.748%	44.934%	41.577%	24.960%	44.934%	35.787%	17.839%	28.393%	26.906%
Gambia, The	30.558%	34.894%	33.804%	20.520%	34.894%	27.297%	20.103%	28.521%	20.800%
Ghana	61.482%	65.077%	64.129%	41.159%	65.077%	55.095%	14.677%	21.629%	20.980%
Guinea	55.312%	57.043%	57.043%	37.186%	57.043%	48.052%	6.201%	10.125%	9.523%
Guinea-Bissau	40.724%	44.458%	43.295%	27.200%	44.458%	37.040%	6.030%	12.060%	10.739%
Guyana	47.441%	51.013%	49.966%	32.157%	51.013%	43.118%	80.597%	100.000%	100.000%
Honduras	21.548%	39.333%	32.466%	14.778%	39.333%	26.718%	18.068%	25.765%	25.253%
Indonesia	76.893%	83.584%	82.481%	51.899%	83.584%	67.097%	13.382%	17.303%	17.303%
Jamaica	71.334%	80.215%	77.252%	49.098%	80.215%	66.844%	29.913%	39.774%	39.774%
Jordan	77.584%	88.558%	84.816%	52.800%	88.558%	72.882%	31.277%	50.067%	47.365%
Kenya	48.212%	52.443%	51.141%	32.274%	52.443%	43.816%	9.128%	17.148%	15.517%
Lao PDR	56.276%	64.994%	62.703%	37.696%	64.994%	50.516%	13.752%	18.898%	18.257%
Madagascar	29.532%	39.994%	36.506%	19.752%	39.994%	28.937%	5.111%	6.914%	6.893%
Malawi	33.020%	38.141%	36.370%	22.013%	38.141%	30.915%	9.202%	18.404%	16.389%
Malaysia	57.580%	84.029%	74.014%	41.518%	84.196%	63.562%	52.869%	78.534%	75.991%
Mauritania	49.320%	64.075%	59.304%	33.117%	64.075%	47.278%	14.826%	27.539%	24.994%
Mongolia	52.337%	59.237%	56.912%	35.074%	59.237%	48.592%	24.398%	37.927%	36.194%
Morocco	68.942%	79.857%	76.072%	46.848%	79.857%	65.223%	13.923%	19.786%	19.414%
Nicaragua	21.275%	42.551%	34.302%	14.380%	42.551%	27.857%	28.724%	38.129%	38.129%
Niger	27.336%	28.058%	28.058%	18.261%	28.058%	23.810%	9.496%	11.814%	11.814%
Nigeria	44.531%	61.859%	55.351%	29.760%	61.859%	46.268%	18.176%	22.854%	22.854%
Paraguay	41.883%	76.520%	63.147%	29.143%	76.520%	52.235%	10.915%	14.287%	14.287%
Philippines	49.151%	58.641%	55.267%	33.476%	58.641%	47.291%	17.294%	24.109%	23.802%
Russian Federation	59.758%	78.546%	71.577%	41.531%	78.546%	61.188%	11.509%	16.188%	15.936%
Tanzania	57.341%	61.761%	61.160%	38.246%	61.761%	49.515%	6.060%	7.586%	7.563%

	Pov1-SI			Pov2-SI			Glob-SI		
	EW	No WR	WR	EW	No WR	WR	EW	No WR	WR
Thailand	67.372%	86.889%	79.691%	46.828%	86.889%	68.265%	25.930%	38.299%	37.124%
Trinidad and Tobago	66.677%	77.473%	73.718%	47.752%	77.711%	64.777%	42.679%	54.703%	54.703%
Tunisia	68.852%	85.697%	79.567%	47.422%	85.697%	68.134%	26.444%	40.799%	39.023%
Uganda	50.470%	63.991%	59.722%	33.762%	63.991%	47.645%	5.963%	9.832%	8.981%
Venezuela, RB	48.230%	65.197%	58.860%	34.640%	65.338%	50.898%	13.777%	17.188%	17.188%
Vietnam	54.711%	67.586%	63.650%	36.588%	67.586%	50.902%	22.725%	30.646%	29.790%
Yemen, Rep.	77.327%	79.738%	79.380%	51.650%	79.738%	68.300%	25.308%	32.526%	32.526%
Zambia	10.758%	21.516%	17.548%	7.358%	21.516%	13.530%	18.230%	23.448%	23.158%
Zimbabwe	40.960%	72.110%	60.109%	27.660%	72.110%	49.353%	14.234%	26.594%	24.099%

TABLE A2

Single indicators; correlations

	GINI index	Poverty	GDP per capita (constant 1995 US\$)	Trade in goods (% of goods GDP)	Gross foreign direct investment (% of GDP)
GINI index	100.000%				
Poverty	54.173%	100.000%			
GDP per capita (constant 1995 US\$)	-57.574%	-57.332%	100.000%		
Trade in goods (% of goods GDP)	-17.951%	-37.405%	25.672%	100.000%	
Gross foreign direct investment (% of GDP)	-28.586%	-31.256%	40.751%	54.738%	100.000%

