

# Analysis of the Effect of HDI, Foreign Investment, Domestic Investment and Population Projections on Economic Growth in Bali Province During the Period (2017-2021)

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## Abstract

This study aims to break down the impact of the Human Development Index, Foreign Investment, Domestic Investment and Population Projections on Monetary Development in the Bali Area During the 2017-2021 Period. By involving an example of information in 9 locales in Bali. The data used is secondary and multiple linear regression analysis is the method used. Economic growth is the dependent variable, while the human development index, foreign investment, domestic investment and population projection are independent variables. The results of the study indicate that economic growth is influenced by the human development index variable, but economic growth is not influenced by the variables of foreign investment, domestic investment and population projections have no effect on.

## 1. INTRODUCTION

Economic development is a way to expand per capita output in the long term. The cycle states that if the monetary improvement from one year to another will continue to change, the per capita output relates the share of all outputs and the share of the population, and in the long term is represented as the trend of financial transformation in a definite period supported by interior changes in the economy. (Arsyad, 2010).

Every territorial monetary enhancement effort has the fundamental goal of expanding the number and types of open positions for the neighborhood network. With the ultimate aim of achieving this goal, neighboring countries and their networks must mutually accept the encouragement of local progress. Thus, local governments that are managed by neighboring countries and their regional interests and by utilizing existing assets must have the option to measure the ability of assets expected to plan and encourage the regional economy (Arsyad, 2010).

Table 1 shows that from 2017 to 2021 the development of GRDP in the Bali Region has changed. The most prominent financial development is Badung Regency in 2018 of 6.73%. Meanwhile, the minimum financial development is Badung City in 2020 which will

reach <16.55%. Meanwhile, in 2020 the financial development of urban areas/communities in the Bali Region has all decreased to normal by -7.36 percent compared to 2018, which means that the development of local/urban communities in the Bali Region has decreased which will affect the nearby economy. Table 1 shows the Development of GRDP at Current Costs (%), 2017-2021.

**Table 1.1**  
**GRDP Growth in Bali Province 2017-2021**  
**(%)**

Kabupaten/Kota	Pertumbuhan PDRB/Ekonomi Kabupaten/Kota di Provinsi Bali (Persen)					
	2017	2018	2019	2020	2021	Rata-Rata
Kab. Jembrana	5.28	5.59	5.56	-4.98	-0.65	2.16
Kab. Tabanan	5.37	5.71	5.58	-6.17	-1.97	1.704
Kab. Badung	6.08	6.73	5.81	-16.55	-6.74	-0.934
Kab. Gianyar	5.46	6.01	5.62	-8.4	-1.07	1.524
Kab. Klungkung	5.32	5.48	5.42	-6.38	-0.23	1.922
Kab. Bangli	5.31	5.48	5.45	-4.1	-0.33	2.362
Kab. Karangasem	5.06	5.44	5.5	-4.49	-0.56	2.19
Kab. Buleleng	5.38	5.6	5.51	-5.8	-1.22	1.894
Kota Denpasar	6.05	6.42	5.82	-9.43	-0.91	1.59
Rata-Rata	5.47	5.82	5.58	-7.36	-1.52	1.601

Source: BPS, data processed by Bali Province

Table 1 states that the average GRDP of urban areas/communities in the Bali Region from 2017 to 2021 is 1.601%. So Badung district is below normal. From the table above, it is very likely that there are holes in financial development in various regions in Bali.

This is corroborated by research from Maasyirah (2011), Paulus Uppun (2011), Yunita Mahrany (2012) which explains that human improvement is related to the nature of human resources influencing economic growth. Accessibility of HR values is a significant requirement for a sustainable change of monetary events (Sri, 2010). This research is directed to determine the impact of the parts of the HDI on the monetary developments in the Bali Region so far and in the future.

Monetary progress can be interpreted as an effort in the economy to encourage its financial practice so that more foundations become accessible, organizations develop and develop, levels of training get higher and mechanical progress develops. As a consequence and improvement, it is natural that open positions will increase, salary levels will increase and individual success will be higher (Sukirno, 2011).

The purpose of this research is to find out the variables that influence economic growth in Bali Province for the 2017-2021 period.

## 2. LITERATURE REVIEW

Ningrum (2021), the analysis used is panel data regression with the REM ( *Random Effect Model* ) selected model, states that economic growth is influenced by FDI in Asean 2005-2019, with a regression coefficient of 2,876.266, and an empirical significance (p) t of 0.0051 (= 0.05). Linear-linear is the pattern used in this study.

Moy (2021), panel data regression analysis with selected models FEM, FDI affected Economic Growth in Central Java Province 2011-2019, with a regression coefficient of 0.872224, and an empirical significance (p) t of 0.0000 (= 0.01). Linear-linear is a form of relationship used in his research. Meanwhile the PMDN variable does not affect economic growth, with an empirical significance (p) t of 0.1153 (<0.10). Linear-linear is the form of the relationship used. Khariza (2019), panel data regression analysis with the REM (Random Effect Model) selected

model, FDI and PMDN did not affect Economic Growth in East Java Province 2012-2015, with respective regression coefficients of 0.84794 and 0.018312, as well as significant empirical (p) t is 0.4388 (> 0.10) and 0.4388 (> 0.10). Linear-linear is the relationship pattern used in this study.

Destu & Suprijati (2021), Using regression analysis (OLS). the HDI variable affects economic growth in East Java in 2015-2019, with a regression coefficient of 2737.892, and an empirical significance (p) t of 0.0001 (<0.01). Linear-linear is a form of relationship used in this study.

## 3. RESEARCH METHODS

Panel data regression analysis is the analytical tool used in this study with the following (estimators):

$$PE_{it} = \beta_0 + \beta_1 IPM_{it} + \beta_2 PMA_{it} + \beta_3 PMDN_{it} + \beta_4 PP_{it} + \varepsilon_{it}$$

Information :

PE = Economic Growth (%)

HDI = Human Development Index (%)

PMA = Foreign Investment ( Million Rupiah )

PMDM = Domestic Investment ( Million Rupiah )

PP = Population Projection (Thousand People)

$\alpha$  = Constant

$\beta_0 - \beta_3$  = Regression coefficient

$\varepsilon$  = Error term

it = Regencies/Cities in 2017-2021

The econometric model above is a combination of the econometric model of Pravasanti et al. (2021), Rajab & Novianti (2021), Majid et al. (2016). The data used is secondary data, namely data obtained from information that has been published by certain agencies. The secondary data used is Panel Data, which is a combination of time ranges and area ranges. The area range data in this study covers nine data representing 9 districts/cities in Bali Province (i = 9). While the time span of five data represents annual data, namely the observation range from 2017-2021 (t = 5). The data used includes data on the

Human Development Index (IPM), Foreign Investment (PMA), Domestic Investment (PMDN), Population Projection (PP). With sources from the Central Statistics Agency (BPS).

#### 4. RESULTS AND DISCUSSION

##### 4.1 Research result

Estimation results from the previous econometric model with the *Pooled methodology Least Square ( PLS )*, *Fixed Effect Model ( FEM )* and *Random Effect Model ( REM )* with test results selected recorded in Table 2.

**Table 4.1**  
**Estimation of Panel Data Regression**  
**Econometric Model – Cross section**

Variable	Regression Coefficient		
	pls	FEM	BRAKE
PE	2,080,062	2,080,062	2,080,062
IPM	-0.282692	-0.282692	-0.282692
FDI	-4.98E-07	-4.98E-07	-4.98E-07
PMDN	6.09E-07	6.09E-07	6.09E-07
K	0.003040	0.003040	0.003040
R	0.068178	0.068178	0.068178
Adjust. R	-0.025005	-0.025005	-0.025005
F statistics	0.731658	0.731658	0.731658
Prob. F statistics	0.575743	0.575743	0.575743

##### Model Selection

Test

(1) Chow

ss-Section  $F(8,32) = 2,081493$  ; Prob.  $F(8.32) = 0.0676$

(2)

Hausman

Cross-Section Random (4) = 16.628812 ; Probs = 0.0023

**Source** : BPS, processed

The Chow test and Hausman test show that (FEM) is the selected model, as can be seen from the probability and statistics  $\chi^2$  the Chow test is 0.0676 ( $< 0.10$ ) while the Hausman test is 0.0023 ( $< 0.01$ ). The complete results of the FEM estimated model are shown in Table 3 and Table 4.

**Table 4.2**

##### Fixed Effect Model (FEM) Estimation Model

$$PE_{it} = 410.0059 - 5.654608 (IPM)_{it} + 6.17E-07 (PMA)_{it} + 8.23E-08 (PMDN)_{it}$$

(00003) (0.6271)

(0.8920)

+0.023660(PP)<sub>it</sub>

(0.1518)

$R^2 = 0.387109$ ; DW = 2.940942; F = 1.684300;

Prob. F = 0.117620

**Source**: Appendix 1. **Description** : \* Significant at  $\alpha = 0.01$ ; \*\* Significant at  $\alpha = 0.05$ ; \*\*\* Significant at  $\alpha = 0.10$ ; The number in brackets is the probability of the t statistic.

**Table 4.3**  
**Region Effects and Constants**

No	Region	Effect	Constant
	Regency.		
1	Jembrana	-7.95634	402.04956
	Regency.		
2	Tabanan	9.512907	419.518807
	Regency.		
3	Badung	32.08196	442.08786
	Regency.		
4	Gianyar	14.45086	424.45676
	Regency.		
5	Klungkung	-9.855467	400.150433
	Regency. Bangli		
6	Regency. Bangli	-22.84273	387.16317
	Regency.		
7	Karangasem	-40.73942	369.26648
	Regency.		
8	Buleleng	-18.10276	391.90314
	Regency.		
9	Denpasar City	43.45099	453.45689

**Source** : BPS,

processed

From Table 3 it can be seen that the FEM estimated model does not exist because the probability or *F statistic* is 0.1176 ( $> 0.10$ ), with an ( $R^2$ ) value of 0.3871090, meaning (IPM), (PMA), (PMDN), and (PP) can only explain variations in Economic Growth (PE) of 38.71%. Separately from the four variables in the econometric model, it turns out that only one variable, namely the human development index (*HDI*) has an effect on economic growth with a prob value or *t statistic* of 0.0003 ( $< 0.05$ ).

Variable (*HDI*) with a regression coefficient of -5.6546, linear-linear as the form used. Which means, if the Human Development Index advances by 1%, then Economic Growth will increase by the opposite amount, if the

Human Development Index decreases by 1%, then Economic Growth decreases by 5.6546%.

In Table 4 it can be seen that Denpasar Regency has the highest constant, which is 453.45689 . Which means, related to the influence of the variables Human Development Index (IPM), Foreign Investment (PMA), Domestic Investment (PMDN), Population Projection (PP) on Economic Growth, so Denpasar district tends to have higher Economic Growth than Other Regencies/Cities. After Denpasar Regency, the 5 Regencies with the biggest constants are Jembrana, Tabanan, Badung, Gianyar, and Klungkung Regencies.

The lowest constant is owned by Karangasem Regency, which is equal to 369.26648. Linked to the influence of the variables Human Development Index (IPM), Foreign Investment (PMA), Domestic Investment (PMDN), Population Projection (PPK) on Economic Growth, Magelang City tends to have lower Economic Growth than other Regencies/Cities . Before Karangasem Regency, the 2 Regencies with the lowest constants were Bangli and Buleleng Regencies.

#### 4.2 Research Discussion

Economic growth in various cities in the Bali Region during the 2017-2021 period was apparently influenced by the HDI variable. For the time being, FDI, PMDN, and population projections do not affect economic growth.

HDI affects economic growth in the Bali region. This is because in the Bali region from 2010 to 2021 there is always an increase. Bali's HDI was recorded as accelerating from 70.10 in 2010 up to 75.69 in 2021. During this period, Bali's HDI grew normally by 0.70% annually and was at an undeniable level. When viewed in the past year, Bali's HDI in 2021 grew 0.25%, up 0.19 points compared to 2020. This situation shows that human progress in Bali continues even though it is in the middle of a pandemic. The achievement of human progress is estimated by considering three fundamental perspectives, namely longevity and healthy life, knowledge, and a decent standard of living. The results of this study are in accordance with the

research of Destu and Suprijati, (2021) where the results of their research state that economic growth in East Java in 2015-2019 is influenced by HDI.

Foreign Investment (PMA) affects economic growth in the Bali Area because economic growth in Bali is flooded by the tourism industry area. So this makes FDI have a significant impact on economic growth in the Bali region. Where in the Bali region the areas that dominate in economic growth are the travel industry, horticulture and fisheries. So business will not affect the economy much in the Balinese framework. These results contradict research directed by Ningrum, (2021) where his research states that FDI affects economic growth in ASEAN 2015-2019.

Economic growth in the Bali area is influenced by Domestic Investment (PMDN) because this can be said to be equivalent to FDI where investment does not actually affect economic growth in Bali. Bearing in mind that in Bali the leading sector is the largest type of income for the Bali Region. In addition, these irrelevant results are due to the fact that the realization of PMDN investments in the Bali Region is not evenly distributed. The results of this study are in line with research conducted by Moy, (2021) where his research stated that PMDN affects economic growth in the Bali region.

Population Projection (PP) greatly influences economic growth in the Bali Region because, if the population increases it will affect economic growth and, oddly enough, slow it down if the local government does not have control over the very large population. Thus, if the population is not controlled it will lead to poverty and financial problems, for example the stock of jobs will increase resulting in lower compensation. All attempts to work on the existence of the unfortunate will be in vain. This estimate is in line with research from Eny Rochaida, (2016). Where his research shows that economic growth in the Bali Region is not affected by PP.

## 5. CLOSING

### 5.1 Conclusion

Based on the discussion of the regression analysis performed, it can be concluded:

- a. *Fixed Effect Model* (FEM) is the selected model.
- b. The ( *Goodness of Fitted* ) test shows that the estimated *Fixed Effect Model* (FEM) does not exist with  $R^2$  or predictive power of 0.387109 . This means that only 38.71% of the variation in the Economic Growth variable is explained through the Human Development Index, Foreign Investment, Domestic Investment and Population Projection variables. The remaining 72.39% is influenced by variables or factors outside the model.
- c. The results (t test) show that the independent variable, Economic Growth in the Province of Bali in 2017-2021 is influenced by the Human Development Index. While Foreign Investment, those that do not have influence are Domestic Investment and Population Projections.
- d. The Human Development Index variable has a negative influence on Economic Growth in the Province of Bali in 2017-2021.
- e. Economic Growth in Bali Province during the 2017-2021 period is influenced by the Human Development Index. The level of productivity that has increased every year The achievement of human improvement is estimated by considering three fundamental perspectives, namely long and healthy life, *knowledge* and a decent life. Brief conclusions on the results of research and discussion.

### 5.2 Suggestion

Maintaining the pace of economic growth is a mandatory activity to maintain people's prosperity. Public authorities can carry out various strategies to manage the level of financial development in the regions, for example, socializing the progress and equity of development, increasing the quality of human resources to expand employment, directing government consumption appropriately so that

there is no waste, increasing business potential both locally and abroad and follow efficiency level in industry and administration

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