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Participation Study of Developing Countries in Organization for Economic Cooperation and Development (OECD) to Economic Growth: Case Study Developing Countries in Latin America

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ABSTRACT
OECD is a global organization which aims to prosper their member countries. This study compare the economies of Latin America countries which are included as OECD members and those that are not OECD members. This study aims to analyze the influence of macroeconomic variables in particular, inflation, tax revenue, and balance of payment on Mexico, Chile, Argentina and Peru's Economic Growth. The data used in this study is secondary data from World Bank, while the method used to analyze the data is panel data regression method. The result showed, during the period of 2009-2018, inflation and balance of payment significantly influenced Mexico, Chile, Argentina, and Peru's economic growth. While tax revenue did not significantly inclueenced Mexico, Chile, Argentina, and Peru's economic growth.

Keywords: *economic growth, developing country, OECD, Latin America*

1. INTRODUCTION

Organization for Economic Cooperation and Development(OECD) is a cooperation and economic development organization consisting of 36 countries from 6 continents in the world (OECD.org). The consequences faced by OECD member countries are membership fees and willingness to support the agency's program as a donor.

The OECD was formed on September 31, 1961 with the aim of making policies that could increase the economic and social prosperity of people in all parts of the world. In addition, the formation of the OECD is expected to stimulate economic progress and world trade. (Wino, 2019). The rapidly changing global economy makes each country face a variety of dynamic challenges, both economic, social, and environment that are more complex and related to each other (Fiscal Policy Agency, 2018).

As an international organization consisting of various membership countries around the world, the OECD has built a strong economy among its member countries, increased efficiency, expanded free trade, and contributed to the industrial development of developing countries. The aim of OECD is to cooperate and create policies that can bring OECD membership countries into prosperity, and equality, for all people. OECD has utilized almost 60 years of experience and insight to better prepare the world for the future. The OECD provides a forum where members can compare and exchange policies and experiences to find the best solutions to the domestic and international problems they face. Exchange between OECD member governments is conducted through the OECD secretariat which monitors trends, analyzes and predicts economic development, including social, trade, environmental, technological, taxation, and other changes (OECD.org).

In order to foster prosperity and eradicate poverty, the OECD facilitates its members through collaborations in various economic, social and environmental fields. From improving economic performance and creating occupations to fostering strong education and combating international tax avoidance, OECD provides a unique forum and knowledge center for data and analysis, exchange of experience, sharing best practices, and advice on public policy and setting global standards (OECD .org). As developing countries in Latin America that are members of the OECD, Chile and Mexico should feel the most significant impact of economic growth compared to other Latin American countries. However, there are still some problems faced by Chile and Mexico in terms of the economy when compared with other Latin American countries.

The first example is Chile. Chile joined the OECD on May 7, 2010. Based on data obtained from the World Bank (2019) a year before Chile joined the OECD, its economic growth rate was -1.564%. That is because in 2009 there was a global economic shock that impacted the Chilean economy. The fourth quarter and early 2009, Chile's exports dropped dramatically related to prices and volumes. Expectations for growth, employment, and incomes have worsened coupled with private spending on investment and durable consumer goods also declined very sharply. Thus, beginning from mid-2008, falling economic growth had an impact on the fall in production and inventory, as well as an increase in unemployment in 2009 (ECLAC, 2009). But on the contrary, When Chile joined as an OECD member state, in 2010 its economic growth rate rose very sharply to 5.844%. The increase continued to occur until 2011 around 6.111%. Aapparently it does not necessarily make economic growth continue to be stable or increase. In fact, in 2013 Chile's economic growth decreased to 4.045%, followed in 2014 its economic growth dropped further to 1.767%, in 2015 amounted to 2.304%, in 2017 it dropped again to 1.277%, and in 2018 it began to increase to 4.025% (World Bank , 2019). apparently it does not necessarily make economic growth continue to be stable or increase. In fact, in 2013 Chile's economic growth decreased to 4.045%, followed in 2014 its economic growth dropped further to 1.767%, in 2015 amounted to 2.304%, in 2017 it fell again to 1.277%, and in 2018 it began to increase to 4.025% (World Bank, 2019).

The next Latin American country that is incorporated into the OECD is Mexico. Mexico joined the OECD on May 18, 1994. Its membership was earlier than that of Chile. In 1993, Mexico's economic growth was 1.941%. And after Mexico joined the OECD, in 1994 its economic growth increased to 4.941%. A year after joining the OECD, Mexico's economic growth did not go smoothly. In 1995 Mexico's economic growth fell to -6.291%. In 1996 and 1997, economic growth increased again to 6.773% and 6.847%. In 1998, 1999, and 2000 the range of economic growth was still fluctuating in the range of 5.164%, 2.754% and 4.942%. In 2001 and 2002, Mexico's economic growth dropped dramatically -0.404% and -0.04%. The increase in economic growth occurred in the next 6 years, although it remained volatile. Almost the same as Chile, in 2009 Mexico's economic growth also experienced a significant decline of -5.286%. In the year 2010 increased by 5.118%. But in the following years, economic growth ranged from 3 (three) to 2 (two)%. In 2018, Mexico's growth was only 2.136% (World Bank, 2019).

This is when compared with other Latin American countries that are not incorporated into the OECD, namely Argentina and Peru. The State of Argentina In 2009 its economic growth rate was -5.92%. This happened because of the impact of global economic shocks. While in 2010, Argentina managed to rise with the highest economic growth achievement of 10.1% even though in 2011 and 2012 the growth decreased 6.004% and -1.03%. But for the following years, Argentina managed to maintain a stable economic growth in the range of 2%.

Next is Peru. Peru's economic growth in the last 10 years has not touched a minus. In 2018 when there was a global economic crisis, where almost all Latin American countries were affected, which led to a decline in the rate of economic growth to touch minus, in contrast to Peru's economic growth of 3.98%. During 2018 to 2019, the situation in Peru will gradually improve despite the slight impact of global economic shocks. To stimulate household demand, workers in the formal economy are temporarily permitted to use 'time-in-service' compensation funds and free cuts for bonuses twice a year that are paid to formal wage earners.

Thus, based on the description above, authors are interested in conducting further research on the participation of developing countries in Latin America in the OECD when compared to developing countries in Latin America that are not OECD members of the economies of these countries.

2. METHODS

This study uses secondary data analysis methods. The data obtained will be analyzed qualitatively. In this study the data were analyzed through descriptive analysis using a qualitative approach, namely data analysis by describing the data arranged into narrative text.

Types and Data Source:

The operational definitions of the variables used in this study are as follows: Inflation can be interpreted as a process of rising prices for goods and services calculated through the consumer price index (CPI) and inflation also measures the standard of human life (expressed as a percentage). Tax revenue is obtained from various income, such as income from taxes collected on goods and services, taxes on income and profits, payroll taxes, and various other types of taxes. Balance of payment contents are not like ordinary records, balance of payment contain records of international transactions between one country and other countries that exist throughout the world and these transactions are arranged in the two accounts provided, namely the current account and the capital and financial accounts. Economic growth is the real GDP growth rate at constant prices calculated by the Central Statistics Agency periodically (expressed as a percentage).

Those data were obtained from the World Bank and *Organization for Economic Cooperation and Development (OECD).* The observation period is 2009-2018.

To answer the research problem, which is used in analyzing quantitative data is panel data regression analysis. Panel data was obtained from cross-section and Time Series data that have been collected. The panel data regression equation (Munandar 2017) can be stated in the following equation:

$$Y_{it} = \alpha + \beta_1 INF + \beta_2 TAX + \beta_3 BOP + \mu_{it}$$

Where:

α	= Constant
β_1 s/d β_4	= Coefficient of Regression
INF	= Inflation
TAX	= Tax revenue
BOP	= Balance of payment
i	= Cross section
t	= Time series
μ_{it}	= Standard error

There are several techniques that can be used in estimating panel data models, namely: (1) Common Effect Model (CEM). Combined data between cross-section data and time-series data is considered an unified observation to estimate this model using the OLS method, Common Effect estimation is another name for the OLS method that is more often used; (2) Fixed Effect Model (FEM). This model assumes that the intercept is different in each subject, whereas the slope of each subject does not change, aliases remain the same; and (3) Random Effect Model (REM). The difference between time and subject in the Random Effect Model is resolved by means of errors and those errors can be related across time series and cross sections.

After estimating the model, the next step that needs to be done is to test the best model. Several tests can be carried out to determine the best model, namely:

Chow Test. Chow test is used to determine better techniques between the Fixed Effect method and the Common Effect method. The hypothesis is that the intercept is the same, so it can be proposed that the best model is the Common Effect, and for the alternative hypothesis the intercept is not the same, it means, the best model for panel data regression is the Fixed Effect. The hypothesis in the chow test consists of:H_0: Common Effect Model andH_1: Fixed Effect Model. H_0 is rejected if the P-value is smaller than α. Conversely, H_0 is accepted if the P-value is greater than the value of α. The α value used is 5%.

The next test is the Hausman test. The Hausman test is used to see whether the Fixed Effect method and the Random method are better when compared to the Common Effect method. The hypothesis formed in the Hausman test is as follows:H_0: Random Effect Model andH_1: Fixed Effect Model. H_0 is rejected if the P-value is smaller than α. Conversely, H_0 is accepted if the P-value is greater than the value of α. The α value used is 5%.

3. RESULTS AND DISCUSSION

Economic Condition of Mexico, Chile, Argentina, and Peru

Table 1. Mexico, Chile, Argentina, and Peru GDP Growth (%)

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average
Mexico	-5,29	5,12	3,66	3,64	1,35	2,8	3,29	2,91	2,12	2,14	2,17
Chile	-1,56	5,84	6,11	5,32	4,05	1,77	2,3	1,67	1,28	4,02	3,08
Argentina	-5,92	10,1	6,004	-1,03	2,41	-2,51	2,73	-2,08	2,67	-2,48	0,98
Peru	1,1	8,33	6,33	6,14	5,85	2,38	3,25	3,95	2,52	3,98	4,38

Source: World Bank, 2019

According to the table above, economic growth in Mexico, Chile, Argentina, and Peru varies. In the 2009-2018 period, the lowest average growth rate was Argentina, amounting to 0.98%. This is because in recent years, Argentina has not experienced economic growth, so that GDP growth was minus 2,48%. The global economic crisis had a severe impact on the Argentine economy and resulted in the government having to revise its economic plans (World Bank, 2020).Argentina does not have acess to financial markets internationally, as a response to global economic crisis, the deficit was overcome through printing money, export taxes and taking over private assets. Meanwhile, poor public services also weaken growth. Fixed exchange rates that are overvalued against the US dollar are maintained through capital controls, import restrictions and rationing of foreign currencies, implying a substantial gap between the official and parallel exchange rates and depletion of foreign exchange reserves (Indonesia’s Ministry of Foreign Affairs, 2017).

Peru is a country with the highest average economic growth compared to other countries, which is 4.38%. Peru's economy underwent two different phases in the last two decades, between 2002-2013, Peru implemented a favorable external environment, prudent macroeconomic policies, and structural reforms in different areas. Due to enforcement Free Trade Agreements (FTA), the government adopted market-friendly policies which improved Peru's economic growth significantly. Then in the second phase, between 2014-2018, Peru's GDP growth slowed, the main cause was the decline in international prices for copper commodities, Peru's main export commodity (World Bank, 2020).

In 2017, OECD member countries contributed 42.8% of world GDP (Wikipedia, 2020), which means that almost half of the total world GDP is distributed to OECD member countries. In fact, the economic growth of Mexico and Chile as OECD member countries is still inferior compared to Peru which is not an OECD member country. Mexico's economic growth over the past decade has averaged 2.17%. Despite having significant economic potential and opportunities (Wolrd Bank, 2020), its economic growth is hampered by Mexico's demographic problems. Gender inequality especially the low participation of women workers and gender disparities in accessing financial services represents Mexico's economic potential which can still be improved (OECD, 2019).

Chile, the second country of Latin America that is a member of the OECD, has an average economic growth of 3.08%, higher than Mexico but still lower than Peru. Between 2010-2013, Chile's economic growth grew significantly, this was due to an increase in the value of copper and increased demand for copper, as Chile's leading export. However, after 2014, as a result of weakening world trade and a fall in the value of copper, the Chilean economy began to experience a slowdown, until it again improved in 2018 (OECD, 2018).

Panel Data Regression Result

From the tests that have been done, it is found that the Fixed Effect Model is the best model. Based on the estimation results using the Fixed Effect Model will obtain the following regression equation:

$$GDP = 3.153834 - 0.203185\ INF_{it} - 2.90E\text{-}13\ TAX_{it} - 0.368518\ BOP_{it} + \mu_{it}$$

t-test	(-2.6891)	(-1.4218)	(-2.933)
Prob	(0.0111)*	(0.1644)	(0.0061)*
R^2	0.3711		
F-test	3.2467		
Sig. Level	5%		

Panel data regression results show that if all variables are constant, it will increase economic growth by 3.153834%. The regression results also show that the inflation and balance of payment significantly influence the economic growth of Mexico, Chile, Argentina, and Peru. Where an increase in inflation of 1% will diminish economic growth by 0.203185%, and a 1% raise in the balance of payment will diminish economic growth by 0.368518%. Meanwhile, the variable tax revenue (X2) did not significantly influence the economic growth of Mexico, Chile, Argentina, and Peru. Where a 1% increase in tax revenue will reduce economic growth by 2.90E-13%.

Simultaneously, all variables did not affect the economic growth of Mexico, Chile, Argentina, and Peru. Then, 0.3711 or 37.11% of the economic growth in Mexico, Chile, Argentina, and Peru, can be explained by the variables of inflation, tax revenue, and balance of payment. This means that 62.89% of the economic growth of these countries can be explained by other variables.

Scientific study (Gokal & Hanif, 2004) have shown that inflation share a weak relationship with economic growth. This negative correlation is appropriate with Keynesian theory, Stockman's neoclassical model, and some other endogeneous growth theories, which states that inflation is negatively related to growth. Ayyoub, Chaudry, & Farooq (2011) showed that any increase in the inflation has an inverse impact on the GDP growth.

Regarding balance of payment, Fasanya & Olayemi (2018) have shown that balance of payment can inhibit economic growth. According to the balance of payment constrained growth model by Thirlwall, there is no country that can grow faster than the rate consistent with the equilibrium of balance of payment with current accounts, unless the country can finance the growing deficits, in which it cannot.

Furthemore, Zulgani, Zevaya & Amril (2020) showed that taxation has no significant effect on economic growth in the short term. GDP measures the flow of income and expenditure of a country, where consumption and investment are components of GDP. In the short term, individual expenditure is secondary because when their income increases, people tend to save rather than investing. Thus, in the short term, the investment has no effect on economic growth because it does not give a multiplier effect (Zulgani, Zevaya, & Amril, 2020).

4. CONCLUSION

Economic growth in Latin American countries, especially Mexico, Chile, Argentina, and Peru have a fluctuating trend. Meanwhile, when compared to Peru as a country that is not a member of the OECD, the economic growth of Mexico and Chile is more inferior. Based on observations in the 2009-2018 period using panel data regression, inflation and balance of payment variables significantly influence the economic growth of Mexico, Chile, Argentina, and Peru. While the tax revenue variable does not significantly influence the economic growth of Mexico, Chile, Argentina, and Peru.

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