Lessons from the COVID-19 Pandemic for Employability
and Growth in Emerging Countries

Franco Noé Albarran Cachay[1*]   https://orcid.org/0009-0005-6201-4250
Brayan Edwin Rick Fierro Atachahua[1]   https://orcid.org/0009-0003-4189-221X
Leonardo Sebasthian Mendoza Rodriguez[1]   https://orcid.org/0009-0000-7999-0091

[1] Federico Villareal National University, Peru

[*] Contact for correspondence: albarranfranco3@gmail.com

Abstract. Introduction: The COVID-19 pandemic affected the economy of emerging countries such as Peru, making it dependent on mining and labor informality. **Objective:** To determine measures implemented during said Pandemic from the analysis of the Gross Domestic Product (GDP) in 2020. **Methodology:** To perceive the variables that generated the gradual recovery of the Peruvian economy as of 2021. **Results:** Tax collection showed an improvement as of 2021, evidencing economic reactivation, while the unemployment rate reached high levels in 2020 and began to decrease in 2021, although it still remained high. **Conclusions:** The lessons of the pandemic underscore the need for a labor and economic contingency plan, to improve digital and internet access, and to strengthen the occupational health infrastructure. **Contribution:** Labor informality in Peru during the Pandemic made it difficult to provide aid based on registration number; it is urgent to accelerate labor   formalization   with   tax   incentives.
Keywords: Lessons, COVID-19 Pandemic, employability, economic growth, emerging countries

Lecciones de la pandemia de COVID-19 para la empleabilidad y el crecimiento en los países emergentes
Resumen. Introducción: La pandemia del COVID-19 afectó la economía de países emergentes como el Perú, volviéndola dependiente de la minería y la informalidad laboral. **Objetivo:** Determinar las medidas implementadas durante la pandemia a partir del análisis del Producto Bruto Interno (PBI) en el 2020. **Metodología:** Percibir las variables que generaron la recuperación gradual de la economía peruana a partir del 2021. **Resultados:** La recaudación tributaria mostró una mejora a partir del 2021, evidenciando la reactivación económica, mientras que la tasa de desempleo alcanzó niveles altos en el 2020 y comenzó a disminuir en el 2021, aunque aún se mantuvo alta. **Conclusiones:** Las lecciones de la pandemia subrayan la necesidad de un plan de contingencia laboral y económica, mejor acceso digital y a internet, y fortalecimiento de la infraestructura de salud ocupacional. **Contribución:** La informalidad laboral en el Perú durante la pandemia dificultó la prestación de asistencia basada en números de registro. Urge acelerar la formalización laboral con incentivos fiscales.
Palabras clave: Lecciones, pandemia COVID-19, empleabilidad, crecimiento económico, países emergentes.

Lições da pandemia de COVID-19 para empregabilidade e crescimento em países emergentes

Resumen. Introducción: La pandemia de COVID-19 afecta a la economía de países emergentes como el Perú, tornando-o dependiente de la minería y la informalidad del trabajo. **Objetivo:** determinar las medidas implementadas durante una pandemia a partir del análisis del Producto Interno Bruto (PIB) en 2020. **Metodología:** percibir las variaciones que generarán una recuperación gradual de la economía peruana a partir de 2021 **Resultados:** arrecadação de impostos apresentou uma melhora a a partir de 2021, evidenciando la reactivación económica, mientras taxa de desemprego atingiu níveis elevados em 2020 e começou a diminuir em 2021, embora ainda permanecesse alta. **Conclusões:** As lições da pandemia ressaltam a necessidade de un plano de contingencia laboral y económica, mejorando el acceso digital e Internet y fortaleciendo la infraestructura de salud ocupacional. **Contribuição:** A informalidade laboral no Peru durante una pandemia dificultó una oferta de asistencia con base no número de registro. É urgente acelerar la formalización del trabajo con incentivos fiscales.
Palavras-chave: Lições, pandemia de COVID-19, empregabilidade, crescimento econômico, países emergentes.

===

==

1. Introduction

The COVID-19 pandemic significantly impacted the Peruvian economy, highlighting the structural weaknesses of its productive sectors and the high dependence on the global economy. This health crisis scenario led to a series of restrictive measures that paralyzed key economic activities, generating an unprecedented contraction; the lessons that this pandemic has caused are considered relevant, so as to minimize the impact on the economic sector and employability. In this context, analyzing the economic variation in Peru during this period allows us to understand the effects of a global crisis in a country with particular characteristics such as its dependence on mining and labor informality.

Globally, the disruption of supply chains affected the export of traditional and non-traditional products. According to data from the Central Reserve Bank of Peru (BCRP, 2020), mineral exports, the country's main economic driver, registered a drop of more than 20% during the first months of confinement, due to low international demand and the suspension of mining operations. This situation was marked by global uncertainty, where economies such as China, Peru's main trading partner, gradually reactivated their activities, which allowed a slow recovery in subsequent quarters (INEI, 2021).

Domestically, the total lockdown measures implemented since March 2020 led to a contraction of 11.1% in the national GDP, one of the most severe in Latin America according to the ECLAC report (2021). Sectors such as commerce and services were the most affected due to their high concentration of informal workers, who represented nearly 70% of the Peruvian workforce (INEI, 2020). In addition, the closure of micro and small businesses increased the unemployment rate, affecting the purchasing power of families and deepening social inequalities.

On the other hand, the public sector adopted countercyclical policies to mitigate the effects of the crisis. Programs such as "Reactiva Perú" injected liquidity into companies through soft loans backed by the State, while social bonds sought to alleviate the precariousness of the most vulnerable households. According to the Ministry of Economy and Finance (MEF, 2021), these measures represented more than 20% of GDP, positioning Peru as one of the countries with the greatest fiscal effort in the region. However, the effectiveness of these policies was limited by problems of targeting and execution in an administrative system with historical shortcomings.

Additionally, the pandemic significantly affected private investment levels. According to the report of the National Society of Industries (2020), political and economic uncertainty generated a 17% drop in private investment during 2020. This decline was particularly visible in sectors such as construction and infrastructure, which depend on large projects paralyzed by health restrictions and low business confidence.

Thus, Peru's economic variation during the COVID-19 pandemic highlights the importance of having solid public policies, a diversified economy and a sustained focus on the formalization of employment, key factors to face future crises and preserve economic stability in scenarios of high global vulnerability.

This paper refers to the economy during a health crisis such as the COVID-19 pandemic, which is affected by several factors, such as falling production, rising unemployment, and declining domestic demand. Key macroeconomic aggregates, such as Gross Domestic Product (GDP), inflation, and unemployment, experience significant variations. According to the National Institute of Statistics and Informatics (INEI) of Peru, in crisis situations, a drastic drop in GDP and an increase in poverty and extreme poverty levels can be observed.

1.1. Some theoretical considerations:
Economic variation during the pandemic

==

==

The pandemic caused an abrupt change in global economic activities, which in turn had a profound impact on national economies. In the Peruvian case, there were significant decreases in private consumption, exports, and public and private investment. According to the Central Reserve Bank of Peru (BCRP), the crisis directly affected the activity of key sectors such as trade, transportation, and tourism services, among others.

Economic policy during the pandemic

During the pandemic, the Peruvian government implemented expansionary fiscal and monetary policies to mitigate the economic effects of the health crisis. The measures included direct subsidies, credit lines and tax moratoriums. Likewise, the BCRP adopted interest rate reduction policies to encourage credit and investment, seeking to reactivate the economy.

Economic growth rate

Economic growth, in times of pandemic, is reduced due to the fall in domestic demand and the restrictions imposed to control the spread of the virus. However, in the post-pandemic recovery process, a gradual reactivation of the productive sectors is expected, with the support of government policies and an eventual increase in external demand.

Interest rate

During the pandemic, deposit and lending interest rates were reduced to historically low levels as part of the BCRP's monetary policy response. This reduction sought to facilitate access to credit and encourage investment. The interest rate is a crucial factor in economic activity, as it influences the consumption and investment decisions of businesses and households.

Exchange rate

The exchange rate during the pandemic also experienced fluctuations due to global economic uncertainty and expansionary monetary policies in major countries. According to the BCRP, the nominal exchange rate was affected by the variability of international economies, especially the US dollar. This impacted the purchasing power of consumers and the prices of imported products, which in turn affected inflation.

External sector variables

External sector variables, such as the exchange rate and the international interest rate, are essential to understanding Peru's economic dynamics during the pandemic. Although the Peruvian economy is mainly domestic, changes in international economic conditions can influence market behavior and demand for Peruvian products, which has repercussions on the country's macroeconomic stability.

1.2. Impact of the pandemic on the economy of emerging countries

External shocks, such as a global pandemic, alter national economic behaviors due to the disruption of trade flows, falling investment, and increasing economic uncertainty. The external shock model can be applied to understand how Peru was affected by the health crisis, experiencing a drop in GDP and an increase in poverty levels, as indicated by previous studies on economic crises and public health.

1.2.1. Fiscal and monetary policy theory in times of crisis

Government intervention is key during a crisis, as demonstrated by the expansionary fiscal policy and accommodative monetary policy adopted by the Peruvian government and the BCRP. These policies seek to mitigate the negative effects of the crisis through direct stimulus to the economy, subsidies to companies and the reduction of interest rates.

1.2.2 Theory of inflation during economic crises

Inflation is a key indicator of economic stability. During the pandemic, Peru experienced a rise in inflation due to falling domestic production and rising prices of imported goods. The structural inflation model can be useful to understand the underlying causes of this phenomenon and its impact on household purchasing power.

==

1.2.3. Theory of cyclical and structural unemployment

During the analysis through the theory of cyclical unemployment, which explains how the fall of the pandemic, unemployment in Peru increased due to the economic slowdown. This phenomenon can lead to a higher unemployment rate due to the demand for goods and services during a health crisis. However, it is also possible to observe structural unemployment due to changes in the labor market, such as digitalization and automation in response to the pandemic. The theoretical information is aligned with the following objective: To determine the relevant lessons of the COVID-19 Pandemic for Employability and Growth in Emerging Countries

1.3. Justification

This research has a theoretical justification because it will contribute to the understanding of how the COVID-19 pandemic affected economic variation in Peru during the period 2020-2022. By focusing on the transformations in the Gross Domestic Product (GDP), inflation, unemployment, and the fiscal and monetary policies implemented, it seeks to enrich the existing theoretical framework on the effects of global health crises on emerging economies. This study will allow us to evaluate the relationship between the economic models used in other countries and the particularities of the Peruvian economy, offering a more precise view of the factors that have determined the economic evolution during the COVID-19 crisis.

Likewise, this research has a practical justification, since the results obtained will be useful for those responsible for Peru's economic policy, offering recommendations on the application of more effective fiscal and monetary measures in health emergency situations. The analysis will help improve the economic response to future crises, ensuring a faster and more sustained recovery of the national economy.

1.4. Importance and limitations in the research

Relevance : The relevance of this research lies in its potential to provide critical information on how the pandemic affected the Peruvian economy, which can serve as a basis for future studies on the economic resilience of developing countries in the face of global health crises.

Viability : Despite the challenges arising from the pandemic, the research is completely viable thanks to access to economic data through virtual platforms such as the BCRP, the INEI, the SBS and other sources of statistical information, which have allowed the collection of reliable and up-to-date data on the economy of Peru during this critical period.

Significance : The results of this research are significant because they will provide valuable insights into the effectiveness of policies adopted during the pandemic and how these impacted key economic indicators. In addition, the findings may influence future policymaking to manage the economic repercussions of similar global events.

Originality : The originality of this research lies in the specific focus on the Peruvian economy during the period 2020-2022 and its relationship with the COVID-19 pandemic. The use of statistical software for data analysis and the application of economic modeling techniques will ensure that the results are robust and genuine, and their originality will be verified through anti-plagiarism systems .

2. Method
2.1. Type and design of research

This study is of an applied nature, as it seeks to analyze the economic variations that have occurred in emerging countries ; although it is approached from the Peruvian perspective during the COVID-19 pandemic, based on the theoretical concepts and methodologies developed in economics to evaluate the impact of global crises in specific contexts. In this case, these theories

==

are applied to the analysis of the 11% decline in GDP in 2020, the largest in 30 years (El País, 2021).

The level or scope of the research is explanatory, following Hernández et al. (2014), who define that correlational studies have the purpose of determining the relationship or degree of association between two or more variables. This study will analyze how health restrictions, the drop in household income, and the economic policies implemented during the pandemic influenced the main economic variables of Peru, such as GDP, employment, exports, and tax collection. To do this, an econometric model will be used to explain the degree of association between these variables and their changes during the period 2020-2021 (World Bank, 2022; Bravo Saldaña & Saldaña Paredes, 2022).

The research design is non-experimental, since the independent variables (e.g., health restrictions, drop in income, fiscal policies) will not be manipulated. This design is based on observing phenomena as they occurred in reality, in order to then analyze them and understand their relationships. According to Hernández et al. (2014), non-experimental designs study events that have occurred, without direct intervention in the factors that affect them.

Likewise, the design is longitudinal, as it analyzes the changes that occurred in economic variables during a given period of time (2020-2022), in order to identify trends, patterns and relationships associated with the impact of the COVID-19 pandemic (Hernández et al., 2014).

The methodology used is deductive, starting from general theories on economic crises and their impact on national economies towards a specific analysis of the Peruvian case. As mentioned by Hernández et al. (2014), the deductive method starts from theoretical premises to derive hypotheses that will be evaluated with the available data. This approach will make it possible to explain how global and national factors associated with the pandemic impacted the Peruvian economy.

2.2. Population and sample

This work aims to show some lessons that the COVID-19 pandemic "contributed" to employability and growth in emerging countries ; although it is approached from the Peruvian perspective .

The population in this study is made up of all the macroeconomic data of the Peruvian economy related to the economic variation during the COVID-19 pandemic. The population is made up of quarterly information from the years 2020 and 2021, since it is the period that covers the economic crisis generated by the pandemic. The data include key indicators such as the Gross Domestic Product (GDP), the unemployment rate and tax collection, along with variables associated with the factors of the impact of COVID-19, such as health restrictions, fiscal policies and the drop in household income.

The sample size will be determined by the specific period of the pandemic, covering data from the first quarter of 2020 to the last quarter of 2021, resulting in a total of 8 quarterly observations (2 years). The sample is drawn from data available in official sources such as the Central Reserve Bank of Peru (BCRP), the National Institute of Statistics and Informatics (INEI), and other relevant government reports. Non-probability sampling will be used for convenience, given that the required information is available and relevant to the study of the effects of the pandemic on the Peruvian economy.

2.3. Temporal and spatial scope
The study on economic variation in Peru during the COVID-19 pandemic takes a temporal scope of quarterly data that covers from the first quarter of 2020 to the fourth quarter of 2021, with a

==

==

total of eight observations. Regarding the spatial scope, this study will be applied to the Peruvian economy as a whole, analyzing the main economic variables and sectors affected during the pandemic period.

2.4. Variables

The World Bank (2022) points out that the economic impacts of COVID-19 can be analyzed using observable variables. For this study, two main variables will be used: an independent one called "Factors associated with the impact of COVID-19" and a dependent one called "Economic variation in Peru".

Indicators for the independent variable include health restrictions, fiscal policies, and falling household income.

For the dependent variable, the indicators will be the Gross Domestic Product (GDP), the unemployment rate and tax collection.

As an illustration, Table 1 presents the operationalization of the variables.

Table 1. Operationalization of variables

Variables	Dimensions	Indicators	Technique/Measuring instrument
Economic variation in Peru (Dependent variable)	-Economic growth -Employment and unemployment -Tax collection	-GDP -Unemployment rate -Tax collection	Documentary analysis / Statistical data from BCRP, INEI and World Bank

Variables	Dimensions	Indicators	Technique/Measuring instrument
Factors associated with the impact of COVID-19 (Independent variable)	-Impact of health restrictions -Government support measures -Economic impact on households	- Health restrictions -Tax policies -Fall in household income	Documentary analysis / Statistical data from BCRP, INEI and World Bank

2.5 Instruments

For this study, the data collection technique "Documentary Analysis" will be used and the instrument will be the collection of statistical data and technical reports from official national sources such as the National Institute of Statistics and Informatics (INEI), the Central Reserve Bank of Peru (BCRP) and the Ministry of Economy and Finance (MEF). Likewise, international sources such as the World Bank and FRED (Federal Reserve Economic Data) will be used.

It is important to highlight that these instruments meet the criteria of reliability, validity and objectivity, since they come from official and audited sources, which guarantees that the information will be consistent and relevant to measure the research variables.

2.6 Procedures

This work aims to analyze the economic variation during the COVID-19 pandemic, for which a statistical analysis model will be used. The procedure will be developed in the following steps. First, the Microsoft Excel program will be used to collect and organize the data, which will be sorted quarterly. The data will include the variables defined in the research, such as GDP, unemployment rate and tax collection, which will be extracted from official sources such as the National Institute of Statistics and Informatics (INEI), the Central Reserve Bank of Peru (BCRP) and other relevant entities. Since these instruments come from reliable sources, the validity and reliability of the data will be guaranteed.

==

==

Secondly, the statistical analysis tools available in Excel will be used for the analysis of time series. The data will be loaded and organized in worksheets, specifying the quarterly frequency, as defined above. Once the data for all variables have been organized, the relevant analyses will be carried out to validate trends and fluctuations. Finally, the results obtained will be analyzed and the hypothesis raised in the research on the economic effects of the pandemic in Peru will be tested.

2.7. Hypothesis Peru's Gross Domestic Product (GDP) experienced a contraction during the pandemic due to the reduction in economic activity and the closure of key sectors. The inflation rate in Peru increased during the pandemic due to the effects of lockdowns, supply chain disruption and price fluctuations.

3. Results

This paper will analyze data related to economic variation in Peru during the COVID-19 pandemic, using time series of the variables Gross Domestic Product (GDP), unemployment rate and tax collection. Due to the changing nature of these data in the context of the health crisis, a visual inspection of trends and variations will be carried out using line graphs, in order to identify general patterns.

To check the stability of the time series, the quarterly evolution of each variable will be analysed, identifying possible trends and fluctuations. This analysis will be carried out by calculating the variation rates between consecutive periods, which will allow us to assess whether the data show significant changes over time.

The relationships between the variables will then be explored by calculating simple correlations. This will allow us to identify whether there is a relationship between, for example, the fall in GDP and the rise in unemployment, or between tax collection and general economic activity.

Additionally, possible irregularities in the data will be checked through a basic dispersion analysis, observing whether the fluctuations are within expected ranges or whether there are atypical values that may distort the conclusions.

Finally, the results obtained will be interpreted, highlighting the main interactions between the variables and evaluating how they reflect the economic situation during the pandemic in Peru.

Figure 1: GDP, tax revenue and unemployment rate in Peru during: 2020-2022
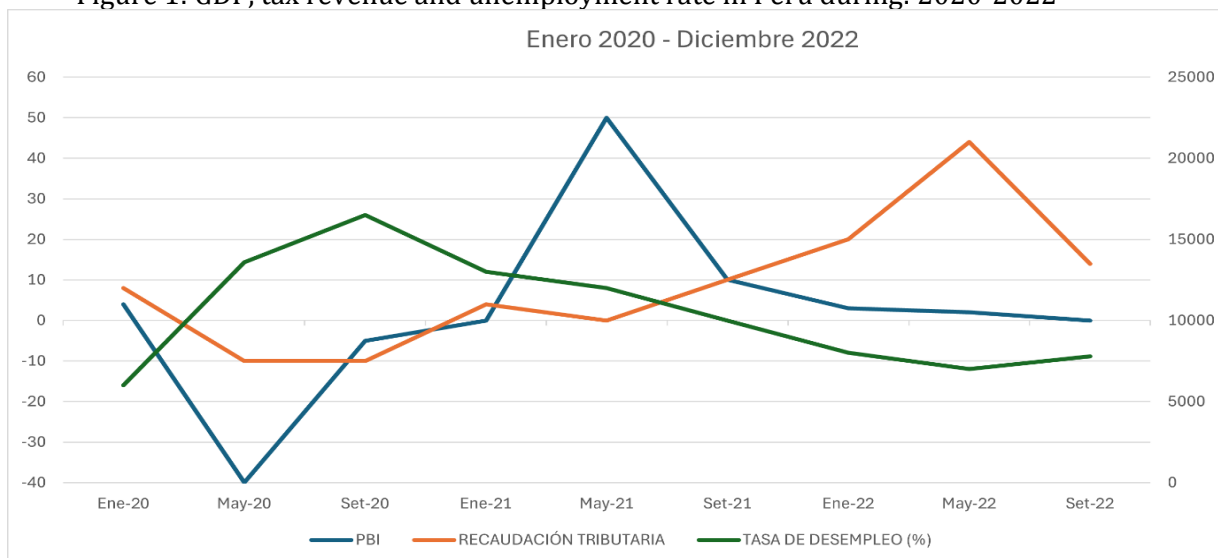
Source: Data adapted from the Central Reserve Bank of Peru (2021)

==

==

Interpretation of Figure 1. The graph clearly shows the impact of the pandemic on the Peruvian economy between 2020 and 2022. GDP fell sharply in 2020, especially in the first months, reflecting the negative effects of restrictions and economic paralysis. From 2021, a gradual recovery is observed, although with certain fluctuations, indicating a progressive, although not constant, recovery; a situation that has had an impact on employability, since key sectors such as tourism and commerce took time to recover. Tax collection showed an improvement since 2021, reflecting the economic reactivation and higher tax revenues.

4. Discussions

In contrast to the results of the present investigation, the results of Chávez and Salazar (2016) analyze the determinants of the demand for money in Peru between 1990 and 2015. They found that real income, interest rate, and inflation are key factors. Real income has a positive relationship with the demand for money, while the interest rate and inflation show a negative relationship. Inflation, in particular, affects the preference for liquidity in emerging economies. Mendoza and Rivera (2020) address the impact of the monetary policies of the Central Reserve Bank of Peru (BCRP) on the demand for money between 2000 and 2019, revealing that expansionary policies, such as reducing interest rates, increase the demand for money, while restrictive policies decrease it. In addition, they point out that the exchange rate also influences the demand for money.

Ramírez and Sánchez (2018) conclude that macroeconomic stability, especially the exchange rate, inflationary expectations and BCRP decisions, are essential to maintain a stable demand for money. Gutiérrez and Fernández (2022) argue that expansionary monetary policies increase the demand for money, while restrictive policies reduce it. They emphasize that inflation control and exchange rate stability are key factors for a stable demand for money.

Cueva and García (2017) investigate how external factors, such as trade openness and global financial crises, affect the demand for money in Peru, concluding that global economic uncertainty tends to increase the demand for money during periods of crisis.

Brown and Smith (2022) highlight that trade liberalization has short-term benefits, but its long-term impact depends on factors such as infrastructure, domestic policies, and strategic investments. They argue that complementary reforms are necessary to maximize the benefits of trade, while avoiding disadvantages for vulnerable groups. Martínez and Gupta (2022) analyze the role of education in the economic growth of emerging countries, highlighting that inclusive and accessible education promotes productivity and reduces inequalities. However, limited resources in many contexts represent a challenge to achieving the full potential of education in these countries.

Wang and Zhou (2022) discuss the transition to a low-carbon economy in China and how green growth policies have boosted certain sectors, such as renewable energy. However, they identify that high costs and the resilience of key industrial sectors hinder a rapid transition, offering lessons for other emerging economies in their quest for sustainable economic development.

Davis and Nguyen (2022) highlight that access to financial services, especially for small and medium-sized enterprises, is crucial for economic growth in Latin America. However, they warn that the lack of robustness of financial institutions in the region limits the full use of the benefits of financial development.

==

==

Galindo Caro et al. (2023) propose that local strategic planning, with the active participation of teachers and authorities, optimizes budget management in education. Accountability is essential to improve educational quality and the efficient allocation of resources. Ortiz Mota (2023) assesses the challenges of distance education, highlighting that, although this modality has grown significantly, problems persist, such as the quality of interaction between teachers and students and the effectiveness of technological platforms. He proposes that to ensure equitable education, it is crucial to optimize technological tools and adequately train teachers.

López Regalado et al. (2023) explore how effective sports management not only improves the physical well-being, but also the mental well-being of students, highlighting the importance of inclusive leadership in sports activities. Finally, Moreno Muro et al. (2023) analyse the use of artificial intelligence in university curricular management, highlighting its potential to personalise learning and improve curricular planning, better adapting it to the demands of the labour market and the skills needed for the future.

In other words, it reflects how different studies address key factors such as monetary policies, education, sustainability and strategic planning for growth and employability in emerging countries. The lessons derived from these analyses can guide post-pandemic policies, balancing economic growth with social well-being.

5. Conclusions

Tax collection followed a contrary trend: after an initial drop in 2020, it began to increase in 2021 and peaked in May 2022. This suggests that, as the economy recovered, the government was able to collect more taxes as economic activity normalized.

The unemployment rate, on the other hand, showed a sharp increase during 2020, with the highest point in May of that year, due to massive job losses. Then, the unemployment rate started to decline in 2021 and followed a downward trend, although it still remains relatively high until the end of 2022. This reflects that the recovery of employment was slower compared to other economic indicators.

However, there is no contingency plan or analysis of the intervening variables that the COVID-19 Pandemic caused in employability and that have affected the economy and growth in emerging countries.

5. 1 Contribution: The study involves lessons to be considered that caused the COVID-19 pandemic, without such learning, we may be subject to suffer such inclemencies, such as having organized a labor contingency plan and economic plan in the event of a health emergency; providing greater digital access and speed to institutions and workers; and greater internet coverage to all populations, a situation that has not yet occurred; in addition, forming a brigade at the neighborhood level to control and verify work activity; in addition to the type of activity carried out, which may be valid for similar purposes.

References

Central Reserve Bank of Peru. (2021). Long-term effects of COVID-19 in Peru. *Inflation Report, December 2021, Box 4* , 80-85. Central Reserve Bank of Peru.

World Bank. Introduction: The economic impacts of the COVID-19 crisis. *World Development Report 2022.* Retrieved from: https://www.worldbank.org/publication/wdr2022/brief/chapter-1-introduction-the-economic-impacts-of-the-covid-19-crisis

==
Page 9of 12

==

Bravo Saldaña, J., & Saldaña Paredes, M. (2022). Economic and social effects of the COVID-19 pandemic in Peru. *Economy and Business, 15* (1), 34-47. Retrieved from: https://revistas.unjbg.edu.pe/index.php/eyn/article/view/1182/1362

Brown, J.L., & Smith, A.R. (2022). The long-term impact of trade liberalization on economic growth in developing countries. *Quarterly Journal of Economics, 137* (2), 345-380. https://doi.org/10.1093/qje/qjac018

Davis, R., & Nguyen, M. (2022). Financial development and its impact on economic growth in Latin America. *Quarterly Journal of Economics, 137* (3), 493-523. https://doi.org/10.1093/qje/qjac019

Delgado, W.G. (2023). Tourism and economic growth through panel data cointegration for Latin American countries. *Tourism and Society, 33* , 73-87. https://doi.org/10.18601/01207555.n33.03

El País. The economy in Peru fell by 11% in 2020, the biggest setback in 30 years. Retrieved from: https://elpais.com/economia/2021-02-16/la-economia-en-peru-cayo-un-11-en-2020-el-mayor-retroceso-en-30-anos.html

Galindo Caro, R., De la Cruz Montoya, D., Gamero Tinoco, M. E., Hernández Torres, A. M., & Albarrán Cachay, A. P. (2023). Beneficios de la planificación estratégica concertada local y la enseñanza de la rendición de cuentas en la gestión presupuestaria para los usuarios (Benefits for users of local strategic planning and accountability teaching in budget management). Zenodo. https://doi.org/10.5281/zenodo.13621897

Guzmán-Sánchez, D., Piñancela-Márquez, L., & Sotomayor-Pereira, J. (2022). Determinantes del crecimiento económico de Chile, Perú y Ecuador durante el periodo 1990 al 2020 (Determinants of economic growth in Chile, Peru, and Ecuador from 1990 to 2020). 593 Editorial Digital CEIT, 7(2), 43-55. https://doi.org/10.33386/593dp.2022.2.1004

Hugo Ronald, R. P., David Oswaldo, N. T., Federico, M. C., & Kilder, S. C. (2021). Análisis de la recaudación tributaria del impuesto a la renta en Perú en épocas de pandemia, periodo 2019-2020 (Analysis of income tax collection in Peru during the pandemic period 2019-2020). Editorial Digital. Recuperado de: https://revistas.unap.edu.pe/journal/index.php/RIC

López Regalado, O., Panduro Salas, A., Muñoz Chávez, G. J., & Soto Espichan, A. A. (2023). Gestión funcionaria y liderazgo directivo para actividades deportivas y salud mental en estudiantes (Administrative management and leadership for sports activities and mental health in students). Zenodo. https://doi.org/10.5281/zenodo.14047853

María Yesica Alca Cruz, E. A. C., Yesile Lourdes Apaza Condori, A. I. C. A., & Maricela Huisa Aruquipa. (2021). Influencia de las exportaciones en el crecimiento económico del Perú en tiempos de COVID-19, período 2010–2020 (Influence of exports on Peru's economic growth during COVID-19, period 2010–2020). Editorial Digital. Recuperado de: https://revistas.unap.edu.pe/journal/index.php/RIC/issue/view/52

Martínez, C. J., & Gupta, S. (2022). Capital humano y crecimiento económico: El rol de la educación en economías emergentes (Human capital and economic growth: The role of

==

==

education in emerging economies). Revista trimestral de economía, 137(4), 681-710.
https://doi.org/10.1093/qje/qjac025

Moreno Muro, J. P., Caján Villanueva, M., Chávez Taipe, Y. V., Hernández Torres, A. M., Ramos
León, L. L., & Zapata Bellido, M. J. (2023). La inteligencia artificial y la gestión del currículo
universitario por competencias (Artificial intelligence and the management of university
curriculum by competencies). Zenodo. https://doi.org/10.5281/zenodo.13738948

Ortiz Mota, D. O. (2023). Valoración del cumplimiento de las dimensiones de la educación a
distancia en una institución universitaria (Assessment of compliance with the dimensions
of distance education in a university institution). Zenodo.
https://doi.org/10.5281/zenodo.13294427

Ramos-Moreno, E. W., & Torres Paredes, M. J. (2023). Planificación estratégica y gestión por
procesos para planificar actividades deportivas en beneficio de la población (Strategic
planning and process management for planning sports activities for the benefit of the
population). Zenodo. https://doi.org/10.5281/zenodo.14574

Ortiz Mota, DO (2023). Valoración del cumplimiento *de las dimensiones de la educación a
distancia en una institución universitaria* . Zenodo .
https://doi.org/10.5281/zenodo.13294427

Ramos-Moreno, EW y Torres Paredes, MJ (2023). Planificación estratégica y gestión por
procesos para planificar actividades deportivas en beneficio de la *población* . *Zenodo* .
https://doi.org/10.5281/zenodo.14574753

UNICEF Peru. COVID-19: Impact of the fall in household income on indicators for children and
adolescents. Retrieved from: https://www.unicef.org/peru/informes/covid19-impacto-
de-la-caida-de-los-ingresos-de-los-hogares-en-indicadores-de-ninez-y-adolescencia

Universidad de Lima. Economic Impact of COVID-19 in Peru: Analysis and Perspectives.
Retrieved from: https://www.ulima.edu.pe/en/node/17788

Véliz Torresano, J., & Díaz Christiansen, S. (2014). The phenomenon of informality and its
contribution to economic growth: The case of the city of Guayaquil. *Journal of Economics,
Finance and Administrative Science, 19* (37), 90-97. Retrieved from:
https://revistas.esan.edu.pe/index.php/jefas/article/view/185

Wang, H., & Zhou, L. (2022). Green growth and economic development: The case of China's
transition to a low-carbon economy. *Quarterly Journal of Economics, 137* (1), 59-92.
https://doi.org/10.1093/qje/qjac015

==

Analysis of the management, planning, and regulations of Peruvian education; versus PISA 2022 results

===

Informed consent statement: The study was carried out in compliance with the Code of Ethics and good editorial practices for publication.

===