

Transaction Costs In Forming Milled Dry Grain Prices In West Java Province

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Abstract

Transaction costs are part of institutional economics that have an economic impact on farmers. This research analyzes transmission of transaction costs in the formation of prices for farmers milled dry grain in West Java Province. Samples in this research are cities and districts in West Java Province. The data are price of milled dry grain and transaction costs which were analyzed using panel data regression. This research found a transaction costs had no effect on price of milled dry grain rice in West Java Province. Changes in transaction costs are not transmitted in formation of milled dry grain prices in short and long term. Determination of government purchasing prices has not been effective in determining the price of grain at the farmer level and given to the market.

Keywords: *transaction costs, price, grain.*

INTRODUCTION

The price of rice is still a special concern for the government because it is related to people's livelihoods. With this relationship, price of rice and is regulated in form of government purchasing prices (HPP). However, in conditions in the field many grain prices are still found to be below the HPP as can be seen in Figure 1 as follows:



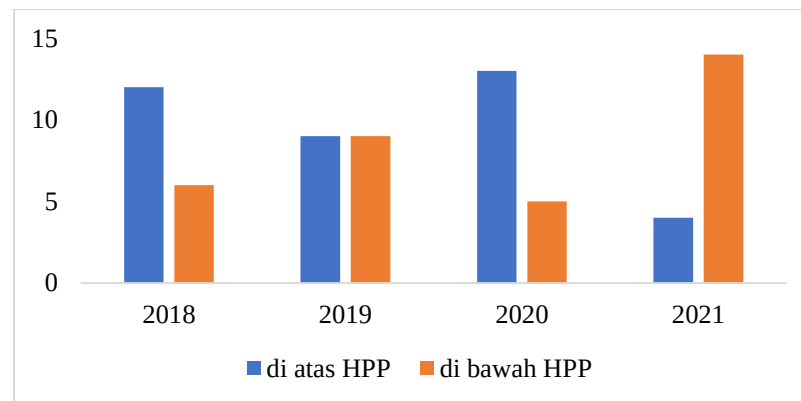


Figure 1. Frequency of milled dry grain (GKG) prices according to HPP in Regencies and Cities of West Java Province during 2018 – 2021 period.

Many cases in the West Java Province area that are under HPP. Price of grain experienced an increase in cases below HPP during the 2020-2021 period. Of the 18 cities and regencies, there are 14 regions with average grain prices below the HPP during 2021 period (BPS Jawa Barat, 2022). This condition shows that the formation of grain prices is still influenced by the market.

Farming activities are formed in the agribusiness system, namely input, farming, production and support subsystems. At various stages of the subsystem there are transaction costs for obtaining goods and services. Transaction costs are part of institutional economics and have an economic impact on farmers (Zulkarnain and Mangiring, 2017). Martins et al. (2010) explained transaction costs affect income because there is no concentration of economic activity at one point (agglomeration), resulting in market failure.

Sultan & Rachmina (2017) stated a transaction costs are found in production activities, for example financing, production facilities (input) and marketing of production results (output). Condition of transaction costs occurs in the marketing process of milled dry grain (GKG) in West Java Province.



Figure 2. Average price of milled dry grain (GKG) and costs to the mill during the 2018 – 2021 period in West Java Province

The market still being dominant in determining grain prices so changes in grain prices are directly related to transaction costs. Transaction costs are included in production costs so they are a factor in consideration for obtaining a selling price that is expected to make a profit. Costs to mills fluctuated with a slightly increasing trend over the last two periods during the 2018 to 2021 period. The same thing also happened to the price of milled dry grain, but with a downward trend for the last two periods.

Transaction costs incurred need to be included in the selling price of an item or production result. Farmers often do not factor transaction costs into income or as part of the selling price. Research by Haryono et.al (2021) found that transaction costs have a direct effect on the profits of cassava farming. This research analyzes the transmission of transaction costs in the formation of prices for farmers' milled dry grain in West Java Province. The novelty of this research is that it uses panel data from various cities and regencies in West Java Province.

METHOD

The data used in this research is panel data. Period in this research is 2018 to 2021. Samples in this research are cities and districts in West Java Province. The data taken includes price of milled dry grain and transaction costs for selling grain. Transaction costs in this research are costs of selling production results including costs to mill and transportation costs. Data were analyzed using panel data regression as follows:

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$$d(\text{GKG})_{it} = b_0 + b_1 d(\text{TC}_{it-1}) + b_2 d(\text{GKG}_{it-1}) + e_{it}$$

$d(\text{GKG})_{it}$: Price changes of milled dry grain (Rp/Kg).

$d(\text{TC})_{it-1}$: Cost changes to milling (Rp/Kg).

$d(\text{GKG})_{it-1}$: previous price changes of milled dry grain (Rp/Kg).

e : Residual

i : Cities/districts

t : period (2018-2021)

Model selection testing is carried out before estimating the coefficients of the regression equation. This test using fixed effect, random effect and pool least squares methods. Classical assumptions tested in this research are only normality and autocorrelation. Heteroscedasticity testing was not carried out due to the superiority of panel data in controlling diversity. Multicollinearity testing was not carried out because the number of independent variables was one.

Next, testing is done to prove whether or not there is an influence of each independent variable on the dependent variable with the following hypothesis:

$$H_0: b_i = 0$$

$$H_1: b_i \neq 0$$

There is an influence of the independent variable on the dependent variable if the null hypothesis (H_0) in this test is rejected. Conversely, there is no influence of the independent variable on the dependent variable if null hypothesis (H_0) is accepted in this test.

LITERATURE REVIEW

Allen (1991) explains that there are other costs that must be incurred in the sales system, namely transaction costs. The concept of transaction costs in this case is transaction costs with a neoclassical approach, namely costs that arise between companies (cooperatives, banks) and individuals (farmers) from the market exchange process.

Coase (1988) said that economic inefficiency can occur not only as a result of imperfect market structures, but also because of the presence of implicit costs (transaction costs). These costs arise as a result of imperfect information where there are certain parties who want to seek personal gain (self-seeking individuals) to obtain satisfaction maximum.



Opportunistic behavior involved in production activities, decision making in a contract will create incentives to maximize net returns from production. This loss of efficiency is a transaction cost in the production process.

Transaction costs related to the exchange of goods/services or the exchange of information will result in an exchange fee. These costs are what are called transaction costs. The existence of transaction costs means that the allocation of costs that must be incurred will increase. Rahman (2009) who links transaction and institutional costs. In this research, it is argued that minimizing transaction costs can be done by making social capital effective and through institutions. The substance of institutions is (1) the rules of the game; (2) rules that regulate human actions or behavior and (3) because they are regulated, these actions or behavior become patterned or become habits.

Mayvani's (2011) research on transaction costs and economic agglomeration in Banyuwangi Regency shows that the existence of high transaction costs causes market failure and also very low levels of company profits. With agglomeration or concentration of activities at one point, transaction costs will be reduced. This research shows that the existence of industries that are close to each other or within one reach, namely between input producing industries and processing industries, will reduce transaction costs.

RESULT

Testing classical assumptions in research shows good results. Normality test results provide a probability above 5 percent alpha (0.41) so that the sample error distribution is spread normally. Results of this test can be seen in Figure 2 as follows:

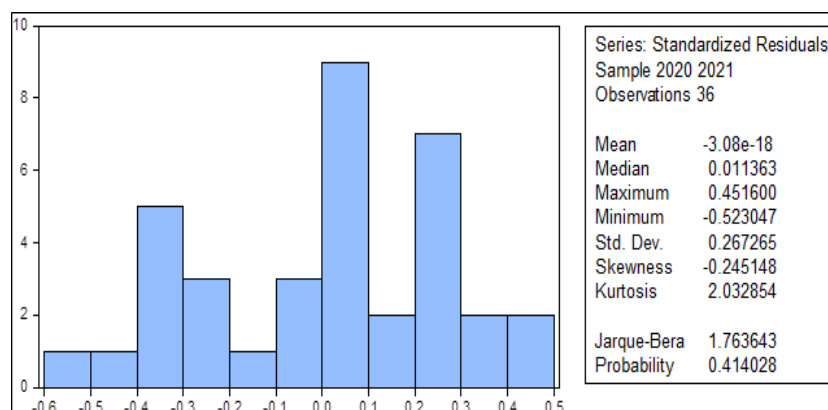


Figure 3. Normality test result.

Next, a model selection analysis was carried out to estimate panel data regression. The results of this model selection can be seen in Table 1 and Table 2 as follows:

Table 1. Random effect test result.

Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	21.886	2.000	0.000
Cross-section random	21.886	2.000	0.000

Source: Primer data (2024).

Table 2. Fixed effect test result.

Redundant Fixed Effects Tests			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.040	(17,16)	0.080
Cross-section Chi-square	41.513	17	0.000

Source: Primer data (2024).

Testing on random effects shows that the best model in the analysis is fixed effects with a probability value below 5 percent (0.05). Tests on fixed effects show that the best model used is pool least squares (PLS). Based on these results, the model used to estimate the effect of transaction costs on changes in the price of milled dry grain is pool least squares (PLS).

Descriptive statistical shows a average cost to mill fluctuated during the period 2018 to 2021. Highest increase in cost to the mill occurred in the 2019 period and the lowest in 2020 period. The highest fluctuation in cost to the mill occurred in the 2018 period. This means that there is a significant difference in cost to the mill. quite large between cities and districts during that period in West Java Province. More details can be seen in Table 3 as follows:

Table 3. Descriptive statistics milling costs in West Java Province during the 2018-2021 period.

	Biaya ke penggilingan			
	2018	2019	2020	2021



Mean	120.83	179.06	132.86	134.10
Minimum	54.23	55.19	50.43	50.00
Maximum	206.38	1000.00	202.71	236.18
Std Deviation	48.11	210.57	52.23	57.28

Source: Primer data (2024).

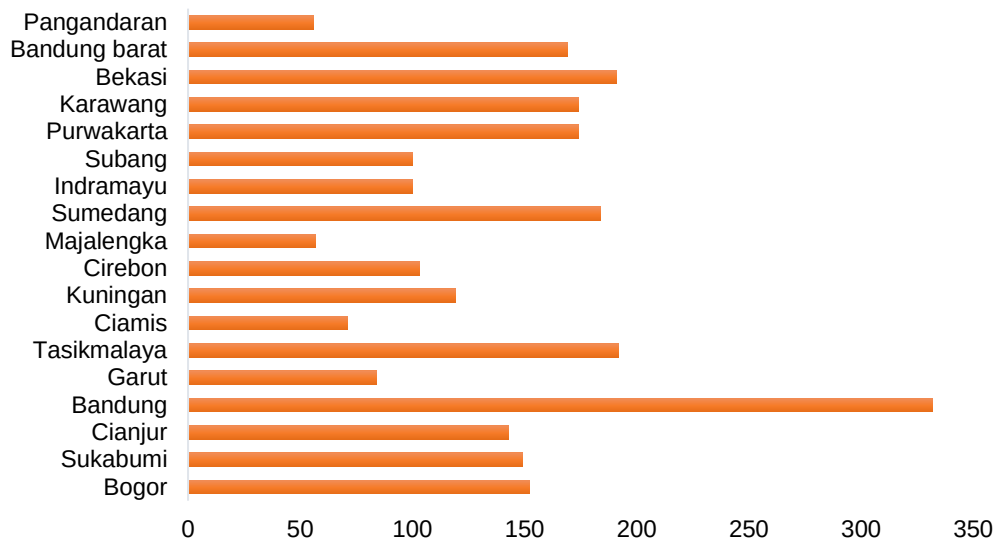


Figure 4. Average cost to the mill by city/district in West Java Province in 2018-2021.

Average price of milled dry grain (GKG) also tends to fluctuate which highest increase in GKG prices occurred in the 2020 period, and lowest in 2019 period. Highest fluctuation in GKG prices occurred in the 2019 period. This means was a large difference in GKG prices between cities and districts during the 2018 period in West Java Province. The overall results of the analysis can be seen in Table 4 as follows:

Table 4. Descriptive statistics price of GKG in West Java Province during the 2018-2021 period.

Indicator	Price of dry milled grain			
	2018	2019	2020	2021
Mean	4949.63	4548.40	5179.05	5040.57
Minimum	3712.22	3148.89	4053.17	3866.00
Maximum	6407.00	6870.00	6131.00	5751.00

Std. Deviation	958.67	1332.91	744.94	462.66
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Source: Primer data (2024).

Test results show transaction costs have no effect on formation prices of milled dry grain at farmer in West Java Province. These findings can be seen in Table 5 as follows:

Table 5. regression analysis result.

Variabel	Koefisien	Std. Error	Prob.
Constant	-0.049	0.046	0.292
Previous grain prices (t-1)	-0.550	0.139	0.000*
Transaction cost	0.062	0.061	0.312
<i>R-squared</i>	0.350	F-stat	10.690
<i>Adj R-squared</i>	0.311	Prob (F-stat)	0.000
<i>Durbin-Watson stat</i>	1.534		

*significant at level 5 percent.

Source: Primer data (2024).

Variation in price of dry grain can be explained by these two independent variables is 35.00 percent and the remaining 65.00 percent is explained by other variables. The r-square value is below 50 percent due to the use of only one variable in this research.

DISCUSSION

Changes in transaction costs do not affect changes in the price of dry milled unhulled grain in West Java Province. The coefficient value of this variable is positive but not significant. This finding explains that the increase in transaction costs does not affect changes in the selling price of milled dry grain at the farmer level.

The findings of Elly et.al. (2009) found that transaction costs influence household decisions in production, demand for production inputs in cattle farming and corn farming, demand and supply of labor, as well as expenditure on consumption. In this regard, the lack of influence of changes in transaction costs on changes in the price of milled dry grain will have an impact on the sustainability of rice farming in West Java Province.



Tabel 6. Short-term and long-term elasticity of changes in transaction costs on the price of milled dry grain in West Java Province.

Variable	Short term elasticity	Long term elasticity
Transaction cost	0.062	0.040

Source: Primer data (2024).

Changes in milling costs in short and long term are inelastic to changes in price of milled dry grain as shown in Table 6. Inelasticity of transaction costs shows that farmers are weak in determining the selling price of milled dry grain. The weakness of farmers can be seen from the majority of selling prices for milled dry grain below the government purchasing price (HPP). This condition causes farmers to receive less income because changes in transaction costs are not transmitted into the selling price of milled dry grain. As research results from Zulkarnain and Mangiring (2017) and Saidah (2018) found that reducing transaction costs to a minimum can increase revenue and thus have an impact on farmers' welfare. These findings also show that transaction costs are costs that are not taken into account in farming, especially in price formation.

CONCLUSION

The research results show transaction costs have no effect on the price of dry milled grain. Changes in transaction costs are not transmitted in the formation of milled dry grain prices in short and long term. The weakness of farmer institutions in determining prices is important. Determination of government purchasing prices has not been effective in determining the price of grain at the farmer level and given to the market.

REFERENCES

- Allen DW. 1991. What are Transaction Costs?. Research in Law and Economics 14: 1-18.
- Badan Pusat Statistik (BPS) Jawa Barat. (2022). Statistik harga gabah di tingkat penggilingan Provinsi Jawa Barat Tahun 2018-2021. Bandung (ID): Badan Pusat Statistik.
- Coase RH. 1960. The nature of the firm. Economica, 4(16): 386-405
- Elly FH, Sinaga BM, Kuntjoro SU, Kusnadi N. (2009). Pengaruh Biaya Transaksi terhadap Perilaku Ekonomi Rumah tangga Petani Peternak Sapi Potong di Kabupaten Minahasa. Forum Pascasarjana. Vol 32, Iss. 3., pp 195-213.



- Haryono, Dwi., Wan Abbas Zakaria., Ktut Murniati., Zulkarnain., Rakhmiati., Etik Puji Handayani., Fikri Syahputra., Vitratin. (2021). Biaya Transaksi dan Pengaruhnya Terhadap Pendapatan Usahatani Ubikayu. Jurnal Penelitian Pertanian Terapan, Vol. 21, Iss. 2, pp 167-183.
<http://dx.doi.org/10.25181/jppt.v21i2.2123>.
- Rahman A. 2009. Biaya Transaksi pada Kelembagaan Pemuda Perkotaan: Studi Kasus Dua Organisasi Pemuda di Kota Bogor [tesis]. Institut Pertanian Bogor.
- Sultan, H. and Rachmina, D. (2017). Pengaruh Biaya Transaksi Terhadap Keuntungan Usahatani Kedelai Di Kabupaten Lamongan, Jawa Timur', Forum Agribisnis, Vol 6, Iss. 2, pp. 161–178.
doi: <https://doi.org/10.29244/fagb.6.2.161-178>.
- Zulkarnain, Z. and Mangiring, W. (2017) 'Analisis Biaya Transaksi pada Kelembagaan Pertanian Gapoktan Penerima Program Pengembangan Usaha Agribisnis Pedesaan (PUAP) di Desa Raman Aji Kecamatan Raman Utara Kabupaten Lampung Timur', Jurnal Penelitian Pertanian Terapan, Vol 17, Iss. 3., pp. 186–196. doi: <http://dx.doi.org/10.25181/jppt.v17i3.325>.
- Saidah, Z. (2018). Analisis Biaya Produksi dan Biaya Transaksi Pada Usahatani Cabai Merah (*Capsicum Annum L*)', UNES Journal Agricultural Scienties, Vol 2, Iss.1., pp. 27–40.
<https://doi.org/10.17358/jma.16.1.66>.

