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VIETNAM: FOOD SECURITY IN A RICE-EXPORTING COUNTRY

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Introduction

In March, 2008, the Government of Vietnam suspended the signing of new rice-export contracts amid escalating food prices worldwide. Following the implementation of export restrictions in Vietnam, global rice prices further increased and benchmark Thai prices surged to record highs above US\$1,000 a ton in May 2008. Since Vietnam is the second largest rice exporter in the world, Vietnam's ban on new exports has been thought partly responsible for the global spike in rice prices, and therefore to be one factor deepening food insecurity in the rest of the world.¹ It was not until June 2008, after global rice prices started declining, that Vietnam formally lifted the ban on new rice-export contracts.

It has well been recognized that Vietnam imposed export restrictions due to its concern over the adequacy of rice availability in the domestic market. The export ban was put in place in an attempt to ensure that sufficient rice be provided at home, and thereby to protect domestic consumers from unacceptable price surges. However, such export restrictions could not be implemented without cost to domestic producers and export companies. In the course of export restrictions, opportunities for higher export earnings would be lost, even if the market conditions appear favorable to rice exporters. The total volume of Vietnam's rice exports during 2008 remained at around 4.8 million tons, which was just 6 percent higher than the previous year, while the total value reached US\$2.9 billion, increased by 95 percent over the previous year. These figures suggest that Vietnam could have benefitted even more from rice exports if it had not been for export restrictions.

A problem facing Vietnam obviously lies in reconciling two different objectives: to secure sufficient rice in the domestic market on the one hand and to improve farmers' incomes and the trade balance by enhancing rice exports on the other hand. Depending on levels of global rice prices, it may be difficult for market mechanisms to realize these two goals at the same time. It is worth pointing out, in this regard, that the policy intervention in the year 2008 was neither the first nor the last case in which Vietnam halted rice exports. For example, new commercial exports had already been suspended between July 2007 and January 2008. Even

¹ According to the FAO (2008), in total, 14 countries placed quantitative restrictions or outright bans on rice exports. Among others, however, export restrictions in India and Vietnam were considered to have the most disruptive impacts on global rice markets, because of their big presence as exporters in recent years.

after the crisis had passed, in February 2009, Vietnam again announced a ban on new commercial sales overseas. In fact, Vietnam historically has maintained strict control over the total quantity of annual rice exports since its re-entry into global rice markets in 1989. The government has routinely relied on such quantity control over rice exports in order to preserve the balance between domestic and international supplies of rice.

This chapter examines the role of Vietnam's policy in the development of its rice economy as well as in the achievement of national food security. In what ways export restrictions can be implemented under current policy arrangements will also be examined. The emphasis is placed on obtaining a precise perspective regarding the role of rice-export policy over the past several decades, which in turn will be a key to understanding Vietnam's responses to the recent food crisis. Although export restrictions were repeatedly applied in Vietnam, the country had never encountered such a sharp rise in global rice prices before 2008. Indeed, unintended consequences were observed arising from export restrictions during the food crisis. Therefore, this chapter finally discusses potential problems of export restrictions, and draws some lessons for Vietnam.

The rest part of this chapter is structured as follows. The next section reviews the development of rice production in Vietnam. Section 2 looks into production surplus at regional levels and shows a large disparity across regions. Because of its outstanding volume of rice surplus, the Mekong River Delta has become a major rice-exporting region in Vietnam, rice exports from there requiring close monitoring. Section 3 examines the implementation of rice-export policy and deals with the related institutional settings at the Mekong River Delta. The policy responses to and lessons from the recent food crisis are discussed in Section 4. The final section concludes with summary and future prospects.

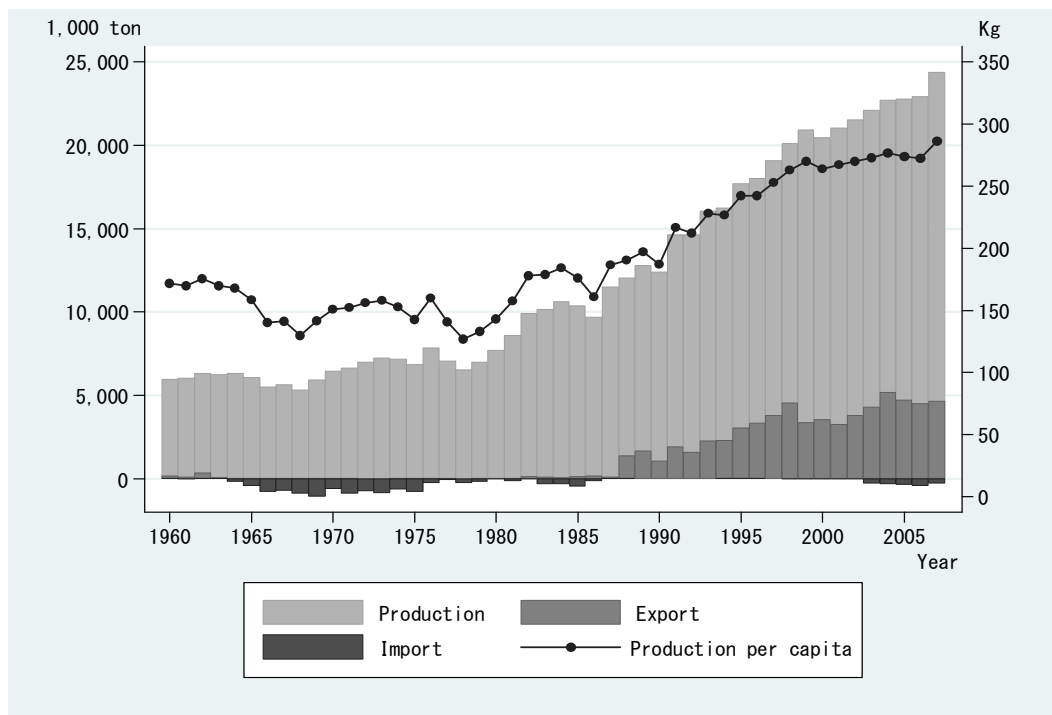
1. Rice Production: A Long-term Development

Agricultural Reforms in Vietnam

Despite its importance as a staple food crop, rice production in Vietnam had been stagnant throughout the 1960s and 1970s. During these periods, the socialist regime of North Vietnam had reinforced the collectivized production system through enlarged agricultural cooperatives under state control. After the reunification of Vietnam in 1975, rural collectivism was extended to the south part of Vietnam as well.² However, those decades of collective agriculture proved to be thoroughly disappointing. Figure 3-1 shows that rice production per capita had been on a declining trend, rather than increasing, over the 1960s and 1970s. Accordingly, there was a need to import rice to meet a minimum demand for domestic consumption. Even though the Vietnam War might partly explain the decline of production, it was the well-known incentive problem that caused stagnation in the Vietnamese rice economy. Under the collectivized production system, peasants on farms had little incentive to make efforts for increased rice production.

The outcome of collective agriculture was so miserable that the country became socially unstable with an extreme shortfall of rice production in the late 1970s. After the failure of the

² However, the collectivization in southern Vietnam was not quite successful. There were only 25 percent of farm households that belonged to a cooperative in 1980, which was much lower than the figure of almost 97 percent in northern Vietnam (Kirk and Tuan 2009).



Source: United States Department of Agriculture (USDA), Foreign Agricultural Service, Production, Supply and Distribution Online, (<http://www.fas.usda.gov/psdonline/psdhome.aspx>).

Figure 3-1 Rice Production, Trade and Production per capita

collectivized system, the government embarked on a series of agricultural reforms. In 1981, the government strengthened farmers' initiatives in the decisions of agricultural production, and allowed cooperative members to sell their surplus rice in the free market as long as production quotas were satisfied. This so-called output contract system was successful in the beginning, but unable to sustain positive effects on rice production because the quotas were sometimes raised by cooperatives following their observation of increased production. In the absence of commitment for the prescribed quotas, not too surprisingly, farmers' incentives easily deteriorated. In addition, agricultural inputs were available only through cooperatives and, in general, their allocations to each farmer fell far short of their requirements. The initial reform, combined with the fact that output markets were still dominated by the state trading agency, remained partial and incomplete (Kirk and Tuan 2009).

The renovation process called *Doi Moi*, launched in the mid-1980s, aimed at last at transforming Vietnam's overall economy from a centrally planned to a decentralized market economy. Regarding the agricultural sector, the renovation stated to pursue: (1) the transition to a decentralized system based on market competition; (2) the development of private individual farms; and (3) the improvement in foreign relations and the promotion of agricultural exports. These principles shaped the subsequent direction of agricultural reforms. Resolution No. 10 in 1988 initiated the complete process of decollectivization of agricultural production, where land tenure was allocated to households based on their family size, upon contracting with agricultural cooperatives. Farmers were permitted to maintain land use for 15 years for annual crops. They were allowed to sell their outputs in the free market to a larger extent than before, and also could buy and sell their fixed inputs, such as animals and

equipment. The price controls over rice were abolished in line with the market liberalization and, at the same time, restrictions on internal rice trade began to be lifted.

Built on Resolution 10, agricultural farmers were further empowered by the 1993 Land Law, where land tenure was extended to 20 years for annual crops. The local government issued land-use certificates to individual farmers that formally opened up the possibility of land transactions including exchange, transfer, lease, inheritance, and mortgage.³ All these reforms were considered to be positive incentives to farmers' rice production.⁴ As shown in Figure 3-1, the growth rate of rice production since the mid-1980s has been truly remarkable. The rapid increase in rice production allowed Vietnam to export rice in 1989, and to gain an increasing share of the global rice market thereafter. Vietnam has now become the world's second largest rice exporter.

The Roles of Irrigation and Modern Varieties

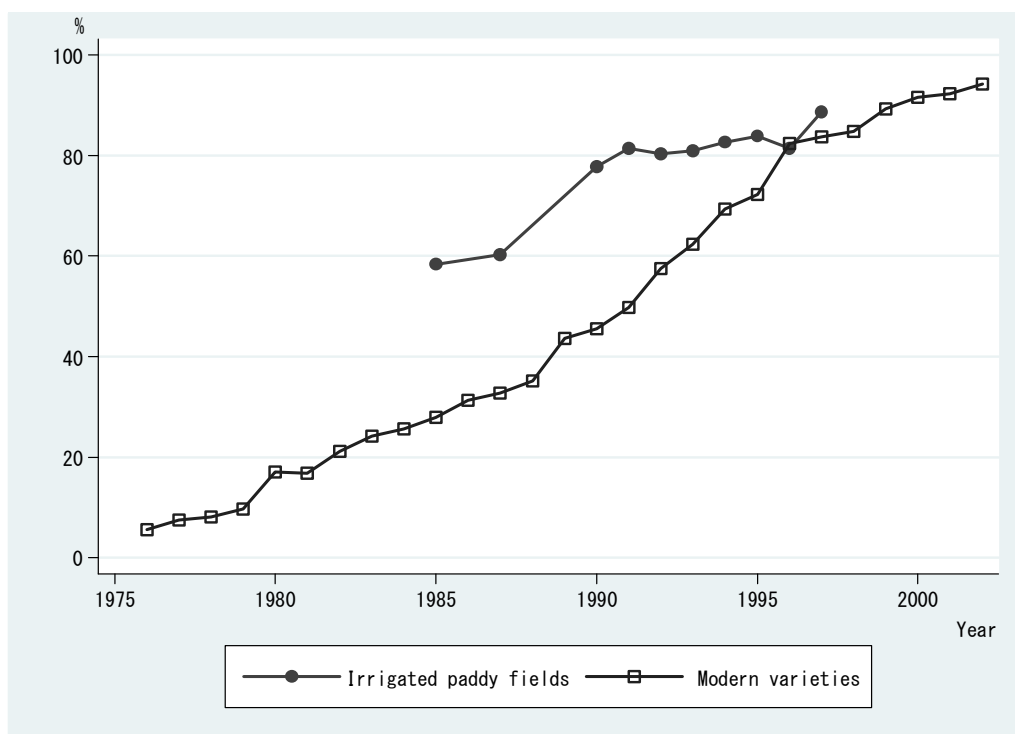
While the success of agricultural reforms during the 1980s and 1990s is undoubtedly the most important factor behind the long-term development of the Vietnamese rice economy, this does not imply that the technological aspects were unimportant. On the contrary, the past experience in other Southeast Asian countries suggests that technical changes were crucial in explaining long-term agricultural development. Regarding rice production, innovations include the expansion of irrigation and the adoption of modern rice varieties that have had significant impacts on productivity growth.

Figure 3-2 shows the ratio of irrigated rice fields and the adoption rate of modern rice varieties in Vietnam. Unfortunately, although long-running time-series data on the ratio of irrigated rice fields is not available, it is evident that the irrigation of rice fields had expanded to a considerable extent, roughly 60 percent, by the mid-1980s. This was partly the result of the favorable initial conditions in the Red River Delta, which has a long history of irrigation and water management. In addition to the advantage from history, the government has tried since reunification to renovate and rehabilitate the large-scale irrigation systems both in the Red River and the Mekong River Deltas. It is worth noting here that the investments in irrigation systems were undertaken in advance of agricultural reforms. These earlier investments can help explain how a series of agricultural reforms could be put into practice without severe constraint from the poorly-developed infrastructure. The ratio of irrigated rice fields has steadily increased, and it has now reached a level over 90 percent.

As for the high-yielding modern rice varieties, the first-generation varieties such as IR8 and IR5 had already been introduced by the late 1960s, both in North and South Vietnam (Denning and Xuan 1995). However, the adoption rate remained very low in the mid-1970s. This was due to the problem that the first-generation modern varieties were often damaged by outbreaks of brown plant hoppers. To overcome the problem, new varieties with stronger resistance to brown plant hoppers, other insects, and to several diseases were continuously developed. To the rapid increase in the adoption rate during the 1990s, national agricultural research institutes like Cuu Long Delta Research Institute have also contributed by developing location-specific modern rice varieties and by expanding the use of appropriate

³ See Deininger and Jin (2008) and Ravallion and de Walle (2008) for the study of examining the effects of land-use rights on land productivity.

⁴ Pingali and Xuan (1992) and Tran (1998) argued, among others, that agricultural reforms increased overall rural productivity.



Source: International Rice Research Institute (IRRI), World Rice Statistics, (http://beta.irri.org/solutions/index.php?option=com_content&task=view&id=250).

Figure 3-2 The Ratio of Irrigated Rice Fields and Modern Varieties

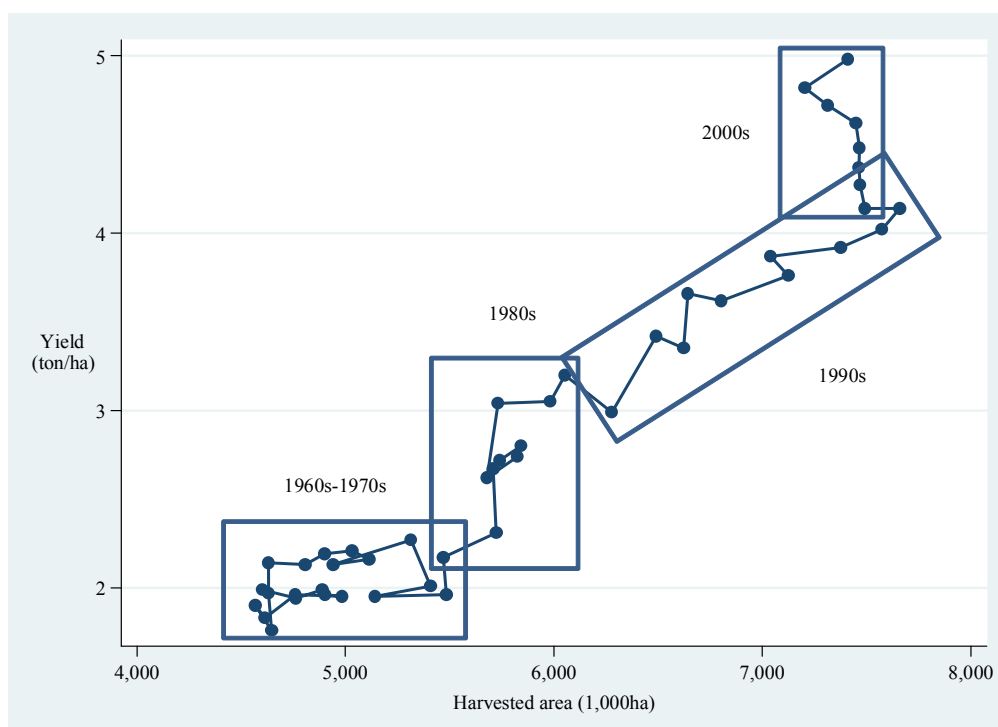
technologies.⁵ Figure 3-2 reveals that the adoption rate had risen to almost 100 percent by the early years of the 21st Century.

We can safely say that the expansion of irrigation as well as the adoption of modern rice varieties had been accomplished by the end of the 1990s. These technological improvements were necessary conditions for achieving the full potential of the Vietnamese rice economy following agricultural reforms. In particular, they have resulted in the extraordinary high growth of rice yield, as will be seen next.

Sustained Growth of Rice Yield

The Green Revolution in Vietnam started at a much later period than in other Southeast Asian countries as a result of the different political and economic environments. Unlike The Philippines and Indonesia, however, Vietnam has experienced sustained growth in rice yield until now. To confirm this point, Figure 3-3 plots the harvested area along the horizontal axis and the yield along the vertical axis, over the last 40 years. Since the total output is the product of the harvested area and the yield, the figure can be interpreted as the decomposition of the long-term development of rice production into two components.

⁵ See Tran and Kajisa (2006) for a review on the process of the adoption of modern rice varieties in Vietnam. They investigated the effects of modern rice varieties and irrigation on the growth of rice yield using both regional and household data.



Source: United States Department of Agriculture (USDA), Foreign Agricultural Service, Production, Supply and Distribution Online, (<http://www.fas.usda.gov/psdonline/psdhome.aspx>).

Figure 3-3 Harvested Area and Yield

Both the harvested area and the yield remained at low levels throughout the 1960s and 1970s, which is another manifestation of the stagnant rice economy in those periods. The lack of farmers' incentives and agricultural inputs prevented any significant increase in the growth of productivity and the production scale. During the 1980s, while the harvested area was virtually unchanged, the yield showed a robust increase. The yield growth was observed in the early and late 1980s. This observation is again consistent with the theory that the agricultural reforms in 1981 and 1988 sparked farmers' incentives to make efforts on their land.

The most impressive changes appeared during the 1990s. The increase in the harvested area proceeded along with the sustained yield growth. The increase in the harvested area was mainly due to wider adoption of the triple cropping pattern in the Mekong River Delta. On the other hand, the technological improvements explain the high productivity growth. The intensive cultivation management also contributed to the increase of the yield in the same periods. In contrast, during the first decade of the 21st Century, the change in the harvested area began to turn around, and there was even a slight decrease. The growing demand for agricultural land from other industrial sectors was partly responsible for this new phenomenon. The output growth in this decade, therefore, has been driven solely by the yield growth.

Astounding progress has been made in the yield growth for the last three decades. The current rice yield has risen to 5 tons a hectare, which is relatively high compared to the average yield in other Southeast Asian countries. It depends on the future effectiveness of agricultural research and development whether farmers can expect additional increases in rice yield. On the other hand, the increase in the harvested area has clearly peaked. It is important

to observe that the harvested area expanded almost exclusively in the 1990s. This period was exactly when farmers found new market opportunities overseas for rice exports. This might imply that farmers' efforts for exploiting the potential of multiple rice cropping were enhanced by Vietnam's re-entry into global rice markets. I will discuss later the effect of rice-export policy on the long-term development of rice production.

2. Supply and Demand

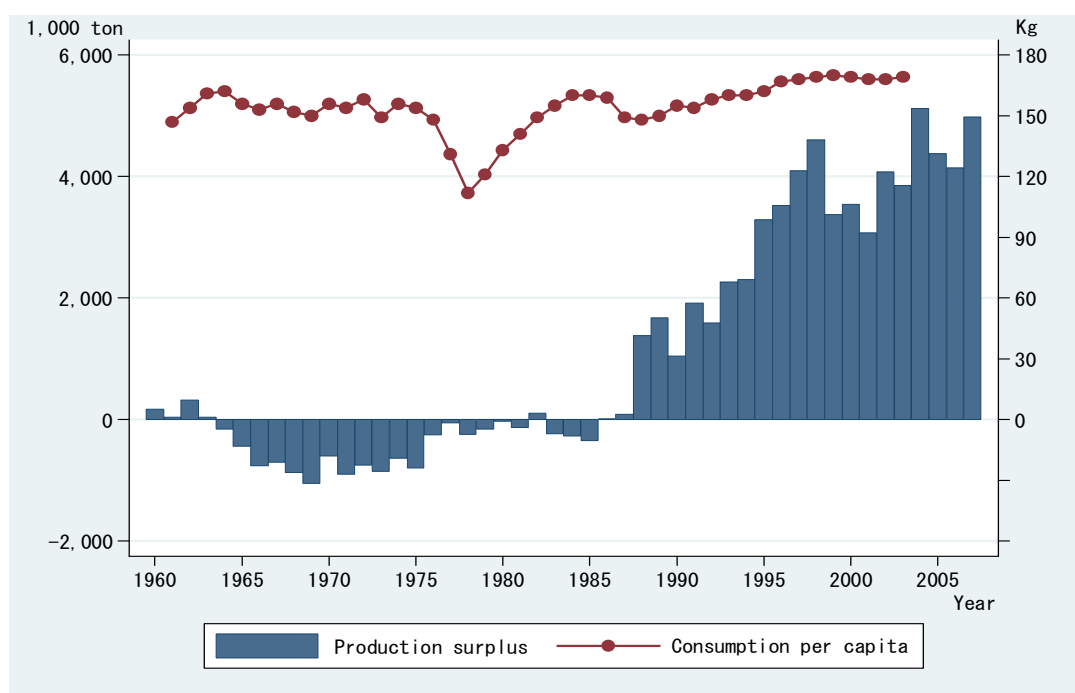
Total Supply and Demand

How did the increased rice production affect the supply and demand balance in Vietnam? Figure 3-4 shows the annual rice surplus in the country calculated by subtracting total consumption from total production. Until the mid-1980s, Vietnam persistently suffered from rice deficits, whereas the rice balance turned positive in the late 1980s, and nowadays it has a large surplus of 4 to 5 million tons a year. Figure 3-4 also shows the annual consumption per capita, based on the estimates of the FAO. Perhaps surprisingly, the annual consumption per capita has been stable over time, except for periods in the late 1970s, due to the sharp decline of rice production. In recent years, around 170 kilograms of rice is consumed per capita.

Notice that when there is little change in the annual consumption per capita, the difference in growth rates between total rice production and population corresponds directly to the growth rate of the domestic rice surplus. Total rice production grew by 4.2 percent on average from 1985 to 2005. It was much higher than the annual rate of population growth, which was 1.7 percent during the same periods. In short, Vietnam had achieved its self-sufficiency by the late 1980s through the rapid increase in rice production that outpaced the population growth. The incremental rice surplus has been exported thereafter.

Even though Vietnam has experienced a rapid increase in rice production, the growth rate has not been uniform across regions in the country. Table 3-1 shows both the current level and the growth rate of rice production by region. In 2005, the Mekong River Delta provided over half of the total production of rice in the country, followed by the Red River Delta with around 17 percent. In regard to the rice yield, the Red River Delta outperforms the Mekong River Delta, owing to the small-scaled and labor-intensive cultivation in the north part of Vietnam. The share of rice production in both Deltas reaches over 70 percent.

Regarding the rate of increase in rice production, the Mekong River Delta again ranks highest with an annual rate of 5.3 percent. It can be observed that every region shown in Table 3-1 depends on the yield growth to realize more or less the increase in rice production. The expansion of the harvested area has played a marginal role in many regions other than the Mekong River Delta and Central Highlands. In spite of the prevailing upward trend, its outstanding growth rate among regions has given the Mekong River Delta a dominant position in the Vietnamese rice economy.



Source: United States Department of Agriculture (USDA), Foreign Agricultural Service, Production, Supply and Distribution Online, (<http://www.fas.usda.gov/psdonline/psdhome.aspx>).
Food and Agriculture Organization of the United Nations, FAOSTAT, (<http://faostat.fao.org/default.aspx>).

Figure 3-4 Production Surplus and Consumption per capita

Table 3-1 Rice production, Harvested Area and Yield by Region

	2005			1985–2005 (Annual Growth Rate)		
	Production (1,000 ton)	Harvested Area (1,000ha)	Yield (ton/ha/harvest)	Production (%)	Harvested Area (%)	Yield (%)
Red River Delta	6,184	1,139	5.4	3.67	0.63	3.03
North East Mountain Area	2,537	556	4.6	2.58	-0.84	3.45
NorthWest Mountain Area	543	153	3.6	3.86	0.29	3.54
North Central Coast	3,170	675	4.7	3.79	-0.24	4.04
South Central Coast	1,759	372	4.7	1.20	-0.63	1.85
Central Highlands	717	192	3.7	4.84	1.97	2.82
South East	1,625	417	3.9	2.24	0.22	2.02
Mekong River Delta	19,299	3,826	5.0	5.31	2.69	2.54
Total	35,833	7,329	4.9	4.16	1.25	2.88

Source: General Statistics Office of Vietnam, Statistical Yearbook of Vietnam, various years.

Regional Disparity and Food Security

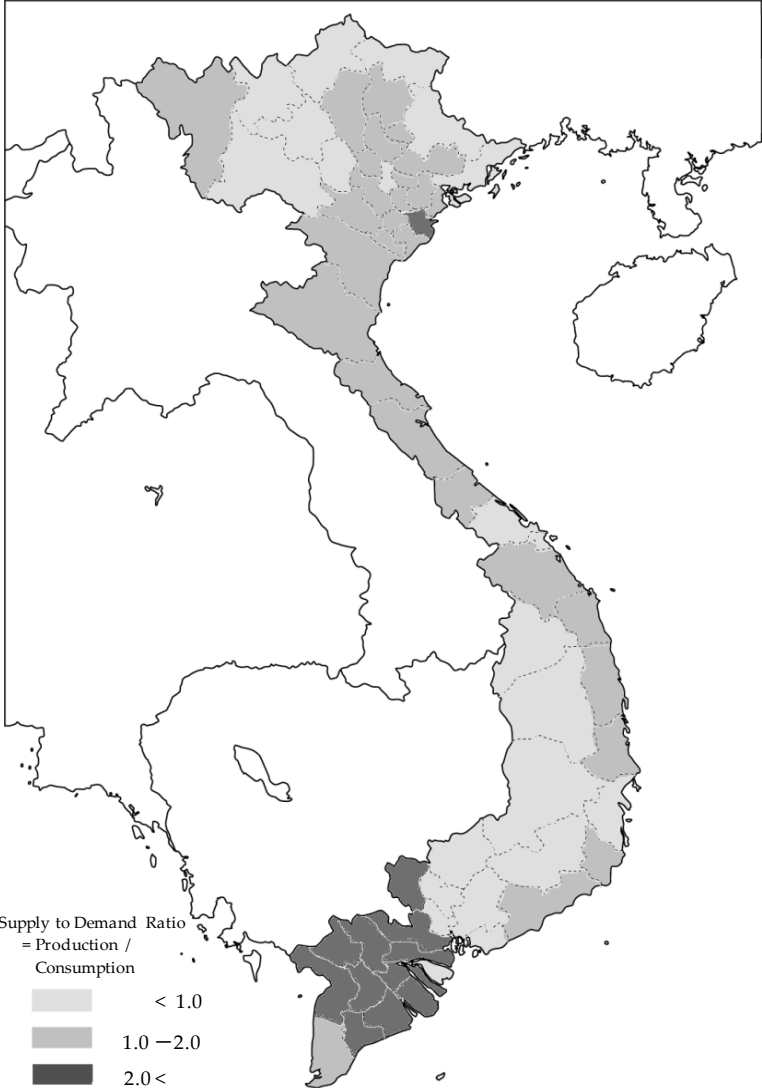
Based on the regional production structure discussed above, we can look into the supply and demand balance at the provincial level. Figure 3-5 shows the excess of rice production over rice consumption by province. Each province is color-coded according to the supply to

demand ratio.⁶ Most dark-colored provinces have a ratio above two, which indicates that rice production is more than two times larger than rice consumption in the province. On the other hand, most light-colored provinces have a ratio below one, which indicates that rice production is smaller than consumption demand in the province. Finally, middle-colored provinces have a ratio between one and two. According to Figure 3-5, there are two areas with serious rice deficits. One is large urban areas such as Hanoi and Ho Chi Minh City, and the other is inland mountainous areas such as the North West and Central Highlands. These areas depend on other parts of the country to secure rice to meet their demand. Meanwhile, the greatest rice surplus is generated in the provinces of the Mekong River Delta. Few provinces outside the Mekong River Delta have the excess of rice production over consumption by a significant margin. Since rice exports are feasible only from areas with surplus production, over 90 percent of rice exports in Vietnam are in fact from the Mekong River Delta.

Recall that because total rice production has far exceeded total rice consumption since the late 1980s there would be little concern about self-sufficiency in Vietnam as a whole. However, due to concern over domestic rice prices, the government of Vietnam cares about the quantity of rice available in the domestic markets. One can obtain the quantity of domestic rice supply by deducting total rice exports from total rice production. Whereas the quantity of rice production cannot be affected instantaneously by policies, the quantity of rice exports can be controlled, and thus serves as the immediate policy target.

To understand the effect of export restrictions on domestic rice prices, suppose there is no such restriction. If global rice prices are higher than autarky prices, domestic rice prices go up and should be equated to export prices in the long run, because domestic demand competes with foreign demand without export restrictions. Apparently, export restrictions mitigate the pressure of foreign demand, and thereby reduce the degree of increase in domestic rice prices. Minot and Goletti (2000) estimated that domestic rice prices in Vietnam have been lowered through export quotas by 22 percent during the 1990s compared to equilibrium prices under a free trade scenario. In addition to the long-term effect on price levels, the short-term volatility in domestic rice prices may increase under free exports. Firstly, it is straightforward to argue that external price shocks are transmitted directly to domestic prices without export restrictions. Secondly, transferable rice surplus in the Mekong River Delta may not be abundant under free exports when negative production shocks arise in other regions, as export companies are usually obliged to ship rice abroad based on their pre-existing contracts with foreign buyers. This problem can occur particularly when no single export company is responsible for the national food security under free exports. To ensure that enough rice is provided in the domestic market, therefore, the government is required to control the progress of rice exports from the Mekong River Delta.

⁶ When I constructed the ratio of provincial production to consumption, I used FAO estimates of the average rice consumption per capita in Vietnam, 169 kilogram in 2003, for all provinces. Although it is highly desirable to construct the ratio based on the heterogeneous urban-rural population fraction as well as income distribution among provinces, it is difficult to obtain reliable data on rice consumption by those distinct groups. Note also that the Vietnamese household living standard survey exhibits a much lower amount of rice for per capita annual consumption. This is probably due to the different coverage of rice consumption between the FAO and the national household survey. The former includes rice consumption from eating out and from processed foods, but the latter does not.



Source : Author's calculation based on General Statistics Office of Vietnam, Statistical Yearbook of Vietnam, 2006, and Food and Agriculture Organization of the United Nations, FAOSTAT, (<http://faostat.fao.org/default.aspx>).

Figure 3-5 Production to Consumption Ratio by Province

Table 3-2 National Poverty Ratio and The Ratio of Food Expenditure to Total Expenditure

	National Poverty Ratio (%)			Food Expenditure Ratio (%)		
	2002	2004	2006	2002	2004	2006
Red River Delta	22.4	12.1	8.8	53.8	51.1	51.5
North East Mountain Area	38.4	29.4	25.0	61.2	58.2	57.0
NorthWest Mountain Area	68.0	58.6	49.0	64.2	60.0	60.2
North Central Coast	43.9	31.9	29.1	58.3	56.3	55.1
South Central Coast	25.2	19.0	12.6	56.4	53.1	54.4
Central Highlands	51.8	33.1	28.6	58.6	51.3	52.2
South East	10.6	5.4	5.8	52.7	50.4	48.0
Mekong River Delta	23.4	19.5	10.3	60.5	56.7	56.2
Total	28.9	19.5	16.0	56.7	53.5	52.8

Source: General Statistics Office of Vietnam, Result of the Vietnam household living standards survey 2006.

Is the increase in rice prices indeed a serious problem in Vietnam? Table 3-2 shows the poverty ratio and the household food expenditure ratio by region. It indicates that, while the poverty ratio has decreased, there still remain many people living under the national poverty line. In particular, rice deficit areas such as the North West and Central Highlands have relatively high poverty ratios. Table 3-2 also indicates that a large fraction of total expenditure is devoted to food consumption, exceeding 50 percent on average of the total expenditure. This is almost always true even in the regions with developed urban areas such as the South East and the Red River Delta. This evidence indirectly supports the view that there still exists a real concern about the level of rice prices in Vietnam.

3. Rice-Export Policy and Institutional Arrangements

Rice-Export Policy in Vietnam

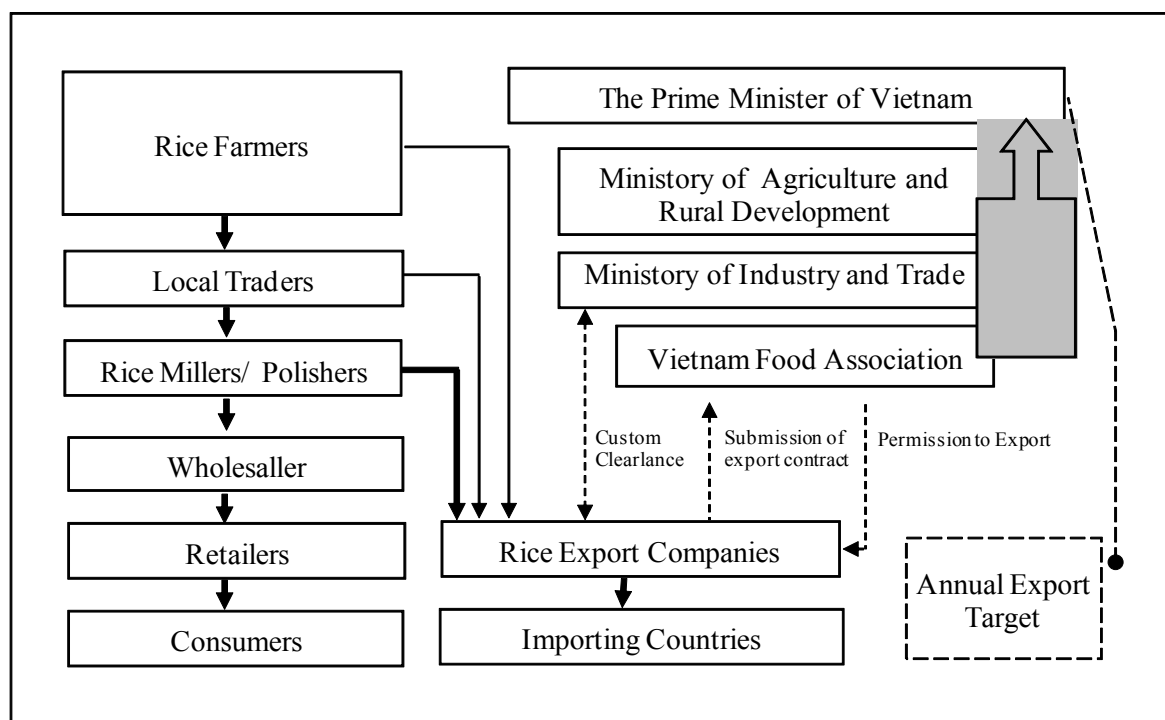
As mentioned above, the Government of Vietnam has maintained strict control over rice exports since 1989. Initially, the government directly assigned an export quota to each company. While the number of companies approved for rice exports varied year by year, all of them were restricted to state-owned enterprises (SOEs). Among these were two national-level SOEs, the Vietnam Northern Food Corporation (referred to as Vinafood 1) and the Vietnam Southern Food Corporation (referred to as Vinafood 2), which played leading roles in executing rice exports. The total quantity of rice exports as well as the allocation of export quotas was determined by the government twice per year, the fore-end and midyear, on the basis of the estimated total rice production and total rice consumption in (the rest of) the year.

The initial regulations on rice exports were gradually loosened with the increase in rice production over the 1990s. In 1998, private and foreign capital companies were allowed to engage in export business with the assignment of a quota. Subsequently, the approval system for export business was simplified, and eventually gave way to the registration system. In 2001, the export quota system was formally abandoned in order to introduce market

competition among export companies. Notice that although the export quota system was finally abolished, this by no means implies that state control over rice exports disappeared from Vietnam. Currently, instead of allocating an export quota to each company, the government imposes restrictions on the total quantity of rice exports from Vietnam. Specifically, the government suspends rice-exports at its discretion whenever the total quantity of contracted rice exports reaches the target level.

How is such state control over total rice exports possible in Vietnam? To understand in more detail the way in which the policy can be implemented, Figure 3-6 depicts the institutional arrangements related to rice exports in the Mekong River Delta. The right half of the figure explains the relationship between export companies and policy-making institutions. The left half of the figure, on the other hand, corresponds to the flow of rice in the domestic market, and I will return to discuss that shortly.

As depicted in the right half of Figure 3-6, Vietnam has three major policy institutions affecting rice-export policy that include the Ministry of Agriculture and Rural Development (MARD), the Ministry of Industry and Trade (MIT), and the Vietnam Food Association (VFA). The MARD is responsible for gathering agricultural information and estimating rice production and consumption each year. The MIT deals with overall export policy and monitors the progress of rice exports through customs clearance. Finally, the VFA is a trade organization that consists of the SOEs and private companies that engage in rice exports.⁷



Source: Author's Information.

Figure 3-6 Market and Institutional Arrangements of Rice Exports

⁷ Foreign capital companies should establish joint ventures with SOEs in order to become VFA members. Such joint venture corporations, however, are treated as allied members rather than regular members.

The export companies in principle should belong to the VFA in order to export rice. The number of the VFA members is 105 as of 2007. The expected role of the VFA is to provide the members with marketing information regarding the global rice trade and to represent the interests of rice-export companies. At the same time, the VFA helps the government implement rice-export policy, and in a way the VFA acts as the government's agency.

Every year the Prime Minister announces the annual target of total rice exports. The target quantity is determined based on the joint advice of the three institutions listed above. Unlike in the 1990s, the government does not rely on export quotas in order to achieve the target. In the absence of ex-ante constraints, accordingly, there is nothing to prevent export companies from competing with each other for rice exports. When an export company proceeds to sell rice abroad, it should first submit the export-contract to the VFA, and it should be approved there. In the usual case, this approval from the VFA is automatically done. However, when the government believes there is a need for export restrictions, the VFA is asked by the government to stop approving new rice-export contracts. Without the approval from the VFA, export companies cannot go into the stage of export clearance procedures. Therefore, the government is able to adjust indirectly the progress of total rice exports whenever needed. In fact, export bans in the year 2008 were implemented through the government's instruction to the VFA not to approve any new rice-export contracts until the formal lifting of the export restrictions.⁸

The rice-export policy in recent years has at least one advantage over the former system of export quotas. The recent policy promotes competition among export companies. Each company is now encouraged to make marketing efforts to gain export share. However, the recent policy also has a disadvantage where strategic uncertainty among export companies is generated. This uncertainty comes from the fact that an export company cannot predict precisely when total exports will hit the policy target, simply because total exports depend not only on a single export company but also on the behavior of other companies. As a natural consequence, an export company tends to rush in submitting the export contract to the VFA before facing the possible suspension of rice exports. Since the strategic motivation for exporting earlier than others is valid for all the export companies, this eventually leads to the actual early suspension of rice exports in the country. The strategic uncertainty may result in suboptimal timing and quantity of rice exports for an individual company, since the quantity and timing of rice exports should be ideally determined based on global and domestic market conditions rather than on the strategic motivation induced by the first-come, first-served basis.

Domestic Rice Markets

I turn to the left half of Figure 3-6 so the structure of domestic rice markets can be discussed next. The arguments here are applicable to the Mekong River Delta, but only in a limited way to the other regions, since the markets in the Mekong River Delta and in other regions differ substantially due to differences in their degrees of commercialization and their linkages to export markets. Farmers in the Mekong River Delta produce rice in double or triple cropping systems. Not every field in the Mekong River Delta is suitable for triple cropping systems, because of the costly requirement for region-wide bank construction for triple cropping. In the

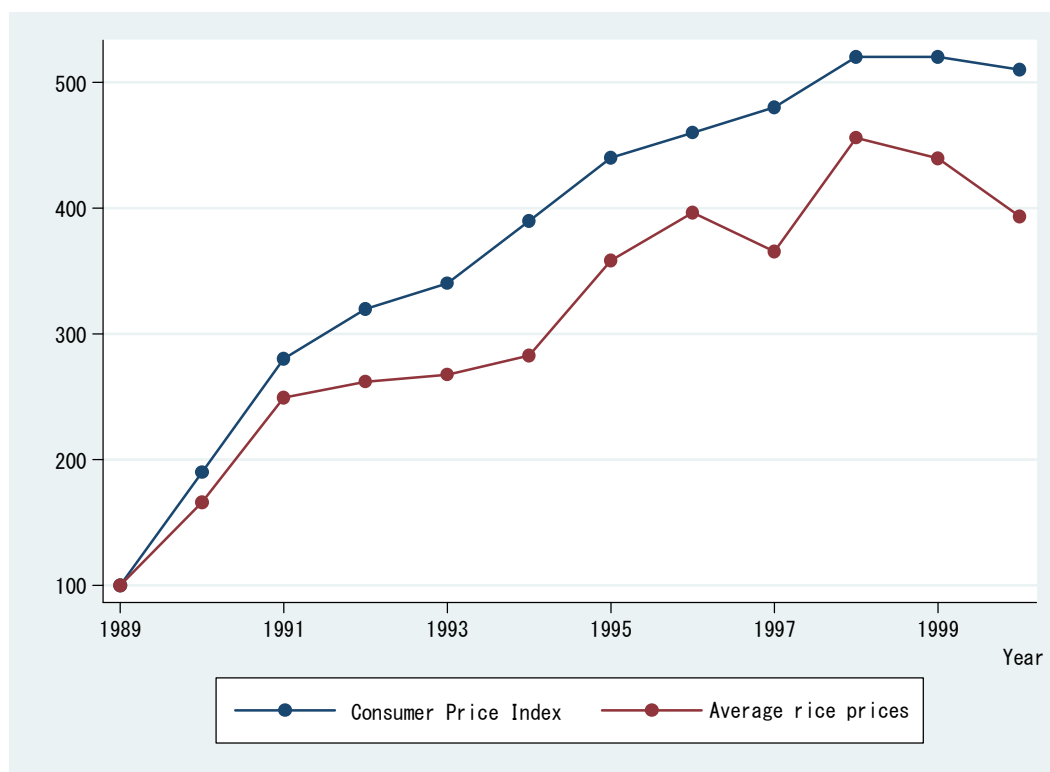
⁸ However, some government-to-government deals were exception. Even during the implementation of export restrictions these exports were undertaken under the state control.

case of triple cropping, winter-spring, spring-summer, and summer-autumn rice is harvested. In general, farmers specialize in farm management and depend on hired labor for the task of seeding, fertilizer application, and harvesting. This is in contrast to the practice in the north part of Vietnam, where family-labor intensive farming prevails. Recently, the wage cost of hiring agricultural labor has risen in the Mekong River Delta due to competing labor demand from other sectors.

The paddy is collected from each agricultural household. The collectors are typically the small-scaled, private, and local residents who use their small boats to visit farmers' rice fields near the canal bank. They resell collected paddy to rice millers. There are several different processes in the rice-milling industry. Some rice millers only engage in the initial process, in which the hard outer shell is polished away. Some other rice millers specialize in the refining process, in which the outer layer is removed, leaving the inner white kernel. The large-scaled rice millers are able to undertake both processes. Once the complicated rice-milling process is finished, rice is either delivered to export companies or to domestic wholesalers, who distribute rice to retailers for regional consumption. When export companies ask their agencies to procure and temporarily store rice for exports, it is common to make advance payment of 90 percent of the required fee. It is important to notice that, except for the large rice-milling factories run by SOEs, the domestic markets are organized completely by private traders. This is one striking achievement of the liberalization in domestic rice markets.

There exist several problems, however, in the domestic markets. First, the multi-layered and complicated distribution channels cause inefficiency and push the distribution cost up. A recent study revealed that the ratio of the distribution margin to the consumer retail price was roughly 50 percent (Luu Duc Hai 2003). This implies that farmers' gate prices are just a half of retail prices. Second, related to the first point, due to the small capacity of operation and storage, domestic distributors cannot exploit the benefits from economies of scale and risk management. This is especially true for upstream distributors. The reason for the small capacity is considered to stem from the poor development of credit markets, which constrains lucrative investments. The small capacity of storage also applies to many export companies. Consistent with the small storage capacity, export companies usually close the contract with foreign buyers without enough rice on hand at the agreement time. As the delivery date nears, they start to collect rice for exports on the spot market. However, these transactions may increase their vulnerability to the risk of sudden price moves after contracting. Third, it is sometimes difficult to carry out the appropriate quality management in the less organized distribution network in domestic markets. It is difficult to avoid the unintentional mix of different rice varieties with different moisture contents.

It is worth discussing the linkage between domestic rice markets and export markets, since the purpose of export restrictions in Vietnam is to mitigate the adverse effects of foreign demand pressure on domestic rice prices. According to a recent study (Lutz, Praagman, and Luu Duc Hai 2006), domestic rice prices are co-integrated to export prices in the long run. Therefore, domestic rice markets are not completely isolated from global rice markets. However, they also reveal that export prices are not a single dominant factor that influences the formation of domestic rice prices. This indicates that the effects of global rice markets on domestic rice prices are relatively weak and partially offset by the rice-export policy. Figure 3-7 shows the relative changes in the index of average domestic rice prices and the consumer price index in Vietnam. Both price indices are expressed on the reference base year 1989 as



Source : Data Extracted from Table 6.9 in Luu Thanh Duc Hai (2003).

Figure 3-7 Average Domestic Rice Prices and Consumer Price Index

100. It is apparent that domestic rice prices have not increased rapidly compared to the consumer price index, irrespective of Vietnam's entry into global rice markets since 1989. Although any conclusive result must require further analysis, it can be conjectured that export restrictions in Vietnam have been successful in stabilizing domestic rice prices at reasonable levels for domestic consumers.

Export Destinations and Export Companies

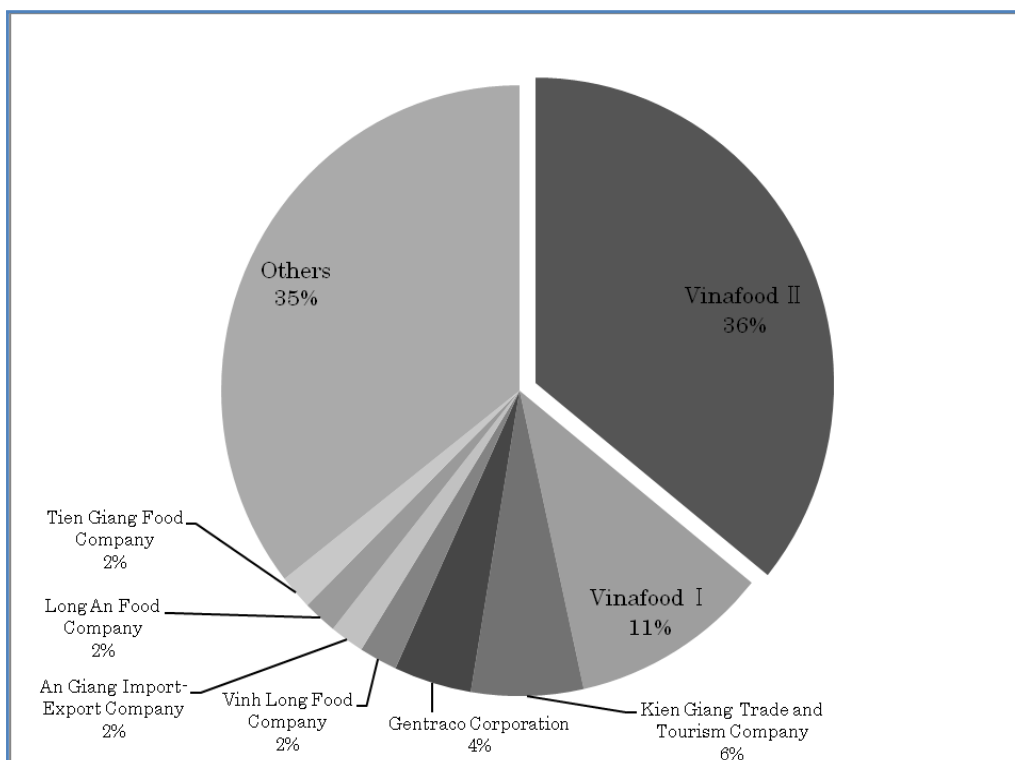
I briefly sketch export companies and export destinations here. In the early 1990s, the primary destinations for rice exports consisted of African countries. This might reflect the dominance of low quality, 25 percent broken rice in exports from Vietnam in those initial periods. However, the quality of rice has steadily improved thereafter, and export destinations have expanded accordingly. Table 3-3 shows the top 10 destinations for rice exports in the last three years. Southeast Asian countries have become major buyers of Vietnamese rice today. In particular, The Philippines stands out for its huge annual imports, above 150 million tons for several years. Indonesia and Malaysia, while import quantities are volatile, are also important trade partners. Other than Southeast Asian countries, exports to Cuba have grown to a considerable extent, owing to the close political relationship with Vietnam.

Figure 3-8 shows the composition of rice export companies that have a relatively large share as of 2008. As mentioned before, Vinafood 1 and Vinafood 2 are the state-owned enterprises on a national level. Other companies shown in the figure are also SOEs, but on a provincial level. The export quantity of Vinafood 2 reaches 36 percent of total exports, which is followed by 11 percent for Vinafood 1. Two companies are involved with nearly half of the rice exports in Vietnam. The prominent roles of these two national SOEs can be explained from the importance of Government-to-Government deals (G-to-G deals) in Vietnam's rice trade. When the trading counterpart in the importing country is a government corporation, the contract is usually signed between both governments. In such G-to-G deals, Vinafood 1 exports mainly to countries in the Americas and the Middle East, such as Cuba and Iraq, and Vinafood 2 exports to Southeast Asian countries, such as Indonesia and The Philippines. It is sometimes argued that there have been a lot of complaints about the lack of transparency in the allocation of G-to-G deals among national and provincial SOEs. Although Vinafood 1 and Vinafood 2 still dominate export markets, intensive marketing efforts and the accumulation of business knowledge have recently enabled provincial SOEs and private companies to increase commercial rice exports on their own.

Table 3-3 Rice Export Destinations

		Unit: ton					
		2006		2007		2008	
1	Philippines	1,503,933	Philippines	1,450,160	Philippines	1,689,724	
2	Malaysia	504,622	Indonesia	1,158,329	Cuba	511,100	
3	Cuba	453,100	Cuba	477,870	Malaysia	468,563	
4	Indonesia	332,664	Malaysia	379,513	Senegal	207,963	
5	Cote d'ivoir	212,550	Ghana	130,871	Iraq	177,518	
6	Angola	181,731	Cote d'ivoir	127,492	Cote d'ivoir	158,258	
7	Japan	159,129	Angola	115,470	East Timor	131,095	
8	Ghana	115,718	Singapore	77,459	Singapore	89,287	
9	Singapore	94,973	Japan	64,640	Ghana	83,418	
10	Iraq	90,900	Congo	54,546	Indonesia	76,407	

Source: AGROINFO (2009)



Source : AGROINFO (2009).

Figure 3-8 The Composition of Rice Export Companies

4. Export Restrictions during the Food Crisis

Export Restrictions in 2008

Prior to the sharp rise in global rice prices in mid-2008, Vietnam imposed the suspension of commercial rice exports in July 2007. This restriction was voluntarily decided by the VFA as a temporal response to the observation that the accumulated export contracts had already reached the policy target of the year 2007. The temporal restriction was confirmed by the government in September 2007, based on the estimated rice production in the rest of the year, and the export bans continued to January 2008. Notice that this restriction was completely under the standard procedure of rice-export policy in Vietnam. In particular, the rice exports contracted before July 2007 could be executed even after the suspension.

Vietnam experienced global price surges in 2008 for the first time since its re-entry into global rice markets as an exporter.⁹ Figure 3-9 shows domestic as well as export-rice prices from January 2007 to December 2008. Vietnam's export prices of 5 percent broken rice gradually increased from the end of 2007 and accelerated in early 2008. The export-rice price became 3.3 times higher at its peak in May 2008 than the level observed in January 2007. Domestic rice prices also increased considerably.¹⁰ Retail prices both in Hanoi and Can Tho,

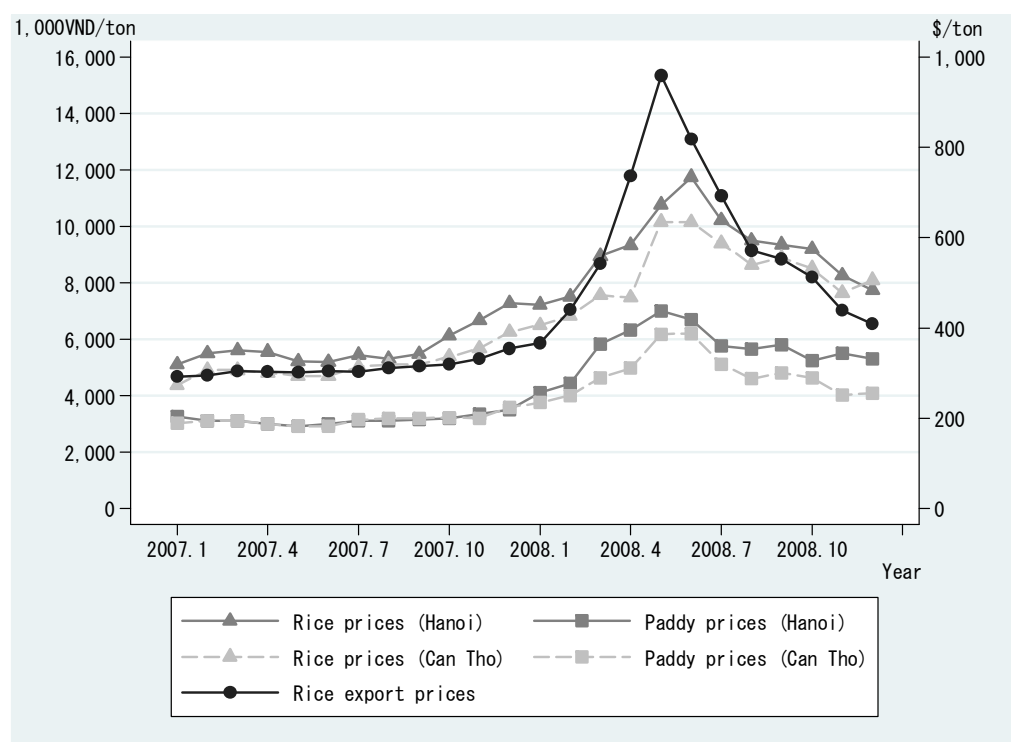
⁹ When rice prices were evaluated in real terms, the increase in global prices in 2008 was not much larger than that in the 1970s. However, the volume of international rice trade during the 1970s was much smaller than that of today. Therefore, the effects of global price hikes cannot be compared directly between different periods.

¹⁰ The official exchange rates were on average 16,119 VND per US dollar in 2007 and 16,548 VND per US

the latter of which is located in the Mekong River Delta, increased by 2.3 times during the same periods.¹¹ Retail prices in Hanoi started to rise earlier than in Can Tho, probably due to concerns about the adverse effects of cold weather in the north part of Vietnam. Wholesale prices similarly rose by 2.1 times in Hanoi and at a slightly higher rate of increase in Can Tho.

It is important to observe that, despite the implementation of export restrictions from March to June 2008, Vietnam could not maintain stable levels in domestic rice prices. There was panic buying by some consumers under the spread of rumor that rice would disappear from domestic markets. The speculating behavior among several rice traders further intensified the increase in domestic rice prices. Since the rice production in the Mekong River Delta was going quite well, the increase in domestic rice prices did not come from the shortage of domestic supply but from other than fundamental factors, such as irrational expectations.

Once new rice-export contracts were suspended, rice purchases from farmers in the Mekong River Delta were reduced. Whereas rice was short in supply in the international market, it was abundant in the Mekong River Delta during the crisis. Moreover, Vietnam could not easily find immediate foreign buyers after the lifting of export restrictions in July 2008, because at that time the panic buying had passed, and there were few accumulated rice-export contracts. Therefore, the government tried to enhance rice exports through instructions to the VFA, and also by providing trade credit with low interest. The sudden turnaround of policy at last stimulated rice exports in late 2008 and achieved increased quantity of rice exports above the level in 2007.



Source: AGROINFO (2009)

Figure 3-9 Export Prices, Domestic Rice and Paddy Prices

dollar in 2008, respectively. Therefore, export prices and domestic prices are roughly comparable in Figure 9.

¹¹ Because the consumer price index also increased in those periods, the growth rates of domestic rice prices in real terms, again, were not higher than the growth rate in nominal terms.

Problems of Export Restrictions in Vietnam

What are the lessons for Vietnam from the experiences of the global food crisis? I will point out two problems of rice-export policy related to the recent experiences.

First, as already mentioned, the suspension of new rice-export contracts cannot necessarily keep domestic rice prices at a low level when facing such a stark rise in global rice prices, unless the government's commitment to preserve sufficient rice supply to domestic markets is properly understood by consumers. Although this is not a problem stemming from the fault of export restrictions per se, additional domestic policies such as the prohibition of speculation and providing precise information should be included in the policy package. In this regard, the enhanced stockpile policy may be useful for augmenting the government's commitment for stable domestic prices as well.

Second, the suspension of new rice-export contracts inhibits the smooth purchase of rice from farmers, and thus negatively affects them, unless sufficient rice-export contracts have been agreed upon with foreign buyers before then. The difference between export restrictions in the usual case and those in the year 2008 lies exactly in this respect. In the usual case, even after the halt of new exports, accumulated rice-export contracts guarantee the rice purchase from farmers on schedule. However, export restrictions during the crisis in 2008 were implemented mainly due to the preventive purpose of avoiding the transmission of high global rice prices into the domestic markets. Without sufficient rice-export contracts, export restrictions disrupt the usual purchase of rice from peasant farmers.

Conclusion

Vietnam achieved the rapid growth of rice production over the last three decades following several agricultural reforms. Along with the course of the development of the rice economy, the Government of Vietnam has intensively relied on the quantity control over total rice exports for preserving the balance between domestic and international supplies of rice. Because there is no policy intervention associated with the domestic markets, such a political control is indeed virtually the exclusive intervention tool the government has maintained in order to pursue the goal of national food security. Importantly, the rice-export policy did not inhibit the rapid growth of rice production. The reason for this is that any expansion of rice production beyond domestic consumption levels is certainly reflected in the future increase in the annual rice-export target, and therefore farmers' incentives are not undermined in the long run.

In general, the export policy has worked very well under the stable condition of global rice markets, such as those of the 1980s and 1990s. However, Vietnam's rice-export policy is not so effective in coping with large exogenous shocks in global rice markets, as was exposed during the recent experiences. In order to manage external shocks, another policy package will be needed, such as increased storage capacity both at national and export company levels.

It is implausible that Vietnam completely abandon the control over total rice exports in the near future. As far as the welfare of poor consumers is seriously harmed by spikes in rice prices, the government will maintain the option for intervening in rice exports. As the economy develops, however, the need for such interventions is lessened. Hence, it depends on the future economic development as a whole, aside from the development of the rice sector,

whether or not the political control over rice exports shall become moderate. Vietnam is surely expected to move in the direction of becoming a stable rice exporter and of contributing to the food security of the rest of the world.

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