RNEE

Revista Nicolaita de Estudios Económicos
Nueva Época

Instituto de Investigaciones Económicas y Empresariales

Economic openness and growth: a panel-data analysis for Latin America, 1990-2020

Apertura económica y crecimiento: un análisis de datos de panel para América Latina, 1990-2020

Plinio Hernández Barriga[1]
Rigoberto Rodríguez Guzmán[2]

Resumen

El objetivo de esta investigación es verificar la existencia de una vinculación entre el crecimiento económico y la apertura económica en nueve economías de América Latina —Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, México, Perú y Paraguay— de 1990 a 2020. Al contar con una estructura de datos de panel se desarrolla un modelo econométrico bajo la técnica PMG-ARDL cuyos resultados indican que existe una vinculación positiva entre la apertura comercial y el crecimiento económico. Sin embargo, el factor trabajo y el capital humano tienen efectos más pronunciados sobre el crecimiento económico, mientras el acervo de capital y el acervo de inversión extranjera directa presentan una pobre influencia. Destaca que la apertura financiera muestra un efecto negativo sobre el crecimiento económico, aunque su importancia es la menor respecto de las variables ya mencionadas.

Palabras Clave: Crecimiento económico, Apertura comercial, Apertura financiera, América Latina

Código JEL: C33, F43, F36, O47

Abstract

the objective of this research is to verify the existence of a link between economic growth and economic openness in nine Latin American economies—Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Peru, and Paraguay— from 1990 to 2020. With a paneldata structure, an econometric model based on the PMGARDL technique is developed. Its results indicate a positive relationship between trade openness and economic growth. However, the labor factor and human capital have a more pronounced effects on economic growth, whereas the stock of capital and the stock of foreign direct investment exhibit a weak influence. Notably, financial openness shows a negative effect on economic growth, although its impact is the smallest among the mentioned variables.

---

1 Profesor e Investigador de la Universidad Michoacana de San Nicolás de Hidalgo, plinio.hernadez@umich.mx, ORCID: 0000-0002-7585-2721, autor de correspondencia

2 Maestro en Ciencias en Negocios Internacionales,0936243e@umich.mx, ORCID: 0009-0008-9385-0085

Introduction

Since the beginnings of economic science, various authors have agreed that trade openness is beneficial for promoting economic growth. This theoretical stance has persisted, and has being intensified, in today's orthodox economics. However, since the midlast century, several economists, especially those from Latin America, entered the debate by identifying certain conditions required for the relationship to be positive; if these conditions are absent, the effects could be contrary to expectations. The theoretical debate remains active, particularly in light of empirical evidence from numerous studies, where the diversity of results prevents a definitive conclusion. Moreover, the research does not follow a single methodology, nor does it examine the same region and nor does it include homogeneous countries in the sample.

The objective of this research is to verify the existence of a link between economic growth and economic openness in nine Latin American economies—Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Peru, and Paraguay—from 1990 to 2020, incorporating two economic openness indicators: one measuring trade openness and another representing financial openness, adding other control variables referring to the factors of production: capital and labor.

Delving into the relationship between economic openness and growth in Latin America is a pertinent issue because the region has shown poor performance in its integration into the global economy. Latin America still largely depends on primarygood exports, while its manufactured export products often contain a high share of imported inputs, alongside weak capitalgoods production and, above all, limited scientific and technological development.

The present work consists of five sections. The first provides a historical review of the study variables—growth and economic openness—showing that the years of lowest economic growth in the Latin American region coincide with periods of economic opening, which consolidated during the 1990s. The second section offers a brief overview of seminal works that have addressed the phenomenon of economic growth and the role of foreign trade. The third section presents an exposition of various studies that have empirically examined the topic using different methodologies across diverse economic regions, whose results are inconclusive. The fourth section develops a paneldata econometric model using the PMGARDL technique. The fifth section analyses the obtained results, observing a positive link between the study variables, although other variables assume greater relevance regarding their importance in promoting economic growth. Finally, the conclusions of the work are presented.

Trade openness and economic growth in Latin America

At the end of World War II, Latin American economies implemented a regional development model known as Import Substitution Industrialization (ISI). This model sought industrialization in three stages that could be pursued by filling the void left by manufactured products coming from the major industrial centers of the time, which could be replaced by locally produced goods.

The theoretical framework of the ISI model was based on proposals made by ECLAC, particularly by Prebisch (1949), who attributed differences in development between the center and the periphery countries to a technical progress gap which could be reduced through active state participation in the economy, fostering development and the promotion of a national industry. From these arguments, policies were implemented by governments throughout the region, reforming national laws in line with the growth oriented guidance of ECLAC (Hounie et al., 1999).

Rangel and Garmendia (2012) consider that this state driven growth period can be divided into two phases, 19501964 and 19651982. The first phase was characterized by strategies that promoted market integration, high economic growth rates, and a state guided growth model. The second phase was distinguished by protectionist policies and external financing.

The 1980s marked the end of the ISI model due to a set of worldwide events that affected the region, particularly its external debt. The oil shock induced by OPEC nations in 1973 caused a substantial rise in oil prices, bringing about a period of strong inflationary pressures that affected many countries, especially those in Latin America (Toscano, 2006). Economic crises in the 1970s were mitigated through external credits; however, the persistent trade deficits of Latin American nations, combined with the collapse of the Bretton Woods system, which implied a loss of exchange rate stability, along with a tightening U.S. monetary policy and the subsequent increase in global interest rates, triggered a debt crisis. Mexico declared a payment moratorium in 1982, a situation later replicated across the region.

The debt crisis gave way to deep changes in Latin America's development models, which were supplanted by a neoliberal economic model based on a set of policy recommendations dictated by the so called Washington Consensus. These recommendations led to reforms aimed at greater monetary and fiscal discipline, significantly reducing the size of government in the economy, increasing trade and financial openness, and fostering growing marketintegration agreements (Beteta & MorenoBrid, 2012).

Table 1

Average real percapita GDP growth rates in Latin America from 1960 to 2020

Period	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2020
Argentina	0.7%	3.9%	2.1%	0.5%	-1.2%	-2.4%	4.3%	1%	-0.7%	3.7%	1.9%	-2.8%
Bolivia	2.5%	4.1%	3.1%	1.5%	-3.8%	-1.1%	1.9%	1.8%	0.8%	2.8%	3.6%	0.3%
Brazil	1.8%	3.6%	8.5%	3.9%	-0.6%	2.3%	-0.3%	0.5%	1.8%	2.5%	2.4%	-1.8%
Chile	2.3%	2.8%	-.1%	1.9%	-0.8%	4.9%	5.0%	3.9%	3.4%	2.8%	3.6%	-0.5%
Colombia	1.7%	2.0%	4%	2.7%	0.2%	2.2%	2.3%	-0.3%	1.7%	3.2%	3.9%	-0.4%
Ecuador	1.9%	-.1%	5.6%	3%	-0.1%	0.3%	0.9%	-0.7%	2.2%	2.0%	3.5%	-2.5%
Mexico	4.1%	3.1%	3.3%	3.6%	1.0%	-0.8%	2.1%	1.4%	0.5%	-0.4%	1.9%	-0.8%
Paraguay	2.0%	2.5%	4.1%	7.1%	0.9%	3.0%	1.3%	.01%	-0.8%	2.2%	4.2%	1.0%
Peru	4%	1.4%	2.5%	-1.1%	-1.5%	-2.3%	0.8%	1.7%	2.3%	5.6%	4.8%	-0.7%
Uruguay	-0.3%	0.6%	0.5%	4%	-3.3%	3.5%	3.6%	2.3%	-1.6%	5.7%	4.5%	-0.6%
Mean	2.1%	2.4%	3.3%	2.7%	-0.9%	0.9%	2.2%	1.1%	0.9%	3.0%	3.4%	-0.9%

Source: World Bank.

Table 1 shows the per-capita GDP growth rates experienced by some Latin American economies. It is evident that, in the periods preceding the 1980s—i.e., the ISI era—the growth rates were generally higher compared with the later neoliberal period driven by the Washington Consensus.

The 1990s brought important changes to the productive structure of Latin America. Most countries, such as Colombia and Peru, tended to focus production on primary goods; other nations fostered exports through foreign direct investment via *maquiladoras*, as in the case of Mexico, while Chile implemented policies that strengthened its industry, allowing that sector to gain momentum with trade openness (Beteta & MorenoBrid, 2012).

Table 2
Trade openness in Latin America from 1960 to 2020

Period	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2020
Argentina	13%	11%	12%	14%	13%	16%	15%	21%	33%	39%	31%	28%
Bolivia	41%	46%	51%	55%	50%	44%	48%	49%	49%	73%	81%	49%
Brazil	13%	12%	16%	16%	19%	16%	17%	17%	27%	25%	24%	27%
Chile	26%	27%	28%	45%	44%	55%	56%	54%	64%	73%	67%	57%
Colombia	26%	23%	27%	29%	26%	29%	34%	35%	34%	37%	37%	36%
Ecuador	19%	21%	30%	34%	32%	38%	44%	45%	51%	59%	60%	43%
Mexico	18%	16%	17%	20%	24%	32%	33%	49%	50%	56%	63%	76%
Paraguay	40%	35%	30%	37%	42%	32%	28%	32%	37%	52%	51%	46%
Peru	15%	29%	29%	36%	32%	72%	10%	99%	78%	80%	75%	69%
Uruguay	26%	27%	26%	39%	39%	43%	39%	36%	45%	59%	51%	47%
Mean	24%	25%	27%	32%	32%	38%	42%	44%	47%	55%	54%	48%

Source: World Bank.

Table 2 displays the trade openness index, defined as the sum of total imports and exports over GDP. It can be observed that Latin America underwent a process of trade openness primarily starting in the 1980s, coinciding with the onset of the neoliberal economic model in the region, during which most countries joined the GATT and already had bilateral and multilateral trade agreements.

Foreign trade in Latin America has shown a constant increase, whereas the region's economic growth has not expanded proportionally, exhibiting significant variability, particularly due to the economic and financial crises that countries have suffered after implementing the Washington Consensus recommendations, which paradoxically were intended to promote macroeconomic stability and sustained growth (Rangel & Garmendia, 2012). Although the causes of this phenomenon may be multiple, there remains an unresolved debt concerning economic growth in Latin America following the implementation of openness reforms after the failure of the ISI model.

Economic growth and trade openness, theoretical elements

The study of economic growth and its determinants gave rise to economic science roughly 250 years ago. Adam Smith (1776), recognized as the father of economics, argued that a nation's wealth resulted from productivity, which was determined by the division of labor. The most important limitation to productivity, and the resulting generated wealth, was market size. Consequently, Smith supported trade openness, whose purpose was to expand markets and thereby increase productivity and wealth.

Another classical author, David Ricardo (1814), considered that a nation's wealth rested on its ability to increase production through better resource allocation. However, economic expansion could be limited by a growing accumulation of wealth by the rent seeking class. In this sense, foreign trade, along with tax policy, would be mechanisms to broaden growth possibilities, provided that trade was based on comparative advantage.

While the classical school regarded foreign trade as fundamental to growth—analyzing the problem from supply and demand—the neoclassical authors studied economic growth mainly from the supply side, emphasizing the employment of productive factors.

A representative neoclassical economic growth model is Solow's (1957), built on three assumptions: (1) production exhibits constant returns to scale; (2) marginal products of factors display diminishing returns; and (3) the economic agent saves only a portion of income. According to Solow, capital per worker rises as long as gross investment exceeds depreciation. Assuming a given level of technology, economic growth is limited by population expansion. Capital accumulation per worker reduces its marginal productivity, and when the growth rate of capital per worker is zero, the economy reaches a steady state equilibrium. Hence, economic growth is exogenously determined by population growth and technological progress.

Following neoclassical thought, the 1980s introduced endogenous growth models, where the generation of ideas and knowledge allowed economic growth beyond the steady state, placing human capital at the core of prosperity because advances in technology and innovation raise labour productivity per unit of capital. Romer (1986) proposed that human capital development would generate increasing returns to scale, adding that externalities from new investments would produce new knowledge applied to work and further production stimulus. Lucas (1988) explained that economic advancement would stem from accumulated human capital through better schooling and learningbydoing.

Continuing the neoclassical perspective, Rebelo (1991) emphasized that heterogeneity in growth rates among economies resulted from differing public policies. Endogenous growth depends on R&D intensity, innovation impacts and knowledge spillovers; therefore, growth could be fostered by lowering income taxes or providing R&D subsidies that raise accumulated knowledge, benefiting the whole economy.

Conversely, in the 1930s, Keynes (1936) highlighted demand's role in determining production and growth. In this view, foreign trade could play a positive or negative role in effective demand, depending on whether a country runs a trade surplus or deficit.

Building on Keynesian principles, Harrod (1939) and Domar (1947) developed a demand driven growth model. They posited that sustained growth depended on the relationship among the saving rate, capital efficiency, and depreciation rate. If the savinginvestment ratio relative to capital efficiency exceeded depreciation, the economy would grow; otherwise, it would contract. When net investment exactly covers depreciation, the economy attains a constant growth rate (steady state). Though growth is exogenously determined—as in Solow—the increase in capital efficiency can propel production beyond the steady state.

An alternative approach is offered by Kaldor (1957), who proposed a longrun growth model based on empirical laws applicable to industrialized economies. Kaldor argued that the profit share of income remains relatively constant because the marginal product of capital does not decline as rapidly as the diminishing returns theory suggests. Consequently, the capitaloutput ratio stays roughly stable over the long term, implying that net investment needed to sustain a given growth rate is also approximately constant. Under these conditions, income distribution between capital and labor tends to remain stable, allowing the saving rate to be treated as invariant. Moreover, the growth rate of the economically active population is predictable. Thus, economic growth depends on capital accumulation and technological development financed by internal saving, although foreign direct investment, technology transfer, and education—by raising labor productivity—can also play important roles.

From a Latin American perspective, Prebisch (1949) developed a structuralist model focused on non-industrialized economies, emphasizing the importance of terms of trade for economic growth. Prebisch argued that peripheral economies depended on primarygood exports, whose relative prices tended to fall over the long run due to asymmetrical market power between primary producers and manufacturers; the former face more elastic demand than the latter. Consequently, percapita income in peripheral countries growed more slowly than in central ones. Given the productivity differences between the primary and secondary sectors, economic development must proceed through expansion and modernization of the latter, reducing dependence on the former. Achieving this requires structural transformation driven by active state involvement via oriented industrial policy and supportive macroeconomic policy.

Strongly influenced by Prebisch, Thirlwall (1979) proposed a longrun growth model constrained by the balance of payments, emphasizing aggregate demand over factorsupply considerations. Thirlwall asserted that an economy must finance imports through exports, capital flows or international reserves. When a trade deficit becomes unsustainable, internal demand falls, curtailing growth. According to his formulation, economic growth is determined by the product of export income elasticity and worldwide growth rate divided by the import coefficient (marginal propensity to import). Therefore, sustaining growth requires structural change to shift the productive structure toward goods with higher export income elasticity and to reduce the marginal propensity to import via importsubstitution policies.

The growth theories reviewed, all of them seminal works, indicate that trade openness can have positive effects on economic growth, but these outcomes are conditioned by specific circumstances; thus, openness does not automatically guarantee a positive link with economic growth in every case, especially for nonindustrialized economies.

Economic growth and trade openness, empirical analyses

This section reviews a selection of empirical studies examining the link between trade openness and economic growth. Most conclude a positive relationship, yet they draw important distinctions regarding result interpretation.

Molero et al. (2020), Gerunov (2016), Ulaşan (2015) and Yanikkaya (2003) analyze the relationship across a broad set of countries. Molero et al. (2020) find a positive correlation with growth, but causality tests indicate that openness is only a minor component of growth. Gerunov (2016) generally finds a positive link between exports and growth, yet reports ambiguous effects for tariffs and foreign direct investment. Ulaşan

(2015) concludes that various openness measures used do not show a robust, significant association with growth. Yanikkaya (2003) employs several openness metrics and does not find strong evidence of a link, though she identifies a favorable impact of trade barriers for developing economies.

Silajdzic & Mehic (2018), Iyke (2017) and FetahiVehapi et al. (2015) provide evidence of a positive relationship between GDP growth and trade openness in Central and Eastern European economies. Silajdzic & Mehic (2018) examine imports and exports jointly and individually, obtaining consistent results. Iyke (2017) introduces an alternative openness measure capturing a country's participation in global trade networks. FetahiVehapi et al. (2015) find that openness effects depend on initial economic size, domestic investment and foreign direct investment.

Udeagha & Ngepah (2021), Mbogela (2019) and Zahonogo (2017) study the opennessgrowth link in Africa. Udeagha & Ngepah (2021) use a nonlinear specification for South Africa, showing a positive shortrun but negative longrun effect. Mbogela (2019) finds a positive relationship across 49 economies, yet openness is less significant compared with gross capital formation and foreign direct investment. Zahonogo (2017) observes a nonlinear effect in SubSaharan Africa, with a threshold beyond which the impact turns negative.

Nguyen & Bui (2021) examine ASEAN6 countries, identifying a positive relationship with two thresholds; beyond the thresholds the effect weakens but remains positive. Kong et al. (2021) investigate openness and quality growth in China, finding a strong relationship but regionally heterogeneous with thresholds and nonlinearities.

Zeren & Ari (2013) analyze causality between openness and growth in the G7, finding bidirectional causality that supports the endogenous growth hypothesis.

For Latin America specifically, Cruz et al. (2018) detect opposite shortrun and longrun effects of economic openness on growth, including foreign direct investment as a control variable. They find positive effects for the full sample of countries but negative effects for those with high growth rates, and also overall negative effects of foreign direct investment on economic growth for both groups.

These studies demonstrate a lack of consensus on the opennessgrowth nexus; the relationship can be positive, negative, or change after a threshold. Empirical work typically includes additional control variables such as gross capital formation, foreign direct investment and human capital.

Econometric model

This section presents an econometric analysis to verify the relationship between growth and economic openness for a set of nine Latin American economies: Argentina, Bolivia, Brazil, Ecuador, Colombia, Chile, Mexico, Paraguay, and Peru, covering 1990–2020. These countries were chosen based on data availability for the selected variables.

Because multiple countries are involved, the dataset forms a panel, which is analyzed using the Pooled Mean Group (PMG) Autoregressive Distributed Lag (ARDL) technique. PMGARDL yields identical, consistent and efficient longrun coefficients without imposing homogeneous shortrun parameters. Incorporating lag structures for regressors and the dependent variable reduces bias and ensures that regression residuals are not serially correlated, addressing endogeneity concerns. The model, proposed by Pesaran et al. (1999), can be expressed as follows:

$$\Delta y_{it} = \phi_i y_{i,t-1} - \beta' x_{i,t-1} + \sum_{j=1}^{p-1} \lambda_{ij} \Delta y_{i,t-j} + \sum_{j=0}^{q-1} \delta'_{ij} \Delta x_{i,t-j} + \mu_i + \varepsilon_{it}$$

The methodological process began by testing crosssectional independence for both dependent and explanatory variables, employing Pesaran's CD test (2004). Although originally designed for residuals from individual regressions, the test was applied here to all variables.

Next, the Im, Pesaran & Shin (2003) and Pesaran (2007) unit root tests were applied to assess the integration order of each series. After establishing the series integration order, the final model specification was set and diagnostic tests were performed.

The study period (19902020) captures a phase when the economies under analysis had already abandoned import substitution projects and had adopted a neoliberal model guided by the Washington Consensus.

Data:

a) Dependent variable (GDP): real gross domestic product in constant dollars (GDP).
b) Trade openness (OP): (Exports + Imports) / GDP.
c) Labor (L): employed population.
d) Capital stock (K): constructed via perpetual inventory method with 5 % depreciation.
e) Average years of schooling (E): proxy for human capital.
f) Capital flows (CF): proxy for financial openness.
g) Foreign direct investment stock (FDI).

Data were sourced from the World Bank, UNDP, and UNCTAD, then transformed into indices for comparability.

Crosssectional dependence tests indicate dependence among all variables except financial openness. These results suggest the use of secondgeneration unitroot tests over firstgeneration ones, since the former assume independence across crosssectional units while the latter do not. Nevertheless, both tests are applied for the data analysis (see table 3).

Table 3

Pesaran's crosssectional dependence tests

Variable	CD-statistic
GDP	32.33***
OP	10.99***
L	32.35***
K	32.58***
E	31.38***
CF	-1.581
IED	30.33***

Source: Own preparation using EViews 12 software

Unitroot tests (IPS) show that all variables—except financial openness—are integrated of order 1 at the 99 % confidence level. CIPS results are analogous, with labor being stationary at level at the 90 %

confidence level. The evidence that the series are nonstationary allows for cointegration analysis; moreover, the PMGARDL technique enables this type of analysis when the series have different orders of integration. Table 4 (see below) summarize these findings.

Table 4

Unit root tests

Variable	IPS-statistic		CIPS-statistic	
	Level	First differences	Level	First differences
GDP	0.6181	0.0430**	-1.8610	-3.8330***
OP	-0.0138	-7.7742***	-1.7984	-5.0069***
L	0.6957	-5.5925***	-2.2786*	-4.6322****
K	1.7993	0.0451**	-0.6756	-2.4873**
E	4.5818	-6.2212***	-1.1643	-4.6090***
CF	-3.7604***	-13.175***	-2.1227*	-3.3508***
IED	4.8836	-4.8516***	-2.1067	-4.3972***

Note: *, ** and *** indicate significance at the 90%, 95%, and 99% levels, respectively
Source: Own preparation using EViews 12 software

Table 5 (below) presents the long-run estimated coefficients. Lag selection based on the Akaike Information Criterion yielded one lag for the dependent variable and two lags for explanatory variables.

Tabla 5

Longrun equation of the PMGARDL model

Dependent variable GDP	
Variable	Coefficient
OP	0.2506 ***
L	0.4624***
K	0.1106***
E	0.4158**
CF	-0.0080***
IED	0.0335***
Jarque-Bera test (Prob)	0.3706

Source: Own preparation using EViews 12 software

In general, the econometric model is valid insofar as the coefficients are statistically significant, at least at the 95 % confidence level, and the assumption of normality of the residuals has been confirmed using the JarqueBera test.

Results analysis

The coefficient on trade openness is 0.2506, indicating that, holding everything else constant, a higher degree of openness is associated with a higher level of economic growth. However, the relationship is less than proportional: a onepercent increase in openness raises economic growth by 0.2506 percentage points.

While these results support a positive link between openness and growth, the variable exerting the greatest impact is labor, followed by average schooling (human capital). A onepercent increase in labor raises growth by 0.4624 percentage points, and a onepercent increase in schooling raises it by 0.4158 percentage points. By contrast, the coefficients related to the capital stock and the stock of foreign direct investment exhibit a smaller impact than trade openness. A onepercent increase in capital stock and in foreign direct investment generates growth of 0.1106 and 0.0335 percentage points, respectively. Finally, it is noticeable that the coefficient of financial openness is negative, albeit marginal.

The results obtained differ from those reported by Cruz et al. (2018) for the LatinAmerican case. For the sample of countries, the study period, the linear specification and the method applied, we find that trade openness does have a positive effect on the countries' economic growth. However, financial openness shows negative effects, which can be explained by the financial crises the region has experienced, particularly in the 1990s and 2000s (Frenkel, 2003). Those crises have had catastrophic consequences, even when the regression coefficient is very small and may be outweighed by the positive weight of trade openness.

Moreover, the growth of LatinAmerican economies is mainly linked to the employment of labor and to education levels, which can be taken as evidence of the human capital importance, whereas the contribution of capital and foreign direct investment is far lower. These results may indicate a lack of significant technological progress accompanying each addition of new capital to production, while foreign direct investment does not seem to generate the socalled technology spillovers that are often cited as its benefit.

Trade alone does not promote economic growth in Latin América, therefore, it is necessary to facilitate entrepreneurs with capital to create new technologies through financing and clusters developments, enabling the production of goods with high international demand and exploiting the initial benefits they provide. It should be emphasized that this must be accompanied by incentives for the workforce to receive continuous training, together with everhigher educational levels, allowing the gap in productivity among the LatinAmerican population to be closed.

Conclusions

This study finds evidence of a positive link between trade openness and economic growth in Latin America; however, the connection between the two variables is a matter that must be examined continuously, incorporating different regions and periods, as well as various specifications—linear, nonlinear, thresholds, etc.—and different econometric methodologies, in order to strive for a consensus. Further investigation is needed into the behavior of trade openness, including the role of institutions and public policy through fiscal, monetary and commercial policies. Understanding the mechanism that enables a nation to achieve sustained longterm growth is the ultimate goal of economic science.

A richer body of research on the topic will provide more information for public policy makers, who, in seeking to foster economic growth, must decide whether to encourage or restrict foreign trade, to close or open capital accounts and whether to promote or prevent foreign direct investment.

RNEE

From our perspective, there is a global consensus on the importance of education in human capital. Here, public policy cannot falter in its fundamental role of promoting education, as it is the foundation of national development and its effects on production are evident.

References

Beteta, H., & Moreno-Brid, J. C. (2012). El desarrollo en las ideas de la CEPAL. Economía UNAM, 9, 15.

Cruz, M., Mendoza, A., & Pico, B. (2018). Inversión extranjera directa, apertura y crecimiento económicos en América Latina. Contaduría y Administración, 64(1), 81.

David Ricardo (1817). On the Principles of Political Economy and Taxation [Principios de economía política y tributación, FCE, México, 1998]

Domar, E. D. (1947). Expansion and Employment. The American Economic Review, 37(2), 34-55.

Fetahi-Vehapi, M., Sadiku, L., & Petkovski, M. (2015). Empirical Analysis of the Effects of Trade Openness on Economic Growth: An Evidence for South East European Countries. Procedia Economics and Finance, 19, 17–26.

Frenkel, R. (2003). Globalización y Crisis Financieras en América Latina. Brazilian Journal of Political Economy, 23(3), 437–455.

Gerunov, A. (2014). Openness and Growth: An Empirical Investigation on a Panel of Countries over the Period 1999-2009. Proceedings of the Faculty of Economics and Business Administration, 12(13), 107–125.

Harrod, R. F. (1939). An essay in dynamic theory. The Economic Journal, 49(193). 14-33

Hounie, A., Pittaluga, L., & Porcile, G. (1999). La CEPAL y las nuevas teorías del crecimiento. Revista de la CEPAL, 68 (7–33).

Im, K. S. , Pesaran M. H., Shin Y. (2003) Testing for unit roots in heterogeneous panels, Journal of Econometrics, Volume 115, Issue 1, 53-74

Iyke, B. N. (2017). Does Trade Openness Matter for Economic Growth in the CEE Countries? Review of Economic Perspectives, 17(1), 3–24.

Kaldor, N. (1957). A model of economic growth. The Economic Journal, 67(236), 591–624.

Keynes, J. M. (1936). The General Theory of Employment, Interest and Money. Macmillan Cambridge University Press.

Kong, Q., Peng, D., Ni, Y., Jiang, X., & Wang, Z. (2021). Trade openness and economic growth quality of China: Empirical analysis using ARDL model. Finance Research Letters, 38, 101488.

Lucas, R. E. (1988). On The Mechanics of Economic Development. Journal of Monetary Economics, 22(1988), 3–42.

Mbogela, C. S. (2019). An Empirical Examination on Trade Openness and Economic Growth Nexus in Africa. Asian Journal of Economics and Empirical Research, 6(1), 1–15.

Molero, L; Anchundia, J; Patiño, R; Escobar, Y. (2020). Crecimiento económico y apertura comercial: Teoría, datos y evidencia (1960- 2017). Revista de Ciencias Sociales, 26(4), 476–496.

Moreno-Brid, J. C., & Peréz, E. (2003). Liberalización comercial y crecimiento económico en Centroamérica. Revista de la CEPAL.

Nguyen, M.-L. T., & Bui, T. N. (2021). Trade Openness and Economic Growth: A Study on Asean-6. Economies, 9(3), 113

Pesaran, M. H. (1998). An Autoregressive Distributed-Lag Modelling Approach to Cointegration Analysis. En S. Strøm (Ed.), Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium (pp. 371–413). Cambridge University Press.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. Journal of Applied Econometrics, 22, 265– 312

Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels. University of Cambridge, Faculty of Economics, Cambridge Working Papers in Economics No. 0435

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. Journal of the American Statistical Association, 94(446), 621–634.

Prebisch, R. (1949). El desarrollo económico de la América Latina y sus principales problemas, Comisión Económica para América Latina.

Rangel, R. M., & Garmendia, E. S. R. (2012). El Consenso de Washington: La instauración de las políticas neoliberales en América Latina. Politica y Cultura, 37, 35–64.

Rebelo, S. (1991). Long-Run Policy Analysis and Long-Run Growth. Journal of Political Economy, 99(3), 500–521.

Romer, P. M. (1986). Increasing Returns and Long-Run Growth. Journal of Political Economy, 94(5), 1002–1037.

Silajdzic, S., & Mehic, E. (2018). Trade Openness and Economic Growth: Empirical Evidence from Transition Economies. En V. Bobek (Ed.), Trade and Global Market. InTech.

Smith, A. (1876) An Inquiry into the Nature and Causes of The Wealth of Nation [Investigación sobre la naturaleza y causas de la riqueza de las naciones. Fondo de Cultura Económica, México, 1997]

Solow R. M. (1957). *Technical Change and the Aggregate Production Function*, The Review of Economics and Statistics, 39 (312-320).

Thirlwall, A. P. (1979). The balance of payments constrain as an explnation of international growth rate differences. PLS Quarterly Review, 64 (259), 429-438.

Toscano, Ó. M. (2006). Las Teorías del Desarrollo Económico: Algunos postulados y enseñanzas. Apuntes del CENES, 26(42), 49–74.

Udeagha, M. C., & Ngepah, N. (2021). The asymmetric effect of trade openness on economic growth in South Africa: A nonlinear ARDL approach. Economic Change and Restructuring, 54(2), 491–540.

Ulaşan, B. (2015). Trade openness and economic growth: Panel evidence. Applied Economics Letters, 22(2), 163–167.

Yanikkaya, H. (2003). Trade openness and economic growth: A cross-country empirical investigation. Journal of Development Economics, 72(1), 57–89.

Zahonogo, P. (2017). Trade and economic growth in developing countries: Evidence from sub-Saharan Africa. Journal of African Trade, 3(1–2), 41.

Zeren, F., & Ari, A. (2013). Trade Openness and Economic Growth: A Panel Causality Test. International Journal of Business and Social Sciencem, 4(9), 8.