FINANCIAL GLOBALIZATION AND GROWTH REVISITED – INTERNATIONAL AND REGIONAL EVIDENCE

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Abstract

The effects of financial globalization on economic growth have been put in focus by a more recent branch of globalization literature. In academic circles and international policy arena a strong push towards capital openness and free movement of capital across borders had been seen during the 1990s. While the early arguments suggested positive effects of financial globalization on economic growth, more recently, both theoretical and empirical studies have started seriously questioning this benign view of financial globalization calling for additional evidence. This paper revisits the link between financial globalization and growth using the KOF index of globalization in a sample of 134 world economies in the period 1970-2015. With a large number of countries and application of the panel data estimations techniques this paper provides strong evidence on the link between financial globalization and economic growth. In the broad sample of world economies financial globalization exerts a negative and statistically significant effects on economic growth. The paper also investigates this relationship in the regions of East Asia and Pacific, Middle East and North Africa, Latin America and the Caribbean, Sub-Saharan Africa and Europe and Central Asia and the negative effects are also predominant in the regional grouping of countries.

Keywords: Financial globalization, Growth, International evidence
JEL classification: F4, F6, O4

1. Introduction

Globalization and its effects have been extensively investigated in economic literature. This in particular applies to the effects of globalization on economic growth. Theoretical arguments provided in the older literature suggest these effects are expected to be positive. Empirical literature, however, appears to be less unison and both positive and negative effects can be found in empirical studies, but the positive evidence has been predominant. The effects of financial globalization on economic growth have been put in focus by a more recent branch of globalization literature. A strong push in academic circles and international policy arena has been seen during the 1990s towards capital openness and free movement of capital across borders. This was especially on the agenda of the most important international institutions like the IMF and World Bank. Similarly as with the overall globalization the early arguments put forward suggested the positive effects of financial globalization on economic growth, but again the empirical evidence has proven that these positive effects were not to be taken for granted and more research is needed to tackle this important issue. More recently, both theoretical and empirical studies have started seriously questioning the benign view of financial globalization calling for additional evidence. This becomes even more important with the world repeatedly being hit by financial crises and with the crises spreading internationally very swiftly. In this context the effects of financial globalization deserve additional attention and this paper contributes to the literature by revisiting the financial globalization-economic growth nexus.

This paper revisits the link between financial globalization and growth using the KOF index of globalization in a sample of 134 world economies covering the period 1970-2015. The KOF index of globalization is of particular value as it allows the use of the readily available subcomponents of the KOF index – KOF indexes of trade and financial globalization and in addition also their versions in the de facto and de jure forms. With a large number of countries and application of the panel data estimations techniques this paper provides strong evidence on the link between financial globalization and economic growth. In addition, the paper also investigates this relationship in the regions of East Asia and Pacific

(eap), Middle East and North Africa (mena), Latin America and the Caribbean (lac), Sub-Saharan Africa (ssa) and Europe and Central Asia (eca).

This paper is structured as follows. Section 2 provides the theoretical basis and briefly reviews the related literature. Empirical investigation is conducted and results presented in Section 3. Conclusions are provided in Section 4.

2. Theoretical basis and literature review

This section provides theoretical background for the empirical investigation to follow in Section 3 on the link between financial globalization and economic growth. Before reviewing the studies on the effects of financial globalization a brief outline of growth literature is given. While many different approaches in the literature have been applied, it still appears that one of the simplest, but still most influential attempts is due to Solow (1956) and his neoclassical exogenous growth model. Using this framework it can be shown that output growth can be well explained with accumulation of physical capital and exogenous labour and technological progress. Investment in this model stands as a crucial factor influencing growth with GDP increasing strongly in economies with high savings and investment rates contributing to the capital stock. As argued by Mankiw et al. (1992) this simple Solow model, when extended with human capital depicts successfully the growth experiences across countries. In particular, Mankiw et al. (1992) report that human and physical capital, and population growth explain around 80% of the international differences in incomes. Ensuing empirical studies used the theoretical Solow model as a basis of investigation, but often additional determinants were included. The range of these additional determinants is huge. Thus, commenting on the previous literature D'Andrea (2022) reports that Durlauf et al. (2005) identify 145 potential determinants of growth in empirical literature since the 1990s. The list of potential growth determinants is rather extensive including physical capital and human capital, trade, demographics, fiscal policy, monetary policy and financial and technological factors. In addition, in developing countries potential determinants also include foreign aid, FDI, natural resources, reforms (institutions), as well as geographic, regional and financial factors. Indeed, the list is broad and when it comes to empirical modelling authors have to simplify this wide-ranging list not only because of availability of the data but also in order to have a meaningful and theoretically based empirical investigation. This nicely shows why Barro (2003) claims that growth economists have to face the problem of model uncertainty seriously or as to why Brock and Durlauf (2001) warn about the issue of open-endedness of theories.

In this context and with globalization being one of the most powerful processes in the post-World War II period it was only natural to account for the importance of openness for growth. An impressively huge literature has emerged investigating the effects of globalization on growth. The typical theoretical rationale suggests that globalization is expected to affect economic growth positively. Among many arguments that can be listed Grossman and Helpman (2015) and Potrafke (2015) mention international knowledge spillovers, access to larger markets, increased competition, better opportunities to exploit comparative advantages and gains from specialization as the most important ones. With strong theoretical priors and abundant empirical evidence predominantly positive effects were reported (see for example Dreher, 2006; Potrafke, 2015; Gygli et al., 2019; Ali and Malik, 2021 to list a few). This, however, was related to trade openness leaving the issue of financial openness relatively under-investigated. When it comes to financial openness or financial globalization early theoretical arguments (see for example Fischer, 1997; Dornbusch, 1998) were pretty inclined towards finding positive effects of financial openness (financial globalization) on growth. The usual benefits included additional (foreign) funding of growth, more diversification opportunities and deeper financial systems. All of these were expected to result in long term growth. Unfortunately, these arguments have not been supported by empirical evidence strongly questioning whether the countries around the world prematurely and too quickly embraced financial globalization. This in particular applies to less developed economies that followed the recipes and dictates of the IMF and the most powerful world economies.

The literature on financial globalization and its effects on economic growth remains far from a definitive account. A good example of the distinctively opposed views in the literature are the papers by Mishkin (2009) and Rodrik and Subramanian (2009) appearing in the same issue of the IMF Staff Papers. Mishkin (2009) thus argues that financial globalization can be a

powerful force in promoting economic growth and that the world should not turn its backs on financial globalization. Financial globalization encourages financial development and this in consequence enables the financial system to allocate capital to most productive uses which brings about economic growth in the long term and has a potential to reduce poverty, particularly in developing countries. Mishkin (2009) is at the same time also aware of the dangers related to financial globalization, especially about the possibility of financial crises occurring, but still remains pretty confident that the benefits strongly outweigh the costs, and that once a number of prerequisite reforms be adopted, financial globalization will start paying off. Rodrik and Subramanian (2009) on the other hand provide strong arguments that financial globalization had disappointed and that financial globalization had not lead to economic growth. The supporting references in Rodrik and Subramanian (2009), in particular Prasad et al. (2007) and Gourinchas and Jeanne (2007) oppose the supposed link that foreign capital and economic growth go hand in hand and suggest that countries with higher growth rates actually relied less on foreign capital. Thus, while it can be understood that financial globalization brings many opportunities, it also appears that the typical benefits of the capital openness with poorer countries borrowing foreign accumulation to finance their growth did not materialize. Indeed, Lucas (1990) warned long time ago about the paradox that contrary to expectations international capital does not flow from rich to poor economies, i.e. from North to South. Instead, a typical movement of international capital flows observed in the literature is North-North, i.e. between rich economies (see for example Alfaro et al., 2008). Rodrik and Subramanian (2009) offer a novel theoretical rationale based on the distinction between savings-constrained and investment-constrained economies to explain why financial globalization may impact growth negatively. These authors provide strong arguments suggesting that most of the developing countries are investment constrained economies and capital inflows will not be of much help in their case. Even worse, capital inflows could even endanger the existing profitable projects because the strong inflow of foreign capital might lead to appreciation of the domestic currency which will further endanger competitiveness of poor economies in international markets hurting the tradable goods sector and long term economic growth. Indeed, these theoretical arguments seem supportive of the missing positive link between financial globalization and economic growth. In a different context, Broner and Ventura (2016) also demonstrate that financial globalization need not necessarily lead to economic growth. They argue that financial globalization can lead to a variety of outcomes and the effects of financial globalization depend on the level of development, productivity, domestic savings, and the quality of institutions. Abraham and Schmukler (2017) also suggest that despite the predicted large gains from financial globalization positive effects have been limited. As suggested earlier in this review of related literature it comes as no surprise to find both positive and negative effects of financial globalization on economic growth reported in the empirical literature. With this mix of evidence on the effects of financial globalization on economic growth, it appears new empirical studies are desirable. To that end we conduct the empirical investigation of this link in the broad context of 134 world economies in the rest of this paper.

3. Empirical investigation and results

3.1. Model and the data

Empirical investigation in this section builds of from the discussion and review of previous studies in the preceding section. The growth model to be estimated econometrically is set quite broadly accounting for the standard determinants of economic growth – physical and human capital, together with population growth. As discussed previously, Mankiw et al. (1992) suggest that the model thus defined is pretty powerful in explaining the growth dynamics across countries. To allow for the impact of physical capital we include in the model investment as a share of GDP and for the human capital we add secondary education completed or average years of total schooling, both due to Barro and Lee (2013). In accordance with our review in the previous section and other empirical studies investigating growth, we allow for other determinants as well. This extension brings us on the safe side to avoid possible misspecification, but also allows us to test empirically the importance of other

determinants of economic growth. Thus we add government consumption as percent of GDP and inflation to the model, but also allow for the impact of quality of institutions as institutions in many growth studies stood out as a potentially important determinant of growth (see for example Aron, 2000; Rodrik, 2007; Mehlum et al., 2006; Isham et al., 2005; Acemoglu et al., 2019; Durlauf, 2020). To account for the quality of institutions we use the institutional indicator Autocracy-democracy (Polity 2) from the POLITY IV project due to Marshall at al. (2014). Finally, as the focus of the present paper is on the impact of financial globalization on economic growth, we add the globalization variables as potential determinants of growth. Following Dreher et al. (2006) and Gygli et al. (2019) we use the KOF index of globalization which is particularly useful because it, in addition to being used as a strong proxy for globalization in empirical studies, also disentangles between trade and financial globalization, as well as between their de facto and de jure versions. If we take the studies that use the KOF indexes of globalization as representatives of the most recent empirical studies investigating the link between globalization and growth, we also experiment and add as a robustness check the investigation using the trade openness and financial openness as represented in the older literature. Trade openness is thus measured as trade as percent of GDP and financial openness as cross-border holdings of assets and liabilities as percent of GDP, due to Lane and Milesi-Ferretti (2007). Thus, taking into account what was previously discussed we set up the following model to be estimated empirically:

$$GDP\ growth_{it} = \beta_1 Investment_{it} + \beta_2 Population\ growth_{it} + \beta_3 Human\ capital_{it} + \beta_4 Trade\ globalization_{it} + \beta_5 Financial\ globalization_{it} + \beta_6\ Government\ consumption_{it} + \beta_7\ Inflation_{it} + \beta_8\ Institutions_{it} + \varepsilon_{it} \quad (1)$$

where *i* refers to a country and *t* to a time period.

The variables used in our empirical investigation are detailed in Table 1. We collected the data for the period 1970-2015. As we are interested in the effects of financial globalization on economic growth and economic growth is a long run phenomenon we calculated five-year averages of our data to smooth the usual business cycle volatility.

Table 1. Used variables and data sources

Variable	Definition	Source
GDP growth	GDP growth rate (%)	World Bank World Development Indicators
Investment	Gross fixed capital formation (% of GDP)	World Bank World Development Indicators
Population growth	Population growth (%)	World Bank World Development Indicators
Human capital – Schooling	Average years of total schooling	Barro and Lee (2013), v. 2.2, 2018
Human capital – SecondaryC	Secondary education completed, percent of population aged 25 and over	Barro and Lee (2013), v. 2.2, 2018
Trade globalization	KOF index of trade globalization	Gygli et al. (2019)
Financial globalization	KOF index of financial globalization	Gygli et al. (2019)
Trade openness	Trade (Exports plus imports, % of GDP)	World Bank World Development Indicators
Financial openness	Cross-border holdings of assets and liabilities (% of GDP)	Lane and Milesi-Ferretti (2007)
Government	General government final consumption expenditure (% of GDP)	World Bank World Development Indicators
Inflation	Annual rate of inflation (%)	World Bank World Development Indicators
Institutions	Autocracy-democracy index (polity2) ranging between -10 (total autocracy) and 10 (total democracy)	Polity IV dataset (Marshall et al. 2014)

The sample includes as many as 134 world economies. The initial intention was to include all world economies, but availability of the data resulted in a maximal number of countries amounting to 134. This large number of countries provides a representative sample of world economies. The use of panel data estimation techniques results in large number of observations which adds to reliability of our findings, but additionally allows us to investigate econometrically the effects of financial globalization on economic growth across different country groupings (regions) by geographical criterion. Thus, in final stages of this paper we investigate the effects of financial globalization separately in the following regional groupings: East Asia and Pacific (eap), Middle East and North Africa (mena), South Asia (sa), Latin America and the Caribbean (lac), Sub-Saharan Africa (ssa), Europe and Central Asia (eca) and North America (na). Unfortunately, due to a low number of countries, and related to that low number of observations, the separate (specific) estimations were not possible across the countries in North America (only 3 countries) and South Asia (5 countries).

3.2. Results

After we described the model and the data we report the results of our econometric estimations. Since we use the panel data estimations techniques, the Hausman test was calculated and reported at the bottom of each table to decide whether to use the random effects or fixed effects models. With only a few exceptions, the Hausman test and the associated p values suggested that random effects should be preferred. We first report the results of our econometric estimations using the KOF indexes of trade and financial globalization (Table 2). Later on we substitute these indicators with the alternative globalization indicators to check the robustness of our findings but also to probe deeper into the relationship between financial globalization and economic growth.

Table 2. Financial globalization and economic growth – estimations based on the KOF indexes of globalization

VARIABLES	(1)	(2)	(3)	(4)
Investment (total as % of GDP)	0.164***	0.155***	0.164***	0.155***
	(0.016)	(0.016)	(0.016)	(0.016)
Population growth	0.522***	0.557***	0.477***	0.488***
	(0.108)	(0.100)	(0.113)	(0.108)
Human capital (SecondaryC)	0.004	0.003		
	(0.009)	(0.009)		
Human capital (Schooling)			-0.036	-0.055
			(0.058)	(0.056)
Trade globalization	0.027***	0.029***	0.029***	0.032***
	(0.010)	(0.010)	(0.010)	(0.010)
Financial globalization	-0.030***	-0.031***	-0.027***	-0.027***
	(0.009)	(0.009)	(0.009)	(0.009)
Government (% of GDP)	-0.136***	-0.147***	-0.136***	-0.146***
	(0.023)	(0.022)	(0.023)	(0.022)
Inflation	-0.002**	-0.002**	-0.002**	-0.002**
	(0.000)	(0.001)	(0.000)	(0.000)
Institutions (Polity 2)	-0.013		-0.010	
	(0.019)		(0.020)	
Number of countries	122	134	122	134
Number of observations	822	882	822	882
Hausman test (test statistic and p value)	6.99 (0.54)	6.28 (0.51)	9.77 (0.28)	7.88 (0.34)
	Random effects	Random effects	Random effects	Random effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level - Source: Authors' calculations

Table 2 reports our main findings on the relationship between financial globalization and economic growth. Before turning our attention to our main variable of interest – financial globalization, let us point out that in this table (Table 2) we ran four models including the variables in accordance with previous studies and our discussion of the potential growth determinants in Section 2. Thus, in model 1 (Column 1) we estimated the impact of investment, population growth, human capital (as represented by the completed secondary education), trade globalization, financial globalization, government consumption, inflation and institutional development on economic growth. Model 2 (Column 2) includes the same variables except for institutions. The reason for excluding institutions lies in the fact that despite strong theoretical arguments that institutional quality is an important determinant of growth, empirical evidence often does not find this variable to exert a statistically significant impact. Since in Model 1 institutions are not found to be statistically significant, we also ran the model without them included as a robustness check to see whether our main findings may be impacted by the inclusion/exclusion of this variable. It should be also noted that in Model 3 (Column 3) and Model 4 (Column 4) we repeat the models 1 and 2 substituting completed secondary education with the total years of schooling as a representative of human capital. The reason for this was that human capital stands theoretically as an important determinant of economic growth, and should be part of a growth regression. Our finding in models 1 and 2 that it is statistically insignificant, led us to experiment with an alternative human capital variable, but as can be seen in models 3 and 4 the human capital variable changes sign but still it is not significantly different from zero. Also inclusion of this alternative indicator does not change the main findings on other growth determinants which adds to robustness of these findings.

Now we turn our attention to commenting on the variables that were found to be statistically significant. For spatial reasons we comment across all four models simultaneously as the signs, size and statistical significance of the estimated coefficients remains practically unchanged. Investment exerts positive and statistically significant impact on growth, as expected theoretically and confirmed in previous studies. Population growth has positive impact, which on the first sight may be surprising as usually in the literature population growth exerts negative influence on economic growth. Note however that this is the case when the dependent variable is GDP per capita growth. In our models, we have only the GDP growth as the dependent variable and hence the positive coefficient on population is expected. Government consumption is found to exert the negative impact on economic growth, the same as inflation. Trade globalization appears to be positive and statistically significant and this finding is accordance with the most of the previous literature which finds the positive impact of the overall, and in particular of the trade globalization on economic growth. Financial globalization is of the greatest interest for the present study and it is with this variable that the literature has found least consensus. This first set of our results suggests that financial globalization exerts a negative and statistically significant effect on economic growth. This findings is consistent across all four specifications in Table 2. Since this negative impact has important policy implications and contradicts strong theoretical priors related to the impact of financial globalization on economic growth, we extend our analysis to check the robustness of this result. Thus, following the older literature on (financial) globalization instead of the KOF indexes of globalization becoming recently available, we use the traditional indicators in the form of trade openness and financial openness. The results with these indicators but using the same models as before are presented below in Table 3.

Table 3. Financial globalization and economic growth – estimations based on trade and financial openness

VARIABLES	(1)	(2)	(3)	(4)
Investment (total as % of GDP)	0.190***	0.167***	0.192***	0.169***
	(0.029)	(0.028)	(0.029)	(0.028)
Population growth	0.443***	0.565***	0.338*	0.464**
	(0.193)	(0.188)	(0.208)	(0.210)
Human capital (SecondaryC)	-0.021	-0.010		
	(0.016)	(0.012)		
Human capital (Schooling)			-0.181*	-0.108
			(0.097)	(0.089)
Trade openness	0.017**	0.019***	0.018***	0.020***
	(0.007)	(0.007)	(0.007)	(0.007)
Financial openness	-0.195***	-0.200***	-0.182***	-0.194***
	(0.059)	(0.059)	(0.059)	(0.059)
Government (% of GDP)	-0.120***	-0.151***	-0.113***	-0.145***
	(0.039)	(0.038)	(0.040)	(0.039)
Inflation	-0.001	-0.001*	-0.001*	-0.001*
	(0.001)	(0.001)	(0.001)	(0.001)
Institutions (Polity 2)	-0.016		0.004	
	(0.032)		(0.035)	
Number of countries	35	41	35	41
Number of observations	260	289	260	289
Hausman test (test statistic and p value)	10.97 (0.20)	13.10 (0.07)	11.91 (0.16)	13.31 (0.07)
	Random effects	Random effects	Random effects	Random effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level - Source: Authors' calculations

Before commenting on the estimated models and coefficients in Table 3, please note that the number of countries and observations (reported at the bottom of the table) drops to approximately a little less than one third of those numbers in Table 2. This is due to the fact that the alternative indicators are available for less countries. Still we have 260 or 289 observations which allows us to obtain reliable results. It appears that the obtained estimations provide strong support to our findings reported in Table 2 which we take as a benchmark. Since we will have additional robustness checks we will refrain from commenting in detail the obtained findings in new tables, but instead focus only on our main variables of interest, those related to globalization. With this general principle on mind, we focus our attention on the financial openness (financial globalization) estimates in Table 3. It appears that both trade openness and financial openness confirm our benchmark findings on trade and financial globalization from Table 2, with trade openness again exerting the positive and financial openness again the negative influence on economic growth, as before. It should be spotted that with this new set of globalization variables, we confirm our findings from before, but in addition we can notice that the coefficients on financial openness are bigger in size in comparison to coefficients on trade openness.

We take our investigation further by distinguishing between trade and financial globalization in their de facto and de jure forms. This particular advantage stems from the KOF indexes of globalization being reported in these forms as well. Again we have a higher number of countries and observations and the obtained estimations are reported in Table 4 below.

Table 4. Financial globalization and economic growth – estimations based on the de facto and de jure KOF indexes of globalization

VARIABLES	(1)	(2)	(3)	(4)
Investment (total as % of GDP)	0.162***	0.154***	0.175***	0.171***

VARIABLES	(1)	(2)	(3)	(4)
	(0.016)	(0.016)	(0.016)	(0.016)
Population growth	0.593***	0.527***	0.450***	0.457***
	(0.106)	(0.097)	(0.111)	(0.103)
Human capital (SecondaryC)	0.006	0.006	0.005	0.003
	(0.009)	(0.009)	(0.009)	(0.009)
Trade globalization – de facto	0.028***	0.027***		
	(0.007)	(0.007)		
Financial globalization – de facto	-0.026***	-0.024***		
	(0.007)	(0.007)		
Trade globalization – de jure			-0.001	-0.000
			(0.007)	(0.007)
Financial globalization – de jure			-0.010	-0.013*
			(0.007)	(0.007)
Government (% of GDP)	-0.126***	-0.136***	-0.125***	-0.130***
	(0.022)	(0.021)	(0.023)	(0.022)
Inflation	-0.001**	-0.002**	-0.002**	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)
Institutions (Polity 2)	-0.013		-0.013	
	(0.019)		(0.020)	
Number of countries	122	134	121	132
Number of observations	822	882	820	874
Hausman test (test statistic and p value)	6.89 (0.55)	6.16 (0.52)	8.07 (0.43)	7.86 (0.35)
	Random effects	Random effects	Random effects	Random effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level - Source: Authors' calculations

Table 4 provides another robustness check of our benchmark models from Table 2 but this time using the KOF indexes in their de facto (Columns 1 and 2) and de jure forms (Columns 3 and 4). It appears that the findings on the non-globalization variables in our models (investment, population, human capital, government consumption, inflation and institutions) remain as before (in Table 2), but it seems that with the globalization variables this is not the case. Estimated coefficients on trade and financial globalization indexes in de jure form (in columns 3 and 4) lose statistical significance, while the coefficients on globalization variables in the de facto form (columns 1 and 2) remain statistically significant and of the same signs as before. Thus, it appears that it is globalization de facto and not globalization the jure that is generating the statistically significant impact on economic growth. As our main interest is on financial globalization, we conclude again that the impact of financial globalization on economic growth is negative, and that the previous findings reported in Table 2 are confirmed here in Table 4 but only with the KOF indexes of globalization in the de facto forms.

Overall, from what was reported and discussed so far, we can conclude that strong and robust evidence is offered to support the negative influence of financial globalization on economic growth. This finding emerges from the broad sample of 130+ countries and using different models. It should be added that we also ran our econometric estimations in additional forms to be on the safe side. Namely, our models reported above included certain variables which were found to be statistically insignificant. One example refers to the human capital variables (secondary education completed or total years of schooling) which were found to be predominantly statistically insignificant but we decided to leave them in the estimated models due to strong theoretical reasons as to why they should be appearing in a growth function. We did however run our models excluding human capital variable and it did not change our results reported above. These results are not included in the text for spatial reasons, but are available upon request. Let us also mention that there could be an additional question raised. Given our primary interest on the impact of financial globalization on economic growth, why in addition to financial globalization was also trade globalization included in the models. To avoid possible criticisms we ran the model without trade globalization included in our estimations, but the results on the impact of financial

globalization remained the same, negative and statistically significant. These results are again not included in the text for spatial reasons, but are available upon request. We conclude this part of our investigation with strong international evidence on the negative impact of financial globalization on economic growth. A broad coverage of countries with 134 world economies included and a relatively long data set (1970-2015) adds to reliability of this finding. In addition different robustness checks were applied, alternative indicators for trade and financial globalization were used, and different growth specifications were also experimented with but our main finding remained unchanged. Financial globalization impacts economic growth negatively and this effect is statistically significant and robust.

An additional line of inquiry was followed in the remaining part of this paper. Namely, a question could be raised whether the robust negative impact of financial globalization on economic growth established in an international setting also holds across different regions in the world. Given the breath of our sample we decided not to miss the opportunity to investigate this question empirically and estimated the impact of financial globalization on economic growth in the regions of East Asia and Pacific (eap), Middle East and North Africa (mena), Latin America and the Caribbean (lac), Sub-Saharan Africa (ssa) and Europe and Central Asia (eca). The results of these estimations are reported in Table 5, 6 and 7 below.

Table 5. Financial globalization and economic growth – regions EAP and ECA

VARIABLES	(1) EAP	(2) EAP	(3) EAP	(4) ECA	(5) ECA	(6) ECA
Investment (total as % of GDP)	0.126***	0.116***	0.130***	0.074*	0.037	0.083**
	(0.036)	(0.036)	(0.037)	(0.040)	(0.033)	(0.039)
Population growth	0.700*	0.722**	0.657*	-0.043	0.269	-0.364
	(0.363)	(0.359)	(0.363)	(0.353)	(0.193)	(0.339)
Human capital (SecondaryC)	-0.027	-0.031	-0.024	-0.037*	-0.007	-0.031*
	(0.022)	(0.022)	(0.024)	(0.022)	(0.009)	(0.018)
Trade globalization	-0.013			-0.001		
	(0.020)			(0.028)		
Financial globalization	-0.050**			-0.004		
	(0.021)			(0.019)		
Trade globalization – de facto		-0.001			0.061***	
		(0.017)			(0.011)	
Financial globalization – de facto		-0.050***			-0.044***	
		(0.019)			(0.009)	
Trade globalization – de jure			-0.021			-0.077***
			(0.017)			(0.022)
Financial globalization – de jure			-0.034**			0.049***
			(0.017)			(0.019)
Government (% of GDP)	-0.195***	-0.181***	-0.188***	-0.413***	-0.256***	-0.459***
	(0.070)	(0.070)	(0.071)	(0.081)	(0.042)	(0.079)
Inflation	-0.161***	-0.162***	-0.137***	-0.038***	-0.040***	-0.043***
	(0.052)	(0.053)	(0.051)	(0.006)	(0.006)	(0.006)
Institutions (Polity 2)	-0.073*	-0.094**	-0.064	-0.055	-0.095**	-0.024
	(0.044)	(0.044)	(0.044)	(0.058)	(0.043)	(0.056)
Number of countries	16	16	16	38	38	38
Number of observations	116	116	116	246	246	246
Hausman test (test statistic and p value)	10.59 (0.23) Random effects	6.27 (0.32) Random effects	12.71 (0.12) Random effects	18.98 (0.02) Fixed effects	11.76 (0.16) Random effects	26.76 (0.00) Fixed effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level

Source: Authors' calculations

Table 5 reports the results of our estimations in the regions of East Asia and Pacific (eap) and Europe and Central Asia (eca). Again for spatial reasons we comment only on the globalization variables and in particular on the impact of financial globalization on economic growth. Thus, in the countries of East Asia and Pacific (Columns 1, 2 and 3) financial globalization is found to exert a negative and statistically significant impact on economic growth. Interestingly this effect prevails across the models with the overall KOF index of financial globalization, but also in its de facto and de jure forms. At the same time trade globalization is also found to exert negative influence on economic growth but this effect is not statistically significant. In Europe and Central Asia countries the effect of financial globalization on growth is again negative, but the overall KOF index of financial globalization is not statistically significant (Column 4). Interestingly both its de facto and de jure versions are found to be statistically significant with the de facto version being estimated negatively and the de jure version to have a positive impact (Columns 5 and 6).

Table 6. Financial globalization and economic growth – regions LAC and MENA

VARIABLES	(1) LAC	(2) LAC	(3) LAC	(4)MENA	(5)MENA	(6)MENA
Investment (total as % of GDP)	0.192***	0.216***	0.209***	0.332***	0.332***	0.311***
	(0.055)	(0.056)	(0.051)	(0.066)	(0.067)	(0.068)
Population growth	1.078***	0.966***	1.024***	-1.314***	-1.250***	-1.255***
	(0.401)	(0.389)	(0.382)	(0.460)	(0.464)	(0.488)
Human capital (SecondaryC)	0.048	0.067*	0.009	0.243*	0.129	0.217
	(0.039)	(0.039)	(0.037)	(0.127)	(0.120)	(0.143)
Trade globalization	0.036			-0.139*		
	(0.024)			(0.083)		
Financial globalization	-0.038*			-0.110*		
	(0.022)			(0.067)		
Trade globalization – de facto		0.014			-0.071	
		(0.017)			(0.064)	
Financial globalization – de facto		-0.043**			-0.092*	
		(0.019)			(0.055)	
Trade globalization – de jure			0.031*			-0.078
			(0.018)			(0.062)
Financial globalization – de jure			-0.006			-0.069
			(0.015)			(0.056)
Government (% of GDP)	-0.178***	-0.157***	-0.180***	-0.148	-0.095	-0.140
	(0.058)	(0.056)	(0.057)	(0.115)	(0.115)	(0.123)
Inflation	-0.001*	-0.001*	-0.001*	-0.038*	-0.022	-0.035
	(0.001)	(0.001)	(0.001)	(0.022)	(0.022)	(0.024)
Institutions (Polity 2)	0.014	0.016	0.003	-0.140	-0.076	-0.224
	(0.039)	(0.038)	(0.039)	(0.210)	(0.216)	(0.219)
Number of countries	19	19	19	13	13	12
Number of observations	143	143	143	90	90	88
Hausman test (test statistic and p value)	5.73 (0.68) Random effects	5.85 (0.55) Random effects	5.65 (0.69) Random effects	28.15 (0.43) Fixed effects	21.82 (0.01) Fixed effects	20.37 (0.01) Fixed effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level

Source: Authors' calculations

Table 6 reports the results for the regions Latin America and the Caribbean (lac) and Middle East and North Africa (mena). Financial globalization also in these two regions exerts

a negative influence on economic growth, but the effects are not as strong as in previously reported regions. Financial globalization is negative with all three KOF indexes of financial globalization used (overall, de facto and de jure), but it appears that when the de jure form is used in estimations, it loses statistical significance. With the other two versions of the KOF index (overall and de facto) financial globalization is statistically significant, but mostly at the 10% level of statistical significance.

Table 7. Financial globalization and economic growth – SSA

VARIABLES	(1)	(2)	(3)
Investment (total as % of GDP)	0.093**	0.117***	0.116***
	(0.016)	(0.039)	(0.037)
Population growth	1.524***	1.479***	1.505***
	(0.268)	(0.270)	(0.269)
Human capital (SecondaryC)	-0.013	0.002	-0.026
	(0.044)	(0.043)	(0.044)
Trade globalization	0.096***		
	(0.034)		
Financial globalization	-0.030		
	(0.029)		
Trade globalization – de facto		0.036	
		(0.023)	
Financial globalization – de facto		-0.008	
		(0.021)	
Trade globalization – de jure			0.051**
			(0.023)
Financial globalization – de jure			0.001
			(0.021)
Government (% of GDP)	-0.102**	-0.080	-0.085
	(0.053)	(0.053)	(0.053)
Inflation	-0.027	-0.023	-0.020
	(0.023)	(0.023)	(0.023)
Institutions (Polity 2)	0.069	0.093*	0.090*
	(0.051)	(0.051)	(0.050)
Number of countries	28	28	28
Number of observations	168	168	168
Hausman test (test statistic and p value)	9.84 (0.28)	11.14 (0.19)	10.49 (0.23)
	Random effects	Random effects	Random effects

Standard errors in parentheses; *** significant at 1% level, ** significant at 5% level, * significant at 10% level

Source: Authors' calculations

Table 7 reports the results of our estimations in the region of Sub-Saharan Africa (ssa). It appears that in this region financial globalization has no effect on economic growth. Namely, the estimated coefficients are negative but none of them is statistically significant. Unlike financial globalization, in this region trade globalization (when the overall and de jure KOF indexes of trade globalization are used) exerts a positive and statistically significant impact on economic growth.

To summarize the evidence on the impact of financial globalization on economic growth across different world regions we can say that the effects are negative and predominantly statistically significant, although not in all cases. It might be that the loss in statistical significance is due to lower number of observations, but anyhow it appears that there exist differences across world regions. This question of different findings across regions on the impact of financial globalization on economic growth certainly deserves more attention but it is out of scope of the present study. It might be an avenue for further studies worth pursuing.

Overall, as it stands, although not being as strong and robust as the evidence using the sample of all available world economies, the obtained evidence across five world regions seems supportive of the negative relationship between financial globalization and economic growth.

4. Conclusions

This paper investigated empirically the effects of financial globalization on economic growth. This becomes particularly important as the financial crises have intensified in recent decades with strong and swift spreading around the globe. As a reaction a number of theoretical contributions have been provided to suggest that caution should be exerted as financial openness may not be as beneficial as suggested by the early literature on this very important issue. New arguments have been put forward warning that financial globalization can also have detrimental effects on growth. Empirical evidence also started providing support to this cautious view, but still both positive and negative effects of financial globalization are reported. As the previous studies provided a mixed evidence on the link between financial globalization and growth, new studies are needed to shed additional light on this important issue.

This paper contributes to the literature by revisiting the financial globalization-economic growth nexus. The link between financial globalization and growth was investigated using the KOF index of globalization in a sample of 134 world economies in the period 1970-2015. The KOF index of globalization was found of particular value as it allows the use of the readily available subcomponents of the KOF index – KOF indexes of trade and financial globalization and in addition also their versions in the de facto and de jure forms. With a large number of countries and application of the panel data estimations techniques this paper provides strong evidence on the link between financial globalization and economic growth. In the broad sample of world economies financial globalization exerts a negative and statistically significant effects on economic growth. The paper also investigated this relationship in the regions of East Asia and Pacific, Middle East and North Africa, Latin America and the Caribbean, Sub-Saharan Africa and Europe and Central Asia. The negative effects of financial globalization are also predominantly confirmed in the regional grouping of countries.

These findings have important policy recommendations. The usual benign view on financial globalization should be further explored and caution should be exerted when countries are pushed towards more financial openness. Recent financial crises and their spreading around the world only add to this argument.

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