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Food Security and Rice Price Policy in Indonesia: The Economics and Politics of the Food Price Dilemma

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Abstract:

Food security in Indonesia is intimately connected to rice prices. After more than two decades of stabilizing domestic rice prices around the long-run trend of prices in the world market, Indonesia has emerged from the devastating financial crisis with domestic rice prices much higher than world prices and much higher than long-run trends of real prices in rupiahs. Although the political rhetoric pushing for even higher prices uses food security as the rationale, in fact few productivity gains are available to rice farmers. More importantly, high rice prices have a major impact on the number of individuals living below the poverty line and on the quality of their diet. The paper reviews research on the impact of rice prices on the poor and on the broader macroeconomic consequences for investments in labor-intensive manufacturing. Discussion then focuses on how political and economic circumstances have changed since price stabilization, implemented by the national food agency (Bulog), balanced the needs of producers and consumers.

Food Security and Rice Price Policy in Indonesia: The Economics and Politics of the Food Price Dilemma

by

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Food security is always an emotional issue, as chronic hunger, local food shortages, and sudden spikes in food prices all mobilize public sentiment to “do something.” “Food security” is the vague but still emotionally powerful concept of what they want with respect to these problems. However defined, food security is a clear public good. So claims that a “time bomb” is ticking for Indonesia’s food security if rice imports are not reduced have raised concerns among the general population that the country is somehow losing ground in its long-term efforts to keep rice production growing faster than domestic demand.¹ Understandably, politicians are seeking answers that will reassure the public while gaining support for their parties in the run-up to the national elections in 2004. Food security is also, always, a political issue.

Lost in the recent debates has been any clear recognition that food security is primarily an economic issue, one on which a substantial analytical and empirical literature exists, for Indonesia and in general. The universal conclusion from this literature is that only good economic policies can ensure food security on a sustainable basis for both the country as a whole and the millions of households individually. From this economic perspective, the food security time bomb in Indonesia’s future is not potential reliance on rice imports ten years from now. Instead, the time bomb is poverty and the failure to restructure Indonesia’s economy in a way that stimulates rapid growth of productivity in both rural and urban areas, leading to higher incomes.

The use of price policy to stimulate this growth is fraught with difficulties. Indeed, the current high level of rice prices in Indonesia makes the necessary economic restructuring quite difficult. There is a great deal of confusion in the country about the level of rice prices. Many government spokesmen, private research organizations, and all representatives of farmers complain about low rice prices. Repeated and highly public efforts are made to keep cheap imported rice out of Indonesia. In fact, these efforts have succeeded far beyond their legal intent or mandate. *INPRES 9/2001* requires that rice import policies seek a balance between the needs of rice producers and rice consumers. Figures 1 and 2 show that despite this Presidential Instruction, rice prices in Indonesia are near historic *high levels*, whether compared with long-run trends in real (deflated) rupiahs or with levels in world markets.

Figure 1 shows that real rice prices in Indonesia are at least 30 percent higher than their stable trend from 1975 to 1996, after the country recovered from the world food crisis and before the Asian financial crisis that saw the country lose control of the entire economy, not just rice prices. During that 21-year period, real domestic rice prices were remarkably stable, although they did respond appropriately to local surpluses and deficits. Rice prices in mid-2002 were down somewhat from the peak during the financial crisis, but they have remained far above the previous level that was regarded as “normal” for more than two decades.

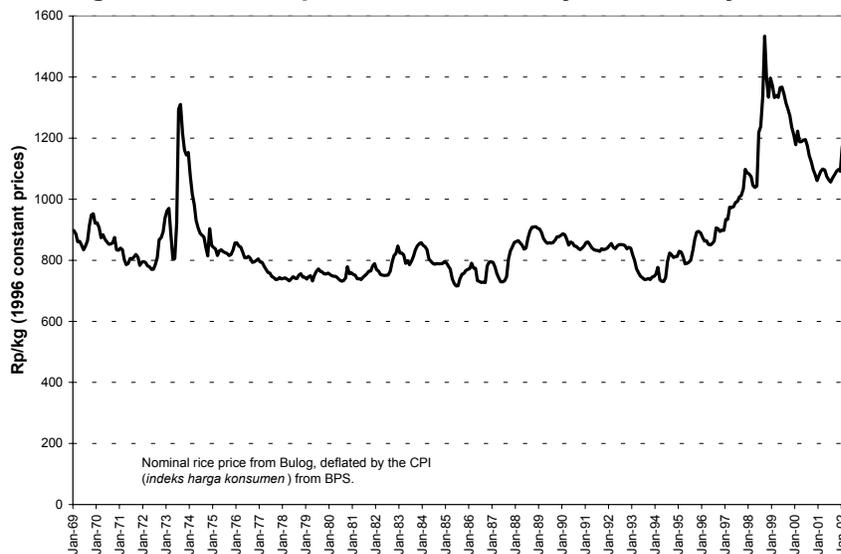
Those “normal” prices sought a balance between the interests of rice producers and consumers. They were adequate to stimulate increases in rice production in the 1980s that brought Indonesia to self sufficiency at the same time that rice consumption increased dramatically, especially among the poor. This achievement, it should be recognized, was caused by a rice price *stabilization* policy, not by running up real prices to make rice farming more profitable. Rice profitability came primarily from new technology, massive irrigation investments, and cheap fertilizer. Stable, not high, rice prices gave

¹ See the story in the *Jakarta Post*, May 4, 2002. For a discussion of actual production and area harvested trends in Indonesia, see Peter Rosner, “Does Indonesia Face a Food Security Time

farmers confidence to make the necessary investments to raise productivity, and allowed consumers access to the rice produced.

The situation now is totally different. Despite very high rice prices by historical standards, farmers do not have much new technology available to raise productivity of rice cultivation. Even higher rice prices will not generate that technology or raise productivity. Higher rice prices in this environment produce a zero sum outcome—any increase in rice farmers' incomes will be lost as rice consumers must pay higher prices. There is no “spread effect” or multiplier without productivity gains. Consequently, the desirability of using higher rice prices to improve the incomes of rice farmers, and thus win their political allegiance, must be set against the losses to rice consumers, many of whom are quite poor. The available evidence, reviewed below, suggests that the current political environment in Jakarta, which is pushing vigorously for higher rice prices, is heading Indonesian rice policy toward a disaster for the poor, who always bear the brunt of bad economics.

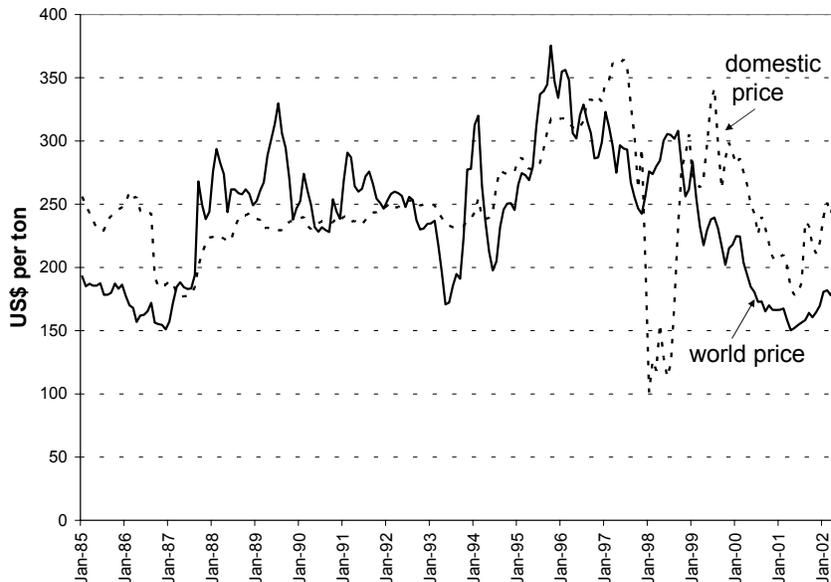
Figure 1. The real price of rice, January 1969 to May 2002



Source: The nominal price of rice is reported by BULOG (medium quality rice). The CPI data are from BPS.

Figure 2 puts the Indonesian rice price in an international perspective. Rice is a tradable commodity and Indonesia has been a substantial importer from world markets for the past half century, except for several years in the mid-1980s when self sufficiency was temporarily achieved. Especially during the years when BULOG was successful in stabilizing domestic rice prices—from 1975 to 1996—a conscious effort was made to keep domestic rice prices on the long-run trend of world prices. There were two reasons for this policy. First, the world price represents the opportunity cost of rice to the Indonesian economy and economic efficiency requires that domestic and world prices track each other over extended periods of time.² Second, in the astute words of an early observer of Indonesian economics, “God meant Indonesia for free trade.” Because of the country’s long and porous coastline, close to several major rice exporting ports, it is nearly impossible for Indonesia’s domestic rice price to be kept substantially above or below prices in those ports for extended periods of time.

Figure 2. World rice prices and domestic rice prices, 1985 to 2002



Note: The world price is the price of Thai 15 percent broken rice, f.o.b. Bangkok. The domestic price is the price of medium quality rice reported by BULOG. The domestic price is adjusted to the world price using a wholesale-retail markup of 10 percent, a \$20 per ton

² There are no similar efficiency arguments for following world prices on a day-to-day basis. See “Food Price Stabilization: Rationale, Design, and Implementation,” in Perkins and Roemer, eds. *Reforming Economic Systems in Developing Countries*, Harvard University Press for HIID, Cambridge, MA, 1991.

charge for movement from Bangkok to the Jakarta wholesale market, and the average monthly exchange rate for the rupiah as reported by Bank Indonesia.
Source: World price (Thai 15 percent broken f.o.b. Bangkok) from *The Rice Trader*. Domestic price from BULOG.

In mid-2002, Indonesia's rice prices are at very high levels compared with imports. In the Jakarta market in mid-May, 2002, retail prices were *twice as high* as for comparable qualities of rice imported from India.³ The trade barriers that produce such substantial price differences are not fully understood. Even if the import duty of Rp 430 per kilogram (about 30 percent *ad valorem* at recent price levels) were full enforced, which it is not, less than a third of the price difference would be accounted for. The remainder must come about through trader responses to risks of exchange rate fluctuations, harassment at the port, and confiscatory episodes by local authorities seeking favor with farm supporters (as in East Java in July, 2002). A further possibility is that traders are manipulating local prices by restricting supplies to retail outlets, which would be surprising in view of how competitive domestic rice marketing is thought to be.

Whatever the exact set of reasons, Indonesia's domestic rice price is high in real terms and much higher than the world price, and current political rhetoric favors even higher rice prices. Just as in the United States, Europe, and Japan, Indonesia's political parties are competing for farmers' support in the name of food security and higher incomes for family farms. The costs of this competition are horrendous to consumers, taxpayers, or both. The costs in the United States are foregone budget priorities—no prescription drug relief for the elderly, for example. With considerable blame also attributed to farm policies in Europe and Japan, a further result is badly distorted world markets for staple food commodities. Apart from the budget and consumer costs, Europe and Japan also incur a cost for their high farm prices through macroeconomic distortions and somewhat slower economic growth—the farm sector in the United States is not big enough to have much macroeconomic impact. The costs in Indonesia, unfortunately, are

³ See Peter Rosner, "Inpres 9/2001: Balancing producer and consumer welfare," FPSA Working Paper, May 23, 2002.

more tragic—more people in poverty, more hunger and malnutrition, and significantly slower economic growth with worse distribution.

These are serious arguments against Indonesia's current political determination to force up the already high price of rice in domestic markets. But most economists agree these will be the results of the policy approach now being recommended by Bulog and its supporters in Parliament. If the economics are so bad, why are higher rice prices so popular, at least in political circles and in the press? Three interconnected arguments are made to support higher prices, each with enough truth to be deceptively appealing. Upon careful consideration, however, their appeal vanishes.

The three interconnected arguments involve (1) subsidies to United States rice growers and exports, (2) an historically thin and unstable world rice market, and (3) a slowdown in the growth of Indonesian rice production that has returned the country to importer status. The link among the three arguments is the rice price, and this link is established in the following way: U.S. farm subsidies drive down the world price (with the U.S. intending to monopolize the world rice market according to some conspiracy theories, despite selling less than 10 percent of the rice traded in world markets), forcing Asian rice producers out of business by reducing profitability of growing rice, thus making the world market even more unreliable. In this view, the response by Indonesia to such a strategy should be higher domestic rice prices, encouraging rice self-sufficiency and food security, to be implemented by isolating Indonesia's rice market from the world market.

The political appeal of these arguments is obvious, especially because there will be large profits to be made by BULOG in executing the strategy. But the arguments are wrong on three counts:

- (1) they do not account for the role of higher rice prices on the level of poverty in the country;
- (2) they fail to recognize the full macroeconomic impact of high (and higher) rice prices on economic growth; and

(3) ironically, they fail to recognize the crucial role of international trade in rice in Indonesia's own food security (and the trivial role that U.S. rice exports play in both). These problems are taken up in turn.

A. Rice Prices and Poverty

Rice is the most important commodity in Indonesia, especially for the poorest members of society. It is not surprising that the level of rice prices is the single most important determinant of poverty at the household level in the short run. In the long run, rice prices also exert significant influence on the pace of poverty alleviation by conditioning the rate of economic growth. This growth is the main cause of the structural transformation—the gradual decline of agriculture as a relative share of the economy and the relative growth of industry and modern services. Sectoral contributions to economic growth and to the structural transformation, e.g. the role of agriculture, must be understood in the context of this long-run process of economic restructuring.

In the short run, the effect of rice prices on the poverty of individual households hinges on the household's status as a net buyer or seller of rice. High prices clearly benefit net sellers of rice, and the larger are net sales the larger are the benefits. Low prices benefit net buyers of rice, especially those who do not produce any rice at all. This is the classic food price policy dilemma, and it is never a problem that is easily resolved.⁴

Urban dwellers are net buyers of rice. This group includes the wealthiest members of society, but wealthy households are only a small fraction of urban households. In addition to the urban middle class, there are large numbers of urban poor. Rice accounts for a substantial portion of total expenditures of these poor households. In normal times (pre-crisis), rice constitutes 20 percent of total expenditures for the poorest quarter of urban households. For the poorest 5 percent, this share rises to 25 percent (but it was even higher at the peak of the crisis).

The share of the population living in urban areas is also growing over time, another manifestation of the structural transformation. During the 1990s, the level of the rural population was virtually stagnant, but the urban population grew at a rate of about 4.5 percent per year. Because of this differential population growth, the share of the poor that reside in urban areas is growing over time as well. Although the relative importance of the urban poor is growing, the majority of the poor reside in rural areas and will for a long time to come. In rural areas, the most important productive asset is land, and land ownership is a key determinant of both wealth and whether any particular household is a net buyer or seller of rice. *On Java, 45 percent of all rural households do not own any land.* While not all of these households are poor, the great majority of them are in the lower rungs of the income distribution.

Another 20 percent own less than one-quarter hectare of land, which is just enough to provide the average per capita consumption of rice for a family of five (if all the land is planted to rice and not to other crops). *Together, these two groups account for nearly two-thirds of rural households on Java.* By and large, they are much poorer than farmers with larger amounts of land, and they are not likely to be net sellers of rice. *For these households, lower rice prices mean higher real incomes and less poverty.*

Even Indonesia's larger landowning rice farmers are not wealthy in absolute terms, but in relative terms most of these households fall in the middle (third) quintile of the overall income distribution. On Java, only one-third of *rural* households own enough land to produce a surplus of rice for a family of five. These are clearly not the poorest of the poor. In fact, the image of abject poverty is of someone without enough food to eat. Almost by definition, this is not a farmer with enough land to sell a surplus of rice to the market.

It is also important to realize that, on average, land-owning, rice-surplus farmers generate only about half of their family income from growing rice. A decline in rice-based

⁴ This dilemma provided the integrating analytical theme for *Food Policy Analysis*, by Timmer, Falcon and Pearson.

income does not lead to a proportional decline in household welfare even for these households. In summary, when urban households are included, only about 20-25 percent of Indonesia's households are better off from higher rice prices, and *very few* of these are among Indonesia's truly poor. High rice prices hurt the poor.

B. Rice Prices and Economic Growth

Rice prices are important for poverty alleviation not only in terms of their short-term direct effects on the poorest segments of the population. In addition, rice prices play a key role in the structural transformation, both within the agricultural sector and for the economy as a whole. Within the agricultural sector, lower rice prices encourage rice farmers to diversify their cropping pattern by making rice less profitable to grow and by making it cheaper to buy rice from the market.

These ex-rice farmers then begin to produce other crops such as fruits and vegetables, allowing consumers to diversify their diets and increase their intake of proteins, vitamins, and minerals, which are crucial for the reduction of malnutrition. This is a slow process under the best of circumstances and must be market driven. But appropriate government support for research, extension, and marketing initiatives can also speed the process. Supporting highly protected prices for rice will slow it down.

Crop diversification is occurring to some extent in Indonesia, although not very rapidly. In 1984, when Indonesia temporarily achieved self-sufficiency in rice, 41 percent of all cropped area was planted to rice. Today, the share is 38 percent, a relatively small change over a period of 15 years of rapid economic growth. By contrast, rice as a share of total cropped area in Malaysia declined from 25 percent in 1972 to 13 percent in 1998. Artificially high (and stable) rice prices have impeded the diversification process unnecessarily. Lower rice prices can speed it along by guaranteeing reliable and affordable supplies of rice in rural markets to farm households who chose to diversify or invest in nonfarm rural activities.

The rural market reforms in China after 1978 provide a lesson in the role of local food availability in supporting decisions by local entrepreneurs to diversify out of grain production.

One of the most important policies to support development of small scale rural industries in China was the freeing of foodgrain markets in rural areas in the early 1980s. This impact has not been lost on the Chinese leadership, which has committed itself to keeping domestic grain prices in line with world prices as part of their entry into the World Trade Organization (WTO). Their argument is that low grain prices will maintain China's competitive advantage in labor-intensive manufactures and encourage Chinese farmers to seek more profitable crop and livestock activities as a way out of the trap of low incomes from grain production.

The lessons for Indonesia from China's WTO commitments are twofold: first, lower rice prices can stimulate small and medium enterprises (SMEs) in Indonesia as well, and also provide reliable food supplies for farmers who wish to diversify. But second, and far more important for the long run, Indonesia's very competitiveness in international trade will be challenged by the Chinese strategy unless Indonesia also keeps the cost of its main wage good close to international levels.

This potential impact on the profitability of investments in labor-intensive enterprises means that rice prices play a key role in the structural transformation of the broader economy. Low rice prices allow real wages to be higher for employees without any increase in the nominal wages paid by employers in the high-productivity industrial and service sectors of the economy. In conjunction with other factors, this combination of low nominal wages and high real wages stimulates the job creation and economic growth that are necessary for sustainable poverty alleviation. Excessively high rice prices will cause workers to demand higher wages to keep their real incomes from falling, as has happened in the Philippines, where domestic rice prices have been well above world market prices for the past 15 years. These demands on the part of workers are entirely legitimate, but their higher nominal wages discourage investment, both domestic and

foreign. The end result is a slowdown of the productivity growth that is essential for poverty alleviation.

If there are so many benefits to low rice prices, why not drive prices well below market levels to create even more of these positive effects? *Artificially* low food prices have been tried as a development strategy in many countries, for example in Egypt, China before 1978, and the former Soviet Union, but they have always failed. Such a strategy reduces farmers' incentives to produce, hindering long-term productivity growth in the agricultural sector. Perhaps as important, a strategy of artificially low food prices requires subsidies and results in substantial fiscal costs to the government. These costs then divert scarce government resources from being used to provide the public goods necessary to create a dynamic rural economy, such as roads, education, and agricultural research. There are also efficiency losses to keeping domestic prices substantially below the trend in world prices because of the misallocation of resources.

What is the optimal level of rice prices? In a world of perfect information and competitive markets, the answer is "the world price." In the less-than-perfect world that rice importing countries live in, research has shown that keeping domestic rice prices above world prices by perhaps 10 percent may be optimal. This margin ensures that the multiplier effects from increased agricultural incomes are realized, while minimizing the impact on poverty in the short run. However, any large, sustained deviation of domestic prices from world prices in either direction will lead to substantially sub-optimal outcomes and slow the rate of economic growth.

C. Rice Prices and Food Security

Indonesia's rice economy is now mid-way in a transition from being a sector heavily regulated by a centralized Ministry of Agriculture and stabilized by a well-financed food logistics agency (Bulog) to being a market-oriented sector which depends on farmer and consumer decision making to allocate resources efficiently. The large gap between domestic and world prices that emerged during the financial crisis in 1997 narrowed

between late 1998 and mid-2000, but has widened again since then. Thus Indonesia's rice prices remain substantially above world prices--in contrast to the long-run parity seen from the mid-1970s to the mid-1990s.

The key question at this juncture is how to complete the transition to a market-oriented rice economy while recognizing the constraints on policy initiatives that face the government, primarily the needs (as perceived by policymakers) of rice farmers to receive higher prices to stimulate production, and hence to improve Indonesia's food security. To answer this question, it is worth reviewing briefly how rice prices were set during the New Order government, when they were stabilized and maintained on the long-run trend in world market prices, until the financial crisis. It is also necessary to explain why the policies that achieved that desirable outcome are no longer appropriate.⁵

In summary, Bulog defended a floor price and a ceiling price through a combination of the following policy instruments:

- monopoly control over international trade in rice,
- access to an unlimited line of credit (at heavily subsidized interest rates in the early years; at commercial rates with a Bank Indonesia guarantee in the later years),
- procurement of as much rice as necessary by Bulogs to lift the price in rural markets to the policy-determined floor price, and
- extensive logistical facilities, including a nation-wide complex of warehouses, which permitted seasonal storage of substantial quantities of rice (including the one million tons for the "iron stock" that was considered essential for Indonesia's food security). These rice stocks, accumulated through domestic procurement in defense of the floor price and, when these supplies were inadequate, through imports, were then used to defend a ceiling price in urban markets. In the early years, the ceiling price was explicit and announced publicly; in the later years, it was informal, providing local Bulog officials more flexibility in maintaining stability of rice prices.

This was a heavily interventionist approach to formation of rice prices in Indonesia. Still, few observers doubted the need for such intervention in the late 1960s and through the period of instability in the world rice market in the 1970s. An econometric assessment of the 25-year period from 1970 to 1995 concluded that *Bulog's stabilization efforts paid very high dividends in fostering faster economic growth during Repelita I and II [the first two five-year plans, from 1969 to 1979], apart from the additional benefits provided by enhanced political stability.* But even this positive assessment concluded that benefits from this market intervention were diminishing as rice became a much smaller proportion of the value added in the economy and as a share of consumers' budgets. By the mid-1990s there was clearly a need to design a much more market-oriented price policy.⁶

This need for reform of rice policy was driven by two forces. First, the price stabilization program was very expensive in budgetary terms, because heavy subsidies had to be provided to Bulog to maintain large stocks, subsidize exports when surpluses accumulated, and subsidize imports when domestic supplies were short. The increased corruption in the agency in the mid-1990s further called in question the use of public funds to support the price stabilization role.

Second, successful stabilization of rice prices enhanced the profitability of growing rice and biased farmer decision making toward its cultivation. This bias was desirable at the time as new rice technology and extensive investment in rural infrastructure, especially irrigation, meant farmers had to learn how to manage a radically new way of growing rice. In addition, Indonesia was exposed to a very thin and unstable world rice market in the 1970s and additional domestic rice production enhanced its food security. But as early as the 1980s, the bias toward rice production was causing serious difficulties in diversifying Indonesia's agriculture toward higher- value crop and livestock systems.

⁵ The details of this story are contained in "Food Security in an Era of Decentralization: Historical Lessons and Policy Implications for Indonesia" by C. Peter Timmer. This paper is part of the output from FPSA and is available at the project website: www.macrofoodpolicy.com.

⁶ See Timmer, "Does Bulog Stabilize Rice Prices? Should It Try?" *Bulletin of Indonesian Economic Studies*, August 1996.

A long-run decline in the price of rice in world markets, and significantly greater stability in world prices, have now sharply lowered the opportunity cost of rice to the Indonesian economy.⁷ In 1998, for example, the country was able to import over 6 million metric tons of rice in the wake of the worst drought in recent history—caused by an historically severe el Nino—with very little impact on the world rice market (see Figure 2). With Indonesian rice imports returning to the “normal” levels of earlier years after 1998, world prices have continued their long-term decline. In the face of these long-run opportunity costs of growing rice, farmers will need to diversify out of rice to have better income-earning prospects in the future.

The alternatives to the high-cost and inefficient approach to rice price policy in the 1980s and early 1990s were already under discussion in the mid-1990s.⁸ Although various analysts had differing priorities for reform, the core ideas were similar. Indonesia should rely much more heavily on rice imports for its food security, including taking the lead in forming a free trade zone for rice in East and Southeast Asia (possibly to include Bangladesh and India as well). Substantial investments in rural infrastructure to improve efficiency of rice marketing would be needed so that traders and farmers would buy and store nearly all of the harvest. Continued development of rural capital markets would also be needed to ensure that the financial liquidity traditionally provided by Bulog procurement in defense of the floor price would be available from the formal banking system at reasonable rates to farmers and traders.

Greater variability in seasonal prices would be permitted so that these farmers and traders could earn adequate returns on their investments. Such variability would not be a problem for consumers because rice had declined to a small and manageable share of their budget expenditures. In case of large increases in rice prices in world markets (much less likely with a large Asian free trade zone) or localized shortages, subsidies to

⁷ See David Dawe, “The Future of the World Rice Market and Policy Options to Counteract Price Instability in Indonesia,” FPSA Working Paper No. 3, and David Dawe, “The Changing Structure of the World Rice Market, 1950-2000,” IRRI Los Banos, 2002.

poor consumers could be targeted through special logistical efforts (Bulog had already experimented with such a program during the drought in 1991—the pilot activity was called “Special Market Operations,” OPK, which was also the name of a similar program used during the financial crisis to target cheap rice to poor consumers). Variable tariffs on rice imports were also discussed as a mechanism for stabilizing rice prices in Indonesia without the need for a costly logistical agency.

These discussions about improving the efficiency of the rice economy were put on hold during the financial crisis, although both the IMF and the World Bank pushed for liberalization of rice trade and a cutback in Bulog activities as part of their support programs. Indeed, it is these donor efforts that have pushed Indonesia into the transition that is currently underway, and it is clear the donors would prefer to see the process completed as rapidly as possible.

There is substantial merit to the market-oriented rice economy seen at the end of this transition, and it remains a highly desirable goal. But there are also substantial political barriers in the way of this outcome. One worrisome element of the current policy debate is that there seems to be little understanding of how the previous rice price policy was designed and implemented, what its true costs were, and what the implications might be for price stabilization if Bulog is converted into a commercially-oriented state enterprise and given monopoly control over rice imports. Thus the political discussions are being conducted in a near vacuum of institutional memory and experience with policy design and implementation.

What would a lower tariff on imported rice mean for the balance between domestic rice production and consumption? If domestic prices are kept closer to (but still *above*) world prices, will Indonesia sacrifice a “satisfactory” degree of self-sufficiency in rice? Self-sufficiency is a worthwhile objective if it is achieved because of high productivity, as happened in 1984. However, self-sufficiency in any commodity is of dubious value if it is

⁸ See Timmer, “Building Efficiency in Agricultural Marketing: The Long-run Role of Bulog in the Indonesian Food Economy,” *Journal of International Development*, 1996.

caused by higher prices that result in adverse effects on poverty. For Indonesia to be more self-sufficient in rice without hurting the poor, the path is through agricultural research and productivity growth, not from policy-induced higher prices. Because the world rice market is so much more stable now than it was in the 1970s and early 1980s, the justification for self-sufficiency as a defense of Indonesia's food security is far weaker today. Now the justification is based on simple protectionism. Indonesia's food security will come from its economic growth and macro stability, not from its degree of rice self sufficiency.