



Fertilizer Rating Methodology*

Indonesian fertilizer industry is one of manufacturing sectors that is highly regulated by the government. The industry is very important as it is closely related to the agricultural development in this country. The importance of fertilizer could be traced from the improving productivity level of major Indonesian crops (paddy, corn, soybean, peanut, green bean, cassava and sweet potato) amidst stagnant growth of land for crops in the country. Average productivity of those crops per hectare improved to around 73.0 quintal/hectare (Ku/ha) in 2013 (vs. 61.2 Ku/ha in 2009) with total crops production accelerated to about 117.8 million tons. Meanwhile, land for crops stood at approximately 20.2 million hectares or relatively unchanged from 2009 position of around 20.0 million hectares.

At the same time, it is reported that the demand of fertilizers for crops especially inorganic ones comprising of zwavelzure ammoniak (ZA), Nitrogen-Phosphor-Potassium (NPK), and urea had an uptrend. During the period of 2009-2013, total inorganic fertilizers demand for crops increased by a Compounded Average Growth Rate (CAGR) of 4.7% to around 10.3 million tons. Urea contributed the largest of around 52.1%, followed by NPK (38.8%) and ZA (9.1%). In 2014, it is predicted that total demand of these three fertilizers for crops reaches 10.7 million tons, in line with the improving crop productivity level to 74.4 Ku/ha.

In general, the type of fertilizers can be categorized into inorganic (urea, NPK, and ZA) and organic. Urea –as the main fertilizer product-- is a chemical fertilizer containing high yield Nitrogen (N). Nitrogen is an indispensable nutrients element for plants. Urea fertilizer contains nutrients element N by 46% meaning that per 100 kg there is 46 Kg Nitrogen.

Looking at the regulatory framework of fertilizers, Law No. 12 Year 2012 stipulated fertilizer as a means of production has to fulfill quality standard and its procurement and distribution must be supervised. The procurement and distribution are regulated by Government Regulation No. 8 Year 2001. In terms of procurement, fertilizers can be produced domestically or imported subject to applied quality standard and quality test. Fertilizers' labeling is one of the concerns on distribution whilst its tight supervision is required to protect the interests of users, distributors, importers and producers as well as to fulfill fertilizer demand. Producers' name and address as one of labeling components is expected to minimize distribution overlapping as each producer has its own assigned sales area. That apart, the Indonesian president has provided mandate to related ministers, governors and mayors to participate in the revitalization and improvement of the competitiveness of national fertilizer industry.

Furthermore, the government on its annual state budget always allocates subsidy for fertilizers. In 2014, fertilizer subsidy is estimated to reach IDR 21.0 trillion or up by about 19.5% y-o-y from realization in previous year. The subsidy is projected to accelerate to around Rp39.4 trillion in 2015 in order to enhance independent food security. Nevertheless, this is only a fraction of 2.2% of the state revenue estimated at Rp1,667.1 trillion. During 2010-2014 the subsidy has been around 1.3% of state revenue.

In ICRA Indonesia's opinion, the key determinants of business risk profile of fertilizer companies are their ability to overcome the regulatory risk and agro-climatic conditions. Other factors include operating efficiency, product diversity and market position. These are elaborated as follows:

Business Risk Profile Assessment

Regulatory Risk

The regulatory frameworks that stipulate the national fertilizer industry potentially affect the profitability of fertilizer companies. In the implementation level, agricultural ministerial decree on the demand and highest retail price (HET) regulates the HET on the line IV distribution level. At this distribution level (authorized retailer or kiosk within a certain sub-district), farmers or group of farmers as end users are expected to get fertilizers at affordable prices as stipulated in the regulation. The current prices of inorganic fertilizers per kg are Rp1,800 (Urea), Rp2,300 (NPK), and Rp1,400 (ZA) which each is packed at 50 kg. These listed prices are relatively stagnant compared with those in the former version of ministerial decree. The possible increase of raw material prices as well as distribution costs covering certain areas as mandated by government will create a gap between reasonable cost of fertilizers and HET for subsidized fertilizers. A wider price gap can occur when the international price is increasing and unfortunately, there is a ban to export due to priority of fulfilling the domestic demand. Consequently, fertilizer producers could not maximize their profits at this possible situation.

Agro-climatic Risks

The use of fertilizer is subject to the agro-climatic conditions, i.e., the dry and wet seasons in the country. However, uncertainties on the climate change become a concern of agricultural sector as it can shift early growing season as well as cropping pattern. Rainfall acts as an important factor that determines the appropriate time or schedule for fertilization in accordance with applied fertilizers. In general, water functions as solvent. Fertilizer that had been spread will be dissolved by water so that the nutrients of fertilizer can be tied to the ground.

However, if there is an excessive rainfall, nutrients in the fertilizers cannot be bound by land but wasted carried by the flow of rain water. Less rainfall is also not good because fertilizer cannot be dissolved so that its nutrients cannot be tied up by the soil. Fertilizer that has been deployed but not yet soluble, in general its nutrients are not lost because they are in the fertilizer. Therefore, there is a need of fertilization schedule based on the rainfall factor. Rainfall measurements can be made every day on an ongoing basis every year. Rainfall measurement data is then processed and the output can be a monthly rainfall data basis.

Fertilization guidance from the government through minister of agricultural in the form of cropping calendar information system can be a recommendation for farmers when they fertilize their crops. In addition, it can be an effective tool for fertilizers maker to manage their inventory levels especially when they have to market more aggressively their fertilizers based on that cropping calendar.

Product Diversity

Fertilizer adds nutrients to soil that are useful for various types of crops, vegetables, trees, etc. The choice of fertilizer that is used typically depends on the nature of the soil, such as whether it is acidic or alkaline; sandy, clay or rocky. As mentioned before, the most basic to categorize fertilizer is whether it is organic or inorganic. Organic fertilizer is all natural and includes things such as compost, peat moss, wood ash and manure. They do not burn or harm plants, and could have long-term positive effects on the soil without damaging groundwater. Organic fertilizer, however, generally has lower nutrient concentrations than inorganic fertilizers.

In contrast, inorganic fertilizer is man-made and typically comes as a powder, granules or a liquid. Examples of inorganic fertilizers are chemical additives that are designed for plants to directly absorb, such as nitrogen (N), phosphorus (P) and potassium (K). These three essential elemental nutrients should naturally occur in healthy soil, but some plants require more of them. Other chemicals that might be included in inorganic fertilizers include calcium, sulfur, iron, zinc and magnesium.

In practice, however, there will be possible for balanced fertilization for land crops. Limitation the content of chemical residues in food especially vegetables and fruits as required by consumers and importing countries do not need to drastically replace the input with 100% organic fertilizer. For gardening and agriculture, with a long history of the use of chemical fertilizers, the surrounding environment had run out of microbial and compound for self-fertilization (naturally). Plants have depended entirely to the nutrient intake of external inputs; the capability of self-fulfilling nutrients around the plant has been paralyzed. Therefore, a balanced fertilization between inorganic and organic fertilizer will maintain agricultural productivity while at the same time improving the micro environment of the plants.

In relation to the agricultural dynamic, fertilizer makers should be able to face this challenge by providing various types of fertilizers. A highly dependency on certain type of fertilizer potentially reduce their market share when there is a change of preference towards fertilizer or there is a need of applied fertilizers consisting of a combination of several fertilizers. Therefore, fertilizer producers should complement their inorganic fertilizers such as urea, ZA, phosphate, phonska, NPK, and ZK with organic fertilizers.

Cost Competitiveness

Cost structure of urea manufacturers, as an illustration, is determined by feedstock used, process technology adopted, energy consumption level and location of the unit. An access to a low cost feedstock will be critical to the producers' competitiveness. Energy consumption is a function of the vintage of the unit, process technology adopted and maintenance practices followed. With few process technology suppliers to choose from, the process technology adopted by the units has mainly been determined by the vintage of the plants, with recent plants adopting modern processes and older plants adopting the process prevailing then. Efficient unit achieves lower energy consumption than the normative parameters whilst location of the unit can influence both raw material and distribution costs of fertilizers. In general, location of units near a large market confers a competitive advantage since the fertilizer producers will be able to manage their distribution costs efficiently.

An ability to control the overall cost of production, within the normative cost of production will be a key source of the strength for the players, which is influenced by import prices, exchange rate fluctuations and efficiency. Adequate handling system and storage facilities, given the high import dependence, also can impart competitive advantage.

Market Position

As one of key components of national agricultural sector, fertilizers have a very important role for the improvement of farming in Indonesia as farmers have a big dependence on fertilizers. In a bigger scope, there is also a high dependence on them when the government implements agricultural development programs through self-sufficiency, especially regarding intensifications. This program is conducted in relation to an increasing number of domestic populations which in tandem also need bigger agricultural production.

To support this agricultural development program, the government actually had issued a regulation stipulating procurement and distribution of subsidized fertilizer for agriculture sector. This regulation which was issued by Industry and Trade Ministry on February 11, 2003 (A Decree No. 70/MPP/Kep/2/2003) enacted fertilizer distribution area pattern for producers. There is a responsibility for fertilizer manufacturer to distribute fertilizers for defined certain areas. Therefore, production growth of each fertilizer manufacturer is a crucial factor since an increase of market share should be coupled with a stronger production growth.

Under a new amendment of that regulation in 2013, PT Pupuk Indonesia is appointed to conduct subsidized fertilizers' procurement and distribution for group of farmers and/or farmers based on an agreement between minister of agriculture and PT Pupuk Indonesia. Established in December 2012, PT Pupuk Indonesia is now a strategic and investment holding of state-owned fertilizer companies. Its five fertilizer subsidiaries are PT Pupuk Sriwidjaja Palembang, PT Pupuk Iskandar Muda, PT Pupuk Kalimantan Timur, PT Pupuk Kujang and PT Petrokimia Gresik.

Management Quality

All debt ratings necessarily incorporate an assessment of the quality of the issuer's management, as well as the strengths/weaknesses arising from the issuer's being a part of a "group". Also of importance are the issuer's likely cash outflows arising from the possible need to support other group entities, in case the issuer is among the stronger entities within the group. Usually, a detailed discussion is held with the management of the issuer to understand its business objectives, plans, and strategies, and views on past performance, besides the outlook on the issuer's industry. Some of the other points assessed are:

- Experience of the promoter/management in the line of business concerned
- Commitment of the promoter/management in the line of business concerned
- Attitude of the promoter/management to risk taking and containment
- The issuer's policies on leveraging, interest risks and currency risks
- The issuer's plans on new projects, acquisitions, expansions, etc
- Strength of the other companies belonging to the same group as the issuer

- The ability and willingness of the group to support the issuer through measures such as capital infusion, if required.

Financial Risk Profile Assessment

The objective here is to determine the issuer's current financial position and its financial risk profile. Some of the aspects analyzed in this context are:

Operating profitability: The analysis focuses on determining the trend in the issuer's operating profitability and how the same appears by peer comparison. Ability of the companies to achieve the assured return for various types of fertilizers will be a key rating parameter. Efficient urea companies, for example, achieve higher returns by operating the units at more than the normative capacity utilization. Achieving lower energy consumption than the pre-set norms is also another source of gain for the units. Efficient raw material sourcing, control over the exchange rate and efficient conversion can aid the profitability, because of high raw material intensity in the business.

Gearing: The objective here is to ascertain the level of debt in relation to the issuer's own funds and is viewed in conjunction with the business risks that the issuer is exposed to.

Debt service coverage ratios: Here, the trends in the issuer's key debt service coverage ratios like interest coverage and net cash accruals/total debt are examined.

Working capital intensity: The analysis here evaluates the trends in the issuer's key working capital indicators like receivables, inventory and creditors, again with respect to industry peers. Timely availability of subsidy can influence the liquidity position of the fertilizer manufacturers. Any delays in the receipt of subsidy can squeeze the liquidity position of the companies in this sector.

Other areas which are analyzed include the following:

Cash flow analysis: Cash is required to service obligations. Cash flows reflect the sources from which cash is generated and its deployment. Analyzed here are the trends in the issuer's funds flow from operations (FFO) after adjusting for working capital changes, the retained cash flows, and the free cash flows after meeting debt repayment obligations and capital expenditure needs. The cash flow analysis also helps in understanding the external funding requirement that an issuer has, to meet its maturing obligations.

Foreign currency related risks: Such risks arise if an issuer's major costs and revenues are denominated in different currencies. Examples in this regard would include companies selling in the domestic market but making large imports, and export oriented units operating largely on the domestic cost structure. The foreign currency risk can also arise from un-hedged liabilities, especially for companies earning most of their revenues in local currency. The focus here is on assessing the hedging policy of the issuer concerned in the context of the tenure and nature of its contracts with clients (short term/long term, fixed price/variable price).

Tenure mismatches, and risks relating to interest rates and refinancing: Large dependence on short-term borrowings to fund-long term investments can expose an issuer to significant re-financing risks, especially during periods of tight liquidity. The existence of adequate buffers of liquid assets/bank lines to meet short-term obligations is viewed positively. Similarly, the extent to which an issuer would be impacted by movements in interest rates is also evaluated.

Accounting quality: Here, the accounting policies, notes to accounts and auditor's comments are reviewed. Any deviation from the Generally Accepted Accounting Practices is noted and the financial statements of the issuer are adjusted to reflect the impact of such deviations.

Contingent liabilities/Off-balance sheet exposures: In this case, the likelihood of devolvement of contingent liabilities/off-balance sheet exposures and the financial implications of the same are evaluated.

Conclusion

As this industry is highly controlled by the government, the fertilizer producers' ability to control the costs will be a key success factor for the fertilizer manufacturers' profitability and debt servicing ability. However, ICRA Indonesia believes, even in a partial or full deregulated scenario, operating efficiency will assume greater importance. Players with competitive cost structure and established market position should be able to withstand deregulation and preserve their credit quality.

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*Adopted and modified from ICRA Limited's Rating Methodology for Fertilizer Industry