

A Discussion Paper

**Economic Shocks and Vulnerable in Thailand:
A Case Study of Rising Food and Fuel Prices**

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Executive Summary

In times of economic turbulent where a large number of population subgroups are subject to unavoidable negative economic shocks, there is an urgent need to have in place a comprehensive policy framework and implementation capability to help mitigate the impacts. Since 2007, the world economy has been going through a series of economic abnormalities, starting from rapidly rising food and fuel prices, the subprime and credit crunch originating in the United States and then the subsequent global recession that is perhaps the most severe one since the Great Depression. Thailand is unfortunately among the economies that are considerably affected, as its dependence on imported fuels as major source of energy and on exports as major source of national income are both increasing. And although Thailand is a world leader in rice and other foods, significant fraction of its poor population live on farming, for example, about 40 percent of Thai poor lives on rice-farming. Their livelihood, and hence the country's poverty situation, is therefore affected by fluctuating movement in rice price. The fluctuation in fuel price in 2008 was even greater.

An analysis of inflation in 2008 revealed some interesting findings. It is found that food price rise contributed more to the overall inflation than the rise in energy price. Rural areas tended to have higher inflation than the urban counterparts, in both general

inflation and food inflation. Since almost 90 percent of poor people lived in rural areas, rising food price therefore posed a threat to the overall situation of poverty and vulnerability in Thailand. Whether or not it is a real threat and, if it is, how it affects different groups of people is an important issue to address. To this end, we found that the impact could be both positive and negative, depending on whether the rural dwellers are net buyers or net sellers of food whose price increase. For rice, there were both rice-surplus farmers (3 millions) and rice-deficit farmers (2.5 millions) among the poor households in 2007. When rice price increase, there were thus gainers and losers among the poor, making the impact on poverty somewhat ambiguous. Interestingly, the distribution of rice surplus was bias in favor of richer farmers, making the benefit from price increase, or price support policy, more than proportionately. There is also evidence that price increase in other food since 2007 provided net benefit to the producers even after higher cost of energy and fertilizers are already taken into account.

People adjust when prices rise. Available data from household surveys since 2007 to the first half of 2008 reveals that poor households lowered their food consumptions with price elasticity close to unity, meaning that spending on food in money term remained unchanged. Since poverty lines are derived with minimum food intake just sufficient for normal daily functions,

cutting food consumption by the poor (who were defined poor by poverty lines) means their nutrition intake might be insufficient, which could cause both short-term and long-term negative impacts.

There are other coping mechanisms apart from adjusting consumption pattern. A recent survey by the National Statistical Office shows that reducing debt was the most sought of measure next to reducing overall spending. This is somewhat surprising as one might expect households to create more debts to meet the higher cost of food and energy. Perhaps most households expected prices to rise further and were more cautious of their future repayment ability.

The Thai government has been relatively quick, if confused, in responding to this situation. It must be borne in mind that the successive governments that came to power were already politically very weak—there has so far been four governments in 2008, a record even for Thailand. And the way they tackled the food and fuel price increases did not add to their strength. First, there was a proposal of issuing food coupons to poor households, an idea not materialized because the government did not have accurate information to identify poor households, and would therefore have been subject to serious targeting problem. Instead, the government introduced a ‘six measures for six months’ policy package, which were mainly consumption subsidies to goods and

services mostly used by the lower income population (with one exception of excise tax subsidy to fuel, which are used mainly by the non-poor and which accounted for the largest chunk of the total subsidy of this package). It is found that some of the measure in this package still have serious targeting problem, for example, almost all households enjoyed free water use regardless of their income status.

The targeting problems reflect a fundamental flaw in poverty policy, that Thailand never had the infrastructure to target its policies toward the poor in a systematic fashion. There are steps that need to be done to overcome this problem and lay down foundations to enhance the country's capability in mitigating current and future economic shocks. First the country must invest in information system of vulnerable families and individuals. One possible way to collect complete income information is to require all working-age population to file tax return on an annual basis, regardless of their employment status, an approach adopted in many developed countries. The government should enforce the extension of Social Security Scheme (SSS) to all private employees by addressing the incentive problem that prevents employers and employees from joining the Scheme. Second, the government should strengthen its outreach capability. This can be done by improving area-based budget allocation, coordinating with local

governments at all level in delivering helps to the needy, delegating some tasks to selected non-government organizations (NGOs) that are specialized in reaching out and assisting particular target groups (such as disabled, widowed, HIV-affected, etc.) and training officials from the central government in locating the poor and vulnerable on case by case basis. Other long-term measures are the promotion of market-based risk management such as agricultural future market and weather risk insurance, supplemented by farmer institution strengthening.

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Economic Shocks and Vulnerable in Thailand: A Case Study of Rising Food and Fuel Prices

The world in the past two to three years has experienced some of the most turbulent time in modern economic history. Since 2007, food and fuel prices rose rapidly and steadily for more than a year, then the subprime and credit crunch originating in the United States spread to most developed economies, causing the subsequent global recession that is perhaps the most severe one since the Great Depression.

Thailand is unfortunately among the economies that are considerably affected, as its dependence on imported fuels as major source of energy and on exports as major source of national income are both increasing. And although Thailand is a world leader in rice and other foods, significant fraction of its poor population live on farming, for example, about 40 percent of Thai poor lives on rice-farming. Their livelihood, and hence the country's

poverty situation, is therefore affected by fluctuating movement in rice price. The fluctuation in fuel price in 2008 was even greater.

All developed economies are facing rapidly shrinking domestic demand, and in the process spreading recessions to the rest of the world, especially those economies depending much on exports to generate economic growths. Thailand is unfortunately one of such economies, as its exports account for about 60 percents of its national income. Since the recession is so widespread, the diversification of exports in both product types and destination markets is not offering much assurance as in normal situation. On the contrary, the implication is that a wide range of production sectors and their employment will be at risk.

An estimate of 1.0-1.5 million people will be unemployed by the second quarter of 2009. A significant fraction of employees will also be underemployed as their working hours cut back (and so are their earnings). Many of those who are affected or about to be affected are poor and vulnerable to start with. For example, unskilled and low-educated employees of small-scale exporting or export-related firms could be the first to be put out of jobs. The impacts on agricultural sector will be great as well, even though the sector enjoyed large surplus from the rising food and commodity prices for the better part of 2008. However, as food prices continue to soften and agricultural exports decline, the sector as a whole will

become vulnerable. One striking consequence is that, unlike during the 1997 Asian financial crisis, the agricultural sector will not be as helpful in absorbing those unemployed fleeing from the cities and urban factories back to the countryside.

There are however some good news. First, the macroeconomic conditions of Thailand this time around are much better than those prevailing before the 1997 crisis. Both internal and external stabilities have been in good shape since around 2002. Financial sector, after undergoing a period of strenuous reforms, is in much better position to ward off negative impacts from the problems in real sectors, at least until perhaps the latter half of 2009. More importantly, the country have been enjoying improvement in fiscal position in the past several years, leaving it a plenty room to spend to replace the falling external demands. And the current government is doing just that. A comprehensive government spending and other interventions package is proposed that aims to help almost all vulnerable groups. The monetary policy can also be used to complement the fiscal stimulation. The Bank of Thailand is sitting on a record-high international reserve, enabling it to pump more money and liquidity into the economy if needed.

Thailand is also in a much better position than in 1997 when it comes to social interventions to assist the vulnerable. The unemployment insurance is now in place under the Social Security

Scheme, covering about 9 million private employees. The universal health care, first implemented in 2001, can save health expense of those uncovered in other health insurance schemes. The real challenge now is how to protect those outside the 'formal' safety net. Informal workers are still the majority in Thai labor force. Most SME firms are still marginalized when it comes to credit rationing, making them vulnerable to both solvency and liquidity risks. An institutional building for shock mitigation mechanism discussed above is therefore an urgent matter that the government must pay full attention.

Economic Shocks from Rising Food and Fuel

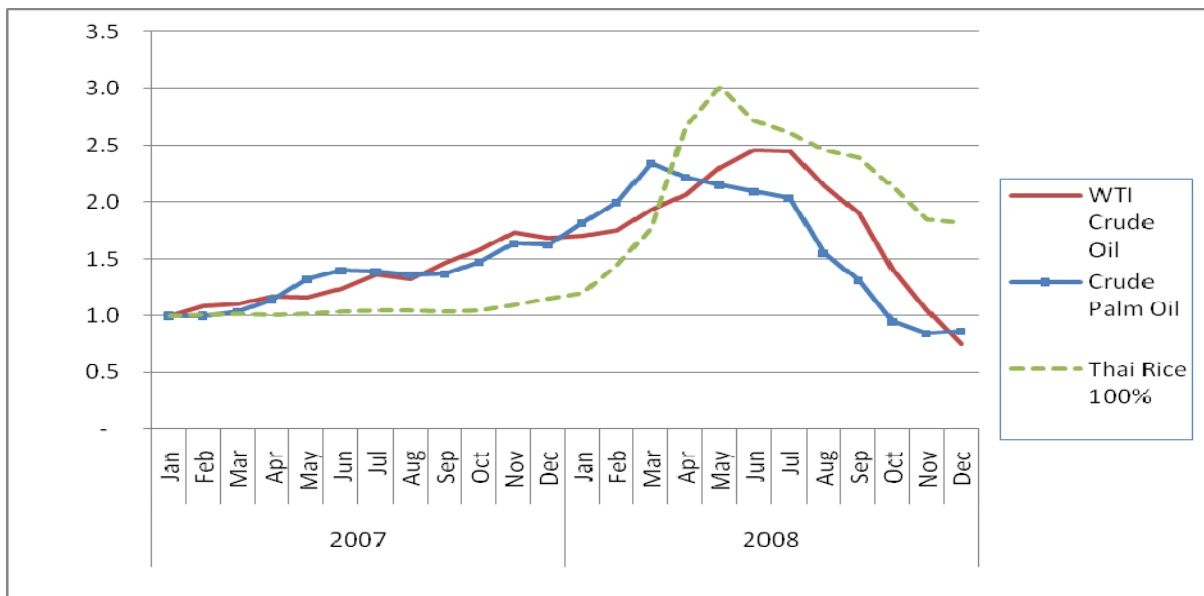
Prices

In times of economic turbulence like the current one where a large number of population subgroups become vulnerable as they are subject to unavoidable negative economic shocks, there is an urgent need to have in place a comprehensive policy framework and implementation capability to help mitigate the impacts. Using the case of rising food and fuel prices, this paper aims at providing background for a more general discussion of how such policy framework should be developed. The reason we choose rising food and fuel prices as case study because their impacts on vulnerable population can be better studied as the episodes of price rise are

largely over. See Figure 1 below. They can then provide lessons for the study of impact of global recession, which is still unfolding. And even though prices already soften, the prices of some major foods are still above normal trend, making the issue still relevant.

Along with the rest of the world, Thailand saw, particularly during the first half of 2008 food and fuel prices rising, gradually first and then accelerating, before falling in the latter half of 2008. As is well known, these prices are not independent of one another (see Figure 1).

Figure 1 Monthly Price Movement of Crude Oil, Palm Oil and Rice, 2007-2008



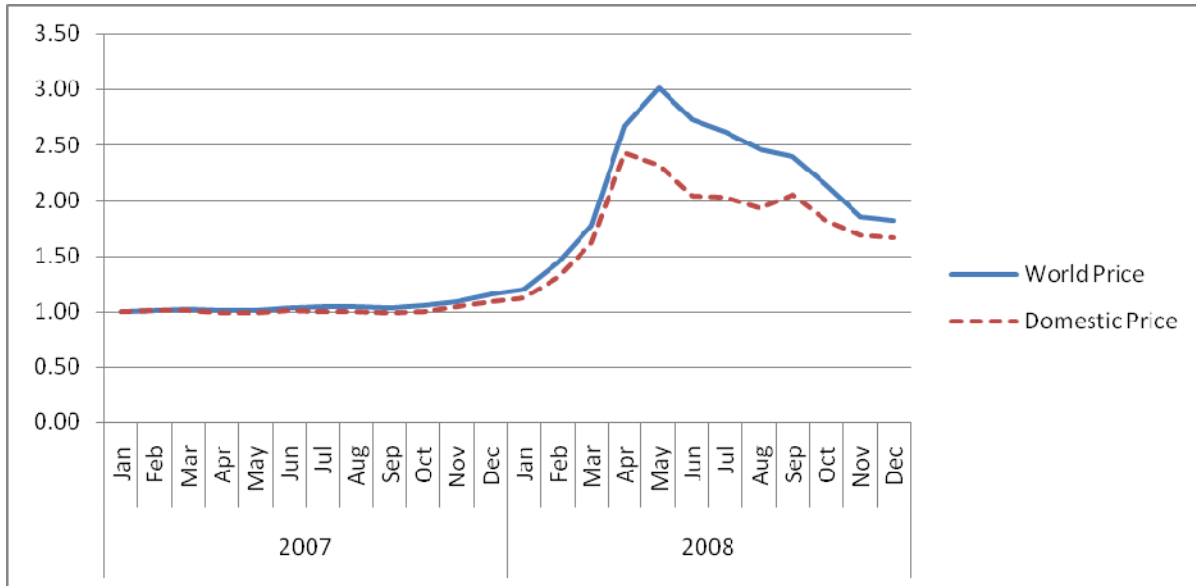
Note: all prices are normalized to 1.0 on January 2007.

Source: Energy Information Administration, Malaysian Palm Oil Board, Weekly Rice Update,

Rice was a relative latecomer in terms of price rise, but it is the most important crop to Thailand for several reasons. First, Thailand is the world largest rice exporter, with approximately ten millions tones exported each year. It thus generates a significant income to the overall economy. Second, it is a major source of calories for Thais, accounting for more than half of all calories consumed, the proportion being higher among the poor. An increase in rice price will therefore translate into higher living cost to most Thais. Lastly, and perhaps the most important reason, about 40 percent of Thai poor lives on rice-farming. Their livelihood, and hence the country's poverty situation, is affected by movement in rice price.

A higher world rice price put an upward pressure on the domestic price. Figure 2 shows the movements of world and domestic price of 100% grade B Thai rice, compared with domestic wholesale price of the same rice type, both normalized to be 1 in January 2007. At their peaks, world price increased three times in May 2008, while domestic price increased a little below 2.5 times one month earlier. The lagging of impact from world to domestic price can partly be explained by the government' attempt to slowdown the pass-through.

Figure 2 Movement of World and Domestic Price of Rice, 2007-2008

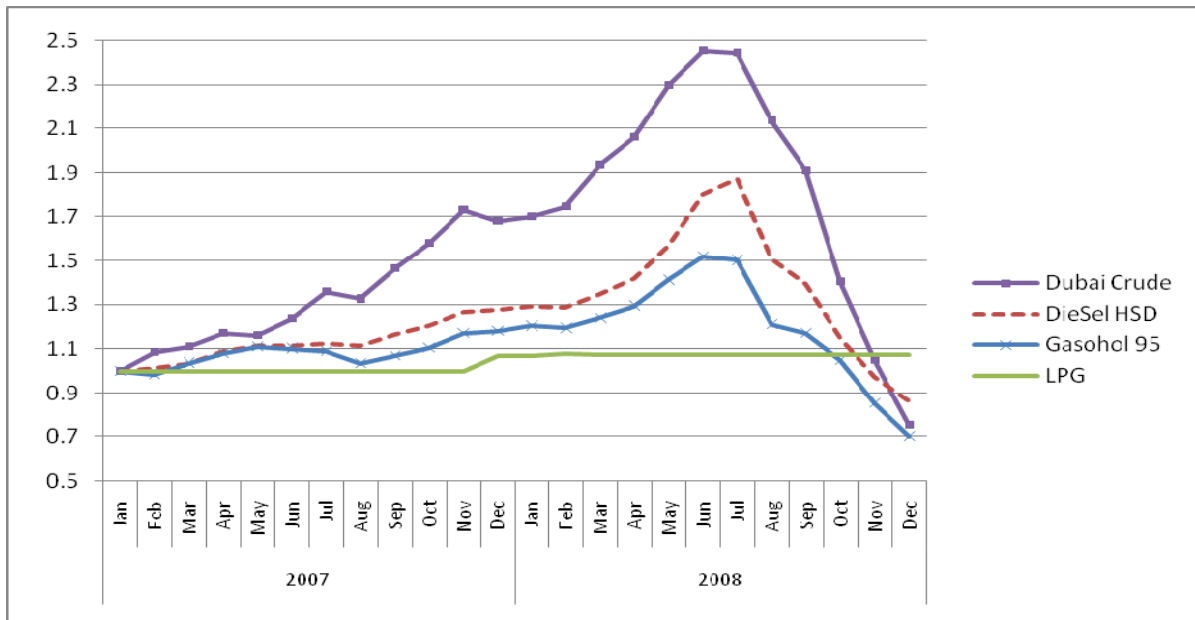


Note: use 100% Thai rice as example. Data shown are normalized price setting to 1.0 on January 2007.

Source: World price, Weekly Rice Price Update. Domestic price, Ministry of Commerce.

The slow pass-through is even more evident in the case of fuel, as shown in Figure 3. The retail price of LPG is the most suppressed as the government continued to heavily subsidize its use, both as cooking and as transportation fuel.

Figure 3 Movements of World and Domestic Oil Prices, 2007-2008



Note: All prices are normalized to 1.0 on January 2007.

Rises in both food and fuel put pressure to inflation. Table 1 shows monthly food and non-food inflation rates for all households, low-income households, and rural households. Food inflation began to rise as early as the beginning of 2007, remarkably so for low-income and rural households. Non-food inflation accelerated since around the last quarter of 2007, causing increases in the overall inflation for all groups of households. Note that, inflation among rural households were very high, reaching annualized 16.1 percent in May 2008. This is because rural households spent a higher share of their expenditure on food than their urban

counterparts¹. But more importantly is the much higher food inflation in rural areas, up to 26% in May 2008.

Table 1 Monthly Inflation Rates for 2007-2008 (%yoy)

| Year | Month | General Inflation | | | Low-Income Inflation | | | Rural Inflation | | |
|------|-------|-------------------|------|----------|----------------------|------|----------|-----------------|------|----------|
| | | All | Food | Non-Food | All | Food | Non-Food | All | Food | Non-Food |
| 2007 | Jan | 3.1 | 6.3 | 1.1 | 4.1 | 7.1 | 1.4 | 5.1 | 10.1 | 0.6 |
| | Feb | 2.3 | 5.2 | 0.5 | 3.2 | 5.7 | 0.9 | 4.6 | 9.5 | 0.5 |
| | Mar | 2.0 | 3.8 | 1.0 | 2.6 | 4.1 | 1.2 | 3.7 | 6.7 | 1.0 |
| | Apr | 1.8 | 3.3 | 0.9 | 2.4 | 3.7 | 1.0 | 3.4 | 5.7 | 1.3 |
| | May | 1.9 | 3.9 | 0.5 | 2.5 | 4.3 | 0.8 | 3.6 | 6.2 | 1.3 |
| | Jun | 1.9 | 5.3 | 0.0 | 2.9 | 5.9 | 0.2 | 5.0 | 9.9 | 0.5 |
| | Jul | 1.7 | 5.0 | -0.3 | 2.5 | 5.5 | -0.1 | 4.3 | 8.8 | 0.4 |
| | Aug | 1.1 | 4.3 | -0.7 | 2.0 | 4.7 | -0.4 | 3.5 | 7.6 | -0.2 |
| | Sep | 2.1 | 3.8 | 1.1 | 2.4 | 4.1 | 0.9 | 4.8 | 7.7 | 2.1 |
| | Oct | 2.5 | 2.6 | 2.3 | 2.4 | 2.9 | 1.8 | 3.3 | 3.1 | 3.5 |
| | Nov | 3.0 | 2.6 | 3.2 | 2.7 | 2.8 | 2.5 | 3.5 | 2.5 | 4.6 |
| | Dec | 3.2 | 2.8 | 3.5 | 2.8 | 2.6 | 2.8 | 4.1 | 3.3 | 4.8 |
| 2008 | Jan | 4.3 | 4.8 | 3.9 | 3.9 | 4.6 | 3.2 | 6.3 | 7.1 | 5.6 |
| | Feb | 5.4 | 7.9 | 4.0 | 5.7 | 8.2 | 3.4 | 7.8 | 10.1 | 5.7 |
| | Mar | 5.3 | 7.8 | 3.8 | 5.6 | 8.2 | 3.2 | 7.8 | 10.5 | 5.2 |
| | Apr | 6.2 | 9.8 | 3.9 | 7.2 | 11.3 | 3.2 | 11.2 | 17.6 | 5.0 |

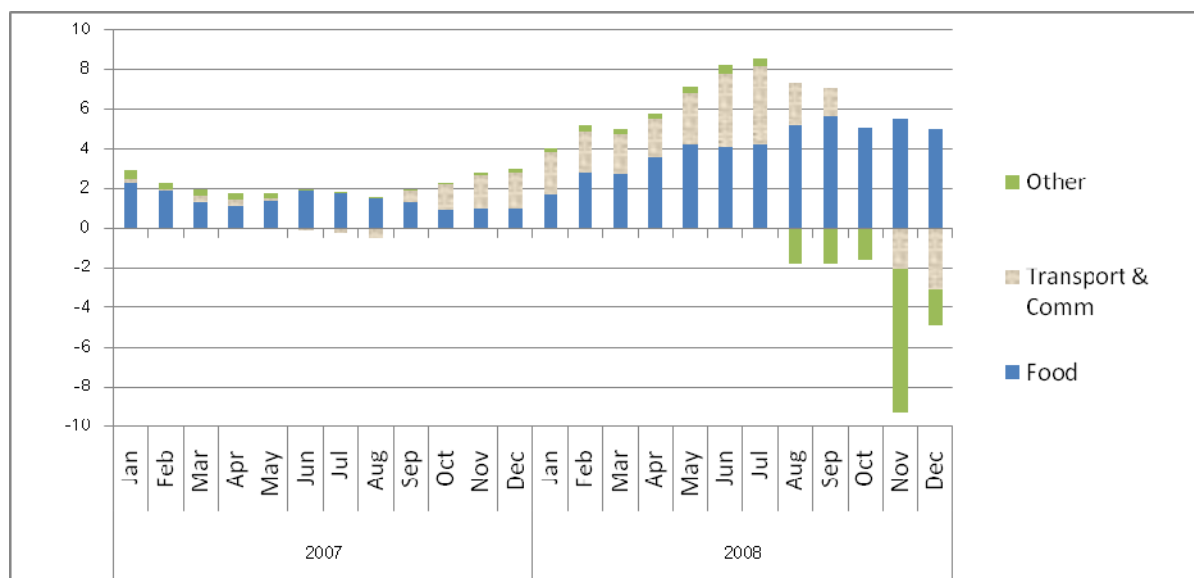
¹ In 2007, rural households spent 38.2% of total spending on foods, while urban households spent 32.1%.

| | | | | | | | | | | |
|--|-----|-----|------|------|-----|------|------|------|------|------|
| | May | 7.6 | 11.8 | 5.1 | 8.7 | 13.4 | 4.2 | 16.1 | 26.3 | 6.3 |
| | Jun | 8.9 | 11.4 | 7.2 | 9.2 | 12.6 | 5.9 | 13.4 | 18.1 | 8.9 |
| | Jul | 9.2 | 11.8 | 7.6 | 9.7 | 13.1 | 6.3 | 13.7 | 18.2 | 9.3 |
| | Aug | 6.4 | 14.3 | 1.4 | 7.8 | 15.5 | 0.4 | 10.6 | 18.6 | 3.0 |
| | Sep | 6.1 | 15.7 | 0.0 | 8.0 | 16.9 | -0.5 | 10.1 | 19.3 | 1.3 |
| | Oct | 3.9 | 14.0 | -2.4 | 6.3 | 14.9 | -2.2 | 7.9 | 17.7 | -1.6 |
| | Nov | 2.2 | 15.3 | -5.9 | 5.4 | 16.2 | -5.1 | 7.4 | 21.2 | -5.8 |
| | Dec | 0.4 | 13.8 | -8.0 | 3.9 | 15.3 | -6.9 | 4.1 | 17.4 | -8.3 |

Source: Ministry of Commerce.

Comparing the impact on inflation from food and from energy, it is found that food inflation contributed more to overall inflation since January 2007 until present. Figure 4 shows this finding, using rising cost of transportation and communication as proxy of fuel inflation.

Figure 4 Contributions to Overall Inflation, 2007-2008



Source: Calculate from Ministry of Commerce's data.

Impacts of Rising Food and Fuel Prices on Poverty and Vulnerability

The most pressing concern arising from rising food and fuel prices is if, and how much, they impact the livelihood of the poor and the vulnerable households and individuals. Using official poverty line, around 8.5 percent of Thai population in 2007, or 5.4 millions, are poor. The proportion of poor in rural areas is higher, at 10.7 percent (4.7 million), and lower in urban areas, at 3.3 percent (0.6 millions). That is, almost 90 percent of all poor people lived in rural areas, reflecting the fact that poverty in Thailand is highly concentrated. Note that this is true for poor children as well, as they tended to concentrate in rural areas. Geographically, the rural North and rural Northeast had the highest poverty incidences.

Table 2 Poverty Headcount Ratio, by region and municipality, 1996-2007 (percent)

| Municipality | Region | 1996 | 1998 | 2000 | 2002 | 2004 | 2006 | 2007 | 2008* |
|---------------|---------|------|------|------|------|------|------|------|-------|
| Non-Municipal | Central | 6.5 | 9.4 | 10.1 | 9.0 | 5.1 | 3.9 | 3.4 | 5.4 |
| | North | 19.0 | 17.1 | 24.9 | 22.1 | 17.1 | 13.3 | 14.6 | 14.4 |

| | | | | | | | | | |
|------------------------|-----------|-------|--------|--------|-------|-------|-------|-------|-------|
| | Northeast | 26.3 | 33.2 | 38.4 | 25.6 | 21.6 | 18.4 | 14.6 | 17.2 |
| | South | 11.2 | 16.1 | 19.9 | 11.2 | 6.2 | 6.0 | 6.3 | 5.9 |
| Municipal | BMR | 1.2 | 1.2 | 1.7 | 2.2 | 0.9 | 0.5 | 1.1 | 0.4 |
| | Central | 5.4 | 4.7 | 7.0 | 5.0 | 3.1 | 1.9 | 2.3 | 2.8 |
| | North | 13.4 | 14.1 | 16.1 | 13.5 | 9.3 | 6.5 | 5.9 | 7.2 |
| | Northeast | 14.9 | 17.2 | 20.1 | 11.9 | 10.7 | 8.6 | 5.8 | 6.3 |
| | South | 7.1 | 6.7 | 5.7 | 4.4 | 3.0 | 3.9 | 4.7 | 3.1 |
| All Rural | | 18.2 | 22.0 | 26.5 | 18.9 | 14.6 | 12.0 | 10.7 | 12.3 |
| All Urban | | 6.8 | 7.1 | 8.6 | 6.4 | 4.6 | 3.6 | 3.3 | 2.9 |
| Whole Country | | 14.8 | 17.5 | 21.0 | 14.9 | 11.4 | 9.5 | 8.5 | 9.5 |
| No. persons (thousand) | | | | | | | | | |
| All Rural | | 7,303 | 8,963 | 10,961 | 7,878 | 6,086 | 5,376 | 4,786 | 5,198 |
| All Urban | | 1,190 | 1,280 | 1,595 | 1,257 | 933 | 678 | 636 | 532 |
| Whole Country | | 8,492 | 10,243 | 12,555 | 9,135 | 7,019 | 6,054 | 5,422 | 5,730 |
| % All Rural | | 86% | 87% | 87% | 86% | 87% | 89% | 88% | 91% |
| % All Urban | | 14% | 13% | 13% | 14% | 13% | 11% | 12% | 9% |

Note: *Data for 2008 is for the first six months. Poverty is measured with household consumption. BMR stands for Bangkok and metropolitan region.

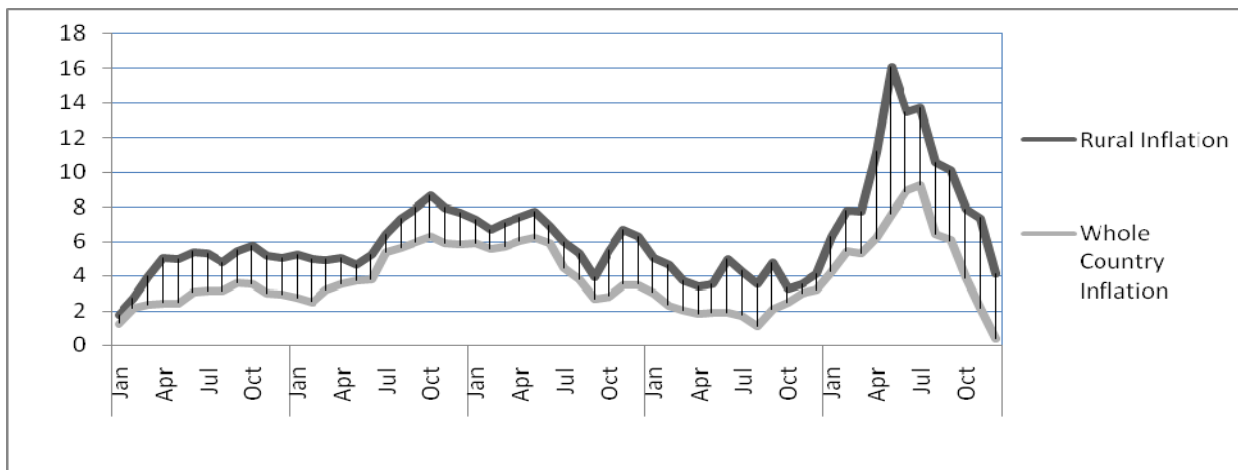
Source: Calculated from Socio-Economic Surveys, National Statistical Office.

Rural areas are generally more prone to inflation than urban areas. Figure 5 and 6 show that inflation in rural areas has been higher than the whole country inflation, at least since 2004. This is because the share of food in the poor people's consumption basket is higher, when food prices rise, the poor living in rural areas became vulnerable.

Since food inflation contributed more to overall inflation than fuel, as demonstrated earlier in Figure 4, it is also worth checking if the same holds for the poor. Figure 7 shows that it is so, as relative

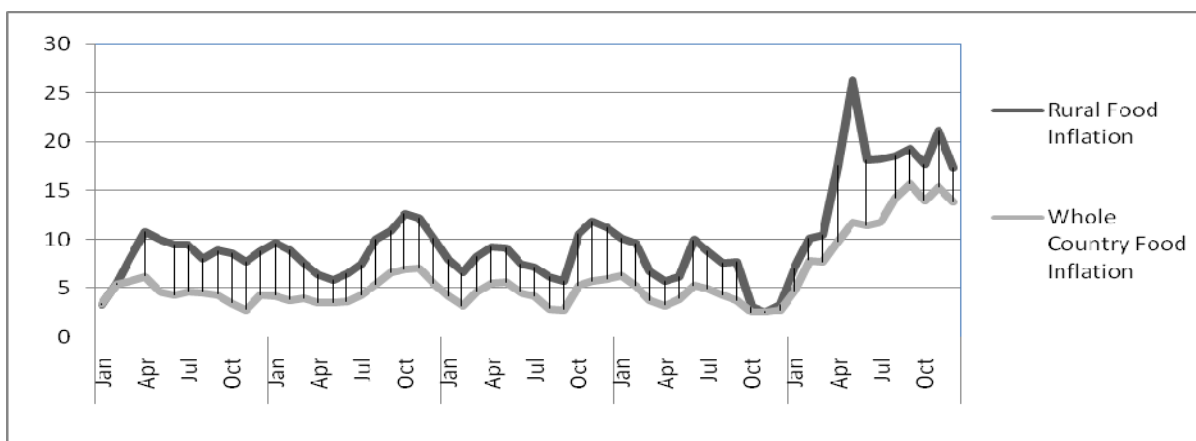
price in rural areas of food to non-food rose slightly in 2007 over 2006, and rose more rapidly in 2008. This is so as recently as August and September of 2008, when the ratio of food/non-food price jumped by 10 percent from 1.2 to over 1.3.

Figure 5 Head-line Inflation, Rural and Overall (%yoy)



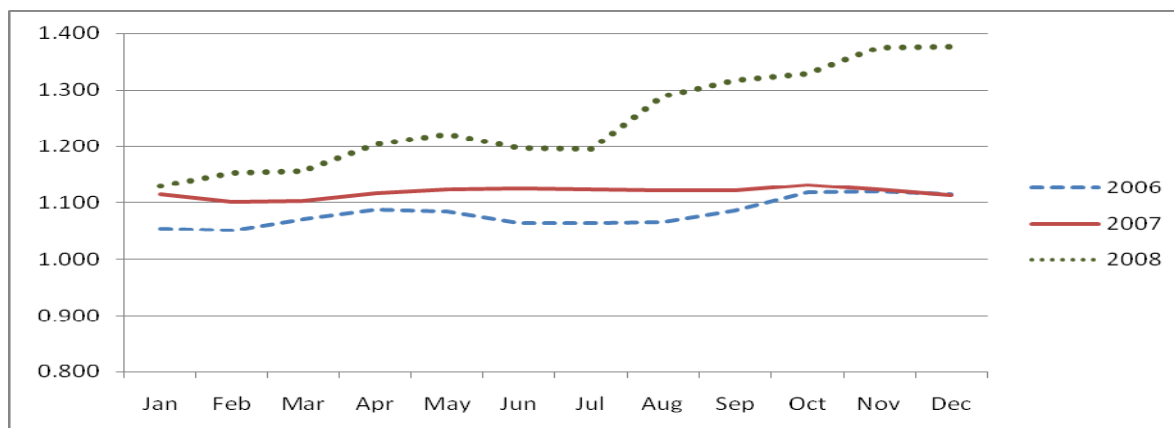
Source: Ministry of Commerce.

Figure 6 Food Inflation, Rural and Overall (%yoy)



Source: Ministry of Commerce.

Figure 7 Relative Price of Food to Non-Food for Low-Income Households



Source: Ministry of Commerce

Rising food price can have both negative and positive impact on the Thai poor, depending on whether they are net buyers (deficit) or net sellers (surplus) of food whose price increase. Take rice as an example. Table 3 shows that, when classifying households into income deciles, all decile had both surplus and deficit households. The proportion of surplus households was greatest among lower income households, starting from 42% in 2006 or 44% in 2007, and then declined when moving up along income scale.

Table 3 Rice Surplus and Rice Deficit Households, 2006 and 2007

| Income Decile | Surplus group (,000 household) | Deficit Group (,000 household) | Neutral Group (,000 household) | % Rice Surplus Group | Average Surplus for Surplus group (Baht/HH /year) | Total Surpl (Million Baht/year) | % Total Surplus | Average Deficit for Deficit Group (Baht/HH /year) |
|---------------|--------------------------------|--------------------------------|--------------------------------|----------------------|---|---------------------------------|-----------------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 (1 x 5) | 7 | 8 |
| 2006 | | | | | | | | |

| | | | | | | | | |
|-------|-------|--------|-------|-----|---------|---------|------|--------|
| 1 | 624 | 563 | 297 | 42% | 14,377 | 8,976 | 4% | -5,500 |
| 2 | 651 | 698 | 262 | 40% | 20,725 | 13,500 | 6% | -5,402 |
| 3 | 659 | 783 | 248 | 39% | 28,253 | 18,628 | 8% | -5,720 |
| 4 | 567 | 975 | 250 | 32% | 33,131 | 18,795 | 8% | -5,832 |
| 5 | 515 | 1,058 | 273 | 28% | 47,541 | 24,506 | 11% | -5,696 |
| 6 | 464 | 1,160 | 251 | 25% | 55,420 | 25,693 | 11% | -5,994 |
| 7 | 351 | 1,290 | 273 | 18% | 75,208 | 26,421 | 12% | -5,844 |
| 8 | 330 | 1,481 | 325 | 15% | 92,015 | 30,332 | 13% | -5,239 |
| 9 | 180 | 1,631 | 423 | 8% | 135,109 | 24,282 | 11% | -5,113 |
| 10 | 139 | 1,834 | 491 | 6% | 249,076 | 34,683 | 15% | -5,329 |
| total | 4,481 | 11,472 | 3,092 | 24% | 50,399 | 225,853 | 100% | -5,528 |
| 2007 | | | | | | | | |
| 1 | 667 | 615 | 250 | 44% | 19,559 | 13,049 | 6% | -6,035 |
| 2 | 630 | 752 | 239 | 39% | 26,024 | 16,384 | 7% | -5,965 |
| 3 | 617 | 862 | 247 | 36% | 31,272 | 19,289 | 9% | -6,038 |
| 4 | 600 | 969 | 228 | 33% | 38,534 | 23,134 | 10% | -6,140 |
| 5 | 512 | 1,104 | 248 | 27% | 50,392 | 25,821 | 11% | -5,983 |
| 6 | 423 | 1,230 | 216 | 23% | 66,485 | 28,152 | 13% | -5,936 |
| 7 | 344 | 1,361 | 283 | 17% | 75,706 | 26,052 | 12% | -5,892 |
| 8 | 266 | 1,548 | 293 | 13% | 103,409 | 27,545 | 12% | -5,457 |
| 9 | 190 | 1,759 | 356 | 8% | 137,509 | 26,067 | 12% | -5,090 |
| 10 | 105 | 1,986 | 410 | 4% | 186,556 | 19,536 | 9% | -5,070 |
| total | 4,354 | 12,187 | 2,769 | 23% | 51,677 | 225,028 | 100% | -5,641 |

Source: Socio-economic Survey, 2007 and Agricultural Census, 2003

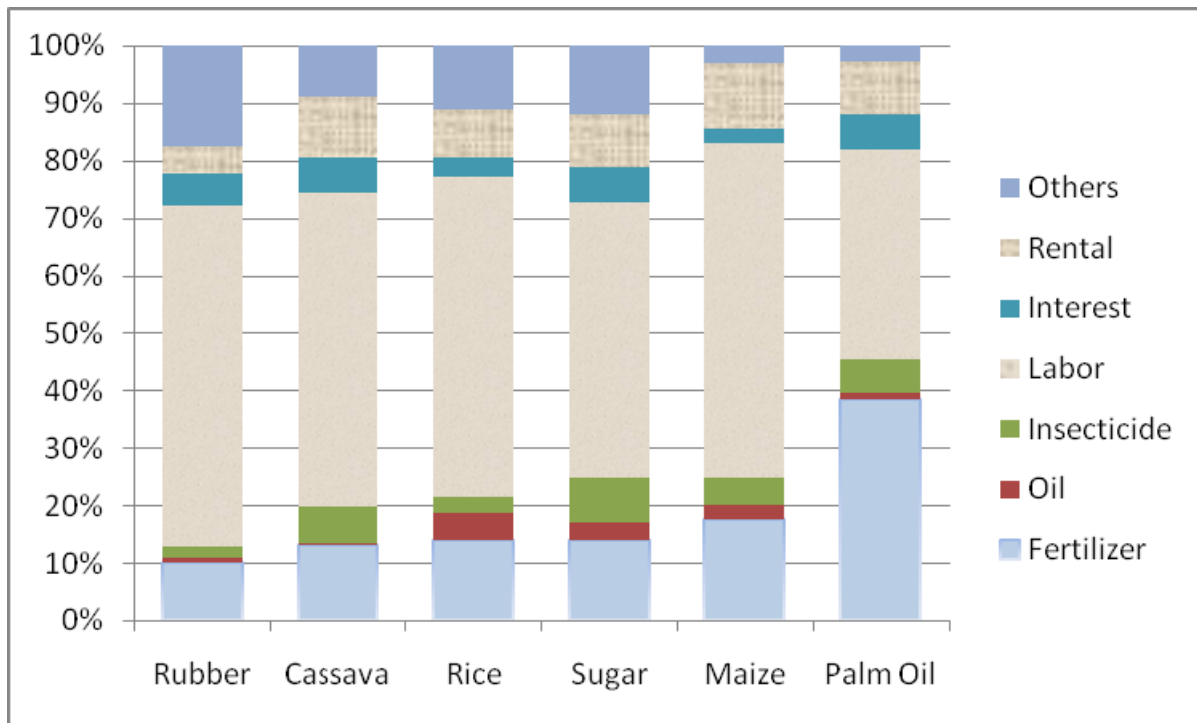
Note: Rice surplus/deficit groups are defined as households with net surplus/deficit in net (income from rice – expenditure on rice).

Note that even though there was small proportion of surplus households among the richer deciles, they commanded over a bigger chunk of total rice surplus evaluated into monetary value. For example, the first top three deciles enjoyed about 40% of total rice surplus in 2006. As a result, if policies were to be implemented to increase the price of rice (or to let the market prices continue to

rise), then the benefit would spread over all income classes, but more than proportionately to the richer classes.

Due to data limitations, the impact of price increase in other foods on the Thai poor cannot be as easily classified into surplus and deficit groups as rice. One can, however, investigate the price and cost structure of these food productions and simulate the impact of changes in both cost and price to come up with whether the producers were better off or worse off. A recent study in that direction by the Bank of Thailand staff (Ruenbanterng et.al, 2008) found that producers of most major crops benefitted from food price rises even though their cost rose due to increase in fuel and fertilizer prices, which are inputs to the production. The cost structure of rubber, cassava, rice, sugar, maize and palm oil are presented in Figure 8. For most crops, the largest portion of cost structure is labor cost. Other major cost items are fertilizer, rental and insecticide.

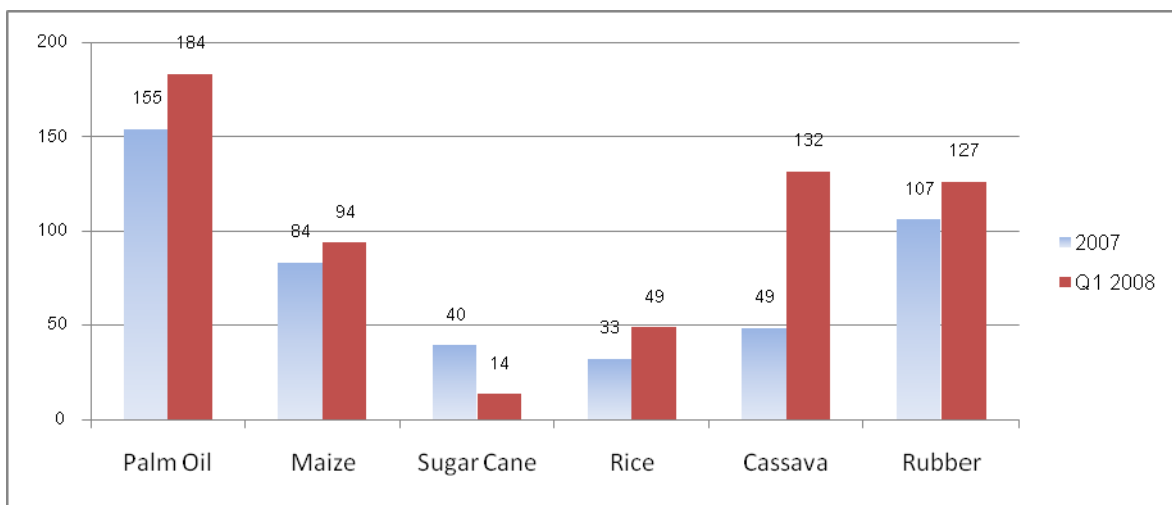
Figure 8 Cost Structure of Thailand's Major Crops



Source: Reproduced from Figure 9 in Ruenbanterng et. al (2008)

Using cost structure in Figure 8, Ruenbanterng et. al (2008) calculated rates of return of these major crops for the year 2007 and the first quarter of 2008, when the food price began to sharply increase. In all crops, except sugar cane, the rate of return was higher in Q1/2008, indicating net benefit from food/fuel price increase, at least up to the first quarter of 2008. See Figure 9 below. One can expect that the rate of return in the third quarter would be even greater, as food price continue to rise while oil price were somewhat stagnated.

Figure 9 Rate of Return of Major Crops



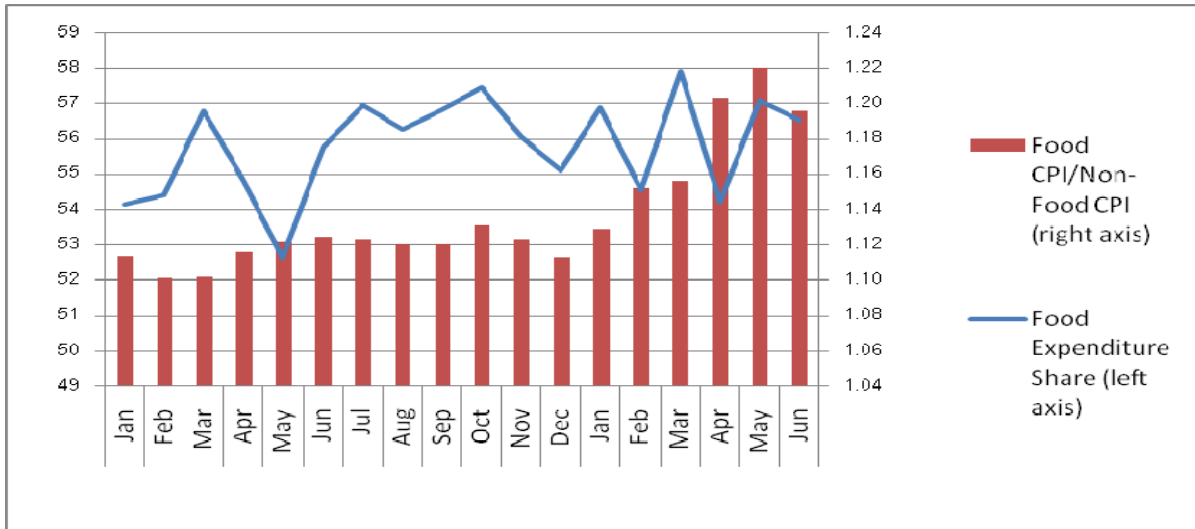
Source: Reproduced from Figure 11 in Ruenbanterng et. al (2008)

Adjustments and Coping Mechanisms by the Poor and Vulnerable Households

There are several ways that poor and vulnerable households could do and would do to cope with the rising food and fuel prices. The choice of coping mechanisms depends on many factors. For example, household with different level of resources (income, wealth, etc) react differently. In general, household would cut spending on things they need least. However, to determine what are the least needed is not easy. Foods are often thought of as necessary and would be the last to be cut down. That means when food prices increase, households might not only cut down foods, according to price elasticity, but also cut down other expenditure items, so that the reduction in food would not be too large (to the degree more than implied by usual 'income effect').

Figure 10 and 11 show how low-income household (first decile) adjusted their expenditure and consumption pattern in response to increasing prices of food and fuel in 2007 and in the first half of 2008. One can see that poor households did not lower their spending on food even though the relative price of food versus non-food rose sharply since February of 2008 (Figure 10). Maintaining expenditure share of foods amidst their price increase mean food price elasticity among poor households was in the neighborhood of unity. An index of consumption share (calculated by dividing food expenditure share with food price index) thus reduced, as shown in Figure 11. The near unity price elasticity of food consumption means that the adjustment to food price increase took place almost entirely on cutting food consumption, leaving spending on non-food unchanged. As poverty lines are derived with minimum food intake just sufficient for normal daily functions, cutting food consumption by the poor (who were defined poor by poverty lines) could cause both short-term and long-term negative impacts.

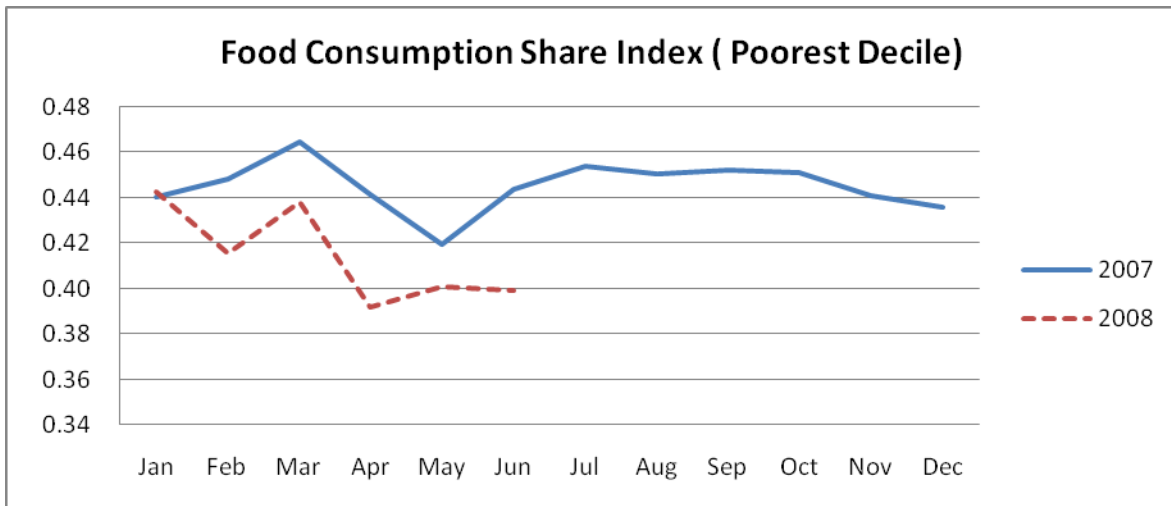
Figure 10 Food Expenditure Shares of Low-Income Households (poorest decile), and Relative Food Price



Source: Calculated from SES 2007 and 2008, National Statistical Office.

Prices are from the Ministry of Commerce.

Figure 11 Monthly Food Quantity Share Index for Low-Income Households, 2007 and 2008

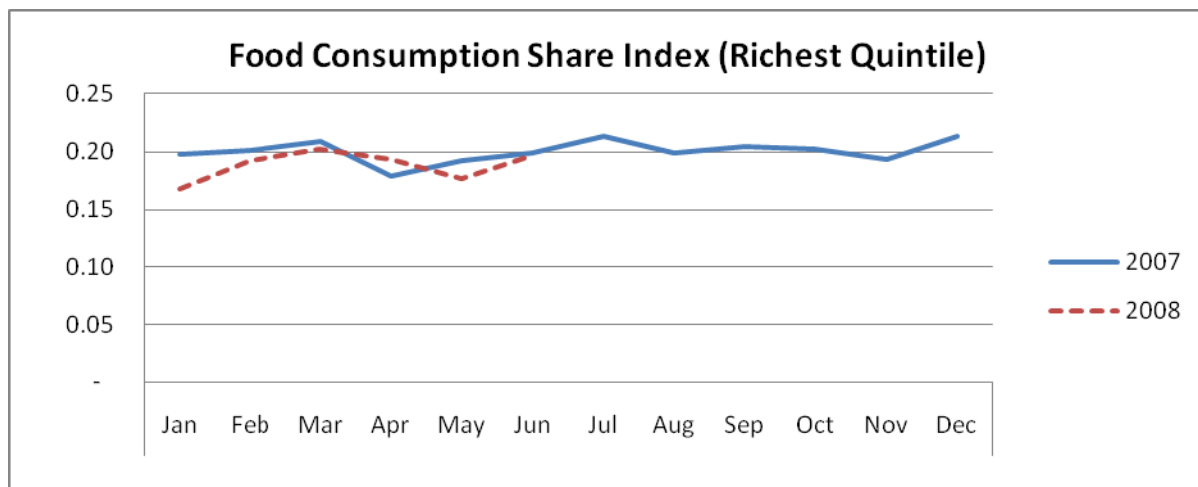


Source: Calculate using data from SES 2007 and 2008. Food CPI from Ministry of Commerce.

On the contrary, the rich households did not respond to food price increase in the same fashion as the poor. Figure 12 shows that consumption share of foods of the richest quintile stayed

roughly the same throughout the time of rising food price, making their food consumption's elasticity less than unity. This is a rather surprising result, as one would expect the well-to-do families to be consuming food well above subsistence level, and cut food consumption when prices rise. One explanation is that rich households responded more on energy or energy-related consumptions, thus reducing those spending such that share on food consumption was unaffected.

Figure 12 Monthly Food Quantity Share Index for High-Income Households, 2007 and 2008



Source: Calculate using data from SES 2007 and 2008. Food CPI from Ministry of Commerce

To formally study how poor and vulnerable households react to change in food and fuel prices, an econometric investigation was performed. A simple pool regression of demand function of the form,

$$QF_m^h = f(P_{mi}, y_m^h, Z_m^h),$$

is tested, where

QF_m^h is quantity of food consumed by household h at month m,

P_m is price index of expenditure i at month m,

Y_m^h is a measure of household h's total resource, such as income, total expenditure, or wealth, for month m,

Z_m^h is other variables that might explain differences in consumption.

The data source is Socio-Economic Surveys (SEs) conducted by the National Statistical Office in 2007-2008. We perform the estimation for all households, poor households and non-poor households. Table 4 is the estimation results.

Table 4 Estimation of Food Demand Function

| | All Households | Poor Households | Non-poor Households |
|--|----------------|-----------------|---------------------|
| Constant | 1.563 | 1.655 | 1.674 |
| log (Food Price) | -0.895 | -1.156 | -0.942 |
| log (Transportation & Communication Price) | 0.697 | 0.720 | 0.752 |
| Log(total consumption (food+non-food)) | 0.559 | 0.902 | 0.521 |
| Household Size | 0.086 | 0.026 | 0.092 |
| Urban Dummy | 0.098 | -0.062 | 0.111 |
| | | | |
| R-squared | 0.725 | 0.820 | 0.685 |
| Adjusted R-squared | 0.725 | 0.820 | 0.685 |
| No. of observation | 65,520 | 4,276 | 60,880 |

Note: Dependent variable is logarithm of monthly food quantity consumption for 2007-2008. All explanatory variables are significant at least at 95% confident level or above.

Controlling for 'scale effects' such as household size and total resources (proxy by total consumption of food and non-food), demand for food decline as food price rise with price elasticity somewhat close to unity. However, the price elasticity for poor households is greater than that of non-poor households. The regression result thus confirms the earlier finding that poor households adjusted their food consumption more than the non-poor households did².

Coping Mechanisms: An Opinion Survey

During the first six months of 2008, the National Statistical Office conducted a special survey on how families coped with the soaring food and energy prices and what they needed the government to do to ease the impacts. There are some interesting findings, as showed in Table 5 and Table 6.

² The coefficients on the urban dummy variable indicate that urban poor consumed less food, as proportion to total consumption, than the rural poor. The opposite is true for the non-poor households, that the urban non-poor had higher food share than the rural non-poor.

On coping, families reported cutting household expenditure as the first step in adjusting to the higher prices, reconfirming the above analysis that households reduced food consumption. Lowering debt creation was the second most reported mechanism. This is rather interesting, as one might expect families to be more indebted as a budget was tighter after more spending. But as the preceding analysis pointed out, poor families did not spend more on foods; they adjusted by lowering amount of food consumed. The pressure to borrow more was not strong. Instead, they were more cautious on creating more debt, according to this opinion survey, perhaps because they expected the food and energy prices to rise further (at the time of interview, where the priced was not peaked yet).

Table 5 First and Second Coping Mechanisms of Thai Families

| | Number of Household | | | Percentage | | |
|--------------------------|---------------------|----------------|----------------|------------|------------|------------|
| | non | poor | Total | non | poor | Tot |
| First Mechanism | | | | | | |
| reduce household | 6,302,48 | 661,775 | 6,964,2 | 77 | 80 | 77 |
| lower debt creation | 1,067,31 | 94,374 | 1,161,6 | 13 | 11 | 13 |
| spend from the savings | 178,206 | 16,415 | 194,621 | 2 | 2 | 2 |
| find extra jobs | 165,842 | 25,442 | 191,284 | 2 | 3 | 2 |
| reduce outdoor leisure | 265,633 | 2,487 | 268,120 | 3 | 0 | 3 |
| using alternative energy | 120,978 | 3,757 | 124,735 | 1 | 0 | 1 |
| Others | 112,063 | 25,091 | 137,154 | 1 | 3 | 2 |
| Total | 8,212,52 | 829,341 | 9,041,8 | 100 | 100 | 100 |
| Second Mechanism | | | | | | |
| reduce household | 786,773 | 73,870 | 860,643 | 13 | 14 | 13 |
| lower debt creation | 2,949,82 | 297,737 | 3,247,5 | 49 | 58 | 49 |

| | | | | | | |
|--------------------------|----------|---------|---------|-----|-----|-----|
| spend from the savings | 562,640 | 47,032 | 609,672 | 9 | 9 | 9 |
| find extra jobs | 423,433 | 62,216 | 485,649 | 7 | 12 | 7 |
| reduce outdoor leisure | 836,413 | 20,128 | 856,541 | 14 | 4 | 13 |
| using alternative energy | 428,300 | 11,960 | 440,260 | 7 | 2 | 7 |
| others | 64,821 | 4,763 | 69,584 | 1 | 1 | 1 |
| Total | 6,052,20 | 517,706 | 6,569,9 | 100 | 100 | 100 |

Source: Opinion survey, (6 months 2008), National Statistical Office.

For assistance needs from the government, families overwhelmingly preferred price controls, for both food and energy. The two measures were chosen as most desired by almost 70 percent of the respondents. The other two popular needs, especially among the poor, were price support for agricultural products and job provision. See Table 6. Note that the desired assistances seem to be in conflict, as both price control and price support are among the most popular answers. They are presumably preferred by different groups of people, those who consumed wanted price controls while those who produced wanted price support. Alternatively, the respondents might want price control for that they consumed and price support for what they produced. The interpretation must therefore be done carefully if any policy recommendations are to be drawn from this opinion survey.

Table 6 Assistance Needs of Thai Families

| | non poor | poor | Total |
|-------------------------|----------|------|-------|
| Rank 1 | | | |
| personal income tax cut | 3 | 1 | 3 |

| | | | |
|------------------------------------|-----|-----|-----|
| job provision | 7 | 16 | 8 |
| oil price control | 40 | 23 | 38 |
| commodity price control | 33 | 33 | 33 |
| agricultural product price support | 9 | 15 | 10 |
| provide market for agricultural | 1 | 1 | 1 |
| provide market for local products | 0 | 0 | 0 |
| extend agricultural technology | 0 | 0 | 0 |
| skill development of local labor | 1 | 1 | 1 |
| reduce interest rate | 1 | 1 | 1 |
| provide low interest rate loan | 2 | 1 | 2 |
| Others | 3 | 7 | 3 |
| Total | 100 | 100 | 100 |
| Rank 2 | | | |
| personal income tax cut | 1 | 0 | 1 |
| job provision | 4 | 7 | 4 |
| oil price control | 29 | 24 | 29 |
| commodity price control | 45 | 38 | 45 |
| agricultural product price support | 10 | 14 | 10 |
| provide market for agricultural | 4 | 6 | 4 |
| provide market for local products | 0 | 1 | 0 |
| extend agricultural technology | 1 | 0 | 1 |
| skill development of local labor | 1 | 4 | 2 |
| reduce interest rate | 2 | 1 | 2 |
| provide low interest rate loan | 2 | 2 | 2 |
| Others | 1 | 3 | 1 |
| Total | 100 | 100 | 100 |

Policy Responses: International Experiences

As surging food prices was a global phenomenon most countries were affected, although with different degree of seriousness. For some countries, the episode was the starting point of a turning in economic fortune. For example, before the commodity boom African countries grew on average more than 5 percent growth for more than five years. The latest forecasts are very grim.

For very low-income countries with food security problems, higher food price is especially hazardous to the poor. The World Bank estimated that 100 million people were put into destitution, making global poverty to rise by 3 to 5 percentage point (IMF 2009). The damages were evident indirectly through a series of social unrest in many countries: Bangladesh, Cameroon, Cote d'Ivory, Egypt, Haiti, India, Indonesia, Mozambique, Pakistan, Senegal, Somalia, Yemen, etc.. Many deaths were reported.

Governments respond in different ways. Some food exporting countries imposed at least a temporary export ban, fearing that exporters might export too much and affect domestic consumers. To mitigate the adverse price effects, there is a range of measures governments around the world resorted to. These include fuel subsidy, tax cut and higher public worker wages. Table 7 shows some examples of such measures. The IMF estimated that the

cost of these measures on average was about 0.7 percent of GDP (IMF 2009).

Table 7 Responses by Governments around the World

| <u>Measures</u> | <u>Countries</u> |
|--|------------------------|
| Export Ban by food producing countries | Brazil, India |
| Price Control | Mexico, Russia |
| Price Subsidy | Haiti |
| Public sale of foods at below-market price | Panama |
| Tax Cut | Burkina Faso, Cameroon |
| Planned Production Boost | Cameroon |

These measures are in addition to existing measures that are already in place, such as food coupons and cash transfer. Unfortunately, there have been no systematic studies to evaluate the effectiveness of these measures. But many of the measures were hastily introduced and implemented; the success was likely to be limited. Some poor countries were also in poorer position to

address the problems due to their limited budget and inadequate institutional infrastructure for implementation. The World Bank (2008) provides a general policy guidance to tackle rising food prices, as detailed in Box 1.

Box 1 Policy Guidance by the World Bank

- Targeted cash transfers of adequate coverage, generosity and quality of management are the first best option.
- Increasing the benefits for non-earnings linked social pensions, survivorship pensions, disability pensions, unemployment benefits, and the like, can be helpful.
- Food stamps are a good option, not technically preferred to cash, but possibly politically popular.
- Food distribution in kind is appropriate where markets are functioning poorly, where foreign assistance is only available in-kind or where strategic grain reserves need to be rotated. Elsewhere in-kin programs will have than necessary higher administrative costs per unit of value transferred but can be a vehicle for significant income transfer.
- Where CCT programs already exist increasing their benefit or coverage may be a key part of the response. However, establishing new CCTs will not be part of the short-run response, and especially not appropriate to the moment in most low income countries or fragile states.

- Public works programs are not the first choice in this situation because rising food prices are affecting the working poor and near-poor as well as the unemployed
- Fee waivers or vouchers for health and scholarships for education are a possible instrument to help households maintain access to services even if they are poorer.

Source: verbatim from World Bank (2008)

Responses by the Thai Government

The Thai government has been relatively quick, if confused, in responding to this situation. It must be borne in mind that the successive governments that came to power were already politically very weak – there has so far been four governments in 2008, a record even for Thailand. And the way they tackled the food and fuel price increases did not add to their strength.

First, there was a proposal of issuing food coupons to poor households. Since the discussion about this proposal was short-lived, the details of this proposal were never clear. From news reports, it seemed that, under that proposal, urban poor would get food coupons that they can use to exchange for foods at certain participating stores. Rural poor would get cash, instead of food coupon, for the reason that administrating food coupon program in rural areas might be too costly. The main reason this proposal was

finally turned down, according to the then Finance Minister, was because the government did not have accurate information to identify poor households. The program would therefore have been subject to serious targeting problem.

The government later on introduced a 'six measures for six months' policy package, details are in Box 2 below. Under this package, total subsidy of around 50 billion baht was divided among six measures, from subsidy of transportation fuel, water, electricity, bus and train services. The biggest chunk of subsidy, around 30 billion baht, went to the subsidy of fuel sales. This posed a serious problem of targeting, as it tended to benefit well-to-do population than the poor and vulnerable ones.

Box 2 Thai Government's Six Measures for Six Months

1. Reduction of excise charges for gasohol and diesel. To take effect on July 25, gasohol and diesel excise taxes would be slashed to 1 satang per litre from Bt3.30 and Bt2.30, respectively, paving way for the cut in retail prices by the same amount.
2. Suspend price adjustment for cooking gas for household use.
3. Reduction of water charges. The government will completely shoulder the water costs for household users with the consumption rate of less than 50 cubic liters per month.

4. Reduction of electricity charges. The government will completely shoulder the electricity for household users with the consumption rate of less than 80 units per month. For those using 81 to 150 units per month, the government will help paying half of the charges.
5. Commuters of non-airconditioned buses in Bangkok will avail themselves to free services. Of 1,600 buses, half will offer free rides for commuters although the government will pay for the fares. The government expects the Bangkok Mass Transit Authority to shoulder loss of Bt1.4 billion from this measure.
6. All third class train services in every route nationwide will not charge passengers because the government will pay the fares on their behalf.

In theory, the remaining five measures should perform better in targeting the poor and vulnerable, as they use consumption behavior to separate the poor from the non-poor. One should expect that those who are at the low-end of water, electricity, bus and train usage should mostly be the poor. This way there is no need to have perfect or near perfect information to identify the poor, as is the case for food coupons and cash transfer. However, the targeting problem can still arise if the 'threshold consumption' level is not carefully chosen. Table 8 presents an initial formal evaluation

of this problem. Using the baht equivalent of the eligible amount of water and electricity use, we calculated from the 2008 household survey the proportion of households benefiting from water and electricity subsidies. It is striking that almost every household used less than 50 cubic litre of water, making everyone eligible for full water subsidy. This of course includes 16 million non-poor households. The targeting is thus a serious problem here, as the measure is unnecessarily too generous³. The same is true for electricity, although to a lesser degree. 21.6 percent and 35.7 percents of non-poor households were eligible to full and half electricity subsidy, respectively. There is another side, perhaps more concerning one, of targeting problem of water and electricity subsidy. It turned out that those living in apartments and condominiums are not eligible, as they do not have separate water and electricity meters⁴. As many poor families live in low-price apartments and condominium, they do not benefit from these measures. This is however a urban problem, rural dwellings do not have this problem.

³ The current government, who expanded this policy package (except the fuel excise tax subsidy), lowered the water threshold to 30 cubic metres.

⁴ Some apartments and condominium have separate meters for each room, but they are for internal use. The water and electricity authority calculate their charges based on the main meters of the whole apartment or condominium.

Table 8 Proportion of Households Benefiting from Water and Electricity Subsidies, 2008

| Region | Poverty Status | Water Subsidy | Electricity Subsidy (total) | Electricity Subsidy (half) | No. Households |
|-----------|----------------|---------------|-----------------------------|----------------------------|----------------|
| BMR | non-poor | 94.4 | 6.4 | 22.1 | 2,497,483 |
| | poor | 100.0 | 39.3 | 52.7 | 17,857 |
| | Total | 94.4 | 6.7 | 22.4 | 2,515,340 |
| Central | non-poor | 99.3 | 10.4 | 34.9 | 3,419,777 |
| | poor | 100.0 | 45.2 | 45.2 | 163,990 |
| | Total | 99.3 | 12.0 | 35.3 | 3,583,767 |
| North | non-poor | 99.8 | 29.8 | 39.8 | 3,087,803 |
| | poor | 100.0 | 73.4 | 22.8 | 439,174 |
| | Total | 99.8 | 35.2 | 37.7 | 3,526,978 |
| Northeast | non-poor | 99.8 | 35.6 | 39.9 | 4,969,461 |
| | poor | 100.0 | 66.6 | 29.7 | 866,584 |
| | Total | 99.8 | 40.2 | 38.4 | 5,836,045 |
| South | non-poor | 99.3 | 13.1 | 37.2 | 2,289,228 |
| | poor | 100.0 | 56.3 | 37.8 | 114,303 |
| | Total | 99.4 | 15.1 | 37.3 | 2,403,531 |
| Total | non-poor | 98.8 | 21.6 | 35.7 | 16,263,752 |
| | poor | 100.0 | 65.2 | 30.2 | 1,601,908 |
| | Total | 98.9 | 25.5 | 35.2 | 17,865,660 |

Source: Calculate using data from SES 2008 (half year) , the National Statistical Office.

If the policies toward the fuel price increases convey the impression of some confusion, the policies toward rice were utterly chaotic. This is because, as pointed out earlier, there is some ambiguity regarding the impact of rice price changes on the poor. The long-standing conventional wisdom dating back many decades is that Thai rice farmers are poor. And that has been the motivation that drives the government toward supporting the price of rice for the last two decades when the price of rice was low. But, over the years, while it remains true that most of the poor people are rice farmers, but many of these farmers are now in deficit in rice.

Further it is not true that all rice farmers are poor. In particular, as shown in Table 3 above, the top three deciles contribute more than their share (41 per cent) of the rice surplus produced, so much of the benefits of the previous rice price support policies would accrue to them.

In any case, as a result of these previous price support policies, Thailand entered 2008 with a stock of rice amounting to 2.1 million tons of rice. When the price surge took place in the early part of 2008, the government that just came to power (the second of the four governments) decided in April to release that rice stocks and sell it in limited quantities at well below market prices (about 40 per cent below) “to help the poor consumers”. Unfortunately, Thailand never had the infrastructure (say, ration shops) to target its policies toward the poor in a systematic fashion. This limited the government’s ability to implement the policy of releasing rice stocks without lowering market prices, which it decidedly did not want to do. In the event, only 1,500 tons of the 2.1 million tons were released to supermarkets where long lines quickly formed. Those long lines were there despite the fact that the rice sold was of lower quality than the rice mostly consumed in urban areas. In the event, it was people’s tolerance for the low quality and for the long waiting time that rationed the small amount made available.

In June, soon after the price began to ease, but when it was still well above the previous levels, farmers began to pressure the government to prevent it from falling further. Uncharacteristically, the government moved with alacrity on this front, and set a price support well above the market price. The price then set is still in place now, even though the prices elsewhere in the world have sunk below the Thai government's set price, naturally affecting Thailand's ability to export its rice.

Policy Discussion

In this section, we discuss some other alternative policy options available for dealing with rising food and fuel. These alternative policies are taken from experiences in other countries, as well as from academic literature of poverty policies.

There are several options for poverty policy in general, and for specific situation like the rising food and fuel prices. What the Thai government has adopted (subsidies to goods and services more likely to be used by the poor and low-income population) is commonly known as 'inferior commodities', which is a member of self-targeting approach⁵. The low-priced rice distributed by the

⁵ See World Bank (2008) for a comprehensive review of targeting approaches being currently used by governments around the world.

government self-targeted the poor. The advantage of this approach is the low administrative costs. It is probably suitable to Thailand where poverty dynamism is believed to be high. When people quickly move into and out of poverty, means testing and other targeting approaches might not be appropriate.

Food Coupon and/or Cash Transfer

Food coupon and cash transfer programs are implemented in many developed and developing countries. When implemented on a permanent basis, this approach is suitable in targeting chronically poor, namely, the target group do not change much over time. It can also be used to help families deal with temporary negative shocks, such as the current increase in food price. However, for the best result, the implementation of this method requires a great deal of information.

There are in general three options in identifying the beneficiaries.

1. Means testing. Families' income or other welfare indicators are directly assessed, with appropriate supporting documents. This approach requires high level of literacy among beneficiary and very systematic documentation of family income. While basic literacy is somewhat universal among Thai, it does not rise to the level that enables the accurate report of income, especially the household

income. The best income document is tax return, which only around 8-9 million Thai file tax return each year, out of 36 million workforce. The majority of Thai labor is working in informal sectors, making their information not readily available to the government.

2. Proxy means testing. Instead of income information, a set of easily verifiable characteristics are calculated into a composite index with a selected weight scheme, and used as criteria to determine beneficiaries. A good candidate of such household-level information is collected yearly by the Ministry of Interior in rural areas, commonly known as the 'Basic Minimum Need (BMN)' dataset. This approach tends to suffer from arbitrary choice of characteristics and weighting scheme, and can often produce targeting results that are not consistent with direct means testing. Jitsuchon (2004) showed that this approach at village level using Nrd2C, another Ministry of Interior's dataset of all rural villages produced poverty map that were in stark contrast with poverty map derived from direct means testing using small area estimation technique.
3. Demographic targeting. Under this approach, beneficiaries are determined by their demographic characteristics, such as age, gender, disability. One possible useful application

of this method is to use cash transfer to elderly 'poor'. Thailand already has this old-age cash transfer in place for many years, and has been viewed as one of the most successful poverty measures.⁶ A temporary or permanent increased amount of old-age cash transfer could help mitigating the negative impacts of rising food prices to elderly poor. However, to determine which families with elderly are poor takes us back to the difficulty of direct means testing approach mentioned above.

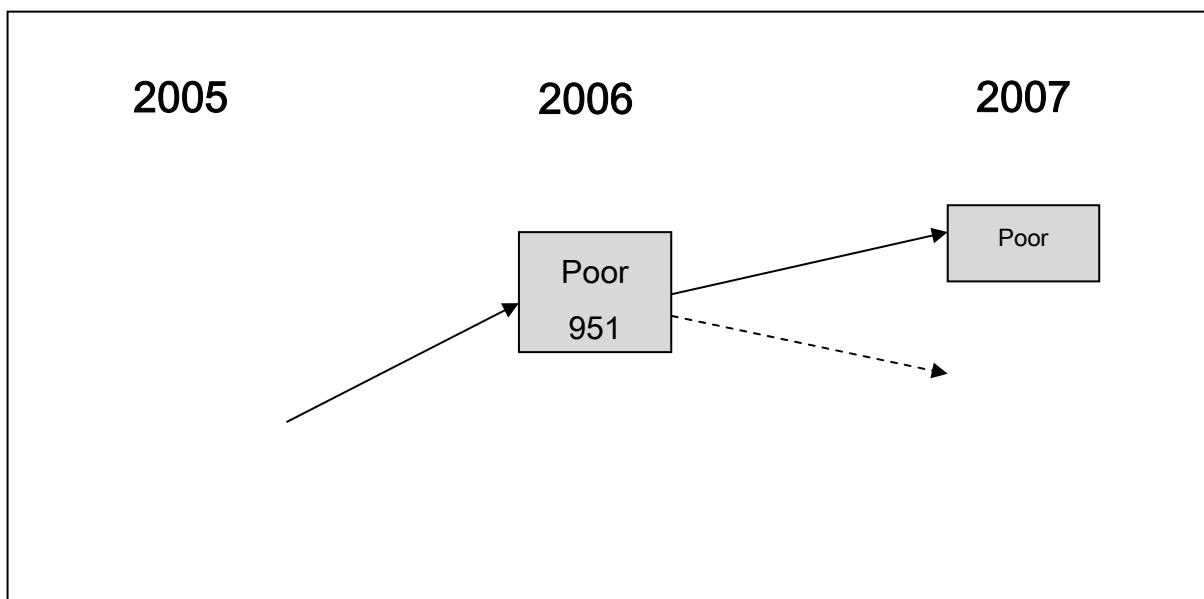
The above consideration of targeting approaches make food coupon and cash transfer more suitable to urban poor families than rural ones, because assessing rural income has never been an easy task. Since 88 percents of Thai poor lives in rural areas, the implementation difficulty of food these programs can be quite prohibiting.

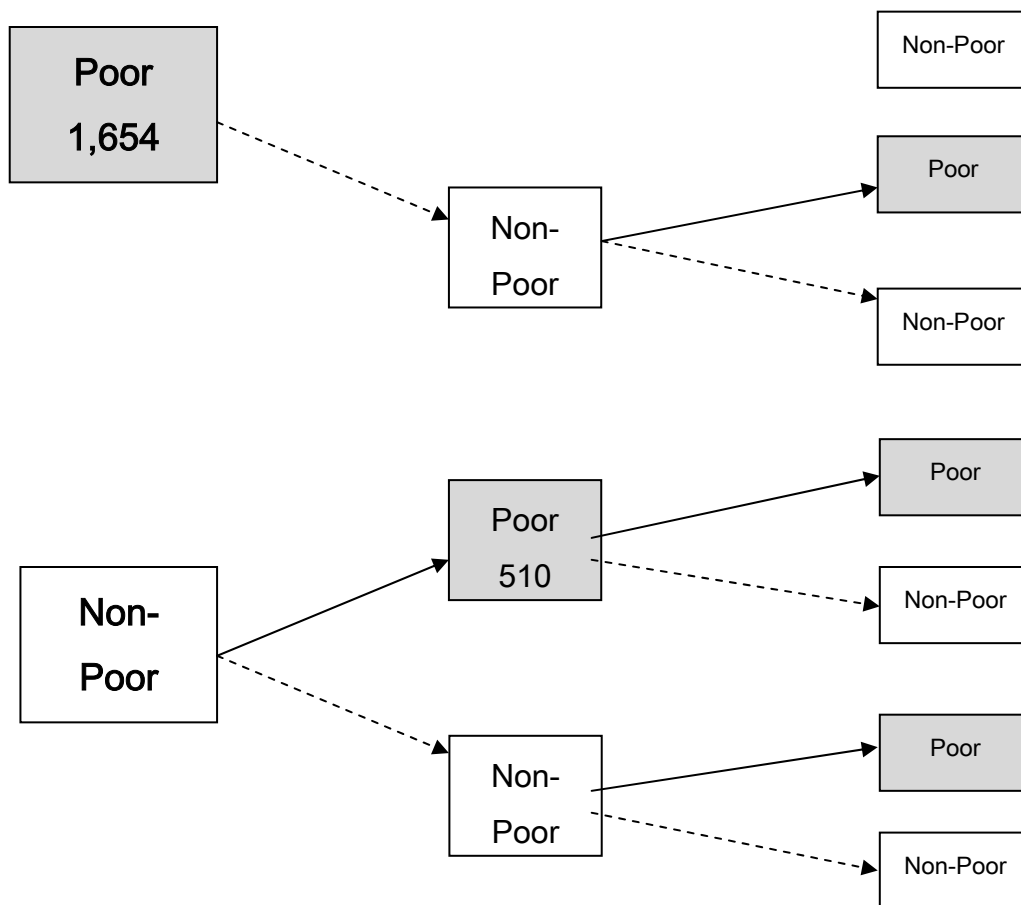
Apart from the targeting problems, the benefit of food coupon and cash transfer may also be limited by the dynamism of poverty in Thailand. To get a grasp of how much dynamism of poverty in Thailand, Figure 13 provides such pictures, using data from the 2005-2007 panel household survey by the National Statistical Office of Thailand. For those 1,654 poor households in 2005, about 41%

⁶ Thailand Development Research Institute (2005)

(677 households) escaped poverty in 2006, 205 of which returned to poverty in 2007. Only 640 households remained poor throughout the three years of survey, which is about 11 percent of the total population. Should these panel survey continued, the proportion of these 'chronically poor' households would shrink. The dynamism of poverty in Thailand is indeed very high. Moreover, the fact that poor Thai families consist of rice surplus as well as rice deficit, the rising rice prices could enhance dynamism, as rice deficit may become rice surplus with price increase. One could therefore expect the 2008 poverty situation to be highly unpredictable, jeopardizing the case for individual targeting.

Figure 13 Poverty Dynamism of Thailand, 2005 through 2007





Source: Calculate using data from Panel Household Surveys 2005-2007, the National Statistical Office.

Despite its implementation shortcoming in Thailand, cash transfer schemes are advocated by international agencies as one of the best safety net programmes in most countries, especially when bundled with conditions. For long-term policy purpose, Thailand should therefore attempt to overcome the targeting flaws that prevent the effectiveness of the scheme, and in special circumstances may even overlook the flaws and implement it

anyway if benefits outweigh costs and leakages. The cash transfer that is to implement in April 2009 by the DCP government is an example of the use of cash transfer despite its targeting problem as the depth and speed of global recession make the case for the benefits.

After investing in institutional building that allows effective implementation of cash transfer (see details in the next section), the government must communicate the rationale of cash transfer to prevent misunderstanding among the public. Failure to do so can jeopardize the program, as already happened in some countries. For example, Nicaragua's conditional cash transfer (RED DE PROTECCION SOCIAL) was short-lived in spite of its positive impact on the poor simply because there were too much resistances domestically.

Geographic and Community Targeting

Although targeting at household or individual level faces many implementation difficulties, targeting at geographic and community level might be a second-best solution. Since about half of Thai poor lives in rural Northeast, and a quarter in rural North, poverty in Thailand is very concentrated. Targeting these two areas alone will account for three quarter of the poor. The concentration is also evident at provincial level. For example, many Northeast provinces have much more poor families than their neighboring provinces. It

is therefore not difficult to identify target provinces with sufficiently high accuracy, using reliable household surveys alone. Below provincial levels such as at amphoe and district levels, where household surveys do not provide statistically accurate estimate of poverty situation, one can turn to other 'poverty maps', such as the one using small area estimation technique.

When areas are identified down to provincial or sub-provincial levels, community targeting can be employed to distribute assistance to households or individuals. Several local government agencies are suitable to carry the tasks. Tambon Administration Organizations (TAOs) can take this responsibility. They have substantial experience in managing old-age cash transfer, and can adapt such experience to other forms of government interventions. In addition, TAOs may combine other information provided by central government with local knowledge in identifying gainers and losers from food price rises, helping more accurate targeting under complex circumstance that is nearly impossible to handle by the central government alone.

Institutional Building for Shock Mitigation

Mechanism

For long-term and sustainable success of protecting the poor and vulnerable from economic shocks, Thailand needs to seriously

develop institutional capacity in identifying and delivering helps to those who are in dire need. For identifying the vulnerable, various targeting methods are available in literature and in actual practice around the world. To implement those targeting, the following steps must be taken.

Investing in information system of vulnerable families and individuals

Thailand has never invested in nation-wide information system about vulnerable families and individuals that is sufficiently accurate to implement decent targeting scheme. The government does have good income data for three fractions of population; all public employees, private employees registered with the Social Security Office (SSO), and the remaining tax-payers. However, these groups altogether still account for minority of population. One possible way to collect complete income information is to require all working-age population to file tax return on an annual basis, regardless of their employment status. This approach is adopted in many developed countries and works well in providing the governments with income information that help determining the target families.

An alternative approach is to enforce the extension of Social Security Scheme (SSS) to all private employees. The current law stipulates that all enterprise with at least one employee must

register with the SSS. However, the premium's financial burdens to these prospective employers and employees, as well as the non-readiness of the Social Security Office, have been pediments to this extension. The government should address this incentive problem somehow, for example giving special tax privilege to those participating in the SSS. Once the Scheme coverage is comprehensive, the income information of all private employees will be immediately available.

Strengthening Outreach Capability

In addition to the targeting mechanism, Thailand needs to have a comprehensive outreach capability to deliver helps to the needy most effectively and most efficiently. This can be done by the following steps.

- Improving area-based budget allocation process to minimize the problems of over- and under-budgeting. The appropriate level of area-based budget allocation should be at provincial level, because all provinces (a) cover geographic area that are not too small and not too large and (b) have representatives from all line ministries responsible for helping the poor and vulnerable in different help areas.
- Coordinating with local governments at all level in delivering helps to the needy. This includes Provincial

Administration Organizations (PAO), Tambon Administration Organizations (TAO) and Village Committees.

- Delegating some tasks to selected non-government organizations (NGOs) that are specialized in reaching out and assisting particular target groups (such as disabled, widowed, HIV-affected, etc).
- Training officials from the central government in locating the poor and vulnerable on case by case basis, to help monitoring the accuracy of targeting as well as the proper delivery of assistances.

Other Long-Term Policy Measures

There are other long-term policy measures that should be put in place. Rather than focusing solely on how to mitigate the impact of negative shocks, the government should strengthen a priori risk management among those vulnerable to the shocks. For example, commodity price insurance can be promoted through the development of agricultural future markets and weather insurance schemes. These measures are market-based, so they are not subject to government failures as all policies discussed above. The effectiveness is likely to be greater and perhaps more importantly they are relatively politics-free. The measures should be supplemented by a strengthening of farmer institutions, such as

farmer cooperatives or farmer groups. Farmer institutions will equip the farmers with necessary information and tools to take full benefit of the risk management. In addition, enhanced social capital through these institutions can improve life quality of the members in ways market mechanism does not deliver.

Finally, it is utmost important that the government should does its best to maintain investment in human capital in time of economic crisis. Keeping human capitals spending level at pre-crisis levels is a policy objective that must not be compromised. If children are forced to abolish schools or denied certain health services, the society will lose its future competitiveness. Such competitive losses are rarely evaluated.

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Data Annex

Table A1 Relative Price of Food to Non-Food for Low-Income Households

| Month | United States | | | Thailand | | | | | Vietnam |
|------------|----------------------------|---------------------------|--------------------------------|--------------|--------------|---------|-----|-----------|------------|
| | Southern long grain milled | Southern long grain rough | California medium grain milled | 100% Grade B | 5% Parboiled | 15% | 35% | A.1 Super | 5% Brokens |
| | | | | | | Brokens | | | |
| Jan. 2007 | 420 | 243 | 551 | 320 | 313 | NQ | 281 | 244 | |
| Feb. 2007 | 417 | 240 | 551 | 323 | 317 | NQ | 285 | 258 | NQ |
| Mar. 2007 | 405 | 240 | 551 | 327 | 324 | 303 | 292 | 262 | NQ |
| April 2007 | 400 | 240 | 551 | 324 | 322 | 303 | 291 | 258 | 303 |
| May 2007 | 397 | 237 | 551 | 325 | 321 | 301 | 283 | 256 | 303 |
| June 2007 | 397 | 235 | 536 | 331 | 327 | 303 | 293 | 257 | 301 |
| July 2007 | 392 | 235 | 529 | 335 | 333 | 307 | 297 | 260 | 303 |
| Aug. 2007 | 395 | 249 | 535 | 334 | 331 | 316 | 298 | 261 | 307 |
| Sep. 2007 | 413 | 284 | 576 | 332 | 330 | 320 | 300 | 272 | 316 |
| Oct. 2007 | 446 | 285 | 584 | 336 | 336 | NQ | 311 | 293 | 320 |
| Nov. 2007 | 475 | 295 | 584 | 349 | 358 | NQ | 326 | 311 | NQ |
| Dec. 2007 | 496 | 302 | 584 | 368 | 380 | NQ | 347 | 333 | NQ |
| Jan. 2008 | 518 | 315 | 590 | 384 | 394 | 390 | 349 | 358 | NQ |
| Feb. 2008 | 565 | 353 | 595 | 474 | 484 | 467 | NQ | 434 | 390 |
| Mar. 2008 | 664 | 413 | 595 | 615 | 580 | 615 | NQ | 538 | 467 |
| Apr. 2008 | 816 | 480 | 758 | 929 | 1,025 | 875 | NQ | 763 | 615 |
| May 2008 | 926 | 530 | 926 | 949 | 1,008 | 1,088 | NQ | 752 | 875 |
| June 2008 | 878 | 467 | 963 | 789 | 828 | 850 | NQ | 588 | 1,088 |
| July 2008 | 854 | 444 | 1,036 | 756 | 789 | 743 | NQ | 547 | 850 |
| Aug. 2008 | 802 | 421 | 1,061 | 709 | 737 | 588 | NQ | 469 | 743 |
| Sep. 2008 | 791 | 436 | 1,119 | 701 | 718 | 573 | NQ | 420 | 588 |
| Oct. 2008 | 772 | 435 | 1,113 | 676 | 668 | NQ | NQ | 385 | 510 |
| Nov.2008 | 695 | | 1,102 | 591 | 584 | NQ | NQ | 320 | 434 |
| Dec.2008 | 683 | | 1,102 | 582 | 597 | NQ | NQ | 310 | 414 |

Sources: U.S. and Vietnam prices, *Creed Rice Market Report*; Thailand prices, *Weekly Rice Price Update*, U.S. ag. counselor, Bangkok, Thailand (www.fas.usda.gov).

Table A2 International Price of Oil and Gasoline

| | Crude Oil Price (U.S. \$ per Barrel) | | Singapore Conventional Premium Gasoline Spot Price FOB |
|-------------|---|---------------|---|
| | WTI | Dubai | (U.S. \$ per Liter) |
| 2007 | 72.36 | 68.08 | 0.52 |
| Jan | 54.57 | 52.35 | 0.39 |
| Feb | 59.26 | 54.49 | 0.42 |
| Mar | 60.56 | 58.47 | 0.48 |
| Apr | 63.97 | 63.80 | 0.53 |
| May | 63.46 | 64.45 | 0.56 |
| Jun | 67.48 | 65.70 | 0.53 |
| Jul | 74.18 | 69.37 | 0.54 |
| Aug | 72.39 | 67.59 | 0.49 |
| Sep | 79.93 | 72.94 | 0.52 |
| Oct | 86.20 | 76.01 | 0.56 |
| Nov | 94.62 | 86.23 | 0.63 |
| Dec | 91.73 | 85.57 | 0.62 |
| 2008 | 113.30 | 107.26 | 0.74 |
| Jan | 92.95 | 87.91 | 0.63 |
| Feb | 95.35 | 88.94 | 0.66 |
| Mar | 105.56 | 96.77 | 0.69 |
| Apr | 112.57 | 101.93 | 0.74 |
| May | 125.39 | 117.32 | 0.82 |
| Jun | 133.93 | 126.65 | 0.88 |
| Jul | 133.44 | 133.87 | 0.85 |
| Aug | 116.61 | 114.74 | 0.73 |
| Sep | 103.90 | 97.19 | 0.67 |
| Oct | 76.61 | 71.39 | 0.50 |
| Nov | 57.31 | 50.08 | 0.30 |
| Dec | 41.12 | 41.52 | 0.26 |

Sources: Energy Information Administration (www.eia.doe.gov)

Table A3 Retail Prices of Gasoline and Diesel

| | GASOLINE | | | | DIESEL | | | |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | ULG | UGR | GASOHOL 95 | | GASOHOL | HSD | B5 | LSD |
| | 95 | 91 | (E10) | (E20) | 91 | | | |
| 2007 | 29.18 | 28.32 | 26.17 | | 25.76 | 25.66 | 24.95 | 25.45 |
| Jan | 25.71 | 24.91 | 24.21 | | | 22.76 | 22.26 | 22.57 |
| Feb | 25.63 | 24.83 | 23.90 | | 23.39 | 23.10 | 22.60 | 22.91 |
| Mar | 27.34 | 26.54 | 25.12 | | 24.80 | 23.62 | 22.96 | 23.43 |
| Apr | 28.68 | 27.88 | 26.18 | | 25.88 | 24.83 | 24.13 | 24.64 |
| May | 29.99 | 29.19 | 26.86 | | 26.56 | 25.34 | 24.64 | 25.15 |
| Jun | 30.01 | 29.21 | 26.71 | | 26.40 | 25.34 | 24.64 | 25.15 |
| Jul | 29.85 | 29.05 | 26.39 | | 25.75 | 25.61 | 24.91 | 25.15 |
| Aug | 28.53 | 27.73 | 25.03 | | 24.23 | 25.44 | 24.74 | 25.25 |
| Sep | 29.39 | 28.59 | 25.89 | | 25.09 | 26.58 | 25.88 | 26.39 |
| Oct | 30.31 | 29.51 | 26.81 | | 26.01 | 27.47 | 26.76 | 27.28 |
| Nov | 32.08 | 31.04 | 28.34 | | 27.45 | 28.80 | 27.78 | 28.63 |
| Dec | 32.67 | 31.32 | 28.62 | | 27.82 | 29.07 | 28.07 | 28.88 |
| 2008 | 37.18 | 35.78 | 31.62 | 29.92 | 30.81 | 34.12 | 33.34 | 34.98 |
| Jan | 33.17 | 31.88 | 29.17 | 27.47 | 28.37 | 29.43 | 28.44 | 29.06 |
| Feb | 32.94 | 31.84 | 28.94 | 26.94 | 28.14 | 29.29 | 28.79 | 29.20 |
| Mar | 34.05 | 32.94 | 30.03 | 28.01 | 29.21 | 30.62 | 29.89 | 30.56 |
| Apr | 35.40 | 34.27 | 31.36 | 29.31 | 30.52 | 32.32 | 31.36 | 32.30 |
| May | 38.26 | 37.12 | 34.19 | 32.18 | 33.38 | 35.72 | 34.75 | 36.13 |
| Jun | 41.64 | 40.40 | 36.80 | 35.17 | 35.97 | 41.02 | 40.29 | 41.52 |
| Jul | 42.69 | 40.90 | 36.41 | 35.10 | 35.61 | 42.57 | 41.90 | 43.68 |
| Aug | 38.62 | 36.84 | 29.34 | 28.04 | 28.54 | 34.37 | 33.68 | 37.48 |
| Sep | 37.84 | 35.87 | 28.35 | 27.02 | 27.52 | 31.70 | 30.99 | 34.86 |
| Oct | 34.42 | 31.90 | 25.39 | 24.25 | 24.59 | 26.22 | 25.45 | 29.48 |
| Nov | 28.68 | 25.60 | 20.64 | 19.26 | 19.84 | 22.22 | 21.02 | 27.04 |
| Dec | 26.28 | 21.54 | 17.00 | 15.65 | 16.17 | 19.67 | 18.17 | 27.04 |

Sources: Economic Planning Policy Office (EPPO), www.eppo.go.th

Table A4 Expenditure Pattern of Thai Household by Consumption Decile, H1/2008

| Expenditure | Household Consumption Decile | | | | | | | | | |
|------------------------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| food | 56.18 | 51.96 | 49.21 | 46.41 | 44.57 | 41.58 | 37.50 | 34.41 | 30.20 | 22.32 |
| shelter | 12.07 | 11.68 | 11.37 | 11.79 | 12.15 | 12.13 | 12.01 | 12.84 | 13.86 | 13.74 |
| household operation | 8.40 | 8.37 | 7.84 | 7.89 | 7.94 | 7.69 | 7.24 | 7.16 | 6.85 | 5.86 |
| service workers | 0.04 | 0.07 | 0.02 | 0.02 | 0.08 | 0.08 | 0.18 | 0.14 | 0.65 | 1.38 |
| clothing | 1.82 | 2.04 | 2.44 | 2.62 | 2.61 | 2.86 | 2.62 | 2.66 | 2.50 | 2.59 |
| footwear | 0.39 | 0.68 | 0.59 | 0.67 | 0.63 | 0.63 | 0.63 | 0.56 | 0.57 | 0.62 |
| personal care | 3.74 | 3.55 | 3.60 | 3.33 | 3.37 | 3.21 | 3.20 | 3.15 | 3.09 | 3.09 |
| medical and health care | 1.27 | 1.30 | 1.49 | 1.28 | 1.63 | 1.69 | 1.51 | 1.69 | 2.18 | 2.87 |
| Transport & communication | 10.94 | 14.23 | 16.87 | 17.90 | 19.27 | 21.18 | 25.70 | 27.81 | 30.19 | 37.15 |
| education | 1.80 | 1.68 | 1.82 | 2.06 | 2.02 | 2.58 | 2.28 | 2.71 | 3.54 | 3.76 |
| recreation&activity | 1.28 | 1.50 | 1.49 | 1.76 | 1.82 | 1.99 | 1.88 | 2.31 | 2.16 | 2.92 |
| special ceremony | 0.31 | 0.54 | 0.68 | 1.36 | 1.04 | 1.26 | 1.90 | 1.70 | 1.89 | 1.88 |
| non_con | 7.37 | 7.73 | 8.95 | 9.02 | 10.70 | 10.40 | 12.31 | 12.28 | 12.18 | 15.21 |
| durable expenditure+special travel | 13.68 | 14.56 | 15.67 | 16.48 | 17.48 | 18.24 | 21.65 | 24.61 | 27.40 | 35.40 |
| electricity | 3.12 | 2.96 | 2.97 | 3.04 | 3.11 | 3.25 | 3.16 | 3.34 | 3.27 | 2.96 |
| cooking gas | 0.33 | 0.52 | 0.59 | 0.70 | 0.68 | 0.61 | 0.58 | 0.53 | 0.43 | 0.24 |
| water supply | 1.01 | 0.91 | 0.90 | 0.89 | 0.92 | 0.98 | 0.92 | 0.94 | 0.83 | 0.60 |
| bus boat minibus van train | 0.32 | 0.33 | 0.48 | 0.55 | 0.69 | 0.96 | 0.97 | 1.36 | 1.56 | 0.82 |
| school bus staff service bus | 0.34 | 0.56 | 0.60 | 0.63 | 0.73 | 0.96 | 0.86 | 0.61 | 0.47 | 0.24 |
| taxi | 0.01 | 0.04 | 0.07 | 0.11 | 0.07 | 0.15 | 0.14 | 0.28 | 0.20 | 0.22 |
| gasoline octane 91 | 5.13 | 5.58 | 5.59 | 5.53 | 4.82 | 4.50 | 4.25 | 3.29 | 2.72 | 1.99 |

| | | | | | | | | | | |
|--------------------|------|------|------|------|------|------|------|------|------|------|
| gasoline octane 91 | 0.20 | 0.22 | 0.39 | 0.32 | 0.39 | 0.28 | 0.38 | 0.42 | 0.44 | 0.89 |
| gasohol | 0.06 | 0.20 | 0.16 | 0.33 | 0.38 | 0.44 | 0.55 | 0.74 | 1.25 | 2.29 |
| NGV | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.14 | 0.07 |
| LPG | 0.00 | 0.00 | 0.04 | 0.01 | 0.02 | 0.02 | 0.05 | 0.11 | 0.12 | 0.23 |
| diesel | 0.34 | 1.15 | 1.26 | 1.86 | 2.40 | 3.27 | 3.88 | 4.25 | 4.47 | 3.88 |

Sources: The National Statistical Office, Thailand.