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Abstract

The paper examines the relationship between financial globalization and growth. While the existing literature suggests divergent conclusions and mostly in the case of developed countries, there is dearth of such studies in the case of developing countries, and South Asia is not an exception. Here, an attempt has been made to study the relationship between financial globalization and growth in seven South Asian countries namely Bhutan, Bangladesh, India, Maldives, Nepal, Pakistan and Sri Lanka.

Following the framework suggested by Bekaert et al. (2005) and with the help of Panel VAR and Panel causality (in GMM framework) models, the study concludes that the causation from financial globalization to growth in the region appears to be weak. Rather there appears a reverse causation running from growth to financial globalization. This suggests that it is the domestic macroeconomic policies (fiscal prudence, strong domestic financial sector and better growth policies) that act as pull factors for foreign capital. At the individual country level, the results are found to be divergent. The study finds that output growth appears to cause financial globalization in countries such as India, Pakistan, Maldives, and Nepal. However, in countries such as Sri Lanka and Bhutan, it clearly suggests that foreign capital has a significant positive impact on output growth. In Bangladesh, the impact seems to be through indirect channel, where foreign capital seems to have disciplining impact on domestic financial markets, which in turn causes output growth. Similar indirect channel is found in the case of Sri Lanka and this is in addition to the direct channel of financial globalization causing growth.

Keywords: Financial Globalisation, Economic Growth, Capital Flows, South Asia, Panel VAR

JEL Classification codes: C33, F21, F36, F65

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1. Introduction

Financial globalization has been one of the most widely debated issue at the global level in the last three decades. While a large section of economists have emphasized the growth-enhancing effects of financial globalization, urging the developing countries to open up their capital markets to external flows, there are others who have highlighted the potential risks arising out of financial globalization, which limit the positive effects on growth. The understanding on financial globalization has only worsened post-2008 Global Financial Crisis. This leaves the developing economies with little clue about whether the financial globalization can lead to growth. The existing empirical studies do not seem to provide any clear answer to this question as their results vary across regions, over time and also depends on types of flows. The South Asian countries are still characterized by heavy capital controls, despite some progress in this regard during the last couple of decades. Lack of empirical evidence on this front leaves the policymakers with little guidance on the potential benefits (or risks) of financial globalization. Therefore, an attempt has been made in this paper to study the relationship between financial globalization and economic growth in South Asian Countries.

The study is based on data for South Asian Countries that are members of the South Asian Association for Regional Cooperation (SAARC): Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. We study the relation of growth in per capita GDP (PPP) with two indicators of financial globalization: the KOF Index of Dreher (2006) and the measure of capital openness constructed by adding the assets and liabilities in country's International Investment Position (IIP). We use panel VAR as well as country-wise VAR. The broad results suggest that while there is evidence of causality from economic growth to financial globalization, it is not very strong in the opposite direction. In fact, the result in the opposite direction is stronger when the measure of capital account openness is used instead of KOF index.

The rest of the paper is organized as follows. In the next section, we look at the progress of financial globalization in the South Asian countries. Section 3 contains a discussion of theoretical relation between financial globalization and economic growth, followed by a brief discussion of existing empirical literature in Section 4. Section 5 contains details of data and methodology, followed by a discussion of empirical results in Section 6. Section 7 contains concluding observations.

2. Financial Globalisation in South Asia

Similar to many countries, the South Asian countries also started making significant progress in the direction of capital flow liberalization in early 1990s. This involved gradual steps towards floating exchange rates, liberalizing capital inflows and outflows, etc. The extent of liberalization is reflected in the magnitude of capital flows, measured as percentage of GDP, and is shown in Fig. 1. The figure clearly shows that with the exception of Pakistan, all other countries have seen a steep rise in the magnitude of capital flows. Since the FDI is found to have stronger positive effects, on the net basis, on economic

growth, we show magnitude of FDI in Fig. 2. This figure shows that even the FDI flows rose monotonically till 2008. Though the magnitude came down following the global financial crisis, it has started rising recently. Thus, it can be said that this region has made significant progress on this front during last three decades.

Fig. 1: Capital Flows in South Asian countries (as percentage of GDP)

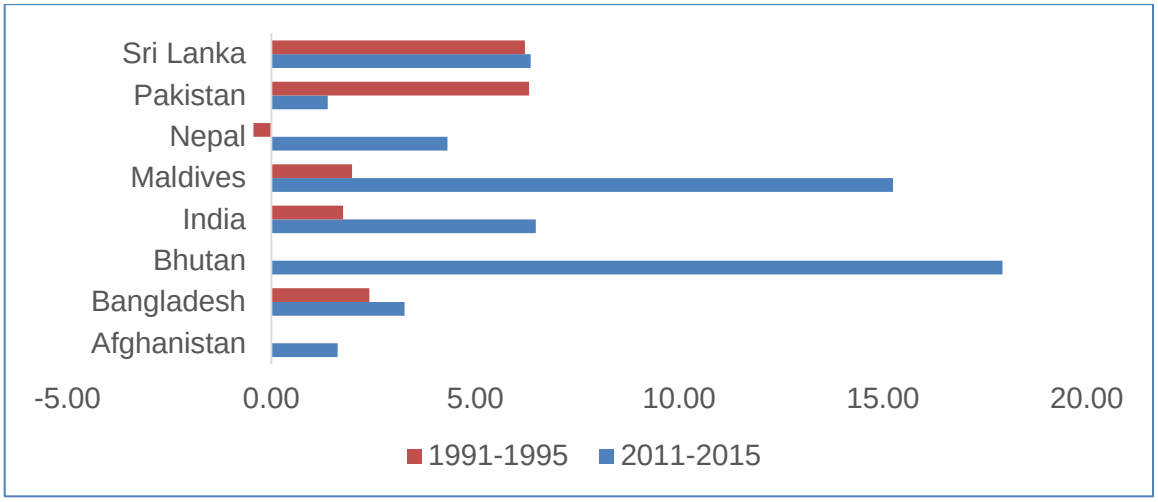
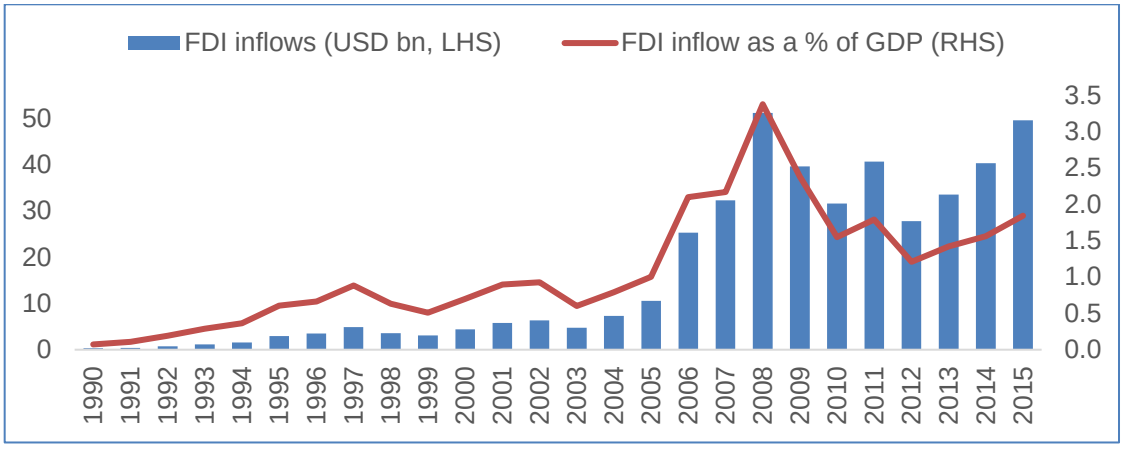


Fig. 2: FDI inflows in South Asia



But there is no country in the South Asia region has adopted full convertibility of capital account, although there are some discussions in this regard. The Asian Crisis as well as the 2008 Global financial crisis appear to have made the countries to be guarded with regard to external accounts. This is largely due to ambiguity with regard to effects of financial globalization on growth both at the theoretical as well as at the empirical level. There is also ambiguity about the channels through which financial globalization affects growth. In the next section, some of the theoretical issues are discussed.

3. Theoretical Underpinnings

In the literature on financial globalization one usually distinguishes between the direct and indirect effects of financial globalization of growth. The flow of capital itself affects the growth process in the economy, and these effects are termed as the *direct* effects. On the other hand, the process of globalization induces several other changes in the economy which further contribute to higher economic growth. These are the *indirect* effects of financial globalization on economic growth. We discuss each of them in turn.

3.1 Direct Channels

Traditionally, financial globalization has been understood to affect growth through re-allocation of available capital. The idea is that if capital is allowed to flow across borders, capital will flow from capital rich countries, which have low marginal productivity and thus low returns, to capital-deficient countries, which have high marginal productivity and thus high returns to capital. The capital inflows resulting from capital account liberalization will supplement the domestic savings of these countries, and will lead to higher investment, which will in turn lead to higher economic growth. In addition, certain types of capital flows, e.g., foreign direct investment could also generate technology spillovers to domestic firms, and adoption of better managerial and organizational practices by domestic firms.

3.2 Indirect channels

On the other hand, recently a number of studies have suggested that this traditional or direct channel is only part of the impact of financial globalization on growth. There are indirect effects also, and these may play significant role. Kose et al. (2005) identify at least two indirect channels: development of domestic financial sector and promoting better economic policies.

3.2.1 Promoting financial development

One channel through which financial globalization can affect economic growth is through promoting financial development.[3] Financial globalization paves the way for financial development by tackling the factors responsible for financial repression. Mishkin (2007), among others discuss the factors that impede the development of financial systems in developing countries, and how financial globalization solves these problems.

The factors responsible for the state of financial repression in developing countries are: Lack of proper property titles, resulting in non-availability of collateral; Inability of legal system to enforce restrictive covenants; Directed credit; and Underdeveloped regulatory apparatus to ensure transparency.

[3] e.g., Levine and Zervos, 1998.

3.2.2 Changes in Government policies

Another channel is through induced changes in policies.[4] It has been argued that the opening up of the domestic capital markets for foreign participation impose discipline on domestic policies, monetary as well as fiscal, which would not be possible otherwise, due to political and other compulsions. For instance, the famous impossible trinity of international macroeconomics suggests that the policymakers have to choose two of the three things: perfect capital mobility, fixed exchange rate and autonomous monetary policy. It is well known that despite so many discussions of advantages of flexible exchange rates, very few currencies can be categories to be falling under "clean float". On the other hand, the targets of monetary policy vary across countries, explicitly as well as implicitly. One important dimension of this is the use of monetary policy to stabilize inflation, even at the cost of growth. However, many central banks tend to use expansionary monetary policies, e.g. to use 'inflation tax' for revenue generation. This leads to high levels of inflation. However, the opening up of the economy to international capital flows imposes discipline on the monetary policy. Due to this, the monetary policymakers have to resist the temptation to use highly expansionary monetary policy, keeping the growth of money supply within the limits and thus inflation low. The realization that the openness of financial markets is exerting a disciplining effect on monetary policy makes the policy more credible that leads to reduction in inflation.

Similarly it has been argued that fiscal policy too tends to be disciplined following opening up of capital account. Assuming two nations are identical in all other aspects, capital will flow to a country which has lower rates of tax on capital. This puts a restriction on countries tempted to tax capital heavily, as compared to other sources of tax revenue. The encouragement to investment that these lower tax give leads to rise in productive capacity, and thus lead to higher growth. In the next section, a brief review of existing empirical literature is presented.

4. Review of Empirical Literature

The relationship between growth and the level of financial integration or capital account liberalization has been studied extensively in the early stages of globalization and mostly focused on developed economies (Kose, et al. 2006, 2010). Most significant studies are Alesina, et al. (1994), Grilli & Milesii-Ferretti (1995), Quinn (1997), Kraay (1998), Arteta, et al. (2001), Edwards (2001), Quinn & Toyoda (2001, 2008), Eichengreen & Leblang (2003), Edison, et al. (2004), Klein (2005), Mody & Murshid (2005), Klein & Olievei (2006), Chinn & Ito (2006), Kose et al. (2006, 2010), Henry (2007), and Prasad et al. (2007). In the post Global financial crisis, there is a renewed interest on this subject. Studies by Saidi & Aloui (2010), Bogdan & et al., (2014), and Lee (2016) have looked at the impacts of financial globalization in the post-2008 crisis period. However, one thing that is striking is that despite developing countries possessing significant foreign exchange reserves and significantly opening up their economies for global investors, the studies on these economies are scanty, except a few studies where some of the developing countries are part of their large panel analysis.

[4] see, e.g., Obstfeld, 1998; Spiegal, 2009, among others.

One such study is by Kose et al. (2006) where the study analyzes 71 countries comprised of 21 developed and advanced industrial, 20 emerging, and 30 other developing countries. This study concludes that there is no clear evidence of positive growth benefits of capital account liberalization. Such results are found to be consistent irrespective of de facto or de jure measures of capital openness. The same has been detected by several studies and realized that collateral benefits such as well-developed financial market, better institutions and governance, and macroeconomic discipline that are preconditions for taking advantage of globalization.

As discussed in theoretical section, there can be various channels through which financial globalization affect growth. To understand these channels, one needs to look at studies that analyze based on industry/firm level data and case studies. Kose et al. (2009) cited various empirical studies for growth effects through direct channels (Chari & Henry 2004, 2008; Eichengreen, et al., 2006) and indirect channels (Kaminsky & Schmukler 2003; Cornelius & Kogut 2003). Some of these studies argue that indirect benefits from the financial globalization could generate from enhanced total factor productivity.

Another significant study in a multi-country context is by Prasad et al. (2007) where it tested for impact of foreign capital inflows on economic growth in the case of 22 industrial countries and 56 non-industrial countries. The results from the analysis for industrial countries found that these countries have had growth benefits from foreign capital. However, in the case of non-industrial countries the impact of foreign capital on growth has been limited and far less compared to industrial countries. The study also finds that in the developing countries that has limited absorptive capacity for foreign resources due to their underdeveloped financial markets, higher capital inflows has led to overvaluation of currency or rapid consumption growth or combination of these factors. Hence, the study suggest that for the non-industrial and developing countries there is a need to improve absorptive capacity of foreign capital through financial sector development before pushing itself for the global financial integration.

4.1 Studies on South Asian countries

In the case of South Asian countries, there are hardly any study that is exclusively done for the countries in the region. A few studies in the case of India (Mazumdar 2005, Kohli 2005, 2001) are discussed here. Mazumdar (2005) looks at the direct channel while Kohli (2001, 2005) looks at the possibility of both direct and indirect channels. Mazumdar (2005) clearly finds a negligible impact of capital flows on the overall economic growth, on industrial sector output, on exports growth as well as on productivity. However, Kohli (2001, 2005) finds real appreciation due to foreign capital inflows and has a significant impact on domestic money supply. While there are few more studies on other South Asian countries (Liyanage, 2016; Thilakaweera, 2012; Hussain & Haque, 2016), the focus of these studies are largely on the trade linkage, rather than specifically on financial globalization.

To sum up, the studies on financial globalization and economic growth suggest that the conclusions could differ and depend on the extent of financial openness, initial in-

comes, domestic institutions, fiscal and monetary policies. And most importantly, the relationship could change over the period and could be time varying. However, such studies on South Asian countries appear to be scanty and this study tries to address this gap in the literature. In the next section, methodology and the data that is used for empirical analysis is discussed.

5. Methodology and Database

5.1 Methodology

Since this study covers eight South Asian countries, we start by estimating the relationship between indicators of financial globalization and economic growth using panel data techniques. Given the dynamic interactions among different variables, we analyze this relation in Panel Vector Autoregression (Panel VAR) framework. This allows us to test for Granger causality as well as study the impulse response function and forecast error variance decomposition. The panel data analysis is followed by country-wise analysis where simple VAR models are used for analysis.

Panel VAR: In the simple VAR models lagged dependent variables are present in each equation. In panel VAR each unit has some unit-specific fixed effect and this effect is correlated with these lagged terms. This is one important statistical issue in working with dynamic models using panel data. Here we follow Love and Zicchino (2006) and Abrigo and Love (2016) where they use forward orthogonal deviation for removing these fixed effects, following Arellano and Bover (1995). This method involves subtracting the average of all available future observations. Since past realizations are not included in this transformation, they remain valid instruments. The instruments are selected following Holtz-Eakin et al. (1988) and the equations of the VAR are then estimated as a system using the Generalized Method of Moments (GMM). Each model is checked for model stability by looking at the magnitudes of eigen values of the companion matrix and tested for overidentifying restrictions using the J-test before analysis. The innovations are orthogonalised using the Cholesky decomposition.

5.2 Data

The study uses data from 1990 to 2015 for eight South Asian countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. However, as the data availability on Afghanistan is limited, it is included only for panel analysis and is dropped for the individual country analysis.

Indicator of financial globalization

One important issue in the studies on financial globalization is the choice of indicator. In the literature there is a debate on choosing between the de jure measures, which are based on the legal restrictions on capital flows, and de facto measures, based on the actual flows generated. It is now widely acknowledged that on one hand, these restrictions can be surmounted without much difficulty, and on the other hand, there may not be much flows despite there being no restriction. Therefore, many authors now prefer the de facto measures over the de jure measures, and we too follow this line. Within this

category, we try two indicators. First, we try the KOF index of economic globalization suggested by Dreher (2006). The author develops two indices of economic globalization, based on actual flows and restrictions on trade and capital flows, respectively. One overall index of economic globalization is also computed by taking the simple average of these two components. Following the discussion above, we take the index based on the actual flows. This index is a weighted average of four variables[5] (all as a per cent of GDP): (i) trade (21%) (ii) foreign direct investment, stocks (28%) (iii) portfolio investment (24%) and income payments to foreign nationals (27%).

As KOF index is not strictly financial globalization index, we also consider another indicator, capital account openness calculated as the sum of assets and liabilities in a country's international investment position. These data, in million US dollars, are taken from the website of the International Monetary Fund[6].

Explanatory variables

Measure of economic growth: Following many other studies in this direction, we look at the rate of growth of per capita income of a country. For this, we take GDP PPP at constant 2011 US Dollars and divide it by respective population to arrive at the per capita figures. Data on both these variables have been taken from the World Bank database.

Control variables: In order to rule out biased results, empirical analysis needs to take care of the effects of control variables. We take three control variables: (i) indicator of domestic financial sector development (ii) domestic fiscal strength (iii) level of social development. For domestic financial sector development, we use two indicators (i) domestic credit to the private sector by banks (DCPB) and (ii) the broad money multiplier (M3M). For domestic fiscal strength we take fiscal balance as ratio to GDP (FBY). Finally, for the social development, we take life expectancy at birth (LE). Data on domestic credit to the private sector by banks, and life expectancy have been taken from the World Bank database. Those on the fiscal balance have been taken from the website of the UNESCAP. The M3 multiplier has been calculated from the IMF data base as (100/reserve money-to-broad money ratio).

6. Discussion of Results

6.1 Results from Panel data analysis

Following theoretical understandings, we have estimated four models. These models are discussed below.

Model 1: In the first model we take GYPC (growth of percapita GDP), GKOFA (growth of KOF index), GDCPB (growth of domestic credit to private sector by banks) and FBY (fiscal balance as ratio of GDP) as endogenous variables and LE (life expectancy) as exogenous

[5] The details for KOF index 2017 as available at the website http://globalization.kof.ethz.ch/.

[6] One strand of literature (e.g., Prasad et al., 2007) takes current account deficit to GDP ratio as an indicator of capital account openness.

variable. The results for Granger causality (Table 2) show that there is no causality from GKOFA to GYPC but there is strong evidence of causality in the opposite direction. The only variable which is found to be causing GYPC is FBY. GKOFA is caused by FBY and GDCPB also in addition to GYPC. It means that domestic growth as well as strength of domestic fiscal and monetary sectors has favorable effects on globalization, but globalization does not cause GYPC. GKOFA is found to be causing GDCPB indicating favorable effects of financial globalization on domestic financial sector. These results are supported by forecast error variance decomposition (FEVD)[7]. For GYPC, only the shocks to FBY have substantial contribution to forecast error variance (FEV) apart from its own (table 3). On the other hand, the FEVD of GKOFA has substantial contribution from shocks to GYPC and FBY.

Model 2: In model 2, only GDCPB is taken as endogenous, apart from GYPC and GKOFA, thus making LE and FBY exogenous as fiscal policy could be independent of globalization policies. The results are similar to those in Model 1. The Granger causality results (Table 4) suggest that GYPC is not caused by GKOFA or GDCPB. On the other hand, GKOFA is caused by both GYPC and GDCPB. GKOFA does not cause GDCPB either, though GYPC does. The FEVD also corroborates such results (Table 5). Though the FEVD of GYPC is driven by its own shocks (99% at 10 year horizon), it accounts for about 7% of FEV of GKOFA. For GDCPB, GYPC accounts for about 30% of FEV. Thus, from both the models based on GKOFA, it may be concluded that growth is not caused by globalization, rather there is a reverse causation.

Model 3: In this model we take GIIPAL (International Investment Position) as the indicator of globalization, and take FBY as endogenous. The results for Granger causality (Table 6) show that GIIPAL causes GYPC. The other two variables too cause GYPC. GIIPAL is caused by GYPC, GDCPB and FBY, though the evidence for GYPC is slightly weak. In addition, GIIPAL causes GDCPB also. The results of FEVD (Table 7) show that the FEV of GYPC is driven by shocks to GYPC and FBY, with hardly any contribution from for GIIPAL. For GIIPAL, FBY and GYPC account for about 40% and 20% of FEV respectively, at 10-year horizon. Thus, these results are in line with those obtained with GKOFA: growth is important for globalization, though the opposite does not appear to be the case.

Model 4: Here FBY is made exogenous in the above model, the evidence for causality (Table 8) from GIIPAL to GYPC remains, but that for GYPC to GIIPAL (which was weak in Model 3 also) disappears. Also, for GDCPB there is evidence of significant causality from both the other variables. The results of FEVD (Table 9) show that GIIPAL accounts for about 13% of FEV of GYPC. For GIIPAL, GYPC accounts for about 21% of FEV. The contribution of GDCPB is about half of this. Finally, for GDCPB, GYPC accounts for about 8% of forecast error variance, the contribution of GIIPAL is much smaller.

From the results of these models a few points emerge clearly: while growth plays an important role in causing financial globalization, the evidence for the opposite is not that strong. In fact, the evidence for causality from globalization to GYPC is found only when GIIPAL is used as the indicator of globalization. This difference is important for the

[7] We calculate the FEVD upto 10-year horizon, and the discussion will be mostly for this horizon only.

reason that while the KOF index is based on both trade and capital flows, GIIPAL is based only on assets and liabilities in the international investment position, and thus captures only financial globalization. Hence, the results indicate that the financial flows exert influence on growth than the trade flows. The other important result is that FBY explains a substantial fraction of forecast error variance in all the three variables, implying that fiscal health of the country is important not only for growth but also for financial globalization and better flow of credit to the private sector from the banking sector.

6.2 Results from country-wise analysis

Starting with Bangladesh, we try the relation with GIIPAL as the indicator of globalization, since unlike GKOFA, it is the indicator of financial globalization alone. The results in Table 10 show that there is no causality from GIIPAL to GYPC. The only variable causing GYPC is FBY. On the other hand, there is significant causality from GYPC to GIIPAL. Also, there is significant causality from GIIPAL to GDCPB. These results are supported by FEVD also: while GIIPAL hardly contributes to forecast error variance in GYPC, the latter accounts for more than 35% of FEV in the former (table 13). Even though GIIPAL does not contribute to FEV of GYPC, GDCPB and FBY account for about 18% each. Thus, for Bangladesh, we find evidence of causality from GYPC to GIIPAL, not the other way round. However, there appears to have some indirect channel where financial globalization appear to have some disciplining impact on domestic financial markets, which in turn has some positive impact on economic growth.

For Bhutan, the results (Table 10) show significant causality from GIIPAL to GYPC. In addition, there is significant causality from FBY to GYPC also. However, we were not able to compute innovation accounting measures for this model. Therefore, in Model 2 we take GKOFA as the measure of globalization (see table 11). The results from this model show that neither GKOFA nor GYPC is caused by any variable. However, GDCPB is caused significantly by GKOFA, GYPC and FBY. The results from FEVD show substantial contribution from GDCPB and FBY to FEV in GYPC at 10 year lag, but not from GKOFA (table 13). However, GYPC accounts for more than half of FEV of GKOFA at this horizon. Further, GKOFA has substantial contribution to FEV of GDCPB. These results are in line with those for panel data: while there is evidence of causality from GIIPAL to GYPC, this evidence disappears when we take GKOFA as indicator of financial sector globalization. GKOFA is, however, caused by GYPC.

For India GIIPAL is used as the indicator of globalization. The Granger causality results from this model (Table 10) show that GYPC is not caused by any variable including GIIPAL. The latter is, however, caused by GDCPB. Among others, as seen in many cases above, GDCPB is caused by GYPC. The results of FEVD (Table 13) show that while GIIPAL accounts for about 12% of FEV in GYPC at 10-year horizon, the corresponding figure for GYPC to GIIPAL is almost double. Further, GDCPB accounts for about 40% of FEV of GIIAL – largest for this variable. When we replace GIIPAL by GKOFA (model 2), we get different results (Table 11): GYPC is caused by GKOFA and GDCPB, while GKOFA is not caused by any variable. However, these differences do not come out that clearly in results of FEVD. While GKOFA and GDCPB account for about 14% each of FEV of GYPC, GYPC accounts for about 20% of FEV of GKOFA. Looking at the results of both the models together, it may be concluded that while there is evidence of growth affecting globalization, the evidence in

the other direction is not that strong. Further, the difference between the results of models with GKOFA and GIIPAL highlight the differential roles of capital and trade flows.
For Maldives, the model selected has only GYPC, GDCPB and GKOFA as the endogenous variables. The results (Tables 12) show that GYPC is not caused by any variable, though GKOFA is caused by both the variables. This result is supported by FEVD also: while for GYPC more than 85% of FEV is attributed to its own shocks; for GKOFA, more than half of FEV is attributable to the other two variables, with shocks to GYPC alone accounting for more than 30% (table 13).

For Nepal (Table 11) while there is no causal relation to GYPC from any variable, there is weak causality from GYPC to GKOFA. The latter comes out much more strongly in FEVD: shocks to GYPC alone account for about half of FEV of GKOFA at 10-year horizon. The results for Pakistan (Table 11) are qualitatively similar to that of Nepal. Thus, the results for Maldives, Nepal and Pakistan all lead to one common conclusion: causality from growth to financial globalization but not in the opposite direction.

The results for Sri Lanka (Table 11) are different: there is significant causality from GKOFA to GYPC, and also to GDCPB. However, no variable causes GKOFA significantly. As found in Bangladesh, in Sri Lanka also there exists indirect channel through improvement in domestic financial markets, financial globalization exerts large impact on economic growth. The results of FEVD are more or less in line with those of Granger causality, one difference being about 18% contribution of GDCPB to the FEV of GKOFA, which is in line with results for some other countries noted above (table 13).

7. Conclusions

Financial globalization has been a topic of intensive debates for more than three decades now. While the proponents of financial globalization talk about its positive effects on growth through multiple channels, the opponents emphasize that these effects may be elusive; and highlight the negative effects coming through various channels. The empirical studies do not seem to be giving a clear indication either. This leaves the developing economies with little guidance on the growth-enhancing effects of financial globalization. In the light of this background an attempt has been made here to study the relation between financial globalization and economic growth in the South Asian region. Using annual data for the period 1990-2015, we find mixed results. While the evidence of causality from globalization to economic growth is not that strong, that of causality in the opposite direction is much stronger. This seems to indicate that economic growth acts as a factor leading to globalization, though may not benefit from it. The results also depend on the choice of indicator of financial globalization, and the evidence for globalization causing growth is stronger if we use the capital openness index constructed as sum of assets and liabilities in the international investment position, as compared to the case when the KOF index is used as the indicator. This difference assumes importance in view of the fact that the latter is an index of both financial and trade openness while the former represents only capital openness. The other important point coming out of this study is the key role played by fiscal policy on growth, globalization as well as credit disbursal. These results of country-wise analysis are largely in line with those based on panel data.

Overall, the above results suggest that, it is the domestic factors and domestic macroeconomic policies that are attracting more foreign capital. The reverse causation appears to be weak, atleast in majority of countries in the region. Such results could also support the dominant view in the literature, which suggests that capital account liberalization and output growth relationship follow a transition function: in the initial phase growth could attract foreign capital, while in the long run foreign capital could contribute to growth through both direct and indirect channels. But, it is most important to have better domestic fiscal and financial sector that could lead to better outcomes from financial globalisation.

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Table 1: Summary Statistics for the entire region

Variable	Obs	Mean	Std. Dev.	Min	Max
GYPC	177	3.67	3.17	-11.84	16.55
GKOFA	184	2.63	8.41	-25.53	41.59
GIIPAL	86	9.99	9.14	-7.77	35.51
GDCPB	184	11.91	18.75	-73.08	115.73
FBY	183	-4.57	3.29	-20.60	4.30
LE	200	64.48	6.22	49.86	76.77

Table 2: Granger causality from PVAR model1

Equation	Excluded	chi2	df	Prob
GYPC				
	GDCPB	2.090	1	0.148
	FBY	63.235	1	0.000
	GKOFA	0.199	1	0.655
	ALL	77.258	3	0.000
GDCPB				
	GYPC	7.902	1	0.005
	FBY	37.579	1	0.000
	GKOFA	4.166	1	0.041
	ALL	50.806	3	0.000
FBY				
	GYPC	1.308	1	0.253
	GDCPB	1.331	1	0.249
	GKOFA	1.968	1	0.161
	ALL	3.835	3	0.280
GKOFA				
	GYPC	6.877	1	0.009
	GDCPB	5.754	1	0.016
	FBY	7.522	1	0.006
	ALL	26.302	3	0.000

Table 3: Forecast Error variance decomposition[8] from Model 1

Response variable	Impulse variable			
	GYPC	**GDCPB**	**FBY**	**GKOFA**
GYPC	0.71	0.005	0.271	0.004
GDCPB	0.27	0.545	0.164	0.016
FBY	0.052	0.003	0.936	0.009
GKOFA	0.104	0.011	0.082	0.803

[8] In all the tables on forecast error variance decomposition, only the figures at 10 year horizon are presented.

Table 4: Granger causality results from Panel VAR Model 2

Equation	Excluded	chi2	df	Prob
GYPC				
	GDCPB	1.153	1	0.283
	GKOFA	0.351	1	0.554
	ALL	1.441	2	0.486
GDCPB				
	GYPC	14.842	1	0.000
	GKOFA	1.771	1	0.183
	ALL	18.237	2	0.000
GKOFA				
	GYPC	5.79	1	0.016
	GDCPB	3.897	1	0.048
	ALL	12.713	2	0.002

Table 5: Forecast Error variance decomposition from panel VAR model 2

Response variable	Impulse variable		
	GYPC	GDCPB	GKOFA
GYPC	0.988	0.011	0.001
GDCPB	0.298	0.695	0.007
GKOFA	0.068	0.009	0.923

Table 6: Granger causality results from Panel VAR model 3

Equation	Excluded	chi2	df	Prob
GYPC				
	GDCPB	97.779	1	0.000
	FBY	76.37	1	0.000
	GIIPAL	3.869	1	0.049
	ALL	127.938	3	0.000
GDCPB				
	GYPC	1.339	1	0.247
	FBY	36.078	1	0.000
	GIIPAL	5.037	1	0.025
	ALL	56.866	3	0.000
FBY				
	GYPC	0.321	1	0.571
	GDCPB	6.872	1	0.009
	GIIPAL	0.435	1	0.509
	ALL	16.222	3	0.001
GIIPAL				
	GYPC	2.933	1	0.087
	GDCPB	34.91	1	0.000
	FBY	135.315	1	0.000
	ALL	199.278	3	0.000

Table 7: Forecast Error variance decomposition from Panel VAR model 3

Response variable	Impulse variable			
	GYPC	GDCPB	FBY	GIIPAL
GYPC	0.491	0.013	0.488	0.007
GDCPB	0.033	0.871	0.084	0.011
FBY	0.019	0.116	0.863	0.003
GIIPAL	0.183	0.008	0.387	0.423

Table 8: Granger causalityresults from panel VAR model 4

Equation	Excluded	chi2	df	Prob
GYPC				
	GDCPB	1.286	1	0.257
	GIIPAL	17.519	1	0.000
	ALL	17.592	2	0.000
GDCPB				
	GYPC	4.293	1	0.038
	GIIPAL	3.545	1	0.060
	ALL	8.384	2	0.015
GIIPAL				
	GYPC	0.019	1	0.891
	GDCPB	13.908	1	0.000
	ALL	16.826	2	0.000

Table 9: Forecast Error variance decomposition from panel VAR model 4

Response variable	Impulse variable		
	GYPC	GDCPB	GIIPAL
GYPC	0.859	0.008	0.133
GDCPB	0.079	0.886	0.035
GIIPAL	0.210	0.093	0.697

Table 10: Granger causality for three South Asian Countries (when GIIPAL is used)

Equation	Excluded	Bangladesh	Bhutan	India
GYPC				
	GDCPB	0.51	0.37	1.30
	FBY	3.15***	6.01**	0.73
	GIIPAL	0.73	3.88**	1.001
	ALL	4.43	6.098	2.59
GDCPB				
	GYPC	0.08	0.01	9.44*
	FBY	1.26	3.75***	0.52
	GIIPAL	5.01**	1.35	0.84
	ALL	6.06	4.62	12.39***
FBY				
	GYPC	0.01	3.83***	8.69**
	GDCPB	0.01	0.19	9.06**
	GIIPAL	0.15	2.27	8.91**
	ALL	0.17	4.71	11.98***
GIIPAL				
	GYPC	4.74**	0.66	3.35
	GDCPB	0.02	0.004	5.14***
	FBY	0.84	0.30	0.81
	ALL	4.78	0.84	5.81

Note: *, **, *** indicate significance at 1%, 5% and 10% level

Table 11: Granger causality for five South Asian Countries (when GKOFA is used)

Equation	Excluded	Bhutan	India	Nepal	Pakistan	Sri Lanka
GYPC						
	GDCPB	0.62	11.40*	0.41	2.41	5.95**
	FBY	1.09	1.97	1.61	0.11	1.92
	GKOFA	0.23	12.96*	1.52	1.09	5.49**
	All	1.96	24.09*	6.79***	3.51	9.96**
GDCPB						
	GYPC	5.27***	57.05*	0.03	1.29	0.001
	FBY	6.46**	0.79	4.49**	2.01	0.01
	GKOFA	7.25**	1.00	1.07	1.17	3.08***
	All	12.95**	69.43*	7.79***	7.25***	4.28
FBY						
	GYPC	0.13	6.83***	0.98	0.02	0.07
	GDCPB	0.70	6.64***	0.03	0.84	0.81
	GKOFA	0.35	3.57	1.64	0.47	0.32
	All	1.82	12.69	4.96	1.17	0.98
GKOFA						
	GYPC	3.37	1.19	2.80***	5.37**	0.02
	GDCPB	1.26	6.01	2.42	0.03	0.87
	FBY	0.29	4.52	1.19	0.06	0.27
	All	9.85	9.73	4.48	6.82	2.11

Note: *, **, *** indicate significance at 1%, 5% and 10% level

Table 12: Granger causality results for Maldives

Equation	Excluded	chi2
GYPC		
	GDCPB	1.29
	GKOFA	0.45
	All	1.84
GDCPB		
	GYPC	2.50
	GKOFA	2.09
	All	2.93
GKOFA		
	GYPCD	5.74***
	GDCPB	6.12**
	All	7.85***

Note: *, **, *** indicate significance at 1%, 5% and 10% level

Table 13: Forecast Error variance decomposition for South Asian Countries

Bangladesh				
Response Variable	Impulse Variable			
	GYPC	GDCPB	FBY	GIIPAL
GYPC	62.05	17.59	18.55	1.81
GDCPB	28.1	47.23	17.93	6.74
FBY	29.43	17.45	52.63	0.49
GIIPAL	37.04	10.44	26.81	25.72
Bhutan				
Response Variable	Impulse Variable			
	FBY	GDCPB	GYPC	GKOFA
FBY:	87.04	6.92	3.89	2.15
GDCPB:	18.64	54.79	12.49	14.07
GYPC:	9.23	14.59	74.73	1.44
GKOFA:	7.52	12.33	53.47	26.69
India				
Response Variable	Impulse Variable			
	GYPC	GDCPB	FBY	GIIPAL
GYPC	74.17	9.06	3.93	12.83
GDCPB	47.37	36.91	3.63	12.09
FBY	27.84	26.08	4.95	41.13
GIIPAL	22.25	39.07	6.68	32.00
Maldives				
Response Variable	Impulse Variable			
	GYPC	GDCPB	GKOFA	
GYPC	85.69006	10.27166	4.038285	
GDCPB	8.955217	76.99459	14.05019	
GKOFA	31.63593	21.77822	46.58585	
Nepal				
Response Variable	Impulse Variable			
	GYPC	GDCPB	FBY	GKOFA
GYPC	87.09	3.22	6.85	2.84
GDCPB	2.54	68.67	28.01	0.79
FBY	22.00	1.08	73.80	3.12
GKOFA	47.57	8.48	8.13	35.83

Table 13: Forecast Error variance decomposition for South Asian Countries (contd.)

Pakistan				
Response Variable	Impulse Variable			
	GYPC	GDCPB	FBY	GKOFA
GYPC	85.67	7.48	3.66	3.19
GDCPB	41.01	48.16	6.77	4.06
FBY	18.23	2.03	78.59	1.15
GKOFA	30.56	2.91	3.07	63.45
Sri Lanka				
Response Variable	Impulse Variable			
	GYPC	GDCPB	FBY	GKOFA
GYPC:	51.86	19.89	0.64	27.61
GDCPB:	20.01	52.82	5.94	21.23
FBY:	21.34	30.09	44.78	3.79
GKOFA:	12.85	18.41	13.82	54.92

Figures

Fig. 3: Impulse response analysis from panel VAR model 1.

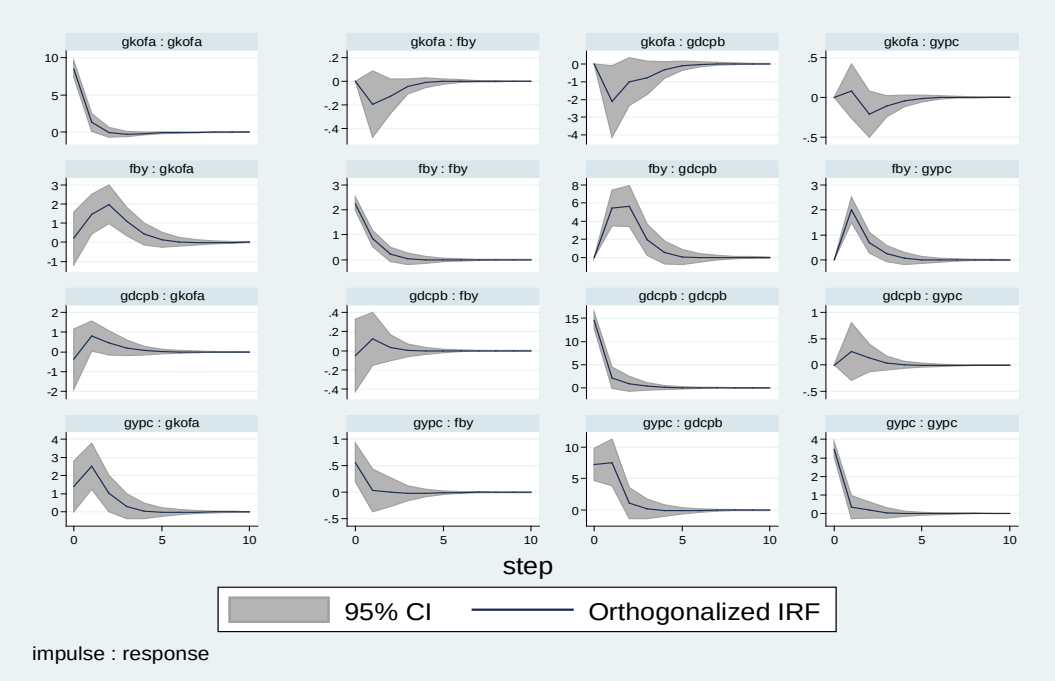


Fig. 4: Impulse response analysis from panel VAR model 2.

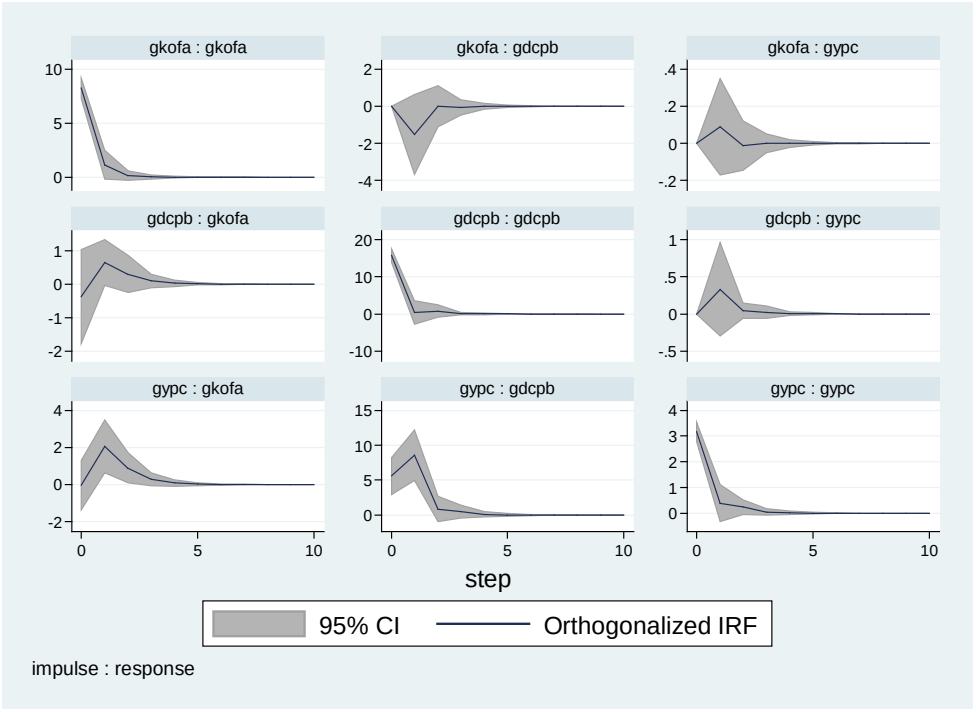


Fig. 5: Impulse response analysis from panel VAR model 3.

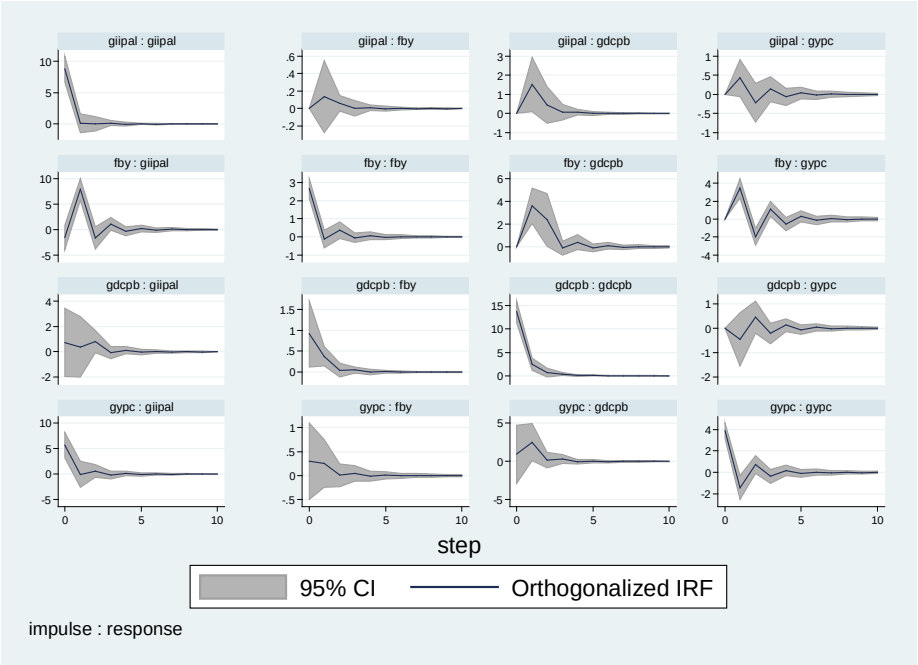
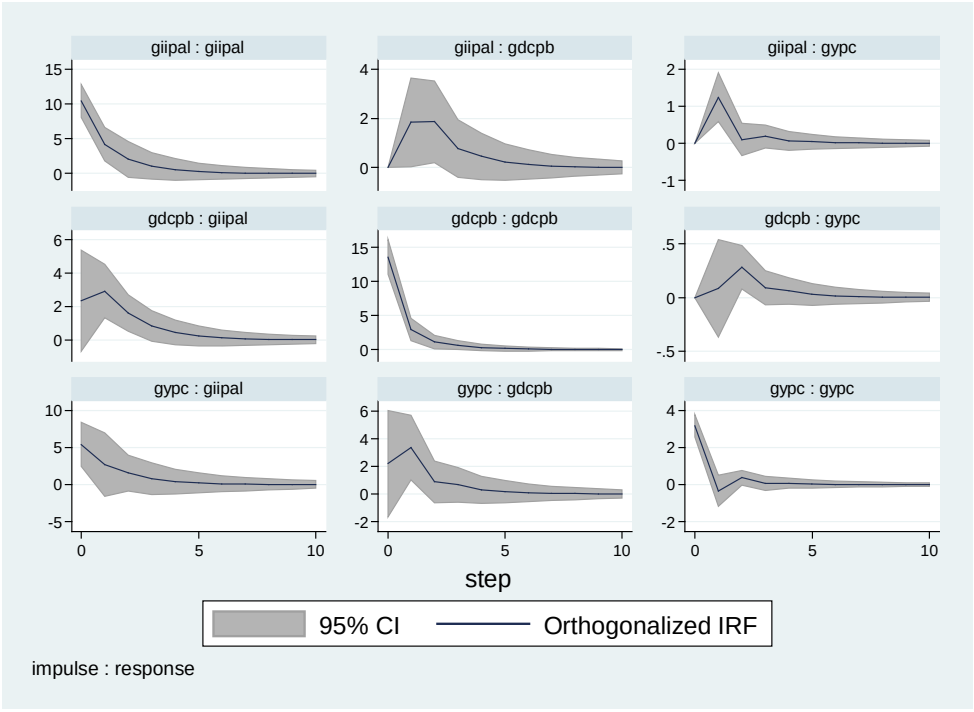


Fig. 6: Impulse response analysis from panel VAR model 4.



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