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Small and Medium Enterprises under the Global Economic Crisis: Evidence from Indonesia

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ABSTRACT

This paper examines how small and medium enterprises (SMEs) increased net sales under the global economic crisis in 2008-2009 using Indonesian firm-level data. The results from a probit estimation indicate that relatively larger firms with more resources were more successful by diversifying domestic markets especially entering markets on islands other than Java. It was made possible by improving quality of existing products without large investment in new facility or equipment in the case of relatively low-technology firms, but not by selling products at lower prices. Moreover, consumers demanded better quality domestic products from local SMEs to substitute imported goods. Such a new type of import substitution in consumer behaviour was induced because foreign enterprises could not continue exporting their products to Indonesia due to problems foreign exporters faced in their own countries. These findings suggest effective support to enhance survival rate of local SMEs under the crisis with shrinking foreign markets.

Keywords: small and medium enterprises, global economic crisis, sales increase, market diversification, Indonesia

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INTRODUCTION

Governments in many low- and middle-income countries understand the important role of small and medium enterprises (SMEs) for the country's economic development. SMEs are expected to contribute to industrial growth by promoting greater economic dynamism (Wren and Storey, 2002). As a result, there is a strong and positive association between SME growth and GDP per capita growth (Bech, Demirguc-Kunt, and Levine, 2005; Thurik and Wennekers, 2004). However, many SMEs are vulnerable and often have difficulty in surviving due to lack of resources (Acs, 1999; Auster and Aldrich, 1984). This is the case especially during serious economic downturns.

Countries in Southeast Asia experienced two critical economic turbulences in the last two decades, i.e., the Asian financial crisis in 1997-1998 and the global economic crisis in 2008-2009. The Asian financial crisis, which was triggered by the rapid depreciation of Thai Baht, spread to other Asian countries such as South Korea, Malaysia, Indonesia and the Philippines. Depreciation of currency and increase of the interest rate had caused production cost increase especially from imported materials and capital cost increase for working and investment capital, resulted in declining investment (Harvie, 2002; Lauridsen, 1998). Consequently, unemployment rate increased and regional domestic demand collapsed (Deyo, 2002; Harvie, 2002, Patten, Rosengard, and Johnston, 2001; ter Wengel and Rodriguez, 2006a). On the contrary, the global economic crisis from 2008 was catalysed by the sub-prime mortgage crisis in the United States (US) and spread to other high-, middle- and low-income countries in the world (Liu, 2009; Udell, 2009; Vandenberg, 2009). It influenced largely because the main export markets for low- and middle- income countries, such as US and European Union (EU), had shrunk (Cosh et al., 2009; Tambunan, 2010). The global economic crisis caused sharp export decline (Liu, 2009).

Therefore actions SMEs had to take under the global economic crisis in 2008-2009 were different from actions under the Asian financial crisis in 1997-1998. Operations by SMEs under the Asian financial crisis have been studied extensively. However, limited number of literature studied characteristics and operations of SMEs under the global economic crisis. Moreover, it is often extremely difficult to obtain reliable financial data from small firms in low- and middle-income countries (Bigsten and Gebreeyesus, 2007; McPherson, 1996; Mead and Liedholm, 1998). Hence, a study examining SMEs with actual sales information has not been conducted in spite of the fact that the shrinking market is the critical cause of SME problems. It is important to

know what types of actions by SMEs could increase survival rate with shrinking markets under the economic turbulences. This paper examines factors for the sales increase of SMEs in the midst of the global economic crisis using unique firm-level data of Indonesian SMEs.

The results from a probit estimation indicate that relatively larger firms with more resources were more successful by diversifying domestic markets especially entering markets on islands other than Java. It was made possible by improving quality of existing products without large investment in new facility or equipment in the case of relatively low-technology firms. However, selling products at lower prices did not have significant impact on sales increase. Moreover, consumers demanded better quality domestic products to substitute imported goods during the global economic crisis. Such a new type of import substitution in consumer behaviour was induced by import decrease because of difficulty in continuing export by foreign enterprises.

The findings of this paper suggest that the economic crisis in high-income countries is a chance for low- and middle-income countries to develop local manufacturing SMEs utilising demands in their own countries with less competitors from abroad. Access to capital for investment is not the most critical factor for supporting local SMEs but support to upgrade product quality is more effective.

The remainder of the paper is organised as follows: Section 2 reviews existing literature, Section 3 presents the estimation methodology and data, and Section 4 discusses the results of estimations. Section 5 presents policy implications and conclusions.

LITERATURE REVIEW

Our argument with respect to the possible factors of sales increase by SMEs under the global economic crisis relies on literature that discusses the characteristics and operations of SMEs under the Asian financial crisis. Factor variables are categorised into two issues, (1) the characteristics of SMEs and (2) intentions of SME operations.

There are five characteristics of SMEs related to the financial crisis that existing literature discussed; 1) utilisation of credit from financial institutions, 2) gender of SME owners, 3) size of firms, 4) locations and 5) sector SMEs belong. First, formal credit influences advancing businesses (Beck and Demirguc-Kunt, 2006; Biggs and Shah, 2006; Indarti and Langeberg, 2004; Karlan and Morduch, 2009) under the stable and growing economic situation. Access to formal finance also had a second effect in that it induced SMEs to keep accounting records,

which are essential for analysing own businesses (Karlan and Valdivia, 2011; Mano et al., 2011). Yet, interest payment from the credit which enterprises got before the crisis had increased because interest rate increased drastically (Sato, 2000). SMEs with less reliant on formal credit were less influenced (Berry, Rodriguez and Sandee, 2001).

Second, female entrepreneurs are often disadvantaged in low- and middle-income countries because of women's risk-averse characteristics and low social status in those countries (Indarti and Langeberg, 2004; Mead and Liedholm, 1998; Nichter and Goldmark, 2009; Sinha, 2005). However such a situation of less reliant on formal market could make firms less damaged (Berry, Rodriguez, and Sandee, 2001; Tambunan, 2010). Hence it is considered that such disadvantages of inaccessibility to formal market had adverse effect under the crisis and protected women owned firms from shrinking markets.

Third, many articles conclude that smaller enterprises grew faster than well established and large ones under the stable economic condition (Andersson et al., 2004; Ayyagari, Demirguc-Kunt and Maksimovic, 2011; Bigsten and Gebreeyesus, 2007; Tybout; 2000). However, during the Asian financial crisis, firms that increased size before the crisis reduced flexibility and the firm's crisis survival ability (Berry and Rodriguez, 2001; Sato, 2000; Wiklund et al., 2003). Smaller firms expanded export more than larger enterprises (Hall and Harvie, 2003; Tambunan, 2005; ter Wengel and Rodriguez, 2006a).

Fourth, Brata (2004) and Wie (2000) conclude with studies in Indonesia that SMEs in Java have suffered more than other islands during the Asian financial crisis. Tambunan (2010) also assumes the possibility of regional differences in the crisis impact. Patten, Rosengard, and Johnston (2001) discusses that rural sector was less affected by the financial crisis than urban areas, rural sector was more affected by severe drought in 1997-98 season.

Fifth, Sandee, Isdijoso, and Sulandjari (2002) and Tambunan (1999) study cases of successful export firms under the crisis in the agro, ceramic, metal casting, rattan handicraft, footwear, and garment industries. Sato (2000) and Wie (2000) discuss that the engineering goods industries that were depended most of their inputs on imports such as the automotive industry were heavily damaged. The automotive industry was also struck because of its characteristics that vehicles are purchased on credit (Wie, 2000).

For another category (2) SMEs' operational intentions, existing literature have concluded that mainly two kinds of operations by SMEs worked positively for survival under the Asian

financial crisis; a) penetration to foreign markets and b) entry into lower price domestic markets. First, non-exporters were the ones hit most severely (Berry and Rodriguez, 2001; Tambunan, 1999), thus SMEs that had sold products only in domestic markets before the crisis started pursuing foreign markets (Harvie 2002; Sandee, Isdijoso, and Sulandjari, 2002; Sato, 2000; Wie, 2000). The Asian financial crisis influenced Asian countries heavily, but not much for countries in other regions. For example, IMF raised its forecast of GDP growth rate of US, when it was revised after outbreak of the crisis (Goldstein, 1998). Hence markets in other regions could be sources for revival of SMEs in Asian countries. For the shift to the foreign markets, improving product quality and introduction of new products were necessary to meet needs of more demanding markets (Harvie 2002; Sandee, Isdijoso, and Sulandjari, 2002; Sato, 2000). At the same time, strengthening alliance with other enterprises as buyers worked positively for penetrating into new markets in other countries (Birchall and Ketilson, 2009; Marino et al., 2008; Sandee, Isdijoso, and Sulandjari, 2002).

Second, SMEs without enough resources for penetrating foreign markets had shifted their target domestic markets to the demand of low price products utilising domestic raw materials (Sato, 2000). Import of materials from abroad was impossible since foreign banks refused to receive letters of credit from Indonesian banks on behalf of Indonesian enterprises (Tambunan, 1999; Wie, 2000). SMEs producing low quality but cheaper products had survived in a better way than large enterprises that were more dependent on imported materials (Patten, Rosengard, and Johnston, 2001; ter Wengel and Rodriguez, 2006a). For the shift to the domestic low-end markets, it was necessary to pay much effort to reduce the costs (Sandee, Isdijoso, and Sulandjari, 2002; Sato, 2000; ter Wengel and Rodriguez, 2006a). Cost increase ranges of imported materials were approximately 100 to 600 per cent for the textile industry and 50 to 250 per cent for the food industry (Tambunan, 1999). SMEs' greater flexibility than large enterprises allowed them to adjust production processes under such conditions (Tambunan, 2005). Of course, small firms cannot absorb cost increase only by reducing material costs. Hence the cost reduction was also through reduction of salaries and other managerial costs (Chu and Siu, 2001; Vandenberg, 2009). Collaboration with other firms for purchasing material at cheaper prices and financing at lower financial costs through cooperatives took an important role (Marino et al., 2008). The cooperative form of enterprises withstands shocks by providing distribution networks

so that members can provide services to more risk-averse consumers (Birchall and Ketilson, 2009).

Table 1. Major differences of influences to Indonesian firms during two crises

		Asian financial crisis 1997-1998	Global economic crisis 2008-2009
Credit crunch		Yes	Yes
Currency (Rupiah) value to USD		−83.5*	−10.6**
Inflation rate		58.4% (1998)***	4.8% (2009)***
Market shrink	Domestic	Yes	No
	Foreign	No	Yes

* Calculated changes between the end of June in 1997 and 1998 with the interbank exchange rate

** Calculated changes between the end of June in 2008 and 2009 with the interbank exchange rate (http://www.oanda.com/lang/ja/currency/converter/)

*** World Bank World Development Indicator (http://data.worldbank.org/indicator)

Now we consider differences between the Asian financial crisis and the global economic crisis. Table 1 shows major differences between two crises. During the Asian financial crisis in Indonesia, the exchange rate of rupiah to US dollar depreciated 83.5 per cent between the end of June 1997 and the end of June 1998. Interest rates on most loans increased from 17 per cent per annum in mid-1997 to 36 per cent in 1998 (Patten, Rosengard, and Johnston, 2001). Inflation rate in 1997 was 6.2 per cent, but increased to 58.4 per cent in 1998 (WB). As a result, the rate of total investment on GDP declined to 19.1 per cent in 1998 from more than 30 per cent all through 1990s until 1997 (Harvie, 2002), when GDP decreased in 1998 by 13.1 per cent compared to the previous year (WB). Approximately 30 per cent of enterprises existed in 1994 closed (ter Wengel and Rodriguez, 2006b). On the contrary, under the global economic crisis, the exchange rate of rupiah to the US dollar depreciated but only 10.6 per cent between the end of June 2008 and the end of June 2009. More serious problem occurred was shrink of main export markets, such as US and EU (Cosh et al., 2009; Tambunan, 2010). Indonesia's non-oil and gas export decreased by 28 per cent in 2008 compared to the previous year (BI, 2009). Interest rates on working and investment capital rose due to foreign and joint venture bank groups (BI, 2009), and total small scale business credit by local banks decreased by 20.9 per cent in 2009 from the previous year (BPS, 2010). But the GDP growth rate in 2009 was positive 4.6 per cent (WB), and monthly average expenditure per capita in Indonesia increased by 11.3 per cent in 2009

compared with 2008 (BPS, 2010). Domestic markets expanded even under the crisis. Inflation rate in 2009 also remained in a low level of 4.8 per cent (WB).

Among the five firm characteristics, formal loans from financial institutions could have similar negative effect under the global economic crisis as in the Asian financial crisis with the credit crunch. Yet, it is hard to predict that female entrepreneurs were less influenced due to their characteristics of less reliant on formal market. Since GDP of Indonesia did not decline, male owners with more connections with the formal domestic markets could have been better in their performances. During the global economic crisis, it was necessary to shift focus more on domestic markets from foreign markets, thus smaller firms had chances. On the other hand, Indonesia is a vast country with many islands. It is necessary to deliver goods for a long distance and go beyond the sea between islands to diversify domestic markets. Hence it is predicted that relatively larger firms with more resources benefit from the changes of consumer market structure. Although it is difficult to assume that the location has some impacts on sales increase as it was seen under the Asian economic crisis, impact of the crisis on SMEs in Java may differ from others elsewhere in the country since 58 per cent of the population and more than 60 per cent of SMEs are concentrated in Java (BPS, 2010). Moreover, Indonesia's largest contributor to export except for the oil, natural gas and their derivatives are the clothing and accessories with 10.3 per cent share in 2007 (BI, 2009). Garments also comprised 36 per cent of Indonesia's exports to US (BI, 2009). Since export markets had shrunk under the global economic crisis, industries with high export contribution such as the textile industry could have been negatively influenced more.

Different from the Asian financial crisis, expansion of domestic markets was critical under the global economic crisis (Tambunan, 2009). It is depended on the needs of domestic consumers whether SMEs needed to develop product either by introducing new products or improving quality of existing products. It is also predicted that existence of business partners had positive impact to diversify and enter into markets on other islands. Entering markets on other islands requires business partners. Furthermore, we cannot see any tendency that consumer demand of domestic markets shifted to the cheaper low-end products as we saw during the Asian financial crisis. Indonesia was the least damaged country by the global economic crisis among countries heavily influenced by the Asian financial crisis in terms of the GDP growth rate (Tambunan, 2010). It is also studied that the Indonesian consumers were optimistic even under

the global economic crisis (Prasetyo and Yuliatiningsih, 2008). Therefore it is possible that better quality products even at higher prices or new products could be more important than providing lower price products.

Based on the discussions above, it is hypothesised that the sales increase of SMEs is affected by the firm characteristics in getting formal credit, gender of owners and firm size even under the global economic crisis. The same effect by loans is expected, whilst adverse effects are expected for the owner gender and firm size. Different from the situation in 1997-1998, firms that sell products abroad can be influenced negatively because of the shrinking foreign markets. Sales increase under the crisis is also depended on the level of product quality improvement and new product development as well as lower price and relationships with business partners.

METHODOLOGY AND DATA

To test the hypothesis, a probit estimation in which the dependent variable is the net sales increase is developed. During the crisis the survival from the shrinking markets is a critical issue for SMEs. For the survival it is more important to keep the same or slightly higher sales level by SMEs than to grow sales and profit as much as possible. Thus, I used dummy variable which shows net sales increase. Net sales per month at two different points of time during the economic crisis with three months in between were calculated. If a sample firm increased net sales, it is one, zero otherwise.

The independent variables to examine the impact of firm characteristics are as follows: dummy variable for getting loan from financial institutions, dummy variable for female owner, the log of the number of employees, and dummy variable of location in Java. As I discussed in literature review, industry such as the textile industry can have impact due to its high contribution to the export. However, possible biases can be caused by endogeneity between the variable for the industry with high export ratio and the variable of sales in foreign market, which we see later. Hence I do not include a variable showing industry sector in the model.

The independent variables to examine the impact of firm operations are as follows: dummy variable for sales in foreign market, variable which measures new product development, dummy variable which measures quality improvement, dummy variable which measures efforts to lower prices and dummy variable for showing existence of business partners. The variable, which measures new product development, is the growth rate of product line numbers. The

dummy variable which measures quality improvement is one, when {number of products with increased sales – number of products with decreased sales} > 0 under the condition that {number of products with higher prices – number of products with lower prices} > 0. Reasons why firms raise prices of existing products are either posing cost increase on prices or improving quality so that consumers purchase products even at higher prices. Price increase and sales increase occur simultaneously only when the product quality is improved in the case of relatively low-technology SMEs. Hence the dummy variable which measures quality improvement is one, when price increase and sales increase occur simultaneously. The dummy variable which measure efforts to lower prices is 1, when {number of products with lower prices – number of products with higher prices – number of products with the same prices} > 0. It shows that firms stimulate consumption not by improving product quality but lowering prices. The dummy variable for business partners shows whether sample firms got business transactions with other enterprises. In some cases, business partners are buyers who sell the SME products. In other cases, business partners are large manufacturers to which SMEs supply products. If sample firms acquired business partners, it is one, zero otherwise. I also add two more independent variables. One is an interaction term of new product development for exporters. Another is an interaction term used to examine impacts of existence of business partners for Java firms.

In this paper, data from local Indonesian SMEs, including informal household industries as well as registered SMEs, are used to estimate the described models. The target enterprises for this survey participated in management skills and production technology training conducted by the Japan International Cooperation Agency together with the Indonesian Ministry of Industry. Training was conducted between November 2008 and February 2009. Target beneficiaries of training were SMEs, including micro and informal businesses. Training content included 70 to 80 per cent production technology-related material, and the remainder included material with respect to managerial skills. I expected that the training worked as a trigger to induce decisions and actions by owners. SMEs that participated in training may not be a random sample, and these companies may be more motivated and aggressive than average firms (Storey, 2004). However, SMEs that participated in training are more suitable for levelling the technology of sample firms. SME owners decided whether they would participate in training after examining the curriculum. The level of technology training is not as advanced. Technology levels in general are low because it is mainly used in the home industry environment. Firms that have already obtained

technological support from foreign capital or that have achieved a certain level of technology that is higher than the standard would not participate. Thus, the technology levels of participant firms are similar.

Table 2. Summary of Sample Firms (*N* = 82)

Variable	*Mean*	*Std. Dev.*	*Min.*	*Max.*
Number of employees	17.7	37.8	1	278
Number of product lines	3.2	2.5	1	11
Net sales per month (rupiah)	150 mil.	597 mil.	215,000	4.9 bil.
Gross profit per month per employee (rupiah)	3.3 mil.	7.2 mil.	−394,000	51.4 mil.

Table 3. Distributions of Sample Firms (*N* = 82)

Number of Employees (%)		*Location (%)*		*Industry (%)*	
1-4 (micro)	30.5	Java	45.1	Food processing	36.6
5-19 (small)	47.6	Sumatra	25.6	Textiles	18.3
20-99 (medium)	19.5	Sulawesi	18.3	Footwear	15.8
100- (large)	2.4	Kalimantan	9.8	Ceramics	7.3
		Maluku	1.2	Metalworking	6.1
*Year of establishment (%)**				Wooden furniture	6.1
– 1989	12.6	*Registration (%)*		Handicrafts	3.7
1990 – 1999	34.2	Registered	47.6	Chemical	2.4
2000 –	53.2	Not registered	52.4	Others	3.7

Data for the analysis were collected from a survey conducted between March and July of 2009, four months after training. Hence data shows changes and actions made by sample firms six months or more after the global economic crisis broke out. All participants were asked to return to the training venue to complete a questionnaire. A questionnaire for the survey was distributed beforehand so that participants could prepare the necessary information before they arrived at the survey venue. A survey trainer explained how to calculate and complete the questionnaire to ensure full understanding of the questions. The trainer also re-calculated the

profit for all respondents after the survey sessions to avoid miscalculation errors by participants. In total, 163 individuals out of 330 training participants undertook the survey. Some participants were from the same firm, in which case, we used only one response. Some responses were incomplete and were eliminated from our sample. Data from 82 firms were used for our estimations. Tables 2 and 3 summarise the sample's descriptive statistics.

There is a question about the time-frame of the survey used to examine impact of variables on sales growth. Karlan and Valdivia (2011) compared sales data for several points of time over a two-year period. Mano et al. (2011) studied changes one year after training. Tan (2009) argues that a much longer period is necessary to observe changes, and made the survey ten years after the programme. In general, management decisions by SME owners are made in a shorter period than those made by directors of large enterprises. Even though enormous uncertainties exist in decision making, entrepreneurs are encouraged to take action before decisions make complete sense (Busenitz and Barney, 1997). Therefore, the smaller enterprises are, the more their ways of managing organizations are influenced by the information they receive just before making decisions. If an opportunity that induces actions by SMEs is provided simultaneously, it is possible to examine development of firms over only a short period of time. Based on the above ideas, I used period of three months after training to view changes in the survey of this paper.

RESULTS AND DISCUSSION

As Table 4 shows, a variable for the number of employees is significant at the five per cent significance level. Firm size has a positive impact for making counter actions to the changes of consumer market. However, size mattered not because SMEs pursued foreign markets. Effect of sales in foreign markets clearly had negative impact. A variable for sales in foreign markets is significant at the five per cent significance level. It is negatively correlated with highest marginal effect among all variables. It shows that relatively larger firms with more resources were successful in domestic markets.

A variable for the location in Java is also significant at one per cent significance level with negative correlation. Java dominates Indonesian economy but negative influences of the economic crisis hit markets on Java more than other islands. Table 5 shows that 71.8 per cent of non-Java SMEs among those increased sales remained in the markets of their own provinces or

within the same island. Only 17.9 per cent had sales in other islands in Indonesia. On the contrary, 65.2 per cent of successful Java SMEs pursued markets out of their own provinces. 30.4 per cent entered markets in other islands. Hence successful SMEs especially in Java relied on domestic markets on other islands.

Table 4. Estimation Results

Dependent variable	Net sales increase	
Independent variable	*Coefficient*	*Marginal effect*
New loan	0.110 (0.679)	0.015 (0.088)
Female owner	0.330 (0.540)	0.042 (0.064)
ln (Number of employee)	0.652** (0.304)	0.095** (0.043)
Location in Java	−1.678*** (0.624)	−0.294** (0.138)
Sales in foreign market	−1.388** (0.628)	−0.350* (0.209)
New product development	−0.003 (0.004)	−0.0004 (0.001)
Product quality improvement	1.629** (0.817)	0.158** (0.064)
Sales at lower price	−0.197 (0.811)	−0.032 (0.146)
Business partner	0.347 (0.678)	0.051 (0.100)
Sales in foreign market × New product development	1.904** (0.863)	0.237** (0.108)
Location in Java × Business partner	1.437 (0.946)	0.020 (0.128)
N: 82	*Pseudo R sq:*	0.401

Notes: Standard errors are in parentheses. ***, ** and * show statistical significance of the coefficients at the 1%, 5% and 10% levels, respectively.

Table 5. Differences of sales market for Java and non-Java SMEs

Sales market	Java firms		Non-Java firms	
	Number (%)	With business partner (%)	Number (%)	With business partner (%)
Same city / district	21.7	80.0	28.2	37.5
Same province	13.1	66.7	33.3	30.1
Other provinces on the same island	21.7	100.0	10.3	25.0
Provinces on different islands	30.4	71.4	17.9	57.1
Foreign countries	13.1	100.0	10.3	100.0

Indonesia is a vast country with many islands. Transportation costs increase due to poor connections between islands. Capital that SMEs have to spend for entering new markets does not increase evenly. More resources are necessary when SMEs cross the sea between islands. It is one of the reasons for the positive significance in firm size. Although a variable for existence of business partners is not significant for the whole sample SMEs, Table 5 shows that the proportion of Java firms with business partners is larger than firms in other islands. Java firms needed business partners as intermediaries in markets outside Java. Although results of estimation in Table 4 do not show that an interaction term for Java firms with business partners is not statistically significant and some SMEs are not successful even with business partners, we can see attempts by Java firms to penetrate non-Java markets with business partners.

Table 6. Imports at major ports by island and imports by goods

		2008 (mil. USD)	2009 (mil. USD)	Growth (%)
Island	Java	100,329.4	73,551.5	−26.7
	Sumatra	19,917.7	14,821.2	−25.6
	Kalimantan	5,698.8	5,959.6	4.6
	Sulawesi	901.3	689.3	−23.5
	Maluku	13.7	92.4	574.5
	Non-Java Total	26,531.5	21,562.5	−18.7
Consumption goods	Processed food	1,903.1	1,367.3	−28.2
	Durable goods	822.1	818.3	−0.5
	Semi-durable goods	1,134.7	941.0	−17.1
	Non-durable goods	1,229.2	1,189.4	−3.2

Source: Calculated from BPS (2010)

Why are firms in Java more disadvantaged? The reason is not because of more connections with formal financial sources or formal market than other islands as in the Asian financial crisis. As is shown in Table 4, variables for loan or female owner do not have any significant impact on the sales increase. One possible reason is that firms in Java had more connections with foreign enterprises by importing materials before the crisis. Indonesia's rate of import of goods and services on GDP dropped from 29 per cent in 2008 to 21 per cent in 2009 (WB). Countries with large share as origins of Indonesia's import are Singapore, China, EU, Japan, Malaysia and US, accumulated share of import from these countries was 58.8 per cent in 2007 (BI, 2009). All of these countries or a region except for China had decreased GDP in 2009 (WB). It is assumed that enterprises including exporters in these countries had been unable to continue their businesses. During the global economic crisis, it is possible that SMEs with less use of imported materials had more chances for survival not because of increasing import prices from the devalued own currency but problems foreign partner enterprises faced in their own countries. As is shown in Table 6, the rate of import decline at ports in Java was larger than other islands. Apparently the actual volume of import decline is also largest since the actual amount of import at ports in Java is much larger than other islands.

Moreover, a variable for the product quality improvement is significant at the five per cent significance level. Marginal effect of a variable for quality improvement shows that improving quality of existing products has larger impact than any other variables except for the interaction term of new product development for exporters. GDP growth rate of Indonesia in 2009 declined from 6.0 per cent in 2008 but still kept positive 4.6 per cent (WB), whereas imports declined because of collapse of foreign enterprises. More demand for better quality domestic products was induced consumers' behaviour of substituting imported goods with domestic products. Table 6 also shows that import of processed food and semi-durable goods such as textile and footwear decreased in 2009 more than other goods. At the same time we can see in Table 7 that average expenditure per capita for food and semi-durable goods increased in 2009 compared with the previous year with the growth rate larger than inflation rate in the same year. Indonesia imported less consumer products, but consumed more.

Table 7. Monthly Average Expenditure per Capita by Commodity Group

	2008 (IRP)	2009 (IRP)	Growth (%)
Food	193,828	217,720	12.3
Clothing, footwear, headgear	13,014	14,328	10.1
Total (including other non-food commodity)	386,370	430,065	11.3

Source: Calculated from BPS (2010)

It is assumed that foreign enterprises had been unable to continue export. So-called import substitution is the policy taken in the process of industrial development in some middle- and low-income countries. Tendency we see during the global economic crisis in Indonesia is a new type of import substitution in consumer behaviour induced by less import from foreign enterprises. On the contrary, selling existing products at lower prices did not have significant impact. Indonesian consumers under the global economic crisis were willing to buy good quality domestic products to substitute imported products and willing to pay the same level of prices if similar quality levels of products are available.

Furthermore, results from a probit estimation in Table 4 show that exporters were negatively influenced by the shrinking foreign market. However there are some firms which

exported but succeeded in increasing sales revenue. Now we look more in detail why it was possible to increase sales for such exporters even under shrinking foreign market.

Table 8. Profile of sales situation by sample firms

	Increased (%)		Decreased (%)
	Sales only in domestic markets	Sales in foreign markets	Sales in foreign markets
Use loan from financial institution	17.3	28.6	16.7
Introduced new facility / equipment	25.0	71.4	16.7
Developed new products	42.3	57.1	16.7
Improved existing product quality	34.6	14.3	0.0
Lowered prices	7.7	0.0	0.0
Collaborate with business partners	48.1	100.0	50.0
Sales only in foreign market	―	14.3	50.0
Female owner	23.1	57.1	33.3

Table 8 is the comparison of three kinds of firms, 1) firms which increased sales and sold their products only in domestic markets, 2) firms which increased sales and sold products in foreign markets and 3) firms which decreased sales and sold products in foreign markets. There are three distinctive differences between two kinds of firms which increased sales. First, successful exporters emphasise more on introducing new products than improving quality of existing products. We can see it also in the estimation results in Table 4. A variable for interaction term used to examine impacts of new product development for exporters is significant at the five per cent significance level. These operational actions were done by investing in new facility or equipment, 71.4 per cent had invested in new facility or equipment. However, even among firms which could increase sales revenue by introducing new products, only 21.9 per cent of them got a new loan from financial institutions. It is assumed that most firms introduced new products by reducing production volume of existing products since credit crunch made it difficult for SMEs to obtain formal loans for the investment in equipment for new product production. Second, exporters collaborate more with business partners. Third, female owners made aggressive actions in investing in equipment and try to develop new products even under the economic crisis.

Moreover, there is a difference between two kinds of firms which sold their products in foreign markets except for new products development and collaboration with business partners. It is diversity of sales market. Only 14.3 per cent of successful exporters sold products only in foreign market, whereas it is 50.0 per cent in the case of unsuccessful exporters. Successful exporters tend to diversify sales market more than unsuccessful exporters to reduce risks.

POLICY IMPLICATION AND CONCLUSION

This paper discussed the characteristics and operations by SMEs which could increase net sales under the global economic crisis in 2008-2009. The results from a probit estimation indicate that relatively larger firms in size with more resources were more successful. Java firms were more disadvantaged but successful, when they had diversified domestic markets especially entering markets on islands other than Java. It was made possible by improving quality of existing products, but not by selling products at lower prices. Consumers demanded better quality domestic products for substituting imported goods during the global economic crisis. Such a new type of import substitution in consumer behaviour was induced because foreign enterprises could not continue export their products to Indonesia. Moreover, successful exporters attempted to develop new products with new investment in facility or equipment even under the crisis.

From these results, we can infer the following policy implications. The economic crisis in high-income countries is a chance for low-and middle income countries to enhance survival rate of local manufacturing industries utilising demands in their own countries with less competitors from abroad. Support to upgrade quality of products for SMEs with relatively low-technology is effective. Such efforts by SMEs can be done without large investment in new facility or equipment. On the contrary, support for developing new product is necessary to promote export. Such technical support can be strengthened with the support for investment capital, thus priority for financing programs should be given to exporters.

Finally, the population sampled in our survey consists of participants in training programs by public institutions in Indonesia. Therefore, our results are conditional on the extent to which our sample reflects the characteristics of Indonesian SMEs. In addition, number of sample firms is not large enough. Further examinations in other countries with larger sample size are necessary.

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