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Causality Analysis of Economic Growth and Regional Original Income in West Sumatra Province in 2000-2021

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ABSTRACT

The magnitude of the revenue target from different Regional Original Revenue (PAD) components has a significant impact on the revenue's real value. Economic growth will increase to a greater extent in regions with superior PAD. West Sumatra Province's revenue will rise as a result of the region's economic expansion, which will also affect regional tax and retribution collections. In West Sumatra Province from 2000 to 2021, this study intends to investigate the causal link between economic growth and Local Own Revenue. According to the Granger Causality test, there is a one-way relationship between Regional Original Income and the economic growth variable. In contrast, in the West Sumatra Province, regional original income has no impact on economic growth but has an impact on regional economic growth.

Keyword: Economic Growth, Regional Orginal Income

INTRODUCTION

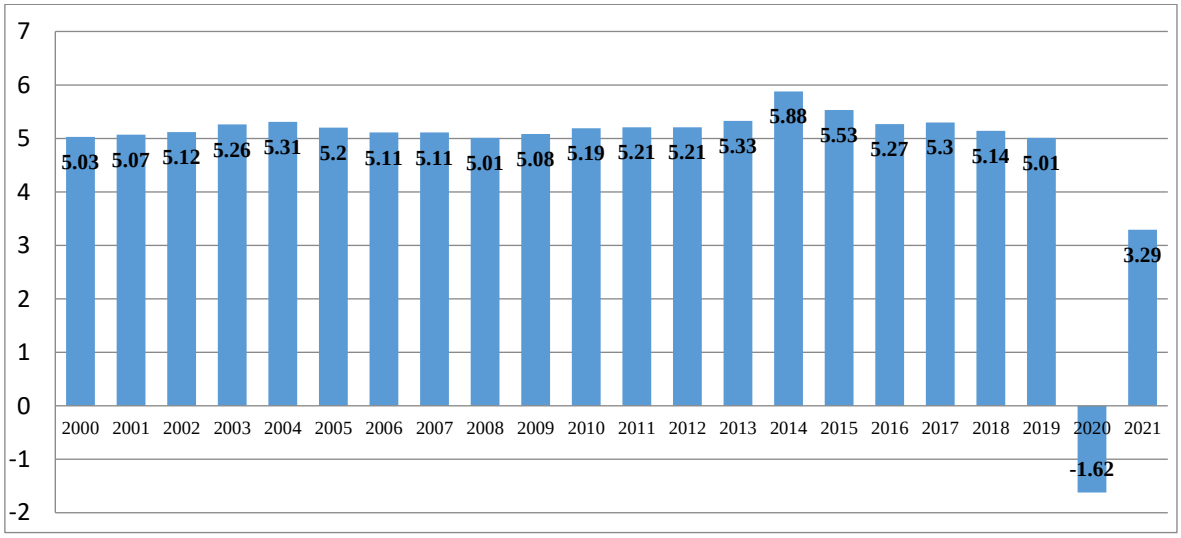
Economic growth brought about by monetary development results in an increase in the amount of labor and goods produced in the public sphere as well as the number of thriving individuals. The expansion of economic creation, which manifests as a rise in tax revenues, can also be seen as a means to understand financial progress. If the amount of real income for the use of production variables in a given year is higher than the amount in the prior year, the economy is said to have developed (Sulung et al., 2022).

A rise in the overall yield or initial payout is referred to as monetary growth. Because more information resources are being used, these increases are typically calculated per capita or over a longer period of time. Financial development is the process of improving a country's reasonable financial situation for a predetermined amount of time (Wiraswasta et al., 2018).

An area's income from sources on its own land that is gathered in conformity with provincial norms and guidelines is referred to as environmental original revenue. In order to establish extensive, genuine, and capable territorial independence, bearings may be required to continue to be increased in order to support costs associated with administration and repairs that continually increase (Sulaeman and Silvia, 2019). The progression of financial developments in West Sumatra from 2000 to 2021 is shown in Graph 1.

Graph 1

Development of Economic Growth in West Sumatra Province in 2000-2021 (percent)



Source: West Sumatra BPS, processed

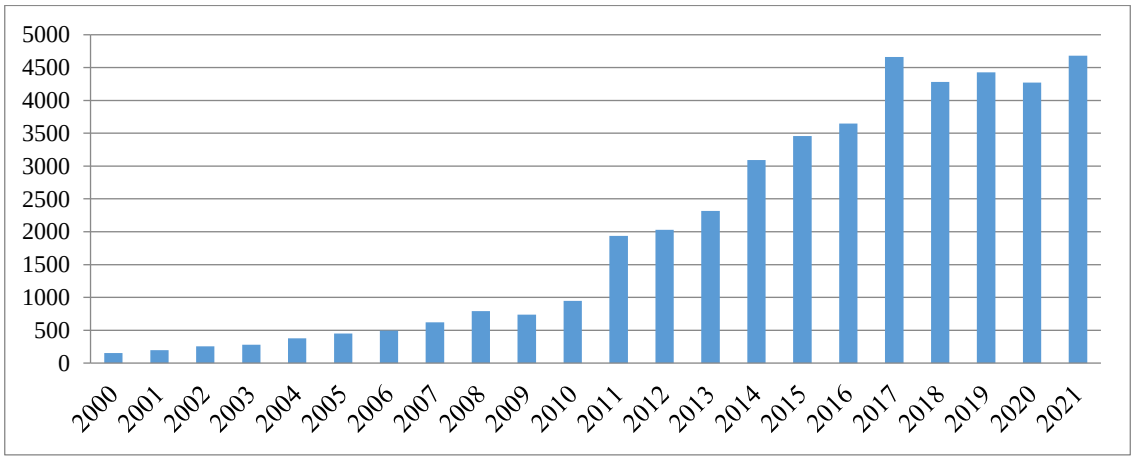
Diagram 1 demonstrates how the West Sumatra Region's financial advancements have fluctuated over the period 2000–2021. The most notable financial development, 5.88 percent, happened in 2014. As of right now, 2020 was the worst year for W Sumatra due to a 1.62 percent decline in GDP growth. Due to the Corona virus pandemic, various zones saw constriction, including the transportation and warehousing area, which was cut by 16.10%, the exchange area, which was lowered by 1.14%, and several other areas. Additionally, there are barriers in the development of fixed capital, net commodities, and family use.

An area's per capita income rises as a result of increased economic development, which also raises usage and efficiency levels. Additionally, a region's capacity to pay the fees set

by the environmental government increases with its ability to earn higher salaries. This will increase Cushion revenue and diversify local sources of income (Hidayat, 2020).

Graph.2

Development of Regional Original Income in West Sumatra Province 2000-2021 (percent)



Source: West Sumatra BPS, processed

According to Graph 2, throughout the years 2000–2021, the bearings in the W Sumatra region will typically be constructed consistently. From 2000 to 2008, the market for bearings grew steadily before declining in 2009 to Rp 739.75 billion. The earthquake in Southwest Pariaman on September 30, 2009, which destroyed the climate, including homes and public buildings, and resulted in monetary and social damages, was the reason of the low bearing in 2009.

The territorial unique pay (Cushion) system is a source of provincial use, according to Sartika et al. (2019). If Cushion is built, the assets owned by the closest state will be higher and the province's level of freedom will also increase, so the local legislature will act and investigate more further local potential and expand monetary development. A proper approach to development will promote growth in the province's overall financial development. In theory, as the Cushion is built, so too would regional financial development. The province's own financial development will be encouraged by the expansion sponsored at Cushion.

In their investigation of causation in the Bali Region for the years 2000–2019, Ma'ruf and Utomo (2022) discovered that both short- and long-term monetary developments had a significant impact on territorial unique pay. On the other hand, it is obvious that territorial unique payments affect financial trends. The findings of Brimbing and Ni Luh (2015) as well as Kusumawati and Wiksuana (2018) support the impact of Provincial Unique Pay on financial development. Sulung et al(2022) .'s investigation revealed a connection between territorial unique pay and long-term monetary trends.

This investigation focuses on issues that highlight the relationship between financial developments and Territorial Unique Pay in the West Sumatra Region from 2000 to 2021. It does this by conducting a causality check, which is essentially a Granger causality test, by selecting the most draconian concessions. (Time gradient) is not known for sure.

METHOD

The causality analysis of time series data using the following estimator models was the analytical technique employed in this study.

$$PDRB_t = \sum_{i=1}^{m} ajPDRB_{t-1} + \sum_{j=1}^{m} \beta_1 TK_{t-j} + \varepsilon_{1t}$$

$$\Delta TK_t = \sum_{i=1}^{m} \lambda_i TK_{t-1} + \sum_{j=1}^{m} \delta_i PDRB_{t-j} + \varepsilon_{2t}$$

where:

PE = Economic Growth
PAD = Regional Original Income
m = Number of Lags
ε_t = *Error Term*

In this study, time series data is used, namely data from the West Sumatra Region for the years 2000 to 2021. The Central Bureau of Measurement (BPS) for the West Sumatra Region provided the data for this study, which included data on regional financial development and local revenue for the period 2000–2021.

The following is the evaluation strategy for the aforesaid assessment model: Test of two-factor strength. If both variables are constant, the Granger causality test can be performed right away. If one of the variables is not stationary, it must be adjusted before the test can be performed. A cointegration test must be performed in the event that the two factors are not fixed. Run the Granger causality test if the two variables are cointegrated. If not, it's crucial to use two elements to divide the two and balance the information. At that point, an auxiliary cycle is run on the variable that isn't fixed to correct it if one of the components isn't fixed**.**

RESULT AND DISCUSSION

Augmented Dickey Fuller (ADF) stationarity test for the variable Economic Growth (PE) are presented in Table 1.

Table 1
ADF Stationarity Test of Economic Growth

Model	Δ	τ – stands	τ-(0.05)	Prob.	AIC
None	0.032989	0.918504	1,959071	0.3064	2.534056
Intercept	0.450948	2.045825	3.012363	0.2666	2,476738
Trend & Intercept	0.545093	2,445695	3.644963	0.3482	2,456008

Sorce: BPS, diolah

Table 1 contains the outcomes of the stationarity test for the PE variable. According to the findings of the ADF test, the coefficient for the None, Intercept, and trend&intercept models is 0. (negative). The trend&Intercept model, which has a minimum AIC value of 2.456008, is the most effective one. The best model demonstrates that the statistical significance or probability has a value of 0.3482 (> 0.10), indicating that the PE variable is

not stationary and that H0: = 0 (non-stationary data) is accepted. The results are in Table 2 when the PE variable is stationary with the differencing operator.

Table 2

ADF Stationarity Test d(Economic Growth)

Model	Δ	τ – stat	τ-(0.05)	Prob.	AIC
None	1.431204	6.105281	1.959071	0.0000	2.479860
Intercepts	4.658654	1.791378	3.0655585	0.9992	2.709347
Trends&intercepts	3.965423	1.701066	3.733200	1.0000	2.486330

Source: BPS, processed

The None model has a coefficient of 0 (negative), according to the findings of the ADF test, whereas the Intercept and Trend&Intercept models have a coefficient of > 0 (positive). The none model, which has a minimum AIC value of 2.479860, is the most effective one. The statistical significance or probability in the best model has a value of 0.0000 (0.01), which means that H0: = 0 (non-stationary data) is rejected and the variable d(PE) is stationary.

Table 3.

Local Own Revenue ADF Stationarity Test

Model	Δ	τ – stat	τ-(0.05)	Prob.	AIC
None	0.071726	2.228428	1.958088	0.9913	14.68859
Intercepts	0.013972	0.294787	3.012363	0.9721	14.65594
Trends & intercepts	0.288312	2.095117	3.644963	0.5188	14.49134

Source: BPS, processed

The None and Intercept models have a coefficient of > 0 (positive), according to the findings of the ADF test, however the Trend&Intercept model has a coefficient of 0. (negative). The Trend&Intercept model, which has a minimum AIC value of 14.49134, is the most effective one. The best model demonstrates that the statistical significance or probability has a value of 0.5188 (> 0.10), indicating that the PAD variable is not stationary and that H0: = 0 (non-stationary data) is accepted. The results are in Table 4 when the PAD variable is stationary with the differencing operator.

Table 4.

ADF Stationarity Test d(Regional Original Income)

Model	Δ	τ – stat	τ-(0.05)	Prob.	AIC
None	0.374889	1.964418	1.078973	0.2416	15.11150
Intercepts	1.144099	4.896957	3.020686	0.0010	14.68478
Trends&intercepts	1.183126	4.958511	3.658446	0.0040	14.73702

Source: BPS, processed

The None, Intercept, and Trend&Intercept models have a coefficient of 0 according to the results of the ADF test (negative). The Intercept model, which has a minimum AIC value of 14.68478 is the best one. The statistical significance or probability in the best model has a value of 0.0010 (0.01), which means that H0: = 0 (non-stationary data) is rejected and the variable d(PAD) is stationary.

To check for potential differences in the causality pattern results, the Granger causality test was performed on the variable pairs d(PE) and d(PAD) with m (maximum inertia duration) 4, 5, and 6. Table 5 presents the findings.

Table 5
Granger Causality Test Results

m=4			
Null Hypothesis:	Obs	F-Statistics	Prob.
D(PAD) does not Granger Cause D(PE)	17	1,33067	0,3378
D(PE) does not Granger Cause D(PAD)		0,71690	0,6036
m= 5			
Null Hypothesis:	Obs	F-Statistic	Prob.
D(PAD) does not Granger Cause D(PE)	16	3,24000	0,1114
D(PE) does not Granger Cause D(PAD)		0,69069	0,6527
m= 6			
Null Hypothesis:	Obs	F-Statistic	Prob.
D(PAD) does not Granger Cause D(PE)	15	0.47448	0.7974
D(PE) does not Granger Cause D(PAD)		49.1713	0.0201

Source: BPS, processed

The hypothesis that d(PE) impacts d(PAD) at the maximum inertia (m) 5 is rejected according to Table 5's empirical probability statistical F Granger causality test with a probability level of 0.0201 (0.05). In conclusion, regional original income is impacted by economic growth.

Granger's Causalities test for the empirical probability statistic shows that H0 is accepted even if the hypothesis d(PAD) does not impact d(PE) at maximal inertia (m) 3,4,5 = 0,3378 (> 0,10), 0,1114 (> 0, 10), and 0.7974 (> 0.10). Therefore, regional original income has no bearing on economic expansion.

DISCUSSION

Forger Causality This type of test demonstrates one-way causality, i.e., changes in the value of money have an impact on local sources of income. The rise in Provincial Unique Payments (Bantors), where in an ideal scenario Bearings were the primary source of local government fees for enacting territorial changes, was affected by monetary advancements. Regions that have experienced strong financial growth could benefit from Cushion expansion (Desmawati et al., 2015).

This demonstrates that in the West Sumatra Region, the path toward financial improvements is particularly beneficial to Local Own Revenue and frequently serves as a solution to regional financial issues. Additionally, it should enable regional state governments to devote greater attention to developing local financial capacities to spur economic growth rather than just meeting administrative costs or requirements.

The findings of a review by Hasanur and Putra (2018) showed financial trends had an impact on territorial unique pay in the West Aceh Selatan Regional/Urban community were

exactly the same. In a related study, Kartika (2020) discovered that the Unique Pay Province in the Berau Regime was impacted by financial trends. According to Wadjaudje et al. (2018), local income in the DKI Jakarta Region was impacted by monetary trends between 2007 and 2016.

A causation test's finding that Territorial Unique Payments do not cause financial changes, however, raises questions about potential issues with the effectiveness of Local Unique Payments. Additionally, the lack of a connection between pillows and financial development results from an improper adjustment of the level of recognition of pillows and public authorities in the improvement of public administration, resulting in a level of labor production and output that falls short of the desired level (Wididarma and Jember, 2021).

The review's side finding that Provincial Unique Pay had no impact on North Sulawesi's financial development was confirmed by Watulingas et al. (2018). According to a comparable analysis, Territorial Unique Pay had no impact on Financial Development in that context between 2013 and 2017 (Hutagalung and Muharam, 2020). Territorial Unique Pay had a considerable impact on Bitung City's monetary development, according to Paat et alresearch .'s from 2019.

IMPLICATIONS

The monetary development variable and the territorial unique pay variable are not fixed at their current levels, according to the stationarity test. In this manner, a split cycle will be used to determine the financial development variable and the provincial unique salary variable. Financial development and environmental revenue have undergone a separation process in the stationarity test, showing that these components have fixed.

One-way causality is present, with the monetary development variable having an impact on territorial unique pay. For the years 2000–2021, Local Unique Pay has an impact on West Sumatra's monetary trends. One strategy that has been put in place to boost financial development in the West Sumatra Region is by giving the tourist business sector more influence. The same is true for shipping, which is still supported. Numerous domestic and international investors have also made investments in West Sumatra.

CONCLUSION

It is crucial to keep up efforts to speed up quality financial growth that is helpful to Cushion's expansion because quality financial development will always be a hotspot for increasing Cushion's income. Make equitable financial progress, particularly in the sector of the economy that is connected to the Cushion.

The West Sumatra Joint Government is expected to use the Province's Unique Revenue considerably more wisely in order to provide the framework or foundation required by the regions, ensuring that each district experiences fair and consistent financial development with other districts.

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