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## GLOBALISATION AND ECONOMIC GROWTH: A PANEL DATA APPROACH\*

### ABSTRACT

Using different kinds of panel unit root and cointegration tests as well as panel estimations this paper seeks to improve upon the existing literature by analysing the relationship between globalisation and economic growth in 87 countries across all continents over the period 1970–2016. The results obtained confirm the existence of long-run relationships between the real GDP *per capita* and all the indices included in the new version of the KOF globalisation index as well as that globalisation is clearly relevant to economic growth. Moreover, there is evidence that this is a very complex relationship, being hard to conclude that globalisation always benefits economic growth. In addition, the comparison of the results obtained for the whole sample including 87 countries and those obtained for the sub-sample of the 16 European countries do not provide clear demonstration that the geographic proximity or the recent process of European integration are very relevant in terms of the contribution of globalisation to economic growth.

**Keywords:** Economic Growth, Globalisation, KOF Globalisation Index, Cointegration, Panel Estimations

**JEL Classification:** C22, E10, F41, F62

### RIASSUNTO

#### *Globalizzazione e crescita economica: un approccio panel data*

Tramite l'uso di differenti panel test a radice unitaria di cointegrazione così come di stime panel, questo studio si propone di contribuire alla letteratura esistente analizzando la relazione tra globalizzazione e crescita economica in 87 paesi di tutti i continenti nel periodo 1970-2016. I risultati ottenuti confermano l'esistenza di una relazione di lungo periodo tra il PIL reale pro

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capite e tutti gli indici inclusi nella nuova versione del KOF globalisation index e che la globalizzazione è chiaramente collegata alla crescita. Inoltre, vi sono evidenze che questo legame è molto complesso, ed è difficile concludere che la globalizzazione favorisce sempre la crescita. Importante notare anche che comparando i risultati ottenuti dal campione di 87 paesi e quelli ottenuti dal sub-campione dei 16 paesi europei non si ottiene una chiara dimostrazione che la prossimità geografica o il recente processo di integrazione europea siano molto rilevanti per quanto riguarda il contributo della globalizzazione alla crescita economica.

## 1. INTRODUCTION

The origins of the belief that globalisation, namely through trade liberalisation, would promote economic growth go back to at least the classical authors identified with “market forces and mercantilism” (well detailed, for instance, in Cameron, 1993). Authors such as Obstfeld (1994) strongly support that international economic integration accelerates economic growth.

Moreover, globalisation has often been considered as a key factor for economic development and growth by relevant international economic organisations (such as International Monetary Fund, 2000; World Bank and International Monetary Fund, 2007; Organisation for Economic Co-Operation and Development, 2010).

This optimistic view is also supported by many economists and researchers (among others, Frankel and Romer, 1999; Vamvakidis, 2002; Fischer, 2003; Dollar and Kraay 2004; Mahler, 2004; Amavilah, 2009; Chang and Lee, 2010). In general, these authors consider that globalisation can be identified with a high degree of trade openness, increasing competitiveness and advantages in national and international markets. Therefore, from an economic and policy perspective, the relationship between globalisation and economic growth is considered undoubtedly relevant.

However, there is also evidence that globalisation is a rather complex phenomenon and it is sometimes associated with some undesired effects, such as increased pollution or inequality, and not clearly promoting economic development and growth (see, for example, Wood, 1998; Rodriguez and Rodrik, 2000; Agenor, 2002; Frankel and Rose, 2005; Rodrik, 2007; Bergh and Nilsson, 2010; Ezcurra and Rodríguez-Pose, 2013; Potrafke, 2013; Eppinger and Potrafke, 2015).

Despite the controversial issues related to the globalisation phenomena, there is a general agreement that globalisation progressively makes people and countries more interdependent and that this interdependence is not strictly economic, as it also includes political and social interdependences. Therefore, the definition of relevant measures of globalisation is not easy to formulate, namely because reliable indicators of globalisation should consider economic, political and social aspects.

The multiple dimensions of globalisation were constructively considered among others by Dreher (2006) and updated by Dreher *et al.* (2008) who created an overall index of globalisation covering economic, social and political integrations. These authors critically analyse the differences between the existing globalisation indices, clearly underlying their inherent limitations (namely due to the different methodologies, choices of variables and weights), but also defending the relevance of these indices as promising means for providing concrete data to measure globalisation meaningfully.

This index is known as the KOF index of globalisation and is provided by the Swiss Economic Institute – Konjunkturforschungsstelle – and was recently object of a second revision that distinguishes between the *de facto* and the *de jure* measures along the relevant dimensions of globalisation. Details regarding the construction of this revised KOF Globalisation Index are provided, for example, in Gygli *et al.* (2019).

Since its construction, the KOF globalisation index and its main sub-indices have been used in several empirical analyses. Potrafke (2015) presents a survey of 120 studies using the 2007 version of the KOF globalisation index. Most of these studies emphasise the relevance of globalisation to economic growth and empirically test the correlation between the different dimensions of globalisation and economic performance (in particular, annual GDP growth rates and *per capita* GDP).

For example, Chang and Lee (2010) use panel data including 23 countries within the Organisation for Economic Co-operation and Development (OECD) for the period 1970–2006 and apply panel cointegration techniques to test the long-term co-movements and causality between economic growth and the overall KOF globalisation index and its three main dimensions: economic, political and social integrations. The main conclusions point to the

existence of long-term unidirectional causality running from the overall index of globalisation, economic globalisation and social globalisation to economic growth.

Chang *et al.* (2011) also test the relationship between growth in Gross Domestic Product (GDP) and the KOF globalisation index, as well as its three principal dimensions, and use panel cointegration techniques, considering the G7 countries over the period 1970–2006. They mostly conclude that both the overall globalisation index and the social globalisation index have a direct positive impact on GDP growth. At the same time, Villaverde and Maza (2011) consider a dataset including 101 developing and developed countries over the period 1970–2005 and using panel fixed effects and one-step GMM estimates, find that globalisation as measured by the four KOF indices increases economic growth.

Using also panel fixed effects and GMM estimates but with data for 41 African countries covering the period 1970–2009, Ali and Imai (2013) investigate how economic globalisation and the economic crisis influenced economic growth, represented by the five-year averages of *per capita* GDP growth, concluding that economic globalisation is positively correlated with economic growth.

The KOF indices are also used in panel cointegration estimations by Ying *et al.* (2014) to test the long-term relationships between economic growth and globalisation in the Association of Southern Asian Nations (ASEAN) over the period 1970–2008, concluding that economic globalisation has a significantly positive influence on economic growth, but social globalisation has a negative influence on economic growth and political globalisation has a non-significant negative effect.

Gurkul and Lach (2014) use panel estimates to analyse the contribution of several KOF globalisation indices and sub-indices to economic growth in 10 Central Eastern European (CEE) countries for the period 1990–2009 and conclude that there is a robust growth-stimulating effect of the globalisation processes, especially for the social and economic dimensions, while the role of the political dimension of globalisation is not found to be statistically significant.

Chang *et al.* (2015) test the existence of non-linear relationships between real output and the KOF globalisation index and its three main dimensions (economical, political and social) through quantile cointegration regressions, considering the G7 countries over the period 1970–

2006. They mostly conclude that the three dimensions of globalisation act as engines of real output and play a key role in long-term growth.

Kazar and Kazar (2016) use the KOF globalisation index to investigate the relationship between globalisation, financial development and economic growth, with panel cointegration techniques, in OECD and non-OECD countries classified according to their income levels from 1980 to 2010 and obtain different conclusions according to the country classification. More precisely, they conclude that the driving force of economic growth in terms of globalisation for low-income and non-OECD high-income countries is mainly the social globalisation dimension; for high-income OECD and upper middle-income economies, it is the political globalisation dimension; for lower middle-income countries, it is the economic globalisation dimension.

Nowadays there is consensual recognition of the overall relevance of globalisation phenomena for the academic and scientific community, for policymakers as well as for the general public, but the relationship between the different aspects of globalisation and economic growth still deserves further examination.

Many papers have analysed the relationship between economic growth and the globalisation using the 2007 version of the KOF globalisation index but as far as we know, besides the recent contribution of Gygli *et al.* (2019), not many authors have used the revised version of the KOF globalisation index to test the relationship between economic growth and the different dimensions of globalisation.

This paper aims to contribute to the literature by using the revised version of the KOF globalisation index to test the relevance of globalisation to real GDP *per capita* in 87 countries across all continents in the relatively long interval 1970-2016, performing different kinds of panel unit root tests, panel cointegration tests as well as panel fixed effects and dynamic GMM regression estimations.

We also take into consideration the geographic proximity and the singularity of the recent process of European integration, and we test the existence of potential differences in the behaviour of the European countries in comparison with all the countries included in our sample, considering two panels of countries: Panel 1 including all the 87 countries and Panel 2 including only the 16 European countries of the sample.

The results obtained both for Panels 1 and 2 allow us to conclude that there is cointegration between the real GDP *per capita* and the KOF globalisation indices, revealing the existence of long-run relationships between economic growth and globalisation indices. In addition, the results obtained with panel fixed effects and dynamic GMM estimations, do not identify remarkable differences in the behaviour of the sub-sample of the European countries in comparison with the whole sample of 87 countries from all continents. Overall, the results clearly reveal that globalisation can be very relevant to economic growth but also that this is a very complex relationship, being hard to conclude that globalisation always benefits economic growth.

The remainder of this paper is organised as follows: Section 2 describes and discusses the methodological aspects; Section 3 presents the used data and the results obtained; Section 4 concludes.

## 2. METHODOLOGY

This study uses panel data techniques to analyse the possible influence of globalisation on economic growth. The advantages and disadvantages of using panel data have been already clearly discussed (see, for example, Baltagi, 2008; Wooldridge, 2010).

Here it is worthwhile to underline that the use of panel data provides not only more informative data, more degrees of freedom and more efficient estimations but also less collinearity among the considered variables. In addition, we should have in mind the reasons behind the application of unit root and cointegration tests to panel of cross section units, the additional complications in many empirical applications, as well as the recognised difficulties in the interpretation of the results obtained, and that are deeply discussed, for example, in Breitung and Pesaran (2008).

This paper first analyses the stationarity of the series using three widely recommended panel unit root tests: Levin-Lin-Chu test (Levin *et al.*, 2002), Hadri Lagrange multiplier tests (Hadri, 2000) and the panel unit root test with cross-section dependence proposed by Pesaran (2004, 2007). Then, the paper tests the existence of long-term relationship between economic growth and globalisation with panel cointegration tests: Pedroni (1999, 2004), Kao (1999) and Westerlund (2007) tests.

The paper also analyses the possible influence of globalisation on economic growth with panel data regression estimations: panel fixed effect estimations and dynamic one-step system GMM (Generalized Method of Moments) estimations, following Arellano and Bond (1991) and Blundell and Bond (1998).

### 2.1. Panel Unit Root Tests

The analysis of the stationarity of the variables considers as starting point a simple panel-data model with a first-order autoregressive (AR) component:

$$y_{it} = \rho_i y_{i,t-1} + \delta_i Z_{it} + u_{it} \quad (1)$$

where  $i = 1, \dots, N$  indexes the cross units;  $t = 1, \dots, T$  indexes the time periods;  $y_{it}$  is the variable being tested;  $\rho_i$  is the autoregressive coefficient; and  $u_{it}$  is the error term, assumed to be independent and identically distributed. The  $Z_{it}$  term represents individual constant deterministic effects specified for each unit root test, such as panel-specific means or panel-specific means and a time trend.

Most of the panel unit-root tests are used to test the null hypothesis  $H_0: \rho_i = 1$  for all  $i$  versus the alternative  $H_a: \rho_i < 1$ . Depending on the specific test,  $H_a$  may hold for all the cross units,  $i$ , or just for part of them.

The test proposed by Levin *et al.* (2002) is adequate for heterogeneous panels of moderate size, such as the panels included in this paper. This test may be viewed as a pooled Dickey Fuller test, or as an Augmented Dickey Fuller test, including lags of the tested variable:

$$\Delta y_{it} = \alpha y_{i,t-1} + \sum_{j=1}^p \beta_{ij} \Delta y_{i,t-j} + \delta_i Z_{it} + u_{it} \quad (2)$$

With this test  $H_0$ : panels contain unit root and  $H_a$ : panels are stationary.

The Hadri (2000) panel unit root test is recommended mostly for moderate panels. It uses the residuals from individual OLS regressions of the tested variable,  $y_{it}$ , on the deterministic components, constant and trend, to compute Lagrange-multiplier statistics. Contrary to the Levin-Lin-Chu test, this is a stationary test, considering  $H_0$ : all panels are stationary, and  $H_a$ : some panels contain unit roots.

As the assumption that the individual time series in the panel are cross sectional independent is not fully realist in the context of cross-country data, we also use the Pesaran panel unit root test that is recommended for heterogenous panels with cross-sectional dependence. Pesaran (2007) considers the following model to test the presence of unit roots:

$$\Delta y_{it} = \alpha_i + b_i y_{it-1} + \gamma_i f_t + \varepsilon_{it} \quad (3)$$

Where the presence of cross dependence is represented by  $\gamma_i f_t$ ; being  $f_t$  the latent factor and  $\gamma_i$  the factor that is common across the cross sectional units  $i$ .

Now we test  $H_0: b_i = 0$  for all  $i = 1, \dots, N$ ;  $H_a: b_i < 1$  for some  $1, \dots, N$  and rejecting  $H_0$  indicates that the panel is stationary.

## 2.2. Panel Cointegration Tests

Cointegration techniques provide an appropriate conceptual framework to analyse the long-term relationship between two series. The existence of cointegration implies that causality exists between the considered series, although it does not indicate the direction of the causal relationship. The general definition of cointegration follows that of Engle and Granger (1987), meaning that two non-stationary series,  $x_t$  and  $y_t$ , with the same order of integration, will be considered cointegrated (and long-term equilibrium relationships exist) if there is a stationary linear combination of these series,  $z_t$ , which can be defined using the equation  $z_t = x_t - a - by_t$  where  $a$  and  $b$  are constant terms.

Panel cointegration tests are similar to panel unit root tests as some of them are based on group means estimates, other tests are pooled estimates; they may also consider (or not) cross-sectional dependencies.

Pedroni (1999, 2004) test the null hypothesis of no cointegration in non-stationary panels and can be regarded as a panel equivalent of the well-known Engle and Granger (1987) cointegration test applied in time series analysis. In general terms, Pedroni considers the following type of regression:

$$y_{it} = \alpha_i + \beta_{1i} x_{1,it} + \beta_{2i} x_{2,it} + \dots + \beta_{Mi} x_{M,it} + e_{it} \quad (4)$$



where  $y_{it}$  is the variable being tested,  $i = 1, \dots, N$  are the cross units,  $t = 1, \dots, T$  the time periods,  $m = 1, \dots, M$  are the independent variables. The variables are assumed to be integrated of order one for each cross unit  $i$  of the panel and, under the null of no cointegration the residual  $e_{it}$  will also be  $I(1)$ . The test allows member specific effects and deterministic trends for the parameters  $\alpha_i$  as well as individual variations of the slope coefficients,  $\beta_i$ , meaning that the cointegration vectors may be heterogenous across members of the panel.

Using the residuals from these static, long-run, regressions, Pedroni provides seven specific panel cointegration test statistics. Four of them are panel statistics, based on pooling the residuals of the regressions along with the dimension of the panels: panel-v, panel-rho, panel-PP and panel-ADF statistics. The other three are group statistics, based on pooling the residuals along the between dimension of the panels: group-rho, group-PP and group-ADF statistics.

However, it is recognised (for example, in Neal, 2014) that the relative power of these seven Pedroni statistics is not totally clear and that they can provide contradictory results; nevertheless, similar results of several of these seven statistics can be interpreted as a sign of robustness of the Pedroni's panel cointegration test results.

Kao (1999) test can be regarded a generalization of Dickey-Fuller and Augmented Dickey-Fuller tests in the context of panel data. Like Pedroni test, the Kao panel cointegration test assumes the null hypothesis of no cointegration of the residuals of panel regressions to define the asymptotically normal distribution and provide the test statistics. Both tests assume the presence of single cointegrating vector, but contrary to the Pedroni, the Kao test does not allow the heterogeneity across individual units, namely individual specific short run effects and different lag-lengths in the test regressions.

The Westerlund (2007) panel cointegration test is also derived under the null hypothesis of no cointegration, but contrary to the Pedroni and Kao tests, this test is not based on the residuals of the long run static regressions. The Westerlund test is based on structural rather than residual dynamics and assesses the significance of the adjustment coefficient in an error corrector model of the following type:

$$Dy_{it} = c_i + a_{i1} * Dy_{it-1} + \dots + a_{ip} * Dy_{it-p} + b_{i0} * Dx_{it} + b_{i1} * Dx_{it-1} + \dots + b_{ip} * Dx_{it-p} + a_i(y_{it-1} - b_1 * x_{it-1}) + u_{it} \quad (5)$$

The test is very flexible and works well in unbalanced, heterogeneous and/or relatively small panels, allowing for dependence both between and within the cross-panel units. It provides four test statistics:  $G_t$ ,  $G_a$ ,  $P_t$  and  $P_a$ . The  $G_t$  and  $G_a$  statistics test  $H_0: a_i = 0$  for all  $i$  versus  $H_a: a_i < 0$  for at least one of the series,  $i$ , starting from a weighted average of the individually estimated coefficients  $a_i$  and their respective t-ratios. The  $P_t$  and  $P_a$  test statistics consider the pooled information of all panel cross-section units to test  $H_0: a_i = 0$  for all  $i$  versus  $H_a: a_i < 0$  for all cross-section units.

### 2.3 Panel Regression Estimations

Panel data regression estimates allow great flexibility in modelling the differences in the individual cross units' behaviours. A basic static panel regression model can be represented with the following equation:

$$y_{it} = \alpha_t + \beta X_{it} + \gamma Z_i + \nu_i + u_{it} \quad (6)$$

where  $y_{it}$  is the variable being tested;  $i = 1, \dots, N$  are the cross units;  $t = 1, \dots, T$  the time periods;  $\alpha_t$  is the intercept (here, varying with  $t$  but independent of  $i$ );  $X_{it}$  are the independent variables that can vary both with  $i$  and  $t$ ;  $Z_i$  are the time-invariant independent variables that vary only with  $i$ ;  $\beta$  and  $\gamma$  are the coefficients associated to the  $X_{it}$  and  $Z_i$  variables;  $\nu_i$  is an error term that is assumed to vary with  $i$  but not with  $t$ ;  $u_{it}$  is another error term but this one is assumed to vary both with  $i$  and  $t$ .

Among the possible methods to estimate this kind of equations we will focus first on fixed effects panel estimations and then on system dynamic panel estimations.

Fixed effect estimates are particularly adequate when we are interested in analysing the impact of variables that vary over the time. Fixed effects explore the relationship between the explaining variables and the outcome within each cross unit, considering that each cross unit has its own characteristics,  $\nu_i$ , that may (or not) influence the explaining variables. Therefore, we may use fixed effects estimations if we consider that  $\nu_i$  is correlated with the time-varying variables  $X_{it}$  but we cannot estimate the coefficients,  $\gamma$ , representing the effects of the time invariant variables  $Z_i$ .

However fixed-effects models cannot deal with endogenous regressors, which may reveal an important concern in the context of the considered model. In order to deal with this limitation, we use dynamic panel estimates, developed by Arellano and Bover (1995) and Blundell and Bond (1998), which can not only address the endogeneity problems (although only for weak endogeneity and not for full endogeneity, as explained by Bond, 2002) but also reduce the potential bias of the estimated coefficients.

Here we chose the dynamic one-step system GMM (Generalized Method of Moments) estimations. The system GMM method uses cross-country information and jointly estimates the equations in first difference and in levels, with first differences instrumented by lagged levels of the dependent and independent variables and levels instrumented by first differences of the regressors. The validity of the instruments is tested through the Sargan-Hansen statistic, which is supposed to be robust to heteroskedasticity and autocorrelation.

### 3. DATA AND EMPIRICAL RESULTS

#### 3.1 Data

This paper tests the possible relationship between globalisation and the economic growth of 87<sup>1</sup> countries, spread across all continents. Economic growth is measured with the natural logarithm of real GDP *per capita* with data sourced from the World Development Indicators provided by the World Bank series “GDP *per capita* (constant 2010 US\$)”.

Globalisation is represented by the revised version of the KOF globalisation index<sup>2</sup> that considers three relevant dimensions of globalisation: economic, social and political

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<sup>1</sup> The choice of the considered countries was mostly restricted by data availability. The countries included in our sample are: Algeria, Argentina, Australia, Austria, Bangladesh, Belgium, Benin, Bolivia, Brazil, Burkina Faso, Burundi, Cameroon, Canada, Central African Republic, Chile, China, Colombia, Congo Republic, Costa Rica, Cote d'Ivoire, Denmark, Dominican Republic, Ecuador, Egypt Arab Republic, El Salvador, Finland, France, Gabon, Gambia, Germany, Ghana, Greece, Guatemala, Guyana, Honduras, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Kenya, Korea Republic, Lesotho, Luxembourg, Madagascar, Malawi, Malaysia, Mali, Malta, Mauritania, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Portugal, Rwanda, Saudi Arabia, Senegal, Sierra Leone, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Togo, Tunisia, Turkey, United Kingdom, United States, Uruguay.

<sup>2</sup> A detailed presentation and discussion of the revised version of the KOF globalisation Index can be found, for example, in Gygly *et al.* (2019). The KOF globalisation indices as well as the sources and definitions of the variables are available at <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>.

globalisation. Economic globalisation refers to the long-distance flows of goods, capital and services as well as information related to market exchanges; social globalisation represents the diffusion of ideas, information, images and people; and political globalisation represents the influence of the government policies. The revised version of the KOF index distinguishes between the *de facto* and *de jure* measures of the three globalisation dimensions. Overall, the *de facto* indices measure the actual international flows and activities while the *de jure* indices measure the conditions and policies that are supposed to enable, facilitate and foster the international flows and activities.

In our panel fixed effects and dynamic GMM estimates we include not only the 27 KOF globalisation measures but also four control variables that can be considered as relevant to the evolution of the real GDP *per capita*. The data are sourced from the World Development Indicators provided by the World Bank series and the control variables are: Exports of goods and services (% of GDP), Trade (% of GDP), Gross capital formation (% of GDP), and Population growth (annual %).

In the first place we present the results obtained with panel unit root tests, then with panel cointegration tests and finally with panel fixed effects and dynamic GMM panel estimations. In all situations we consider not only the data for the whole sample of 87 countries (in Panel 1) but also the sub-sample of the data for the 16 European countries (in Panel 2).

### 3.2. Results Obtained with Panel Unit Root Tests

We examine the stationarity of the series, implementing the presented unit root tests: Levin-Lin-Chu test (Levin *et al.*, 2002), Hadri Lagrange multiplier tests (Hadri, 2000) and the panel unit root test with cross-section dependence proposed by Pesaran (2004, 2007).

The results obtained for Panels 1 and 2 (both in levels and in first differences) are presented in Table 1. The results are not totally unanimous but overall they allow us to conclude that, at least according to one of the performed unit root tests, the considered variables are non-stationary at their levels and become stationary at their first differences, showing that these variables are integrated in the order one. Moreover, there are no remarkable differences between the results obtained for Panel 1 (including the whole sample of 87 countries) and for Panel 2 (including only the sub-sample of the 16 European countries).

The results obtained with the Levin-Lin-Chu test point to the non-stationarity of almost all variables in levels (the exceptions are in Panel 1 the KOF indices related to the financial globalisation and to the political globalisation, as well as the control variables included in the panel estimates; in Panel 2 there is also no clear evidence of the existence of unit roots for the variables related to the cultural globalisation). But when we consider the first differences, in all situations there is evident rejection of the null hypothesis, allowing us to conclude that all variables are stationary in their first differences.

In what regards to the results obtained with the Hadri test, and having in mind that now the null hypothesis is that all panels are stationary, we can reject it and conclude that some of the panels contain unit roots, meaning that some of the variables are non-stationary in their levels. Looking at the results obtained with the first differences, we cannot reject the null hypothesis in all situations, as there is clear evidence that the majority of the variables are stationary in their first differences (now the exceptions are mostly in Panel 1 and concern the KOF indices related to social, interpersonal and informational globalisation and not exactly the ones obtained with the previous unit root test).

Both the Levin-Lin-Chu test and the Hadri test assume cross-sectional independence, but in our case, we can suspect that there is some cross-country dependence and therefore we opt to perform the Pesaran panel unit root test with cross-section dependence.

Overall, the results obtained with the Pesaran test confirm the conclusions of the previous test. Particularly, in what regards to Panel 1 there is clear evidence that we cannot reject the null hypothesis, meaning that the variables are non-stationary in their levels; but they can be considered as stationary in their first-differences, indicating that the variables are integrated in the order one. The results obtained for Panel 2 raise few doubts about the stationarity of some variables in first differences, namely those related to the political globalisation indices.

TABLE 1 - Results Obtained with Panel Unit Root Tests (P-Values)

## PANEL 1

	Levin Li		Hadri		Pesaran	
	Levels	Differences	Levels	Differences	Levels	Differences
<b>Globalisation Index</b>	0.0016	0.0000	0.0000	0.1541	0.467	0.000
<i>de facto</i>	0.0099	0.0000	0.0000	1.0000	0.452	0.000
<i>de jure</i>	0.0146	0.0000	0.0000	0.0009	0.966	0.021
<b>Economic Globalisation</b>	0.0000	0.0000	0.0000	0.6765	0.999	0.000
<i>de facto</i>	0.0000	0.0000	0.0000	0.9978	1.000	0.000
<i>de jure</i>	0.0002	0.0000	0.0000	0.3674	0.704	0.000
<b>Trade Globalisation</b>	0.0453	0.0000	0.0000	0.9877	0.000	0.000
<i>de facto</i>	0.0001	0.0000	0.0000	1.0000	1.000	0.000
<i>de jure</i>	0.8400	0.0000	0.0000	0.0015	0.000	0.002
<b>Financial Globalisation</b>	0.0000	0.0000	0.0000	0.2468	0.473	0.000
<i>de facto</i>	0.0000	0.0000	0.0000	0.9365	0.999	0.000
<i>de jure</i>	0.0000	0.0000	0.0000	0.8635	0.871	0.000
<b>Social Globalisation</b>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<i>de facto</i>	1.0000	0.0000	0.0000	0.0000	0.176	0.000
<i>de jure</i>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<b>Interpersonal Globalisation</b>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<i>de facto</i>	0.9993	0.0000	0.0000	0.0000	0.930	0.000
<i>de jure</i>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<b>Informational Globalisation</b>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<i>de facto</i>	1.0000	0.0000	0.0000	0.0000	0.000	0.000
<i>de jure</i>	1.0000	0.0000	0.0000	0.0000	0.519	0.000
<b>Cultural Globalisation</b>	0.5919	0.0000	0.0000	0.9973	0.032	0.000
<i>de facto</i>	0.1625	0.0000	0.0000	0.8761	0.166	0.000
<i>de jure</i>	0.2453	0.0000	0.0000	0.9999	0.994	0.000
<b>Political Globalisation</b>	0.0000	0.0000	0.0000	1.0000	0.864	0.015
<i>de facto</i>	0.0000	0.0000	0.0000	1.0000	1.000	0.000
<i>de jure</i>	0.0000	0.0000	0.0000	0.7411	0.999	0.000
<b>Real GDP per capita</b>	1.0000	0.0000	0.0000	1.0000	1.000	0.003
<b>Exports of goods and Services (% of GDP)</b>	0.0002	0.0000	0.0000	0.9990	0.657	0.000
<b>Trade (% of GDP)</b>	0.0000	0.0000	0.0000	0.9979	0.845	0.000
<b>Gross capital formation (% of GDP)</b>	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000
<b>Population growth (annual %)</b>	0.0000	0.0000	0.0000	0.9999	0.0000	0.0000

## PANEL 2

Levin Li

Hadri

Pesaran

	Levels	Differences	Levels	Differences	Levels	Differences
<b>Globalisation Index</b>	0.0000	0.0000	0.0000	0.0396	0.758	0.076
<i>de facto</i>	0.0051	0.0000	0.0000	0.9252	0.720	0.058
<i>de jure</i>	0.0000	0.0000	0.0000	0.0289	0.814	0.002
<b>Economic Globalisation</b>	0.0000	0.0000	0.0000	0.0032	0.652	0.000
<i>de facto</i>	0.0115	0.0000	0.0000	0.8209	0.828	0.032
<i>de jure</i>	0.0000	0.0000	0.0000	0.0009	0.026	0.000
<b>Trade Globalisation</b>	0.0074	0.0000	0.0000	0.8338	0.800	0.017
<i>de facto</i>	0.3421	0.0000	0.0000	0.9536	0.192	0.003
<i>de jure</i>	0.0000	0.0000	0.0000	0.1706	0.862	0.001
<b>Financial Globalisation</b>	0.0000	0.0000	0.0000	0.0000	0.513	0.000
<i>de facto</i>	0.0007	0.0000	0.0000	0.0015	0.874	0.104
<i>de jure</i>	0.0001	0.0000	0.0000	0.0023	0.066	0.000
<b>Social Globalisation</b>	0.6620	0.0000	0.0000	0.6209	0.984	0.000
<i>de facto</i>	0.2060	0.0000	0.0000	0.7639	0.977	0.001
<i>de jure</i>	0.4892	0.0000	0.0000	0.7488	0.757	0.000
<b>Interpersonal Globalisation</b>	0.4195	0.0000	0.0000	0.4350	0.107	0.001
<i>de facto</i>	0.0006	0.0000	0.0000	0.0106	0.444	0.009
<i>de jure</i>	0.8533	0.0000	0.0000	0.1905	0.592	0.001
<b>Informational Globalisation</b>	1.0000	0.0000	0.0000	0.0003	0.013	0.001
<i>de facto</i>	0.7634	0.0000	0.0000	0.0295	0.997	0.009
<i>de jure</i>	0.9170	0.0000	0.0000	0.0002	0.002	0.000
<b>Cultural Globalisation</b>	0.0001	0.0000	0.0000	0.9422	0.773	0.006
<i>de facto</i>	0.0000	0.0000	0.0000	0.3810	0.990	0.001
<i>de jure</i>	0.0001	0.0000	0.0000	0.9421	0.165	0.000
<b>Political Globalisation</b>	0.0000	0.0000	0.0000	0.9560	0.504	0.332
<i>de facto</i>	0.0002	0.0000	0.0000	0.9960	0.972	0.172
<i>de jure</i>	0.0000	0.0000	0.0000	0.9579	0.784	0.292
<b>Real GDP per capita</b>	0.0147	0.0000	0.0000	0.0028	1.000	0.085
<b>Exports of goods and Services (% of GDP)</b>	0.5715	0.0000	0.0000	0.3426	0.235	0.001
<b>Trade (% of GDP)</b>	0.4825	0.0000	0.0000	0.6428	0.672	0.002
<b>Gross capital formation (% of GDP)</b>	0.0000	0.0000	0.0000	0.9725	0.0000	0.0000
<b>Population growth (annual %)</b>	0.0000	0.0000	0.0000	0.9477	0.0000	0.0000

Panel 1 includes all the 87 countries of our sample; Panel 2 includes the sub-sample of the 16 European countries.

### 3.3 Results Obtained with Panel Cointegration Tests

Despite the few exceptions, we have concluded that at least according to one of the performed tests, our variables are non-stationary in their levels but become stationary in their first differences. Therefore, overall, we can consider them as integrated in the order one, and we will proceed with cointegration analysis between the series of the KOF globalisation indices and the real GDP *per capita*.

Cointegration tests provide an appropriate framework to analyse the possible existence of long-run relationship between two series. Among the available panel cointegration tests we opt to apply three of the most popular ones: Pedroni, Kao and Westerlund tests. The results obtained are reported in Table 2. Not surprisingly, due to the characteristics of the different tests, the results obtained with each of these three performed tests are not evidently in line.

The results obtained with the Kao cointegration test allow us to conclude that there is clear evidence of cointegration, revealing the existence of long-run relationships between the real GDP *per capita* and the KOF globalisation indices.

However, looking at the results of the seven statistics provided by the Pedroni test we cannot reject the null hypothesis of no cointegration between the series, particularly in Panel 1, where we include the whole sample of 87 countries. In what regards to Panel 2 (considering only the European countries included in the sample), mostly according to the group ADF results, we can accept the existence of cointegration between the real GDP *per capita* and some globalisation indices, namely the ones related to the economic globalisation. Moreover, and still according to the results obtained for Panel 2, there is strong evidence that the *de jure* economic globalisation is cointegrated with the real GDP *per capita*, revealing the existence of long-run relationships between the GDP and the economic conditions and policies that foster the economic activities in the European countries included in our sample.

Both Kao and Pedroni tests, test the alternative hypothesis that the variables are cointegrated in all panels and are both included in the so called first generation of panel cointegration tests, that do not allow for cross-sectional correlations.

The Westerlund test is a second generation panel cointegration test, explicitly considering the cross section dependencies, and it tests the null hypothesis of no cointegration by inferring



whether the error correction term in a conditional panel error correction model is equal to zero. This test provides four statistics: two of them (Pa and Pt) consider the alternative hypothesis that the panel is cointegrated as a whole and the other two (Ga and Gt) consider the alternative hypothesis that at least one unit is cointegrated.

The results obtained with the panel cointegration Westerlund test are also presented in Table 2 and overall, they reject the null hypothesis and confirm the existence of cointegration between the real GDP *per capita* and the KOF globalisation indices, in our two panels.

However, in some cases the four statistics have not the same statistical significance, for example, in Panel 1, regarding the results of the *de facto* and *de jure* aggregate globalisation indices, as well as the *de facto* trade globalisation and the *de facto* financial globalisation, the cultural globalisation and all the three indices related to the political globalisation. Moreover, in what regards to the *de jure* political globalisation the results are robust enough to reject the null hypothesis of a group-mean tests (Ga) but not of the other tests, providing evidence that in this case the panel is not cointegrated as a whole but that we can accept that at least in some countries the real GDP *per capita* is cointegrated with the *de jure* aspects of the political globalisation.

The results obtained for Panel 2 also allow us to conclude that there are long-run relationships between the real GDP *per capita* and the KOF globalisation indices. The results of the Pt and Pa test statistics that consider the pooled information of all panel cross-section units clearly indicate that we can accept the alternative hypothesis, meaning that the panel can be considered cointegrated as a whole.

In almost all situations the existence of cointegration is corroborated by the results of the group-mean tests (in particular, the Ga ones). In some cases, the four statistics provide very strong statistical evidence of the existence of cointegration, for example, in what regards to the aggregate globalisation index, the indices related to the economic globalisation and to the financial globalisation, as well as the *de facto* informational globalisation.

TABLE 2 – Results Obtained with Panel Cointegration Tests  
PANEL 1

	Pedroni							KAO	Westerlund			
	Panel-v	Panel-rho	Panel-PP	Panel-ADF	Group-rho	Group-PP	Group-ADF	z	Gt	Ga	Pt	Pa
<b>Globalisation Index</b>	-3.37	1.929	.2374	.1962	4.047	2.074	1.173	49.43***	-2.634***	-15.434***	-21.461**	-11.571***
<i>de facto</i>	-3.658	1.693	.2576	.8059	2.991	1.117	.6058	51.88***	-2.405	-14.301***	-21.305**	-11.311***
<i>de jure</i>	-3.685	2.816	1.385	1.689	4.161	2.513	1.809	53.33***	-2.390	-14.439***	-20.234	-10.946***
<b>Economic Glob.</b>	-3.444	1.537	-.1858	-.1634	3.183	.9704	-.1427	58.51***	-2.480*	-15.793***	-20.745	-10.997***
<i>de facto</i>	-3.638	3.023	2.268	1.777	4.413	3.712	1.326	43.08***	-2.329	-14.617***	-19.299	-10.202**
<i>de jure</i>	-3.717	1.846	.4634	.5725	3.111	1.546	.9636	62.69***	-2.595***	-16.747***	-21.808***	-12.013***
<b>Trade Glob.</b>	-3.97	1.977	.3631	.7699	4.176	2.094	1.295	57.08***	-2.488*	-15.854***	-21.278**	-11.627***
<i>de facto</i>	-3.913	2.801	2.023	2.613	4.418	3.169	2.169	21.48***	-2.392	-15.118***	-20.490	-10.995***
<i>de jure</i>	-4.059	1.92	.1379	.0491	2.961	.872	-.113	55.90***	-2.847***	-18.432***	-23.666***	-13.739***
<b>Financial Glob.</b>	-3.527	1.25	-.4124	-.2811	3.557	1.739	.3235	60.28***	-2.538**	-16.098***	-20.930*	-11.408***
<i>de facto</i>	-3.94	2.898	1.885	2.227	4.275	3.50	1.436	57.11***	-2.414	-14.932***	-20.399	-10.744***
<i>de jure</i>	-3.662	1.538	-.1123	-.1398	3.508	1.428	.178	61.96***	-2.543**	-15.967***	-21.237**	-11.628***
<b>Social Glob.</b>	-3.516	2.807	1.295	1.592	3.928	1.694	-.3305	40.28***	-2.766***	-17.708***	-25.192***	-15.361***
<i>de facto</i>	-3.743	2.596	.6801	1.068	3.704	1.277	-1.087	41.50***	-2.803***	-17.541***	-24.410***	-14.374***
<i>de jure</i>	-3.052	2.342	1.121	1.187	3.445	1.727	-.4103	42.04***	-2.519**	-16.146***	-23.271***	-13.767***
<b>Interper. Glob.</b>	-3.908	2.978	1.55	2.372	4.081	2.016	.4435	44.28***	-2.879***	-17.660***	-24.852***	-14.377***
<i>de facto</i>	-3.591	2.19	.0275	.6857	3.288	.2715	-1.371*	37.24***	-2.683***	-17.044***	-22.423***	-11.947***
<i>de jure</i>	-3.917	3.257	1.785	2.678	3.95	1.89	.6023	49.08***	-2.823***	-18.052***	-24.036***	-14.226***
<b>Inform. Glob.</b>	-3.121	2.169	.3752	.0282	3.732	1.307	-1.166	47.63***	-2.754***	-17.846***	-24.388***	-14.919***
<i>de facto</i>	-3.743	2.024	.1441	-.2168	3.666	1.242	-1.32*	46.39***	-2.889***	-19.607***	-24.864***	-14.910***
<i>de jure</i>	-3.008	1.841	.1307	-.975	2.868	.5383	-2.177**	51.87***	-2.684***	-17.772***	-22.775***	-13.513***
<b>Cultural Glob.</b>	-3.763	2.344	1.072	1.097	3.613	2.131	.6891	39.46***	-2.285	-13.941***	-20.089	-10.624***
<i>de facto</i>	-3.048	-1.075	-1.592**	-.7038	1.482	-.3643	-.3802	47.37***	-2.566***	-16.016***	-22.299***	-12.784***
<i>de jure</i>	-3.533	2.04	1.357	.8985	3.449	2.838	.6267	44.53***	-2.350	-14.348***	-20.223	-10.897***
<b>Political Glob.</b>	-3.7	1.632	.3944	.4276	3.483	2.164	.9342	42.35***	-2.305	-14.007***	-19.384	-10.208**
<i>de facto</i>	-4.639	3.138	1.754	2.164	4.789	3.273	2.813	40.33***	-2.393	-14.169***	-20.822*	-11.037***
<i>de jure</i>	-3.435	2.529	1.699	2.111	4.341	3.42	1.752	51.31***	-2.276	-13.491**	-18.772	-9.321

## PANEL 2

	Pedroni							KAO	Westerlund			
	Panel-v	Panel-rho	Panel-PP	Panel-ADF	Group-rho	Group-PP	Group-ADF	z	Gt	Ga	Pt	Pa
<b>Globalisation Index</b>	-.01561	-.1163	-.6682	-.1824	.2792	-.5469	-.9828	11.89***	-2.695**	-17.494***	-11.607***	-17.359***
<i>de facto</i>	-.06889	-.5631	-1.027	-.2719	-.1384	-1.038	-2.13**	7.44***	-2.359	-13.502	-11.538***	-16.041***
<i>de jure</i>	.5466	-.3219	-.2221	1.086	.2917	-.3433	-.5029	14.77***	-2.505	-16.515***	-10.912***	-16.503***
<b>Economic Glob.</b>	-.9454	1.204	.839	.1382	.8418	.2946	-1.337*	9.19***	-2.932***	-21.265***	-12.289***	-19.060***
<i>de facto</i>	.9323	-.1917	-.187	-.445	.194	-.3723	-2.389**	4.89***	-2.351	-14.667**	-10.621***	-15.275***
<i>de jure</i>	.2539	-2.036**	-2.404**	-3.67***	-.2201	-1.186	-3.01***	13.71***	-3.187***	-23.915***	-13.219***	-20.637***
<b>Trade Glob.</b>	-.9543	.5596	.3231	.2037	.3535	-.0961	-1.047	8.54***	-2.337	-15.308**	-10.733***	-15.740***
<i>de facto</i>	-.9654	.4729	.0577	.0737	1.396	.2163	-.6648	3.07***	-2.234	-14.727**	-9.622*	-14.239***
<i>de jure</i>	.3639	-.2977	-.2519	-1.228*	.4881	-.2596	-2.029**	11.88***	-3.185***	-22.281***	-13.158***	-20.621***
<b>Financial Glob.</b>	-.747	1.452	1.506	1.429	1.041	.8385	-.01608	9.53***	-2.828***	-21.272***	-11.898***	-18.866***
<i>de facto</i>	.6127	.3219	.4655	-.0332	.7082	.3344	-.7406	6.45***	-2.586	-16.860***	-11.499***	-17.198***
<i>de jure</i>	-.9178	.2044	-.2869	-1.033	1.179	.5351	-.8144	14.45***	-2.841***	-20.779***	-12.350***	-18.510***
<b>Social Glob.</b>	-.6423	.4181	-.1031	.0092	.7359	-.3625	-.8707	10.75***	-2.282	-14.951**	-10.558***	-15.238***
<i>de facto</i>	-.6925	.6612	.1481	.4101	.9036	-.0276	.2442	8.09***	-2.224	-13.310	-11.189***	-15.145***
<i>de jure</i>	-1.101	.7116	.6111	1.000	.7797	.2869	.5075	13.09***	-2.105	-14.150*	-8.388	-13.464***
<b>Interper. Glob.</b>	-.7579	.8238	.1556	-.67	.449	-.3883	-1.813**	8.74***	-2.659*	-14.963**	-12.342***	-15.538***
<i>de facto</i>	-.5717	1.004	.8224	1.92	.891	.5182	1.289	7.23***	-2.393	-15.490**	-12.092***	-19.002***
<i>de jure</i>	-1.354	1.739	1.816	1.831	2.16	2.098	1.054	7.06***	-2.551	-16.574***	-10.387***	-15.238***
<b>Inform. Glob.</b>	-1.625	1.738	1.62	2.132	1.746	1.324	.7531	10.16***	-2.597	-17.239***	-11.428***	-16.017***
<i>de facto</i>	-1.381	1.497	1.404	1.098	1.372	1.304	.3082	4.42***	-2.891***	-23.116***	-12.275***	-19.922***
<i>de jure</i>	-.3094	.159	.106	.4794	.5511	-.1131	-.8438	11.17***	-2.640*	-17.919***	-11.557***	-18.528***
<b>Cultural Glob.</b>	-1.283	1.649	1.686	2.244	1.25	1.133	1.371	10.96***	-2.315	-16.504***	-9.676*	-15.119***
<i>de facto</i>	-1.385	1.87	1.826	2.359	1.716	1.375	.5952	9.95***	-2.429	-15.789***	-11.024***	-15.817***
<i>de jure</i>	-1.638	1.761	1.801	2.753	1.995	2.075	2.256	11.72***	-2.171	-15.147**	-8.892	-13.149***
<b>Political Glob.</b>	.07525	.5812	.5729	1.009	.2606	-.0542	-.6212	5.87***	-2.010	-12.577	-9.458	-13.667***
<i>de facto</i>	-.7196	.3603	.1411	.2457	.4238	-.0594	-.05917	2.41**	-2.262	-14.064*	-10.462***	-15.300***
<i>de jure</i>	.2894	.0521	.111	-.3099	.0854	-.2039	-1.14	10.66***	-2.003	-12.839	-9.252	-13.318***

\*\*\*significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.

Panel 1 includes all the 87 countries of our sample; Panel 2 includes the sub-sample of the 16 European countries.

### 3.4 Results Obtained with Panel Regression Estimations

Among the possible methods to estimate panel equations we present the results obtained with fixed effects estimations and dynamic GMM panel estimations. In all situations we compare the results of the whole sample of 87 countries from all continents (included in Panel 1) with those of the sub-sample of the 16 European countries (included in Panel 2).

Using both fixed effects and GMM panel estimations, we begin with the estimation of a single equation including all the 27 KOF globalisation indices; then we estimate three equations, separating the three kind of indices: the aggregate, the *de facto* and the *de jure* indices; finally, we estimate 27 equations, each of them considering only one of the KOF globalisation indices.

The results obtained with fixed effects are presented in Annex I and those obtained with dynamic GMM panel estimations are reported in Annex II. All these results are summarised in Table 3.

Overall, the results obtained confirm the relevance of the KOF globalisation indices to the real GDP *per capita* growth.

In what regards to the single equation including all the KOF globalisation indices (Table 3 – A) we can confirm the statistical relevance of their contribution to economic growth; however, not in all situations there is clear evidence that this relevant influence is positive or negative. In addition, the results obtained for the whole sample of countries (Panel 1) are not always in line with the ones obtained for the sub-sample of European countries (Panel 2). Nevertheless, in all situations, there is strong evidence that the *de facto* aggregate globalisation index and the aggregate interpersonal globalisation index grow in line with the real GDP *per capita*, while the *de facto* and the *de jure* interpersonal globalisation indices are not growing in line with the economic growth. The non-evident unanimity of these results may be due to the existence of high correlations between some of the globalisation indices.

In the next step, we estimate three equations separating the KOF indices in three groups: the overall, the *de facto* and the *de jure* indices and we summarise the results obtained in Table 3 – B. The relevance of the globalisation indices is corroborated, in particular, when we use dynamic GMM estimates. Now there is statistically strong evidence that, in all situations, the aggregate and the *de facto* social globalisation indices as well as the *de jure* economic globalisation index

grow in line with the real GDP *per capita*. On the other side, there is robust statistical evidence that the aggregate, the *de facto* informational globalisation indices as well as the aggregate cultural globalisation index are not growing in line with the economic growth. But overall, the results obtained both in Panels 1 and 2, do not allow us to identify any unanimous influence of the globalisation indices on the real GDP *per capita* growth.

Finally, when we estimate 27 individual equations, each one including only one KOF globalisation index, we obtain not only statistically very robust results but also clear evidence of unanimity. The results summarised in Table 3 – C reveal that in Panel 1 (considering the whole sample of 87 countries) all the 27 globalisation indices have a positive influence on the real GDP *per capita* growth. In what regards to the results obtained for Panel 2 (including only the 16 European countries of our sample) with only two exceptions (related to the *de facto* informational globalisation index and the *de facto* trade globalisation index, although the later only when we use fixed-effects estimates), overall we can also conclude that the KOF globalisation indices have a positive influence on the real GDP *per capita* growth.

TABLE 3 – Summary of the Results Obtained with Panel Fixed Effects and  
Dynamic GMM Estimates

A – Estimates of a single equation

	PANEL 1		PANEL 2	
	Fixed-effects	Dynamic GMM system	Fixed-effects	Dynamic GMM system
<b>Globalisation Index</b>	_*	+*	_***	_***
<i>de facto</i>	+***	+	+***	+***
<i>de jure</i>	+*	_*	+***	+***
<b>Economic Glob.</b>	_***	_***	+***	+
<i>de facto</i>	+***	+	_***	-
<i>de jure</i>	+***	+***	_***	-
<b>Trade Glob.</b>	+***	+***	_**	-
<i>de facto</i>	_***	-	+***	+***
<i>de jure</i>	-	_***	+	+
<b>Financial Glob.</b>	+***	+***	_***	-
<i>de facto</i>	_***	-	+***	+***
<i>de jure</i>	_***	_***	+***	+
<b>Social Glob.</b>	+***	_***	+*	+
<i>de facto</i>	+	+***	_***	+
<i>de jure</i>	_***	+	-	+*
<b>Interpersonal Glob.</b>	+***	+***	+***	+***
<i>de facto</i>	_***	_***	_***	_***
<i>de jure</i>	_***	_***	_***	_***
<b>Informational Glob.</b>	_***	+**	_***	_***
<i>de facto</i>	+***	_***	+***	+***
<i>de jure</i>	+***	-	+**	-
<b>Cultural Glob.</b>	_***	-	+	_***
<i>de facto</i>	+***	_**	+***	+***
<i>de jure</i>	+***	+***	_**	-
<b>Political Glob.</b>	+	_**	+***	+***
<i>de facto</i>	-	+	_***	+*
<i>de jure</i>	+	+***	_***	_***

B – Three equations, separating the aggregate, de facto and de jure globalisation indices

	PANEL 1		PANEL 2	
	Fixed-effects	Dynamic GMM system	Fixed-effects	Dynamic GMM system
Globalisation Index	_***	+***	+***	_***
Economic Glob.	_***	+**	+	+***
Trade Glob.	+***	-	_***	_***
Financial Glob.	+***	_*	_***	_***
Social Glob.	+***	+***	+***	+***
Interpersonal Glob.	+	_***	_***	_***
Informational Glob.	_***	_***	_***	_***
Cultural Glob.	_***	_***	_***	_***
Political Glob.	+**	-	-	+***
	Fixed-effects	Dynamic GMM system	Fixed-effects	Dynamic GMM system
Globalisation Index- <i>de facto</i>	+	_*	+	_***
Economic Glob.- <i>de facto</i>	+	_*	_***	+***
Trade Glob.- <i>de facto</i>	_***	+**	+	_***
Financial Glob.- <i>de facto</i>	+	+***	+***	_***
Social Glob.- <i>de facto</i>	+***	+***	+**	+***
Interpersonal Glob.- <i>de facto</i>	-	+	+	_**
Informational Glob.- <i>de facto</i>	_***	_***	-	_***
Cultural Glob.- <i>de facto</i>	+***	_*	-	_***
Political Glob. - <i>de facto</i>	+	+***	-	+***
	Fixed-effects	Dynamic GMM system	Fixed-effects	Dynamic GMM system
Globalisation Index- <i>de jure</i>	+	+***	_***	_***
Economic Glob.- <i>de jure</i>	+	+***	+***	+***
Trade Glob.- <i>de jure</i>	+***	_***	_***	_***
Financial Glob.- <i>de jure</i>	+***	_***	_**	_***
Social Glob.- <i>de jure</i>	_***	+***	+	+***
Interpersonal Glob.- <i>de jure</i>	+***	_***	+	_***
Informational Glob.- <i>de jure</i>	+***	_***	+	_***
Cultural Glob.- <i>de jure</i>	+***	_***	-	_***
Political Glob.- <i>de jure</i>	+	_***	+***	+***

## C – Estimates of individual equations, separating all the globalisation indices

	PANEL 1		PANEL 2	
	Fixed-effects	Dynamic GMM system	Fixed-effects	Dynamic GMM system
<b>Globalisation Index</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Economic Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Trade Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Financial Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Social Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Interpersonal Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Informational Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Cultural Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***
<b>Political Glob.</b>	***	***	***	***
<i>de facto</i>	***	***	***	***
<i>de jure</i>	***	***	***	***

Panel 1 includes all the 87 countries of our sample; Panel 2 includes the sub-sample of the 16 European countries.

\*\*\*significant at 1% level; \*\* significant at 5% level; \* significant at 10% level.



#### 4. CONCLUDING REMARKS

This paper contributes to the literature by testing the relevance of globalisation to real GDP *per capita* in 87 countries across all continents in the relatively long interval 1970-2016, using the revised version of the KOF globalisation index that considers three relevant aspects of globalisation: economic, social and political globalisation; distinguishing between the *de facto* and *de jure* measures of the three globalisation dimensions.

Moreover, the paper takes into consideration the geographic proximity as well as the singularity of the recent process of European integration, and tests the existence of potential differences in the behaviour of the European countries in comparison with all the countries included in our sample, considering two panels of countries: Panel 1 including all the 87 countries and Panel 2 including only the 16 European countries of the sample.

First, we test the stationarity of the series and the results obtained with three panel unit root tests: Levin-Lin-Chu, Hadri Lagrange multiplier and Pesaran tests. Overall, the results obtained with these tests point to the conclusion that the considered variables are non-stationary at their levels and become stationary at their first differences, indicating that the series are integrated in the order one.

Then, we test the existence of long-run relationships between the real GDP *per capita* and all the KOF globalisation indices using three panel-cointegration tests: Pedroni, Kao and Westerlund tests. The results obtained with the different tests are not totally unanimous. However, both the results obtained with the Kao and with the Westerlund tests provide robust evidence of the existence of panel and cross-section cointegration between the series. Overall, the results obtained both for Panels 1 and 2 allow us to conclude that there are long-run relationship between economic growth and the globalisation indices, without remarkable differences between the results for the whole sample of the considered countries and for the sub-sample of the European countries.

Finally, the results obtained with panel fixed effects and dynamic GMM estimations, clearly demonstrate that globalisation can be very relevant to economic growth but also that this is a very complex relationship, being hard to conclude that globalisation always benefits economic growth.

In our case, if we consider the results obtained with the estimation of 27 individual equations, each one including only one KOF globalisation index, we obtain statistically very robust and unanimous results pointing to the positive influence of globalisation in the real GDP *per capita* growth. However, it is not realistic to accept the total separation of the considered globalisation dimensions, and when we estimate equations with different combinations of the KOF globalisation indices, overall, the results confirm the relevance of globalisation to economic growth but we cannot clearly conclude that globalisation promotes economic growth.

Furthermore, the results of our panel regression estimations do not identify remarkable differences in the behaviour of the sub-sample of the European countries in comparison with the whole sample of 87 countries from all continents.

Summarising, we may conclude that this paper empirically confirms that the relationships between the multiple dimensions of globalisation and economic growth are undoubtedly relevant but also complex, corroborating the results obtained, among others, by Gurkul and Lach (2014), Kazar and Kazar (2016) and Gygli *et al.* (2019).

Further research is still needed in this field, namely considering other combinations of the globalisation indices, for different periods and groups of countries, with linear and non-linear methods of estimation. Stronger evidence is also needed, regarding the existence of causality relationships between economic growth and the different aspects of globalisation as well as of potential asymmetries in the benefits or losses, clearly associated with the globalisation phenomena, in different kinds of countries.

## REFERENCES

- Agenor, P.R. (2002), "Does Globalization Hurt the Poor?", World Bank Policy Research Working Paper No. 2922, available at <<http://dx.doi.org/10.1596/1813-9450-2922>>.
- Ali, A. and K.S. Imai (2013), "Crisis, Economic Integration and Growth Collapses in African Countries", The School of Economics Discussion Paper Series 1302, Economics, The University of Manchester.
- Amavilah, V.H. (2009), "National Symbols, Globalization, and the Well-Being of Nations", MPRA Paper No. 14882, available at <[http://mpra.ub.uni-muenchen.de/14882/1/MPRA\\_paper\\_14882.pdf](http://mpra.ub.uni-muenchen.de/14882/1/MPRA_paper_14882.pdf)>
- Arellano, M. and S. Bond (1991), "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", *Review of Economic Studies*, 58(2), 277-297.
- Arellano, M. and O. Bover (1995), "Another Look at the Instrumental-Variable Estimation of Error-Components Model", *Journal of Econometrics*, 68(1), 29-52.
- Baltagi, B. (2008), *Econometric Analysis of Panel Data* (Fourth Edition; First Edition in 2001), John Wiley & Sons: Chichester.
- Bergh, A. and T. Nilsson (2010), "Do Liberalization and Globalization Increase Income Inequality?", *European Journal of Political Economy*, 26(4), 488-505.
- Blundell, R. and S. Bond (1998), "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, 87(1), 115-143.
- Bond, S. (2002), "Dynamic Panel Data Models: A Guide to Micro Data Methods and Practice", Institute for Fiscal Studies, London, Working Paper CWP09/02.
- Breitung J. and M.H. Pesaran (2008), *Unit Roots and Cointegration in Panels*, in: L. Mátyás, P. Sevestre (Eds), "The Econometrics of Panel Data", Vol 46. Springer: Berlin, Heidelberg.
- Cameron, R. (1993), *A Concise Economic History of the World: From Palaeolithic Times to the Present*, Oxford University Press.
- Chang, C-P. and C-C. Lee (2010), "Globalization and Economic Growth: A Political Economy Analysis for OECD Countries", *Global Economic Review*, 39(2), 151-173.
- Chang, C-P., C-C. Lee and M-C. Hsieh (2011), "Globalization, Real Output and Multiple Structural Breaks", *Global Economic Review*, 40(4), 421-444.

- Chang, C-P., C-C. Lee and M-C. Hsieh (2015), “Does Globalization Promote Real Output? Evidence from Quantile Cointegration Regression”, *Economic Modelling*, 44, 25-36.
- Dollar, D. and A. Kraay (2004), “Trade, Growth and Poverty”, *Economic Journal*, 114(493), 22-49.
- Dreher, A. (2006), “Does Globalization Affect Growth? Evidence from a New Index of Globalization”, *Applied Economics*, 38(10), 1091–1110.
- Dreher, A., N. Gaston and P. Martens (2008), *Measuring Globalisation: Gauging its Consequences*, Springer: New York.
- Engle, R.F. and C.W.J. Granger (1987), “Cointegration and Error Correction: Representation, Estimation and Testing”, *Econometrica*, 55(2), 251-276.
- Eppinger, P. and N. Potrafke (2015), Did Globalisation Influence Credit Market Deregulation? CESifo Working Paper No. 5374, available at <[http://www.cesifo-group.de/portal/page/portal/DocBase\\_Content/WP/WP-CESifo\\_Working\\_Papers/wp-cesifo-2015/wp-cesifo-2015-05/cesifo1\\_wp5374.pdf](http://www.cesifo-group.de/portal/page/portal/DocBase_Content/WP/WP-CESifo_Working_Papers/wp-cesifo-2015/wp-cesifo-2015-05/cesifo1_wp5374.pdf)>.
- Ezcurra, R. and A. Rodríguez-Pose (2013), “Does Economic Globalization Affect Regional Inequality? A Cross-Country Analysis”, *World Development*, 52, 92-103.
- Fischer, S. (2003), “Globalization and its Challenges”, *The American Economic Review*, 93(2), 1-30.
- Frankel, J.A. and D.H. Romer (1999), “Does Trade Cause Growth?” *The American Economic Review*, 89(3), 379-399.
- Frankel, J.A. and A.K. Rose (2005), “Is Trade Good or Bad for the Environment? Sorting out the Causality”, *Review of Economics and Statistics*, 87(1), 85-91.
- Gurkul, H. and L. Lach (2014), “Globalization and Economic Growth: Evidence from Two Decades of Transition in CEE”, *Economic Modelling*, 36, 99-107.
- Gygli, S., F.Haelg, N. Potrafke and J.E. Sturm (2019), “The KOF Globalisation Index – Revisited”, *The Review of International Organizations*, 14(3), 543-574.
- Hadri, K. (2000), “Testing for Stationarity in Heterogenous Panel Data”, *The Econometrics Journal*, 3(2), 148-161.
- IMF(2000), *Globalization: Threat or Opportunity? An IMF Issues Brief*, available at <<http://www.imf.org/external/np/exr/ib/2000/041200.htm>>.
- Kao, C. (1999), “Spurious Regression and Residual-Based Tests for Cointegration in Panel Data”, *Journal of Econometrics*, 90(1), 1-44.
- Kazar, A. and G. Kazar (2016), “Globalization, Financial Development and Economic Growth”,

- International Journal of Economics and Financial Issues*, 6(2), 578-587.
- Levin, A., C-F. Lin and C-S. Chu (2002), "Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties", *Journal of Econometrics*, 108(1), 1-24.
- Maddala, G.S. and S. Wu (1999), "A Comparative Study of Unit Root Tests with Panel Data and a New Simple Test", *Oxford Bulletin of Economics and Statistics*, 61(S1), 631-652.
- Mahler, V.A. (2004), "Economic Globalization, Domestic Politics, and Income Inequality in the Developed Countries: A Cross-National Study", *Comparative Political Studies*, 37(9), 1025-1053.
- Neal, T. (2014), "Panel Cointegration Analysis with Xtpedroni", *Stata Journal*, 14(3), 684-692.
- Obstfeld, M. (1994) "Risk-Taking, Global Diversification, and Growth", *The American Economic Review*, 84(5), pp. 1310-1329.
- OECD (2010), Measuring Globalisation: OECD Economic Globalisation Indicators 2010, available at <<http://www.oecd.org/sti/sci-tech/measuringglobalisationoecdeconomicglobalisationindicators2010.htm>>.
- Pedroni, P. (1999), "Critical Values for Cointegration Tests in Heterogeneous Panels with Multiple Regressors", *Oxford Bulletin of Economics and Statistics*, 61, 653-670.
- Pedroni, P. (2004), "Panel Cointegration: Asymptotic and Finite Sample Properties of Pooled Time Series Tests with An Application to the PPP Hypothesis", *Econometric Theory*, 20(3), 597-625.
- Pesaran, M.H. (2004), "General Diagnostic Tests For Cross Section Dependence in Panels", CESifo Working Paper No. 1229.
- Pesaran, M.H. (2007), "A Simple Panel Unit Root Test in the Presence of Cross-Section Dependence", *Journal of Applied Econometrics*, 22(2), 265-312.
- Potrafke, N. (2013) "Globalization and Labor Market Institutions: International Empirical Evidence", *Journal of Comparative Economics*, 41, 829-842.
- Potrafke, N. (2015) "The Evidence of Globalization", *The World Economy*, 38(3), 509-552.
- Rodriguez, F. and D. Rodrik (2000), *Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence*, in: B.S. Bernanke, K. Rogoff (Eds), "Nber Macroeconomics Annual 2000", vol. 15, available at <<http://www.nber.org/chapters/c11058.pdf>>.
- Rodrik, D. (2007), "Saving Globalization from its Cheerleaders", *Journal of International Trade and Diplomacy*, 1(2), 1-33.

- Vamvakidis, A. (2002), “How Robust is the Growth–Openness Connection? Historical Evidence”, *Journal of Economic Growth*, 7(1), 57-80.
- Villaverde, J. and A. Maza (2011), “Globalization, Growth and Convergence”, *World Economy*, 34 (6), 952-971.
- Westerlund, J. (2007), “Testing for Error Correction in Panel Data”, *Oxford Bulletin of Economics and Statistics*, 69(6), 709-748.
- Wood, A. (1998), “Globalisation and the Rise in Labour Market Inequalities”, *Economic Journal*, 108(450), 1463-1482.
- Wooldridge, J.M. (2010), *Econometric Analysis of Cross Section and Panel Data*, The MIT Press.
- World Bank and International Monetary Fund (2007) “Aid For Trade: Harnessing Globalization for Economic Development”, Paper prepared by the Staff of the World Bank and IMF, August 2007, available at <<https://www.imf.org/external/np/pp/2007/eng/080107.pdf>>.
- Ying, Y.H., K. Chang and C-H. Lee (2014), “The Impact of Globalization on Economic Growth”, *Romanian Journal of Economic Forecasting*, 17(2), 25-34.

ANNEX I  
RESULTS OBTAINED WITH PANEL FIXED-EFFECTS ESTIMATIONS

## I.A – Estimates of a single equation (all dimensions of the KOF globalisation indices)

PANEL 1

PANEL 2

	Coefficient	Z	P> z	Coefficient	Z	P> z
<b>Globalisation Index</b>	-1.929419	-2.26	0.024	-20.10217	-7.15	0.000
<i>de facto</i>	.9964422	2.50	0.013	8.410118	7.37	0.000
<i>de jure</i>	.8743134	1.87	0.062	13.68523	7.49	0.000
<b>Economic Glob.</b>	-3.238062	-9.44	0.000	6.839546	4.53	0.000
<i>de facto</i>	1.323296	8.36	0.000	-2.875313	-7.29	0.000
<i>de jure</i>	1.144746	7.21	0.000	-4.385219	-4.22	0.000
<b>Trade Glob.</b>	1.072972	7.31	0.000	-1.591067	-2.16	0.031
<i>de facto</i>	-.574255	-7.25	0.000	.4933247	2.54	0.011
<i>de jure</i>	-.0923841	-1.62	0.105	.6388549	1.24	0.216
<b>Financial Glob.</b>	1.508783	8.98	0.000	-4.502242	-7.68	0.000
<i>de facto</i>	-.4766471	-5.56	0.000	2.05258	11.69	0.000
<i>de jure</i>	-.3632073	-4.53	0.000	2.444768	6.39	0.000
<b>Social Glob.</b>	2.20072	4.01	0.000	8.416264	1.83	0.068
<i>de facto</i>	.0303325	0.15	0.882	-9.083336	-3.46	0.001
<i>de jure</i>	-1.224075	-4.34	0.000	-2.746434	-1.14	0.255
<b>Interpersonal Glob.</b>	2.160241	8.73	0.000	7.561695	4.25	0.000
<i>de facto</i>	-1.054759	-10.56	0.000	-1.420039	-2.00	0.045
<i>de jure</i>	-1.168134	-8.65	0.000	-3.894514	-4.03	0.000
<b>Informational Glob.</b>	-1.575855	-7.79	0.000	-3.116258	-2.67	0.008
<i>de facto</i>	.2735292	3.11	0.002	3.393577	6.14	0.000
<i>de jure</i>	1.010137	11.03	0.000	1.016944	1.95	0.052
<b>Cultural Glob.</b>	-1.059181	-9.55	0.000	.3812054	0.28	0.783
<i>de facto</i>	.2813359	8.65	0.000	1.764184	2.81	0.005
<i>de jure</i>	.6324158	10.61	0.000	-1.0342	-2.16	0.031
<b>Political Glob.</b>	.2363351	0.96	0.339	2.559019	3.61	0.000
<i>de facto</i>	-.1733904	-1.63	0.103	-.9876459	-3.72	0.000
<i>de jure</i>	.0290853	0.20	0.838	-2.182743	-3.96	0.000
<b>Exports of goods and services (% of GDP)</b>	.4481815	16.70	0.000	.3517343	4.12	0.000
<b>Trade (% of GDP)</b>	-.3399469	-10.82	0.000	.1222286	1.26	0.209
<b>Gross capital formation (% of GDP)</b>	.1192553	9.33	0.000	.1923903	6.41	0.000
<b>Population growth (annual %)</b>	.0200788	4.04	0.000	.0662808	8.33	0.000
<b>Constant</b>	4.725613	39.12	0.000	.3196651	0.53	0.594
	<b>R-sq:</b> within = 0.6505 between = 0.9036 overall = 0.8127			<b>R-sq:</b> within = 0.9417 between = 0.2530 overall = 0.5014		
	<b>Number of obs.= 4,089</b>			<b>Number of obs.= 752</b>		



## I.B – Three equations, separating the aggregate, de facto and de jure globalisation indices

PANEL 1

PANEL 2

	<b>Coefficient</b>	<b>Z</b>	<b>P&gt; z </b>	<b>Coefficient</b>	<b>Z</b>	<b>P&gt; z </b>
<b>Globalisation Index</b>	-.6059252	-2.46	0.014	3.118926	2.78	0.006
<b>Economic Glob.</b>	-1.087106	-4.66	0.000	1.919629	1.86	0.064
<b>Trade Glob.</b>	.6311791	6.15	0.000	-2.061915	-4.04	0.000
<b>Financial Glob.</b>	.9995551	9.05	0.000	-1.140712	-2.57	0.010
<b>Social Glob.</b>	1.345533	4.75	0.000	20.35949	5.99	0.000
<b>Interpersonal Glob.</b>	.0592289	0.60	0.548	-5.772056	-5.11	0.000
<b>Informational Glob.</b>	-.3770404	-3.54	0.000	-7.009132	-6.08	0.000
<b>Cultural Glob.</b>	-.3044625	-3.82	0.000	-7.031627	-6.09	0.000
<b>Political Glob.</b>	.2304199	2.26	0.024	-.5003442	-1.25	0.211
<b>Exports of goods and services (% of GDP)</b>	.4671151	15.82	0.000	.9092798	8.24	0.000
<b>Trade (% of GDP)</b>	-.3920511	-11.39	0.000	-.3523278	-2.73	0.007
<b>Gross capital formation (% of GDP)</b>	.0405721	2.94	0.003	.2213405	5.77	0.000
<b>Population growth (annual %)</b>	.0113324	2.06	0.040	.0951996	8.91	0.000
<b>Constant</b>	4.937825	46.38	0.000	-.4664718	-0.89	0.376
	<b>R-sq:</b> within = 0.5529 between = 0.7728 overall = 0.6864			<b>R-sq:</b> within = 0.8718 between = 0.3127 overall = 0.5087		
	<b>Number of obs. = 4,089</b>			<b>Number of obs. = 752</b>		

PANEL 1

PANEL 2

	Coefficient	Z	P> z		Coefficient	Z	P> z
<b>Globalisation Index- <i>de facto</i></b>	.1982433	1.48	0.140		.5565702	1.22	0.221
<b>Economic Glob.- <i>de facto</i></b>	.2017157	1.45	0.148		-1.334819	-3.94	0.000
<b>Trade Glob.- <i>de facto</i></b>	-.2020512	-2.95	0.003		.0499885	0.32	0.749
<b>Financial Glob.- <i>de facto</i></b>	.0443888	0.63	0.527		.557059	3.31	0.001
<b>Social Glob.- <i>de facto</i></b>	1.10778	8.34	0.000		3.010514	2.03	0.042
<b>Interpersonal Glob.- <i>de facto</i></b>	-.0110058	-0.20	0.845		.2281126	0.54	0.590
<b>Informational Glob.- <i>de facto</i></b>	-.4972331	-9.24	0.000		-1.172486	-2.47	0.014
<b>Cultural Glob.- <i>de facto</i></b>	.1004969	3.24	0.001		-.5512457	-1.22	0.222
<b>Political Glob. - <i>de facto</i></b>	.0153507	0.26	0.792		-.2829847	-1.83	0.068
<b>Exports of goods and services (% of GDP)</b>	.4280539	14.50	0.000		.9270825	8.71	0.000
<b>Trade (% of GDP)</b>	-.3074983	-8.96	0.000		-.079846	-0.64	0.523
<b>Gross capital formation (% of GDP)</b>	.0711721	5.12	0.000		.1408797	3.80	0.000
<b>Population growth (annual %)</b>	.0127303	2.31	0.021		.1165857	11.95	0.000
<b>Constant</b>	4.470732	40.94	0.000		2.025474	3.54	0.000
	<b>R-sq:</b> within = 0.5542 between = 0.8598 overall = 0.8111				<b>R-sq:</b> within = 0.8813 between = 0.1471 overall = 0.3206		
	<b>Number of obs.= 4,089</b>				<b>Number of obs. = 752</b>		

PANEL 1

PANEL 2

	Coefficient	Z	P> z		Coefficient	Z	P> z
<b>Globalisation Index- <i>de jure</i></b>	.0761238	0.37	0.710		-3.91169	-3.46	0.001
<b>Economic Glob.- <i>de jure</i></b>	.0494123	0.41	0.683		3.898417	4.29	0.000
<b>Trade Glob.- <i>de jure</i></b>	.1270743	2.68	0.007		-1.596941	-3.44	0.001
<b>Financial Glob.- <i>de jure</i></b>	.2325091	4.06	0.000		-.7030758	-1.99	0.047
<b>Social Glob.- <i>de jure</i></b>	-1.063539	-6.55	0.000		1.868269	1.44	0.150
<b>Interpersonal Glob.- <i>de jure</i></b>	.4524089	8.95	0.000		.568706	1.19	0.234
<b>Informational Glob.- <i>de jure</i></b>	.5634058	10.41	0.000		.0388122	0.10	0.924
<b>Cultural Glob.- <i>de jure</i></b>	.2240625	4.99	0.000		-.2150723	-0.49	0.623
<b>Political Glob.- <i>de jure</i></b>	.1153857	1.48	0.140		1.471391	3.92	0.000
<b>Exports of goods and services (% of GDP)</b>	.4769203	16.23	0.000		.5914115	5.55	0.000
<b>Trade (% of GDP)</b>	-.3586584	-10.53	0.000		-.1009659	-0.83	0.407
<b>Gross capital formation (% of GDP)</b>	.0772243	5.66	0.000		.1787575	5.06	0.000
<b>Population growth (annual %)</b>	.0108065	1.97	0.049		.0940607	9.47	0.000
<b>Constant</b>	5.031704	54.14	0.000		1.943082	4.50	0.000
	<b>R-sq:</b> within = 0.5554 between = 0.8010 overall = 0.6630				<b>R-sq:</b> within = 0.8799 between = 0.2349 overall = 0.4490		
	<b>Number of obs. = 4,089</b>				<b>Number of obs. = 752</b>		

I.C. Estimates of individual panel fixed effects equations, separating all the globalisation indices

Variables	Glob. Index	Glob. Index	Glob. Index <i>de facto</i>	Glob. Index <i>de facto</i>	Glob. Index <i>de jure</i>	Glob. Index <i>de jure</i>	Econ. Glob.	Econ. Glob.	Econ. Glob. <i>de facto</i>	Econ. Glob. <i>de facto</i>	Econ. Glob. <i>de jure</i>	Econ. Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	1.006655	1.519327	.902797	.8584371	.8613966	1.353548	.8593079	.6949673	.46428	.1547142	.7783245	.7974888
Z	44.07	18.25	34.05	9.32	46.36	21.64	39.09	13.59	24.97	4.46	41.69	18.31
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods and services</b>	3964605	.8274853	.3309361	.9369462	.4450727	.5448114	.3896377	.7943277	.332592	.8178533	.4402558	.4558565
Z	12.80	6.84	9.96	6.71	14.60	4.78	12.13	6.10	9.47	5.63	13.94	3.75
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-.267181	-.3283217	-.1674699	-.223219	-.296409	.010259	-.2952546	-.1511276	-.1672966	.0595023	-.2621886	.2752265
Z	-7.49	-2.40	-4.40	-1.39	-8.43	0.08	-7.93	-1.03	-4.14	0.36	-7.22	2.07
P> z	0.000	0.017	0.000	0.166	0.000	0.935	0.000	0.304	0.000	0.721	0.000	0.038
<b>Gross capital formation</b>	.0263067	.2349928	0.222335	.1382699	.0439394	.1578944	.0524812	.1583059	0.720419	.0329974	.0743197	.0615264
Z	1.84	5.68	1.44	2.87	3.14	4.23	3.55	3.60	4.46	0.67	5.14	1.59
P> z	0.066	0.000	0.149	0.004	0.002	0.000	0.000	0.000	0.000	0.503	0.000	0.112
<b>Population growth</b>	.0002008	.1282738	-.0249074	.1411218	.005475	.1093374	-.0136849	.1427493	0.523754	.1369736	-.0039705	.1265943
Z	0.03	11.48	-4.08	11.03	0.96	10.35	-2.30	11.82	-8.28	10.24	-0.68	11.34
P> z	0.972	0.000	0.000	0.000	0.337	0.000	0.021	0.000	0.000	0.000	0.499	0.000
<b>Constant</b>	4.123394	1.349	4.427338	3.699401	4.571962	1.825535	4.873509	4.587588	6.089531	6.29899	4.79139	3.74904
Z	45.90	3.89	43.89	9.73	57.26	6.36	58.16	17.81	77.58	26.01	58.49	15.00
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>R-sq overall</b>	0.7089	0.4657	0.6672	0.2682	0.6753	0.4952	0.5629	0.2582	0.3365	0.1716	0.6684	0.3348
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Trade Glob.		Trade Glob. <i>de facto</i>		Trade Glob. <i>de jure</i>		Financ. Glob.		Financ. Glob. <i>de facto</i>		Financ. Glob. <i>de jure</i>	
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	.608771	.5028299	2703341	-.3299393	.4547477	.6740961	.5931115	.4584446	.3429553	.1743872	.4898188	.5694703
Z	27.53	5.19	12.33	-6.87	31.23	11.08	35.95	15.23	26.87	7.95	32.12	20.25
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods services</b>	.3840483	.7794846	.3461711	.54171	.3980027	.6079982	.3791541	.7523047	.3316198	.8343164	.4209518	.412753
Z	11.09	5.43	9.34	3.77	11.75	4.50	11.55	5.93	9.54	5.94	12.49	3.51
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-.223966	.0250403	-.1045213	.6879612	-.1528652	.1939113	-.2119127	-.0457399	-.1226072	-.0049019	-.1894412	.3596058
Z	-5.59	0.15	-2.44	4.15	-3.95	1.31	-5.62	-0.32	-3.09	-0.03	-4.90	2.80
P> z	0.000	0.880	0.015	0.000	0.000	0.192	0.000	0.746	0.002	0.975	0.000	0.005
<b>Gross capital formation</b>	.0234437	.0437148	.0574142	-.1467283	.0662806	.0337221	.0979885	.1402516	.1039029	.0822652	.0936868	.0402117
Z	1.46	0.89	3.32	-3.13	4.26	0.78	6.51	3.33	6.52	1.74	6.07	1.08
P> z	0.146	0.371	0.001	0.002	0.000	0.437	0.000	0.001	0.000	0.083	0.000	0.280
<b>Population growth</b>	-.031895	.1395494	-.0664484	.1152835	-.0233936	.1319873	-.0314113	.1413485	-.0537288	.1388554	-.0355528	.1245394
Z	-5.00	10.45	-9.99	8.71	-3.74	10.58	-5.26	12.02	-8.61	10.70	-5.80	11.54
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	.000
<b>Constant</b>	5.729547	5.058225	6.611415	7.073731	5.854671	4.126856	5.454724	5.33979	6.26693	6.265655	5.633581	4.644206
Z	69.16	13.64	81.70	29.03	76.85	13.28	70.12	23.98	85.20	27.02	71.29	21.80
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>R-sq overall</b>	0.5082	0.1967	0.2444	0.1484	0.6456	0.2833	0.4840	0.2481	0.4024	0.1867	0.4706	0.2901
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Social Glob.	Social Glob.	Social Glob. <i>de facto</i>	Social Glob. <i>de facto</i>	Social Glob. <i>de jure</i>	Social Glob. <i>de jure</i>	Interp. Glob.	Interp. Glob.	Interp. Glob. <i>de facto</i>	Interp. Glob. <i>de facto</i>	Interp. Glob. <i>de jure</i>	Interp. Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	.7202213	1.873572	.7522418	1.630465	.5741554	1.421943	.7147088	1.716673	.7129388	1.109628	.5284095	1.428915
Z	41.58	18.87	41.82	14.34	37.12	18.12	43.07	19.95	42.00	17.37	36.11	14.33
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods and services</b>	.4335938	1.129217	.3919231	1.147217	.4473647	.963561	.4963853	1.070877	.4595462	1.049666	.4911479	.8913693
Z	13.73	9.30	12.45	8.68	13.71	7.91	15.83	9.03	14.57	8.46	14.89	6.89
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-.266107	-.6535117	-.2129893	-.489046	-.2578688	-.4625667	-.3455886	-.5792474	-.2995317	-.4289973	-.301529	-.2574748
Z	-7.32	-4.65	-5.90	-3.23	-6.86	-3.32	-9.52	-4.26	8.23	-3.04	-7.91	-1.76
P> z	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.000	0.080
<b>Gross capital formation</b>	.0246339	.2766237	.0156166	.2369064	.044826	.1939097	.041775	.2230543	.0425862	.1830781	.0532076	.1110288
Z	1.69	6.64	1.07	5.21	2.99	4.77	2.91	5.63	2.94	4.45	3.53	2.62
P> z	0.091	0.000	0.284	0.000	0.003	0.000	0.004	0.000	0.003	0.000	0.000	0.009
<b>Population growth</b>	-.0057017	.1244363	.000369	.1440823	-.0199923	.1087849	-.0002971	.1188984	-.0014788	.1301372	-.016744	.1112786
Z	-0.97	11.26	0.06	12.06	-3.34	9.66	-0.05	10.95	-0.25	11.48	-2.76	9.29
P> z	0.331	0.000	0.950	0.000	0.001	0.000	0.959	0.000	0.801	0.000	0.006	0.000
<b>Constant</b>	5.266733	.0006265	5.146268	.3848724	5.668505	2.009188	5.373962	.8097468	5.376883	2.959213	5.872203	1.673231
Z	70.35	0.00	67.41	0.80	77.20	6.29	74.57	2.34	73.68	10.27	82.07	4.18
P> z	0.000	0.999	0.000	0.422	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.000
<b>R-sq overall</b>	0.7437	0.4106	0.7623	0.3187	0.6610	0.3814	0.6657	0.3389	0.6347	0.2859	0.5856	0.2614
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Inform. Glob.	Inform. Glob.	Inform. Glob. <i>de facto</i>	Inform. Glob. <i>de facto</i>	Inform. Glob. <i>de jure</i>	Inform. Glob. <i>de jure</i>	Cultural Glob.	Cultural Glob.	Cultural Glob. <i>de facto</i>	Cultural Glob. <i>de facto</i>	Cultural Glob. <i>de jure</i>	Cultural Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	.5223908	1.000861	.3970734	-.7074947	.4577603	.7365243	.5822614	1.046516	.5344548	.7746138	.3050748	.4106011
Z	35.57	9.73	26.20	-8.58	38.95	16.99	33.04	14.24	35.08	14.95	22.48	6.24
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods services</b>	.3873685	.9276406	.3348679	.6965935	.432154	.9933378	.4025508	.9839614	.384224	1.105571	.3796511	.7439432
Z	11.77	6.69	9.60	5.02	13.42	7.99	12.02	7.56	11.64	8.50	10.67	5.24
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-.181656	-.210586	-.0667251	.3110221	-.2517833	-.4316902	-.1740237	-.2567389	-.1579199	-.3491096	-.0864685	.1744519
Z	-4.82	-1.32	-1.68	2.04	-6.80	-3.04	-4.54	-1.75	-4.18	-2.38	-2.13	1.11
P> z	0.000	0.187	0.093	0.042	0.000	0.002	0.000	0.081	0.000	0.018	0.033	0.268
<b>Gross capital formation</b>	.0335628	.0874851	.0230018	-.0539621	.0725859	.1610351	.0426426	.1922521	.0856179	.2156162	.0632526	.0067199
Z	2.21	1.91	1.42	-1.23	4.92	3.93	2.76	4.34	5.65	4.88	3.86	0.15
P> z	0.027	0.056	0.157	0.220	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.884
<b>Population growth</b>	-.022285	.1212022	-.0367239	.1241599	-.0244119	.1081834	-.0273884	.1372376	-.024449	.1440221	-.0529498	.1283539
Z	-3.68	9.53	-5.74	9.65	-4.16	9.42	-4.46	11.50	-4.03	12.17	-8.25	9.77
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Constant</b>	5.793153	3.182363	6.043702	9.650067	6.067491	4.855034	5.532342	2.631312	5.688237	3.718384	6.225481	4.985217
Z	79.28	7.71	77.44	22.59	90.21	21.53	69.37	7.59	75.81	13.18	79.36	14.57
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>R-sq overall</b>	0.6750	0.2618	0.6142	0.1283	0.6316	0.3079	0.7171	0.3089	0.7450	0.2726	0.5395	0.2064
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Political Glob.	Political Glob.	Political Glob. <i>de facto</i>	Political Glob. <i>de facto</i>	Political Glob. <i>de jure</i>	Political Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	.719262	1.091463	.4928021	.3105823 3.90	.5736797	.821564
Z	33.64	13.31	20.39	0.000	36.34	14.59
P> z	0.000	0.000	0.000		0.000	0.000
<b>Exp. of goods and services</b>	.3647648	.6240181	.3217676	.7492724	.4087614	.5087615
Z	10.95	4.77	8.95	5.19	12.48	3.94
P> z	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-.127514	.115983	-.017553	.2073117	-.1909142	.2425735
Z	-3.35	0.80	-0.43	1.30	-5.09	1.72
P> z	0.001	0.422	0.667	0.195	0.000	0.086
<b>Gross capital formation</b>	.0531544	.0927574	.0574749	-.0152689	.0648206	.0772091
Z	3.46	2.17	3.46	-0.33	4.31	1.86
P> z	0.001	0.031	0.001	0.743	0.000	0.064
<b>Population growth</b>	-.025280	.1106476	-.0569273	.128075	-.0168372	.1046916
Z	-4.13	9.09	-8.80	9.59	-2.78	8.73
P> z	0.000	0.000	0.000	0.000	0.005	0.000
<b>Constant</b>	4.629905	2.385038	5.315876	5.325921	5.283922	3.487406
Z	47.66	6.29	47.98	13.56	65.90	11.74
P> z	0.000	0.000	0.000	0.000	0.000	0.000
<b>R-sq overall</b>	0.5190	0.4779	0.5208	0.2192	0.4412	0.3759
<b>N. observ</b>	4,089	752	4,089	752	4,089	752

All variables in natural logarithms.

Panel 1 includes all the 87 countries of our sample; Panel 2 includes the sub-sample of the 16 European countries.



ANNEX II  
RESULTS OBTAINED WITH DYNAMIC PANEL GMM SYSTEM ESTIMATIONS

## II.A – Estimates of a single equation (all dimensions of the KOF globalisation indices)

	PANEL 1			PANEL 2		
	Coefficient	Z	P> z	Coefficient t	Z	P> z
<b>Globalisation Index</b>	11.67779	1.82	0.069	-43.09374	-7.21	0.000
<i>de facto</i>	-1.940907	-0.59	0.553	7.181488	2.93	0.003
<i>de jure</i>	-5.919518	-1.76	0.079	29.66203	7.27	0.000
<b>Economic Glob.</b>	-16.32014	-6.81	0.000	6.078806	1.49	0.137
<i>de facto</i>	.441252	0.34	0.733	-5.087363	-0.47	0.635
<i>de jure</i>	4.976383	4.42	0.000	-3.295754	-1.19	0.234
<b>Trade Glob.</b>	6.406961	6.33	0.000	-1.875079	-1.02	0.309
<i>de facto</i>	-.6743172	-1.13	0.258	1.046579	2.62	0.009
<i>de jure</i>	-1.154774	-2.55	0.011	.0507905	0.04	0.970
<b>Financial Glob.</b>	8.929807	6.52	0.000	-2.848042	-1.53	0.126
<i>de facto</i>	-.4895301	-0.85	0.398	1.739279	2.99	0.003
<i>de jure</i>	-3.200852	-5.50	0.000	.4769121	0.41	0.681
<b>Social Glob.</b>	-10.77605	-2.81	0.005	2.214463	0.17	0.867
<i>de facto</i>	10.33586	6.33	0.000	3.893493	0.56	0.578
<i>de jure</i>	2.932327	1.25	0.211	13.70705	1.76	0.078
<b>Interpersonal Glob.</b>	11.52508	6.29	0.000	24.55074	4.69	0.000
<i>de facto</i>	-5.647149	-7.43	0.000	-10.91871	-4.83	0.000
<i>de jure</i>	-6.4775	-7.04	0.000	-17.36964	-5.68	0.000
<b>Informational Glob.</b>	2.585159	2.09	0.037	-8.270084	-3.05	0.002
<i>de facto</i>	-3.623994	-6.35	0.000	4.587035	4.52	0.000
<i>de jure</i>	-.5626125	-0.88	0.377	-8.709786	-0.69	0.493
<b>Cultural Glob.</b>	-.6344625	-0.86	0.389	-9.950572	-2.47	0.013
<i>de facto</i>	-.5575549	-2.30	0.021	5.210743	3.55	0.000
<i>de jure</i>	1.853249	4.23	0.000	-.3873164	-0.29	0.770
<b>Political Glob.</b>	-4.776131	-2.05	0.040	6.892007	4.56	0.000
<i>de facto</i>	1.27324	1.15	0.251	1.036786	1.86	0.062
<i>de jure</i>	2.918799	2.63	0.009	-5.541391	-5.08	0.000
<b>Exports of goods and services (% of GDP)</b>	.6928772	5.22	0.000	.7498075	4.82	0.000
<b>Trade (% of GDP)</b>	-.5689779	-3.87	0.000	-.5430335	-3.38	0.000
<b>Gross capital formation (% of GDP)</b>	-.2119827	-3.80	0.000	.3300129	6.84	0.000
<b>Population growth (annual %)</b>	.2928867	11.41	0.000	.1179903	7.43	0.000
<b>Constant</b>	30.25265	10.25	0.000	9.206057	3.68	0.000
	<b>Number of obs. = 4,089</b>			<b>Number of obs. = 752</b>		
<b>Sargan test of overidentifying restrictions</b>	chi2(61) = 820.86 Prob>chi2 = 0.000			chi2(61) = 252.18 Prob > chi2 = 0.000		

## II.B – Three equations, separating the aggregate, de facto and de jure globalisation indices

	PANEL 1			PANEL 2		
	Coefficient	Z	P> z	Coefficient	Z	P> z
<b>Globalisation Index</b>	3.148451	3.10	0.002	-13.93098	-11.81	0.000
<b>Economic Glob.</b>	2.097155	2.22	0.027	12.32185	9.03	0.000
<b>Trade Glob.</b>	-1.602048	-0.39	0.695	-4.163436	-6.48	0.000
<b>Financial Glob.</b>	-.8156719	-1.72	0.086	-3.888765	-6.34	0.000
<b>Social Glob.</b>	10.18316	8.25	0.000	64.50551	14.50	0.000
<b>Interpersonal Glob.</b>	-1.249695	-3.28	0.001	-17.85453	-11.74	0.000
<b>Informational Glob.</b>	-5.108492	-12.96	0.000	-20.2284	-13.53	0.000
<b>Cultural Glob.</b>	-2.560362	-7.58	0.000	-19.42705	-13.08	0.000
<b>Political Glob.</b>	-.6304571	-1.54	0.123	6.214336	16.13	0.000
<b>Exports of goods and services (% of GDP)</b>	.6846938	8.13	0.000	1.268529	11.50	0.000
<b>Trade (% of GDP)</b>	-1.097903	-12.08	0.000	-.9736455	-8.03	0.000
<b>Gross capital formation (% of GDP)</b>	-.3147914	-9.52	0.000	.4386445	11.22	0.000
<b>Population growth (annual %)</b>	.1359265	10.50	0.000	.0627353	5.03	0.000
<b>Constant</b>	54.0038	34.68	0.000	1.096632	0.90	0.367
	<b>Number of obs. = 4,089</b>			<b>Number of obs. = 752</b>		
<b>Sargan test of overidentifying restrictions</b>	chi2(79) = 2462.32 Prob>chi2 = 0.000			chi2(79) = 854.83 Prob>chi2 = 0.000		

	PANEL 1			PANEL 2		
	Coefficient	Z	P> z	Coefficient	Z	P> z
<b>Globalisation Index- <i>de facto</i></b>	-1.035943	-1.80	0.072	-11.07484	-15.94	0.000
<b>Economic Glob.- <i>de facto</i></b>	-1.228807	-1.92	0.055	5.155682	8.81	0.000
<b>Trade Glob.- <i>de facto</i></b>	.7167596	2.32	0.021	-1.769774	-7.58	0.000
<b>Financial Glob.- <i>de facto</i></b>	1.132686	3.57	0.000	-1.590957	-5.82	0.000
<b>Social Glob.- <i>de facto</i></b>	5.112236	10.30	0.000	15.60949	8.25	0.000
<b>Interpersonal Gl.- <i>de facto</i></b>	.0500772	0.30	0.765	-1.379085	-2.30	0.021
<b>Informational Gl.- <i>de facto</i></b>	-2.602678	-14.27	0.000	-3.242958	-5.32	0.000
<b>Cultural Glob.- <i>de facto</i></b>	-.204548	-1.77	0.077	-2.955106	-4.94	0.000
<b>Political Glob. - <i>de facto</i></b>	1.414149	5.88	0.000	4.078178	20.64	0.000
<b>Exports of goods and services (% of GDP)</b>	.7247816	8.18	0.000	2.050845	18.10	0.000
<b>Trade (% of GDP)</b>	-.7771847	-7.94	0.000	-1.523025	-11.31	0.000
<b>Gross capital formation (% of GDP)</b>	-.1713596	-4.67	0.000	.4114721	10.15	0.000
<b>Population growth (annual %)</b>	.1511297	11.69	0.000	.0243514	1.66	0.096
<b>Constant</b>	37.37688	25.39	0.000	-5.509826	-4.23	0.000
	<b>Number of obs. = 4,089</b>			<b>Number of obs. = 752</b>		
<b>Sargan test of overidentifying restrictions</b>	chi2(79) = 1954.93 Prob>chi2= 0.000			chi2(79) = 890.79 Prob>chi2= 0.000		

	PANEL 1				PANEL 2		
	Coefficient	Z	P> z		Coefficient	Z	P> z
<b>Globalisation Index- <i>de jure</i></b>	7.036196	6.92	0.000		-12.17608	-7.13	0.000
<b>Economic Glob.- <i>de jure</i></b>	7.03714	11.59	0.000		17.18569	13.60	0.000
<b>Trade Glob.- <i>de jure</i></b>	-2.901115	-12.56	0.000		-6.906565	-9.86	0.000
<b>Financial Glob.- <i>de jure</i></b>	-3.509969	-12.93	0.000		-5.445904	-9.39	0.000
<b>Social Glob.- <i>de jure</i></b>	4.130163	4.79	0.000		14.2535	8.34	0.000
<b>Interpersonal Glob.- <i>de jure</i></b>	-.7554063	-3.03	0.002		-2.238091	-4.04	0.000
<b>Informational Glob.- <i>de jure</i></b>	-2.636976	-11.01	0.000		-3.554153	-6.91	0.000
<b>Cultural Glob.- <i>de jure</i></b>	-1.208899	-5.56	0.000		-3.205253	-5.90	0.000
<b>Political Glob.- <i>de jure</i></b>	-2.65045	-6.97	0.000		4.679423	8.34	0.000
<b>Exports of goods and services (% of GDP)</b>	.6200193	5.95	0.000		1.364833	14.48	0.000
<b>Trade (% of GDP)</b>	-.8673988	-7.93	0.000		-1.359594	-13.57	0.000
<b>Gross capital formation (% of GDP)</b>	-.1657391	-4.06	0.000		.4776991	11.46	0.000
<b>Population growth (annual %)</b>	.2680596	15.05	0.000		.0699748	5.84	0.000
<b>Constant</b>	26.47284	13.77	0.000		-15.17333	-11.01	0.000
	<b>Number of obs. = 4,089</b>				<b>Number of obs. = 752</b>		
<b>Sargan test of overidentifying restrictions</b>	chi2(79) = 3033.09 Prob>chi2 = 0.000				chi2(79) = 1173. Prob > chi2 = 0.000		

## II.C – Dynamic panel GMM system estimations of individual equations, separating all the globalisation indices

Variables	Glob. Index	Glob. Index	Glob. Index <i>de facto</i>	Glob. Index <i>de facto</i>	Glob. Index <i>de jure</i>	Glob. Index <i>de jure</i>	Econ. Glob.	Econ. Glob.	Econ. Glob. <i>de facto</i>	Econ. Glob. <i>de facto</i>	Econ. Glob. <i>de jure</i>	Econ. Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	1.813132	3.112065	2.264385	3.214451	1.344617	2.646101	1.694823	2.054438	1.11605	1.347023	1.886387	1.972088
Z	47.09	139.36	60.69	99.12	34.94	122.31	43.78	68.00	29.62	38.77	51.95	70.85
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods and services</b>	3.221237	1.074092	2.636054	1.771652	3.704301	.8065095	3.153342	1.615314	3.943113	3.24353	2.561935	.551504
Z	38.36	21.42	34.03	28.25	39.99	13.72	35.60	18.73	38.28	28.25	31.01	5.74
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-3.535211	-1.15221	-3.02379	-2.06010	-3.87568	-.717285	-3.51957	-2.094841	-4.17095	-4.033924	-2.81974	-.5027906
Z	-41.07	-21.93	-38.69	-31.54	-40.06	-11.56	-39.16	-23.61	-38.09	-33.27	-34.36	-4.97
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Gross capital formation</b>	.730329	.4474989	.5097757	.3371482	.8562474	.3696014	.8910775	.1183178	.9474964	.084409	.7549939	-.1376286
Z	24.63	21.36	19.19	12.48	25.17	15.51	28.40	3.32	24.15	1.58	27.62	-3.90
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.113	0.000	0.000
<b>Population growth</b>	.0234414	.0747416	.0420678	.0842966	-.023376	.0905028	-.051320	.1901794	-.183043	.2327177	.0642034	.1834407
Z	1.77	10.00	3.65	8.78	-1.54	10.49	-3.93	14.89	-12.33	12.97	5.09	13.56
P> z	0.077	0.000	0.000	0.000	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Constant</b>	2.746017	-3.52747	1.526892	-2.08668	4.055511	-2.28740	3.183417	4.374402	5.580543	10.17841	1.741159	2.252132
Z	15.35	-21.99	9.30	-10.00	20.86	-13.11	17.43	20.15	28.39	42.62	9.87	9.38
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Sargan test of overident. restrictions</b>	chi2(87) =4915.00 Prob>chi2 = 0.000	chi2(87) =5367.94 Prob>chi2 = 0.000	chi2(87) =5242.79 Prob>chi2 = 0.000	chi2(87) =5261.76 Prob>chi2 = 0.000	chi2(87) =4349.85 Prob>chi2 = 0.000	chi2(87) =3504.26 Prob>chi2 = 0.000	chi2(87) =4637.04 Prob>chi2 = 0.000	chi2(87) =3606.88 Prob>chi2 = 0.000	chi2(87) =3469.75 Prob>chi2 = 0.000	chi2(87) =2641.17 Prob>chi2 = 0.000	chi2(87) =5710.72 Prob>chi2 = 0.000	chi2(87) =2309.05 Prob>chi2 = 0.000
<b>N.instrum.</b>	93	93	93	93	93	93	93	93	93	93	93	93
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Trade Glob.	Trade Glob.	Trade Glob. <i>de facto</i>	Trade Glob. <i>de facto</i>	Trade Glob. <i>de jure</i>	Trade Glob. <i>de jure</i>	Financ. Glob.	Financ. Glob.	Financ. Glob. <i>de facto</i>	Financ. Glob. <i>de facto</i>	Financ. Glob. <i>de jure</i>	Financ. Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	1.878792	3.474294	1.471037	.1004269	1.110426	2.394894	.9479983	1.232763	.6900397	.8196505	.8623292	1.310261
Z	42.55	50.43	20.17	1.05	42.15	73.24	30.44	57.95	28.60	43.96	24.16	50.06
P> z	0.000	0.000	0.000	0.295	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods and services</b>	3.074791	1.760264	4.523228	3.615703	2.869948	.8266977	3.745198	1.828966	3.862614	2.992586	3.960355	.9489298
Z	33.90	15.98	38.52	19.88	33.28	8.77	37.72	19.28	37.51	28.03	38.20	7.96
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-3.51129	-2.62293	-4.843679	-3.745398	-2.825299	-.7188229	-3.716264	-2.117598	-3.856665	-3.42329	-3.73451	-.9668822
Z	-38.54	-23.48	-36.07	-17.60	-32.57	-7.21	-35.78	-21.50	-35.56	-30.59	-34.13	-7.74
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Gross capital formation</b>	.3894001	-.1115613	.5565055	-1.113291	.3658053	-.124395	1.030436	.034307	1.038131	.1131427	.9239492	-.3070585
Z	12.22	-2.53	12.46	-15.96	12.55	-3.52	27.16	0.87	26.01	2.31	23.48	-7.05
P> z	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.384	0.000	0.021	0.000	0.000
<b>Population growth</b>	-.041936	.1812164	-.2093499	.2895711	-.0547299	.1362546	-.1549859	.2147159	-.1985609	.2353554	-.157803	.2379966
Z	-3.13	11.05	-11.99	10.34	-4.43	9.97	-10.75	15.23	-13.61	14.19	-10.08	14.21
P> z	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Constant</b>	4.370332	.8961145	6.420238	16.37257	5.309482	.1771681	4.618218	7.418769	5.912382	10.40947	4.628334	6.302832
Z	25.64	2.58	28.70	54.57	35.82	0.68	22.82	35.64	30.89	48.94	20.44	24.15
P> z	0.000	0.010	0.000	0.000	0.000	0.494	0.000	0.000	0.000	0.000	0.000	0.000
<b>Sargan test of overident. Restrictions</b>	chi2(87) =4574.04 Prob>chi2 = 0.000	chi2(87) =2470.07 Prob>chi2 = 0.000	chi2(87) =2758.83 Prob>chi2 = 0.000	chi2(87) =1693.15 Prob>chi2 = 0.000	chi2(87) =5992.73 Prob>chi2 = 0.000	chi2(87) =1897.42 Prob>chi2 = 0.000	chi2(87) =3947.36 Prob>chi2 = 0.000	chi2(87) =3360.93 Prob>chi2 = 0.000	chi2(87) =3620.39 Prob>chi2 = 0.000	chi2(87) =2909.63 Prob>chi2 = 0.000	chi2(87) =3820.97 Prob>chi2 = 0.000	chi2(87) =2238.54 Prob>chi2 = 0.000
<b>N. instrum.</b>	93	93	93	93	93	93	93	93	93	93	93	93
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Social Glob.	Social Glob.	Social Glob. <i>de facto</i>	Social Glob. <i>de facto</i>	Social Glob. <i>de jure</i>	Social Glob. <i>de jure</i>	Interp. Glob.	Interp. Glob.	Interp. Glob. <i>de facto</i>	Interp. Glob. <i>de facto</i>	Interp. Glob. <i>de jure</i>	Interp. Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	1.409345	3.770509	1.631279	4.88454	1.08537	2.80705	1.46649	3.89156	1.703171	3.223607	1.014713	3.04331
Z	54.11	106.63	75.46	80.26	37.17	87.92	51.10	81.35	66.36	81.92	34.17	47.57
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp.of goods and services</b>	2.955791	1.520282	2.275197	1.019279	3.550533	1.966733	3.261023	3.082093	2.785137	3.012974	3.720972	3.409103
Z	38.12	25.18	33.79	12.38	39.61	28.46	38.76	39.17	35.65	38.60	39.54	31.43
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-3.17369	-1.85385	-2.510387	-1.40606	-3.64364	-2.24723	-3.643652	-3.59634	-3.318536	-3.50172	-3.823975	-3.785555
Z	-40.18	-29.59	-36.92	-16.57	-39.22	-31.18	-41.76	-43.44	-41.32	-42.67	-38.82	-33.07
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Gross capital formation</b>	.4440748	.1477929	.1246179	-.015253	.651865	.1440229	.6391931	.4435415	.7429726	.4809927	.6001693	-.1345911
Z	16.40	6.00	5.29	-0.48	20.38	4.97	21.22	12.56	26.90	13.64	17.60	-2.93
P> z	0.000	0.000	0.000	0.631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
<b>Population growth</b>	-.007392	.0359272	-.0064845	.0836706	-.045702	.0256662	-.0800634	-.008464	-.0296082	.0378321	-.1538605	.0552831
Z	-0.64	3.89	-0.69	6.90	-3.24	2.37	-6.60	-0.66	-2.66	3.02	-11.32	3.14
P> z	0.522	0.000	0.488	0.000	0.001	0.018	0.000	0.508	0.008	0.003	0.000	0.002
<b>Constant</b>	4.921809	-3.99777	4.741706	-8.48473	5.46619	.2979376	5.205978	-3.39640	4.305273	-.842164	6.311545	1.691759
Z	35.52	-18.94	41.44	-25.55	33.02	1.42	34.24	-12.48	30.46	-3.47	37.58	4.80
P> z	0.000	0.000	0.000	0.000	0.000	0.157	0.000	0.000	0.000	0.001	0.000	0.000
<b>Sargan test of overident. Restrictions</b>	chi2(87) =5768.70 Prob>chi2 = 0.000	chi2(87) =5240.76 Prob>chi2 = 0.000	chi2(87) =6651.00 Prob>chi2 = 0.000	chi2(87) =2984.68 Prob>chi2 = 0.000	chi2(87) =4726.43 Pro >chi2 = 0.000	chi2(87) =4514.50 Prob>chi2 = 0.000	chi2(87) =4278.72 Prob>chi2 = 0.000	chi2(87) =2211.24 Prob>chi2 = 0.000	chi2(87) =3810.86 Prob>chi2 = 0.000	chi2(87) =2278.00 Prob>chi2 = 0.000	chi2(87) =4216.45 Prob>chi2 = 0.000	chi2(87) =2360.00 Prob>chi2 = 0.000
<b>N. instrum.</b>	93	93	93	93	93	93	93	93	93	93	93	93
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752



Variables	Inform. Glob.	Inform. Glob.	Inform. Glob. <i>de facto</i>	Inform. Glob. <i>de facto</i>	Inform. Glob. <i>de jure</i>	Inform. Glob. <i>de jure</i>	Cultural Glob.	Cultural Glob.	Cultural Glob. <i>de facto</i>	Cultural Glob. <i>de facto</i>	Cultural Glob. <i>de jure</i>	Cultural Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	.8130694	2.463475	.8590285	-.641039	.621208	1.399864	1.657357	2.669491	1.58443	2.393162	1.045202	1.388912
Z	31.75	43.03	33.37	-6.88	25.96	62.67	69.25	63.40	70.35	60.94	35.17	25.16
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp.of goods and services</b>	3.586966	2.147273	3.386485	3.993449	3.921515	2.782037	2.250735	1.098177	1.151027	1.808697	3.612062	1.972262
Z	38.48	18.92	35.92	21.55	39.65	31.99	31.27	11.95	13.16	18.48	38.14	13.77
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-3.521748	-2.43248	-3.224806	-4.02976	-3.840947	-3.05164	-2.344396	-1.19554	-1.008472	-1.96995	-3.484411	-2.01503
Z	-36.62	-20.63	-33.20	-20.83	-37.04	-33.43	-32.11	-12.47	-11.27	-19.24	-35.05	-13.44
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Gross capital formation</b>	.5010346	-.535742	.2403268	-.952531	.7347596	-.004714	.2395019	-.104631	-.430326	.1181238	.6503492	-.769569
Z	15.10	-12.42	6.90	-13.42	20.41	-0.13	9.75	-2.97	-13.79	2.90	19.12	-15.29
P> z	0.000	0.000	0.000	0.000	0.000	0.899	0.000	0.003	0.000	0.004	0.000	0.000
<b>Population growth</b>	-.1491654	.1173319	-.1811767	.2844402	-.1583263	.0816934	.1830874	.1319999	.0652801	.1563753	.0491659	.1963801
Z	-11.12	6.74	-14.12	10.38	-10.69	5.91	15.90	9.99	5.68	10.60	2.96	9.66
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
<b>Constant</b>	6.542478	3.975532	6.696995	18.92785	6.77865	7.384181	3.327073	.1406195	4.413138	1.470904	4.612715	8.123609
Z	40.52	11.88	42.28	42.80	38.67	37.71	25.38	0.49	32.03	5.16	24.63	21.04
P> z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000
<b>Sargan test of overident. Restrictions</b>	chi2(87) =4781.63 Prob>chi2 = 0.000	chi2(87) =2762.54 Prob>chi2 = 0.000	chi2(87) =4770.03 Prob>chi2 = 0.000	chi2(87) =1718.36 Prob>chi2 = 0.000	chi2(87) =4191.68 Prob>chi2 = 0.000	chi2(87) =3414.52 Prob>chi2 = 0.000	chi2(87) =6199.80 Prob>chi2 = 0.000	chi2(87) =3841.71 Prob>chi2 = 0.000	chi2(87) =3507.85 Prob>chi2 = 0.000	chi2(87) =2508.12 Prob>chi2 = 0.000	chi2(87) =4162.10 Prob>chi2 = 0.000	chi2(87) =2677.75 Prob>chi2 = 0.000
<b>N. instrum.</b>	93	93	93	93	93	93	93	93	93	93	93	93
<b>N. observ</b>	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752	4,089	752

Variables	Political Glob.	Political Glob.	Political Glob. <i>de facto</i>	Political Glob. <i>de facto</i>	Political Glob. <i>de jure</i>	Political Glob. <i>de jure</i>
	P1	P2	P1	P2	P1	P2
<b>KOF Index</b>	1.172321	2.273997	1.72346	2.050169	.6531916	1.888035
Z	25.88	98.13	34.46	65.36	17.42	78.88
P> z	0.000	0.000	0.000	0.000	0.000	0.000
<b>Exp. of goods and services</b>	4.180771	1.282481	3.502308	1.8949	4.55401	1.472041
Z	40.87	18.32	34.71	20.29	41.35	17.75
P> z	0.000	0.000	0.000	0.000	0.000	0.000
<b>Trade</b>	-4.09529	-.7799405	-3.27724	-1.310825	-4.37805	-1.152485
Z	-37.24	-10.33	-30.86	-12.95	-35.93	-13.00
P> z	0.000	0.000	0.000	0.000	0.000	0.000
<b>Gross capital formation</b>	.8027672	.3593049	.4545242	.0788398	.886136	.3172799
Z	20.82	12.34	12.47	2.05	20.26	9.12
P> z	0.000	0.000	0.000	0.041	0.000	0.000
<b>Population growth</b>	-.08821	.0785816	-.011798	.0735004	-.179616	.1352323
Z	-5.21	7.47	-0.73	5.10	-10.14	10.90
P> z	0.000	0.000	0.467	0.000	0.000	0.000
<b>Constant</b>	4.171842	-2.170831	1.807571	-.1666951	6.117642	.5328478
Z	17.89	-10.09	7.30	-0.58	27.21	2.27
P> z	0.000	0.000	0.000	0.565	0.000	0.023
<b>Sargan test of overident. restrictions</b>	chi2(87) =3635.28 Prob >chi2 = 0.000	chi2(87) =2857.71 Prob>chi2 = 0.000	chi2(87) =3633.39 Prob >chi2 = 0.000	chi2(87) =2471.64 Prob>chi2 = 0.000	chi2(87) =3293.90 Prob >chi2 = 0.000	chi2(87) =2598.89 Prob>chi2 = 0.000
<b>N. instrum.</b>	93	93	93	93	93	93
<b>N. observ</b>	4,089	752	4,089	752	4,089	752

All variables in natural logarithms.

Panel 1 includes all the 87 countries of our sample; Panel 2 includes the sub-sample of the 16 European countries.