Intangible capital and Productivity Growth since Globalisation: A Cross Country Analysis

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It well-known that the dynamics of development process of the countries in Globe has shown rapid structural transformation which has been reflected by some stylized fact viz: (a) falling employment in agriculture along with its falling share in GDP of the countries; (b) the hump-shaped share of employment in industry; (c) increasing employment in service sector along with its increasing share in GDP . However after the initiation of the process of globalization and especially since the beginning of the present century a significant deindustrialization trend has been found to have experienced by the developed as well as the developing countries which is again claimed to have followed by a process of re-industrialization or a manufacturing renaissance especially in developing world. (Rodrik, 2015;Sen ,2019; Dasgupta and Singh,2006; Kruse et.al,2021).

Alongside it is also interesting to note that since the beginning of the 21st century, the global economy has been experiencing a tremendous spurt in the revolution of ICT and AI such that the production structure is being radically transformed through the increased use of knowledge-capital i.e. the intangible capital namely, the computerized software and data base, R&D, Designs, Brand equity, Firm specific training, Patenting, Advertisement, Marketing and Organizational efficiency etc. As a fall out, the nature of the production process is gradually being switched over to the increased use of intangible capital by reducing the dependence on business fixed capital. Interestingly , the liberalization of trade, investment and finance has led to a massive acceleration in the cross-country flow of technology and knowledge capital such that the global production process has been fragmented across the countries and industries, thereby expanding the Global Value Chain (where the value added takes place in the various stages such that Distribution, Final Stage and Other stages) through the integration of developed, developing and low income countries. (Chen, Gouma, Los and Timmer, 2017). On the other hand, the tremendous falling trend in the Total Factor Productivity (TFP) growth as well as aggregate labour productivity of developed economies since the global financial crisis (2008), has also drawn increased attention of economist and social scientists to account for this falling trend (Roth, 2009; Godlin et al. 2020). Paralley, it is also found that there has been a remarkable growth in the productivity of some of the developing and emerging market economies especially some of the Asian economies like India, China etc. which are trying to catch up the global technology frontier vis-à-vis the global productivity frontier. Interestingly, the rapid globalization process through the liberalization of trade, investment, finance, cross-country transfer of technology and migration seems to have strengthened the structural transformation, technological transformation as well as the productivity

growth across the developing countries also. The contemporary literature also unveils the impact of globalization on productivity growth and structural change (Timmer et. al. 2007, 2009; Rodrik, 2007,,2008; Pavcnik,2000; Bartelsman,2006; Pages,Carmen,2010; McMillam and Rodrik,2011; Samaniego et. al.,2013 ;Ngai and Pissarids (2007) and Acemoglu and Guerrieri (2008); etc.

Under this backdrop we will examine, the dynamics of contribution of tangible and intangible capital, globalization on the productivity growth across the select twenty five developed and developing countries during 1995 to 2018 by using the growth accounting approach. We will use Cobb-Douglas type of aggregate production function to this end. We will also examine the cross-country and cross time variations in the relationship between the productivity growth and tangible and intangible capital as well as globalization across the sample countries over the period from 1995 to 2018 using dynamic panel framework with GMM technique. While estimating the impact of globalization on productivity growth we will use the KOF comprehensive globalization index and we will also develop economic globalization index in terms of the weighted sum of the value of trade share in GDP of each country and the share of net inflow of FDI in GDP such that larger weights (0.8) to be given to first component and smaller weight (0.2) to the second component. Entire exercise will be done on the basis of the secondary data which are available from APO productivity database, World Development Indicators, PENN World Table(version 10.0) , KLEMS data-base etc .

The preliminary results that we have worked out by undertaking time series analysis for ten developed countries after taking into account of the stationarity of the data generating process of the variables give a clear positive significant long-run relationship between productivity growth and tangible and intangible investment as well as globalization across countries. In fact the result of error correction model reveals that the short run fluctuations of the relationship between the variables are corrected and a smooth long run trend relation persist for each country.