

The Economic Growth of the Andean Community of Nations and International Trade between 1990 and 2022

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Abstract: The objective of this research is to determine the influence of foreign trade indicators on the economic growth of the countries within the Andean Community of Nations (ACN), which includes Colombia, Ecuador, Peru, and Bolivia. The study analyzes the impact of various foreign trade indicators, specifically Exports, Imports, the Purchasing Power of Exports, and the Terms of Trade, on economic growth. The analysis covers the period from 1990 to 2022. The econometric technique employed is the Panel Model, with results indicating that the POOL panel model best explains the behavior of these indicators in relation to economic growth. The findings reveal that exports increase the regional product by 0.2546%, while imports contribute a significant 0.8657% increase. Conversely, the persistent deterioration in the Purchasing Power of Exports reduces the regional product by 0.6511%. Additionally, an improvement in the Terms of Trade enhances the product by 0.2426%.

Keywords: Economic Growth, Foreign Trade, Exports, Imports, Purchasing Power of Exports, Terms of Trade.

Type: Research paper



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1. Introduction

Bolivia, Colombia, Ecuador, and Peru are part of the Andean Community of Nations (ACN), an international organization that seeks to promote regional integration. The organization was established by the Cartagena Agreement on May 26, 1969, to promote the economic, social, and cultural progress of its participating countries. The ACN has made important progress in the integration

of its member countries, particularly in the commercial field. The Andean Free Trade Area (NAFTA), established by ACN member countries in 1991, eliminated tariffs on most goods traded between them. International trade in the Andean Community of Nations (ACN) faces a series of obstacles that hinder its progress and growth. One of the main concerns is the economic diversity among member countries. The economy of the ACN member countries presents a great disparity in its development. Bolivia and Ecuador are the countries with the lowest per capita income in the region (Quiñónez & Quiñónez, 2021). Colombia and Peru are the most prosperous countries in the region, with a per capita income of more than \$10,000. Trade cooperation is hampered by economic diversity, as less developed countries may be affected by competition from relatively more developed countries.

Another concern is the lack of agreement between member countries. Bolivia and Ecuador have chosen not to establish a shared external tariff due to their opinion that this would harm their exports, making it difficult to adopt trade agreements (Liévano et al., 2022). The lack of infrastructure in the ACN negatively affects international trade (Mankiw, 2021). The movement of goods and services is hampered by inadequate transportation, energy, and telecommunications infrastructure in the region. The lack of competitiveness of companies ultimately affects international trade in the ACN. Companies in the region must compete with companies from other countries that have competitive advantages, such as more sophisticated technology and access to larger markets.

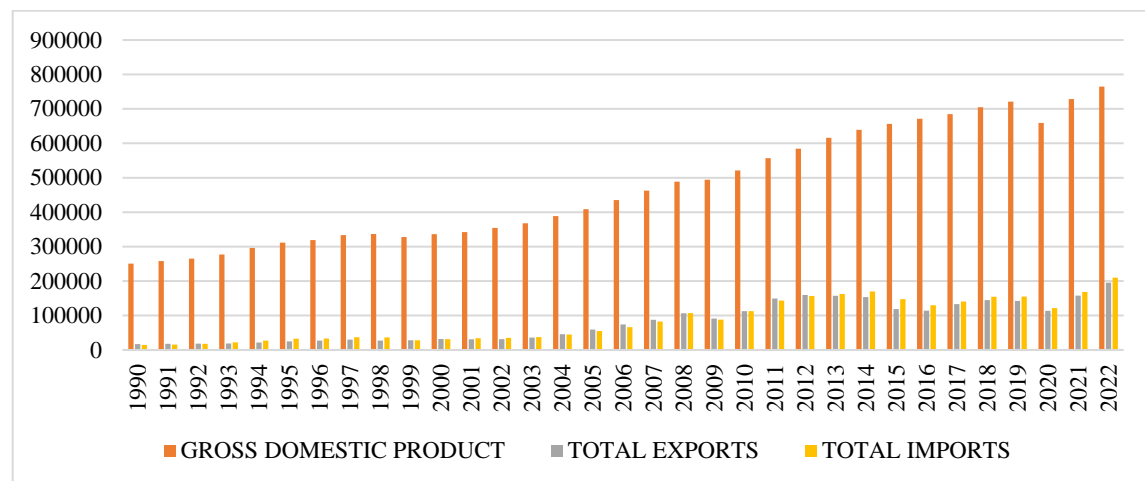


Figure 1: GDP, total exports, and total imports: 1990 – 2022 (Millions of dollars)

The Gross Domestic Product (GDP) of member countries experienced varied growth in 2022, according to data provided by the Andean Community of Nations. Growth in Colombia was 7.5%, in Bolivia 3.5%, in Ecuador 2.9% and in Peru 2.7%. These data indicate a favorable trend in the economic progress of the area. In addition, it is highlighted that the economic sectors of "Hotels and restaurants", "Transportation and storage" and "Communications" showed greater dynamism in 2022. These data show how the GDP of the Andean Community has changed and offer important information about how the economies of member countries are functioning. To better understand the economic dynamics of the region and make informed decisions for sustainable

economic development, it is crucial to continue monitoring these indicators (Ribeiro et al., 2020).

Trade between member countries of an economic integration organization and third countries is known as extra-EU trade. In the case of the ACN, extra-EU trade has grown steadily in recent years and reached \$105.8 billion in 2020. Extra-EU trade represents around 90% of total ACN trade in terms of participation. The ACN's main destinations for extra-EU trade are the United States, China, the European Union, and the ALADI. Manufacturers are the best-selling products outside the EU, followed by agricultural products and minerals.

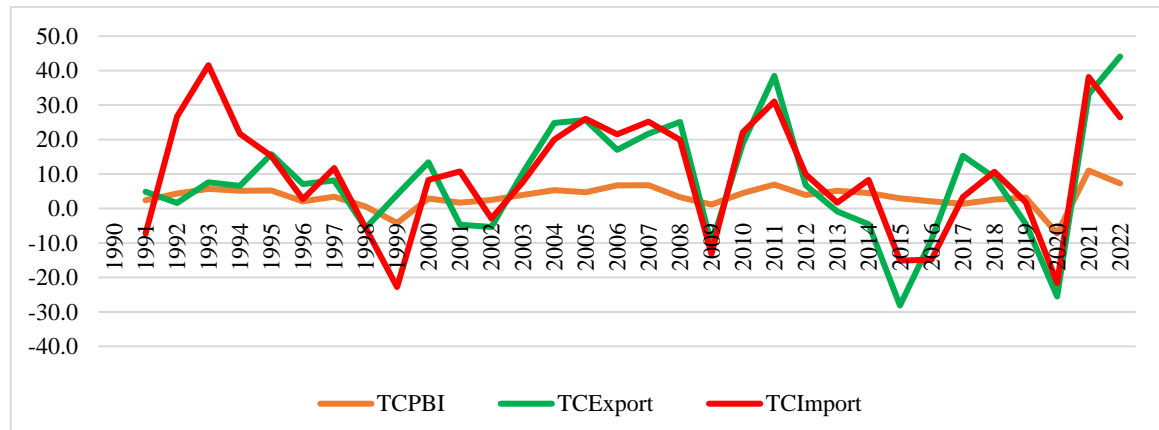


Figure 2: GDP growth rate, exports, and imports in CAN from 1990-2022

Note: The figure shows the development of the growth rate of GDP, exports, and imports in the period 1990 – 2022.

Taken from the BCRP.

The growth rate of the regional product had quite heterogeneous behavior, among them for the year 1991, it was 3.0%, that of exports was 3.6% and that of imports was 6.0%. For the following year, the regional GDP grew by 2.6%, exports by 3.3%, and imports by 15.7%. In 1994, there was dynamism in the regional economy and that indicated quite important growth with 6.8% for the regional product, 16.3% for exports, and 21.4% for imports. By 1999, as a result of the global crisis, there was a decrease in the regional economy of 2.5% and a decline in imports of 22.7%. For the year 2010, the regional economy registered a growth of 5.5%, exports of 23.6%, and imports of 28.0%, evidencing dynamic economic activity. This trend for the following year showed a better performance with the product increasing by 6.8%, exports registering an increase of 32.4% and imports of 27.1%. In 2020, as a consequence of the global epidemic, the product registered a decline of 8.6%, exports decreased by 20.2% and imports by 21.6%. The rebound of the economy meant an increase of 10.5% in the product in exports of 38.7% and imports of 38.6%. A trend that will continue in 2022.

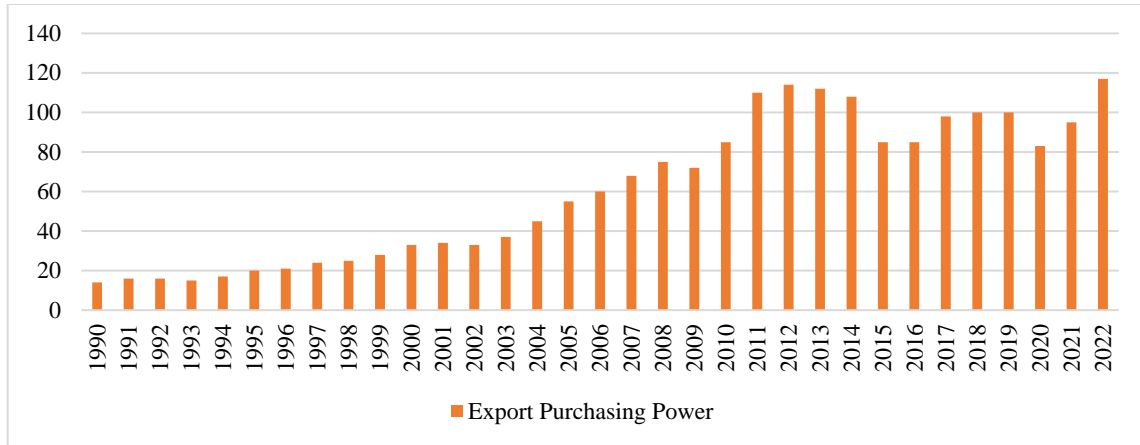


Figure 3: The purchasing power of exports in ACN: 1991 - 2022

Note: The figure shows the purchasing power of ACN exports from 1991 to 2022.
Taken from ECLAC.

The purchasing power of exports is shown in Figure 3, which shows the behavior of said indicators in the study period. Table 1 shows the behavior of said variable by periods, which shows that in the period 1991 – 1999, the average purchasing power of the period was 24.11, for the following period 2000-2004 the PCX had an increase, registering 55.2. For the following periods, it is observed that the value of the PCX has increasing trends, registering 83.0. For the period between 2010 and 2022, rates above 100.0 are recorded, which shows that the region's exports have been gaining ground in terms of export price quotations.

Table 1: The purchasing power of exports in ACN: 1998 to 2022.

Years	1991 - 1999	2000 - 2004	2005 - 2009	2010 - 2014	2015 - 2022
Export Purchasing Power	34.11	55.20	83.00	109.00	102.00

Note: The table shows the evolution of the PCX of the region from 1999 to 2022.
Taken from ECLAC.

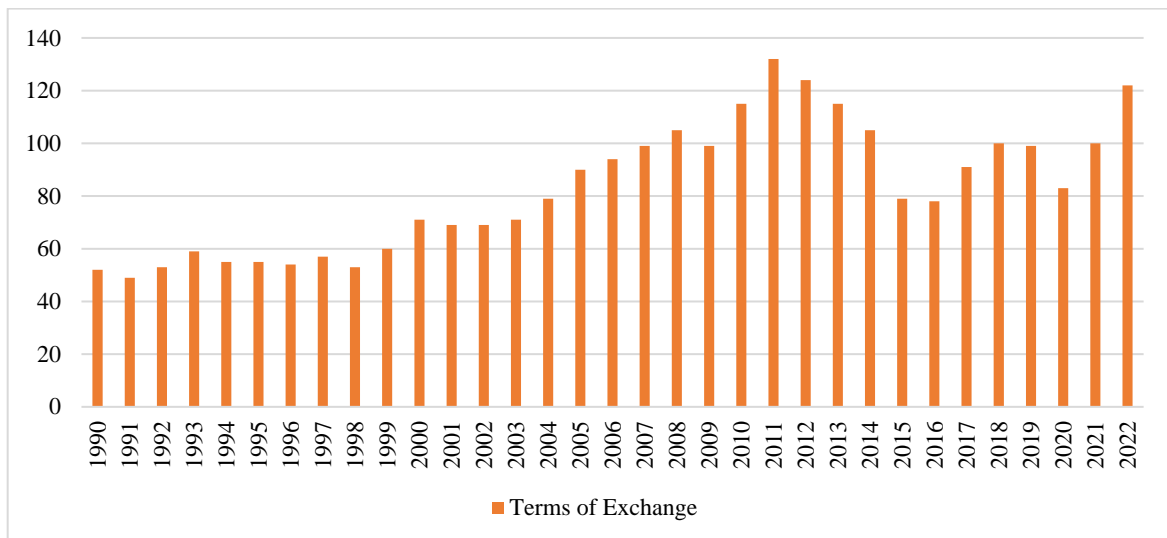


Figure 4: Terms of trade in CAN: 1991 - 2022

Note: The figure shows the terms of trade of the countries in the region.
Taken from ECLAC.

The terms of trade, that is, the relationship between export prices and import prices, have had upward trends throughout the study as shown in Table 2. Thus, in 1991 the terms of trade were 65.0, below unity, which means that the prices of imported goods were above the prices of exports. The prices of exported goods were lower than those of imported goods until 2009 when the index was below unity. From the period 2010 to 2022, the prices of exports were above the prices of imported goods, in the period 2010-2014 the index was 101.4 and in the period 2015-2022, there was a decline, placing the Terms of Trade index was 100.9.

Table 2: The purchasing power of exports in ACN: 1998 to 2022

Years	1991 -1999	2000 - 2004	2005 - 2009	2010 - 2014	2015 - 2022
Terms of Exchange	65.0	65.4	80.2	101.4	100.9

Note: The table shows the evolution of IT in the region from 1999 to 2022.
Taken from ECLAC.

The analysis of the variables that affect the economic growth of the countries that make up the Andean Community of Nations in economic growth allows me to formulate the following research questions.

2. Literature Review

At present, some of the problems that afflict the economic and social aspect that local populations face and more acutely in rural areas are, for example: poverty, minimum income to the family basket, migration in search of new opportunities, low quality of life, among others. The expectations of the local population consider the CRT as an alternative economic possibility that generates benefits and helps them solve the problems that afflict them, in turn, over time it will continue to grow its competitiveness as a tourist destination. León et al. (2020) during recent years, intraregional trade in the Andean Community of Nations (ACN) has experienced a constant and significant increase, as the region is considered the second market for Ecuadorian exports, especially those that include non-traditional industrialized products. Despite this, the recent evolution of the Ecuadorian economy, especially concerning the trade balance, indicates the importance of examining the country's position within this region and establishing guidelines on the various options that can improve its competitiveness. Furthermore, Reyes and Jiménez (2012) in their article "Composition of Exports and Economic Growth in the Andean Community of Nations", examine the relationship between the composition of exports and the growth of the products of the countries that make up the Andean Community of Nations. Nations (Peru, Ecuador, Colombia, Bolivia, and Venezuela) between 1970 and 2009. It is concluded that there is a positive and significant relationship between exports and economic growth, however, this positive influence is mainly due to exports. Of manufactured products and a higher technological level, due to the externality effect of the export sector on the domestic sector. Also, Almanza-Ramírez et al., (2020). In his article "Exports and Economic Growth in Colombia 1994-2010", he analyzes the role of exports in GDP growth in Colombia. It uses a vector autoregressive (VAR) model and takes into account other economic variables that can affect product growth, such as imports, in addition to

disaggregated exports. The findings indicate that GDP benefits from imports of capital goods, and that there is a favorable relationship between GDP and exports of manufactured goods. It is believed that the increase in exports has helped to purchase capital goods necessary for product development indirectly through the acquisition of foreign currency.

Villarreal (2018) determined the relationship between real economic growth in Peru (real production, real income) and foreign trade (exports, imports) during the years 2000 to 2017. The research is quantitative, non-experimental, observational, retrospective, longitudinal descriptive, and correlational level and analyzed the statistical relationships between the variables. The documentary technique was used. The sample is representative, non-probabilistic, made with data from the annual statistics of the periods published in the official statistical bulletins. According to the statistical analysis, a positive and significant relationship was found between international trade and the real economic development of Peru. It was indicated that, because the foreign trade variable is also included in the gross domestic product, strict causality could not be determined. Therefore, it was estimated that, in addition to other variables not included in the study, there could be a reciprocal influence. It is believed that the main role of international trade will be to boost the economy by increasing efficiency and competitiveness.

Based on Mendoza-González (2021), a great deal of research has been done on the topic of growth and its connection to various factors that can influence it. Topics such as well-being and development have been gaining popularity, especially if growth can be converted into said development. The research analyzes the connection between economic growth, human development, and trade openness for the four member countries of the Pacific Alliance: Chile, Colombia, Mexico, and Peru. In addition, other variables are analyzed such as spending on education (as a percentage of GDP), investment (as a percentage of GDP), and government integrity. The findings indicate that human development in the countries studied has been favored by growth driven by foreign trade. However, the opposite is not true, since human capital has not had a significant impact on foreign trade, but it has driven growth. In summary, the countries analyzed did not have highly developed human capital that could have a significant impact on trade and, therefore, economic development. Finally, suggestions and policy plans are presented for the four countries, to improve the well-being of their population.

Freire et al. (2022) aim to examine the international relations between the member countries of the Andean Community of Nations (ACN) and how these relations affect the flow of international trade between Ecuador and the member countries of the ACN. Two points of view are taken into account. An ARMAX (Autoregressive Moving Average with Exogenous Inputs) model is used to model the series. Consequently, it can be concluded that Ecuador has experienced a significant increase in its import flow. Given that the values of the constant and intercept of the models remain significant, it is expected that the trend will remain upward. It has been concluded that trade opening between the member countries of the ACN has been very dynamic, which makes this type of agreement relevant.

Based on Quiroz et al. (2022), the Andean Community of Nations was established to promote the integration and commercial development of the member countries, to promote balanced, harmonious, and equitable growth

through the use of tools such as integration, socioeconomic cooperation, creation of employment actively and improve the path towards regional integration, gradually developing the Latin American market. Despite having gone through two stages, the free trade area and the Customs Union, these were not carried out adequately due to the political and economic discrepancies of the governments. However, the elimination of tariff barriers and the implementation of a common external tariff have had a positive impact on the growth of intra-community trade, which has generated an increase in the value of the exchange.

In an increasingly connected world, commercially and virtually, countries are betting on regional integration as a mechanism to promote and strengthen their exportable offer. This research addresses the issue of trade integration among the members of the Andean Community of Nations (ACN) and aims to analyze their integration process and the importance of innovation for the diversification of goods and markets. The study is descriptive, with a documentary research modality, through which the conclusion has been reached that Ecuador has greatly benefited from the agreement with the member countries of the ACN, particularly with the rise of processed products. They are marketed intra-community and to the advances in legislation that allow progress towards an Andean common market, despite the uninspiring outlook in terms of diversification of its offer, given the low investment in innovation (Coral et al., 2023).

2.1. Theorists of International Trade

A set of economic theories known as international trade theories attempts to explain the causes and effects of trade between countries. The idea that nations can benefit from trade by specializing in the production of goods and services in which they have a comparative advantage is the basis of international trade theories (Erokhin et al., 2023). Adam Smith created the theory of absolute advantage in the 18th century and it is one of the most influential theories of international trade. According to this theory, countries should specialize in producing goods and services with lower production costs than other countries. For example, a country with a hot climate and a large amount of cheap labor could focus on the production of agricultural products, while a country with a cold climate and a large amount of capital could focus on the production of industrial products (Muñoz-Puigcerver, 2021).

According to Ahn (2020), David Ricardo created the theory of comparative advantage in the 19th century, which is another important theory of international trade. According to this theory, nations should specialize in the production of goods and services in which they have a comparative advantage, regardless of their size. For example, if a country has a 10% lower cost of production than another country in producing both goods, it should specialize in producing the good with a greater comparative advantage, even if that advantage is only 5%.

2.2. The New Theories of International Trade

Unlike the Classical Theory of International Trade (TCCI), the New Theory of International Trade (NTCI) emerged in the late seventies and is based on two ideas: international trade and industrial organizations. The NTCI demonstrates that many of the TCCI's arguments have been overtaken by reality, making international trade incomprehensible today if one considers only the ideas of that

school of thought. Economies of scale, intra-industry trade, external economies, imperfect competition, and factor mobility are some of the factors that contribute to this problem. The TCCI supports international trade because it serves to complement nations, which means that trade is necessary. However, how to explain the presence of intra-industry trade, which plays an important role in global trade? Gaspar, (2020). The main defender of the theory was based on the existence of market failures (Shenkar et al., 2021).

New paradigms need to be employed to understand the new reality of international trade due to market failures that require government intervention. NTCT's main contributions derive from the following question: How to explain trade between nations without comparative advantages? The answer lies in the discovery and analysis of variables that the TCCI had not previously considered and that are essential to understanding today's global economy: approximately a quarter of world trade is intra-industry (Rolph, 2023).

- a) Errors in the market. The NTCT believes that there are market failures that cannot be addressed through market mechanisms. Therefore, they reject neutral policies that seek to generate an adequate macroeconomic framework. This school of thought requires government intervention to solve problems that the invisible hand of Adam Smith cannot solve (Mena et al., 2022).
- b) Lack of skills. Currently, there is no total competition and there are monopolies. In addition, Oligopolistic companies are gaining more and more strength due to technological advances, aggressive policies, their influence on the political decisions of countries (especially underdeveloped ones), and multi-plant and multi-product companies (which reduce the risk of losses).
- c) Externalities The effects that companies obtain by focusing on a specific territory are known as externalities since they obtain increasing returns for the entire business group, which are not present for each company in particular. The benefits obtained outside the companies are named according to Börner, (2020). The above-mentioned characteristics lead numerous small and medium-sized companies to leave the market, leading to greater profit for multinationals. As a result of this, government intervention is necessary. The concept of externalities in production originated in the work of Marshall (2013), who carried out the first analysis of localization economies. Authors such as Gaspar (2020) have used the concept of externalities to justify the implementation of an active industrial policy. According to them, the technological externalities argument is probably the best intellectually possible reason for an active industrial policy.
- d) The last Pareto point, Neoclassicists maintain that competitive equilibrium is effective in the sense of Pareto optimality, that is, no one can see their benefit increased if it implies a decrease in the utility of the other. However, the Pareto best option is not achieved, since economic agents do not make the best decision when there is no complete information or competition is imperfect in the market structure. In Paretian terms, these circumstances do not necessarily lead to a benefit for all participants.
- e) Trade within industries. If the neoclassical approach to international trade were true, all trade would be inter-industry, but this is not the case.

According to Marshall (2020) in practice, almost half of world trade consists of trade between industrial countries that are relatively similar in their relative factor endowments. According to Gaspar, (2020), intra-industry trade generates trade profits even greater than comparative profits. Intra-industrial trade allows the nation to decrease the quantity of goods, but increase their variety, allowing it to increase its production with greater efficiency and low costs. The authors established that intra-industry trade must have similar capital-labor ratios and skill levels between nations. When there are different products and significant economies of scale, the benefits of this type of trade will be greater.

The existence of increasing returns (economies of scale) leads to intra-industrial trade. Because escalation economies do not exist for the neoclassical, nations derive benefits from trade. International if they base their economy on inter-industrial exchange. When industries specialize in goods that satisfy the needs of the local and international markets, benefits are obtained from commercial exchange because there are economies of scale. According to Chandra, (2021), trade can be the result of economies of scale or increasing returns; that is, a tendency for costs to reduce with greater production. Even in the absence of differences in resources and technologies, economies of scale encourage countries to specialize and trade. Gaspar, (2020) demonstrates in a practical way that global trade is due to economies of scale and concentration of production since the latter allows costs to be reduced due to the specialization of production. The author considers that it is not important that the countries that participate in trade have identical levels of productivity and resources (Labarca & Panchana, 2022)

2.3. Neoclassical growth theory

The initial approach made by Solow at the end of 1950 uses a neoclassical production function, with a parameter that allowed measuring the state of technology and a constant savings rate. Bongers and Torres (2020) point out that from this model, two important conclusions were derived: the first is that growth could not be sustained solely with capital accumulation, since there is a level indicated by the law of diminishing marginal returns at which the new investment is only intended to replace depreciated capital, reaching an equilibrium level called “steady state” and, the second, referring to the fact that countries with similar characteristics and that use the same technology could reach a similar steady-state level, a condition called “conditional convergence.” To explain steady-state growth, Solow starts from an aggregate production function, whose components are related to the labor force and technical progress (Almanza-Ramírez et al., 2020). This model shows that the long-term stationary growth rate is determined by the growth rate of the labor force and the rate of technical progress. Given that the latter represents an exogenous variable, which is not influenced by economic policies or savings behavior, the Solow model has a very important implication and that is that the source of economic growth had to be exogenous.

3. Methodology

This research is: due to its purpose: Applied; Due to the nature of the variables: Quantitative and due to their depth or objective: Descriptive, Correlational and Explanatory, Non-experimental, since the independent variables are not voluntarily manipulated, what is done is to observe the phenomena as they occur in their context.

The type of data is longitudinal and cross-sectional. Panel Models will be used. The population and the sample are made up of the historical series of the study variables; GDP growth rates, total exports, total imports, purchasing power of exports, and the Terms of Trade of each of the countries that make up the Andean Community of Nations, including: Bolivia, Colombia, Ecuador and Peru. The instrument that was used for data collection is the Database – Time Series. The annual statistical series prepared by ECLAC for the variables under study were used. For the analysis and treatment of the information, the Econometric Views econometric software, version 12.0, was used. Time series and cross-sectional econometrics will be used. The Panel Models technique will be used for the Andean Community of Nations from 1990 – 2022. The approach to the economic model is defined as *Economic Growth (TCPBI) = f(XT, MT, PCX, TI)*. The formula is:

$$TCPBI_{it} = \beta_0 + \beta_1 XT_{it} + \beta_2 MT_{it} + \beta_3 PCX_{it} + \beta_4 TI_{it} + \mu_{it}$$

Where:

i = 4 (ACN Countries); t = 1990 – 2022; TCPBI = GDP growth rate; CEXTER = Foreign Trade (Exports + Imports); XT = Total Exports; MT = Total Imports; PCX = Purchasing power of exports; TI = Terms of Trade

4. Results

The estimation of the models using the panel method implies the determination of the equality of means and variances to determine the heterogeneity of the data, an essential requirement for the application of this estimation method.

Table 3: Equality of means test

Equality of means test		Equality of Variances Test	
Anova F-test	0.0000	Bartlett	0.0000
Welch F-test	0.0000	Levene	0.0000
		Brown-Forsythe	0.0000

The results of the tests in Table 3 suggest the presence of heterogeneity in the means and variances of the data, so the Panel Method is applied without restrictions.

Foreign trade positively affects economic growth in the Andean Community of Nations. The panel estimation econometric model

$$\text{LogPBI}_{it} = \beta_0 + \beta_1 \text{LogXT}_{it} + \beta_2 \text{LogMT}_{it} + \beta_3 \text{LogPCX}_{it} + \beta_4 \text{LogTI}_{it} + \mu_{it}$$

Where: Logpbi = Logarithm of GDP; LogXt = Logarithm of exports; LogMt = Logarithm of imports; PCX = Purchasing power of exports; TI = Terms of Trade; t = 1990 to 2022

Table 4: Model results

Models	β_0	β_1	β_2	β_3	β_4
POOL model	4.4351 (0.0000)	0.2546 (0.0000)	0.8657 (0.0000)	-0.6511 (0.0000)	0.2426 (0.0000)
Fixed Effects Model	8.6570 (0.0000)	-0.0098 (0.7724)	0.3081 (0.0000)	0.1593 (0.0000)	-0.1058 (0.0001)
Random Effects Models	8.1507 (0.0000)	0.0632 (0.0551)	0.3218 (0.0000)	0.0457 (0.1961)	-0.0820 (0.0026)
Hausman test	Prob= (0.0000)				

The results of the model run in Table 4, based on the statistical significance of the estimators, suggest the use of the POOL model, which reports the joint significance of the estimators. The interpretation of the results of the model will be: Concerning exports, it is observed that, per unit of percentage increase in exports, the group's GDP increases by 0.2546%. Concerning imports, it is observed that, per unit of percentage increase in imports, GDP rises by 0.8657%. Concerning the purchasing power of exports, a negative value is observed. Its literal interpretation would be that per percentage unit of loss in the purchasing power of exports, global GDP falls by 0.6511%, and concerning the terms of trade, it happens Likewise, per unit of percentage increase in the ratio of exports and imports, the global product grows by 0.2426%.

5. Discussion

Foreign trade plays a crucial role in the economic growth of the Andean Community of Nations (ACN). In recent years, the ACN countries have experienced greater economic openness, the elimination of tariff and non-tariff barriers, and the privatization of state companies, which has contributed to their commercial integration. The international exchange of goods and services allows countries to specialize, increase productivity, and generate economies of scale, which in turn drives economic growth. In addition, foreign trade expands the market available to companies, allowing greater reach and business opportunities. The trade balance of goods and services of the ACN with the rest of the world has been negative, which highlights the importance of improving competitiveness and participation in the international market. In this context, the diversification of exports and the improvement in the quality and coverage of educational systems are fundamental aspects to promote economic growth through foreign trade in the ACN.

According to an article published in the Galician Economics Journal, the economic development of the ACN during the nineties is closely related to trade opening, and an expansion plan abroad is being considered. In reality, it is recognized that integration would make it possible to take advantage of economies of scale and the advantages of industrial specialization and complementarity, creating the conditions to increase productivity and boost the industrialization process in all the countries of the region, based on from which intra- and extra-regional exchange would expand and economic growth would be revitalized (Rapanyane, 2021). Therefore, integration is also considered an integral part of a national development policy. The economic growth of the countries of the Andean Community (ACN) is strongly influenced by foreign

trade. The following are some of the key factors that have an impact on this:

Economic openness: The economic openness of ACN countries has facilitated economic growth and job creation, allowing for greater integration into the international market.

Innovation and diversification: Innovation and diversification in the exportable supply of the ACN countries have managed to strengthen their productive sectors and promote the transfer of knowledge.

Trade between raw materials and industrial products: The Andean Community has experienced an increase in the number of items exported to the ACN and the world, which has allowed it to achieve a greater degree of diversification in its economies.

Regional integration: The Andean Community is a leading organization on the continent for subregional integration, which promotes the tariff-free exchange of 100% of goods, mainly manufactured products, and the development of shared customs regimes.

Effects on economic growth: International trade fosters economic growth, job creation, and technology transfer. Furthermore, international trade offers promising prospects for economic integration, global cooperation, and inclusive development. In summary, international trade plays an important role in the economic development of the countries of the Andean Community by promoting economic openness, innovation, diversification, and regional integration.

International trade of the countries of the Andean Community (ACN) has experienced an improvement in recent years. The economic opening of the ACN countries has allowed greater integration in the international market, which has boosted economic growth and job creation. The ACN countries have also managed to strengthen their productive sectors and promote the transfer of knowledge thanks to innovation and diversification of their exportable offer. The export of items to the ACN and the rest of the world has increased in the Andean Community, which has allowed greater diversification in their economies. The ACN is a leading organization on the continent for subregional integration that promotes the tax-free exchange of 100% of manufactured goods, and the creation of shared customs regulations. In 2019, the ACN exported \$138 million and imported \$141 million. The United States, China, India, Panama, and Brazil are the main commercial allies of the ACN.

In summary, in recent years, the international trade of the ACN countries has experienced a significant increase due to economic openness, innovation, and diversification, as well as regional integration. Two other aspects complemented this global approach to the role of economic integration in Latin American development. The first referred to the need to combine the integration process with the expansion and diversification of trade with other regions of the world, particularly with developed countries. Extra-regional exchange represented close to 90% of the total and it was foreseeable that import needs from outside the region would increase considerably in the initial phases of the integration process. Furthermore, as the idea of integration was not associated with creating an autonomous economic space in the region, extra-regional trade flows would tend to expand further, although progressively modifying their structure. Labarca and Panchana (2022) foreign trade and economic development of the countries of the Andean Community of Nations (ACN) have been affected by a series of factors. According to the econometric model, the economic expansion of the ACN in the nineties was strongly related to its greater economic openness and the reactivation of the integration process.

6. Conclusion

In the Andean Community of Nations (ACN). Increased exports not only promote economic expansion but also strengthen the export structure. The influence of the export structure varies between ACN countries, but most exports have a positive and significant impact through externality. The export of non-manufacturing goods and technology-intensive goods is driving the growth of aggregate production due to benefits and higher productivity compared to the non-export sector. ACN member countries have increased exports to ACN and the rest of the world, allowing for greater diversification and an attractive market for manufactured and artisanal products, allowing export companies to earn more. The results found indicate this. For every 1% increase in exports, the regional product increases by 0.2546%. Imports into the Andean Community of Nations (ACN) play a crucial role in the economic growth of the ACN. Through imports, ACN countries obtain inputs for industry, agriculture, durable and non-durable consumer goods, and transportation equipment, among others. Import growth can reflect an increase in domestic demand and economic activity, which in turn can contribute to economic growth. Furthermore, an increase in imports of capital goods and technology can boost the productivity and productive capacity of member countries, which in turn can have a positive impact on economic growth. Import growth can reflect an increase in domestic demand and economic activity, which in turn can contribute to economic growth. The results found demonstrate this, given that a 1% increase in imports increases the regional product by 0.8657%. Research carried out on the relationship between the purchasing power of exports and economic growth in the Andean Community (ACN) found that the influence of the export structure varies between member countries. The purchasing power of exports has deteriorated in such a way that it has been found that by reducing it by 1% it reduces the regional product by 0.6511%. The terms of trade refer to the relationship between a country's export and import prices. Improving exchange rates can have a positive impact on a country's economic growth. In the ACN, exchange rates have improved in recent years, contributing to the economic growth of its member countries. Furthermore, diversifying exports and improving the quality and coherence of educational systems are fundamental aspects of promoting economic growth through foreign trade. In conclusion, the terms of trade positively impact the economic growth of the ACN, especially when combined with policies that promote the diversification of exports and the improvement of the quality of education. It has been found that for a 1% improvement in the terms of trade, the regional product grows by 0.2426%.

References

- Ahn, J. (2020). A theory of domestic and international trade finance. In *Emerging market finance: New challenges and opportunities (International Finance Review)*, (21), 203–229. Emerald Publishing Limited. <https://doi.org/10.1108/S1569-376720200000021012>
- Almanza-Ramírez, C., Rodríguez-Albor, G. J., Gómez-Pacheco, Á., & Verbel-Montes, I. (2020). Export diversification and economic growth: Empirical

- evidence for Chile and Colombia (1980–2015). *Revista de Métodos Cuantitativos para la Economía y la Empresa*, 29, 152–171. <https://doi.org/10.46661/revmetodoscuanteconempresa.3299>
- Bongers, A., & Torres, J. L. (2020). Determinants of economic growth: A global comparison. *Papeles de Economía Española*, 164, 15–40. <https://www.funcas.es/articulos/factores-determinantes-del-crecimiento-economico-una-comparativa-a-nivel-mundial/>
- Börner, S. (2020). Marshall revisited: EU social policy from a social-rights perspective. *Journal of European Social Policy*, 30(4), 421–435. <https://doi.org/10.1177/0958928720904330>
- Chandra, R. (2021). Paul Krugman, new trade theory, and new economic geography. In *Endogenous growth in historical perspective: From Adam Smith to Paul Romer* (pp. 221–249). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-83761-7_8
- Coral, A., Noroña, S., & Pulgar, M. (2023). The Andean Community of Nations: A commitment to innovation and trade diversification in Ecuador. *Comillas Journal of International Relations*, 27, 85–100. <https://doi.org/10.14422/cir.i27.y2023.005>
- Erokhin, V., Tianming, G., & Andrei, J. V. (2023). Theories of international trade and competitiveness. In *Contemporary macroeconomics: New global disorder* (pp. 697–739). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-19-9542-2_19
- Freire, C. E., Carrera, F. M., Hurtado, G. E., & Matute, J. S. (2022). Analysis of Ecuador's international relations with the Andean Community of Nations (CAN) to determine its effect on international trade flows in the region. *Información Tecnológica*, 33(1), 25–34. <http://dx.doi.org/10.4067/S0718-07642022000100025>
- Gaspar, J. M. (2020). Paul Krugman: Contributions to geography and trade. *Letters in Spatial and Resource Sciences*, 13(1), 99–115. <https://doi.org/10.1007/s12076-020-00247-0>
- Labarca, N. J., & Panchana, A. M. (2022). Economic growth in Latin America: Some determinants from the Austrian perspective. *Revista de Ciencias Sociales (Ve)*, XXVIII(1), 216–233. <https://doi.org/10.31876/rcs.v28i1.37686>
- León, L. A., Arcaya, M. F., Barbotó, N. A., & Bermeo, Y. L. (2020). Ecuador: A comparative analysis of organic and conventional banana exports and their impact on the trade balance, 2018. *Revista Científica y Tecnológica UPSE (RCTU)*, 7(2), 38–46. <https://doi.org/10.26423/rctu.v7i2.521>
- Liévano, J. A. B., Ramírez, S. M. P., & Fonseca, S. P. P. (2022). Analysis of business classification by size in member or associate countries of the Andean Community (CAN). *Revista Investigación, Desarrollo, Educación, Servicio, Trabajo*, 2(1), 1–22. <http://portal.amelica.org/ameli/journal/640/6403175005/>
- Mankiw, N. G. (2021). *Principles of economics*. Cengage Learning.
- Marshall, A. (2013). *Principles of economics*. Springer.
- Marshall, T. H. (2020). Value problems of welfare capitalism. In *Welfare law* (pp. 157–174). Routledge. <https://doi.org/10.4324/9781003073246>

- Mena, C., Karatzas, A., & Hansen, C. (2022). International trade resilience and the COVID-19 pandemic. *Journal of Business Research*, 138, 77–91. <https://doi.org/10.1016/j.jbusres.2021.08.064>
- Mendoza-González, M. Á. (2021). Trade openness, productive shocks, and externalities with space-time cycles in economic growth by federal entity in Mexico, 1980–2018. *Investigaciones Regionales-Journal of Regional Research*, (50), 105–124. <https://doi.org/10.38191/iirr-jorr.21.013>
- Muñoz-Puigcerver, J. M. (2021). Classical theories of international trade and their antecedents: From Aristotle to Rybczynski. *Revista Compás Empresarial*, 12(33), 124–149. <https://doi.org/10.52428/20758960.v11i33.155>
- Quiñónez, M. R., & Quiñónez, L. N. (2021). Foreign trade policy in Ecuador: A comparative analysis. *Centro Sur*, 4(2), 266–284. <https://doi.org/10.37955/cs.v4i2.81>
- Quiroz, T., Quiroz, P. R., Vizcarra, A. M., & Mori, G. (2022). Integration and development of intra-community trade in the Andean Community of Nations. *Revista de Ciencias Sociales*, 28(3), 283–293. <https://doi.org/10.31876/rcs.v28i3.38474>
- Rapanyane, M. B. (2021). The new world [dis]order in the complexity of multipolarity: United States of America's hegemonic decline and the configuration of new power patterns. *Journal of Public Affairs*, 21(1), e2114. <https://doi.org/10.1002/pa.2114>
- Reyes, S., & Jiménez, S. (2012). Composition of exports and economic growth in the Andean Community of Nations. *Lecturas de Economía*, (77), 53–90. <http://www.redalyc.org/articulo.oa?id=155226077003>
- Ribeiro, F., Baumann, R., Oliveira, G. A., Giesteira, L. F., Tironi, L. F., & Alves, A. P. (2020). Foreign trade, trade policy, and foreign investments: Preliminary considerations on the impacts of the COVID-19 crisis. *Carta Conjunt.(Inst. Pesqui. Econ. Apl.)*, 1–26. <https://www.ipea.gov.br/cartadeconjuntura/index.php/2020/04/comercio-exterior-politica-comercial-e-investimentos-estrangeiros-consideracoes-preliminares-sobre-os-impactos-da-crise-do-covid-19/>
- Rolph, E. R. (2023). *The theory of fiscal economics*. University of California Press.
- Shenkar, O., Luo, Y., & Chi, T. (2021). *International business*. Routledge.
- Villarreal, J. (2018). Foreign trade and real economic growth of Peru: 2000–2017. *Thesis, Universidad Particular Inca Garcilaso de la Vega, Lima, Peru*. Retrieved from repositorio.uigv.edu.pe/20.500.11818/4270.