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Distributional impacts of the 2008 global food price spike in Vietnam

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Abstract: Agriculture and food cultivation production remains a key sector in the Vietnamese economy in terms of productive activities, income generation, and national export earnings. Higher world market prices should therefore in principle have a beneficial impact on rural farmers. This is based however on the assumption that world prices are transmitted and that farmers have the capacity to respond. In addition, many poorer farm households may be net consumers. Using data from the Vietnam Access to Resources Household Survey (VARHS) and the Vietnam Household Living Standard Survey (VHLSS) combined with available macro-data, this paper investigates how global price changes appear to have impacted on rural welfare in Vietnam during 2006-12. In this paper we study the case of rice in Vietnam, in the context of the 2008 food price spike. We analyse the responses of domestic producer and consumer prices, and discuss the policy actions taken by the government to help reduce the impact on consumers, as well as to continue to encourage production. We also look at the distributional impact of the resulting domestic price changes, using data from a specialist rural household survey to look at production response. Vietnam was effective in taking policy actions to limit the extent of transmission of the world price changes; and more poorer households benefitted from the price increase than lost.

Keywords: food prices, rice, Vietnam, transmission
JEL classification: O1, O5, Q18

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Note: Tables are at the end of the paper.

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1 Introduction

The point of departure of the present paper is that the global economy is passing through a period of profound change (Addison et al. 2011). The global economy is still recovering from the global financial crisis which originated in the North. The South has been affected in a variety of ways including reduced export demand and reduced private financial flows. In the background, climate change remains unchecked, potentially threatening to undermine development progress achieved over the past decades. In addition to this, the world prices of food and fuel have increased substantially, particularly in 2008 but sustained since then. Assuming the restoration of global economic growth, this is likely to lead to a continuation of the increase in food and energy prices, which are now structurally linked in new ways.

This has led to suggestions that malnutrition, hunger, and poverty have increased as a result. But did this actually happen? In this paper we study how consumers and producers fared in one specific country case, Vietnam, with a focus on a critically important crop, namely rice. As a key part of this, we analyse how the Vietnamese government responded to the crisis. This underlines the importance of understanding how increased food prices are transmitted to consumers and producers, and how they respond.

Vietnam is a populous Southeast Asian economy with a particular economic and political history in the middle of a dynamic Asian development experience. Following the *Doi Moi* policy reforms in 1986, gross domestic product (GDP) grew steadily at 7.6 per cent a year for around five years. Growth accelerated to 9.8 per cent in the early 1990s until 1998, when it levelled off to seven per cent following the Asian crisis. Shortly after this higher growth was re-established, but then dropped again following the world financial crisis in 2008. Despite these fluctuations, the annual average growth rate has been at seven per cent or above for nearly 25 years. When a country grows at seven per cent a year, income is doubled in about ten years; over a period of 25 years people become five times richer. So the average Vietnamese person who was earning US$1.25 in 1990 is now earning around US$6, assuming that growth was equally distributed.

More than two-thirds of the Vietnamese population was born after 1975 and the younger generation is living in a radically different Vietnam from the country that was reunited in 1975. One of the most remarkable changes is a substantial decrease in absolute poverty. Vietnam has seen the sharpest drop of the share of the population living in absolute poverty in the world. Some observers have erroneously concluded that poverty has increased more recently. They overlook that the latest poverty assessment suggesting that poverty is around 20 per cent of the population is based on a poverty line of US$2.25 a year. This is almost double the poverty line used in previous poverty assessments. Without doubt Vietnam has reduced poverty at rates that even surpass those of China.

Debate about the drivers behind Vietnam's economic success and its sustainability continues. There is widespread agreement that high savings and investment has played a key role. In contrast, the role of technical progress has tended to be discounted. However, Abbott et al. (2012) estimate that a significant share of the difference between GDP and employment growth is due to technical change, including technical progress in agriculture.

These factors have also helped underpin rapid growth in the agricultural sector. The key crop for Vietnam is rice, which is grown by smallholders throughout Vietnam, and it plays a central role in ensuring national food security. This is an overriding policy concern, following the traumatic experience of the early 1980s, where major food shortages were experienced. In fact, it is difficult

to overstate the economic and political importance of rice to the Vietnamese economy and the development experience. Since the 1980s, substantial progress though has been achieved, with Vietnam moving from being a net importer of rice to a major world exporter in 1989. Reflecting the critical food security concerns, government restricts farmers to grow rice on specific land areas, and a major share of land continues to be allocated to growing rice. Increasingly this is also motivated by export targets established within the national planning framework (Markussen et al. 2011).

In this paper we focus on how global changes in the rice price in 2008 impacted on consumers and producers in Vietnam, and try to assess distributional impact. As an integral part of this, we analyse and assess government policies related to rice production and prices. This provides a critical lens for understanding agricultural policies in Vietnam, and other low and lower-middle income countries for which agriculture is a critical sector (Hai and Talbot 2013). We are in this analysis fortunate to be able to draw not only on generally available macroeconomic data but also on a unique panel data set in rural Vietnam covering the period 2006-12, the Vietnam Access to Resources Household Survey (VARHS), as well as the national Vietnam Household Living Standards Survey (VHLSS).

This paper is structured in the following way. In the next section we summarize the extensive literature looking at the welfare impact of food price changes, in particular the extensive literature which followed the 2008 crisis. In section 3 we discuss the data used in this paper and section 4 provides further information on the policy-making framework, as well as contextual background on the nature of livelihoods and production in rural Vietnam. We identify a number of the factors which are important influences on rice production and consumption. Section 5 then presents empirical evidence on the nature and impact of rice price changes, while section 6 provides interpretation and concludes.

2 Literature review

The question of the impact of a price change on producers and consumers is a core and widely studied question in economics; the price changes may be a consequence of many factors such as tax changes or, as here, changes in the world price of a traded commodity. A wide body of consumer and producer theory, as well as a range of applied general equilibrium approaches, have been used to analyse this question. In a developing country context this has commonly been pursued in the context of an agricultural household model. A classic example is the study by Deaton (1989), looking at the welfare and other impacts of a change in the rice price in Thailand, which recognized the key distinction between net consumers (who lose from food price increases) and net producers (who gain). In a similar analysis in Bangladesh, Ravallion (1990) highlights the importance of also taking into account the labour position of the household. Many other empirical studies look at the impact of food price increases; for instance Barrett and Dorosh (1996) find that in Madagascar the beneficial effects of a rice price increase are highly concentrated among wealthier farmers. Jensen et al. (2010) demonstrate the intricacies of measuring price incentives in an economy-wide general equilibrium context.

The impact of changes in prices on consumers and producers though also depends on the extent to which they are transmitted to the poor (Winters et al. 2004). In the 1980s it was regularly argued that getting the prices right meant complete liberalization with a view to having full pass through and being fully aligned with world prices. The analytic basis for this position has since been questioned. It is first of all far from clear that governments should abstain from stabilizing prices to some extent. Second, given real world departures from the perfectly competitive model, such as transport and transactions costs, full pass through is unlikely to ever happen. Intervention

is often a second best policy measure in the context of exceptional price changes (Abbott 2011; Martin and Anderson 2011).

Viewed from a slightly different perspective, there were at the time of the 2008 price spike very widely expressed concerns about its likely poverty, malnutrition, and mortality impacts. While a blog by the Chief Economist for Africa of the World Bank suggested the possibility of 700,000 excess deaths, a study by Friedmann and Schady (2009) predicted much lower numbers of 30,000 to 50,000 (with a differential effect on girls). UNICEF, World Food Programme, and others issued warnings about the potentially severe impact of the food price increase and the international media followed suit.

There was also a succession of quick-response empirical studies carried out at this time. Many of these were published in a supplement issue of *Agricultural Economics* in late 2008. In this issue, a study by Ivanic and Martin (2008), based on surveys in ten countries, predicted a global rise of poverty of around three percentage points. This estimate was higher in urban areas than rural areas, though the impact was marginally lower (around 2.7 per cent) when estimated wage responses were taken into account.

The same journal issue included many country studies, which almost all recognized the net consumer/net producer distinction. For instance, in Thailand a general equilibrium analysis suggested that the negative effect on consumers dominated the positive impact on net suppliers (Warr 2008); in Mozambique the impact of the fuel price increase dominated any food price impact (Arndt et al. 2008); in Hunan province in China no adverse nutritional effect was found because of substitution to cheaper food sources (Jensen and Miller 2008); and in Uganda the impact of food price increases was limited because of the extent of dependence on consumption from own production (Benson et al. 2008).

While the World Bank study of Ivanic and Martin expressed concerns about large poverty impacts (and similar judgements were raised at the time on the World Bank website), the empirical studies show a diversity of experience, mostly identifying adverse effects. Some of this analysis though did not have adequately capture government response and general economy-wide equilibrium effects.

A general equilibrium study for Vietnam (Coxhead et al. 2008) showed limited transmission of the price increase, but also highlighted the importance of the labour market as a moderating influence. In a later study for Vietnam, Vu and Glewwe (2011), applying Deaton's (1989) approach, find a net positive welfare effect of the food price increase; the average decrease in welfare for those made worse off is more than offset by the average increase in welfare for those that gain. In addition, Abbott et al. (2012) show wide sectoral variation and imperfect price transmission from world prices to domestic markets from 1999-2008. Thurlow et al. (2011) develop a dynamic computable general equilibrium to decompose impacts of the global commodity and financial crisis. These results indicate that the 2008 commodity price increased employment and reduced poverty by favouring labour intensive exports, especially agriculture.

Government measures taken in a number of countries to reduce the transmission of the price spike to domestic markets included export restrictions, removal of import tariffs, releasing buffer stocks, introducing subsidies, fiscal policy, and expanding safety nets. Some countries pursued these policies more actively and more effectively than others. Elleby and Hansen (forthcoming) find that Vietnam was the only one of eight Asian rice producing countries that managed to effectively limit the extent to which world food price instability was transmitted to the domestic price.

This refers to the challenging question why some countries are able to define and implement these policies more effectively than others. A recent important contribution in this regard is the joint Gates/UNU-WIDER/Cornell University political analysis, *Food Price Policy in an Era of Market Instability,* spearheaded by Per Pinstrup Andersen. This included 14 country case studies[1], with conclusions drawn based on a synthesis of these.

3 Data

In this paper we rely on aggregate time series on rice prices available from a variety of international sources, but predominantly on two key sets of household surveys: the VHLSS national household survey, collected by the General Statistics Office of Vietnam (GSO), with the support of the World Bank, and a specialist in-depth survey of rural Vietnam, referred to as VARHS, which also provides the key source of contextual information for much of the discussion in the next section. From the VHLSS, we use data on consumption and production of rice as a basis to identify net consumers and net producers; we also use this to compute average purchase and sale prices at the household level.

The VARHS survey was conducted in the rural areas of 12 provinces, by the University of Copenhagen in conjunction with the Central Institute for Economic Management (CIEM), the Institute for Labour Science and Social Affairs (ILSSA), and Central for Agricultural Policy Consulting of the Institute for Policy and Strategy for Rural Development (CAP/IPSARD). The 12 provinces were selected to facilitate the use of the survey as an evaluation tool for Danish International Development Agency (Danida) supported development programmes in Vietnam. Seven of the 12 provinces are covered by the Danida business sector support programme (BSPS), and five are covered by the agricultural and rural development (ARD) programme. The provinces supported by the agricultural support programme are located in the North West and Central Highlands, so these relatively poor and sparsely populated regions are over-sampled. Our sample is statistically representative at the provincial though not at the national level.

VARHS was conducted as a panel survey in 2006, 2008, 2010, and 2012, with 2,080 households included in all four waves; and larger numbers of households are available for shorter periods. The survey collected detailed plot-level information on land transactions, property rights, mode and time of acquisition, and other plot characteristics. It also provides detailed information at the household level on agricultural inputs, outputs, and investment, in addition to general information about individuals and households (CIEM 2007, 2009, 2011, 2013).

4 Context

Levels of rice production and productivity in Vietnam were very low and declining in the early years of the newly unified country in 1975, especially in the north (Pingali and Xuan 1992). In this period rice was still cultivated on a collective basis, but in 1981 Vietnam moved to an individual contract system of production, requiring a fixed amount of rice to be sold to the state at a fixed price while allowing the farmer to sell any surplus, similar to the household responsibility system established in China in 1979. In Vietnam its introduction resulted in important increases in productivity over the following years (Pingali and Xuan 1992).

[1] Chapoto (2012); Ghoneim (2012); Kirsten (2012); Mueller and Mueller (2012); Admassie (2013); Babu (2013); Baltzer (2013); Bryan (2013); Chirwa and Chinsinga (2013); Ganguly and Gulati (2013); Hai and Talbot (2013); Huang et al. (2013); Nhate et al. (2013); Nzuma (2013); Olomola (2013); Raihan (2013); Rausser and de Gorter (2013); Resnick (2013); Swinnen et al. (2013); Watson II (2013).

Significant further reforms were introduced in a series of measures following from the initiation of *Doi Moi* reform process in 1986, with land reforms playing a major role. The reforms of 1987, implemented in 1988, provided households with increased tenure security in relation to use rights for land; this was confirmed in a further reform in 1993 which initiated the process of issuing farmers with land use certificates (or red books), giving them among other things the right to buy and sell land (though subject to land ceilings).

The 1988 reforms decentralized input supplies; and privatized output markets such that farmers were no longer required to supply the state, but could sell to private traders. In addition, the 1988 and 1993 reforms nominally gave farmers the ability to make decisions over their cultivation and the use of their land. Yet in implementing the land policies, the government was concerned about the impact on rice production and marketing, and so revisions were made in 1998 and 2001 that made it clear that any change of use within rice growing areas was only allowed within the existing physical planning framework of central and local government (Vasavakul 2006; Markussen et al. 2011). The implication of this is that farmers are obliged to grow rice on at least 35 per cent of total agricultural land, and these restrictions are particularly enforced in the Red River and Mekong Deltas, the main rice growing areas. These restrictions are made clear in the red books, which specify for which purposes land is to be used.

Markussen et al. (2011) summarize the situation as follows:

> 'Twenty four years after the introduction of the *Doi Moi* reform process ... households sell their production output to private buyers, trade land, and sell labour on the private market. At the same time the state … retains a hugely important role in economic life. The state intervenes actively in the land market, supplies many inputs in agricultural production, strongly dominates formal markets for financial services, and plays a key role in a large number of local organizational activities. More specifically, authorities intervene heavily in farmers' choice of crops, and while the land law gives households the right to sell, rent, exchange, mortgage, and bequeath their land, many farmers do not have the right to decide how to use their plots.'

The VARHS survey data they analyse show that half the plots in the survey face restrictions, even if 74 per cent have Land Use Certificate (LUC). It is also notable that in the 2008 data they use, still farmers do not have land use certificates for 26 per cent of their plots.
The 25 years since the implementation of the reforms in 1988 have seen many important changes in rural Vietnam, but the importance of rice still remains in 2013. In 1988, agriculture was the dominant activity, with rice being crucially important. Data for 1993 demonstrates that nearly two-thirds of income came from agriculture (Niimi et al. 2003). In 2000, nearly ten per cent of Vietnamese value added came from rice (Tarp et al. 2002).

It is certainly the case that livelihoods are now much more diversified in rural Vietnam, with large numbers of households engaged in non-farm activities; at the same time the large majority of households still farm and most of them grow rice.

Analysis of the VARHS survey data provides important insights in relation to land, rice cultivation, and marketing. As a direct result of the egalitarian land allocation process in the 1980s and 1990s, land fragmentation is widespread in Vietnam, especially in the northern plains area. The mean farm size is less than a hectare, and households on average have around five plots, more in the north. Often these are at some distance from the home. Most plots operated by households were allocated by the state, most households have never participated in the land sales

market, and the share of households participating in the rental market is small, even if the relative importance of markets is rising (Luu Duc Khai et al. 2013).

The data also confirm that most households cultivate rice, though only just over half of them sold rice in 2006. By 2008 and 2010 both the proportion of households selling and the share of their output sold had increased (Cazzuffi et al. 2011). In most areas household sell to traders, though some sell to individuals. Some households sell consistently, but many only sell from time to time; those with larger land areas or more irrigated land are more likely to sell; poorer households and those headed by ethnic minorities are less likely to sell.

The panel data collected by VARHS has been used to assess the dynamics of welfare in rural Vietnam (McKay and Tarp 2013). The results show significant progress on average in terms of each of the welfare measures they consider (food consumption, income, and assets). At the same time, they also show quite a lot of diversity with a significant minority of households becoming worse off over this period. Ethnic minorities show significantly less progress than the majority Kinh population, and there are also important geographic variations with some provinces showing very little progress. Households in which one or more younger person has left also progress significantly better than those without such migrants. The extent to which households are engaged in agriculture though is not significantly associated with welfare progress; households with a high reliance on agriculture and those with a low reliance on agriculture, both number among those who advanced over the period and those who fell back.

5 Empirical evidence on the rice price changes and their distributional impact

In this section, to analyse the impact of the rice price increase, we start by looking at aggregate price data to document the magnitude and timing of the shock, and then use the VHLSS data to identify net producers and consumers. We also use this data to study trends in consumer and producer prices at the regional and consumption quintile levels, and then use VARHS to do a detailed analysis of production response and sales.

5.1 Patterns of price changes

As a backdrop to the analysis, the evolution of the world rice price since 2000 is presented in Figure 1. This shows very clearly the very large price spike in 2008; but equally clearly the underlying increasing trend since at least 2000. The average US$ price of rice increased by a factor of 2.13 between 2006-08, and most of this increase happened between 2007-08 when the world price almost doubled. It fell by about a quarter from 2008-10, and then continued to increase at the underlying trend. The reasons for the 2008 food price spike have been widely discussed; the focus here is on the impact of these price variations in Vietnam, a country where almost everyone consumes rice and where around half of the national population and around 80 per cent of the rural population produce it.

As the exchange rate of the Vietnamese Dong (VND) against the US$ changed little over the 2006-08 period, this is more or less the impact on Vietnam as well. Figure 2 shows the evolution of the domestic retail and producer prices of rice over the same period. The producer price increased by a factor of 1.88 between 2006-08, less than the world price increase; but the retail price increased by a similar magnitude to the world price, by a factor of 2.09. In both cases the increases are more spread out in time than the world price increase. Overall, it would appear that consumers were confronted with the world price increases almost in full over this period, whereas the price producers received increased a bit less.

The VHLSS survey data can also be used to compute the evolution of the prices paid by consumers. The price for ordinary rice was VND4,990 per kilogramme in 2006, increasing by to VND8,580 in 2008 (an increase of 72.1 per cent), and VND10,840 in 2010 (increase of 26.3 per cent) per kilogramme of ordinary rice bought. These data are based on prices actually paid by individual consumers and computed so as to be nationally representative; the survey data suggest a smaller increase in consumer prices between 2006-08 than the aggregate price series, though a slightly larger one between 2008-10.

Both VHLSS and VARHS enable estimates to be made of the prices received by farmers selling rice. According to VHLSS, the average producer price was VND2,470 per kilogramme in 2006, VND4,050 in 2008 (an increase of 63.8 per cent), and VND4,930 in 2010 (21.8 per cent increase); according to VARHS the figures are VND2,600 in 2006, VND4,200 in 2008, VND5,530 in 2010, and VND 6,050 in 2012.

Although there are some small differences between VHLSS and VARHS in relation to the magnitude of increase in producer prices, the survey data suggests smaller magnitudes of increase in both consumer and producer prices than the aggregate price series do. This survey data probably gives a more accurate measure of the prices paid by consumers or received by farmers than the aggregate time series data. This said, the differences can also reflect quality adjustments on the part of consumers or monopsony power on the part of traders not passing on the full benefit of price increases to producers. It is clear that whichever source of data is chosen, there were substantial increases in both the retail and producer price of rice in Vietnam between 2006-08; but the more credible survey data suggests that both consumer and producer prices increased less than world prices.

The survey data can also be used to consider differences in prices paid or received between different categories of households. The retail price paid consistently increases with the consumption quintile, which might be considered as an indication of quality. There is not a consistent pattern of geographic variation, although rice does tend to be slightly higher in the Red River Delta region than elsewhere. Producer prices tend to be higher in each year in the northern half of the country than in the south, but here there is no consistent pattern of variation with consumption quintiles.

5.2 Producers, net producers, and consumers of rice

A sharp increase in the price of rice will have an adverse effect on net consumers of rice and a positive impact on net producers, other things being equal. The VHLSS surveys collect information on both consumption and production of rice both with a 12-month reference period, and are therefore quite a good basis to identify net consumers and net producers. Table 1 shows the number of households producing rice in the three VHLSS survey years, and among these the number who are net producers and net consumers, disaggregated by consumption quintile and geographic region.

According to VHLSS, 51 per cent of households in the entire country grew rice in 2006, falling slightly to 49 per cent in 2008 and 44 per cent in 2010; it is clear though that in all of these years a significant majority of rural households grow rice. In all years, the percentage of households growing rice is much higher in the northern regions compared to the southern, and is highest of all in the northeast and northwest. Closely related to this, the percentage of rice growers decreases significantly with the quintile; even in 2010 almost 64 per cent of those in the lowest quintile grow rice.

More than 90 per cent of these rice producers (more than 95 per cent in 2010) produce in excess of their consumption requirements. Small numbers of rice producing households are net consumers. The proportion of households that are net consumers increases to a small extent between 2006-08, when the rice price increased most, but even in 2008 only a small minority of rice producers are net consumers. In other words most producing households should in principle benefit if they sell and receive a higher producer price.

Net consumers are a minority among rice producers in all regions and all quintiles, but there are significant variations. The incidence of net consumers is highest in the first quintile (net consumers tend on average to be poorer, being much more highly represented in the bottom quintile in all years) and in the northwest. In 2008 nearly a third of rice producers in the northwest were net consumers and so are likely to have been adversely effected by the rice price increase.

Non-producing consumers of rice clearly suffer from the rice price increase. On average this group, a significant proportion of which is urban, are much better off than those that produce rice; Table 2 compares the average per capita real total consumption of rice producers with non-producers, and the rice producers contrasts net consumers with net producers. The mean consumption of households producing rice is less than half that of non-producers, taking account of all the differences in relative prices. In other words, rice producers i.e. smallholders are much poorer, reflecting urban/rural differences. This is not to say that there are not some poor households among the non-producing group; 9.6 per cent of these households were in the first quintile in 2006 (and so 90.4 per cent were not). These households are more likely to be in the North Central Coastal region or the Central Highlands.

Among the rice producers, the average consumption of net consumers is significantly less than that of net-producers, and this differential widens in 2008. Among these producers, net consumers were poorer to start with in 2006; and were significantly harder hit by the rice price increase. As already seen, and especially in 2008, many of these net consumers are in the northwest, where the proportion of ethnic minorities in the population is high. In other words, the losers from the price shock would appear in particular to be poorer households in this region. This potentially explains in part the results already discussed above from the welfare dynamics analysis using VARHS.

In summary, rice producers tend to be the poorer households in Vietnam. The very large majority are producing in excess of their consumption requirements. These households benefited from the rice price increases. Non-producing consumers certainly suffer; but the vast majority of these households are non-poor. These are the main headline messages. But it is important not to neglect other facts. Not many rice producers are net consumers but those that are tend to be very poor; and some non-producing consumers are also very poor.

Accordingly, the impact of the rice price shock in 2008 no doubt lifted a significant numbers of households above the poverty line, while at the same time pushing smaller numbers into poverty or deeper poverty. We also note that the share of net consumers significantly reduced between 2008-10 and now turn to analysing the production response.

5.3 The production response

How then did farmers respond to the higher price? The VARHS survey collects detailed information on household production, and constitutes a panel of 2,080 households covering the period 2006, 2008, 2010, and 2012. Table 3 provides summary information to assess the changes in production behaviour over this period. 77 per cent of these households grew rice in 2006; the

number declines marginally over the following six years (this finding is also confirmed by VHLSS). This though is also a period over which the number of households required to grow rice by restrictions imposed by the commune authorities generally reduced. The output of rice increases consistently over this period and this is so even taking into account the slightly smaller number of households farming in later years. In other words production has certainly increased. Particularly striking in 2008 is the sharp increase in the number of households selling rice compared to 2006, no doubt incentivized by the higher rice price as well as a good harvest in that year. The extent of selling falls off a bit in later years, and remains higher than 2006. In terms of production technique, by 2010 significantly more farmers are now using improved varieties of seeds, and this remains higher in 2012 than it was in 2008.

It seems clear that rice producing households have responded to the increased rice price by producing more and selling more on average. This is not the case in all provinces, the strongest and most consistent response being observed in the southern high production province of Long An. Elsewhere the patterns differ.

6 Conclusion

The spike in the international rice price in 2007-08 was indeed exceptional, with the price doubling in a year. Looked at over the period from 2000 to date, it appears much more as a large but temporary deviation around a long-term upward trend. It was though a major issue of policy concern at the time, both nationally and internationally, with UNICEF, the World Bank, and the World Food Programme all predicting dramatic adverse consequences. Internationally calls were made for action to alleviate expected poverty and malnutrition consequences, with little attention to providing an overall balanced assessment of the situation.

As the world's second rice exporter, Vietnam stood to benefit in aggregate from this, but maybe surprisingly reduced its export quota and later imposed an export ban. These steps were widely discussed and subjected to severe criticism at the time, both within and outside Vietnam, arguing that this contributed to undermining the global rice market and deprived producers of higher incomes as a result. Our somewhat different assessment is that the Vietnamese Government took these steps as it was primarily concerned to ensure national food security in these exceptional times. In particular, early 2008 crop predictions emerging from the national planning system suggested a poor harvest, and food stocks were running down.

In parallel government has throughout the past two decades sought to assure a steady increase in producer prices rather than allowing prices to vary substantially in response to short-term market fluctuations. In addition, the government sought to alleviate price impacts by granting exemptions from taxes on consumers (VAT) and producers (CIT). The combined effect of these actions was to limit the increase of both the consumer price and producer price of rice, while keeping their relative levels reasonably constant. While in fact producer prices did actually increase slightly less than consumer prices over this period, several other compensatory actions were subsequently taken to support producers, including exemption from land taxes, increased extension support, and increased credit.

The government also announced in late 2009 that it would implement a US$3.3 billion stimulus package for agriculture and rural development. The producer price continued to increase in 2009-10, even though the world price fell in this period. In other words the government smoothed out the increase in the price received by producers over this period, while keeping a keen eye on food security and consumer prices. In addition, during the same period the prime minister ordered business to buy paddy rice at a floor price, which would ensure 30 per cent profits for farmers.

As the very large majority of rice producers in Vietnam produce in excess of their consumption requirements, they benefitted from these policies, increased their production levels, and in time became more likely to adopt improved seeds. Non-producing households do lose out, though they tend to be much better off on average. In addition there was a small minority of producers who were net consumers, and who also lost out. These households were disproportionately likely to live in the northwest, to be poor, and to be comprised of ethnic minorities.

Overall this analysis suggests that the Vietnamese government acted quite effectively in extremely difficult circumstances, in line with the conclusions above of Elleby and Hansen (forthcoming) suggesting that it acted more effectively than many other countries in responding to extraordinary price fluctuations. Moreover our analysis shows that by and large poorer households, being net producers, were the beneficiaries while the losers tended to be relatively wealthy non-producing consumers.

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Table 1: Shares of net producers and net consumers of rice in Vietnam

	2006			2008			2010		
	% producing rice	of which:		% producing rice	of which:		% producing rice	of which:	
		net producers	net consumers		net producers	net consumers		net producers	net consumers
by quintile:									
Lowest	75.6	68.5	7.1	73.0	62.9	10.1	63.6	60.2	3.4
2nd	70.3	66.5	3.8	68.0	63.4	4.6	55.8	53.5	2.3
3rd	61.4	59.0	2.4	55.6	53.0	2.5	48.6	46.9	1.7
4th	41.7	40.1	1.6	40.7	39.1	1.6	35.5	34.9	0.7
Highest	13.9	13.4	0.5	16.1	15.8	0.3	17.0	16.6	0.4
by region:									
Red River Delta	64.8	62.7	2.2	63.2	60.8	2.5	58.5	57.7	0.8
Northeast	70.3	66.4	4.0	68.7	62.9	5.8	68.9	67.3	1.6
Northwest	72.8	59.0	13.9	73.6	50.3	23.3	69.3	64.8	4.5
North Central Coast	68.7	64.2	4.5	64.9	58.6	6.3	65.8	62.6	3.3
South Central Coast	57.6	54.1	3.5	55.7	52.4	3.2	46.9	45.0	1.9
Central Highlands	39.2	33.5	5.6	38.7	32.9	5.7	29.7	27.7	2.1
Southeast	12.4	11.0	1.4	11.0	10.5	0.6	4.6	3.8	0.7
Mekong Delta	37.4	36.7	0.7	36.5	35.5	1.0	32.2	30.1	2.2
Total	50.6	47.7	2.9	48.7	45.2	3.5	44.1	42.4	1.7

Source: authors' calculations based on VHLSS Surveys (2006, 2008, and 2010).

Table 2: Average total real per capita consumption

	2006		2008		2010	
	mean	**median**	**Mean**	**median**	**mean**	**median**
net producers	4487.4	4011.7	6316.4	5451.5	11647.1	10126.8
net consumers	3730.9	3162.7	4654.2	4159.7	8474.6	7271.6
non-producers	8805.7	6919.7	11382.8	8944.7	21303.1	16482.2

Note: 2010 data in 2010 prices; others are in 2006 prices; in thousands of Vietnamese Dong.

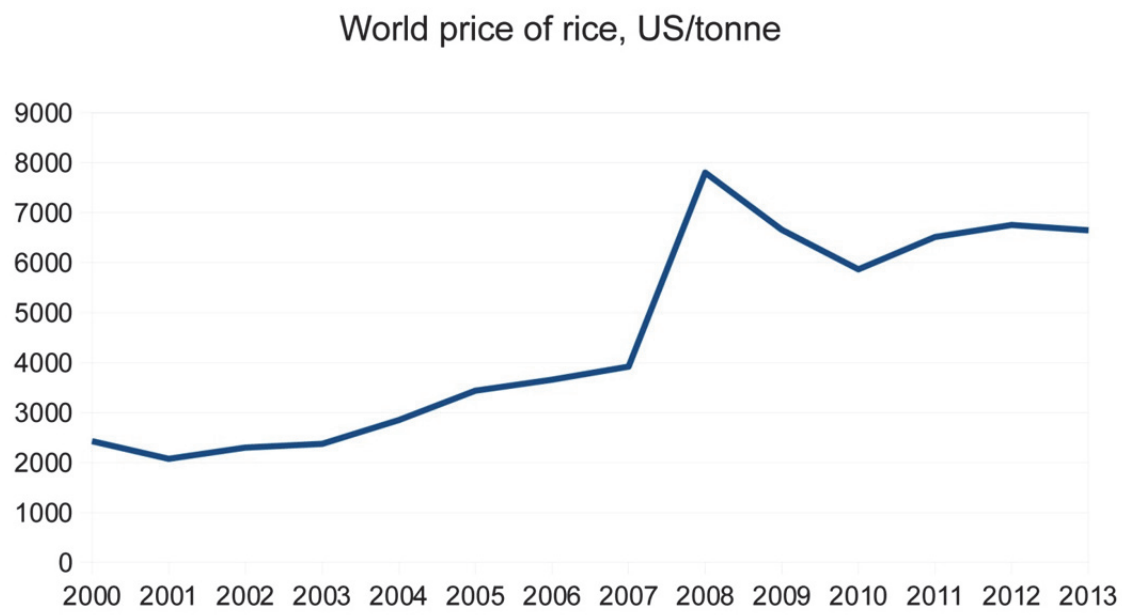
Source: authors' calculations based on VHLSS Surveys (2006, 2008, and 2010).

Table 3: Production characteristics for VARHS sample households

	% growing rice	average output	% selling	% using improved seeds	% subject to crop restrictions	average sales price (1000 VND/kg)
2006	76.9	2308	38.4	38.2	57.5	2.60
2008	73.5	2349	56.1	35.2	39.4	4.20
2010	70.9	2416	40.2	55.8	26.0	5.53
2012	68.8	2760	40.1	47.7	35.4	6.05

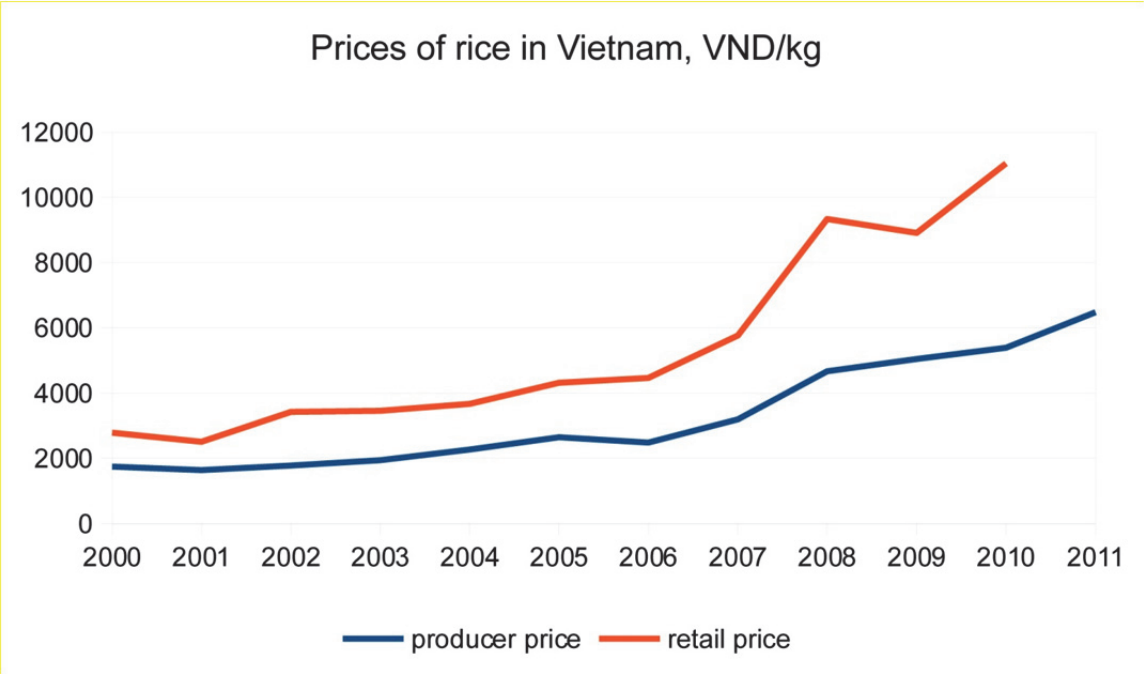
Source: authors' calculations based on VARHS Surveys (2006, 2008, 2010, and 2012), as summarised in CIEM (2007, 2009, 2011, and 2013) respectively.

Figure 1: World price of rice



Source: Authors' calculations and construction based on World Bank (2013).

Figure 2: Prices of rice in Vietnam



Source: Authors' calculations. Retail price based on IRRI (2013) and producer price based on FAOSTAT (2013).