EXECUTIVE SUMMARY

IPB dan UI TEAM

The discussion on commodity price volatility became crucial when the world was facing the "multiple crisis - 3Fs" phase (fuel, food, and financial) during the period of 2007-2008. Related to food crisis, international Food Price Index (FAO *food price index*) increased significantly starting in 2005. One of the highest price hike referred to the price cereals group that reached the highest price level in 30 year period. FAO (2008) identifies the main source of its price hike related to the irreguler shift of the demand and supply sides.

The rise of world oil price also led to a mayor concern for many countries, including several countries in the East Asia region that are net-oil importers. This is because all economies rely heavily on this non-renewable energy for their energy source. The rise of world oil price occuring from late 2008 to early 2009 was a sign that the world is facing energy crisis now. The rise of world oil price contributes also to the increase in the prices of various commodities in the world market. Food was one of the commodities that was relatively responsive to the rise of world oil price. The rise of world oil price induced the increase of world food prices. This is due to the increase of production and transportation cost and the existence of fuel substitute from vegetable source. The growth of world oil and food prices will expectedly affect the world economy, including the countries in the East Asia region. The price hikes of these commodities would hamper the economic growth of these economies as domestic prices are widely exposed to the world market. Domestic inflation rates may be higher that of the government targetted. As the economies are largely generated from the consumption, high inflation rates deteroriate the real income of population especially for those who are under the poverty line. On the macroeconomic side, the government may react to this problem by issuing the policy to raise interest rate.

US financial crisis occuring in 2008 had a repercusion effect to the economy of East Asian countries. Economic recession resulting from the low demand of US economy reduced the demand for export of the East Asian economies. Meanwhile, the financial crisis was also purported to contribute in the

price volatility of several agricultural commodities at the international futures exchanges as investors switched their portfolio investment by being actively involved in commodity future markets.

Among others, domestic price volatilities depend on only on the volatilitiy of the prices at the world market but also exchange rate, trade policy, and other policies (ADB, 2008). This is a case for countries that are dependent heavily on import market. Meanwhile, in countries that have low dependence on import, the commodity prices will be determined by supply and demand, and also subsidy policy and fiscal incentive (World Bank, 2011). The study of identifying factors affecting price volatilities of strategic commodities is of importance to provide a better policy scenarios.

This study aimed to: (1) identify the volatility of commodity prices in the international market, (2) analyze the factors that affect the volatility of commodity prices in the international market, (3) analyze the impact of price volatility on macroeconomic variable, sectoral and fiscal conditions as well as food security in each country in East Asia, and (4) identify policies to reduce the impact of commodity price volatility and reinforce national policies to address the problem of commodity price volatility in order to secure the regional food security and regional growth in the future, and to enhance regional coordination in order to respond to commodity price volatility.

Commodities included in this study rice, corn, wheat, soybean, crude palm oil, crude oil, coal and gold. For the majority of the East Asian economies, these commodities are very important due to the fact that some of them are net-food importers and the other are food-exporting countries such as Thailand and Vietnam. This study identified that the prices of these commodities are found to be very volatile in the period of analysis except for soybean. For example, rice and oil had the highest level of volatility by 56.64% and 52.45%, respectively.

OLS analysis results indicated that the significant factors in affecting the volatility of world rice price were the world GDP, inflation rate, price in the commodity market, production, rice stock and volume of imported rice that were significant at the 5% level. As for corn, at the 5% significant level, the factors affecting the price volatility of corn were the corn price in the commodity market,

production, export volume, and temperature. Increased volatility in world grain price, at the 5% significant level, was affected by the decline in world GDP. Factors that affected the increasing volatility in gold price were the decline in interest rates and the volume of gold production (at the 5% significant level). The increase in oil price in the commodity market would lead to an increase in oil price volatility which was significant at the 5% level.

Macroeconomic effects, particularly inflation in Indonesia, Malaysia, Cambodia, Laos, Myanmar, and Vietnam would increase due to CPI as an inflation indicator was strongly influenced by the price volatilities of food and fuel. While in China, Japan, and South Korea, it showed the opposite effect. Increase in inflation would reduce the real wage and give a negative pressure in the well-being. Decline in purchasing power would continuously decrease the value of consumption and real GDP. Decline in real GDP had a relatively high negative effect in the ASEAN countries compared to Japan, China, and South Korea.

The sectoral impact of price volatility in the international market was the increase of commodity prices of agriculture and mining in East Asia. Japan, South Korea, and Singapore were the countries that would experience a decline in output because they did not have a comparative advantage in agriculture and mining. The decline in production of rice and oil in most countries would increase the volume of their imports. Coal sector in most countries of East Asia showed a positive response because of the price incentive. Domestic bidding for CPO in Indonesia and Malaysia that were responsive to price incentives would increase the export of these commodities.

That result can be obtained from the study with have been done by University of Indonesia (UI) and Bogor Agricultural University (IPB). Moreover, the study carried out in-depth interview with stakeholder as well as focus group discussion to explore the commodity price volatility issues and responses. The summary of in depth interview:

- Around sixty percent of respondents have the opinion that international commodity price issues are *important*, and around 30% of respondents said that it *is very important*.

- Fifty percent of respondents have the opinion that *demand side* is the main cause of international commodity price volatility. On the other hand, 32% of respondents said that supply side is the main cause. The remaining (18%), caused by speculation.
- Majority of respondents who choose demand factor that caused international commodity price volatility believe that it caused by demand from emerging markets (China and India). On the other hand, majority of respondents who choose supply factor believes that global climate change is a main cause of international commodity price volatility.
- Majority of respondents (65% of them), said that commodity financialization is *very important* and *important*.

We also summarized the result of Focus Group Discussion in Indonesia related with commodity price volatility. The summary are shown in the table below.

Main Topic	Explanation
Agriculture	- Since 1989, investment and research and development in agriculture fell in Indonesia. Even many of the damaged irrigation networks, approximately 46% and 26-27% slightly damaged severely damaged - During the last 20 years, there relegation soil fertility decline in Java (Indonesia) - In 1982, ITB professors have established the basics of food diversification, but the execution fails, because incorrect assessment of the success of the performance of the Department of Agriculture (which was assessed by the production of rice)
Supply and Demand food commodity	- There was a rise in demand of food commodities, caused by 1.Population growth 2. Tremendous economic growth in China and India 3. In general there is added per capita income in some developing countries - The increase in demand is not matched with supply. There are two things that become the bottleneck of supply 1. The slow development of food production technologies that can improve productivity 2. Conversion of paddy land but not followed by his

	successor clearing the same level of fertility 3. Expansion of agricultural land not only for food commodities but also to find energy substitutes (biodiesel) 4. Disturbances in the extreme weather changes that disrupt the production
Commodity Financialization	- In commodity futures trading, the trade object is not "a commodity" but "a commodity price index". - A lot of speculators who play the futures trading and it is very difficult to perform the control of speculators is even a country cannot perform any control - Because many speculators who play the futures trading, causing people more concerned with futures prices rather than spot prices. - In the real sector, we need to concern about expectations of price not the price itself, because the expectations will affect the price - Since 2003, commodity traded as a financial asset
Macroeconomics Issues	- Each country has different interests of the commodity, because it's very difficult to make cross-country policy - The rupiah exchange rate has a correlation with oil prices, therefore it must be observed volatility in world oil prices - Each country should mapping whether they are net consumer or net producer of commodity, so they could measure the impact of commodity price increase/commodity price volatility

There are several recommendations suggested from in-depth interview and Focus Group Discussion results to dealing with commodity price volatility. The recommendations for regional actions to manage commodity price volatility are as follows.

- East Asia needs to share information about commodity price
- East Asia must tightened trade coordination and guarantee in price stabilization
- East Asia suggested to have regional marketing coordination on several commodities that possible to cooperate

- East Asia should cooperate in control supply chain and demand for commodities
- East Asia should increase the stock of commodity that vulnerable to shocks
- East Asia suggested to establish institutions that monitor the continuity and availability of commodity stocks
- East Asia should actively engaged in handling the global warming problems
- East Asia should mapping which commodities that could be cooperated in East Asia

Based on those study, there are some important reasons for the coordination and joint regulations among of East Asia countries, namely: (1) one country is too small to influence the international prices, (2) the domestic policy of a country is interconnected with other state policies, (3) information on international markets are difficult to access for some countries, and (4) the capital shortage will lead to limited intervention in influencing the price stability. There are some policy options that can be inferred from this study :

1. *Regional buffer stocks*

   The existence of this policy in each country would reduce the incidence of free riders in the costs of storage
2. *Public goods provision*

   Policies that regulate public goods would prevent speculative action because of the market transparency.
3. *Pooled capital reserve instead of foreign aid*

   Required cooperation between the institutions and governments, as well as the regulations in order to accumulate the capital reserve rather than just rely on foreign aid
4. The need for joint policy in trading and reduction of export barriers
5. Needed stability in the future market in each country (regional future market)