I INTRODUCTION

1.1 Background

“Pangan Rakyat adalah Soal HIDUP ATAU MATI”
“Food for People is about LIFE OR DEATH”
Soekarno, First President of Indonesia. Bogor, 27 April 1952

This quote is the title of President Soekarno’s speech in the cornerstone-laying ceremony for the Faculty of Agriculture in the University of Indonesia (now Bogor Agricultural University). This quote emphasizes the importance of food for people, especially rice for Indonesian people. He also stated that to provide sufficient amount of rice and maintain affordable rice price for people are the important things to maintain the economic stabilization in the country. Many efforts to depress other prices are nothing when rice price is not stable and not affordable (Soekarno 1952).

Rice price has important role for Indonesia with respect to poverty, economic growth, and food security. The level of rice price is the most important determinant of poverty at household level in the short-run. The Indonesian households spent about 10% of their income and the poor households spent about 20-25% of their income to buy rice. The consumption per capita of rice in Indonesia is the 3rd highest in the world; it is about 139.1 kg/year/person. The unaffordable and unstable rice price brings the disaster for the poor. The poor always bear the brunt of bad economics, and then this condition inhibits the poverty alleviation (Timmer 2004).

In addition, rice commodity has strategic roles both economically, socially, and politically. In January 2012, the national inflation was at 0.76% and rice contributed by 0.18% (BPS 2012). The inflation of rice price will trigger the other goods prices. The severe high prices of food can trigger the riot of society and disrupt the stabilization of politics. Even it can drop the government power. This situation has occurred in Indonesia, when multi crisis hit Indonesia in 1998.
The food crisis in the world market occurred twice in the last decade. The first crisis took place in 2007/2008 and the second crisis in 2010/2011. The food prices increased slowly and steadily before, then in the beginning of 2007 food prices took off and reached its peak in the mid of 2008 (FAO 2011). The staple food prices surged significantly in the world market in this period, for example, maize price increased by 74%, wheat price increased by 124%, and rice price increased by 224% (World Bank 2008). Further, after mid 2008 food prices declined but then increased again in 2010 and reached its recorded peak in February 2011 (FAO Global Food Price Monitor 2011).

The high food prices have severe implications for food and nutrition security, macroeconomic stability, and political security (Braun 2008). Data from FAO (2008) show that the number of undernourished people increased from 848 million in 2005 to 963 million in 2008 due to the food crisis. The food crisis in 2007/2008 affected the economic growth of many developing countries which active as exporter and importer in the world rice market. The economic growth of these countries were dropped to negative rate, for example, in 2008 the economic growth of Singapore at -8,9%, Thailand at -7,11%, Malaysia at -6,2%, and the Philippines still had positive economic growth with declining growth rate (World Bank in Tambunan 2010).

![Comparison of rice prices between Indonesia, Thailand, and Vietnam in 2005-2010 period](source: Bulog RI 2011)
On the contrary Indonesia had positive economic growth at 6.2%, though then it declined into 5.2% in the last quarter of 2009. Many studies conclude that the food crisis in 2007/2008 did not affect Indonesian economy, especially in the rice market. The high price of rice in the world market was not transmitted into the rice price in Indonesia (Timmer 2008; BAPPENAS 2009; Keats et al. 2010; Tambunan 2010; Dawe 2011). The rice production performed well in 2007. It can provide enough rice stock and injection of rice supply for domestic market. In addition the government of Indonesia also controlled on quantity of rice traded internationally with trade restrictions (Dawe 2011). One of the government efforts to prevent the rice selling to abroad and also in order to maintain its stock is by announced the ban policy on rice export early in 2008 before the peak of rice harvest time (Timmer 2008). Bulog as the state enterprise, whose role to stabilize the rice price, has managed well the excess supply from production and maintain the rice supply to meet demand in the rice market. Therefore, the rice price was stable with normal inflation in Indonesia (BAPPENAS 2009).

The price transmission occurs when the price changes in the one market of any given commodity similarly reflected in the other market in different location (spatially) or other level in the market chain (vertically), transaction costs and marketing margin are assumed not be counted. One of the requirements for price transmission is that the policies are not an obstacle for market (Keats et al. 2010). Whereas, the government of Indonesia imposes many of the rice policies to maintain stable rice price through maintain the stock, regulate the rice import, purchase the excess supply of harvest from producer, inject rice supply into market when supply from producer is shortage, and distribute rice for the poor with low price. Bulog has the right to execute these policies. These policies will influence the price determination in the rice market either directly or indirectly.

The other factors which influence price transmission is market power. In the developing country such as Indonesia, the bargaining powers among market institutions in the rice market chain are not equal. Farmers as producer have the weakest bargaining power in the market chain due to the lack information about market and the need for immediate cash after harvest time. Most of them cannot hold their products to wait for the better price. They always sell their harvest
immediately in harvest time with given price. The equilibrium price in harvest
time is low due to the abundant supply in the market (Bustaman 2003). Farmers
are the net consumer for rice. Mostly farmers sell their product in unhusked form,
without storing the stocks for their need. The low revenue from rice production
implies the difficulties to buy their living needs, even for rice.

1.2 Problem Statement

The resilience of Indonesian economy in the rice price crisis in 2008 gave
benefit for domestic consumer with stable rice price. But how does this stable
price in the retail market impact the other market institutions in the rice market
chain? Does the rice price in retail market transmit to the wholesaler price, the rice
miller price, and the producer price? We can measure price transmission in the
market chain to see how the market chain’s performance and the market
efficiency during the period of price stabilization policy. The magnitude of price
transmission is important because it will affect the extent of adjustment by market
institutions in the market chain to stabilize price movements. In addition, the
prevailing price obtained by each level influences their welfare (Timmer 2008).

The rice price volatilities in each level of market chain are also important to
see, because the price volatility of rice might dampen the potential benefit of
higher price for the market institutions in the market chain by increasing the
uncertainty and distorting the economic planning (Braun 2008). In the short-run,
the price volatility increases risk and vulnerability for producer, rice miller,
wholesaler, and retailer in the market chain by mystify the market signals and
overcomplicate the decision making process (IFAD 2010 in UK Hunger Alliance
2011).

The government of Indonesia has intervened the rice market through variety
of policy instruments. These interventions very likely influence the market
performance, especially the price transmission process. This study wants to find
how the government interventions influence the market performance of the
Indonesian rice market chain, especially the price volatility and the price
transmission. Thus the research questions of this study are:
1.3 Objectives of Study

The objective of this research is to assess the market performance of rice market chain in Indonesia namely the price volatility of rice and the extent of market integration and price transmissions between producer, rice miller, wholesaler, and retailer in Indonesian rice market chain. This study also analyzes the policy implications of this study.

1.4 Scope of Study

The scope of this study is the price volatility analysis and the price transmission analysis among producer, rice miller, wholesaler, and retailer in the rice market chain of Indonesia. This study uses secondary data of national average rice price at each level in monthly series data from January 2000 until May 2012. This period is taken for analysis relates to the period of new intervention approach by the government of Indonesia to maintain stable price in the rice market. This study uses standard deviation of return, Cointegration test, and Johansen Maximum Likelihood Error Correction Model. The data processing uses Excel and Jmulti Software.

1.5 Organization of study

The organization of this study is structured as follows. Chapter 1 describes the background of this study, the problems, the objectives, the scope of study, and the organizations of study. Chapter 2 describes the condition of Indonesian rice market. Chapter 3 explains the literature reviews about theory and the framework this study. Chapter 4 details the methods of this study. Chapter 5 presents the
Chapter 6 concludes this study with conclusions, policy implications, and recommendations based on this study.