

## Asian public policies to stabilise the rice market

Since the middle of 2010 food commodity prices have undergone another inflationary episode. However, the effective stability of the international rice market makes it an interesting case to study. Indeed, whereas the fundamental elements for rice production and consumption seem to be relatively similar to those of the previous soaring food prices episode of 2007/2008, the rice market remains untroubled by this new inflation in global agricultural commodity prices. After having presented the characteristics of the rice market, this analysis reviews the key stages of the 2008 soaring rice prices episode and introduces the public policies set up by Asian countries so as to decrease the risks of rice prices hiking up again.

**D**uring the soaring food prices episode of 2007/2008 international rice prices only belatedly followed the inflationary trend of other agricultural commodity prices. If the price peak in the beginning of 2008 was impressive, prices fell back down just as abruptly to finally stabilise. Yet, there was no fundamental problem in the rice market: no weather accident in a big producing country (bar the cyclone Sidr in Bangladesh) and stocks were relatively high (Figure 1) on what is a relatively narrow market with little secondary financial activity.

Whereas prices of cereals, pulses and oil seeds are rising once again since 2010, the international rice market seems relatively spared by this new episode of soaring food prices. When looking only at market fundamentals, this stability is surprising as the stock-over-consumption ratio for rice (forecast at 22% in 2010/2011, cf. Figure 1, and improving since 2006/2007) is noticeably lower than that for wheat (28% for 2010/2011), the prices of which keep climbing. How have public policies in Asian countries affected the local, regional and international rice markets during the 2008 food price crisis? After brushing a quick picture of the global rice market, this analysis investigates the strategies of public

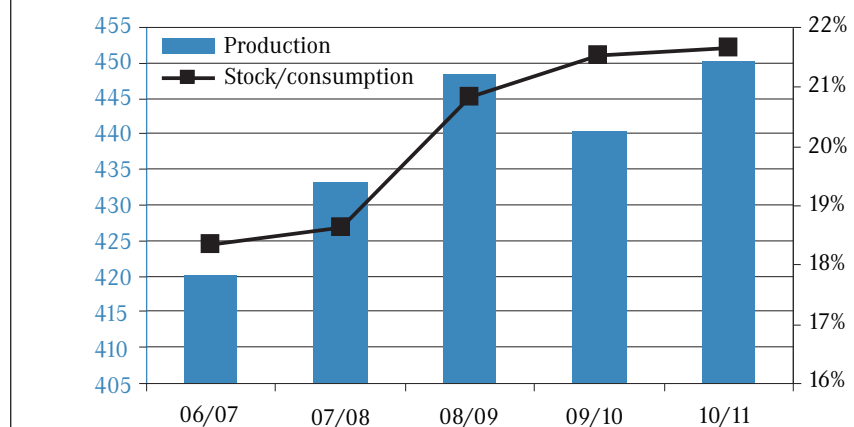
and private actors in the big Asian rice producing and importing countries so as to understand better the impact of their interventions during the 2008 rice crisis. It also presents the programmes set up by Asian countries after the 2008 crisis to stabilise rice markets. This analysis helps to explain the current relative stability of global rice prices.

### 1 - The international rice market

Six factors contribute to distinguish rice from other agricultural commodities and to confer a singular nature to its global market.

*Rice remains a politically important food staple* in the Asian countries where it is produced, as well as in a growing number of African countries. The average consumption of white rice in the Asian food consumption model is above 80 kilogrammes per capita per year<sup>1</sup>. In Asia, public

Figure 1 - Evolution of world rice production and stock/consumption ratio (million tonnes of white rice equivalent)



Source: IGC, 2011 forecast dating 20/04/11

1. <http://www.unctad.org/infocomm/anglais/rice/market.htm#conso>

policies to regulate the domestic rice market are common in order to protect the purchasing power of consumers while at the same time trying to ensure an adequate income to farmers, the majority of which are small household producers. Some of these policies date from the 1950s. For example, the Government of India fixes prices on the domestic rice market in the purchasing zones of the Food Corporation of India (FCI) so as to build up public food stocks; Japanese agricultural policies have developed instruments to control rice supply with a view to maintaining rice prices at a remunerative level for local producers; China imposes a floor price on its domestic market while also limiting its exports thanks to strict management of export licences, so as to stock up to 50% of national consumption.

**The big rice producing countries also consume the majority of their output.** A large share of the rice produced in the big producing countries is also eaten there, with the exception of the United States and Pakistan, two countries which export an important share of their output (Figure 2). Thus, the United States only produce 2% of the global rice output but export each year between 45% and 60% of their production of paddy (coarse rice grain with its envelopes), thus reaching 12% of total world exports<sup>2</sup>.

**The international rice market is “narrow”.** The total tonnage of rice that is put onto the market is very small compared with global output. Indeed, FSA/USDA estimated in 2007 that the global rice market accounted for 25 million tonnes, or only 7% of total production<sup>3</sup>. Three countries are regular and sizeable exporters: India, Viet Nam and Thailand produce 60% of world rice exports. The big rice importers are the European Union and the oil-rich

countries of the Persian Gulf. On the other hand, developing countries identified by the World Trade Organisation as net food importers only imported 30% of all the rice traded on the global market between 2004 and 2008. In contrast to the big rice producing countries, these 67 developing countries are also big buyers of wheat, thus explaining the link that can be observed between the two international markets. Indeed, wheat can be replaced by rice in human food consumption so wheat prices can impact on rice prices, though the reverse is not necessarily true<sup>4</sup>.

**The actors of the global rice market: a few sovereign countries, many small traders.** The key role of governments in the rice market has already been touched upon. However, the majority of rice is distributed by private traders of relatively modest size. In the large rice producing and consuming countries, rice is also processed, stored and distributed by a multitude of trading stakeholders. Once milled and polished, white rice has the particularity of being storable relatively easily by producers, traders or even consumers. Therefore, rice stocks are scattered along the whole marketing chain, thus avoiding bottlenecks.

**A plurality of qualities for rice.** Raw paddy is only traded by the United States. The international rice market deals with milled and polished white rice, the quality of which is characterised by its percentage of broken rice. Yet, at a given broken rice percentage, the specific variety and the geographical origin of the rice both have a raising or lowering effect on price. Demand for rice is also geographically fragmented: Africa and South Asia prefer parboiled rice; even the different regions of India do not eat the same quality of rice. All these different quality standards make it rather difficult to envisage one international rice

market, let alone to base this market on standardised quality requirements<sup>5</sup>. Rice is still very often exchanged by mutual agreement between traders or governments after having effectively seen a sample of the goods.

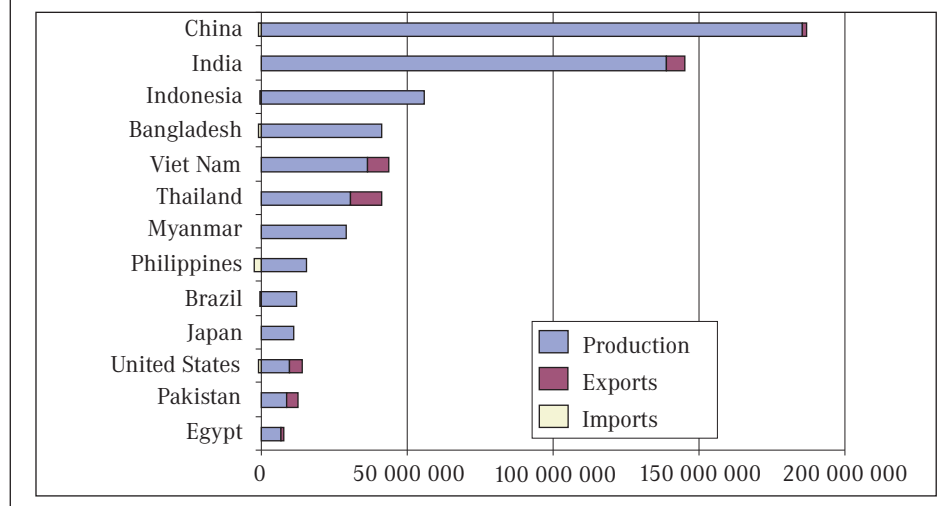
**The rice derivatives market is still small.** There are currently only three markets trading derivatives in rice: Zhengzhou in China, Chicago and Bangkok. However, the volumes being transacted are negligible compared with the level of financial activity observed in other agricultural commodity markets. In 2010 activity on the world’s biggest rice derivatives market in Zhengzhou only represented four times China’s physical output of rice<sup>6</sup>. Strong regulation of the physical market by public policies mentioned above effectively limits the likelihood of making profits from a purely financial activity on the market.

## 2 - Government interventions during the 2008 rice crisis

The analysis edited by Dawe (2010) of the 2008 rice crises can be read as a reference to understand the interactions between policy interventions, private stakeholder actions and market evolution. Global wheat and flour prices having risen since June 2007, India and Viet Nam feared a contamination of their rice markets through the possible substitution by consumers of rice and wheat: they announced a freeze in the use of public stocks and an export ban on rice. At the same time, China announced it was increasing taxes on exports. The Filipino Government contributed to sow panic in international markets by declaring its intention of buying rice from anybody and at any price so as to offset possible shortages. To top it all, the Government of Thailand also contributed to the inflationary bubble by announcing the possibility of blocking its exports, although not implementing it in the end.

These measures meant to keep rice within domestic markets so as to lower its price, protect consumers from inflation and limit the risk of urban riots. Very often they did not curtail the rise in domestic food prices because official declarations contributed to increase the anxiety of private actors

Figure 2 - Rice production and trade of the big rice producing countries (tonnes of paddy or equivalent, annual average 2004-2008)



Source: CEP calculations on FAO data (USDA milling ratio: 0.666)

2. Dawe D., (ed), 2010, *The rice crisis. Markets, policies and food security*. Earthscan, London, FAO, Rome.

3. In comparison, 19% of the world’s wheat and 12% of global maize production had been put onto the world market in 2007 (source: FSA/USDA).

4. Headey D.D., 2010, *Rethinking the global food crisis. The rôle of trade shocks*. IFPRI Discussion Paper 00958, March 2010, IFPRI, Washington D.C.

5. Shepherd A.W., 2011, “The Asian rice market - addressing constraints to rice industry development”, présentation donnée à l’*Asian Rice 2011 - Modernizing the Asian rice industry*, 16-17 February 2011, AFMA, Bangkok.

6. Sources: CEP calculations on DGTrésor and IGC data.

on the markets of the region. With panic rising, all the stakeholders of the rice chain, from the farmer to the consumer, tried to buy rice. Thus, the spike in international rice prices of 2008 (Figure 3).

The bubble quickly burst, starting 13 May 2008 when several official sources and some market analyses mentioned the existence of substantial exportable stocks in Thailand and China, and that Japan could export some of its public stocks so as to bring some flow into the market<sup>7</sup>. In parallel, most of the other countries concerned got a bountiful harvest in 2008: total rice output in Asia increased by 12.7 million tonnes, or + 3% from 2006/2007 levels.

The experts conclude that the determining factors in scaring market stakeholders and engendering the 2008 price spike were the awkwardly timed declarations and the uncoordinated and non-transparent actions of the region's governments. Economic theory can explain this non-cooperative behaviour of the different countries involved through the "prisoner's dilemma". Between cooperating with other countries to try to limit soaring prices on the international market on the one hand, and egoistically stabilising prices on the domestic market while adding stress to the neighbouring countries' markets on the other, all countries chose the latter, following India's example of export bans with their own market interventions (Figure 3).

Furthermore, these unconcerted actions to protect domestic markets did not always manage to contain food inflation in the different countries because they also contributed to spread panic among all the numerous national market actors.

### 3 - Post-crisis strengthening of market risk prevention tools

Once the crisis was over Asian public policies turned towards longer-term actions<sup>8</sup>.

**Greater transparency on supply and stocks.** So as to have a better knowledge of stock availability, the countries of the region decided to strengthen the *information systems* and the national public reserves shared by several countries. The ASEAN food security information system<sup>9</sup> allows governments to stay informed on the region's food availability; it should nonetheless take better account of public and private stocks. Countries have pledged to make the *East Asia Emergency Rice Reserve* more operational<sup>10</sup>. Starting in 1979 the countries of the Association of South-east Asian Nations (ASEAN) created an emergency rice reserve. It was meant to build physical stocks of rice that would be used by member states in case of a shortage in national rice production or their not being able to buy rice on the international market. The mechanism was never put into action and the stocks constituted were anyway too small to respond to a real emergency situation. From 2001 the countries of ASEAN + 3 (China, South Korea and Japan) launched a consultation and collaboration process in order to set up a regional emergency rice reserve. A pilot prototype for the East Asia Emergency Rice Reserve was born at the end of 2003 with the political backing of the thirteen countries concerned. This regional reserve is nonetheless still constrained by the failure to agree on the sharing of very expensive paddy storage costs. Negotiations are meant to start again this summer in order to finalise the reserve's storage and utilisation modalities.

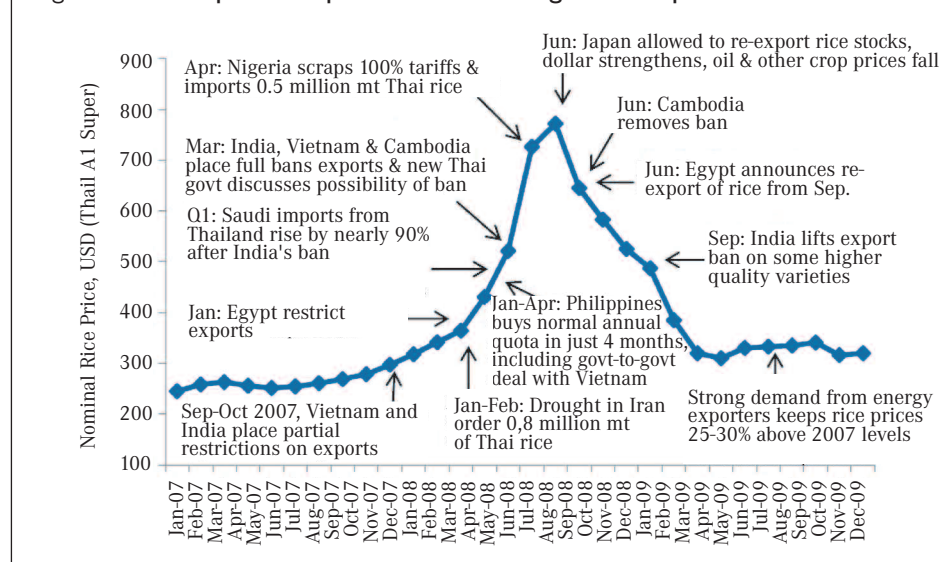
At the national scale, storage policies have likewise been strengthened. In India, the FCI mentioned above is in charge of the storage and distribution of food, including rice. It purchases paddy on the national markets and white rice from grain millers at prices fixed by the federal government<sup>11</sup> in order to set up stocks which can then be put back into the markets. These stocks allow a degree of market stabilisation because traders know that public buffer stocks exist.

*Private stocks* distributed across the whole marketing chain also play the same stabilising role as public stocks, private operators hoping nonetheless to make a profit from this service. They also allow governments to outsource the management of storage costs. Public-private partnership contracts can impose some guidelines (minimum quantities, range between purchase and resale prices, etc.) to the private businesses so as to maintain a certain degree of food security. Thus, Singapore imposes upon its licenced importers the setup of rice stocks double to the quantity declared as monthly imports; the Government also has the right of first buyer on these stocks in case of a food crisis<sup>12</sup>. Between 2006 and 2010 the Chinese Government contributed a total amount of US\$10 billion to cofinance more than 10% of the country's investments into food storage facilities. This policy is the principal factor to explain the stability of the Chinese rice market during the crisis: the country already had suitable stocks.

In order to reduce harvest and post-harvest losses, the International Rice Research Institute (IRRI) has set up a programme of paddy *post-harvest technological innovation* with several institutional partners in the region.

**Safety nets for consumers.** The experience of Asian countries shows that it remains difficult to set up food aid policies targeting consumers which can effectively protect them against soaring prices. The principal problems arising include the

Figure 3 - The impact of export restrictions on global rice prices 2007-2009



Source: Headey, 2010.

7. Uruguay Round trade negotiations have imposed a zero-tariff import contingent on Japan equivalent to 767 000 tonnes of white rice per year as compensation to the high subsidies given to its national rice producers. This imported rice is stored and mainly used by the Japanese food processing industry. The immediate release of Japanese stocks to respond to the global crisis was held up because of the steadfast trade negotiation position of the United States that Japan not be allowed to re-export its import contingent as food aid. Dawe 2010, *op. cit.*

8. [http://www.afmaasia.org/asianrice/Summary\\_Asia\\_Rice.pdf](http://www.afmaasia.org/asianrice/Summary_Asia_Rice.pdf) For an historic review of the various policy tools to stabilise agricultural markets and their theoretical foundations, read Gérard F. *et al*, 2010, *Managing food price volatility for food security and development*, GREMA, Paris.

9. <http://afsis.oae.go.th/>

10. <http://www.apterr.org/index.php/history>

11. This is the "minimum support price", which has increased by 70% over the past five years.

12. <http://www.iesingapore.gov.sg/rice>.

identification of the target population and how to limit certain non-targeted populations from benefiting wrongfully from this food aid. India's FCI has a mandate to redistribute, in consultation with the States, a share of its public food stocks to the poorest population groups at subsidised prices through government-managed shops. However, the system has been described as very costly and poorly efficient, with big losses linked to corruption and a faulty targeting of beneficiary households<sup>13</sup>. *Food aid based on subsidised coupons*, currently undergoing a pilot trial, should allow the poorest consumers to purchase food at market prices while also limiting losses. But it is another Indian policy that has best contributed to attain the objective of food security by offering a stable income source for the most vulnerable population: the Mahatma Gandhi National Rural Employment Guarantee Act guarantees 100 days of employment at minimum wage for adult members of the poorest rural households.

As an important share of net rice consumers are farmers, many Asian countries have strengthened their *agricultural development* activities so as to improve farm yields: input subsidies, guaranteed purchase prices, support to mechanisation, investments into rural and market infrastructures, and credit<sup>14</sup>. In response to the 2008 food crisis, the Philippines have asked international donors to finance an investment programme worth US\$44.9 million to improve seeds and irrigation. Before 2007 the Indonesian RASKIN programme of rice distribution to the poor set up by the public organisation Bulog, used to source rice indifferently from the national or global markets, whichever had the most competitive price. Since 2008 Bulog has changed its strategy to purchase domestic rice as a priority. This allows Bulog to benefit from competitive national prices while also supporting national rice production. The producer price is calculated according to rice production costs so as to guarantee a minimal margin to producers. This policy has decreased the variations in the Indonesian domestic rice price. In parallel, it has contributed to stabilise the global market by withdrawing large orders, which has been helpful to small net importing countries.

Whatever the target population, safety net policies work well when they have already been implemented before a food crisis arises so as to prevent its negative impacts.

**Developing contracts to secure supplies.** Contracts between farmers, traders and processors help to ensure better quality and more regular supplies for the downstream actors of the marketing chain, thus having a positive impact on the stability of domestic markets. Myanmar has

encouraged contract farming between producers and "leading companies" which are in charge of implementing agricultural development projects that benefit a wide and inclusive range of stakeholders on their territory. A similar partnership project between processors and groups of smallholder rice producers has been launched in Laos. However, contract farming works best for niche products where quality can be characterised in advance. FAO's experience<sup>15</sup> shows that contracts are more difficult to enforce on undifferentiated products, which covers rice, the quality criteria of which are not stabilised.

On an international scale, the Government of the Philippines has signed an *intergovernmental contract for long-term supplies at negotiated prices* at the end of 2009 to face the instability of the international market. This contract with Viet Nam fixed the price of 15 - 25% broken white rice at US\$600 - 660 per tonne for all of 2010<sup>16</sup>. In 2011 however, the Philippines changed its strategy, experimenting another type of supply contract through private importers so as to get the most competitive prices from rice exporting countries.

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The analysis of the 2008 episode of soaring rice prices shows that it was not the evolution of the market fundamentals of an agricultural commodity (climate risk, harvest forecasts, stocks available and demand) which led to the panicky behaviour observed but the fact that market stakeholders were not aware of the correct information on fundamental elements of market supply coupled with the uncoordinated decisions of national governments. The international rice market saw its prices soar following public posturing and declarations from the large state-owned market actors who were fearing market contamination from other agricultural commodities. Ironically, their actions precisely contributed to the destabilisation of this very narrow and atomised market where governments are strongly involved. Given the stability of market fundamentals, the

current relative calm in the international rice market could be explained by governments not taking unilateral actions to restrict access to their domestic market, the deepening of cooperation between the main countries concerned and by the strengthening of national prevention policies.

The lessons from the crisis seem to have been learned by Asian countries: at the 30<sup>th</sup> FAO regional conference in 2010 all countries called upon each other to prioritise investments into production while also developing better risk prevention tools for the poorest consumers<sup>17</sup>. The countries in the region also called for the strengthening of grains reserve systems and for more information transparency on markets and available stocks, in partnership with the private sector. The implementation of these collective decisions should help prevent the panic of 2008 from happening again in future.

To conclude, in addition to the lessons learned collectively from past mistakes, the construction of an effective policy toolbox for agricultural market stabilisation will only work through a process of evaluation of the impacts these policies have on the food expenditures of the poorest households, on the income of farmers and on macro-economic stability.

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