

## Do economic and financial integration stimulate economic growth? A critical survey

*Kizito Uyi Ehigiamusoe and Hooi Hooi Lean*

### Abstract

The recent vote by Britain to quit the European Union (EU) and the political pressures in some member countries to exit the EU necessitates a critical evaluation of the long-run economic benefits of economic integration or union to member countries. Consequently, this paper examines recent empirical studies on the nexus between economic integration and economic growth in developed and developing countries. It also investigates the literature concerning the impact of financial integration on economic growth. Evidence from the study shows that although other views exist, there is overwhelming support for the growth-enhancing effects of economic integration, albeit common currency adoption has an insignificant effect on economic growth. The channels through which economic integration exerts its influence on economic growth include capital accumulation, productivity growth, trade, and financial integration. However, the study shows that the impact of financial integration on economic growth is inconclusive. Based on the findings, the study draws some implications and policy options.

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**Keywords** Economic integration; financial integration; economic growth

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## **1 Introduction**

Theoretical evidence indicates that economic integration or union has the capacity to promote capital accumulation, productivity, and economic growth. The potential channels through which integration exerts its influence on growth include the acceleration of international trade, strong macroeconomic stability, sound institutions, price transparency, financial integration and development, exploitation of the single market, and reduction in exchange rates volatility (Conti, 2014). For instance, since the launching of the European Union (EU) Single Market in 1993, the number of member countries has more than doubled with many smaller countries joining the EU in the last enlargement rounds (König, 2015). However, the recent vote of Britain to quit the EU and the political pressures in some member countries to exit the EU necessitates a critical evaluation of the long-run economic benefits of economic union to member countries. Thus, one crucial issue is that economic union could be confronted by some economic and institutional challenges that may hinder its operations and effectiveness. Some of these difficulties include productivity gaps and widening trade imbalances among member countries, the absence of fiscal and financial union, as well as limited power of the common central bank (Conti, 2014; Shambaugh, 2012).

Moreover, theoretical literature supports the role of financial integration in the process of economic growth and development. Hence, several developing and emerging economies have embarked on a rapid process of financial integration in the past few decades. This is because financial integration has the capacity to promote capital allocation, production specialization, international consumption risk-sharing, and economic growth (Acemoglu & Zilibotti, 1997; Gehringer, 2015; Obstfeld, 1994; Saafi et al., 2016). Besides, financial integration improves factor productivity via greater efficiency in resources allocation and easy access to investment opportunities thereby stimulating economic growth (Edison et al., 2002; Gehringer, 2013; Giannetti et al., 2002). Furthermore, by intensifying competition and the import of financial services, financial integration could accelerate the development and operations of the domestic financial sector and spur more investment and growth (Klein & Olivei, 2008; Levine, 2001).

Conceptually, economic integration involves the unification of economic policies (coordination of monetary and fiscal policies) between different countries via full or partial elimination of tariff and non-tariff restrictions on trade among them. According to Jhingan (2009), it refers to “a decision or process whereby two or more countries combine into a larger economic region by removing discontinuities and discriminations existing along national frontiers, and by establishing certain elements of co-operation and co-ordination between them.” The various levels of economic integration include a free trade area, customs union, common market, and economic union. The potential benefits of economic integration include the better allocation of resources, improvement in the quality and quantity of factor inputs, increase in productivity, increase in economic efficiency and improvement in trade, better exploitation of economies of scale, and improvement in standard of living, as well as the establishment of closer cultural, economic, and political ties among the member states. Moreover, an economic union represents a kind of trade bloc that comprises a common market with a custom union, in which the members have common policies on the regulation of products, free movement of goods, services, capital and labor, as well as a common external trade policy. When an

economic union entails a common currency among the member states, it becomes an economic and monetary union.

On the other hand, financial integration occurs when the financial markets of neighboring, regional or global countries are closely linked together. It entails the eradication of restrictions on cross-border financial operations so that financial institutions can freely operate, firms can directly borrow or raise funds, and equity and bond investors can directly invest across countries without restrictions. It includes the sharing of information, best practices and technologies among financial institutions, cross-border capital flows, direct access of firms to funds and investors to investment in international capital markets, and trading of domestically innovated financial products in the international capital markets, as well as the involvement of foreign investors in the domestic financial markets. Although economic integration encompasses or influences financial integration, practically (e.g., the case of the EU), sometimes, economic integration may not be sufficiently deep to assure an adequate degree of financial integration.

Consequently, the objectives of this study are twofold: (i) to review recent literature on the nexus between economic integration and economic growth, and (ii) to survey recent literature on the nexus between financial integration and economic growth. The debate concerning the role of economic and financial integration on economic growth has intensified in recent years, as different empirical studies have focused on whether the economic integrations or unions have long-run economic benefits for member countries. Scholars and policymakers have argued about the economic benefits of economic union to member states. We also incorporate financial integration in the analysis because it is conceptually considered to be an integral part of economic integration, albeit in practice, economic integration sometimes may not be deep enough to assure an adequate degree of financial integration.

Although some studies (e.g., Ang, 2008; Gehringer, 2014; Levine, 2005; Stolbov, 2013) have conducted surveys on the impact of financial liberalization or development on economic growth, these papers are cursory with respect to economic integration or union. Hence, precisely, we seek to fill this gap by focusing on the impact of economic integration or union on economic growth. Another distinctive feature of our paper is that we also analyze the literature concerning the link between the adoption of a common currency and economic growth.

This paper represents the first attempt to consider the effects of different forms of integration (economic, financial and common currency adoption) on economic growth (and other related variables) in a unified framework. Although the processes of economic and financial integration are sometimes interwoven, but their respective characteristics remain quite distinct, which makes it necessary to consider them separately. Hence, this study makes theoretical and practical contributions to the extant literature. Theoretically, this paper offers a rigorous and informative guide of decades of theoretical and empirical studies on the integration-growth nexus. It shows the channels through which economic integration or union exerts its influence on economic growth such as financial integration, productivity growth, capital accumulation and trade. Hence, it represents an invaluable reference point especially with regards to the ongoing debate on the role of economic and financial integration on economic growth. Moreover, this paper will be an invaluable tool to scholars and researchers who are doing works related to economic integration, financial integration and common currency, as it will become a reference point for them. The survey will also provide researchers with several opportunities for future researches especially by given considerable attention to

some economic and econometric issues (e.g. endogeneity, autocorrelation, heteroskedasticity, non-linearity, omitted variable bias, cross-sectional dependence, structural breaks, etc) with a view to providing reliable inferences. This is important because the integration-growth nexus could be sensitive to the presence of these issues.

Practically, the novelty of this paper is that it will be useful to several regions or countries in Europe, Asia, Africa and Latin America that practice or intend to practice economic integration or adopt common currency. This is essential because this paper aggregated the empirical outcomes regarding the long-run economic benefits of integration to member countries. Therefore, it is timely to conduct this survey as the paper will be useful to policy-makers who have contended the economic benefits of economic union to member states especially with regards to the recent Britain's vote to quit the EU and the political pressures on some member countries to quit the economic union. The light shed in this paper is fundamental because a critical evaluation of the long-run economic benefits of integration or union to member countries could influence policy decisions-making. In other words, an aggregation of the empirical evidences on integration-growth nexus provides a basis for the discussion of the appropriate design and implementation of policies on how to utilize integration to enhance economic growth. It is essential for policy makers to understand the integration-growth nexus so as to develop effective integration policies. Hence, the output of this study could serve as guidelines for policymakers and government in making better, informed and more accurate decisions about their participation in economic integration or union.

Besides this introduction, the remaining part of the paper is divided into four sections. The nexus between economic integration and economic growth is surveyed in Section 2, while Section 3 reviews the nexus between financial integration and economic growth. Section 4 highlights the main findings from the surveys, while the final section concludes with some policy recommendations.

## **2 Economic integration and economic growth**

This section reviews recent empirical literature concerning the impact of economic integration on economic growth. It also examines the channels through which economic integration exerts its influence on economic growth, such as productivity growth, capital accumulation, trade, and financial integration. It categorizes the literature based on empirical studies that reported significantly positive or insignificant effects of integration on growth. It also examines the empirical literature concerning the impact of common currency adoption on economic growth. Figure 1 shows the conceptual framework of the possible patterns of relationship among economic integration, financial integration, and economic growth.

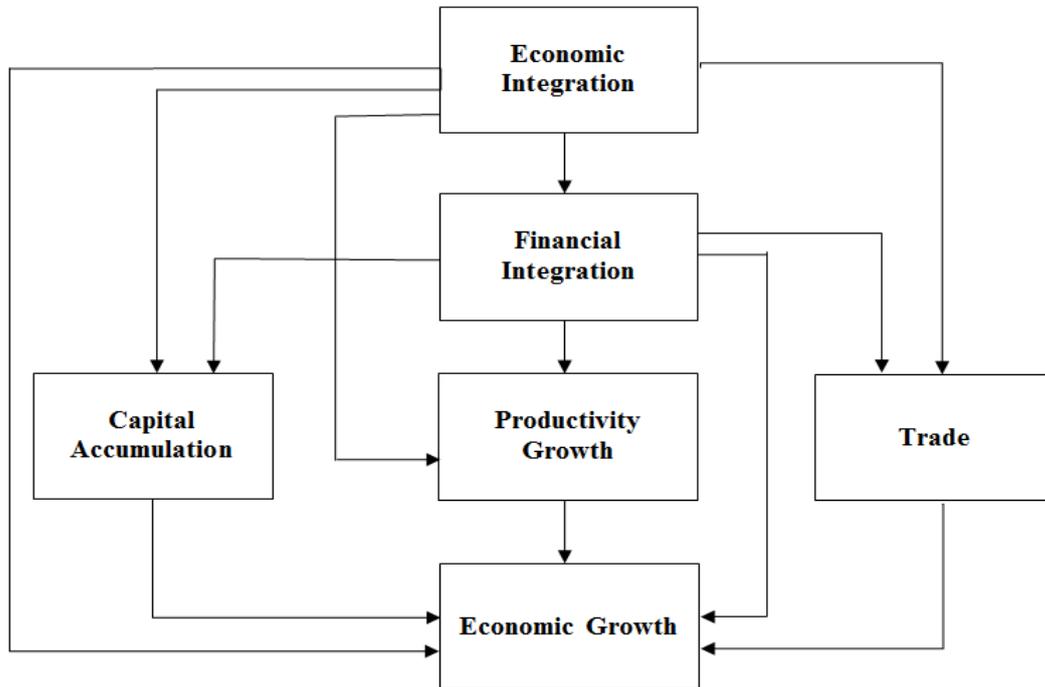


Figure 1: The conceptual framework of the possible patterns of relationship among economic integration, financial integration, and economic growth

## 2.1 Studies that found significant effects of economic integration on economic growth

Some empirical literature on the nexus between economic integration and economic growth revealed positive relationships. For instance, Jones (2002) investigated the relationship between economic integration and convergence of per capita income in the Economic Community of West African States (ECOWAS) using cross-sectional and time series data with a non-linear Ordinary Least Squares estimator. They showed that ECOWAS countries form a convergence club, suggesting that there is a tendency for the per capita income to converge and decrease its standard deviation over time. Using the monetary union in the West African region known as the West African Economic and Monetary Union (WAEMU) and Economic Community of West African States (ECOWAS), Anyanwu (2003) estimated a pooled regression to examine how integration was linked with trade and output during the 1990–2000 period. The study revealed that monetary union has beneficial effects on bilateral trade and economic growth, supporting the hypothesis that the essential benefits of monetary union come via the promotion of trade and central bank credibility. It also showed that WAEMU countries that use the same currency trade about twice as much with each other compared to the trade with countries that use different currencies. It added that monetary union between WEAMU countries resulted in a tenfold rise in their output. However, it concluded that there is greater need for improvement,

specifically in the areas of greater intra-trade, fiscal discipline, and price stability. Peretto (2003) examined the growth and welfare effects of economic integration and reported that economic integration is associated with an increase in growth and welfare. Accordingly, integration generates a larger and more competitive market where firms could have access to greater technological spillovers that enhance faster growth. The study argued that the entry of foreign firms due to integration does compensate for the exit of domestic firms thereby raising growth and welfare.

Moreover, economic integration has the capacity to facilitate foreign direct investment (FDI) and Research and Development (R&D), which enhance economic growth. Thus, Gao (2005) examined the effects of economic integration on FDI and economic growth using the endogenous growth model, and reported that economic integration increases FDI, expands R&D activity in the industrial core, and enhances world growth rate. The study concluded that the positive link between FDI inflows and economic growth does not imply any causal link, rather, both of them respond endogenously to economic integration.

Cappelen et al. (2003) examined the impact of EU regional support on economic growth and convergence in the EU region using pooled cross-country time-series datasets. The study showed that EU regional support has a positive impact on growth performance. The study added that the impact is larger in the 1990s due to the 1988 structural funds reforms. Also, the economic effect is stronger in more developed countries suggesting that the accompanying policies of receiving countries improve the impact of integration on growth. Cuaresma et al. (2008) examined the effects of European integration on long-run growth in 15 EU members using the panel data method. The study found that the length of EU membership has a positive effect on growth, albeit larger in poorer countries. The study argued that regional integration has an asymmetric and convergence-enhancing effect on long-run growth. Kamau (2010) constructed an economic integration index based on the tariffs and the level of regional cooperation for the Common Market for East and Southern Africa (COMESA), East African Community (EAC), and Southern African Development Community (SADC) using the system GMM estimation technique. Evidence from the study showed that economic integration has a positive association with economic growth. It also reported that economic integration and trade separately and jointly have a positive impact on economic growth. This viewpoint was supported by Gehringer (2013) who employed the Difference GMM estimator to show that EU membership and financial openness have a strong positive impact on productivity growth, capital accumulation, and economic growth in 26 EU countries.

König (2015) used Ordinary Least Squares regression to investigate the relationship among European economic integration, country size, and economic growth in 27 EU member countries. The study was conducted on the backdrop of theoretical postulations that a national scale effect exists that favors large countries while small countries through greater international market integration could overcome the impediments of smallness. Evidence from the study revealed that European economic integration accelerates the convergence process of countries, and that country size is correlated with economic growth. There is a significant growth-enhancing effect stemming from EU membership, implying that entry into EU spurs growth. The study also indicated that the impact of size varies with the level of economic integration of the individual country suggesting that the long-run growth path has multiple transition points. Using the

augmented Solow model,<sup>1</sup> Mann (2015) investigated the impact of the European integration process on economic growth in 10 Central Eastern European countries. The study measured European integration as trade with other EU members as a proportion of total trade. Evidence from the study showed that integration has a small significant medium-run effect on growth, and concluded that European integration is favorable to member countries.

The relationship between regional integration and corporate tax rates in the European Union and the Eurasian Economic Union in 29 Eastern European and Eurasian countries was investigated by Klofat (2017) using the system GMM estimator and Spatial Autoregressive model. The study reported that progressive regional integration leads to a decline in corporate tax rates, which has the capability to spur economic growth. Regarding institutional development, Schönfelder and Wagner (2016) examined the impact of European integration or EU membership on institutional development, which has the capacity to accelerate economic growth in 33 European countries using Ordinary Least Squares and system GMM estimators. They tested the hypothesis that prospective EU members have the highest speed of institutional development, followed by EU members preparing to adopt the Euro, while institutional development grinds to a halt or even reversed in EU members that have adopted the Euro. The results of the dynamic panel data estimation confirmed the hypothesis. They found that prospective EU membership has a positive effect on institutional development, whereas being a member of the EU does not influence institutional development.

Furthermore, one of the channels through which monetary union accelerates economic growth is via trade. Thus, Choe (2001) examined the impact of economic integration via trade on business cycles in 10 East Asia Countries. Evidence from the study revealed that deeper trade interdependence among the countries lead to the synchronization of more economic fluctuations within the region. Barr et al. (2003) investigated the economic effects of European Economic and Monetary Union (EMU) by conducting a comparative analysis between countries in EMU with the EU countries outside. Evidence from the study revealed that the trade effects of monetary union were statistically significant, and that overall trade would have been greater if the countries outside the union had joined the union. The study also examined the impact of monetary union on other aspects of economic performance; namely, financial market development, foreign direct investment, and overall macroeconomic performance. The study found that inward investment would have increased, and have about 3 percentage points impact on GDP had the countries outside the union joined the union. However, there was no clear significant positive effect of monetary union on output, financial markets, unemployment, or inflation. Baier et al. (2008) used fixed effect and first-differenced estimators to investigate the impact of regional economic integration agreements (EIAs) on bilateral trade and reported a significant relationship between EIAs and bilateral trade flows. The study argued that the effects of EIAs on trade have been underestimated by empirical evaluation because they ignored the self-selection bias of country pairs into EIAs. After accounting for this bias, the study reported that European economic integration has greater economic effects on trade than previously documented.

Geda and Kebret (2008) investigated regional economic integration in Africa with a special focus on the problems and prospects of the Common Market for East and Southern Africa

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<sup>1</sup> This is the Solow growth model augmented with human capital.

(COMESA). They reported that the two issues confronting regional economic integration in Africa are the implementation (institutional, political and economic constraints) and limitation of insight (menu of options for integration). The study examined the determinants of trade flows and documented the standard variables that explain bilateral trade flows among regional groupings, implying that regional integration has an insignificant effect on bilateral trade flows. The study highlighted the constraints of regional integration performance as a variation in the initial condition, policy harmonization, overlapping membership, poor private sector participation, and lack of diversification. They concluded that though regional integration is important due to increasing globalization, these problems hinder their success in Africa. Similarly, Eichengreen (2012) examined the benefits of European monetary integration in the aftermath of the serious Eurozone crisis, and reported that the scholarly analysis of European monetary integration was not deficient despite failure to predict the crisis. However, the study noted that the standard analysis failed to consider effective banking and financial systems within the monetary union as well as understated political contemplations. Based on the optimum currency theory, the study highlighted the factors responsible for the crisis to include labor immobility, underdeveloped fiscal federalism, strong resistance from high-income countries, and small budget, which is disproportionately dedicated to infrastructure and agriculture, etc.

Furthermore, Roy and Mathur (2016) examined the bilateral trade structure between India and the EU, given that the United Kingdom (the most important trading partner of India) decided to exit the EU using simulation. The study argued that the bilateral trade costs between the EU and the UK would increase because of the new tariff and non-tariff barriers, which would affect trade flows between trading partners and indirectly influence their income growth. The study showed that India and the UK would have greater benefits if the latter remains a member of the EU, but that the GDP growth rate of the EU would decline from 0.1 percentage points to -0.5 percentage points while that of India would decline from 1.1 percentage points to 0.5 percentage points if the UK exits the EU. Mevel et al. (2016) investigated the effects of regional trade integration on reindustrialization via free trade agreements and trade facilitation in North African countries using the Applied General Equilibrium model. It found that free trade agreements stimulate the exports of North African countries from many major industries. Thus, a continental free trade area with trade facilitation measures seems to give support to industrialization in North African countries. Soete and Van Hove (2017) investigated the trade effects of Europe Economic integration agreements in 27 EU countries using fixed effects, and reported that economic integration has a general trade-enhancing impact, albeit there is an asymmetric effect on European imports and exports. The study argued that free trade agreements robustly improve import competition in the EU market, but that they have a complex effect on exports. Nonetheless, the overall effect over time is positive for both imports and exports. Kalaitzoglou and Durgheu (2016) employed the GMM estimator and reported that monetary integration has an indirect dual impact on economic growth through increased access to financing in 26 European countries.

## **2.2 Studies that cannot find significant effects of economic integration on economic growth**

The empirical literature in this category posited that economic integration has no significant positive effect on economic growth. Rather, some of the empirical studies documented the adverse effect of economic integration on income inequality. For instance, Bertola (2010) investigated the impact of European economic and monetary integration on disposable income inequality. They argued that a simple theoretical argument suggests that economic integration may or may not aggravate income inequality and volatility, but that it hampers the capacity of national governments to carry out independent fiscal policies as well as implement income redistribution schemes. The study found that economic and monetary union increases disposable income inequality, probably due to less generous social policies. Similarly, Garcia-Penalosa (2010) examined how economic integration influences opportunities for growth and inequality, and reported that economic integration influences the conflict between productive efficiency and distribution considerations.

Moreover, Busemeyer and Tober (2015) examined the relationship between European integration and the political economy of inequality in 14 EU countries. It also sought to ascertain whether European integration is a potential source of income inequality in EU member states. The study differentiated between economic and political integration, and highlighted the theoretical channels that relate them to increasing levels of inequality. The study found a positive link between political integration and inequality, albeit economic integration has no link with inequality. The study concluded that the recent trend towards inequality at the EU national level could be partly explained by greater supranational level political integration. Kalaitzoglou and Durgheu (2016) used the GMM estimator to investigate the impact of political and monetary integration on economic growth within a framework that also accounted for financial integration and debt in 26 European countries. The results showed that neither political nor financial integration has any direct impact on economic growth.

Although the integration-growth nexus has received the attention of several scholars in the past two decades, there is no general consensus among scholars concerning the impact of integration on economic growth. The differences in the empirical outcomes could be attributed to the use of different econometric methods, the proxy for measuring integration, the time period covered by the analysis, the nature of the data used, or the countries covered by the studies, etc. It could also be attributed to failure to account for diverse economic and econometric issues, such as endogeneity, autocorrelation, heteroskedasticity, omitted variable bias, etc. The functional forms of the models (linear or non-linear, static or dynamic, etc.) employed by the empirical studies could also be responsible for the heterogeneous outcomes.

## **2.3 Studies on currency union and economic growth**

Besides the relationship between economic integration and economic growth, some empirical literatures have also examined the impact of common currency adoption on economic growth. Thus, Frankel and Rose (2002) utilized the two-stage approach to investigate the effects of common currency on trade and income, and showed that currency union triples trade with other

currency union members, albeit there is evidence of trade diversion. It was also found that an increase in overall trade raises income per capita. The study also confirmed the hypothesis that the important beneficial effects of currency union come through the acceleration of trade.

Similarly, Bun and Klaassen (2002) employed the dynamic panel model to examine the effect of the euro on intra-EMU trade. They documented that euro adoption has significantly increased bilateral trade with an effect of 4–40 percentage points. Moreover, Micco et al. (2003) also investigated the effect of currency union on trade in 22 developed countries (including 12 EU countries) using panel data. They showed that monetary union has a significant positive impact of about 4–10 percentage points on bilateral trade between member countries relative to trade between other pairs of countries, and 8–16 percentage points relative to trade among non-member countries. However, Bun and Klaassen (2007) employed standard panel gravity models to examine the impact of the Euro on trade in 19 EU countries (the Euro area which represents a monetary union of 19 of the 28 EU member states that adopted the euro as their common currency and sole legal tender). Although they showed a significant positive impact of the Euro on trade, which increases the prospects for economic growth, they argued that the impact of the Euro on trade is not as large as commonly thought.

Apart from trade, a common currency could also be significantly linked with the level of per capital income, productivity growth, capital accumulation, and economic growth. For instance, Conti (2014) used a difference in difference estimation framework to analyze data from 17 European countries and showed a significant positive impact of the Euro adoption on economic growth and labor productivity. However, the impact of Euro on growth is smaller in countries with high debt relative to GDP in 1999 when the Euro was introduced. Conversely, Gehringer (2013) investigated the effects of the adoption of the Euro on productivity growth, capital accumulation, and economic growth using the dynamic GMM technique. The study indicated that the adoption of the Euro has no substantial effects on capital accumulation, productivity growth, or economic growth. Likewise, Holtemöller and Zeddies (2013) analyzed price elasticities in international trade flow between some EMU countries (Germany, France, and UK) before and after the adoption of the Euro using a heterogeneous dynamic panel framework. Evidence from the study indicated that there was no substantial change in the price elasticities in trade between EMU members after the adoption of the Euro suggesting that there was no increase in international price competition.

Furthermore, Kalaitzoglou and Durgheu (2016) investigated the impact of the adoption of the Euro on economic growth in European countries, and showed that the adoption of the Euro has no direct effect on economic growth. A similar result was documented by König (2015) who employed the Ordinary Least Squares estimator and found that the impact of EMU membership on economic growth was insignificant. The study ascribed the result to the weak change in relative price elasticity experienced by EMU members following the adoption of the Euro. Janus and Riera-Crichton (2015) also investigated the relationship among Euro adoption, real exchange rate volatility, and economic growth for OECD countries. Evidence from the study revealed that Euro adoption was associated with a 0.4 standard deviation decrease in the long-run real effective exchange rate volatility before the 2008–2009 Recession. The paper concluded that the euro had a growth-stimulating role before the recent Eurozone debt crises.

## **2.4 Studies on the effects of economic integration on financial integration**

Just as economic integration has the capacity to promote economic growth, it also has the potential to accelerate financial integration and financial market development. Some recent empirical studies have investigated the relationship between economic integration and financial integration. For instance, Kalemli-Ozcan et al. (2001) examined the relationship among economic integration, industrial specialization, and macroeconomic fluctuations. The study reported that economic integration leads to greater capital market integration, which induces higher specialization in production. It also leads to less symmetric output fluctuations that have the capacity to counter-balance lower trade barrier effects on the symmetry of fluctuations. They argued that regions that have greater specialization in production structure display output fluctuations that are less associated with those of other regions. They reiterated the causal relationship from capital market integration to regional specialization, and that the higher the former the less symmetric the fluctuations. Phylaktis and Ravazzolo (2002) investigated the link between economic and financial integration with equity prices for a group of Pacific-Basin countries. Evidence from the study revealed that financial integration accompanies economic integration at the regional and global levels. They argued that even in the presence of foreign exchange controls, economic integration offers a channel for financial integration, which has vital implications regarding the utilization of restrictions to isolate capital markets from world influences.

Barr et al. (2003) investigated the relationship between the European monetary union and financial markets development, and found that there was no clear significant positive effect of monetary union on financial markets development. Conversely, Masten et al. (2008) reported that monetary integration in Europe enhances a higher level of financial integration just as the European monetary union allows simultaneous development of financial markets and integration. They concluded that financial integration only has a positive impact on economic growth at higher levels of financial development. Bekaert et al. (2013) investigated the impact of membership of the European Union and Eurozone on financial integration using industry valuation differentials across 33 European countries using the two-step GMM estimator. They argued that discount rates and expected growth opportunities are identical within an industry in an integrated market. In other words, as countries become more integrated, valuation differentials become narrower. The study found significant lowering effects of the EU on the discount rate and expected earnings growth differential across the countries. However, the study also showed that the adoption of the Euro has no significant effects on financial integration.

In addition to the empirical studies reviewed above, Table 1 presents a summary of other recent empirical studies on the effects of economic integration or union on economic growth and its sources.

Table 1: Summary of recent studies on the effects of economic integration on economic growth

Authors	Objectives/Country	Methodology/Period	Main Findings
Rivera-Batiz and Romer (1991)	Effects of economic integration on worldwide growth rate	Two models with different specification of R&D sector as source of growth	Economic integration promotes long-run growth if it spurs worldwide exploitation of increasing returns to scale in R&D sector.
Landau (1995)	Effects of European Common Market on economic growth of its members states		No significant difference between economic growth of EEC and non-EEC market economies. European integration has no significant effects on economic growth.
Henrekson et al. (1997)	Effects of European integration in the EC and EFTA on growth in 22 OECD countries	Base regression – OLS 1975–1990	EC and EFTA memberships have positive effects on economic growth, and no significant difference in the growth effects between EC and EFTA memberships.
Vamvakidis (1998)	Effects of regional integration on economic growth		Regional integration promotes growth. Countries with opened, large and more developed neighboring countries grow faster than countries with closed, smaller and less developed neighbors.
Vanhoudt (1999)	Effects of European integration on productivity growth	Panel data estimation	No significant scale effect of European integration on productivity growth. EU membership is not associated with growth bonus
Breuss (2001)	Macroeconomic effects of EU enlargement for old and new members	World macroeconomic model	EU would gain about 0.5 percentage points of real GDP for a period of 6 years while CEEC would gain about ten times more than EU from EU enlargement. Individual countries could gain between 5–9 percentage points of real GDP, albeit some could experience a reduction. It is a win-win game.
Sulamaa & Widgrén (2004)	Economic effects of EU enlargement	Computable general equilibrium model	EU enlargement is beneficial to all EU regions, with no substantial welfare losses outside the EU.
Badinger (2005)	Effects of economic integration on growth performance of 15 EU member states	Dynamic growth framework 1950–2000	Sizeable level effects per annum but no permanent growth effect. GDP per capita of EU would be one-fifth lower without integration.
Dee (2007)	Impact of East Asia economic integration on future growth		Economic integration promotes growth, but greater income gain would be derived from comprehensive reform of non-discriminatory impediments to competition.

Kutan & Yigit (2007)	Effects of EU integration on convergence and productivity growth of 5 EU members	1980–2004	Accession process of 5 recent EU members improves productivity growth over Union benchmark. Pace of economic growth increased due to capital accumulation. Integration has long-run growth effects.
Weyerstrass & Neck (2008)	Macroeconomic effects of Slovenia's integration in the Euro area	Stimulations, Macroeconometric models	Euro Accession leads to temporary higher real GDP growth, permanent higher GDP level, greater employment, temporary lower inflation and permanent lower price level.
Kutan & Yigit (2009)	Effects of EU integration on labor productivity in 8 new EU member states	FE model 1995–2006	EU integration improves productivity.
Breuss (2010)	Effects of EU enlargement on Bulgaria and Romania	Macro-economic integration model	Bulgaria and Romania have greater overall integration benefits from EU accession than the incumbents. They could get additional 1/2 percentage points real GDP growth per annum.
Libman & Vinokurov (2012)	Regional integration and economic convergence in the post Soviet states		There was expansion in labor migration albeit trade integration experienced negative trend implying that integration of factor flows can outperform integration of market for goods and services.
Neck (2012)	Macroeconomic consequences of the integration of SEE Area into Eurozone		The accession of SEE countries into the EU could increase economic divergence within the EU and lead to asymmetric shock on European economies.
Rouis and Tabor (2013)	Regional economic integration in the MENA region		Deeper economic integration would enhance competitiveness, productivity growth, job creation and reduce costs to consumers across MENA economies.
Borodin and Stokov (2015)	Effects of custom union on trade in CIS	Gravity model	Trade sector showed relatively high trade activity of the customs union countries with large proportion belonging to the EU and China.
Nnyanzi et al. (2016)	Effects of regional integration (East African community) on tax revenue.	GMM technique 1980–2014	East African regional integration has a significant impact on tax revenue because of good institutions. Tax revenue is crucial to achieving long-run economic growth.

Kyophilavong et al. (2016)	Effects of AFTA on Poverty in Laos	Computable General Equilibrium model	Laos derives benefits from the ASEAN Free Trade Agreement via improvement in trade facilitation and FDI and reduction in income inequality.
Naz et al. (2017)	Wage convergence among European member states	Panel data, parametric and non-parametric techniques 1996–2006	Wage convergence for internal regions exists but no convergence for border regions. International borders somehow restrict wage convergence.

Notes: AFTA= ASEAN Free Trade Area, ASEAN= Association of Southeast Asia Nations, EC= European Commission, CEEC= Central Eastern Economic Commission, EFTA= European Free Trade Association, MENA= Middle East and North Africa, SEE=South East European. CIS=Commonwealth Independent of States.

### **3 Effects of financial integration on economic growth**

Theoretically, international financial integration exerts its influence on economic growth through three main channels – improvement in global capital allocative efficiency, promotion of risk diversification and risk sharing among countries as well as through financial markets development (Ibrahim et al., 2016). But there is no consensus in the empirical literature concerning the impact of financial integration on economic growth. For instance, some empirical studies documented that financial integration has a positive impact on economic growth (Bekaert et al., 2005; De Nicolo & Juvenal, 2014; Henry, 2000; Klein & Olivei, 2008; Vithessonthi & Tongurai 2012). Conversely, other studies reported that financial integration has a negative impact on economic growth (Ahmed, 2013, 2016; Gourinchas & Jeanne, 2013). Moreover, some studies have also documented an insignificant relationship between financial integration and economic growth in some countries (Edison et al., 2002; Grilli & Milesi-Ferretti, 1995; Ahmed & Mmolainyane 2014).

#### **3.1 Studies on significant positive effects of financial integration on economic growth**

This view posits that financial integration has a positive impact on economic growth implying that the removal of restrictions (liberalization) promotes economic growth, while capital controls or restrictions on liberalization adversely affect economic growth. Thus, financial integration plays both a direct as well as an indirect role in the process of economic growth because it complements other determinants of economic growth. Therefore, policies that promote financial integration have the capacity to accelerate economic growth, while policies that stifle financial integration would undermine economic growth. For instance, Bailliu (2000) examined the impact of financial integration on economic growth using the dynamic GMM technique in 40 countries. It was found that financial integration fosters economic growth, albeit the effect depends on the level of financial development. Similarly, Reisen and Soto (2001) investigated the impact of financial integration on economic growth in 44 countries

using the dynamic GMM technique, and showed that financial integration stimulates long-term economic growth. They concluded that developing countries should not solely rely on national savings in the process of economic development, but should encourage foreign capital inflows.

International financial integration could exert its influence on economic growth through improvement in the operations of domestic financial markets and banks. Thus, Levine (2001) found evidence of the growth-enhancing effect of liberalization; the removal of the restrictions on international portfolio flows enhances stock market liquidity, which boosts productivity growth, and, ultimately, economic growth. Besides, the presence of more foreign banks enhances the efficiency of the domestic banking system, which leads to the development of the financial sector thereby promoting productivity growth and economic growth. Hence, by promoting the domestic financial system, international financial integration spurs economic development. Giannetti et al. (2002) examined the impact of financial market integration on economic growth, and the distribution of the possible benefits among community members and industries in Europe using the OLS and IV techniques. The study found that the promotion of financial market integration is a fundamental step in the acceleration of economic growth in Europe. A similar result was documented by Honig (2008) who also employed the IV technique and revealed that financial integration (capital account liberalization) has a positive impact on economic growth in 122 countries.

Using data from 80 countries, Shen et al. (2010) employed OLS, fixed effect, and random effect estimators to examine the relationship between international financial integration and economic growth within a framework that accounted for conditional factors. They found evidence that financial integration has a positive impact on economic growth, whereas foreign portfolio investment has a negative effect. They documented that banking liberalization, human capital, and higher-income level diminish the positive impact of financial integration on economic growth, while good shareholder protection and middle-income level have positive effects. Besides foreign portfolio investment, De Nicolo and Juvenal (2014) integrated globalization into the analysis of the impact of financial integration on the dimensions of real activity in 48 emerging markets and developed countries. Evidence from the study indicated that financial integration and globalization stimulate economic growth, as well as reduce growth volatility and the probability of a severe reduction in real activity. They also showed that financial integration has a positive effect on macroeconomic stability through corporate governance improvements. The study further revealed that there is no evidence to support the trade-off among financial integration, globalization and economic growth and macroeconomic stability.

The channels through which financial integration exerts its influence on economic growth have been unearthed by Schularick and Steger (2010), and Gehringer (2015). Specifically, Schularick and Steger (2010) investigated the effect of financial integration on investment and economic growth during the two eras of financial globalization, and provided evidence to support a robust growth effect of financial integration in the first era of financial globalization (1880–1914). Thus, openness to international capital market has a positive effect on economic growth in the historical period because it led to greater investment and net capital movement. Similarly, Gehringer (2015) examined how financial integration relates to economic growth with emphasis on two growth channels – investment and productivity – in eight EU countries using Feasible Generalized Least Squares (FGLS) and the Anderson-Hsiao Instrumental

Variable (IV) technique. It also explored whether the effects of financial openness on manufacturing differ from those of services. The study indicated that the positive effect of financial integration on productivity growth is uneven, and differs between services and manufacturing sectors with the latter having a greater effect.

The impact of financial integration on economic growth could also depend on the quality of the institutions and the level of economic development. Hence, Bekaert et al. (2005) employed the OLS and GMM techniques to investigate the impact of financial integration on economic growth in 95 countries, and found that financial integration (equity market and capital account liberalization) accelerates economic growth, however, the impact depends on the quality of institutions. The level of economic development could also moderate the nexus between financial integration and economic growth, as demonstrated by Ibrahim et al. (2016) using the quantile regression technique on cross-sectional data in 73 countries. The evidence from their study showed that financial integration has a positive impact on economic growth, albeit the impact depends on the level of economic development. Accordingly, the impact of financial integration on economic growth is statistically insignificant in very low- or very high-income countries. They agreed with Bekaert et al. (2005), and asserted that the benefits of financial integration to developing countries depends on the quality of their institutions, a strong macroeconomic framework, prudent policies, human capital, and financial markets development.

Methodologically, the impact of financial integration on economic growth could differ between linear or non-linear frameworks. Saafi et al. (2016) investigated the causal relationship between financial integration and economic growth within linear and non-linear frameworks in 19 developing and emerging economies. In the linear causality analysis, the study found a weak causal relationship between integration and growth. Conversely, the study showed robust evidence of non-linear causality between integration and growth in 18 out of the 19 countries. This analysis indicates that the nexus between integration and growth is sensitive to the methodology employed.

### **3.2 Studies that found a negative effect or cannot find a significant effect of financial integration on economic growth**

This view suggested that there is no relationship between financial integration and economic growth implying that financial liberalization policies have no significant effect on economic growth. Thus, Edison et al. (2002) investigated the impact of international financial integration on economic growth in 57 countries using OLS, GMM and the Two-Stage Least Squares Instrumental Variable technique. They also sought to examine whether the nexus between the two variables depends on the level of financial development, economic development, government corruption, legal system development, and macroeconomic policies. Evidence from the study showed that financial integration has no impact on economic growth even after controlling for financial, economic, policy, and institutional factors. Imbs (2006) employed the OLS, IV and GMM techniques to investigate the real effects of financial integration in 43 countries, and showed how correlations in GDP fluctuations relate to financial integration. The study found that finance increases international correlations in both consumption and GDP

fluctuations. The result prevailed even after accounting for the effect of finance on trade and specialization.

Ahmed (2011) investigated the impact of international and regional financial integration on the real economy in 25 African countries using the dynamic GMM technique. The study found no robust evidence linking financial openness and economic growth, albeit there was a possibility of a positive indirect effect via the domestic financial market. The study argued that the negative impact of international financial openness can be mitigated by higher human capital level, stable macroeconomic environment, and good institutions. Hye and Wizarat (2013) also employed the ARDL approach and showed that financial integration has no significant long-run impact on economic growth in Pakistan, albeit short-run impact exists. A similar result was documented by Ahmed and Mmolainyane (2014) for Botswana using multivariate cointegration and Vector Error Correction Model (VECM) techniques. The study found no evidence of a direct effect of financial integration on economic growth, albeit the former has a positive impact on financial development. Although the direct connection between financial integration and growth is weak, the study argued that since financial integration stimulates financial development, it implied that financial integration has a positive indirect effect on economic growth.

Besides, financial integration could have an adverse effect on economic growth suggesting that the implementation of liberalization policies reduces economic growth relative to capital controls. For instance, Ahmed (2013) examined the role of financial liberalization in enhancing financial deepening and economic growth in 21 African countries using the dynamic system GMM technique. The study found that financial liberalization and income growth have a negative relationship. This finding is consistent with the view that financial liberalization in developing countries could reduce economic growth via destabilization, increase in financial fragility risk, and domestic capital flight. Nonetheless, the study found that financial liberalization has a positive effect on resource mobilization and financial deepening after accounting for some variables; namely, inflation, quality of institution, and fiscal imbalances. Moreover, Gourinchas and Jeanne (2013) submitted that the elimination of the distorting effect of capital control could magnify the adverse effect of pre-existing distortions thereby causing financial integration to undermine growth and cause welfare loss. Ahmed (2016) employed dynamic GMM to examine the impact of financial integration on economic performance in 30 African countries. He also sought to unveil the direct and indirect channels through which integration influences economic growth as well as the tripartite link among financial openness, financial development, and economic growth. Evidence from the study indicates a negative relationship between financial integration and economic growth.

## **4 Summary of major findings**

From the analysis conducted in Sections 2 and 3 above, it is obvious that the majority of the empirical studies reported that economic integration positively influences economic growth and its sources (productivity growth and capital accumulation), albeit other views exist. In essence, economic integration generates a larger and more competitive market where firms could have

access to greater technological spillovers that enhance faster economic growth. Thus, the entry of foreign firms as a result of economic integration does compensate for the exit of domestic firms thereby raising economic growth and welfare. Moreover, economic integration increases FDI and expands R&D activity in industrial countries, which enhance the world economic growth rate.

Moreover, countries in economic integration form a convergence club, suggesting that there is a tendency for the per capita income to converge, and decrease its standard deviation over time. Put differently, regional integration has an asymmetric and convergence-enhancing effect on long-run economic growth. Deeper economic integration would enhance competitiveness, productivity growth, exports, and job creation, and reduce the cost to consumers across member countries. Regional integration promotes economic growth because countries with opened, large, and more developed neighboring countries grow faster than countries with closed, smaller, and less developed neighbors. However, the magnitude of the impact of economic integration on economic growth in developed and developing countries could vary with the level of integration and size of the individual country, suggesting that the long-run economic growth path has multiple transition points.

Besides productivity growth and capital accumulation, trade is another main channel through which economic integration spurs economic growth. In other words, it is evident from this analysis that economic integration stimulates economic growth through an improvement in trade. Regional integration would be a stepping stone to a freer world trading system if the rules of World Trade Organization (WTO) are reinforced, and if developing nations are integrated with developed economies. Deeper trade interdependence among the countries leads to greater synchronization of economic fluctuations within the region. Economic integration spurs bilateral trade between member countries relative to trade between other pairs of countries, and relative to trade among non-member countries. Hence, economic integration and trade, separately and jointly, have a positive impact on economic growth, and an increase in overall trade raises the income per capita.

Another finding from this analysis is that the majority of the empirical studies found no direct significant positive effect of common currency adoption on capital accumulation, productivity or economic growth, albeit there is evidence that it could spur trade. This indicates that there was no substantial change in economic growth between EMU members after the adoption of Euro (for instance), suggesting the absence of an increase in international price competition. However, the beneficial effects of a currency union could come through the acceleration of trade.

The analysis also found that economic integration has a positive impact on financial integration. Thus, economic integration leads to greater capital market integration, which induces higher specialization in production and less symmetric output fluctuations. Besides, monetary integration in Europe enhances a higher level of financial integration, just as the European monetary union allows simultaneous development of financial markets and integration. However, the analysis showed that there is no consensus in the empirical literature concerning the impact of financial integration on economic growth. Some empirical studies documented that financial integration has a positive impact on economic growth, while other studies reported negative effects. Between these two extremes, some studies have shown that financial integration has no significant effect on economic growth.

Nonetheless, some of the empirical studies that found no significant direct impact of financial integration on economic growth reported an indirect positive effect via the promotion of the domestic financial system. Besides, the review also indicates that the positive impact of financial integration on growth depends on the level of economic development, quality of institutions, strong macroeconomic framework, human capital, and prudent policies. Moreover, the review also showed the various channels through which financial integration promotes economic growth, such as boosting financial market development, private investment, net capital movement, productivity growth, improvement in firm value (stock prices), and capital accumulation.

Methodologically, the review shows that previous studies employed diverse econometric methods to determine the integration-growth nexus, such as the Ordinary Least Squares (OLS), Fixed Effect (FE), Instrumental Variables (IV), General Method of Moments (GMM) techniques, etc. The modelling framework included the dynamic growth model within linear or non-linear frameworks. Arguably, the nexus between integration and economic growth could be sensitive to the methodology employed, and this could partly account for the differences in the findings.

The absence of general consensus among scholars regarding the effects of economic and financial integration on economic growth could be due to the use of different econometric methodologies. This could be responsible for the differences in the empirical outcomes, as some methods accounted for (or failed to account for) diverse economic and econometric issues (e.g. endogeneity, autocorrelation, heteroskedasticity, non-linearity, etc). The implication of the different methodologies and the different empirical outcomes is that some of the results may not be reliable, and are not useful or effective for policy decision-making. For instance, failure to account for autocorrelation and heteroskedasticity could make an insignificant coefficient to be statistically significant. Conversely, failure to account for multicollinearity could make a significant coefficient to be statistically insignificant. Besides, failure to account for endogeneity in the model will also produce unreliable conclusion. Moreover, the integration-growth nexus could be non-linear (U-shaped or inverted U-shaped), and the use of a linear model (without testing for non-linearity) could also produce unreliable results. The validity of the empirical results and inferences depends on the ability of the methods to account for various economic and econometric issues. The adverse effects could be the proliferation of unreliable results which are not useful for policy making. The use of inappropriate approaches which do not produce reliable results do not have much potential contributions to extant literature, as these studies may only succeed in increasing the quantity of conflicting results and have grave doubts on the reliability of the policy implications. To avoid conflicting and unreliable results which have grave policy implication, researchers should employ robust and latest methodologies and perspectives rather than using conventional methods that are based on common variables for different countries or regions at different period of time.

Regarding measurement, different proxies have been employed in past empirical studies to measure economic integration. For instance, some studies constructed an economic integration index based on the level of tariffs and regional cooperation (e.g., Kamau, 2010), while others (e.g., Mann, 2015) measured European integration as trade with other EU members as a proportion of total trade. Moreover, other studies used a binary variable (which is unity for countries that join economic integration or use the same currency, and zero otherwise) to

measure economic integration or union (e.g., Anyanwu, 2003; Kalaitzoglou & Durgheu, 2016). As for financial integration, the most extensively applied measurements in the literature are indicators of capital market liberalization (*de facto* and *de jure* indicators), while indicators of equity market and banking sector liberalization are less extensively used. Specifically, the *de facto* indicators measure the actual openness of financial market transactions expressed as stocks or flow ratios of assets and liabilities, or the sum of both, as a percentage of GDP. Conversely, the *de jure* indicators refer to the legal status of the financial liberalization process, which are typically based on information from the IMF's Annual Report on Exchange Arrangement and Exchange Restrictions (AREAER) and use diverse scoring methods (Chin & Ito, 2006; Gehringer, 2013, 2014). Each of these measurements has its merits and demerits, hence, there seems to be no consensus in the literature regarding the best measurement of economic or financial integration.

In terms of the data, most of the previous studies on economic integration were conducted using a cross-sectional or panel data analysis, while others used 5- or 4-year non-overlapping average data. Some past studies on financial integration employed time series data. Thus, the heterogeneous nature of the findings on the nexus between integration and economic growth could be attributed to the differences in the empirical strategies. In essence, the financial integration-growth nexus could be country-specific, which underscores the limitations of generalizations from cross-country studies. Moreover, failure to account for some factors (financial, economic, policy, and institutional features), reverse causation, differences in time periods used, measurement error, and collinearity among the independent variables could be responsible for the differences in the empirical outcomes.

Finally, the aggregation of the findings of these empirical studies on the integration-growth nexus has fundamental policy implications. The empirical outcomes of past studies could provide policy recommendations that could be applied by various countries irrespective of their distinct characteristics. Hence, it is necessary to monitor the integration efforts of member countries. As opined by König (2015), there may be a need for greater integration including the removal of trade barriers or a substantial reduction in the home bias effect. Since there is economic convergence, small countries have an opportunity for greater economic growth and development.

## **5 Conclusion**

This study seeks to survey the empirical literature on integration-growth nexus in order to provide researchers with a snapshot of previous studies, and suggest some policy implications for future research studies. The understanding of the link between integration and growth serves as input for policymaking in various countries or regions. In other words, it is fundamental for policymakers to understand the nexus between economic integration and economic growth so as to formulate appropriate economic integration policies that would be beneficial to member countries. Thus, there is increasing literature that investigated the association between economic integration and economic growth in Europe, Asia, Africa, and Latin America. Although other views exist, the overall survey showed overwhelming support that economic integration

promotes economic growth, albeit a common currency (Euro) has an insignificant effect. The channels through which economic integration exerts its influence on economic growth include capital accumulation, productivity growth, trade, and financial integration. It was also found that financial integration fosters economic growth, but the impact depends on other variables, such as the level of financial development, economic development, human capital, institutional quality, and macroeconomic framework.

To avoid policy implications from conflicting and unreliable results, future studies may consider the use of robust methodologies that would holistically address the issues as well as account for other variables in order to eliminate omitted variable bias from the studies. In essence, future studies should consider the inclusion of important macroeconomic variables in the model. Moreover, the amalgamation of an economic integration-growth nexus with a financial integration-growth nexus would provide more insights to highlight the interaction among economic integration, financial integration, and economic growth. The delineation of the financial integration and growth studies into developing and advanced economies would provide greater insights for policymaking. Furthermore, for better inferences, future studies should endeavor to account for structural breaks and cross-sectional dependence in the panel data.

As observed by Karanfil (2009) and Ozturk (2010), studies that utilized the same empirical strategies with the same set of variables (except just changing the periods covered) do not have much potential contribution to the extant literature. This is because these studies may only succeed in increasing the quantity of conflicting results and cast grave doubts on the reliability of the policy implications. Thus, future studies should concentrate on new techniques and perspectives in order to obtain reliable outcomes rather than use the same methods and set of variables for different countries and periods.

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