Recent Development of Small Medium Enterprises' Businesses Profitability: Evidence from Indonesia

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Abstract: Small Medium Enterprises (SMEs) has an important role in the Indonesian Economy based on the fact that more than 90 percent of domestic employment is in this sector. At the same time, the Government of Indonesia enacted law 20/2008, which is focused on strengthening SMEs' participation in economic growth, job creation, and poverty reduction. Using Small Medium Enterprises Dataset of Indonesia from 2010 to 2015 which consisted of 50,000 businesses observations, the research investigated the research problem: the business conditions and business profitability in Indonesia. We used quantile regression and descriptive methods involving the owner's characteristics, such as: gender, age, years of education; and production factor, such as: material cost, and amount of production. We found that: 1) the owner characteristics and production factor had significant changes in the medium business sector over the 5 year period; 2) in the recent year, the owner characteristics played important role in the small business sector, compared to the 5 years earlier. From the policy perspective, the government could increase the profitability factor in SMEs by ensuring the coordination between stakeholders.

1 INTRODUCTION

1.1 Research Background

Small and Medium Enterprises (SMEs) play a significant role in promoting economic growth, and ensuring equitable and sustainable development for the country (Kerr et al., 2014). This condition is usually associated with their ability to absorb labor that the formal sector cannot accommodate. A study conducted in Thailand shows that SMEs contribute 60 percent to their employment (Anuchitworawong, et al., 2006). In Indonesia, SMEs have a considerable contribution to economic national development. It was about 60 percent to GDP of Indonesia and absorbed up to 116 million labors in late 2017. The rapid development of SMEs has been shown by their contribution to the national income, the provision of employment, as well as the number of business units and entrepreneurs.

SMEs as referred to the Law No.20/2008 have criteria which are distinguished in their respective ways covering micro, small-scale and medium-sized businesses. After 2015, the percentage of SMEs was 99.9 percent of all business units, while the remaining 0.01 percent covered a total of large business units (UB). The total number of Micro Enterprises (UMi) from 2016 to 2017 was growing 2.04 percent or has increased about 1,243,322 units, 3.56 percent for Small Enterprises (UK) which increased about 26,043 units, and 3.67 percent of increase for Medium Enterprises. Aside from being one of the alternatives to create job opportunities, SMEs also contribute to driving the pace of economic growth after the monetary crisis in 1997/98 when the large companies experienced difficulties in developing their businesses. Data from the Central Bureau of Statistics (2013) showed that the number of SMEs did not decrease after the economic crisis in 1997 – 1998. In fact, the increasing number of SMEs was able to absorb 85 million to 107 million workers until 2012.

We argue that such huge contribution and coverage of the Indonesian economy renders the studies on SMEs important, especially those dealing with the performance and characteristics aspects of the SMEs. We specifically focus on the ownership of the SMEs, practically investigating how the

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characteristics of the owner of SMEs correlates to the performance of the SMEs. We are interested to do disentangle, for instance, whether SMEs run by female owners are performing better, or whether more educated owners correspond to better performing SMEs. While answers might sound trivial, we notice that only a little number of researches are done on the SMEs in Indonesia covering such aspects. This study aims to contribute into the literature in that regard.

1.2 Literature Review

1.2.1 On the Development and Importance of SMEs in Indonesia

This section provides a review of relevant literature on the inquiry of the study. First, we describe the literature on the development and general condition of the SMEs in Indonesia. The development of SMEs is believed to strengthen the foundation of the national economy. This cannot be denied that the ability of SMEs is able to absorb 90 percent of the workforce in Indonesia. The percentage of micro and small enterprises to GDP is expected to increase average income for low-income groups in order to reduce poverty. Literature studies on SMEs in their development have been widely carried out in Indonesia and some other countries in the world. The discussion in most studies on SMEs emphasized the impact of SMEs, constraints faced, and institutional problems. Hal Hill (2001) stated that SMEs in Indonesia plays an important role in the domestic economy so that it becomes a challenge for the government in establishing an appropriate policy to deal with several institutional issues related to the deregulation of business licensing in the region, subcontracting employment activities, and access to microfinance services.

The ability of SMEs to improve national economic growth requires legal protection through government laws and regulations, both in terms of production and financial. According to Wuryandani and Meilani (2013), the policies that impose SMEs are often as the cause of higher informal sector in Indonesia due to the reluctance of companies to formally register their business. Informality can be a barrier to cooperation between large companies and SMEs. Informality can also prevent banks from providing access to credit. The limitation of access to financial services was found by several studies as the main obstacle to the development of SMEs. In the Survey Report of Small and Medium Industry (2015) 38.84 percent of SMEs reported access to financing as a major obstacle, while 90.11 percent of SMEs did not build any partnership or receive any assistance to run their businesses. As Camino and Cordone (1997) their research in Europe explained that the reason for the difficulty of SMEs getting access to credit was due to the obligation to involve a loan guarantor institution that could not be directly carried out by the bank. Studies conducted on the sustainability of SMEs showed that 75 percent of SMEs throughout the world have short business periods of no more than five years (Charles et al., 2005).

Furthermore, studies conducted on a number of SME entrepreneurs in the Special Province of Yogyakarta experienced several obstacles, including: marketing, funding capital, innovation and utilization of information technology, use of raw materials, production equipment, absorption and empowerment of workers, business development plans, and readiness to face the challenges of the external environment. Purwaningsih and Kusuma (2015) identified internal and external factors that influenced the performance of batik and handicrafts clusters in the creative industry of SMEs in Semarang. The results of the study using partial least equation modeling (PLS - SEM) method showed that internal and external factors significantly determined the performance of SMEs. Internal factors include human, financial, technical production and marketing, while external factors consist of government policies, socio-economic and cultural conditions, and the role of related institutions. The influence of external factors on the performance of SMEs was greater than internal factors. The internal factor such as technology gave a small influence because the production technology was made hand-crafted.

The role of SMEs in the history of economic development in Indonesia has contributed to holding back the crisis turmoil in 1998. Tambunan (2002) suggested the need for SMEs' industrial strategies because the sector has a better level of competition compared to large businesses, seen from the percentage share of output that reflects efficiency and productivity. Different results are shown by a study conducted by Wahyuningrum et al. in 2014. The study mapped the main problems of SMEs in Indonesia using the Ishikawa Diagram. The main problem of SMEs in Indonesia lies precisely in the quality of their human resources. SMEs in Indonesia are also facing limitation in the development of education and human resource skills. Therefore, SMEs should be able to absorb and empower uneducated and unskilled labor to be more

productive (Pradhan, 2014).

In addition, several studies also supported the important role of SMEs in improving the economy in developing countries. The positive impact on the economy was explained by the study of Daniels and Mead (1998) that SMEs contributed 12-14 percent of national income in Kenya. This was supported by Rogerson's (2000) study that the majority of black-owned SMEs in South Africa were micro business replications that could increase employment. The composition of the workforce absorbed one third of the total 27 companies was women and 90 percent of them are black people. As explained in the literature study above, this study is intended to examine what most factors determine the performance of SMEs between production factors and owner characteristics. Considering the availability of survey data in Indonesia, this study will classify SMEs into micro, small and medium enterprises based on the classification in Law 20/2018.

1.2.2 On the Impacts of Different Ownerships of SMEs

Intriguing results are seen in the literature covering the different ownership types of SMEs across the globe. Obstacles in starting and raising businesses, including getting a business loan were also faced mainly by women as owners. Women's ownership in the SMEs have a significant contribution in Indonesia, there were more than half of SMEs in Indonesia owned by women (IFC, 2016). The World Bank Company Survey (2009) estimated that women have 44.1 percent of small businesses, 35.0 percent of medium-sized businesses and 27.7 percent of large businesses. However, the data in 2011 showed that there was no difference in productivity between female-owned SMEs and male-owned SMEs when they were running the company. Women (23%) were less often involved in manufacturing than men (33%), which is usually a more productive sector.

Another study shedding light on the gender impacts of ownerships is on the Canadian context, as it found that in 2011, SMEs owned by female entrepreneurs tend to have a lower profit per employee but were more innovative than the male-owned SMEs (Rosa and Sylla, 2018). In the Netherlands, female-owned SMEs are shown to utilize the performance-related pay than the male-owned ones (de kok and Roepers, 2007), while Aidis (2002) found different business success criteria between the male-owned and female-owned SMEs in Lithuania. A study conducted on the Chinese SMEs also found that single-owned SMEs tend to have a better conversion rate of research and development into products (Deng et al, 2013).

Several articles have also investigated the differences in SMEs performance between those owned by families (i.e., family-owned) and not. The results are striking – SMEs owned as family businesses are found to be less able to sustain a high rate of sales growth (Hamelin-Schertzer and Trojman, 2007) and tend to deliberately limit their growth (Hamelin, 2013). Such SMEs are also shown to have negative propensity to expand to the international market, as such family-ownership are more conservative (Fernandez and Nieto, 2006). While this study does not cover such broad topics of the previously-mentioned ownership types, this study focuses on the gender, age, and education characteristics of the owners, along with the performance-related control variables.

2 DATA AND MODEL

This study utilizes two datasets of Indonesian enterprises, namely the datasets on Micro and Small Industry (Industri Menengah Kecil; henceforth referred to as IMK) of the year 2010 and 2015.

Such datasets are gathered by Indonesia's Central Bureau of Statistics (Badan Pusat Statistik; henceforth referred to as BPS), containing the firm-

Table 1: Statistics Descriptive of IMK 2010 Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Turnover (in IDR; per month)	59,657	9,308,986	32,700,000	-	1,990,000,000
Owner's gender (Female; percent)	59,657	54,86	0	-	1
Owner's age (years of age)	59,657	44	12	10	99
Owner's years of education (in years)	59,657	8	3	5	18
Year of production	59,657	1,996	11	1,9	2,01
Material cost (in IDR; per month)	59,657	5,015,742	21,500,000	-	1,000,000,000
Amount of production	59,657	9,308,986	32,700,000	-	1,990,000,000

Table 2: Statistics Descriptive of IMK 2015 Data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Turnover (in IDR; per month)	58,137	13,216,413	54,300,000	-	5,300,000,000
Owner's gender (Female; percent)	8,443	60,7	0	-	1
Owner's age (years of age)	58,273	46	12	1	99
Owner's years of education (in years)	58,254	8	3	5	18
Year of production	58,253	1,998	91	1	2,015
Material cost (IDR; per month)	58,29	7,642,547	43,400,000	-	5,250,000,000
Amount of production	58,29	13,200,000	54,300,000	-	5,300,000,000

level characteristics and performance of firms of such classifications. The following are the selected statistic descriptives of the datasets used in the study. First, Table 1 presents such descriptives of the IMK 2010 Data. Second, Table 2 depicts the statistics descriptive of the IMK 2015 data.

Generally discussing the descriptive statistics above, we may first notice an increase of female ownership of enterprises between 2010 (around 54 percent) and 2015 (around 60 percent). Material cost and turnover are also increasing, although that is only to be expected due to inflation. Meanwhile, the concentration of the other owner characteristics such as the owner's age and the owner's years of education remained relatively unchanged.

The econometric estimation used in this study is the quantile regression. We do so in order to gain better, richer characterization of the the sample of micro and small industries within our dataset. First, we classify the enterprises into micro, small, and medium enterprises. We specifically estimate our models within the 25th, 50th (median), 75th, and 99th quantiles of each subset of the sample, resulting in four estimations for the micro enterprises, four likewise for the small enterprises, and only one estimation for the medium enterprises due to the sample size.

The model specification used in the study is as follow.

$$Q_N(\beta_q) = \sum_{i:y_i \geq x_i'\beta}^{N} q|y_i - x'_i \beta_q| + \sum_{i:y_i \geq x_i'\beta}^{N} (1-q)|y_i - x'_i \beta_q|$$

Where q denotes the quantiles (i.e., the 25th, 50th, 75th, and 99th) used in the regressions, y_i denotes the dependent variable, i.e. the turnover in our case, and x_i denotes the vector of explanatory variables used in the study, such as the gender of the owner, age of the owner, years of schooling of the owner, material cost, among others. As such, the results of our estimations are shown in the following section.

3 RESULTS

In this research, small and medium enterprises have been developed between 2010 and 2015. During the period of time, the development was reflected by the increase in profit, raw material costs, and total production. From the ownership structure, there was no significant difference between the average characteristics of business owners (age, education, and year of production) in 2010 and 2015. To further analyze, we use quantile regression to observe changes that occur in each year (see at table 3 the Appendix).

In 2010, the ownership factor was found more dominant in the micro industry compared to small and medium industries. However, female owners were young and had a lack of education, and also earned lower profits compared to small and medium industries. In particular, female micro-industry owners had 2 percent lower profit compared to other micro-industry owners. This finding is similar to those of Rosa and Sylla (2018) study, where female-owned SMEs are shown to have a relatively lower profit.

We further use several production-related control variables in the study. From the production structure, industries that were most sensitive to raw material costs were small industries that had medium to high profits. An increase of 1 percent in raw material costs will reduce profits by 1.04 percent. From the results of this estimation, small industries that have mid to high level profits must be considered because they were vulnerable to rising raw material prices. Meanwhile, the micro industry was only affected by

a third. In the case of 1 percent increase in raw materials, the profit will decrease to 0.3 percent.

In terms of production, the amount of production significantly affected the increase in production. The biggest effect of production was in small industries that had medium to high profit rates. If this industry experienced a 1 percent increase in production, it would increase profits by 1.9 to 2 percent as in table 2 (see table 4 at the appendix).

In 2015, the condition of SMEs changed from both factors. The most dominant change was the role of women being dominant in the ownership of SMEs. Female owners got 4 percent to 10 percent higher profits than other owners. This happened specifically only for small and micro industries that had small to medium profit rates. This finding provides an alternative look to the Rosa and Sylla (2018) study mentioned above.

Regarding the production structure that occurred, the level of risk of an increase in raw materials haunts small, micro and medium industries. An increase of 1 percent in raw material costs will reduce industrial profits from 0.5 to 1.1 percent. This risk was anticipated by the government by providing funding incentives, especially for the micro industry.

From the scope of production, the number of production has increased significantly compared to 2010. The increase in the number of production by 1 percent, will increase profits up to 2.1 percent, especially small industries that have a medium to high income level.

4 CONCLUSION

Our study attempted to shed light on the impacts of different ownership types and several production-related variables on the performance of SMEs in Indonesia across two different periods of time. Our findings suggest that across time, the defining characteristics of SMEs success differ – female owners becoming more profitable in 2015 compared to such in 2010.

From the data analysis, it can be seen that the characteristics of owners in SMEs do not have an important influence on business profitability, but to address the inclusiveness of women in SMEs, the government can provide training to female business owners to increase production. This suggestion is inseparable from the large influence of female owners in the profit of SMEs.

In terms of production raw materials, the provision of affordable raw materials can be a priority of the government and related agencies. The high cost of raw materials will cause the SMEs to not get the optimal level of profit. This is because small and medium industries have a vulnerability if raw material costs increase.

For further growth of the SMEs, better standardization of the production process is needed. So far, the government's support in improving the quality of SME has implemented by establishing of Law No. 20 of 2008 about SMEs, that aimed to facilitate the implementation of an efficient business environment for SMEs performance. There are four government tasks related to the production of SMEs, namely: improving production techniques, facilitating the procurement of facilities and infrastructure, implementing standardization of the production process, and improving the planning or business plan of SMEs. With an adequate focus on the owners' inclusiveness, Indonesian SMEs are only expected to grow even better, given the right directions.

REFERENCES

Aidis, Ruta. (2002). "Why less? The gendered aspects of small-and medium-sized enterprise (SME) ownership under economic transition." (2002): 2.

Anuchitworawong, Chaiyait, Thida Intaracote, Pakorn Vichanond. (2006). The Economic Impact of Small Business Credit Guarantee.

Badan Pusat Statistik. Micro Small and Medium Enterprises Progress Period 1997 -2013. [Retrieved from http://www.depkop.go.id], Accessed on January 10, 2019.

Badan Pusat Statistik. Survei Industri Mikro dan Kecil 2010 Tahunan. Jakarta: Direktorat Statistik Industri.

Badan Pusat Statistik. *Survei Industri Mikro dan Kecil 2015 Tahunan*. Jakarta: Direktorat Statistik Industri.

Charles, Nyangara Asaka, Patrick B Ojera, Oima David. (2015). Factors Influencing Choice of Strategic Management Modes Of Small Enterprises. Journal of Innovation and Enterpreneurship, 4: 4.

Camino, David, and Clara, Cordone. (1997). The Valuation and Cost of Credit Insurance Scheme for SMEs: The Role of the Loan Guarantee Association.

Daniels, Lisa, Donals C. Mead. (1995). The Contribution of Small Enterprises to Household and National Income in Kenya.

Deng, Ziliang, Peter S. Hofman, and Alexander Newman. (2013). "Ownership concentration and product innovation in Chinese private SMEs." *Asia Pacific Journal of Management* 30.3 (2013): 717-734.

Fernández, Zulima, and María Jesús Nieto. (2006). "Impact of ownership on the international involvement of SMEs." *Journal of international business studies* 37.3 (2006): 340-351.

Hamelin, Anaïs. (2013). "Influence of family ownership on small business growth. Evidence from French SMEs." *Small Business Economics* 41.3 (2013): 563-579.

Hamelin-Schertzer, Anaïs, and Joseph Trojman. (2007). *Family ownership and growth: the case of French SMEs*. No. 07-024. RS. ULB--Universite Libre de Bruxelles.

Hayashi, Mitsuhiro. (2003). *Development of SMEs in the Indonesian Economy*. ANU Research Publications.

Hill, Hal. (2001). Small and Medium Enterprises in Indonesia: Old Policy Challenges for a New Administration. Asian Survey, Vol. 41, No. 2 (March/April 2001), pp. 248 – 270.

IFC. (2011). Strengthening Access to Finance for Women-Owned SMEs in Developing Countries. Washington, D.C.: International Finance Corporation and Global Partnership for Financial Inclusion.

Kementerian UMKM. Statistik Usaha Mikro, Kecil dan Menengah Tahun 2016 – 2017. [Retrieved from http://www.depkop.go.id], Accessed on January 20, 2019.

Kerr, William R., Ramana Nanda, Matthew Rhodes-Kropft. (2014). Enterpreneurship as Experimentation. The Journal of Economic Perspectives, Vol. 28, No. 3, 25-48

de Kok, Jan, and A. Roepers. (2007). *The relevance of size, gender and ownership for performance-related pay schemes*. No. H200722. EIM Business and Policy Research.

OECD. (2018). SME and Enterpreneurship Policy in Indonesia. [Retrieved from http://www.oecd.org/publications/sme-and-entrepreneurship-policy-in-indonesia-2018-9789264306264-en.htm]. Acessed on January 20, 2019

Pradhan, Jaya Prakash. (2011). R&D Strategy of Small And Medium Enterprises In India. Science, Technology, and Society, Vol. 16, No.3, 373-395.

Purwaningsih, Ratna and Kusuma D.P. (2015). *Analisis Faktor – Faktor yang mempengaruhi Kinerja Usaha Kecil Dan Menengah (UKM) dengan Metode Structural Equation Modeling (Studi Kasus UKM berbasis Industri Kreatif Kota Semarang).* Semarang: Porsiding SNST ke-6 Fakultas Teknik Universitas Wahid Hasyim.

Rogerson. (1998). Successful SMEs in South Africa: The Case of Clothing Producers In the Witwatersrand.

Rosa, P., Carter S. & Hamilton, D. (1996). Gender as determinant of small business performance: Insights from a British Study. Kluwer Academic Publishers, 8: 463.

Rosa, Julio Miguel, and Daouda Sylla. (2018). "A comparison of the performance of majority female-owned and majority male-owned small and medium-sized enterprises." *International Journal of Entrepreneurship and Small Business* 35.3 2018: 282-302.

Tambunan, Tulus, T.H. 2002. *Usaha Kecil dan Menengah di Indonesia Beberapa Isu Penting*. Jakarta: PT Salemba Empat.

Wahyuningrum, Putri et. al. (2014). *Peningkatan Kinerja Usaha Kecil dan Menengah (UKM) Kluster Kerajinan di Kota Depok Menggunakan The House Model.* Journal of Management and Organizations, Vol.5, No. 2.

World Bank. (2012). World Development Report 2012: Gender Equality and Development. Washington. D.C.

Wuryandani, Dewi and Meilani, Hilma. (2013). The Role of Local Governments in Development Policy Micro Small and Medium Enterprises in the Province of Yogyakarta. Jurnal Ekonomi & Kebijakan Publik, Vol. 4 No. 1, Juni 2013 103 – 115.

APPENDIX

Table 3.

Year 2010	Micro				Small				Medium
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Q25	Q50	Q75	Q99	Q25	Q50	Q75	Q99	Pooled
Female	-0.0210***	-0.0141***	-0.0119***	-0.00137**	0.0209	0.0101	0.0331	0.0266	-0.0561
	(0.00637)	(0.00497)	(0.00329)	(0.000553)	(0.0478)	(0.0405)	(0.0341)	(0.0211)	(0.204)
Age	-0.00249***	-0.000880***	-0.000389***	-2.36e-05	0.00143	0.000934	-0.000865	0.00157**	-0.00777
	(0.000283)	(0.000221)	(0.000146)	(2.46e-05)	(0.00154)	(0.00131)	(0.00110)	(0.000680)	(0.00733)
years of education	-0.00785***	-0.00526***	-0.00419***	-0.000146	-0.00257	-0.00272	-0.00395	-0.00310*	-0.00989
	(0.00112)	(0.000874)	(0.000580)	(9.73e-05)	(0.00420)	(0.00356)	(0.00299)	(0.00185)	(0.0198)
production year	-0.00324***	-0.00176***	-0.000738***	-5.53e-05**	-0.00105	-0.00210	-0.00172	-0.00219***	-0.00612
	(0.000294)	(0.000229)	(0.000152)	(2.55e-05)	(0.00166)	(0.00140)	(0.00118)	(0.000731)	(0.00687)
log(raw material cost)	-0.353***	-0.371***	-0.413***	-0.464***	-0.813***	-0.956***	-1.044***	-0.984***	-0.678***
	(0.00342)	(0.00267)	(0.00177)	(0.000297)	(0.0210)	(0.0178)	(0.0149)	(0.00924)	(0.0598)

Table 3. (cont.)

Year 2010	Micro				Small				Medium
log(production amount)	1.179***	1.247***	1.349***	1.462***	1.691***	1.912***	2.080***	1.980***	1.673***
	(0.00444)	(0.00346)	(0.00230)	(0.000385)	(0.0362)	(0.0307)	(0.0258)	(0.0160)	(0.157)
Constant	10.15***	6.659***	3.895***	1.715***	4.116	5.178*	3.416	5.406***	12.98
	(0.589)	(0.459)	(0.304)	(0.0511)	(3.378)	(2.860)	(2.406)	(1.489)	(14.15)
Observations	52,736	52,736	52,736	52,736	4,562	4,562	4,562	4,562	232
R-squared									0.439

Standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

Table 4.

Year 2015	Micro						Small		Medium
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
VARIABLES	Q25	Q50	Q75	Q99	Q25	Q50	Q75	Q99	Pooled
Female	0.0454***	0.0202***	0.00137	2.29e-06	0.105**	0.0770***	0.0753***	0.0113	0.000941
	(0.00695)	(0.00398)	(0.00199)	(1.88e-05)	(0.0420)	(0.0235)	(0.0192)	(0.0102)	(0.175)
Age	-0.000841**	-0.000915***	-0.000320***	-3.45e-07	-0.00122	-0.00227***	-0.00175**	-7.77e-05	0.00666
	(0.000329)	(0.000189)	(9.45e-05)	(8.92e-07)	(0.00152)	(0.000852)	(0.000695)	(0.000370)	(0.00487)
Years of education	-0.00686***	-0.00630***	-0.00199***	-8.23e-06**	-0.00872**	-0.0167***	-0.0162***	-0.00325***	0.0277**
	(0.00122)	(0.000699)	(0.000349)	(3.30e-06)	(0.00432)	(0.00242)	(0.00198)	(0.00105)	(0.0137)
Years of production	-0.00136***	-0.000774***	-0.000231**	6.14e-07	-0.00257	-0.00238***	-0.00311***	-0.000153	0.00127
	(0.000337)	(0.000193)	(9.67e-05)	(9.13e-07)	(0.00157)	(0.000878)	(0.000716)	(0.000382)	(0.00477)
Log_biaya_bahan_baku	-0.518***	-0.568***	-0.619***	-0.654***	-1.000***	-1.095***	-1.100***	-1.031***	-0.905***
	(0.00481)	(0.00276)	(0.00138)	(1.30e-05)	(0.0243)	(0.0136)	(0.0111)	(0.00593)	(0.0581)
Log_jumlah_produksi	1.401***	1.498***	1.595***	1.654***	1.947***	2.097***	2.125***	2.027***	1.835***
	(0.00599)	(0.00344)	(0.00172)	(1.62e-05)	(0.0359)	(0.0201)	(0.0164)	(0.00875)	(0.108)
Constant	5.494***	3.882***	2.185***	1.374***	6.318**	5.435***	6.720***	1.469*	-1.525
	(0.679)	(0.389)	(0.195)	(0.00184)	(3.215)	(1.802)	(1.470)	(0.784)	(9.679)
Observations	51,668	51,668	51,668	51,668	5,790	5,790	5,790	5,790	387
R-squared									0.468

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1