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Impacts of Energy Subsidy Reform on Micro, Small and Medium-Sized Enterprises (MSMEs) and Their Adjustment Strategies

March 2015

Tulus T.H. Tambunan, Center for Industry,
SME and Business Competition Studies, USAKTI



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List of Abbreviations

API	<i>Asosiasi Pertekstilan Indonesia</i> (Indonesian association of textile industry)
APINDO	<i>Asosiasi Pengusaha Indonesia</i> (Indonesian Association of Entrepreneurs)
ASEAN	Association of Southeast Asian Nations
AMS	ASEAN member states
BAPPENAS	<i>Badan Perencanaan Pembangunan Nasional</i> (the National Body for National Development Planning)
BBM	<i>bahan bakar minyak</i> (oil fuel)
BI	<i>Bank Indonesia</i> (Indonesian central bank)
BLT	<i>bantuan langsung tunai</i> (direct cash transfer)
BOS	<i>Biaya Operasional Sekolah</i> (School Operations Fund)
BPJS	<i>Badan Penyelenggara Jaminan Sosial</i> (Social Security Management Agency)
BPS	<i>Badan Pusat Statistik</i> (statistic national agency)
BRI	<i>Bank Rakyat Indonesia</i> (Indonesian People Bank)
JKN	<i>Jaminan Kesehatan Nasional</i> (national health insurance)
KADIN	<i>Kamar Dagang dan Industry</i> (chamber of commerce and industry)
KIP	<i>Kartu Indonesia Pintar</i> (Indonesia bright card)
KIS	<i>Kartu Indonesia Sehat</i> (Indonesia health card)
KUR	<i>Kredit Usaha Rakyat</i> (people/community business credit)
LEs	large enterprises
LPDB-KUKM	<i>Lembaga Penyaluran Dana Bergulir-Koperasi dan Usaha Kecil Menengah</i> (Cooperatives and SME Revolving Fund Management Body)
LPG	liquefied petroleum gas
MEs	medium enterprises
MIEs	microenterprises
MSEs	micro and small enterprises
MSMEs	micro, small and medium-sized enterprises
PKH	<i>Program Keluarga Harapan</i> (the conditional cash transfer hopeful family program)
PLN	<i>Perusahaan Listrik Nasional</i> (national state-owned electricity company)
Premium	gasoline
PT	perusahaan terbatas (limited corporation)
SBY	Susilo Bambang Yudhoyono
SEs	small enterprises
SME	small and medium-sized enterprise
SMEs	small and medium-sized industries



1.0 Introduction

1.1 Background

The Indonesian government has been subsidizing energy for more than 30 years. Windfall profits from rising oil prices in the international market, together with low levels of oil domestic consumption, have allowed the government to provide these energy subsidies. Although net profits from oil production started to decrease (as oil production costs increased) from 1975, the government kept subsidizing energy with the intention of maintaining the purchasing power of the poor. However, as domestic demand for energy (especially gasoline) continued to increase, the government's budgeted amounts for energy subsidies rose significantly. In response, the government started to reassess the public benefits of energy subsidies and showed its willingness to eliminate energy subsidy and to reform its energy policy in general (Adam & Lestari, 2008). In the aftermath of the 1997–1998 Asian financial crisis, as part of a supported adjustment program from the International Monetary Fund (IMF), on May 5, 1998 the government announced an increase in the price of kerosene by 25 per cent, of diesel fuel by 60 per cent, and of gasoline by 71 per cent. This drastic increase triggered protests in the two weeks after the announcement and, along with a complex range of other factors including dissatisfaction with the government, eventually led to the end of President Suharto's rule (Beaton & Lontoh, 2010; IMF, 2013).

Since then, reforming energy price subsidies has been a persistent policy challenge for the Indonesian government. The size of energy price subsidies in the country has fluctuated considerably over time (Figure 1), reflecting changes in international prices for oil, the exchange rate, and the subsidy regime. The first two factors have become key determinants since 2004, when Indonesia became a net importer of oil for the first time. The fiscal cost, especially for the fuel subsidy (in Indonesia known as BBM or *bahan bakar minyak*) has been large. In 2008 it reached 2.8 per cent of GDP (IMF, 2013), and, based on data from state budget 2014, total subsidies for energy in 2014 reached IDR350.3 trillion (US\$28 billion) including IDR246.5 trillion (US\$ 19.72 billion) for fossil fuels (kerosene, diesel and gasoline) (Ministry of Finance, 2014; BPS, 2015). This fiscal burden has crowded out core expenditures for the country's development, including infrastructure, education and health care, especially for the poor.

During the period 2000–2005, a number of price increases were implemented, though with mixed success. In 2000, the prices of gasoline, diesel, and kerosene were successfully raised despite massive demonstrations, and went up again in 2001, and this time not only for households, but also for industries. In 2002 and 2003, the government, led by then-President Megawati Sukarnoputri, made attempts to automatically link movements in domestic fuel product prices to international prices. This subsidy price reform and its reasons, however, were poorly communicated and led to many protests. As a result, the government rolled back most of the price increases and also broke off the link to world prices. In March and October of 2005 the government under President Susilo Bambang Yudhoyono, undertook two large fuel price increases. As a result, the price of diesel fuel doubled and that of kerosene nearly tripled. Again protests took place against the reform, but with less intensity than in 1998 and 2003 (Mourougane, 2010; Kharisma, 2011; IMF, 2013).

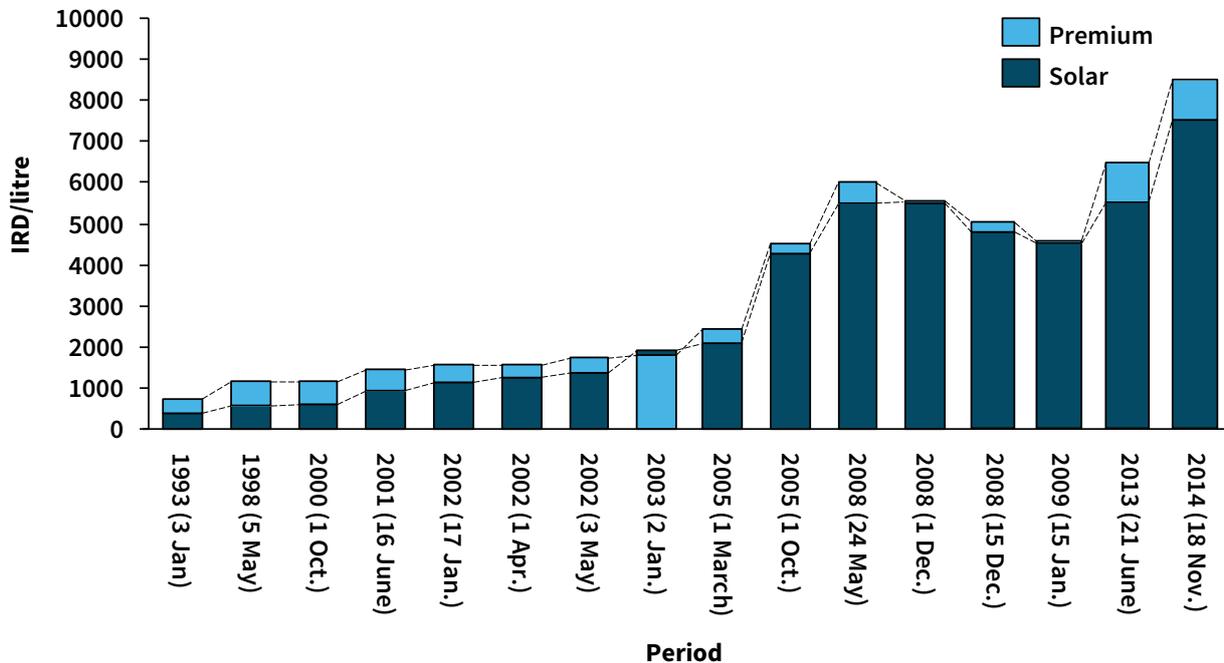


FIGURE 1. PRICES OF GASOLINE (PREMIUM) AND DIESEL (SOLAR) IN INDONESIA, 1993 TO 2014 (IDR PER LITER)

Source: Kompas Newspaper (2014a).

In 2008, when international oil prices were at their peak, the Indonesian government raised prices by around 29 per cent, on average; they were later reduced as international prices started to fall, though remaining above their pre-increase levels. At that time, the government also ceased paying subsidies to larger industrial electricity consumers, and made an important announcement that fossil-fuel subsidies would be removed by 2014. However, in September 2010 the House of Representatives (DPR-RI) agreed to raise budget allocations for subsidized fuel consumption in the revised 2010 budget (APBN), in contrast with the government’s objective to reduce energy subsidies (IMF, 2013).

Since 2010, the government has repeatedly publicized plans to reduce fuel subsidies but has delayed implementation. In January 2012 the government announced plans to reduce subsidies by restricting access to subsidized gasoline and developing gas-based alternative transport fuels, to be implemented by April in that year, and, as of March 2012, the government had announced a plan to raise the price of subsidized gasoline by IDR1,500 (US\$0.12) per liter, which is equivalent to one third of the current price, and prohibiting private four-wheeled vehicles and government vehicles from using subsidized gasoline. But a strong public backlash in March 2012 led the government to abandon the plan to raise fuel prices (Braithwaite, et al., 2012). Government vehicles, however, have been restricted from using subsidized gasoline, a measure that came into effect in May 2012 for government vehicles in Jakarta, and extended to the Java-Bali region in August 2012 (IISD, 2012a).

In June 2013, the government increased the price of gasoline and diesel again (4 per cent and 22 per cent respectively), in order to avoid exceeding its budget deficit limit of 3 per cent of GDP (see Figure 1). In the 2013 proposed budget, total government expenditure was IDR1,139 trillion (US\$91.12 billion); this was composed of IDR275 trillion (US\$22 billion) for energy subsidies while the budget for education, health and social security only amounted to IDR109 trillion (US\$8.72 billion), IDR17 trillion (US\$1.36 billion), and IDR7 trillion (US\$0.56 billion) respectively (IISD, 2012a).



The new government under President Joko Widodo is determined to continue with energy price reform. In November 2014 the government increased the price of gasoline (Premium) by IDR3,000 (US\$0.24) per liter and in January 2015 the government implemented a new pricing mechanism for fuel prices that allowed the government to set prices in accordance with international oil prices. Additionally, subsidies for Premium were removed entirely and the subsidies for diesel were capped at IDR1,000 (US\$0.08). As a direct consequence of this new, more market-based pricing mechanism the prices of diesel and gasoline decreased in line with international oil prices (IISD, 2015).

Around the same time, PT Pertamina increased the price for 12kg-cylinder LPG from IDR7,569 to IDR9,069 per kg (US\$0.61 to US\$0.73 per kg), an increase of IDR1,500 (US\$0.12) per kg. Most recently, on March 2, 2015 this price was further increased by IDR5,000 (US\$0.40) per cylinder of 12kg up to IDR134,000 (US\$10.72) per cylinder (Kompas, 2015c).

The Indonesian government has also been determined to gradually remove subsidies on electricity. Table 1 gives an overview of the price increases of the electricity tariff in 2014 for households and industry. In December 2014, President Widodo and the Ministry for Energy and Mineral Resources announced that electricity subsidies for 12 categories, including households with capacity 1,300 VA and beyond, will be removed. The tariff adjustment for these categories will be fully based on three factors: exchange rate of the rupiah, international price of oil, and domestic inflation (Intriknews Online, 2014).

TABLE 1. DEVELOPMENT OF ELECTRICITY TARIFFS FOR ALL CATEGORIES IN INDONESIA, 2014 (IDR PER KWH)

CATEGORY	JUNE	JULY	SEPTEMBER	NOVEMBER
1-3	864	964	1,075	1,200
R-2 (capacity 3,500 VA to 5,500 VA)	1,145	1,210	1,279	1,352
R-1 (household; capacity 2,200 VA)	1,004	1,109	1,224	1,353
R-1 (capacity 1,300 VA)	997	1,090	1,214	1,352
P-3	864	1,104	1,221	1,352
P-2 (capacity >200 kVA),	1,062	1,081	1,139	1,200

Source: SindoNews.com (2014).

In January 2015, electricity tariffs increased further as presented in Table 2.

TABLE 2. NEW ELECTRICITY TARIFFS FOR ALL CATEGORIES IN INDONESIA, JANUARY 2015 (IDR PER KWH)

CATEGORY	TARIFF
R-1/TR (capacity 1,300 VA)	1,496.05
R-1/TR (capacity 2,200 VA)	1,496.05
R-2/TR (capacity 3,500VA-5,500 VA)	1,496.05
R-3/TR (capacity >6,600 VA)	1,496.05
B-2/TR (capacity 6,600 VA-200 kVA)	1,496.05
B-3/TM (capacity >200 kVA)	1,077.18
I-4/TT (capacity ≥30,000 kVA)	1,011.99
P-1/TR (capacity 6.000 VA-200 kVA)	1,496.05
P-3/TR	1,496,05
L/TR, TM, TT	1,574.57

Source: Jannah (2015).



Unlike categories such as households, electricity tariffs for businesses change yearly, according to the Indonesian Association of Entrepreneurs. In 2014 the businesses faced an increase up to 40 per cent. Table 3 presents the detailed overview of the development of electricity tariffs for medium- and large-sized industries (MLIs).

TABLE 3. ELECTRICITY TARIFF FOR MLIS SINCE APRIL 2014 (IDR/KWH)

	TARIFF CATEGORY 1-3 (ABOVE 200 KVA), MEDIUM-SIZED INDUSTRY			TARIFF CATEGORY 1-4 (30 MVA AND BEYOND), LARGE-SIZED INDUSTRY	
	WBP BLOCK	LWBP BLOCK	KVARH	WBP AND LWBP BLOCKS	KVARH
Up to April 2014	K x 803	803	864	723	723
May 1–June 30, 2014	K x 872	872	938	819	819
July 2–August 31, 2014	K x 946	946	1,018	928	928
September 1–October 31, 2014	K x 1,027	1,027	1,105	1,051	1,051
November 1, 2014 and onwards	K x 1,115	1,115	1,200	1,191	1,191

Source: Kompas Newspaper (2015a).

The Indonesian government is determined to continue with energy subsidy reform and to eliminate energy subsidies not only because of the fiscal burden, but also because it has realized that energy subsidies do not benefit the poor and low-income households, the group at which they were aimed. Energy subsidy reform combined with volatile international oil prices and exchange rate fluctuations of the Rupiah against the U.S. dollar, is worrying both final consumers as well as producers and business owners, including those in micro, small and medium-sized enterprises (MSMEs). In general, these enterprises are less energy-intensive than large enterprises (LEs) but they are also more vulnerable. While the direct financial impacts of fuel subsidy reform and the consecutive energy price increases may not be as serious as those experienced by LEs, the capacity of MSMEs to cope with any negative impact is likely to be much lower, and the actual impact may be much more severe (Tambunan, 2014a). Energy price subsidy reform has become one of the most politically sensitive issues in the country. The main reason is simply because the majority of the Indonesian population is still from the low-income group, and poverty, though declining (at least based on official data), is still a serious issue. The majority of this part of the country's population has income sources from low-income generating activities including micro and small enterprises (MSEs) and in the informal sector. No doubt, energy or fossil-fuel subsidies do matter for them.

1.2 Aims of the Study

This study provides an analysis of the impacts of energy price increases caused by subsidy removal on MSMEs in Indonesia. It surveys 193 MSMEs in two groups of manufacturing industries (namely the food and beverages industry and textile and garment industry), and in several other sectors namely retail, food and drink stalls, and services. The aim of this study is to answer the following key questions:

1. How important is energy, particularly petroleum, LPG and electricity, in MSMEs' production (their cost structure) in these sectors?
2. What was the impact of previous energy price increases due to subsidy removal on businesses, which measures have MSMEs taken to cope with the impacts, and what was the result?



3. How would MSMEs in these sectors cope with the new energy subsidy reforms that the government is likely to implement?
4. What is the preference of MSMEs in these sectors with respect to the process of energy price increases due to subsidy reform (e.g., gradually, with a certain fixed time line, small percentage in price increases, etc.) and what types of compensation measures do they prefer?

1.3 Methodology

Given the nature of this study (i.e., an exploratory study), its level (micro), and the above-formulated four research questions, it adopts a qualitative approach. Three methods of analysis were used, namely: i) desk study on available key literature (both theoretical and empirical) on the impact of energy price increases on MSMEs in Indonesia and other (mainly) developing countries; ii) field surveys and in-depth interviews; and iii) focus group discussions (FGDs). A total of 193 MSMEs were selected randomly in four locations: Solo city and Semarang city in the Province of Central Java, DKI Jakarta and its surrounding areas, and Padang city and its surrounding areas in the Province of West Sumatera. The respondents were interviewed using a semi-structured questionnaire.

Table 4 gives an overview of number of respondents per location, sector, and time of the survey and FGD. The selection of respondents in these cities was based on various sources of information: (i) list of firms provided by the regional Chamber of Commerce (Kadin) in Solo, Semarang, and DKI Jakarta, (ii) list of MSMEs from regional offices of the Ministry for Cooperative and SME (*Kantor Dinas Koperasi & UKM*), (iii) Directory of MSMEs by industry, province and city in Indonesia from the Ministry for Cooperative and SME in Jakarta, (iv) most recent unpublished list of some clusters provided by the Ministry, and (v) the author's own observations during the survey (in DKI Jakarta and Padang) The selection of the cities was mainly based on opportunities to collaborate with local institutions¹ in conducting the surveys and the FGDs.

TABLE 4. SAMPLES AND THE PROCESS OF THE SURVEYS AND FGDS

LOCATION	SAMPLE (MSMES)	SECTOR	PERIOD OF SURVEY	PERIOD OF FGD
Solo	25	Textile and garment industry	November 2014	November 2014
Semarang	29	Food and beverages industry	December 2014	-
Jakarta	99	Trade (retail, shop, boutique), food and beverages industries, food and drink stalls, restaurants, publishers, garment industries, a furniture industry and services	January 2015	December 2014 February 2015
Padang	40	Food industry, garment industry and restaurant	January-February 2015	-

¹ Chambers of Commerce in Solo, Central Java, and Jakarta, the Center for Industry, SME and Business Competition of the University of Trisakti (Jakarta) and the Faculty of Economics of the University in Andalas (Padang)



The following organizations participated in the FGDs:

- Ministry of Industry
- Ministry of Trade
- Ministry for Cooperatives and SMEs
- Chamber of Commerce (Kadin)
- Indonesian association of food and beverage producers
- Indonesian association of textile industry (API)
- Indonesian Association of Entrepreneurs (APINDO)
- University researchers
- Other business and industry associations with a majority of MSMEs producers
- NGOs whose work is related to MSMEs

Figure 2 shows the structure of the questionnaire and the analytical framework. The questionnaire is included in annex 1.

The structure of the questionnaire and the analytical framework are based on the hypothesis that the impact of the cutting of energy subsidies and the responsiveness of firms may be influenced, among factors, by the following variables, which were subsequently collected through the surveys:

- Gender of owners, producers or managers of the MSMEs.
- Business performance.
- Recent level of energy consumption.
- Past experiences of the effects of energy price changes on their businesses and their adopted mitigation strategies.
- Opinions, perception and assessment of energy prices.
- Expectations of future prices of energy.
- Past experience with government support programs to mitigate impact of energy subsidy reform.

The above approach is based on various similar studies conducted by researchers such as Braithwaite et al. (2012) for the case of Indonesia, and probably most recently Hoai and Tran (2013) for the case of Viet Nam, which both assessed the possible strategies of firms to cope with energy subsidy removal. Hoai and Tran's (2013) study includes the following salient observations: First, many firms interviewed never assessed their current energy efficiency (they might also have had no idea about the price of energy in their country and the extent of energy subsidization). Second, firms of different sizes, with different ownership structures, and of different energy intensities have different understandings of energy prices and different expectations of energy price increases. Third, as generally expected, the increase of energy prices does affect firms, but the extent of the impact is not significant. Finally, three types of coping measures are most frequently chosen by firms faced with any given energy price increase, namely raising their selling price, using energy more efficiently, and improving their current technology in order to make their production process less energy-intensive (Hoai & Tran, 2013).



Braithwaite et al. (2012) suggest that firms with different energy intensities have different opinions about the energy subsidy reform policy because the impact also differs. For instance, car manufacturers are among those who are strongly against the policy as it may have a negative effect on market demand for new cars. However, oil importers (though not for the national company Pertamina) are among those who are in favour of the policy, as it may increase local demand for non-subsidized oil products (Braithwaite et al., 2012).

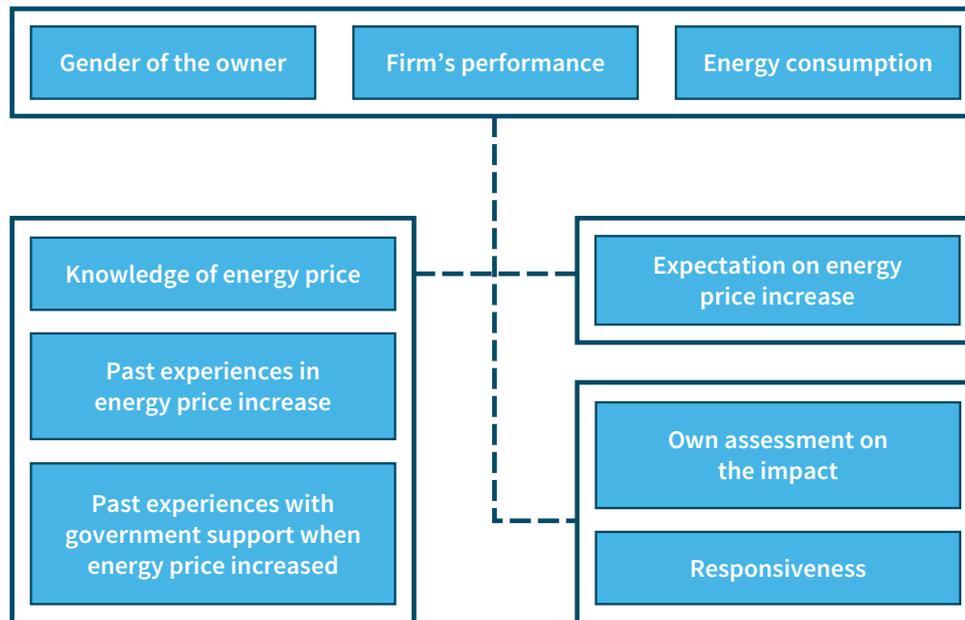


FIGURE 2. QUESTIONNAIRE STRUCTURE

Source: Adapted from Anh, Nguyen & Nguyen (2013).



2.0 Definition and Overview of MSMEs in Indonesia

2.1 Definition

Based on the 2008 National Law on MSMEs No. 20, MSMEs are defined as firms with annual turnover up to IDR50 billion and fixed investment or initial assets (excluding land and building) less than IDR10 billions (Table 5). Besides the Law on MSMEs, the National Agency of Statistics (BPS) defines MSMEs based on total number of workers. The MSMEs consist of the group of Micro Enterprises (MIEs), Small Enterprises (SEs) and Medium-Sized Enterprises (MEs).

TABLE 5. DEFINITION OF MSMEs IN INDONESIA BASED ON NATIONAL LAW ON MSMEs NO.20, 2008 (RP)

SIZE CATEGORY	ANNUAL SALES/TURNOVERS	FIXED INVESTMENT/ INITIAL ASSETS (EXCLUDING LAND AND BUILDING)
MIEs	≤ 300 million	≤50 million
SEs	above 300 million - ≤ 2500 million	above 50 million - ≤ 500 million
MEs	above 2500 million - ≤ 50 billion	above 500 million - ≤10 billion

2.2 Overview of MSMEs in Indonesia

As in many developing countries, MSMEs in Indonesia are very numerous, amounting to almost 58 million in 2013 (Table 6). They have always been the main drivers of domestic economic activity in Indonesia, accounting for more than 99 per cent of all existing firms across sectors, and they help diversify economic output. They provide employment opportunities for over 90 per cent of the country's workforce, in particular providing employment for women and young people. Especially for low-income households, MSMEs generate a significant amount of secondary income sources. Many MSMEs are based in rural areas, so they also play an important role in stimulating rural economic development. They look very different, however, to MSMEs in more developed economies. About 99 per cent of MSMEs in Indonesia are tiny (the so-called MIEs) with the following characteristics (Tambunan, 2009a,b; 2014a):

- i) They are unregistered and operate in the informal sector.
- ii) They do not employ modern systems of organization, management and accounting.
- iii) They are dominated by self-employment businesses using unpaid family members as helpers.
- iv) They are scattered widely throughout rural areas, and, therefore, are likely to play an important role in helping villagers, particularly women, to develop their entrepreneur skills.
- v) Most of them are established by poor households or individuals who could not find better job opportunities elsewhere. Because of these characteristics, most of the enterprises have low productivity, produce comparatively inferior goods and have difficulties accessing necessary inputs, including capital, high-quality labour, technology and information.
- vi) They lack access to domestic and export markets.



TABLE 6. TOTAL ENTERPRISES BY SIZE IN ALL ECONOMIC SECTORS IN INDONESIA, 2009-2013 (IN THOUSAND UNITS)

SIZE CATEGORY	2009	2010	2011	2012	2013
MIEs	52,176,795	53,207,500	54,559,969	55,856,176	57,189,393
SEs	546,675	573,601	602,195	629,418	654,222
MEs	41,133	42,631	44,280	48,997	52,106
LEs	4,677	4,838	4,952	4,968	5,066
Total	52,769,280	53,828,570	55,211,396	56,539,559	57,900,787

Sources: Menekop & UKM (2012); BPS (2013).

The majority of MSMEs in Indonesia are engaged in the agricultural sector, including animal husbandry, forestry, and fisheries (51.5 per cent). The second most important sector for MSMEs is trade and hospitality (28.8 per cent).

Table 7 provides an overview of the business development constraints that MSEs often face. It shows that only a very small proportion of the surveyed respondents indicated that high energy prices or short supply of energy as a serious constraint. However, the proportion of those considering high price or short supply of fuel/energy as their most serious problem has been found to vary by groups of industry.

TABLE 7. NUMBER OF MSEs IN THE MANUFACTURING INDUSTRY BY MAIN CONSTRAINTS IN INDONESIA, 2010 AND 2013

STATUS	2010		2013	
	TOTAL UNITS	%	TOTAL UNITS	%
Have no serious obstacles	599,591	21.94	839,903	24.57
Have serious obstacles	2,133,133	78.06	2,578,463	75.43
Total respondents	2,732,724	100.00	3,418,366	100.00
SERIOUS OBSTACLES:	TOTAL UNITS	%	TOTAL UNITS	%
Lack of capital	806,538	37.81	957,339	37.13
Marketing difficulties	495,100	23.21	535,176	20.76
Lack or high prices of raw materials	483,581	22.67	629,542	24.42
Other main constraints	184,516	8.65	267,612	10.38
High labour costs or lack of skilled workers	88,952	4.17	102,611	3.98
Transportation / distribution obstacles	39,676	1.86	39,255	1.52
High price or short supply of energy	34,770	1.63	46,928	1.82
Total respondents	2,133,133	100.00	2,578,463	100.00

Source: data collected from Tambunan (2008a, 2008b) and BPS (2010a, 2013)

As can be seen in Figure 3, the highest percentage of MSEs considering energy issues as their main constraint is found in the tobacco manufacturing industry, followed in by repairs services & machines and their tools installation.

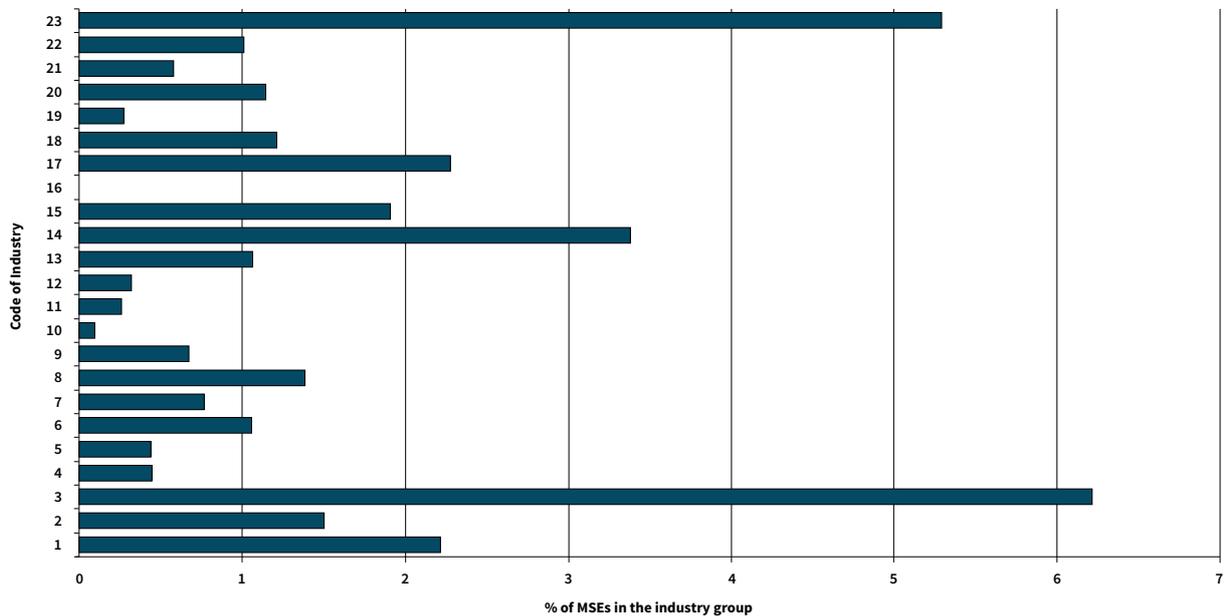


FIGURE 3. PERCENTAGE OF MSEs IN THE MANUFACTURING INDUSTRY BY INDUSTRY GROUP WHICH CONSIDER HIGH PRICE OR LACK OF SUPPLY OF ENERGY AS THEIR MAIN CONSTRAINT, 2013

Note: (1) Food, (2) Beverages, (3) Processed tobacco, (4) Textile, (5) Garment, (6) Leather & its products, including footwear, (7) Wood & its products (not including furniture) & handicrafts from rattan, bamboo & the like, (8) Paper & paper products, (9) Publishing & Recording Media Reproduction, (10) Chemicals and chemical products, (11) Pharmacy, chemical medical products & traditional medicine, (12) Rubber & plastic & their products, (13) Excavated non-metal products, (14) Basic metal, (15) Metal products non-machinery and tools, (16) Computer, Electronic goods and optics, (17) Electrical tools, (18) Machineries and their tools, (19) Vehicles, Trailer and semi-trailer, (20) Other transportation tools, (21) Furniture, (22) Other manufactures, (23) Repairs services & machines and their tools installation

Source: BPS (2013).

2.3 The Importance of Energy in the Cost Structures of MSMEs

Although it is generally known that MSMEs—particularly SEs—are much less energy-intensive than LEs, energy costs are still significant, running from around 10 per cent to more than 65 per cent of the total cost of production for many of them (USAID, 2008). For MSEs, no national data are available on cost structures or composition of inputs used. There are, however, some case studies based on field surveys which show that energy costs are not the largest component of total production costs for MSEs in Indonesia, although the percentage share varies by industry group. For instance, findings from a field survey conducted by BI & PS-IUKMPU (2010) show that operation costs are just a small component of total production costs for MSEs in wood processing, food and beverages, textile and footwear industries in some regions in the country, including in West Sumatera and West and East Java (Table 8). Operation costs include energy costs, but energy is not necessarily the dominant component. For example, in the wood-processing industry, the share of energy costs in total operation costs is about 13.55 per cent. In other industries the share is much higher, such as the food and beverages industry, where fuel costs represent 42.4 per cent of operations costs (BI & PS-IUKMPU, 2010). MSMEs in the latter industry use boilers as the source of steam for their production processes. Coal, diesel, and oil are the common fuels for operating the boilers, which result in high production cost for the MSMEs (BI & PS-IUKMPU, 2010). Thus, the variety of proportion of fuel or energy costs to production costs across industries is due to two main factors: (i) type of good produced, which determines the nature of production process and hence energy intensity (i.e., whether they are labour-, capital- or energy-intensive), and (ii) level of efficiency in using energy relative to that in using raw materials and production factors (e.g., labour).



TABLE 8. COST STRUCTURE OF MSES IN SELECTED GROUP OF INDUSTRY, 2010

SELECTED GROUP OF INDUSTRY	% SHARE				
	KEY RAW MATERIALS	SUPPORTING MATERIALS	LABOUR	OPERATIONAL	CAPITAL
Wood processing	64.07	4.42	26.40	4.48	0.63
Food and beverages	69.9	11.6	11.2	5.9	1.4
Textile	63.2	7.69	21.51	5.78	1.82
Footwear	56.6	10.3	27.0	4.1	2.0

Source: BI & PS-IUKMPU (2010).

For MEs in the manufacturing industry, there are national data presented by BPS in its annual publication *Statistics for Medium and Large Industry*. It reveals that the energy is not the largest component of MEs' total production costs, although energy cost share varies by industry group. Figure 4 shows that the largest component of total production costs in this category of manufacturing enterprises is for buying raw materials, which averages around 81 per cent, compared to energy costs of only around 8.8 per cent. This might be attributable to the fact that, on one hand, fuel has been so cheap, and on the other, raw materials are often more costly than energy, not only because prices of raw materials are not subsidized but also most of them are imported. However, when the price of energy increases drastically, it might still have an important impact given the quantity of fuel that is necessary for the production processes. Or, if energy price increases have a significant impact on prices of raw materials, the cost of energy might still have a serious impact even on firms with a low share of energy in their total costs.

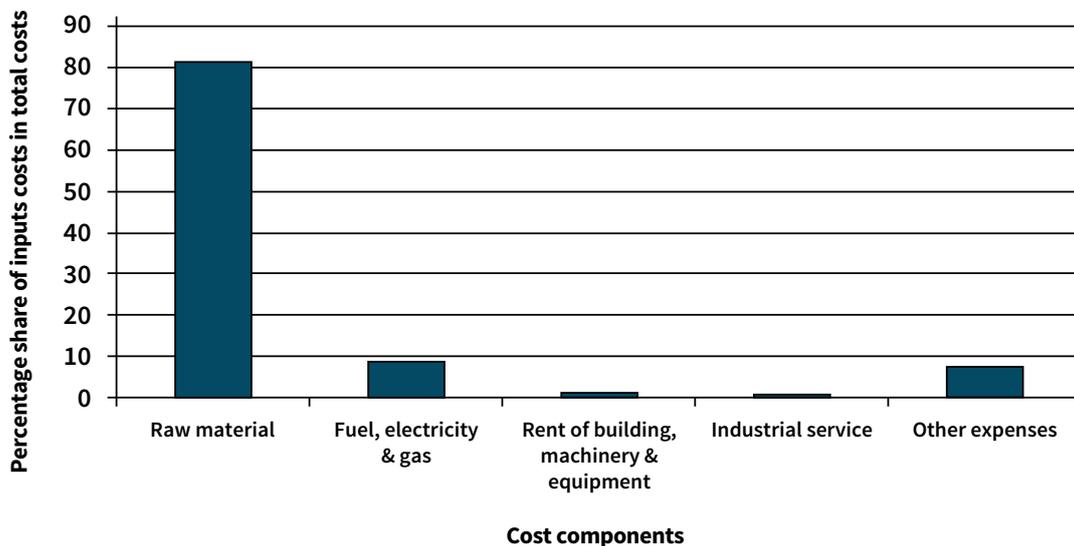


FIGURE 4. COST STRUCTURE OF MES IN MANUFACTURING, 2010

Source: BPS (2010b).



Next, Figure 5 shows the different percentages of electricity costs in total production costs in the textile industry. In this industry, electricity is the main energy type, in comparison with, for example, the food industry (especially in MSEs which usually use LPG or cooking oil). However, the proportion of electricity cost varies by different textile products. As shown by the figure, the highest share of electricity cost in total costs is found in industries making fiber, at around 25 per cent.

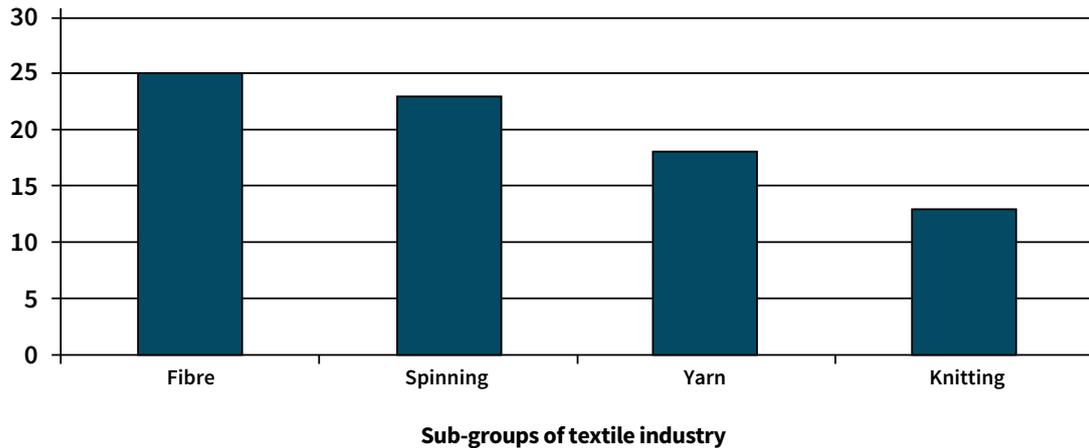


FIGURE 5. PERCENTAGE OF ELECTRICITY COST IN TOTAL COST IN SELECTED TEXTILE INDUSTRY GROUPS IN INDONESIA, 2014

Source: Kompas newspaper (2015b).

3.0 Literature Review: Impact of energy price increases on MSMEs

3.1 Theoretical Framework

An increase in energy prices will have both direct and indirect effects on firms (Figure 6). Direct effects occur when an increase in energy prices directly impacts a firm's energy costs. Indirect effects are the ones that affect a firm's production costs through increases in the prices of raw materials and transportation costs.

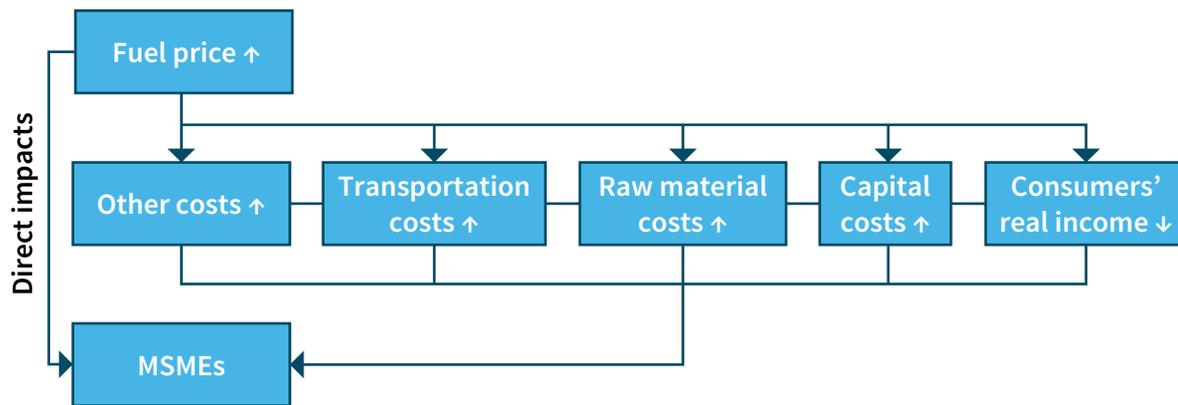


FIGURE 6. THE MAIN CHANNELS OF THE IMPACT OF THE INCREASE IN FUEL PRICE ON MSMEs

3.2 International Evidence from Egypt, India, Ghana and Viet Nam

Egypt

Khatab (2007) assessed the impacts on energy-intensive industries in Egypt of removing energy subsidies. He found that an increase in the energy price of up to 100 per cent will make the profit ratio decline in many industries; although the percentage of decline varied by industry. For instance, the cement industry saw a drop of from 39 per cent to 29 per cent; in the fertilizer industry between 22.65 per cent and 22.24 per cent, and in the steel industry between 14.18 per cent and 12.82 per cent. He also found that the change in the relative price of inputs caused by an increase in energy prices forced many firms to adjust their use of inputs to obtain more efficient allocation, which in turn leads to changes in output, given no changes in the technology.

India

Abeberese (2012) used an econometric approach for mapping the response of firms to energy price increases in India. He estimated electricity prices against the possibility of firms switching from one sector to other sectors, using a database of firms in India from 2000 to 2008. His findings show that price increases force firms to reduce energy consumption. They also are likely to switch to other sectors with lower energy intensity. However, firms tend to move to other sectors that are more or less related to their previous business. This may be because of the cost of switching and sunk costs.



Viet Nam

Willenbockel and Hoa (2011) assessed the impacts of fuel price increases on firms from different sizes in various sectors. They suggest that most businesses could cope with gradual increases in energy costs of 5 per cent to 10 per cent per annum (over a period of three years) and that many of those could be offset through basic energy-saving behaviours.

Hoai and Tran (2013) assessed the impacts of energy subsidy removal on firms. They focus on a micro-level analysis and use a qualitative approach based on a small sample survey of around 70 firms. All firms selected are intensive-energy consumers in manufacturing and services due to the potentially large impacts of energy price changes. More specifically, their study focuses on the following questions: What is the recent situation of firms in term of energy efficiency?; Who will be affected by the removal?; Consequently, what is the labour impact?; which mitigation measures are available and how do firms benefit from those measures? Their analysis reveals the following results:

1. Most of the surveyed firms are not aware of the current situation; in other words, they lack of information on their current energy-efficiency level. Most firms were not fully aware of the price of energy in Vietnam as well as the extent of government subsidy.
2. Firms of different ownership structures, size and energy intensity may have different understandings of energy prices as well as expectations of price increases in the near future.
3. An increase of more than 5 per cent per year from current energy prices seems to be an important cutoff point: a higher increase than that could lead to changes in responsiveness of firms.
4. Most firms express that energy price increases could have severe impacts on their markets, although the extent of the effect is not very substantial, and most firms prefer a gradual increase of prices.
5. Energy price increases due to subsidy removal will directly affect the real income of employers due to the increase in aggregate price. On the other hand, labourers may have to cope with the threat of losing their jobs due to the scale effect (firms cut down their output, close businesses, etc.) while there is little evidence of the positive substitution effect that normally happens over the longer term.
6. Three options are most frequently chosen by firms regarding any given energy price increase: raising output price, stimulating energy saving, and improving current technology.
7. Demand for government support to mitigate energy price increases is high, and among all support types, providing training and knowledge on energy policy is the most frequently mentioned support obtained according to the surveyed firms. However, about 55 per cent of the surveyed firms stated that they do not get any support from the government.

According to Anh, Nguyen & Nguyen (2013), based on their survey on firms in Viet Nam, a key concern is that firms will see their competitiveness eroded, especially those highly dependent on energy and those exposed to international trade. Firms for which costs are likely to rise significantly are operators in cement, paper, steel, fertilizer, fisheries, petrochemicals and transport.

A UNDP report on fossil-fuel fiscal policies and their impacts on households and businesses in Viet Nam found that

1. For households, higher energy prices lead to reduced purchasing power and disposable income.
2. The consequences of price increases obviously vary greatly from sector to sector and firm to firm, depending on the share of energy in their input cost, the demand elasticities they face for their outputs, and the price setting power they enjoy in markets (UNDP, 2014). For MSMEs, higher energy prices result in higher input costs (as increases in energy prices are also likely to raise the prices of other inputs) and squeezed profit



margins. For LEs (especially in trade-exposed industries and transports) which are major consumers of energy, higher energy prices lead to higher production costs and thus reduced competitiveness.

3. Increases in energy prices tend to induce firms to substitute energy inputs with other inputs.

According to the report, there is a range of measures that firms can adopt in response to energy price liberalization. In the short term, firms can suffer lower profits or take losses, raise the prices of their outputs to maintain their profit margin, adjust their production factors, or save energy. In the medium and long term, firms can change production technology to use energy more efficiently, move out of Viet Nam, or close down altogether. Higher energy prices can incentivize firms to reduce wasteful consumption and be more efficient in energy use (UNDP, 2014).

Ghana

A study on fuel price adjustments and growth of MSMEs (Jamal & Ayarkwa, 2014), based on 204 surveyed MSMEs in the New Juaben Municipality of Ghana, researched the effects on employment, turnover and output of the enterprises in the region. The increases in fuel price resulted in increased transportation costs, raw material costs, capital costs and other costs and reduced real consumer income. In addition, increases in fuel price constrained the growth of MSMEs. The result may support the theoretical view described by Figure 2 that indirect impacts on MSMEs of increases in fuel price may be more significant than direct effects (Jamal & Ayarkwa, 2014).

3.3 Evidence From Indonesia

Table 9 on cost structure of MSEs in certain industries and Figure 4 on cost structure of MEs in the manufacturing industry suggests that the direct effects of an increase in energy prices on these enterprises may not be significant, especially if the increase is only small. Indirect effects on MSMEs, on the other hand, are generally expected to be more significant than direct effects. Only one case study in North Sumatra in 2007 indicated that the business performance of local MSMEs was not significantly affected by the increase in fuel price in 2005 (Rizal, 2007).

Direct Effects

The degree of an increase in energy cost (and hence its total operational costs) on a firm caused directly by an increase in energy price will of course vary by industry, according to the amount and the type of energy used.

Braithwaite et al. (2012) conducted a study that assessed the possible responses of firms to cope with energy subsidy removal in Indonesia. Specifically, sectors such as the transportation or fisheries sector (vessels for inter-island transport and for fishing use a significant amount of subsidized fuel) are against the reduction of subsidy as it will certainly increase their operational cost. Also car producers and assemblers, although they use electricity as their main source of power, are against the removal of oil subsidy because they are concerned that, as an indirect effect, their car sales are likely to decline as potential buyers may postpone buying new cars when fuel is expensive.

As mentioned in Tambunan (2013, 2014a), in the East Java city of Malang, at least 10,000 local MSMEs are facing bankruptcy due to the sharp rise in operating costs (especially transportation costs) that followed the fuel price change. Although the resulting increase in production costs in 2013 was not as bad as when fuel prices were increased in 2005, it has still created significant problems for many MSMEs.

According to Purwanto (2013), the BPS and the State Ministry for Cooperatives and SMEs have estimated that the impact of the fuel price reform has generated financial problems for many MSMEs in Indonesia.

MSMEs making bread in Indonesia are very dependent on LPG. Energy costs represent 7 to 8 per cent of the total cost of bread production. The 35 per cent price rise of 12 kg-cylinder LPG in March 2013 caused an increase of 2 per



cent in the cost of bread production. Total energy costs, which included increases in the cost of electricity, rose by 10 per cent (Citra Indonesia, 2013). The price of 12 kg-cylinder LPG rose in January 2015, which pushed entrepreneurs in the food sector to raise their output prices, which may lead to a higher inflation rate (Tempo Online, 2014). Other producers shifted from 12kg to 3kg-cylinder LPG to avoid a price increase in their end product (Tempo Online, 2015).

This demonstrates that the increase in energy cost also depends on the adjustment measures taken by producers in terms of energy efficiency or seeking cheaper alternatives.

Indirect effects

Transportation fare price increases

Indirect impacts occur through the knock-on effects that fuel price rises have on other aspects of MSME businesses. When the government decided to increase fuel prices in July 2013, transportation fares went up. According to the Organisation of Land Transportation, transportation fares could have increased up to 35 per cent, but the government capped the increase at a maximum of 20 per cent (Republika Online, 2013). The November 2014 reforms led to an increase in public transportation fares by IDR1,000 (US\$0.08) (Kompas, 2014b). Recently, the government reduced the price of fuels but not all prices of these items declined. This does not come as a surprise given the long experience showing that prices of many goods always went up along with the increase in energy prices, but when the fuel prices returned to their previous levels, not all the prices of these goods declined. This phenomenon is also known as price stickiness or asymmetric pricing (Casier & Beaton, 2015).

Raw material price increases, inflation and less disposable real income

An increase in transportation fares caused by an increase in fuel price usually causes prices of raw materials and various food items to rise too, and the increase varies by region. A survey conducted by the Ministry for Cooperatives and SMEs in 2006 (cited in Sinaga, 2013), shows that product costs and business incomes were affected considerably. The survey covered 37,950 MSMEs in over 33 provinces that use kerosene, solar oil and gasoline in a range of businesses, including food processing, rice milling, fishery, food stalls, batik (Indonesian traditional cloth), industries producing simple building materials like tiles and brick, and city transportation. It found that production costs increased by an average of 28.1 per cent (in MIEs by 34 per cent; in SEs by 24.6 per cent; and in MEs by 29.6 per cent) and that net income dropped by 18.37 per cent (Sinaga, 2013). About 76.8 per cent of the total number of MSMEs surveyed increased their sales prices; 45.4 per cent reduced the size or quantity of their products; 63.6 per cent reduced quality of their products; 39.7 per cent reduced their profit margins; 39.7 per cent had increased production cost efficiency; and 6.11 per cent pursued "other" strategies in addition to the above (Sinaga, 2013).

In 2008, *Tempo Magazine* announced that the increase in the price of fuel in late May 2008 resulted in the collapse of thousands of MSMEs in the Tangerang regency in the Province of Banten (Asia-Pacific Solidarity Network [APSN], 2008) Around 50 per cent of the 17,353 MSMEs in the region had closed down due to bankruptcy, which included food stall traders, handicraft industries, and cottage industries, especially those producing *kerupuk* (chips made of flour flavoured with fish or shrimp), *tempe* and tofu. Many of the MSMEs had closed down because of increases in the price of raw materials, public transport fares and production costs, while the remaining businesses were struggling to survive, with dim prospects for the future (APSN, 2008).

According to *Kompas* (2012) many producers of *tahu* and *tempe* in two districts, (Banyumas and Kebumen) in the Province of Central Java were expected to go bankrupt as a consequence of the increase in fuel price, indirectly due to the higher price they had to pay for their key imported raw material (soybean) caused by higher transportation costs, as it had to be brought from the harbor in Jakarta.



Based on calculations by the Ministry of Trade, as a consequence of the increase in fuel price in July 2013 prices of necessity goods and services would increase by a minimum of 5 per cent to a maximum of 10 per cent or, on average, around 8.2 per cent. In reality, however, it was even higher (Hizbut Tahrir Indonesia, 2013). The direct and indirect impact of the July 2013 decision on fuel price increase on inflation was 2.45 percent with the following specification: the indirect effects on public transportation fares and commodities (food and other core items) was, respectively, 0.82 per cent and 0.40 per cent, and the direct impact estimated at 1.23 per cent. According to BI, the impact would last for three months notably in the public transport cost (B2B, 2013).

Table 9 presents the price increases for basic goods due to the November fuel reforms. The price increases of many food items as a result of the November 2014 price rise vary by region, depending on factors such as the distance between the retail markets and the centres of particular food items, availability of transport means, and condition of infrastructure.

TABLE 9. NEW HIGHER PRICES OF SOME BASIC GOODS DUE TO THE RISE OF PREMIUM PRICE IN NOVEMBER 2014 (IDR PER KG)

FOOD ITEM	FROM	TO
red pepper	25,000	40,000
white onion	20,000	25,000
a package of 30 eggs	40,000	50,000
stringbeans	12,000	18,000
rice	12,000	13,000
wheat flour	9,000	8,000

Source: Kompas newspaper (2014b).

Increases in fuel prices also lead to a rise in general prices that reduces the real disposable income of employees or workers, which in turn generates pressure on firms to increase wages (UNDP, 2014). In November 2014, workers from many factories took to the streets in Jakarta and some other cities in Java demanding higher wages (Kompas, 2014a)

In 2013 the Central Bank of Indonesia (BI) said that, as a result of the rise in the price of fuel, inflation that year could surge to as high as 7.9 per cent, exceeding the government’s estimate of 7.2 per cent. The actual inflation rate in December 2013 reached 8.38 per cent and in December 2014 was 8.36 per cent (BPS, 2015). The Indonesia Economic Quarterly report issued by the World Bank in December 2014 stated that the 2014 and 2015 projected annual average Consumption Price Index (CPI) inflation rate has been revised up to 6.3 per cent and 7.3 per cent (year-on-year), respectively, to account for the effect of the increase in subsidized fuel prices. Moreover, in November 2014, BI announced a 25 basis points increase in its policy rate, as a signal to restrain inflation expectations (World Bank, 2014).

Based on findings from studies in other countries, such as Widodo, Sahadewo, Setiastuti and Chaerriyah (2012) and Jamal and Ayarkwa (2014), the channels through which a rise in fuel price affects MSMEs indirectly can be categorized into two key linkages, namely consumption linkages (i.e., local demand for MSMEs’ products declines) and production linkages. The latter consists further of two sub-linkages, i.e., backward linkages (raw materials become more expensive) and forward linkages (more transport costs paid to distribute MSMEs’ products to the market).



Increase in interest rate and difficult access to credit

An increase in fuel price could also lead to an increase in interest rate as normally the monetary authority increases interest rate in responding to the increase in general prices (inflation) (Mishkin, 1992), which means higher capital costs for MSMEs which finance their operations with loans. For instance, as a response to the increase in the inflation rate, and also to the continued depreciation of the rupiah, the Indonesian monetary authority has decided to increase the Bank of Indonesia (BI) interest rate from 6.0 per cent in June 2013 (or 5.75 per cent in May 2013) to 6.5 per cent, making the cost of capital or credit more expensive (Bank of Indonesia, 2013)

This can have a serious indirect effect on bank loan dependent-MSMEs, though in Indonesia as in other developing countries they are only a small percentage of total MSMEs. However, MSMEs that are not dependent on capital from banks may also be affected if they have business or production linkages with formal credit dependent-LEs (e.g., trading companies and large-sized assembling cars producers). If those firms have financial problems caused by higher interest rates—and therefore have to reduce production or even go out of business—their subcontracted or business-related MSMEs will also go down with them.



4.0 Existing MSME-Support Policies

4.1 Focus of National Policies on MSMEs

As stated in Article 7 of the Constitution No. 20, 2008 on MSMEs, the Central as well as regional governments should create a conducive business environment for MSMEs through decrees, rules and regulations in the following areas:

- Financing (e.g., easy access to banks and other formal financial institutions, developing MSMEs financing/ credit providers, providing financial supports, establishing a credit-guarantee company).
- Facilitation (e.g., public utilities, low tariff/rents).
- Business information (e.g., an easy-to-use databank; business information networks; provision and diffusion of information on market, sources of financing, commodities, design, technology, guarantee; and transparency and equal access to business information for all MSMEs).
- Partnerships (e.g., creating/promoting cooperation among MSMEs, joint ventures or strategic alliances between MSMEs and LEs, and formulating rules and regulations to preserve free and fair competition among players; consumer protection).
- Licensing (e.g., simplification of procedure and types of licenses, integrated one-door service system, no cost for MIEs and lower costs for SEs in getting licenses).
- Business opportunities (e.g., special spaces/locations specifically for MSMEs, protection of certain sectors/ industries that are critical for MSMEs/forbidding certain business fields for LEs, including foreign direct investment, creating/upgrading existing clusters).
- Giving them priority in the provision of goods and services by government departments/agencies, provision of law consultancy and supports.
- Trade promotion (e.g., increasing promotion of MSMEs' goods and services in domestic as well as foreign markets; providing financial support, facilitation and incentives for promotion; facilitating ownership of intellectual property right).
- Institutional support (i.e., developing and increasing the function of incubators, business development services/business incubator centres, financing consultancy in partnership with bank, and other professional institutions).

Since the Suharto era (1966 to 1998), credit support has been the most important type of government support programs for MSMEs, and probably the most important or the most famous credit scheme in Indonesia after the Suharto era is *Kredit Usaha Rakyat* (KUR), or people/community business credit, launched by former President Susilo Bambang Yudhoyono (SBY) in November 2007. The main aim of KUR is to provide cheap financing for MSMEs that are already bankable but do not have enough assets as collateral. It is known as a "credit scheme without collateral." It provides loans for working and investment capital for individual producers/owners of productive MSMEs and cooperatives with a credit upper limit up to IDR500 million (US\$40,000). The scheme is 100 per cent financed by national commercial banks, i.e., Bank Rakyat Indonesia (BRI), Bank Negara Indonesia (BNI), Bank Mandiri, Bank Tabungan Negara (BTN), Bank Syariah Mandiri (BSM), Bank Bukopin, and Bank Negara Indonesia Syariah. Since 2012 all regional development banks (BPD) in all provinces in Indonesia are also playing an important role in allocating KUR. KUR received by MSMEs is guaranteed (70 per cent) by two insurance companies, PT. Asuransi Kredit Indonesia (PT. Askindo) and Perusahaan Umum Jaminan Kredit Indonesia (Perum Jamkrindo) and other companies that have joined the program voluntarily. PT Askindo provides two types of services: (1) credit guarantee:



bank and non-bank credit guarantee, counter bank guarantee, and regional credit guarantee; and (2) credit insurance: trade credit insurance, surety bond, customs bond, and reinsurance. Perum Jamkrindo's main aim is to provide credit-guarantee services to MSMEs including government program and commercial credit. It offers various MSMEs credit-guarantee products: microcredit guarantees, guarantees for construction, goods and services procurement loans, commercial credit guarantees, counter bank guarantees, multipurpose credit guarantees, guarantees for distribution, Islamic financial guarantees (Kafalah), and loan program credit guarantees (KUR).

According to the Ministry for Cooperative and SMEs, by the end of 2013 IDR142 trillion (US\$11.36 billion) has been disbursed in KUR to more than 10 million clients (Binarso, 2014).

4.2 Targeted Government Mitigating Measures for the Impact of Energy Subsidies Reform on MSMEs

In line with the elimination of the oil subsidy begun in 1998, the Indonesia government also has a special scheme to compensate for the effect of rising oil prices. The policy was known as the "compensating program for oil subsidy elimination," aimed at helping poor people and supporting other development programs. Like the oil subsidy, the compensating program is principally to maintain the purchasing power of the poor because rising oil prices decrease their domestic welfare. The program covered various aspects when it was launched in 2000. In that year, there were 11 programs, including health, education, small business and other socially beneficial programs. However, in 2008, the programs were reduced to one only, namely cash transfer to the poor (Adam & Lestari, 2008).

More specifically, the compensating programs for oil subsidy elimination to protect the poor since 2000 included the followings (Hastuti, 2006; SMERU, 2006; Adam & Lestari, 2008; Widjaja, 2009; Beaton & Lontoh, 2010; Mourougane, 2010; Suryahadi, Yumna, Raya, & Marbun, 2010; Cameron & Shah, 2012; Kharisma, 2011; IISD, 2012a; IMF, 2013; World Bank, 2013; Tambunan, 2014b):

1. A special rice subsidy (2003-2013) for the poor was created through the Rise for the Poor Program, more popularly known as Raskin, which in 2013 was extended to 15.5 million households at a cost of around IDR4.3 trillion (US\$340 million).
2. A cash Transfer Assistance Program (2005, 2008). This is the most high-profile program, known as *Bantuan Langsung Tunai* (BLT), a series of unconditional monthly cash transfer payments targeted at poor households. The aim was not only to reduce opposition to fuel price increases and help poor families cope with higher energy costs, but also to prevent near-poor households from falling into poverty. In 2005, the payments (IDR300,000 or US\$24) were made in two installments (in October 2005 and January 2006). In 2008, seven months' worth of payments were delivered in two installments, i.e. for June-August and for September-December. In 2013 (June), the size of the compensation/BLT package was around IDR29.1 trillion (US\$ 2.328 billion). The largest component of this package, costing IDR9.3 trillion (US\$744 million) in 2013, was the Temporary Cash Transfer Program (BLSM), intended to help households cope with the short-term impacts of reform. It was designed to provide 15.5 million poor households with IDR150,000 (US\$12) per month for four months. The disbursement was made either directly or through community leaders and local post offices were used for delivering the transfers. The BLT was accompanied by short-term measures referred to as the fuel subsidy reduction compensation program, which targeted support for affected groups by increasing social spending in the areas of education, health, rural/village infrastructure development, and coastal community empowerment;



3. The Fuel Subsidy Reduction Compensation Program (*Program Kompensasi Penurunan Subsidi BBM/PKPS-BBM*) (2003) given in the form of scholarships (*Bantuan Khusus Mahasiswa [BKM]* or Student Special Assistance) to students who were considered to be in poor financial shape, and in 2013 financial support for schooling increased from 8.7 million to 16.6 million school children, at a cost of IDR7.5 trillion (US\$600 million);
4. A massive undertaking called the BOS program (*Biaya Operasional Sekolah*, or School Operations Fund) (2005–2013), began as a way of injecting funds directly into schools (only elementary schools and junior secondary schools) in order to keep children aged 7–15 years in school and give schools some flexibility in managing their own funds. The BOS program was a further development of the JPS-scholarship program in the period 1998–2003 and a compensation program in fuel subsidy reduction during the period 2003–2005. The main objective was to reduce the burden on households, especially the poor, in financing education of their children following the rise of fuel price in domestic market. The BOS program was channeled directly through the schools. The program was meant to offer school operating cost subsidies to all students in compulsory education with an expectation that schools would no longer pass school operating costs to students, especially those from poor households. The funds were allocated based on the number of students, with the calculation of IDR235,000 (US\$18.8) per student per year for primary school level and IDR324,500 (US\$25.96) per student per year for junior secondary schools.
5. *Kartu Indonesia Pintar* (Indonesia bright card, or KIP) (2014) for poor students, *Kartu Indonesia Sehat* (Indonesia health card, or KIS) for the poor currently without social protection from the government, and *Kartu Keluarga Sejahtera* (welfare family card or KKS) introduced by the new President Joko Widodo. KIP, that would utilize the budget of the Culture and Elementary and Secondary Education Ministry, will be distributed in stages, started in November 2014. In the first stage the card will be distributed to 152,434 students in 18 districts (*kabupaten/kota*), including Jakarta. The main aim of this card is to prevent or reduce school dropouts following the rise in fuel prices. KIS, using the budget of the Social Security Management Agency (BPJS), will be also distributed in stages, starting with 432,000 individuals in 18 districts (*kabupaten/kota*). Thus, this program would add 432,000 persons from a total of 1.7 million people registered by the Ministry of People's Welfare to the current 86.4 million participants of the Jaminan Kesehatan National (national health insurance or JKN; once known as *Jaminan Kesehatan Masyarakat* or Jamkesmas) whose premium contributions paid by the government. KKS would be disbursed up to IDR6.2 trillion (US\$496 million), which was derived from the social assistance funds in the Social Affairs Ministry, to 15.5 million low-income families during the initial phase. Each family would receive an assistance fund of IDR400,000 (US\$32) in November and December 2014. These cards replace former President Susilo Bambang Yudhoyono's Social Protection Card (KPS) program, which also included various forms of assistance including cash aid (*Jakarta Post Online*, 2014).
6. A basic infrastructure program (2008, 2013), focused on villages with high poverty rates, which expanded in 2013 at a cost of IDR7.3 trillion (US\$584 million).
7. The conditional cash transfer Hopeful Family Program (PKH), which in 2013 expanded from 2.4 to 3.2 million households, at a cost of around IDR0.7 trillion (US\$56 million).

Although the above-mentioned programs and compensation schemes to mitigate the energy price effects were not specifically for MSMEs, some of the program such BLT and PKH (cash transfers) may also help producers of particularly MIEs (as most of this category of enterprises run by poor households); they may use the money to finance their businesses.



In fact, there was a special support mainly for MSEs that provided low-interest loans or revolving funds. This scheme was introduced in 2000 together with other socially beneficial programs, including health and education. Unlike a regular bank loan, a loan from the revolving loan fund is given to MSEs within a community that act as the loan guarantors. As MSEs pay back their loans, the central fund is replenished and creates the opportunity to issue more loans to other MSEs within the community. This scheme allows MSEs that have no assets or credit history to access additional financing in order to expand their business. This scheme is still in operation. According to the Ministry for Cooperative and SME, it has increased the revolving loan fund by almost a half in early 2014, as part of an attempt to help MSEs expand. The Cooperatives and SME Revolving Fund Management Body (LPDB-KUKM) at the ministry sets aside IDR2.7 trillion (US\$216 million) in collateral loans, up 47 per cent from last year's IDR1.8 trillion (US\$144 million). They envisage the disbursement of loans to about 200,000 MSEs, which involve in a range of businesses sectors from agriculture and mining to trade and services. The LPDB-KUKM works with over about 1,000 cooperatives and financing companies in disbursing the loans, which are offered to MSMEs at an annual interest rate of as low as 6 per cent, or just a third of the interest rate offered by commercial banks (Binarso, 2014).

At the time of the November 2014 reforms the government did not introduce any plan to provide special mitigating measures for MSMEs besides continuing the above-mentioned revolving fund. However, for around 3 million small-sized traditional fisheries across the country with vessels not more than 10 gross tonnes, the new government (through the Ministry for Energy and Mineral Resources) launched a program in January 2015 to provide them with 50,000 energy conversion tool units so that they can move from using diesel to use LPG 3kg. It is calculated that with gas they can save up to IDR125,000 (US\$10) two days fishing (Kompas, 2015a).



5.0 Empirical Evidence From Field Survey: Discussion and results

5.1 Profiles of Respondents

Table 10 provides information regarding four key profiles of the respondents, namely gender, market orientation, changes in revenues and cost components of energy in their total production costs.

TABLE 10. KEY PROFILES OF THE RESPONDENTS IN THE FOUR LOCATIONS, 2014

SIZE CATEGORY	2009	2010	2011	2012	2013
Ratio of females to males	(# of respondents)	11/18	16/9	35/64	28/12
<u>Market orientation:</u>	(# of respondents)				
-Only domestic market		12	23	94	40
-Only foreign market		3	-	-	-
-both markets		14	2	5	-
<u>Revenue during 2012-2013:</u>	Per				
- relative stable	(# of respondents)	9	3	23	9
-increased		11	16	55	16
-declined		9	6	21	15
<u>Cost components of Energy:</u>	%				
<u>Petroleum:</u>					
-average per respondent:		2.6	3.2	5.8	9.4
-maximum:		10.0	20	40	50
-minimum:		1.0	2	0.8	5
<u>LPG:</u>					
-average per respondent:		1.5	12.4	8.99	9.1
-maximum:		10	30	35	70
-minimum:		2	1	0.5	5
<u>Electricity:</u>					
-average per respondent:		11.5	13.3	12.3	9.1
-maximum:		25	30	60.0	80
-minimum		0.8	2	1.44	5

Source: field surveys November-December 2014, and January-February 2015

From a gender perspective, only in Semarang and Padang were the majority of the respondents women. With respect to market orientation, from Solo only three respondents were found to be fully export-oriented. In Semarang, only two respondents also export some portion of their products. In Jakarta, the majority of the respondents serve only domestic or local markets. In Padang, all respondents are domestic/local oriented.

With respect to their revenues in the past few years, in Solo, nine respondents said that their revenues in 2014 compared to 2013 and 2012 were more or less stable, and 11 respondents experienced an increase in their revenues. The remaining nine respondents stated that their revenues in 2014 declined for various reasons, such as tight market competition or a decline in demand caused by the reduction in consumer purchasing power and increased prices for raw materials; a few of them also said higher energy prices in the past two years also contributed to the decline in their production or revenues. In Semarang, the majority of the respondents said that their revenues increased in the past few years. For those whose revenues declined in the past few years, the main causes indicated were more competitors, less market demand, change in management, and fewer outlets.



In Jakarta, the revenues of the majority of the respondents increased, at least in 2014 compared to 2013. Those who experienced a decline in their revenues said that the drop in consumers’ purchasing power was the main cause; while a few others said that the increased prices of raw materials pushed them to reduce their production volume. In Padang, 15 respondents experienced a decline in their revenues in 2014 compared to 2013 (although some of them experienced an increase in 2013 compared to 2012), mainly caused by the deterioration of consumer purchasing power; only one respondent said that the rise of prices of raw materials—which occurred almost yearly—has been the main factor. The decline in market demand due to the decline in consumers’ purchasing power and the increase of prices of raw materials may reflect the indirect effects of energy price increases. Some of the respondents in Semarang who experienced a decline in their revenues in the past few years (as well as the participants in the FGD in Semarang) support this assumption. One producer of Indonesian traditional cake (*lapis legit*) said that when energy price increases, consumers, especially from middle- to low-income groups, reduce their demand for unnecessary items, including discretionary food purchases. Regarding the cost components of energy, in Solo, petroleum cost on average per respondent is around 2.6 per cent, higher than LPG cost but much lower than electricity cost; in Semarang and Jakarta the average electricity cost is higher than average cost of the other two energy items; and in Padang the average costs for the three item are not significantly different.

5.2 Knowledge of Energy Prices

It is generally expected that the perception of the current price of energy influences the firms’ responses to future energy price increases. If the energy prices of neighboring countries are perceived as higher than domestic prices, resistance to price increases may be less than in the opposite case (Anh, et al., 2013). The survey asked respondents about energy prices in Indonesia compared to those in other ASEAN member states (AMS). The results are presented in Table 11.

TABLE 11. RESPONDENTS’ KNOWLEDGE OF ENERGY PRICES IN INDONESIA (# OF RESPONDENTS)

	SOLO						TOTAL
	VERY CHEAP	CHEAPER	NO DIFFERENCE	MORE EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW	
Petroleum	-	8	9	7	-	5	29
LPG	-	5	8	8	1	7	29
Electricity	1	6	7	9	-	6	29
	SEMARANG						TOTAL
	VERY CHEAP	CHEAPER	NO DIFFERENCE	MORE EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW	
Petroleum	-	4	2	3	2	14	25
LPG	-	5	1	16	2	1	25
Electricity	-	5	2	15	2	1	25



	JAKARTA						
	VERY CHEAP	CHEAPER	NO DIFFERENCE	MORE EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW	TOTAL
Petroleum	4	27	15	33	5	15	99
LPG	-	30	12	41	8	8	99
Electricity	1	26	13	44	6	9	99
	PADANG						
	VERY CHEAP	CHEAPER	NO DIFFERENCE	MORE EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW	TOTAL
Petroleum	-	4	18	15	3	=	40
LPG	-	3	21	13	3	-	40
Electricity	-	3	20	14	3	-	40
	ACROSS THE DIFFERENT REGIONS						
	VERY CHEAP	CHEAPER	NO DIFFERENCE	MORE EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW	TOTAL
Petroleum	4	43	44	58	10	34	193
LPG	-	43	42	78	14	16	193
Electricity	2	40	42	82	11	16	193

Source: Field survey, November-December 2014 and January-February 2015.

As can be seen, in Solo fewer than half of the total respondents think that the prices of petroleum, LPG and electricity in Indonesia are cheaper in Indonesia than those in other AMS. There are some respondents (nine) who think that the prices of energy in Indonesia are more or less the same as in other AMS. In Semarang, the majority of the respondents believed that the price of LPG in Indonesia is more expensive than that in other AMS. As LPG is the main energy used in the food and beverages industry—where the majority of respondents are active—many of them have no idea about the relative prices of petroleum and electricity in Indonesia compared to other AMS. In Jakarta, many respondents think that energy prices in Indonesia are much higher than those in other AMS. In Padang, the majority of the respondents believed that prices of the three energy types in Indonesia are more or less the same as those in other AMS.

Across the different regions, the highest aggregate numbers of respondents for each type of energy are in the category of “more expensive,” and within this category, LPG has the highest number of respondents—82 people or 42.5 percent of total respondents in the sample. However, during the survey, it was found that many respondents (the majority of them) said that they did not know the exact level of energy prices in Indonesia relatively to those in neighboring countries. In other words, data presented in Table 11 are the result of respondents’ guesses.

By means of comparison, regional data from various sources on certain energy products such as electricity, diesel and gasoline suggest that prices of these items in Indonesia are lower than in some other AMS (Table 12).



TABLE 12. ACTUAL PRICES OF ELECTRICITY, DIESEL AND GASOLINE IN AMS, 2004, 2011, 2014

MEMBER STATES	ELECTRICITY (AVERAGE US\$/KWH; MAY 2014)	DIESEL (US CENTS/LITER*)		GASOLINE (US CENTS/LITER*)	
		2004	2011	2004	2011
Brunei Darussalam	0.052	19	21	32	38
Myanmar	0.055	10	52	12	43
Lao PDR	0.081	63	76	71	92
Thailand	0.090	37	64	54	87
Vietnam	0.092	32	77	48	80
Indonesia	0.124	18	42	27	50
Malaysia	0.128	22	53	37	53
Philippines	0.136	34	81	52	91
Cambodia	0.172	61	89	79	94
Singapore	0.206	55	90	89	107

* Price at filling station.

Sources: Suryadi (2014); GTZ (2005).

5.3 Price Expectations in the Near Future

The expectation and perception of future energy prices could help firms prepare to cope with any price adjustment. In this regard, the respondents were asked to predict the degree that Indonesian energy prices would change for 2015 and 2016. As can be seen in Table 13, in Solo the highest predicted level of petroleum price increases is in the range of 30 per cent (2015) to 50 per cent (2016). For LPG it is between 40 per cent and 50 per cent, and for electricity between 40 per cent and 60 per cent. Only very few respondents predict that the prices of energy would not change. This was particularly the case for LPG and electricity. From Semarang, the respondents gave the same predicted percentage increases for the three energy items, namely maximum 30 per cent in 2015 and 45 per cent in 2016 and minimum 1 per cent for both years. Findings from Jakarta show that for all three energy items the maximum level is 100 (predicted by one respondent) and the minimum level is 2 (by a few respondents). From Padang, one producer gave 75 per cent as the maximum predicted level for all the three items, and the lowest level is 5 per cent, predicted by many respondents.

TABLE 13. EXPECTATIONS OF THE EXTENT OF THE ENERGY PRICE CHANGE IN 2015 AND 2016 (%)

	SOLO		SEMARANG		JAKARTA		PADANG	
	2015	2016	2015	2016	2015	2016	2015	2016
Petroleum								
-maximum	30	50	30	45	100	100	75	15
-minimum	4	5	1	1	2	2	5	5
LPG								
-maximum	40	50	30	45	100	100	75	15
-minimum	3	3	1	1	2	2	5	5
Electricity								
-maximum	40	60	30	45	100	100	75	15
-minimum	2	4	1	1	2	2	5	5

Source: field survey, November-December 2014 and January-February 2015



5.4 Knowledge of Energy Subsidies

The respondents were also asked whether they have knowledge about the level of subsidization of petroleum, LPG and electricity. The results are presented in Table 14. In Solo it was found that for each type of energy, 8 out of 29 respondents said that they are aware of energy subsidization but could not guess the level. For the remaining 21 respondents who could guess, they were given a range of scale percentages to choose for three key energy products: petroleum, LPG and electricity. From this group, eight respondents agreed that petroleum is subsidized at the level 5 per cent to 10 per cent of the current price, while another eight respondents think that the price for that particular energy product was subsidized at 10 per cent to 30 per cent. Only five respondents think that the petroleum subsidy is at the level of 30 per cent to 50 per cent. For LPG, 10 respondents guessed that the subsidy is at the level of 10 per cent to 30 per cent of the current price; six respondents at the level of 5 per cent to 10 per cent, and the remaining five respondents at the level of 30 per cent to 50 per cent. For electricity, there was one respondent who thinks that the subsidy is very small, below 5 per cent. At the level of 5 per cent to 10 per cent there were eight respondents; whereas at the level of 10 per cent to 30 per cent (as well as 30 per cent to 50 per cent), there are each six respondents. Unlike in Solo, in Semarang it was found that the majority of the respondents have no idea about the level of subsidy for all items. In Padang, for the majority of the respondents it is the category of 5 per cent to 10 per cent level; and in Jakarta it is 10 per cent lower.

As can be seen, across the different regions, 48 respondents (or about 24.9 percent) of total respondents (193 persons) have no opinion about the level of subsidy for petroleum. For LPG and electricity, there are, respectively, 47 and 46 respondents (or 24.4 per cent and 23.8 per cent). For those who have an opinion, the highest aggregate numbers for all types of energy are for the subsidy level 5 per cent to 10 per cent, respectively, 66 (34.2 per cent), 67 (34.7 per cent), and 71 (36.8 per cent) of respondents. Overall, there are no big differences between the different types of fuel. It seems that the estimate respondents gave was fairly similar for petroleum, LPG and electricity.

TABLE 14. ASSESSMENT OF THE LEVEL OF ENERGY SUBSIDIES IN INDONESIA (# OF RESPONDENTS)

	SOLO						TOTAL
	<5%	5-10%	10-30%	30-50%	>50%	NO OPINION	
Petroleum	-	8	8	5	-	8	29
LPG	-	6	10	5	-	8	29
Electricity	1	8	6	6	-	8	29
	SEMARANG						TOTAL
	<5%	5-10%	10-30%	30-50%	>50%	NO OPINION	
Petroleum	-	3	4	2	-	16	25
LPG	-	3	3	1	2	16	25
Electricity	-	3	3	1	2	16	25
	JAKARTA						TOTAL
	<5%	5-10%	10-30%	30-50%	>50%	NO OPINION	
Petroleum	38	28	10	3	-	20	99
LPG	32	32	8	7	-	20	99
Electricity	32	37	5	5	1	19	99



	PADANG						TOTAL
	<5%	5-10%	10-30%	30-50%	>50%	NO OPINION	
Petroleum	7	27	2	-	-	4	40
LPG	8	26	3	-	-	3	40
Electricity	12	23	1	1	-	3	40
ACROSS THE DIFFERENT REGIONS							
Petroleum	45	66	24	10	-	48	193
LPG	40	67	24	13	2	47	193
Electricity	45	71	15	13	3	46	193

Source: Field survey, November-December 2014, and January-February 2015.

5.5 Opinions About Government Efforts to Liberalize the Domestic Energy Market

The Indonesian government is gradually liberalizing its domestic energy market by removing energy subsidies and putting in place a more market-based pricing mechanism that follows international energy prices. Respondents were asked whether they think this energy price reform toward liberalization is necessary or not. The findings are given in Table 15, which shows that the ratio between those who agree with the policy and those who do not varies by location and by type of energy within a location. In Solo, there were more respondents who agree with liberalization than those who agree with the policy, but only for LPG and electricity. For petroleum, it is inconclusive. In Semarang, although many respondents have no personal opinion, of those who have an idea, there are more who support the government's plan to liberalize the domestic energy market than those who are against it, and the difference in favour of the policy is significant for all the three types of energy. However, in Padang the opposite is true: there are more respondents against than those in favour of the policy. In Jakarta, beyond those who have no opinion, there are more respondents who think that liberalization of domestic energy market is indeed necessary.

What is surprising from this finding is that there are respondents who think that policy is necessary despite the fact that it may impact negatively their businesses, at least in the short term. Some of them elaborated on their answer by saying that the government has no other options due to its growing fiscal burden, and also because the Indonesian economy has been increasingly integrated with the global economy, Indonesia has to go along with trade liberalization, including in energy. Moreover, as they said, they believe the liberalization of energy will push them to be more efficient in using energy and hence it will have a positive effect on their business performance and competitiveness in the long term.



TABLE 15. RESPONSE TO GOVERNMENT EFFORTS TO LIBERALIZE DOMESTIC ENERGY MARKET (# OF RESPONDENTS)

	SOLO			
	NOT NECESSARY	NECESSARY	NO OPINION	TOTAL
Petroleum	11	11	7	29
LPG	13	10	6	29
Electricity	14	7	8	29
	SEMARANG			
	NOT NECESSARY	NECESSARY	NO OPINION	TOTAL
Petroleum	2	12	11	25
LPG	2	12	11	25
Electricity	3	11	11	25
	JAKARTA			
	NOT NECESSARY	NECESSARY	NO OPINION	TOTAL
Petroleum	21	39	39	99
LPG	24	35	40	99
Electricity	24	35	40	99
	PADANG			
	NOT NECESSARY	NECESSARY	NO OPINION	TOTAL
Petroleum	18	11	11	40
LPG	17	11	12	40
Electricity	17	12	11	40
	ACROSS THE DIFFERENT REGIONS			
	NOT NECESSARY	NECESSARY	NO OPINION	TOTAL
Petroleum	52	73	68	193
LPG	56	68	69	193
Electricity	58	65	70	193

Source: field survey, November-December 2014 and January-February 2015

5.6 Comments About the Benefits of Energy Subsidies

One important debate or question regarding the Indonesian energy subsidy policy is about its real impact on the society and businesses. This has become a critical political question in recent years, as the government's fiscal burden from the subsidy policy has increased significantly. During the survey, the respondents were also asked this question. As generally expected, the finding shows that the majority of them said that they benefit from the energy price subsidy: 167 (86.2 per cent) for petroleum, 166 (86 per cent) for LPG and 171 (88.6 per cent) for electricity (Table 16). The benefits take various forms, according to the following categories: they can sell at a more competitive price; they can produce at full capacity; they can earn higher profits, and others. However, among these forms of benefit, selling at lower or more competitive prices is the most important.



TABLE 16. BENEFIT FROM ENERGY PRICE SUBSIDY (# OF RESPONDENTS)

	SOLO			SEMARANG			JAKARTA			PADANG			ACROSS DIFFERENT REGIONS		
	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
Petroleum	23	6	29	22	3	25	33	7	40	89	10	99	167	26	193
LPG	23	6	29	22	3	25	34	6	40	87	12	99	166	27	193
Electricity	25	4	29	22	3	25	33	7	40	91	8	99	171	22	193

Source: Field survey, November-December 2014 and January-February 2015.

What is more interesting is that there are also respondents who said that they do not really benefit from energy price subsidies despite the fact that the government spends a lot of money on the policy. They gave various reasons: prices of raw materials increase every year, labour costs increase every year as a direct consequence of the current government regulation on minimum wage, and the energy subsidy is too low to compensate for those other elements. This is not surprising. Kompas newspaper informed that *tahu* (tofu or soybean curd) producers in Bandung in the province of West Java province have complained about the increased price of soybeans (their key raw material) up to IDR8,400 (US\$0.672) per kg, and because of this, the drop in the price of *Premium* in early January 2015 following the decline in the world price of oil does not mean much for them (Kompas, 2015b).

5.7 Preference for the Size and Schedule of Energy Price Increases

It is more likely that domestic prices of energy will increase gradually rather than decline in the future due to various factors, such as the tendency of the exchange rate of rupiah against the U.S. dollar to weakening, continuation of national energy policy reform, increasing domestic demand for energy, and volatile international prices of oil. Respondents were asked to give their preference for the size of gradual price increases as well as for type of schedule. For the first question, the respondents were given a list of different ranges of percentage increases of energy price, and they were asked to choose certain percentage that they would accept without facing any serious problems for their businesses. The findings for this first question are presented in Table 17. In Solo, most respondents prefer the size of price increases to be capped at 10 per cent. In Semarang, the majority of the respondents think that the increase would be acceptable, if necessary, but not more than 5 per cent. Some respondents said that within this range of 5 per cent or less their businesses would not be impacted. In Jakarta, the results are similar. In Padang many respondents seem to have no problem if energy prices increased up to 15 per cent.

TABLE 17. INDIVIDUAL PREFERENCE FOR THE SIZE OF GRADUAL ENERGY PRICE INCREASES (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONS
less than 5%	12	19	61	12	104
5-10%	16	1	26	9	52
10-15%	-	1	7	17	25
15-20%	1	-	4	2	7
20% or more	-	4	1	-	5
Total	29	25	99	40	193

Source: Field survey, November-December 2014 and January-February 2015.



The findings for the second question are presented in Table 18. In Solo, many respondents have no problem if the price of energy increases every year or every two or three years. There are only two respondents who said that basically they prefer no further price increases. In Semarang, the majority of the respondents prefer every two or three years instead of every year. In Jakarta, the majority of the respondents prefer every two or three years. In Padang, the majority of the respondents prefer that energy prices increases in the near future occur only in 2015 and 2020.

TABLE 18. INDIVIDUAL PREFERENCE FOR THE TYPE OF SCHEDULE OF ENERGY PRICE INCREASES (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONS
Every year	7	3	17	1	28
Every two years	7	7	20	2	36
Every three years	8	7	28	10	53
At 2015 and 2020	5	5	24	24	58
Other	2	3	10	3	18
Total	29	25	99	40	193

Source: Field survey, November-December 2014 and January-February 2015.

5.8 Impact of Energy Price Increases

To assess the impact of energy price increases after energy subsidy reforms the respondents were given two questions: (1) How would businesses be affected if energy prices increase in the near future, and (2) What were the actual impacts on their businesses from energy price increases in previous years? The findings presented in Table 19 suggest that, in general, an increase in energy price will have an impact on firms, but not always significant, at least not directly. Only a small number of respondents (15 respondents for future increase and 24 respondents for the past experiences) in all cities surveyed said no impact. While the majority of the remaining respondents said that the previous increases of energy prices had some impact, the impacts were considered small. They also expect that in the future the impact will be small, at least with respect to direct effects.

The importance of indirect effects will depend, however, on the type of energy. In Solo, the respondents are producers of textile or garments, and electricity is their most important energy source. In Semarang, the respondents are food and beverages industries, and LPG is their main energy. From their experiences with price increases of *Premium* that occurred several times in the past, the impact was mainly through higher transportation costs that they had to pay for bringing their products to their markets. Some also said that in the past few years, prices of some materials they used also increased. Some of them commented that the main reason for the decline in their production volume during the period of fuel price increases was mainly the fact that their production costs increased and they decided to reduce production volume, not because market demand declined. For other respondents, the decline in consumers' purchasing power, which they attributed to energy subsidy reforms, was the main cause of the decline.



TABLE 19. THE IMPACTS OF ENERGY PRICE INCREASES ON RESPONDENTS' BUSINESSES (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONS
Future Increase					
-No impact	-	-	10	5	15
-Production volume would decline very much	12	13	33	9	67
-Production volume would decline slightly	17	12	56	26	111
Total	29	25	99	40	193
Past Experiences					
-No impact	-	5	13	6	24
-Production volume declined very much	5	10	20	7	42
-Production volume declined slightly	24	10	66	27	127
Total	29	25	99	40	193

Source: Field survey, November–December 2014 and January–February 2015.

The respondents were also asked to envisage possible impacts at different hypothetical price increase levels per year over the next 5 years on their businesses. The findings are given in Table 20 for each of the three locations: it shows that the majority of respondents in Solo (23 respondents) said that their production will not be affected if the price of energy increases less than 5 per cent. However, this figure drops sharply when the price increases more than 5 per cent. Only one producer said that there would be no impact if the price of fuel increases up to 20 per cent. The same pattern was also found in the other cities.

Overall, the findings from Solo, Semarang, Jakarta and Padang suggest that firms are sensitive to the increase in the energy prices, although the extent of the impact may vary by firm depending on many factors, including type of goods produce and current level of efficiency in using energy, both of which determine the extent of energy they consume, and their coping measures or their responsiveness to energy price increases.



TABLE 20. POSSIBLE IMPACT AT DIFFERENT HYPOTHETICAL PRICE INCREASE LEVELS OF ENERGY (# OF RESPONDENTS)

ENERGY PRICE INCREASES BY TYPE OF IMPACT	SOLO					
	<5%	5-10%	10-15%	15-20%	20-30%	>30%
No impact	23	6	1	1	-	-
Production volume declined very much	1	7	18	28	28	29
Production volume declined slightly	5	16	10	-	1	-
Total	29	29	29	29	29	29
SEMARANG						
No impact	20	11	1	-	-	-
Production volume declined very much	-	5	16	14	24	25
Production volume declined slightly	5	9	8	11	1	-
Total	25	25	25	25	25	25
JAKARTA						
No impact	71	32	10	2	-	-
Production volume declined very much	7	23	54	72	82	95
Production volume declined slightly	21	44	35	25	17	4
Total	99	99	99	99	99	99
PADANG						
No impact	38	27	4	-	-	-
Production volume declined very much	-	-	5	23	32	37
Production volume declined slightly	2	13	31	17	8	3
Total	40	40	40	40	40	40
ACROSS THE DIFFERENT REGIONS						
No impact	152	76	16	3	-	-
Production volume declined very much	8	35	93	137	166	186
Production volume declined slightly	33	82	84	53	27	7
Total	193	193	193	193	193	193

Source: Field survey, February 2015.

5.9 Reactions to Energy Price Increases

How a firm copes with the shock of a price increase is crucial, as it will determine the extent or seriousness of its impact on the firm. During the survey, respondents were asked about their possible responses to different rates of energy price increases. A multi-option question was designed, with a set of 10 alternative mitigation measures. The findings are presented in the following three tables. The Solo case (Table 21) shows that for energy price increases of less than 5 per cent, the option mostly frequently chosen is “doing nothing.” Thus, a price increase of less than 5 per cent does not seem to be considered as major problem and therefore does not require special adjustment. If energy prices increase between 5 and 10 per cent, two options chosen by the majority are “raising the output price,”



and “using energy more efficiently.” These two options become less likely the higher the price increase. Options such as “using other alternative energies” and “using alternative raw materials” are more frequently chosen the higher the energy price increase becomes. The case of Semarang (Table 22) shows a similar picture. However, many respondents tend to increase their prices even if the price of energy increases less than 5 per cent. The Jakarta case (Table 23) shows that if energy prices increase less than 5 percent there is no need to make any adjustment. However, one interesting fact from this case is that there are few respondents who said that no special measures will be taken for any energy price increases, as they have never done that in the past. In Padang (Table 24), all respondents said that if the energy price increase is 5 per cent or less no adjustment would be needed—for percentage increases beyond that, an adjusted sales price is the more popular response. As in Solo, a small number of respondents in Padang said that if energy prices increase beyond 20 per cent they probably must close their business because that is a price level they cannot adjust for. Table 25 gives an overall picture.

TABLE 21. TYPES OF COPING MEASURES SELECTED BY THE RESPONDENTS WITH DIFFERENT RATES OF ENERGY PRICE INCREASES, SOLO (%)

ENERGY PRICE INCREASES BY TYPE OF COPING MEASURES	<5%	5-10%	10-15%	15-20%	20-30%	>30%
Doing nothing	46.5	-	-	-	-	-
Raising output price	6.98	40.0	29.6	7.7	7.7	-
Fostering energy saving or using more efficiently	6.98	36.0	22.2	15.4	7.7	-
Using other alternative energies	4.7	8.0	14.8	15.4	15.4	7.7
Reducing production volume/scale	2.3	-	11.1	15.4	0	15.4
Using energy-saving technology	11.6	8.0	-	23.1	7.7	7.7
Producing other, less energy-intensive products	6.98	-	11.1	-	15.7	7.7
Reducing other cost components (e.g., fewer workers)	6.98	-	3.7	7.7	7.7	30.8
Using alternative raw materials	6.98	8.0	7.4	15.4	30.8	15.4
Close operation	-	-	-	-	7.7	15.4
Total	100.0	100.0	100.0	100.0	100.00	100.0

Source: Field survey, December 2014



TABLE 22. TYPES OF COPING MEASURES SELECTED BY THE RESPONDENTS WITH DIFFERENT RATES OF ENERGY PRICE INCREASES, SEMARANG (%).

ENERGY PRICE INCREASES BY TYPE OF COPING MEASURES	<5%	5-10%	10-15%	15-20%	20-30%	>30%
	Doing nothing	44.4	10.0	-	-	-
Raising output price	33.3	32.5	35.7	32.2	28.8	32.6
Fostering energy saving or using more efficiently	14.8	12.5	16.1	13.6	12.1	8.7
Using other alternative energies	-	10.0	8.9	6.8	6.1	-
Reducing production volume/scale	-	7.5	10.7	11.9	10.6	13.0
Using energy-saving technology	3.7	15.0	8.9	6.8	6.1	2.2
Producing other, less energy-intensive products	-	2.5	1.8	1.7	4.6	6.5
Reducing other cost components (e.g., fewer workers)	3.7	-	1.8	10.2	13.6	10.9
Using alternative raw materials	-	10.0	16.1	16.95	18.2	17.4
Close operation	-	-	-	-	-	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field survey, December 2014

TABLE 23. TYPES OF COPING MEASURES SELECTED BY THE RESPONDENTS WITH DIFFERENT RATES OF ENERGY PRICE INCREASES, JAKARTA (%).

ENERGY PRICE INCREASES BY TYPE OF COPING MEASURES	<5%	5-10%	10-15%	15-20%	20-30%	>30%
	Doing nothing	50.0	23.2	7.2	0.8	0.6
Raising output price	22.0	34.8	39.2	29.1	23.4	29.2
Fostering energy saving or using more efficiently	5.9	13.0	18.1	16.1	13.5	12.9
Using other alternative energies	2.5	2.2	7.8	9.8	8.7	3.9
Reducing production volume/scale	5.9	7.3	9.6	11.8	11.5	9.0
Using energy-saving technology	5.1	6.5	6.6	15.0	14.1	13.5
Producing other less energy used products	-	-	0.6	5.1	7.7	2.8
Reducing other cost components (e.g., fewer workers)	5.1	8.7	7.2	8.7	11.9	9.6
Using alternative raw materials	3.4	4.4	3.6	3.5	8.7	5.1
Close operation	-	-	-	-	-	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field survey, January 2015



TABLE 24. TYPES OF COPING MEASURES SELECTED BY THE RESPONDENTS WITH DIFFERENT RATES OF ENERGY PRICE INCREASES, PADANG (%).

ENERGY PRICE INCREASES BY TYPE OF COPING MEASURES	<5%	5-10%	10-15%	15-20%	20-30%	>30%
Doing nothing	100.00	27.8	9.7	-	-	-
Raising output price	-	27.8	25.7	17.2	12.9	4.4
Fostering energy saving or using more efficiently	-	23.6	20.4	15.0	12.2	4.4
Using other alternative energies	-	15.3	15.9	15.4	12.6	4.4
Reducing production volume/scale	-	2.8	12.4	15.0	12.6	4.4
Using energy-saving technology	-	2.8	11.5	13.2	12.6	4.4
Producing other, less energy-intensive products	-	-	3.5	11.9	12.6	4.4
Reducing other cost components (e.g., fewer workers)	-	-	0.9	8.8	11.9	
Using alternative raw materials	-	-		3.5	11.5	
Close operation	-	-		-	1.1	73.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field survey, February 2015

TABLE 25. TYPES OF COPING MEASURES SELECTED BY THE RESPONDENTS WITH DIFFERENT RATES OF ENERGY PRICE INCREASES ACROSS THE DIFFERENT REGIONS (%).

ENERGY PRICE INCREASES BY TYPE OF COPING MEASURES	<5%	5-10%	10-15%	15-20%	20-30%	>30%
Doing nothing	59	20.4	3.4	0.4	0.3	0.7
Raising output price	16.8	33.1	34.8	24.2	19.2	24.3
Fostering energy saving or using more efficiently	6.2	17.8	19.1	15.4	12.7	9.5
Using other alternative energies	1.3	7.3	12	11.9	10.2	3.5
Reducing production volume/scale	3.5	5.5	11.1	13.2	11.7	9.5
Using energy-saving technology	5.3	6.9	8.3	13.6	12.6	9.9
Producing other, less energy-intensive products	1.3	0.4	2.6	7.4	9.6	3.9
Reducing other cost components (e.g., fewer workers)	4.4	4.4	4.3	8.9	12	9.9
Using alternative raw materials	3.1	4.4	5.1	5.2	11.2	6.7
Close operation	-	-	-	-	0.6	22.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field survey, February 2015



Raising the sale price is often chosen as the first or short-term coping measure by firms in addressing price increases of not only energy but also raw materials, due to energy subsidy reforms. It is the solution that is the easiest to put in place, more than, for example focusing on energy-efficiency measures.

However, raising the sales price has one important limitation: the price elasticity of demand of the product. Rice, a staple food in Indonesia, has a very low degree of substitution. Increasing prices will be noticeable. For meat, corn or fish, the substitutability is much higher and consumers will shift more quickly to substitutes. Also restaurant owners have limitations on price increases. At a certain price level customers may decide not to have dinner any more in their restaurants, as has happened with many owners of small food stalls in Jakarta and many other cities. When the price of LPG-12 kg increased on January 2, 2015, they did not raise their prices because they were afraid their consumers (mainly from middle- to low-income groups) will go away; instead they moved to LPG-3 kg (Tempo Online, 2015). Indeed, respondents in all three cities who did not choose raising the output price as their first choice of strategy said that they were afraid consumers will go elsewhere.

Producers were also asked whether they would be able to cope (or have no serious difficulties coping) with volatile prices, and if not, what are the main reasons. As can be seen in Table 26, the majority of total respondents in all cities (142) have no difficulties coping with energy price increases. Of those who said that they would not be able to cope with energy price increases, the main reason for most of them is difficulty in raising their output prices, as they may risk losing their market competitiveness and market share.

TABLE 26. RESPONDENTS' CAPACITY TO RESPONSE (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONNS
Able to cope (have no difficulties)	19	22	67	34	142
Not able to cope (have difficulties)	10	3	32	6	51
Main Reasons:					
- has not enough resources (especially capital) to cope with	2	3	5	4	14
-difficulty in making a price adjustment due to heavy market competition	8	-	23	1	32
-has no other options left to make more efficient in using energy	-	-	4	1	5
-other reasons	-	-	-	-	
Total	29	25	99	40	193

Source: Field survey, November-December 2014 and January-February 2015.

5.10 Government Support for MSMEs

The respondents were asked (1) whether, during the previous price increases of energy they received special government support to compensate, and if they did, what kind of support and (2) what kind of supports do they need from the government to compensate for future price rises after subsidy reform. The findings with respect to the first question are presented in Table 27, and those with respect to the second questions are shown in the three figures that following. For the first question, the respondents were given a list of forms of supports that they may have received, and they could choose more than one form if they indeed received various kinds. Most respondents in Solo said that they never received special government compensation supports. Those who received government support



got this from their regional or local government in the form of a special fund to purchase more energy-efficient using machines and a special local government program to facilitate credit access for MSMEs. In Semarang, the respondents that did receive government support outnumbered the ones that did not. They confirmed that special government support was mainly provided through regional and local government initiatives rather than national programs initiated by the central government. In Padang, none of the respondents received special compensation support from the government. In Jakarta, the few respondents who did receive support got it under the various compensation measures.

TABLE 27. RESPONDENTS' ACCESS TO GOVERNMENT SPECIAL SUPPORT IN THE PAST (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONNS
Never received	22	10	85	40	157
Ever received	7	15	14	-	36
- Credit program for energy price compensation	-	6	2	-	8
- Fund to buy less energy-intensive technologies	4	-	3	-	7
- Marketing supports	-	9	3	-	12
- Funds or other facilities to purchase raw materials	-	-	7	-	7
- More easy to borrow money from bank for working capital	3	-	3	-	6
- Income tax cut	-	-	1	-	1
- Others	-	-	-	-	-
Total	29	25	99	40	193

Source: Field survey, November-December 2014 and January-February 2015.

Those who never received special government supports (as well as participants from the FGDs) gave a number of reasons. First, for all businesses any increases in input prices, including fuel, would cause a financial problem or an extra financial burden, at least in the short term. However, this does not always lead to a serious financial problem or a heavy financial burden for firms such that they need very special government supports. In other words, the respondents had experienced energy price increases several times since 1998. However, they considered those increases as something that they have to face, just as the increase in prices of raw materials that occur almost every year. Second, none of the respondents in Solo and Semarang are from MIEs operating in the informal sector. Most of them come from modern, formal SMEs with well-established financial conditions. This is not to say that MIEs would be more affected than SMEs by energy price increases (it would greatly depend on type of product/production, type of energy used and energy intensity), but in general with well-established financial condition and better organization, SMEs (particularly MEs) have more capacity than MIEs to cope with any price increase, be it in energy or raw materials. MIEs, on the other hand, with their lack of capital and perhaps less well-managed production activities, would request more external support, including from the government. Third, among many government compensation programs for the fuel price increases (including the cash transfer program for the poor ([BLT]), there is a special support scheme for MIEs in the form of low-interest loans (the revolving fund). This program was introduced in 2000 together with other socially beneficial programs including health and education. However, the respondents of the survey did not know about the existence of this type of support. Some respondents said that they never heard of that scheme or that they have never been informed



or approached by the government, most likely because the scheme is exclusively for MIEs. Moreover, some of them finance their operations, partly, with credit from a bank. Therefore, they do not necessarily need this revolving fund; similarly, they do not need KUR, as this is mainly for MIEs that do not have access to commercial bank loans.

In Jakarta, the majority of the respondents are from MIEs operating in the informal sector. Despite that difference with the respondents of Solo and Semarang, still only 14 out of 99 ever received support. Few respondents who never received special government supports mentioned the same reasons as above: price increases occur and they consider it normal to deal with them. Others were not aware of the support programs and did not know how to apply for assistance. In Padang the results were similar.

With respect to the second question, from the Solo case, in terms of percentage of total respondents, Figure 7 may suggest that marketing support is the most desired kind of government support in the case of energy price increases. Also during the FGD in Solo, all participants agreed that to help MSMEs (or for all businesses in general) in mitigating the impacts of an energy price increases, indirect support such as marketing support or development and improvement of infrastructure to make their market more accessible and transport costs cheaper are more important or effective than a compensation scheme specifically designed for them. The Semarang case as shown in Figure 8 indicates that besides marketing supports, special credits or funds are also preferred by many of the respondents. With respect to marketing support, in-depth discussions with some respondents (and during the FGDs) showed that the types of marketing support that MSMEs wish to get from the government vary from direct supports such a special fund or facilitations for promotion activities (e.g., trade exhibitions) to special locations with easy public access and low rent price for selling their products, to indirect support such as enforcement of the National Anti-Monopoly Law or protection against the expansion of modern retailers (e.g., hypermarkets), price stability/low inflation (government should be able to control general price movement especially soon after energy price increases), implementation of regulations on business linkages between MSMEs and LEs (including foreign direct investments) as part of the National Law on Investment, import restrictions for goods that can be or are actually produced by local MSMEs (e.g., textiles and garments, food and beverages, leather products, some toys, furniture, and many others), sociopolitical stability, safety and security, and infrastructure development especially roads to give more access to MSMEs market places, especially outside big cities (rural areas). For respondents and participants of the FGDs these forms of marketing support are more important than special government programs to compensate for the impacts of the energy subsidy reforms.

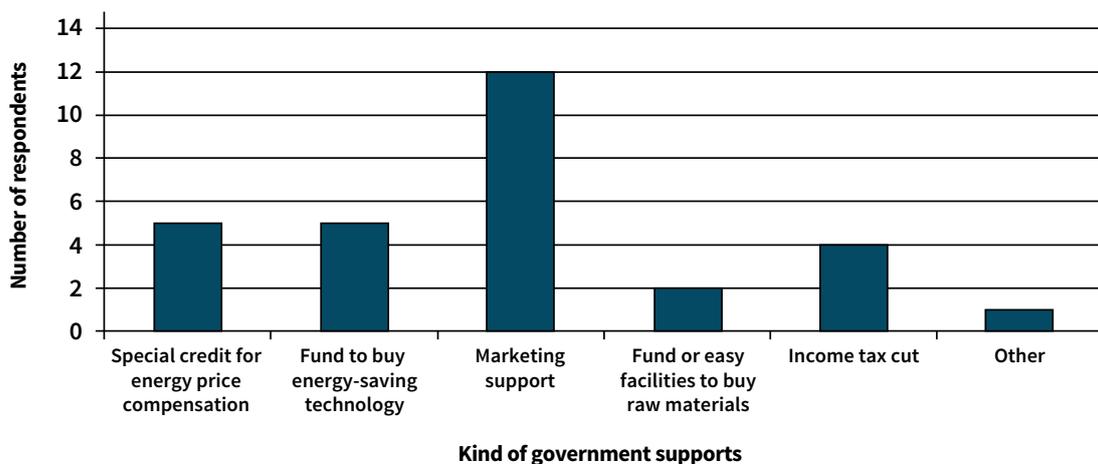


FIGURE 7. TYPES OF GOVERNMENT SUPPORT DESIRED BY THE RESPONDENTS TO COMPENSATE FOR IMPACT OF FUTURE ENERGY REFORM, SOLO (# OF RESPONDENTS)

Source: Field survey, November 2014.

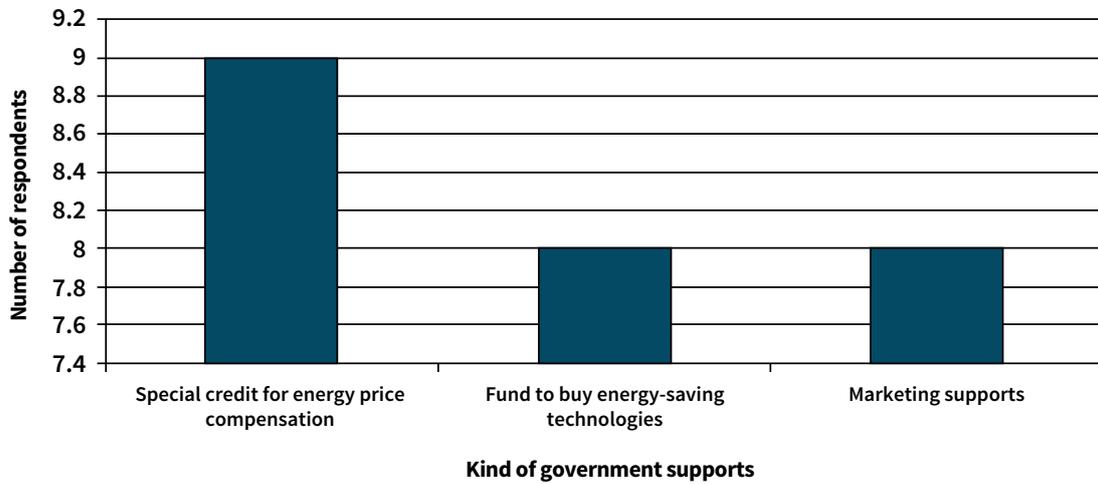


FIGURE 8. TYPES OF GOVERNMENT SUPPORT DESIRED BY THE RESPONDENTS TO COMPENSATE FOR IMPACT OF FUTURE ENERGY REFORM, SEMARANG (# OF RESPONDENTS)

Source: Field survey, December 2014.

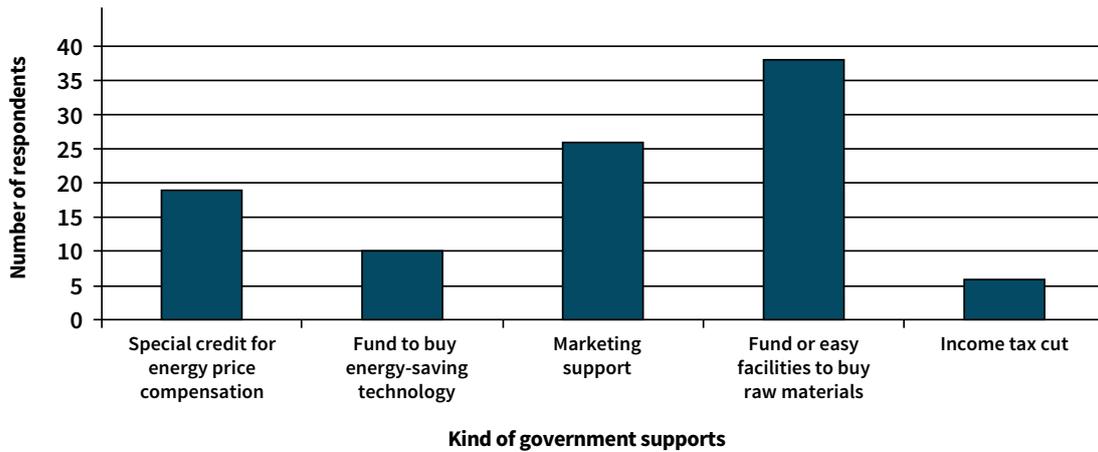


FIGURE 9 TYPES OF GOVERNMENT SUPPORT DESIRED BY THE RESPONDENTS TO COMPENSATE FOR IMPACT OF FUTURE ENERGY REFORM, JAKARTA (# OF RESPONDENTS)

Source: Field survey, January 2015.

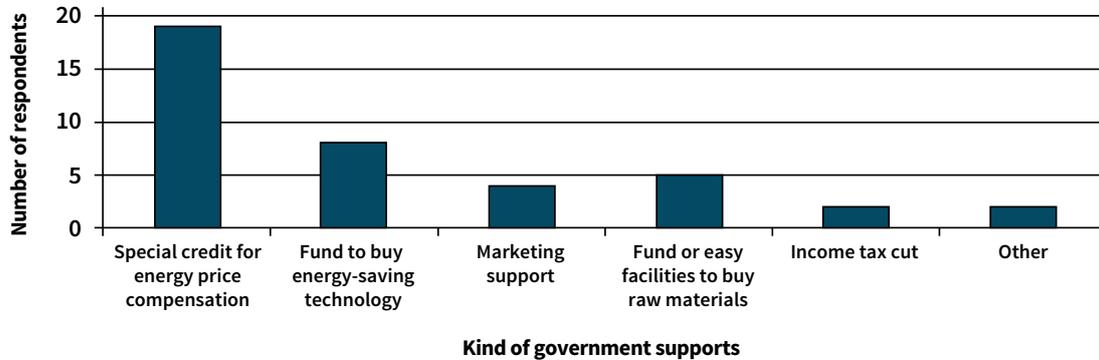


FIGURE 10 TYPES OF GOVERNMENT SUPPORT DESIRED BY THE RESPONDENTS TO COMPENSATE FOR IMPACT OF FUTURE ENERGY REFORM, PADANG (# OF RESPONDENTS)

Source: Field survey, February 2015.

5.11 Access to Bank Credits

Finally, the respondents were asked whether they ever borrowed money from banks or other formal financial institutions. As can be seen in Table 28, in Solo a vast majority of the respondents had borrowed money from banks or other formal financial institutions. In Semarang, the number that had never borrowed from a bank was higher than the ones who did: slightly more respondents who never borrowed money from a bank than those who had. In Jakarta, a vast majority had never taken out a bank loan. In Padang, more than half of the total respondents never borrowed money from banks or other formal non-bank financial institutions. Those who financed their businesses partly made a use of a special credit scheme, the KUR, from local Bank BRI.

TABLE 28. ACCESS TO FORMAL BANK FOR FINANCING RESPONDENTS' BUSINESSES (# OF RESPONDENTS)

	SOLO	SEMARANG	JAKARTA	PADANG	ACROSS THE DIFFERENT REGIONNS
Borrowed	25	11	21	13	70
- It has benefitted	20	11	21	13	65
- It has not benefitted very much	5	-	-	-	5
Never Borrowed	4	14	78	27	123
Total	29	25	99	40	193

Source: Field survey, November-December 2014 and January-February 2015.



6.0 Conclusion

6.1 Summary of findings of the surveys and FGDs

1. Many respondents think that the prices of petroleum, LPG and electricity (respectively 43, 43, and 40 respondents across the different regions) in Indonesia are cheaper in Indonesia than those in other AMS.
2. Perception of the level of energy price increases as well as the level of energy subsidies varies by type of energy (petroleum, LPG, electricity).
3. The majority of respondents think that liberalization of domestic energy market is necessary (52, 56 and 58 respondents across the different regions for respectively petroleum, LPG and electricity).
4. The majority of the respondents surveyed (respectively 167, 166, and 171 respondents across the different regions for petroleum, LPG and electricity) said that they do benefit from energy subsidies. The benefits come in various forms: they can sell at a more competitive price; they can deploy full production capacity; they can earn higher profits, etc. However, some respondents mentioned that they do not see benefits despite the high state expenses for energy subsidies.
5. Many have no problem with energy price increases that would occur every year or every two or three years (respectively, i.e. 14.5 per cent, 18.7 per cent, and 27.5 per cent of total respondents in all cities surveyed). They consider that an increase in energy price is something that they have to face.
6. Many acknowledge that the increase in energy price does have an impact on their businesses. The direct impact is not as significant, but what concerns them most are the indirect effects through increased transportation costs and prices of raw materials after energy subsidy reforms.
7. Many respondents (78.8 per cent of total respondents across the different regions) said that their business or production would not be affected if the price of fuel increases less than 5 per cent. However, this figure sharply drops when the price increase is more than 5 per cent.
8. Regarding mitigation measures, the option mostly frequently chosen for an increase in energy price of less than 5 per cent was “doing nothing.” For increases over 5 per cent, raising the output price and using energy more efficiently were the most frequently chosen strategies. These two options become less popular the higher the increase becomes. Options such as using alternative energy sources or alternative raw materials then became preferred mitigation strategies.
9. The majority of the respondents (142 respondents across the different regions) did not indicate major difficulties with energy price increases. Those with problems highlighted the lack of access to necessary funds or loans to make necessary adjustments.
10. The majority of respondents (157 respondents across the different regions) never received targeted support from the government for various reasons, e.g., they are not aware that such supports exist, they do not really need it, or there is no such support available.
11. The most indicated future support that MSMEs would like to receive to cope with the impact of energy subsidies reform and the energy price increases is marketing support. The majority of respondents (and this was confirmed in the FGDs) indicated the need for a business-friendly environment, infrastructure, low rate of inflation (government’s capacity to control general price movement, especially soon after energy price increase), and sociopolitical stability are considered as key elements to support their businesses or marketing processes. These elements are more important than targeted government support to compensate for higher energy prices.



Conclusion of findings

The overall impacts of energy price increases as a consequence of energy subsidy reform on MSMEs depend on the capacity to mitigate the impact of subsidy and, consequently, price reforms. The capacity to cope with the increases varies across MSMEs but all emphasized the dependency on (1) availability of financial resources to make internal adjustments in such things as production process, composition of raw materials/inputs, types of machines or tools to be used, and (2) on the current level of market competition, which determines to what extent the MSMEs can increase their selling prices, reduce the size of the production of their goods, change the composition of raw materials in their products, or shift to alternative energy sources, without losing their customers or market shares.

Based on the data collected in this study, the indirect impacts of energy price increases have the most serious effects on MSMEs: higher transportation costs (especially land transportation), higher prices of raw materials, and higher inflation all have a very significant impact. These three transmission channels are more obvious in the case of fuel price increases than in the case of electricity fare increases. With respect to inflationary impact, because MSMEs (especially MSEs) serve mainly low-income market segments, higher inflation can be a serious problem for these enterprises.

6.2 Policy Recommendations

1. The government should focus on creating or maintaining a business-friendly environment (i.e., policies ensuring easy marketing and easy procurement of raw materials) in which MSMEs can continue their businesses without any serious obstacles. Investments in infrastructure, especially related to transportation will contribute to that environment in which MSMEs can develop and grow.
2. The government should focus on mitigating the indirect effects of any energy price increases, with a particular focus on controlling inflation. In the course of an energy subsidy reform the government should be able to control the transmission process of energy price increases into other prices. This is especially important with regards to minimum price increases in public transportation. The government can also conduct 'open market operations' for certain commodities as it has done recently for rice in response to significant price increases in rice;
3. The government should focus on both improving or assisting in maintaining market access for MSMEs and improving credit access for MSMEs. Low-income consumers are the most important market segment for MSMEs. If the government has a special program to compensate for energy price increases in the form of direct cash transfers, it is better to give this to low-income or poor households, to maintain their purchasing power, rather than to give it to MSMEs.
4. The government should also focus on different types of support for MSMEs, such as technical assistance, training, and information to assist them in shifting to more energy-efficient production methods or alternative energy sources.

6.3 Gaps in the Research and Suggestions for Further Research

This research is based upon a wide variety of data sources: literature review and primary data collected through the surveys and FGDs. As with every primary data collection, there are weaknesses to be acknowledged. First, as assumed theoretically, the indirect impacts of the energy price increases might be more significant than the direct impacts, mainly through two channels—the increase in transportation costs and higher prices of raw materials. This research did not, however, survey the respondents on their perceived reasons for the higher transportation or raw material prices, and thus not all indicated price increases should be directly attributed to higher energy prices due to subsidy reform. Second, the selection of the respondents was not focused on certain sectors or industries nor on one



certain type of energy. Instead, respondents for this study were randomly selected from several sectors—the food and beverages industries, textile and garment industries, trade, restaurants, publishers, and services using different types of energy (petroleum, LPG and electricity). Also the locations for this study are not only limited in number, but they are also from more developed regions (i.e., Java and Sumatera).

In the final FGD that took place in the office of the Ministry for Cooperative and SMEs on February 25, 2015, there was agreement among participants from the Ministry of Industry, the Ministry of Trade, the Ministry for Cooperative and SMEs, the Ministry of Energy and Mineral Resources (ESDM), UKM Center (University of Indonesia), and BAPPENAS that further research is needed, with a focus on:

- One industry group, only with a larger sample, namely the food industry;
- Only one type of energy, namely gasoline or alternatively, LPG;
- Regions and/or cities in the eastern part of the country, as prices of raw materials and energy there are generally much higher than in the western part of the country due to long transportation lines, lack of transportation facilities, and relatively isolated regions;
- Indirect effects of an energy price increase.



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Annex 1: Questionnaire

QUESTIONNAIRE

(The provided Information will be coded and only used for research purpose)

Code of enterprise: _____

Date of interview: _____

Name of interviewee: _____

Gender: _____

Phone: _____

Email: _____

I. General Information

1. Name of the enterprise _____

2. Address _____

3. Phone _____

4. Email _____

5. Main business activity _____

6. Total employment: workers _____

II. Business performance

7. Main market (please give 'X' sign)

- Only domestic market

- Only foreign market

- Both

8. Revenues:

- 2013 Rp.....

- 2012 Rp.....

- 2011 Rp.....



9. If revenue in the past three years (2011-2013) has declined, what was the main cause?

III, Energy consumption

10. Energy and transportation expenditures (in Rp)

	2012	2013
Energy	Rp	Rp
Transportation	Rp	Rp

11 Cost components (please give percentage)

	%
Petroleum	
LPG	
Electricity	
Coal	
Transportation	
Employment	
Raw materials	
Others	
Total	100

IV Enterprise Opinion on Energy Price in Indonesia

12. In comparison with the energy price in other ASEAN countries, how do you think about the recent energy price in Indonesia (please give 'X' sign)

	VERY CHEAP	CHEAP	THE SAME	EXPENSIVE	VERY EXPENSIVE	DO NOT KNOW
Petroleum						
LPG						
Electricity						



13. By your own assessment, to what extent the fuel price in Indonesia would change in the near future (please give percentage in comparing to recent price in October 2014)

	2015	2016
Petroleum	%	%
LPG	%	%
Electricity	%	%

14 What do you know about fossil-fuel subsidies in Indonesia (are the prices offered are subsidized by the government or not) ? (please give 'X' sign)

- Yes ; and go to question no. 15
- No

15 If Yes, can you guess the level of subsidies (please give 'X' sign)

	BELOW 5%	5-10%	10-30%	30-50%	OVER 50%	NO OPINION
Petroleum						
LPG						
Electricity						

16. Indonesian government is going to liberalize energy market in the country (where the energy price is entirely determined by the market power, not controlled or subsidized by the government). Do you think this liberalization is (please give 'X' sign):

	NOT NECESSARY	NECESSARY	DO NOT KNOW/NO OPINION
Petroleum			
LPG			
Electricity			

17. Do you benefit from energy price subsidy? (please give 'X' sign)

	YES	NO
Petroleum		
LPG		
Electricity		



18. If Yes, in what form ? (please select one of the following items by giving 'X' sign):

- 18.1 I can make production in full capacity:
- 18.2 I can sell my products in low/more competitive prices
- 18.3 I can have high profit:
- 18.4 Other:.....(please elaborate)

19. If no, what is the main reason? (please select one of the following items by giving 'X' sign)

- 19.1 prices of raw materials always increase
- 19.2 labor cost increases every year due to the implementation of the minimum wage regulation
- 19.3 energy subsidy is too small
- 19.4 other:(please elaborate)

20 As well known that the new government will continue to reduce energy price subsidy not at once but gradually, do you have a preference for the size of gradual price increases? (please select only one of the following items by giving 'X' sign)

- less than 5%
- 5-10%
- 10-15%
- 15-20%
- 20% or more

21. As the new government will reduce energy price subsidy gradually, what type of schedule do you prefer? (please select only one of the following items by giving 'X' sign; except if you select 'Other option')

	OPTION
Every year	
Every two years	
Every three years	
At 2015 and 2020	
Other option:	Please give details:



V. The Impact of the Increase in Energy Price and Coping Measures

22. How would your business be affected if energy price increases in the near future? (please select only one of the following items by giving 'X' sign)

- 22.1 Would be no impact at all
- 22.2 Production volume would decline very much
- 22.3 Production volume would decline but not much

23 How were the actual impacts on your business from price increases in previous years? (please select only one of the following items by giving 'X' sign)

- 23.1 No impact
- 23.2 Production volume declined very much
- 23.3 Production volume declined but not much

24. How would be the impacts of price increase per year over the next 5 years on your business? (please select only one of the following types of impact (column) for each of the percentage increase category (row) by giving 'X' sign)

ENERGY PRICE INCREASES BY TYPE OF IMPACT	5%<	5-10%	10-15%	15-20%	20-30%	>30%
	24.1 No impact					
24.2 Production volume declined very much						
24.3 Production volume declined only a little						

25. How do you cope with the shock of a price increase? (please select one or more of the following types of coping measures (column) for each of the percentage increase category (row) by giving 'X' sign)

ENERGY PRICE INCREASES BY TYPE OF IMPACT	5%<	5-10%	10-15%	15-20%	20-30%	>30%
	25.1 Doing nothing					
25.2 Increasing output price						
25.3 Fostering energy saving and use more efficiently						
25.4 Using other alternative energies						
25.5 Reducing production volume/scale						
25.6 Using energy-saving technology						
25.7 Producing other less energy used products						
25.8 Reducing other cost components (e.g., fewer workers)						
25.9 Using alternative raw materials						
25.10 Closing operation						



26 If you have to increase price of your product because of higher energy price, would demand for your product decline or change? (please select only one of the following answer by giving 'X' sign)

Yes (will decline)

No (will not change)

27 How would your business be affected by volatile prices? (please select only one of the following items by giving 'X' sign)

27.1 Would be no impact at all

27.2 Production volume would decline very much

27.3 Production volume would decline only a little

28 Would you be able (without serious difficulties) to cope with volatile prices? (please give 'X' sign)

- Yes (go to 29)

- No (go to 30)

29. If Yes, in what way? (please select only one of the following items by giving 'X' sign)

29.1 Increase the output price

29.2 Fostering the energy saving and use more efficiently

29.3 Use other alternative energies

29.4 Reduce production volume/scale

29.5 Use better less energy intensity technology

29.6 Produce other less energy used products

29.7 Reduce other cost components (e.g., less workers)

30. If no, what is the main reason? (please select only one of the following items by giving 'X' sign)

30.1 has no enough resources (especially capital) to cope with it

30.2 difficult to make a price adjustment due to heavy market competition

30.3 No other options left to make more efficient in using energy

30.4 Other reason:.....(please elaborate)



VI Government supports

31. During the previous price increases of energy in the past few years, did you get government support to compensate energy prices increases? (please give 'X' sign)

- Yes
- No

32. If Yes, in what kind? (please give 'X' sign)

- 32.1 Providing special credit for energy price compensation
- 32.2 Providing fund to buy energy-saving technologies
- 32.3 Providing marketing support
- 32.4 Providing fund or other facilities to buy raw materials
- 32.5 More easy to borrow money from bank for working capital
- 32.6 Income tax cut
- 32.7 Others, please elaborate.....

33. As the new government is going to continue with energy price subsidy reform that will lead to higher energy price in near future, what kind of supports do you need from the government to compensate higher energy price? (please give 'X' sign):

- 33.1 Providing special credit for energy price compensation
- 33.2 Providing fund to buy energy-saving technologies
- 33.3 Providing marketing supports
- 33.4 Providing fund or easy facilities to buy raw materials
- 33.5 Income tax cut
- 33.6 Others, please elaborate.....

34. Have you ever borrowed money from banks or other formal non-bank financial institutions?

- Yes
- No

35. If yes, does (did) bank credit mean much for your business?

- Yes
- Not much
- Not at all

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