ISSN 2808-2605 EISSN 2808-4497 *Forum Analisis Statistik*
Desember 2022, 2 (2): 104-117

The Effect of Increasing Fuel Prices on the Components of Household Consumption Expenditures in PDRB According to Expenditure Case Study of West Kalimantan Province 2015-2022

Arianti Tri Widiantari[1*], Eliana Neki[2], Mariatul Khiftiah[3], Shantika Martha[4]

[1,2,3,4]Universitas Tanjungpura,
Jl. Prof. Dr. H Jl. Profesor Dokter H. Hadari Nawawi, Kota Pontianak;
*Penulis korespondensi. *e-mail*: ariantitriw@student.untan.ac.id
(Diterima: 9 Desember 2022; Disetujui: 25 Januari 2023)

ABSTRACT

The policy of raising the price of fuel oil (BBM) again by the Government of Indonesia is causing problems. The increase in fuel prices implies an increase in commodity prices. The increase in the price of goods has an effect on purchasing power. Low or high purchasing power affects the level of people's economic welfare. This study aims to determine the effect of rising fuel prices on the level of economic welfare of the people of West Kalimantan, as well as to provide recommendations for solutions and plans for economic development to local governments. The research model is a time-series and cross-section model from panel data regression analysis. Based on this study, it was concluded that there was an influence from the increase in subsidized and non-subsidized fuel prices on Household Consumption Expenditure (PKRT) in West Kalimantan. This indicates that there are ongoing economic activities that affect economic growth in West Kalimantan.

Keywords: fuel prices, pkrt, panel data analysis

INTRODUCTION

Household consumption expenditure is expenditure on goods and services by resident households for the purpose of final consumption, that is, consumption of goods and services to cover household needs (BPS, 2022). This consumption expenditure is intended to maintain the standard of living. The level of consumption expenditure for each family is diversified. This diversity depends on the level of household income (BPS, 2022).

The size of household consumption expenditure is influenced by many factors. Apart from the number of family members, the price of goods and/or services needed by the household affects consumption expenditure. Price increases can trigger inflation, which will affect people's purchasing power. Price increases are influenced by many things. Even government policy can affect the change in prices of goods and services in the society. The government policy regarding the increase in the price of fuel oil (BBM) as of September 3, 2022 became an issue that triggered an increase in the price of goods and services so that there was a significant increase in the inflation rate, including in West Kalimantan.

The oil and gas business also plays an important role in national economic growth. This has become one of the bases for government decisions to maintain the country's economic stability (Muhammad Said Didu, 2022). To maintain economic growth, the fuel price increase policy is still being carried out because the current condition of world oil prices has risen and the current condition of the Indonesian economy is urgent (Muhammad Said Didu, 2022).

In the structure of Gross Domestic Income (GDP) and Gross Regional Income (GRDP) by expenditure, the size of household expenditure can be seen in the Household Consumption Expenditure (PKRT) component. In the second quarter of 2022, the PKRT component in the West Kalimantan GRDP structure provided a distribution of 48.80 percent with a nominal value of 31,224,954 rupiah. According to data from PT Pertamina (Persero), fuel oil (BBM) consumption in West Kalimantan itself increased by 410 percent from January to October 2021 (Andilala, 2021).

Based on the description above, this study is intended to analyze how the effect of fuel price increases on household consumption expenditure in West Kalimantan as one of the parameters of economic growth. This analysis is also expected to provide assumptions to the government in order to be able to provide solutions and good economic development designs for the people of West Kalimantan.

METHODOLOGY

Research Method

Data analysis in this study used panel data regression with Eviews software. Panel data is a combination of time series and cross section data. According to (Baltagi, 2005) panel data consists of many objects and time periods. The data used in panel data regression is data on West Kalimantan Household Consumption Expenditure (KPRT) and the price of fuel oil (BBM) with a time span from 2015 to 2022 in quarters. Data obtained from the Badan Pusat Statistik (BPS) of West Kalimantan Province and PT Pertamina.

The data used is data on the types of subsidized and non-subsidized fuel. Subsidized fuel is fuel oil that is assisted by the government. Subsidized fuel is financed using state budget funds or APBN. Subsidized fuel is intended for people with middle to lower economic conditions. Meanwhile, non-subsidized fuel is fuel oil that is traded without government intervention, so that the financing is adjusted by the fuel oil provider company. Non-subsidized fuel is intended for people with upper economic conditions. The data used are pertalite, subsidized kerosene, subsidized diesel, pertamax, pertamax racing, pertamax turbo, pertamina dex, dexlite, premium, non-subsidized kerosene, and non-subsidized diesel. This research will be divided into two discussions, namely on subsidized and non-subsidized fuels because the targets of these two fuels are different, allowing for differences in the effect of price increases on household consumption expenditure. In this study we use the following variables:

Y : Household Consumption Expenditure of West Kalimantan

X_1 : New Prices of Subsidized and Non-Subsidized Fuel

X_2 : Old Prices of Subsidized and Non-Subsidized Fuel

This research process is divided into several stages, including the following:

1. Collecting and Reducing Data
2. Prepare Eviews Software and Input Data
3. Descriptive Statistical Analysis.
4. Inferential Statistics: This stage aims to determine the alleged parameter estimates in Panel Data Regression Analysis:
   a. Common Effect Model (CEM),
   b. Fixed Effect Model (FEM),
   c. Random Effect Mode (REM)l.
5. Selection of the Best Model:
   a. Conduct a Chow Test to determine the best model between CEM and FEM. If the best model obtained is the CEM then there is no need to conduct other tests to determine the best model. Meanwhile, if what is obtained is the FEM model, it will be continued with the Hausmann Test,

b. Perform Haussman Test to determine the best model between FEM and REM. If the best model obtained is REM, there is no need to do other tests to determine the best model. Meanwhile, if what is obtained is the FEM model, it will continue with the classical assumption test.

6. The Classical Assumption Test is carried out with several tests, including:
   a. Normality Test
   b. Multicollinearity Test
   c. Heteroscedasticity Test
   d. Autocorrelation Test
7. Testing the significance of parameters with several stages, including:
   a. Simultaneous Test
   b. Partial Test
8. Model Interpretation

Panel Data Regression Analysis

Analysis obtained by observing data per object (cross section) with a certain period (time series data) (Ariefanto, 2012). In general, the panel data regression analysis equation is written as follows:

$$y_{it} = \beta_{it} + \sum_{k=1}^{k} \beta_{k_\propto} x_{k_\propto} + \varepsilon_{it} \quad (1)$$

Advantages of Panel Data Regression Analysis

Panel data has several advantages in the world of statistics and economics, some of the advantages of panel data are as follows (Ekanda, 2016):

1) Able to calculate the heterogeneity of each object explicitly with econometric equations.
2) Able to control the heterogeneity of each object which is then used to test and build complex models.
3) Able to substantially reduce omitted-variables if each object is significantly correlated.
4) Observations obtained with repeated cross section data produce good data for analyzing the flow of an object with a certain period of time.
5) Able to produce varied data, collinearity between variables so that the estimation results become more efficient.

Parameter Estimation on Panel Data Regression Analysis

The number of variables states the estimation of panel data regression parameters. To determine the parameter estimation, several methods are used, namely:

1. *Common Effect Model* (CEM)
   The *Common Effect Model* (CEM) method determines its parameter estimates by connecting all data regardless of time. It is assumed that the data of each cross-section of time brackets or time saries are the same. The Common Effect Model equation with n variables can be written as follows (Apriliawan, Tarno, & Yasin, 2013):
   $$y_{it} = \beta + \beta' x_{n_{it}} + \varepsilon_{it} \quad (2)$$
2. *Fixed Effect Model* (FEM)
   Fixed Effect Model (FEM) is a model that pays attention to cross section heterogeneity with different intercept values assuming a constant slope (Prasanti T. A., 2015). The following is the regression model equation with the FEM model.
   $$y_{it} = \beta + \beta' x_{it} + \varepsilon_{it} \quad (3)$$

3. *Random Effect Model* (REM)
   Random Effect Model (REM) is a panel data regression model that assumes the effect of random objects on cross section data. The regression model equation with REM is written as follows:

$$y_{it} = \beta + \beta' x_{n_{it}} + \varepsilon_{it} \quad (4)$$

Best Model Selection

1. Chow Test
   The application of the Chow Test is done by selecting the common effect and fixed effect models. The Chow Test equation can be written as follows:

$$F = \frac{(SSE_{CEM} - SSE_{FEM})/(N-1)}{SSE_{FEM}/(NT-N-k)} \quad (5)$$

2. Hausman Test
   The application of the Hausman Test is done by knowing whether the model uses FEM or REM. The Hausman test uses the chi square distribution with the wald criterion. The Hausman Test equation can be written as follows:

$$W = [b - \beta] \sum [b - \beta]^{-1} \quad (6)$$

Classical Assumption Test

The classic assumption tests used in the model are as follows.

1. Normality Test
2. Multicollinearity Test
3. Heteroscedasticity Test
4. Autocorrelation Test

RESULTS AND DISCUSSION

In this study, the data used is data obtained from the West Kalimantan Central Bureau of Statistics (BPS) and Pertamina's website. The dependent variable in this study is the West Kalimantan Household Consumption Expenditure data in quarters from 2015 to 2022. Meanwhile, the independent variable is the old price and the new price of subsidized and non-subsidized fuel oil (BBM). This study uses the types of subsidized and non-subsidized fuel, including pertalite, subsidized kerosene, subsidized diesel, pertamax, pertamax racing, pertamax turbo, pertamina dex, dexlite, premium, non-subsidized kerosene, and non-subsidized diesel as cross-section data and year in quarter as time series data.

The research will be divided into two studies, namely research on subsidized fuel and non-subsidized fuel. In the research with subsidized fuel price data, there are 62 data used, data obtained from combining two cross-section data and 31 time-series data. While in the research on non-subsidized fuel, there are 248 data obtained from combining eight cross-section data and 31 time-series data.

This study uses independent variables in the form of Old Fuel Prices and New Fuel Prices. The Old Price of BBM is defined as the price of subsidized and non-subsidized fuel in a certain period of time that has not experienced price changes. While the New Fuel Price variable is defined as the price of subsidized and non-subsidized fuel that has experienced price changes in a certain period of time. The subsidized and non-subsidized fuel price data used is data for 2015-2022 in quarters. The old price and the new price of fuel describe changes in price increases in quarters in a certain period.

Statistic Descriptive

Table 1. Summary Statistics on Subsidized fuel

	Subsidized Diesel		Subsidized Kerosene Oil		Pertalite	
	Old Price	New Price	Old Price	New Price	Old Price	New Price
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mean	5456.41	5473.22	2500	2500	7803.88	7824.86
Median	5150	5150	2500	2500	7850	7850
Modus	5150	5150	2500	2500	7850	7850
Range	1750	1750	0	0	1266.67	1725
Minimum	5150	5150	2500	2500	7100	7100
Maximum	6900	6900	2500	2500	8366.67	8825
Count	31	31	31	31	29	29

Based on Table 1 above, the mean value is intended as the average price of subsidized fuel in quarterly data in the range of 2015 to 2022. The range value is intended as the difference between the highest price and the lowest price in that period. The minimum and maximum values are intended as the lowest price and the highest price of subsidized fuel in West Kalimantan in the range of 2015 to 2022. The highest average fuel price is in September 2022.

Table 2. Summary Statistics on Non-Subsidized Fuel

	Premium		Pertamax Plus		Pertamina Dex	
	Old Price	New Price	Old Price	New Price	Old Price	New Price
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mean	6925.913978	6925.430108	8995.080645	9038.655914	10995.2957	11216.66667
Median	7000	7000	8750	8750	10450	10750
Modus	7000	7000	8750	8750	10450	10450
Range	1350	1350	3300	3366.666667	8850	9150
Minimum	6450	6450	8400	8433.333333	9100	9100
Maximum	7800	7800	11700	11800	17950	18250
Count	31	31	31	31	31	31

	Pertamax		Dexlite		Pertamax Turbo	
	Old Price	New Price	Old Price	New Price	Old Price	New Price
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mean	9080.645161	9242.043011	8943.548387	9105.645161	10525.80645	10704.03226
Median	9200	9200	9200	9700	10050	10050
Modus	9200	9200	9700	9700	9050	9050
Range	4866.666667	5600	10433.33333	11083.33333	7966.666667	7866.666667
Minimum	7883.333333	7850	6550	6600	9050	9050
Maximum	12750	13450	16983.33333	17683.33333	17016.66667	16916.66667
Count	31	31	31	31	31	31

	Non-Subsidized Diesel		Non-Subsidized Kerosene Oil	
	Old Price	New Price	Old Price	New Price
(1)	(2)	(3)	(4)	(5)
Mean	8884.677419	8943.010753	10943.8172	10967.41935
Median	8150	9533.333333	10725	10725
Modus	8150	8150	10560	10560
Range	1875	2100	1320	2420
Minimum	8150	8150	10560	10560
Maximum	10025	10250	11880	12980
Count	31	31	31	31

Based on Table 2 above, the mean value is intended as the average price of Non-Subsidized Fuel in Quarterly data in the range of 2015 to 2022. The range value is intended as the difference between the highest price and the lowest price of Non-Subsidized Fuel within that period. The minimum and maximum values are intended as the lowest price and the highest price of Non-Subsidized Fuel in West Kalimantan in the range of 2015 to 2022.

Table 3. Summary Statistics Household Consumption Expenditure (PKRT)

	West Kalimantan's PKRT
(1)	(2)
Mean	25594003.95
Median	26222774.46
Range	11745856.34
Minimum	19479097.75
Maximum	31224954.09
Count	30

Based on Table 3 above, the West Kalimantan PKRT data used is at the village and city scale. The data is taken in quarterly periods from 2015 to 2022. The mean value is intended as the average size of West Kalimantan PKRT in the last eight years. The range value is intended as the difference between the highest value and the lowest value of West Kalimantan PKRT in that period. The minimum and maximum values are intended to be the lowest value and the highest value of West Kalimantan PKRT.

Research on Subsidized Fuel Prices

Panel Data Regression Estimation

There are three panel data regression analysis methods that will be used to determine the panel data regression estimation, including the following:

Common Effect Model (CEM)

Table 4. Coefficient estimation common effect model (CEM)

Variabel	Koefisien	Standar Error	t-Statistik	Probabilitas
(1)	(2)	(3)	(4)	(5)
Constan	28083187	2095830	13.39955	0.0000
New Price	-7727.970	2667.856	-2.896697	0.0053
Old Price	7358.479	2635.232	2.792346	0.0070

Based on Table 4 above, the panel data regression model formed based on the Common Effect Model (CEM) is obtained with the following equation $Y_{it} = 28083187 - 7727.970X_1 + 7358.479X_2$.

Fixed Effect Model (FEM)

Table 5. Coefficient estimation fixed effect model (FEM)

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)		(3)	(4)
Constan	41224080	4071458	10.12514	0.0000
New Price	-10250.20	2522.523	-4.063471	0.0001
Old Price	7902.634	2401.119	3.291229	0.0017

Based on Table 5 above, the panel data regression model formed based on the Fixed Effect Model (FEM) is obtained with the following equation $Y_{it} = 41224080 - 10250.20X_1 + 7902.634X_2$.

Best Model Selection
Chow Test

Table 6. Chow Test Output

Effect Test	Statistic	Degree of Freedom	Probability
(1)	(2)	(3)	(4)
Cross-section F	13.340684	(1,58)	0.0006
Cross-section Chi-Square	12.835473	1	0.0003

Based on the output of the Chow test conducted with the help of eviews software, the results obtained for the value of F_{count} = 13.340684, then based on the degree of freedom (1.58) obtained for the F_{table} value = 2.97. By using a significance level of 5% or α = 0.05, it can be concluded that $F_{count} > F_{table}$. So based on the chow test results obtained, the best model chosen is the Fixed Effect Model.

Selected Model

Based on the Chow test, the best model is obtained, namely the Fixed Effect Model. So that the equation is obtained $Y_{it} = 28083187 - 7727.970X_1 + 7358.479X_2$. Based on the data in this study, the FEM equation can be interpreted that Household Consumption Expenditure = 28083187 – 7727.970 New Price of Subsidized Fuel + 7358.479 Old Price of Subsidized Fuel.

Classical Assumption Test
Normality Test

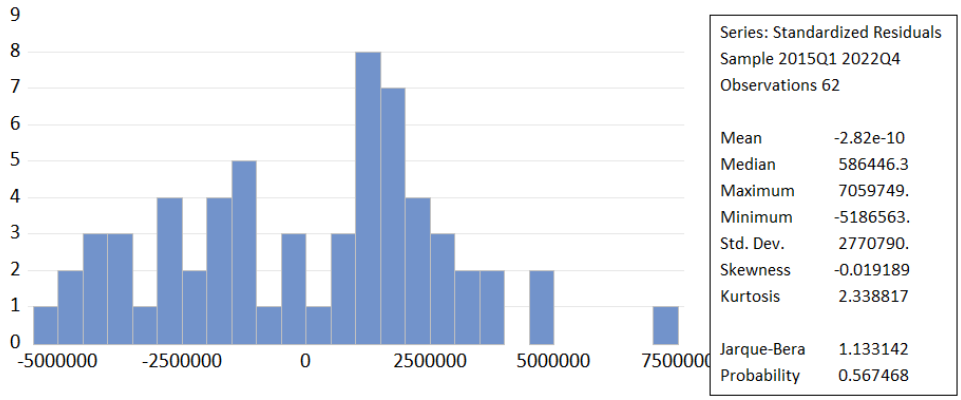

Figure 1. Normality Test Output

Based on the graph and the value in the figure information above obtained with the help of Eviews software, it is known that the probability value is 0.567468 > 0.05. So it can be concluded that the residuals are normally distributed.

Multicollinearity Test

Table 7. Multicollinearity Test Output

	X1 (New Price**)**	**X2 (**Old Price**)**
(1)	**(2)**	**(3)**
X1 (New Price)	1.000000	0.795246
X2 (Old Price)	0.795246	1.000000

Table 7 shows the output of the multicollinearity test with the help of Eviews software. Based on the matrix table above, the r value or correlation value obtained is not more than 0.8. This means that there is no multicollinearity between the independent variables in this study.

Heteroscedastisity Test

Table 8. Heteroscedastisity Test Output

Variable	**Coefficient**	**Error Standard**	**t-Statistic**	**Probability**
(1)	**(2)**	**(3)**	**(4)**	**(5)**
Constan	464377.4	941801.6	0.493074	0.6238
New Price	-1382.663	1184.192	-1.167600	0.2477
Old Price	1669.543	1198.853	1.392617	0.1690

The table above shows the output of the heteroscedasticity test with the help of Eviews software. Based on the table above, the variable probability value is obtained which is more than the significance level of 0.05. This indicates that there is no heterocdesticity in the variables in this study.

Autocorrelation Test

Table 9. Autocorrelation Test Output

Cross-section fixed (Effects Specification)	
(1)	**(2)**
Durbin-Watson stat	1.575352

Based on the table above, it is known that the output of the best Fixed Effect Model (FEM) model obtained a Durbin-Watson value of 1.575352. Based on the Durbin-Watson table with a confidence level of 5%, the value of k = 2 and n = 31 is obtained, the value of dL = 1.36298 and dU = 1.49574. The Durbin-Watson value obtained meets $dU \leq d \leq 4\text{-}dL$. So it can be concluded that there is no autocorrelation in the residual value in the FEM model.

Interpretation of The Coefficient of Determination (R^2)

Table 10. Coefficient Determination Output

Cross-section fixed (Effects Specification)	
(1)	**(2)**
R-squared	0.293827
Adjusted R-squared	0.257301
F-statistic	8.044277
Prob(F-statistic)	0.000144

The coefficient of determination describes how the dependent variable can be explained through the independent variable. Based on the table, the coefficient of determination from the best model results of the Fixed Effect Model (FEM) is 0.293827. So it can be concluded that 29.38% of the variation in household consumption expenditure can be explained by the old price variable of subsidized fuel and the new price of subsidized fuel. While 70.62% is explained by other variables outside the model and outside this study.

Parameter Significance Test

Simultaneous Test

Table 11. Simultaneous Test Output

Cross-section fixed (Effects Specification)	
(1)	(2)
F-statistic	8.044277
Prob(F-statistic)	0.000144

Based on the significance test conducted, the F-statistic value is generated which describes the effect of the independent variable on the dependent variable. Based on the table above, the value of F_{count} = 8.044277 is obtained. This value is then compared with the F_{table} value at the 5% confidence level which is obtained at 3.30. Because the value of $F_{count} > F_{table}$, it can be concluded that there is a significant influence between the old and new price variables of subsidized fuel on household consumption expenditure in West Kalimantan.

Partial Test

Table 12. Partial Test

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)	(3)	(4)	(5)
Constan	41224080	4071458	10.12514	0.0000
New Price	-10250.20	2522.523	-4.063471	0.0001
Old Price	7902.634	2401.119	3.291229	0.0017

Based on the partial test table above, it can be interpreted as follow:

a. Constant
   Based on the output, the probability value is 0,0000 with $\alpha = 0.05$, then $P < \alpha$. It can be concluded that there is a significant influence between the constant variable and household consumption expenditure.
b. New Subsidized Fuel Price
   Based on the output, the probability value is 0,0001 with $\alpha = 0.05$, then $P < \alpha$. It can be concluded that there is a significant influence between the new subsidized fuel price variable and household consumption expenditure.
c. Old Price of Subsidized Fuel
   Based on the output, the probability value is 0,0017 with $\alpha = 0.05$, then $P < \alpha$. It can be concluded that there is a significant influence between the variable of the old price of subsidized fuel and household consumption expenditure.

Research on Non-Subsidized Fuel Prices
Panel Data Regression Estimation

There are three panel data regression analysis methods that will be used to determine the panel data regression estimation, including the following:

Common Effect Model (CEM)

Table 13. Coefficient estimation common effect model (CEM)

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)	(3)	(4)	(5)
Constan	19685620	1025072	19.20412	0.0000
New Price	347.6478	381.3402	0.911647	0.3629
Old Price	295.4961	402.1305	0.734826	0.4631

Based on Table 13 above, the panel data regression model formed according to the Common Effect Model (CEM) can be estimated by the equation $Y_{it} = 19685620 + 347.6478X_1 + 295.4961X_2$.

Fixed Effect Model (FEM)

Table 14. Coefficient estimation fixed effect model (FEM)

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)	(3)	(4)	(5)
Constan	13862342	1329281	10.42845	0.0000
New Price	471.4497	361.3905	1.304544	0.1933
Old Price	789.0174	388.4230	2.031335	0.0433

Based on Table 14 above, the panel data regression model formed according to the Fixed Effect Model (FEM) can be estimated by the equation $Y_{it} = 13862342 + 471.4497X_1 + 789.0174X_2$.

Random Effect Model (REM)

Table 15. Coefficient estimation fixed effect model (FEM)

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)	(3)	(4)	(5)
Constan	19685620	961795.5	10.42845	0.0000
New Price	347.6478	357.8004	1.304544	0.3322
Old Price	295.4961	377.3073	2.031335	0.4343

Based on Table 15 above, the panel data regression model formed according to the Random Effect Model (REM) obtained the equation $Y_{it} = 19685620 + 357.8004X_1 + 377.3073X_2$.

Best Model Selection
Chow Test

Table 16. Chow Test Output

Effect Tes	Statistic	Degree of Freedom	Probability
(1)	(2)	(3)	(4)
Cross-section F	5.756824	(7,238)	0.0000
Cross-section Chi-Square	38.792402	7	0.0000

Based on the output of the Chow test conducted using the help of eviews software, the results obtained for the value of F_{count} = 5.756824, then based on the degree of freedom (7.238) obtained for the F_{table} value = 2.519670. By using a significance level of 5% or α = 0.05, it can be concluded that $F_{count} > F_{table}$. So based on the chow test results obtained, the best model chosen is the Fixed Effect Model.

Hausman Test

Table 17. Hausman Test Output

Test Summary	Chi-Square Statistic	Chi-Square Degree of Freedom	Probability
(1)	(2)	(3)	(4)
Cross-section random	40.297769	2	0.0000

Based on the output of the Hausman test conducted using the Eviews software, using a significance level of 5% or α = 0.05, the probability value < 0.05, it can be concluded that the best model chosen is the Fixed Effect Model.

Selected Model

Based on the Haussman test, the best model is obtained, namely the Fixed Effect Model. So that the equation is obtained $Y_{it} = 13862342 + 471.4497X_1 + 789.0174X_2$. Based on the data in this study, the FEM equation can be interpreted that Household Consumption Expenditure = 13862342 + 471.4497 New Price of Non-Subsidized Fuel + 789.0174 Old Price of Non-Subsidized Fuel.

Classical Assumption Test

Normality Test

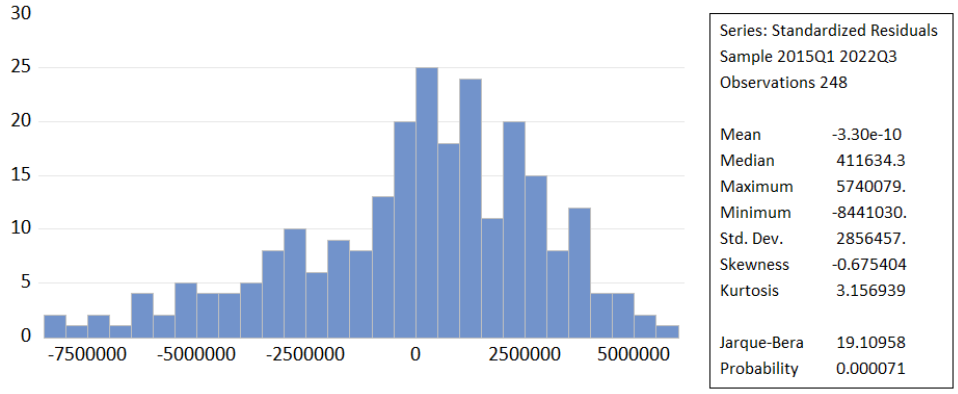

Figure 2. Normality Test Output

Based on the graph and the value in the figure information above obtained with the help of Eviews software, it is known that the probability value is 0.000071 <0.05. So it can be concluded that the residuals are not normally distributed.

Multicollinearity Test

Table 18. Multicollinearity test on non-subsidized fuel price

	X1 (New Price)	X2 (Old Price)
(1)	(2)	(3)
X1 (New Price)	1.000000	0.964266
X2 (Old Price)	0.964266	1.000000

The table shows the output of the multicollinearity test with the help of Eviews software. Based on the matrix table above, the r value or correlation value obtained is not more than 0.8. This means that there is no multicollinearity between the independent variables in this analysis.

Heteroscedastisity Test

Table 19. Heteroscedastisity test on non-subsidized fuel price

Variable	Coefficient	Error Standard	t-Statistic	Probability
(1)	(2)	(3)	(4)	(5)
Constan	1910291	592308.8	3.225161	0.0014
New Price	-131.4579	221.7265	-0.592883	0.5538
Old Price	165.9105	233.7640	0.709735	0.4785

The table above shows the output of the heteroscedasticity test with the help of Eviews software. Based on the table above, the variable probability value is obtained which is more than the significance level of 0.05. This indicates that there is no heteroscedasticity in the variables in this study.

Autocorrelation Test

Table 20. Autocorrelation test on non-subsidized fuel price

Cross-section fixed (Effects Specification)	
(1)	(2)
Durbin-Watson stat	1.907221

Based on the table above, it is known that the output of the best model is the Fixed Effect Model (FEM) so that the Durbin-Watson value is 0.307221. Based on the Durbin-Watson table with a confidence level of 5%, the value of k = 8 and n = 248 is obtained, the value of dL = 1.72883 and dU = 1.84876. The Durbin-Watson value obtained meets $dU \leq d \leq 4\text{-}dL$. So it can be concluded that there is no autocorrelation in the residual value in the FEM model.

Interpretation of The Coefficient of Determination (R^2)

Table 21. Coefficient of determination on research non-subsidized fuel output

Cross-section fixed (Effects Specification)	
(1)	(2)
R-squared	0.258818
Adjusted R-squared	0.230790
F-statistic	9.234318
Prob(F-statistic)	0.000000

The coefficient of determination describes how the dependent variable can be explained through the independent variable. Based on the table, the coefficient of determination from the best model results of the Fixed Effect Model (FEM) is 0.258818. So it can be concluded that 25.88% of the variation in household consumption expenditure can be explained by the old price variable of non-subsidized fuel and the new price of non-subsidized fuel. While 74.122% is explained by other variables outside the model and outside this study.

Parameter Significance Test
Simultaneous Test

Table 22. Simultaneous test on research non-subsidized fuel output

Cross-section fixed (Effects Specification)	
(1)	(2)
F-statistic	9.234318
Prob(F-statistic)	0.000000

Based on the significance test conducted, the F-statistic value is generated which describes the effect of the independent variable on the dependent variable. Based on the table above, the value of F_{count} = 9.234318 is obtained. This value is then compared with the Ftable value at the 5% confidence level which is obtained at 2.2519670. Because the value of $F_{count} > F_{table}$, it can be concluded that there is a significant influence between the old and new price variables of non-subsidized fuel on household consumption expenditure in West Kalimantan.

Partial Test

Table 23. Partial Test Output

Variabel	Koefisien	Standar Error	t-Statistik	Probabilitas
(1)	(2)	(3)	(4)	(5)
Constan	13862342	1329281	10.42845	0.0000
Harga Baru	471.4497	361.3905	1.304544	0.1933
Harga Lama	789.0174	388.4230	2.031335	0.0433

Based on the partial test table above, it can be interpreted as follows:

a. Constan
   Based on the output, the probability value is 0.0000 with α = 0.05, then P < α. so it can be concluded that there is a significant influence between the constant variable and household consumption expenditure.
b. New Subsidized Fuel Price
   Based on the output, the probability value is 0.1933 with α = 0.05, then P > α. So it can be concluded that there is no significant influence between the new price variable of non-subsidized fuel and household consumption expenditure.
c. Old Price of Subsidized Fuel
   Based on the output, the probability value is 0.0433 with α = 0.05, then P < α. So it can be concluded that there is a significant influence between the old price variable of non-subsidized fuel and household consumption expenditure.

Based on the research that has been done, the increase in the price of subsidized and non-subsidized fuel in West Kalimantan can explain Household Consumption Expenditure (PKRT), which is 29.38% for an increase in the price of subsidized fuel and 25.88% for an increase in the price of non-subsidized fuel. The effect on Household Consumption Expenditure illustrates that economic activity continues to run rapidly in West Kalimantan. This will also indicate the level of welfare of the people of West Kalimantan. However, the increase in fuel prices, which affects the increase in other necessities, also makes it difficult for the lower middle class. The government is expected to be wiser in making policies so that the people of West Kalimantan can continue to maintain their economy and improve the welfare of their lives.

CONCLUSION AND RECOMMENDATION

Based on the research that has been done, both the increase in the price of subsidized fuel and non-subsidized fuel has an effect on household consumption expenditure, especially in West Kalimantan. This indicates that economic activity is running in West Kalimantan, so that economic growth has also increased.

Fuel plays an important role in national economic growth, and West Kalimantan is no exception. The increase in the price of subsidized and non-subsidized fuel is a government policy in maintaining economic stability. This policy is still in place in order to maintain economic growth. Household consumption expenditure is influenced by many factors, one of which is fuel oil. Fuel oil is a basic need of the community which is used as transportation fuel, for cooking activities, and so on. The increase in the price of fuel oil triggers an increase in the inflation rate, which will affect people's purchasing power. Purchasing power indicates that there is economic activity taking place in a region. This has an impact on economic growth.

The size of household consumption expenditure is influenced by many factors. The increase in fuel prices in West Kalimantan affects household consumption expenditure. If there is an increase in fuel prices, household consumption expenditure also increases. People with middle to upper economic conditions will be able to maintain or even increase their spending, but for people with lower economic conditions will be greatly affected to be able to meet their basic needs. This will affect economic growth and impact on people's welfare.

The suggestions and recommendations for the local government are to prepare the community to face economic turmoil by providing free education evenly and building public awareness of the importance of education. Keeping the prices of goods and services stable so as not to burden the community will also help the community, especially in the lower economy so that they can still have purchasing power. In addition, the government can periodically provide assistance in the form of basic necessities and subsidized fuel oil with the right target.

REFERENCES

Andilala. (2021, November 5). *Pertamina: Pemakaian BBM berkualitas di Kalbar meningkat sebesar 410 persen*. Retrieved from https://kalbar.antaranews.com/berita/493201/pertamina-pemakaian-bbm-berkualitas-di-kalbar-meningkat-sebesar-410-persen: https://kalbar.antaranews.com

Apriliawan, D., Tarno, & Yasin, H. (2013). Pemodelan Laju Inflansi di Provinsi Jawa Tengah Menggunakan Regresi Data Panel. *Jurnal Gaussian, 2*(4), 301-321.

Ariefanto, M. D. (2012). Esensi dan Aplikasi Menggunakan Eviews. *Ekonometrika*.

Badan Pusat Statistik (BPS). (2022). *Pengeluaran untuk konsumsi penduduk Indonesia per provinsi.* Pontianak: Badan Pusat Statistik Kalimantan Barat.

Baltagi, B. H. (2005). A panel data study of physicians' labor supply: the case of Norway. *Health Economics*, 1-89.

Ekanda. (2016). Analisis Ekonometrika Data Panel. *Mitra Wacana Media*.

Prasanti, T. A. (2015). Aplikasi Regresi Data Panel untuk pemodelan Tingkat Pengangguran Terbuka Kabupaten/Kota di Provinsi Jawa Tengah. *Jurnal Gaussian. vol.4.no.2*, 687-696.

Prasanti, T. A. (2015). Aplikasi Regresi Data Panel Untuk Pemodelan Tingkat Pengangguran Terbuka Kabupaten/kota Di Provinsi Jawa Tengah. *Jurnal gaussian*, 678-696.

Said, M. (2015). Analisis Perubahan Pola Konsumsi Rumah Tangga : Dampak Perubahan Harga BBM (Studi Kasus Kecamatan Kemuning Palembang) . *Jurnal Kompetitif Volume 4 No. 2 2015*, 1-149.