WPS6255

Policy Research Working Paper 6255

The Surprising Effects of the Great Recession

Losers and Winners in Thailand in 2008–2009

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November 2012

Abstract

In 2009, buffeted by the great recession, Thai gross domestic product fell by 2.3 percent. Using monthly data from the socio-economic surveys of 2007–2010, this paper finds, after controlling for household variables, that real consumption per capita rose in 2009 relative to 2008 for most groups, including the poor, urban and rural households, men, women, and children. The losers were residents of Bangkok, especially those aged 20–29, and those working in sales and services. During the recession year of 2009, school enrollment rates did not fall, and durable goods purchases actually rose; households probably reduced their savings, and also benefitted from the lower food prices that prevailed in 2009. A simulation exercise based on the slowdown in growth of gross domestic product would have missed these effects, as would models based solely on readily-available data series. This points to the importance of country-specific policy analysis, rooted in timely local evidence, including household survey data.

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The Surprising Effects of the Great Recession: Losers and Winners in Thailand in 2008-2009[1]

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JEL: E0; E37; Keywords: Recession, impact, winners and losers, Thailand,

[1] We would like to thank Will Martin for very helpful comments. The views expressed in this paper are those of the authors, and not necessarily those of the institutions with which they are affiliated.

The Surprising Effects of the Great Recession: Losers and Winners in Thailand in 2008-2009

Introduction

In late 2008, the world economy went into recession and world GDP fell by 0.6% in 2009 (IMF 2012). In an exercise that has been widely cited, Ravallion and Chen (2009) estimated that the global recession would leave 53 million more people in poverty in 2009 than if economic growth had not been interrupted. Their methodology is straightforward and sensible: measure the reduction in the forecast growth of consumption attributable to the recession, assume the effect is distributionally neutral, and recompute the poverty headcount rate, country by country. Wan and Francisco (2009) applied a similar approach to the countries of developing Asia; they simulate the ex ante effects of the 2008-2009 global recession both on poverty and on social spending, and devote some effort to measuring the relevant elasticities. They argue that such an assessment "can produce findings and insights for swift policy actions" (p.1), although they recognize that the estimates only apply to "the aggregate impacts of the crisis, not the impacts at the household level" (p.2).

The main problem with such simulations is that they focus almost exclusively on a single variable, such as consumption, as the main driver of poverty. In reality, and especially in the short-run, other factors matter. For instance, a growth slowdown accompanied, perhaps even triggered, by higher energy prices – and perhaps the higher food prices that may ensue (Chongvilaivan 2012) – is likely to have very different distributional effects compared to one associated with lower energy prices. This makes it remarkably difficult to forecast the effects of recession on groups within a country, such as the poor, or rural households, or children. Yet it is groups such as these that policy interventions typically need to target.

The effects of a global recession on living standards are also likely to vary widely from country to country, given differences in economic structures, and sources of household income. For instance, de Janvry and Sadoulet (2010) found, somewhat to their surprise, that during the global food crisis of 2006-2008, when food prices rose sharply, most farm households in Guatemala lost from the rising prices. For Thailand – consistently the world's largest exporter of rice – Jitsuchon and Siamwalla (2009) found that the higher rice prices of 2007 helped some poor households and hurt others, with a net effect that was difficult to determine. Headey (2011)

notes the striking contrast between simulations, which estimated that 75-160 million people would be "thrown into hunger and poverty" due to the global food crisis, and the results of self-reported outcomes that the number of "food-insecure" people fell by 60-250 million between 2005 and 2008.

The important point here is that it is essential to build policy on actual data – to the extent practicable – rather than on simulations. This is in line with one of the main lessons that the World Bank (2009) draws from previous crises in which it emphasizes the need for "sound information on what is happening on the ground as the crisis unfolds" (p.8).

An implication of this discussion is that the effects of global recession on socio-demographic groups within a country are an empirical matter. For instance, Bresciani et al. (2002), in their study of the impact of the Asian financial crisis of 1997-98 on farm households in Thailand and Indonesia, find that poor farmers were hard hit in Thailand, but not in Indonesia, and that in both countries farmers specializing in export crops benefitted from the currency devaluation associated with that crisis.

The volume edited by Khandker (2002) includes several papers that trace the effects of the East Asian financial crisis on poverty in Malaysia, Indonesia, the Philippines, South Korea, and China. One generalization is that "the uneducated, inexperienced, young female workers, and the urban sector suffered most from the crisis" (p.5), but there were variations across countries. The ultra-poor suffered disproportionately in Malaysia, as did households headed by old, or very young, individuals; poverty rose rapidly in Indonesia, especially in Java, but also fell quickly when the crisis had passed; and large households suffered from the slowdown, due at least as much to El Niño as to the financial crisis, in the Philippines. Yap et al. (2009) provide an exhaustive recent update for the Philippines. Ananta and Barichello (2012) argue that in Southeast Asia, as a result off the 1997 crisis, "the poor have and will have suffered the most" (p.3). Boonyamanond and Punpuing (2012), in the same volume, note that poverty rose in Thailand, especially in the Northeast, but with a lag, as households in that relatively poor region found their remittance receipts shrink and prospects for work in Bangkok diminish.

There have been relatively few published studies so far of the actual (as opposed to simulated) effects of the most recent global recession on groups within society. Aryeetey and Ackah (2011) argue that the crisis of 2008-2009 had a strong aggregate impact on the economies of Africa, and

suggest that "there is growing evidence that the impact on the poor has been more acute than for the non-poor" (p.419). Huang et al. (2011) find that the crisis led to a very sharp drop in rural off-farm employment in China between October 2008 and April 2009, followed by an equally fast recovery by August 2009.

In the context of Thailand, Paitoonpong and Akkarakul (2009) argue that women "are among the most vulnerable to the downturn" (p.11), mainly due to their relatively high representation in the less-stable jobs in export-oriented manufacturing firms. Chirathivat and Mallikamas (2011) show that while food consumption was maintained during the crisis period, and spending on services rose, the amount devoted to buying durable goods fell sharply. They do not, however, disaggregate the effects to the level of household groups. The World Bank (2010, p.69) contends that in Thailand, "vulnerable households lost ground in 2009".

The Question of Interest

Figure 1 shows that during the great recession economic growth in Thailand followed the same pattern as the world as a whole, with a 2.3% drop in real GDP in 2009, the worst contraction in Southeast Asia (Swee-Hock 2011, p.10).

In this paper we address a seemingly straightforward question: Who in Thailand was actually hurt by the recession of 2009? Was it the poor, or the ultra-poor, or urban populations, or farmers, or women, or wage workers, or large households, or the self-employed, or young children, or school children, or pensioners, or those in the informal sector? Only once we have answered this question can we begin to determine whether the government response to the recession was well targeted, and of an appropriate magnitude. This work also fits within the growing body of research on how households cope in times of recession; UNESC (2009) presents a recent example.

An important reason for focusing on Thailand is the availability of excellent and timely household survey data. The National Statistics Office conducts its Socio-Economic Survey on an on-going basis, interviewing about 3,800 households nationwide every month, and collecting detailed information on consumption as well as many other variables. In principle this allows one to track the actual effects of global recession on different groups in Thailand, with a lag (to allow for data cleaning and processing) of just a month or two. We are also interested in

whether data of this nature are likely to be helpful when a government crafts its response to the cold winds of global recession.

We begin by examining in more detail the timing of the 2008-2009 recession as it affected Thailand, and documenting the effects on output and unemployment. After developing a serviceable measure of welfare, we then use data from the Thailand Socio-Economic Surveys to construct a month-by-month time series for consumption, which we deflate to obtain real per capita consumption levels. This allows us to trace the effects of the recession on different socio-demographic groups, both on average, and controlling for a wide variety of household-level variables.

Our main, and somewhat surprising, conclusion, for which we argue more carefully below, is that the only major socio-demographic group hurt by the 2009 recession was younger wage-earners in the greater Bangkok region, who were hit by the sharp, if relatively short, drop in export-oriented manufacturing. On average, the poor in Thailand actually benefitted from the recession, because the effects of lower prices of food and energy outweighed the other influences on their economic wellbeing. We offer some further thoughts, including on the role of government in the crisis, and the importance of rooting policy in actual data, in the concluding section.

Timing the Recession

The annual data on GDP growth rates shown in Figure 1 indicate that economic growth in Thailand, and worldwide, slowed in 2008, and GDP fell in 2009. From the standard macroeconomic identity, we have:

GDP	≡	C	+	I	+	G	+	X – IM
GDP	≡	consumption spending		investment		government purchases		net exports

It is useful to decompose the growth of GDP into the contributions of each of these components, and this is shown in the bars in Figure 1. Most of the drop in Thai GDP in 2009 was due to a sharp fall in investment spending, which then rebounded in the following year. Real consumer spending rose in every year except 2009, when it dipped slightly (by 1.1%). The rise in net exports was the major contributor to GDP growth in 2006 and 2007; in 2009,

although exports fell sharply (by 9.1%), imports fell even more (by 12.6%), so the current account played a strong role in moderating the drop in GDP.

Real government spending *on goods and services* rose by 0.9% in 2009, but Figure 1 shows that the contribution to economic growth was rather modest, despite the stimulus programs of 2009 and 2010. However, this understates the potential role of government in maintaining GDP, since it also transfers resources to households directly, thereby helping to maintain private consumption spending.

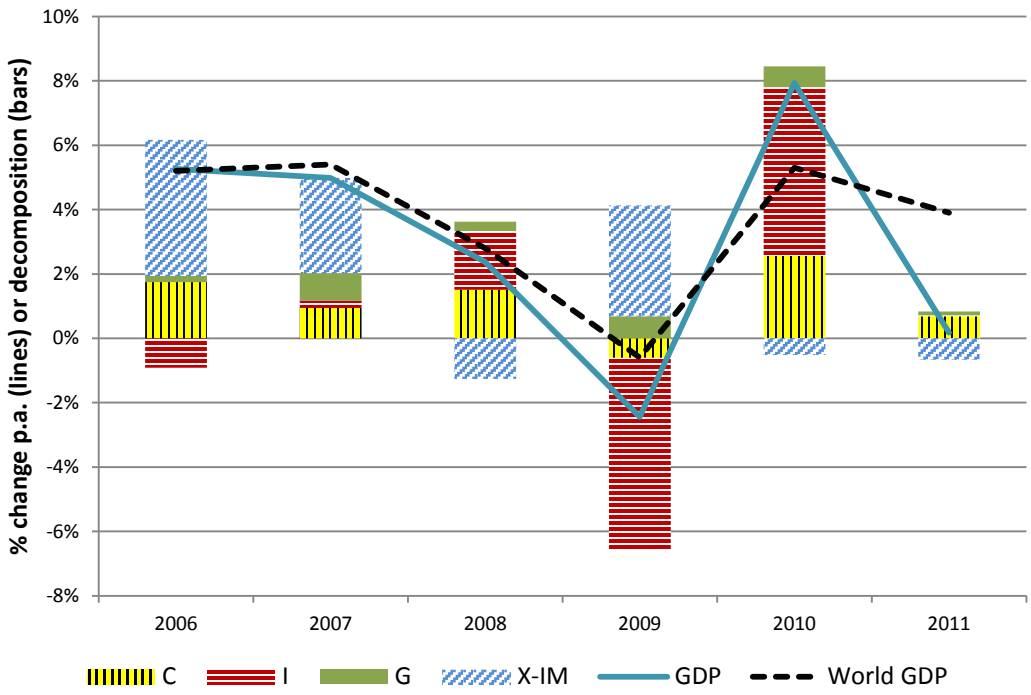

Figure 1. Decomposition of GDP growth into its macroeconomic components
Source: Data reported by Bank of Thailand; IMF (2012). Note: C = consumer spending; I = investment spending; G = government spending on goods and services; X-IM = net exports.

The annual data that are summarized in Figure 1 are not fine-grained enough to allow us to date the onset of recession very accurately. Figure 2 presents quarterly data on real GDP growth (at annualized rates). GDP growth was negative for four quarters, starting in the last quarter of 2008. Compared to the crisis of 1997-1998, this recent downturn was substantially smaller and shorter.

One of the ways in which the global economic slowdown was transmitted to Thailand was through a dramatic reduction in the dollar value of merchandise exports, which dropped from US$170 billion in 2008 to US$151 billion in 2009. This was a far stronger reduction in exports

than Thailand experienced either in the late 1990s, or in 2001-02 (when the fall in exports was not associated with a recession).

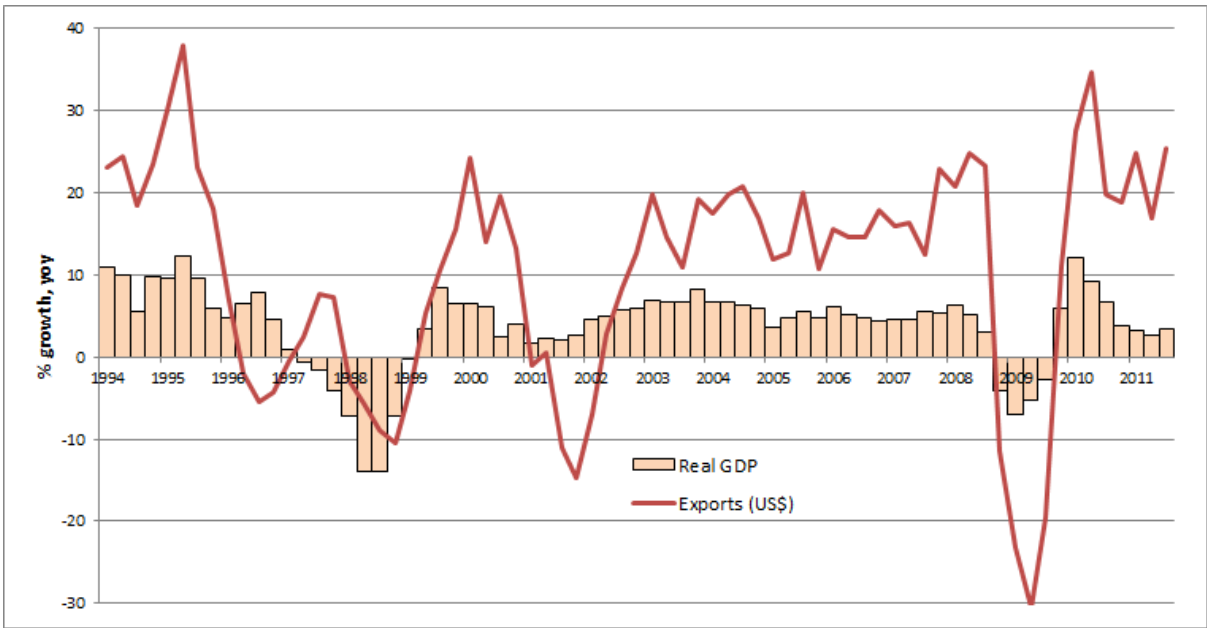

Figure 2. GDP and Export growth rates for Thailand, 1994:Q1 – 2011:Q3.
Source: Reported by Bank of Thailand

An important shock to the Thai economy in 2008-09 was a reduction in the number of foreign visitors, from 14.6 million in 2008 to 14.1 million in 2009, although this was followed by a swift rebound to 15.9 million in 2010 and 19.1 million in 2011 (Bank of Thailand 2012).

The recession was associated with a rise in unemployment. As shown in Figure 3, the unemployment rate rose sharply for about a year, and stood at 2.1% in the first quarter of 2009, up from 1.2% in the third quarter of 2008. Young workers were particularly hard hit, with unemployment for those aged 20-29 rising from 2.9% to 5.3% over the same period (Chandoewvit 2010). The labor market was impacted in other ways too: In the first quarter of 2009, 6% of employees reported that they were working for fewer hours than previously, and 11% said they were earning lower wages. Jitsuchon and Patanarangsun (2009) provide further sectoral details.

Measuring Wellbeing

Our interest in this paper is in measuring the effect of the 2008-2009 recession on the wellbeing of different groups in Thai society. Data on consumption are available for every year, unlike information on income, which is only available for 2007 and 2009. We thus use a measure of wellbeing that focuses on real consumption. Following Friedman and Levinsohn (2002, p.403), who used such an approach in their study of the effects of the 2007-2008 Asian financial crisis

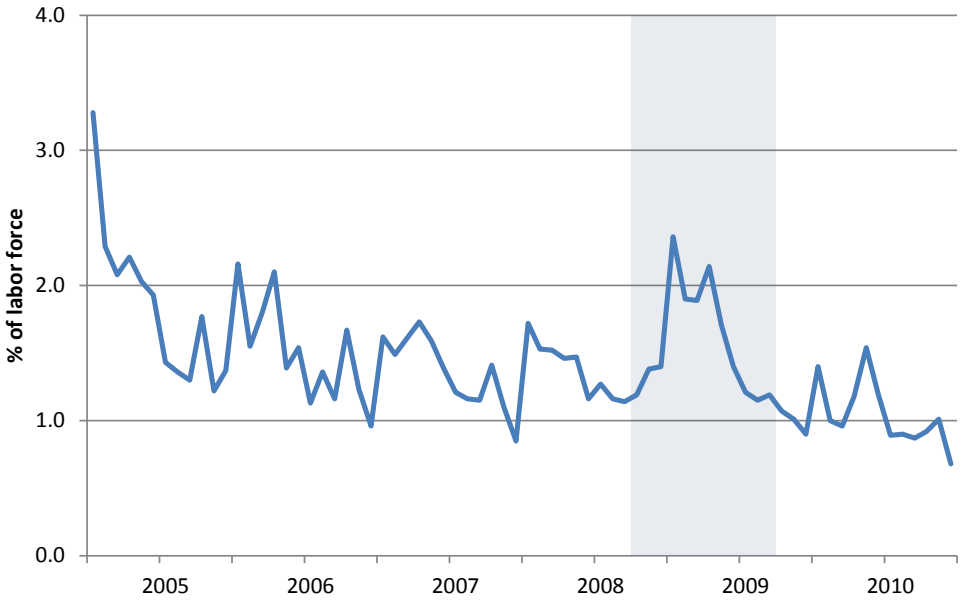

Figure 3. Unemployment rate in Thailand, 2005:M1 – 2010:M12
Source: Reported by Bank of Thailand. Shaded area marks period of recession.

on poverty in Indonesia, we measure the change in wellbeing for any given household (indexed by *h*) using

$$\Delta \ln C^h \approx \sum_{i=1}^{n} a_i^h \Delta \ln p_i^h .$$

This says that the proportionate change in real consumption is approximately equal to a weighted average of the proportionate changes in the prices of the *n* goods, where the weights (a_i) measure the importance of good *i* in the household's budget.

The Bank of Thailand publishes a series that measures private consumption per capita (in 1988 prices), and this is shown in the top panel of Figure 4, along with a simple trend line. The computation involves deflating nominal consumption expenditures by the consumer price index. By this measure, real consumption per capita was not only below trend in the first three quarters of 2009, but actually fell.

We have constructed our own per capita consumption series, based on data reported by households in the Socio-Economic Surveys of 2007 through 2010, in the bottom panel of Figure 4, and it paints a somewhat different picture: by this measure, real consumption spending was maintained until mid-2009, and then fell briefly, before reverting to trend by the end of the year.

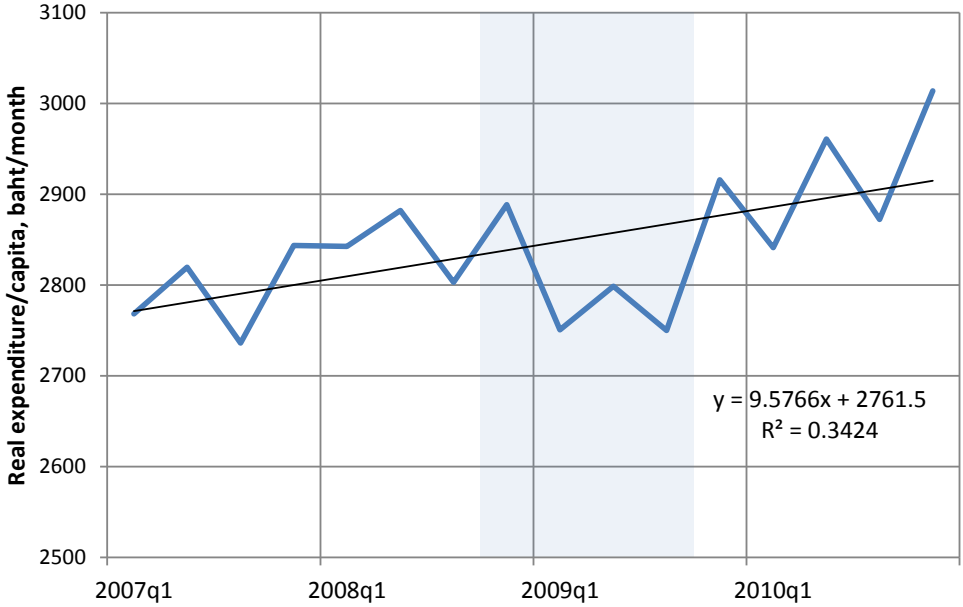

Figure 4.1. Private consumption expenditure, 1988 prices

Source: Reported by Bank of Thailand. Shaded area marks period of recession.

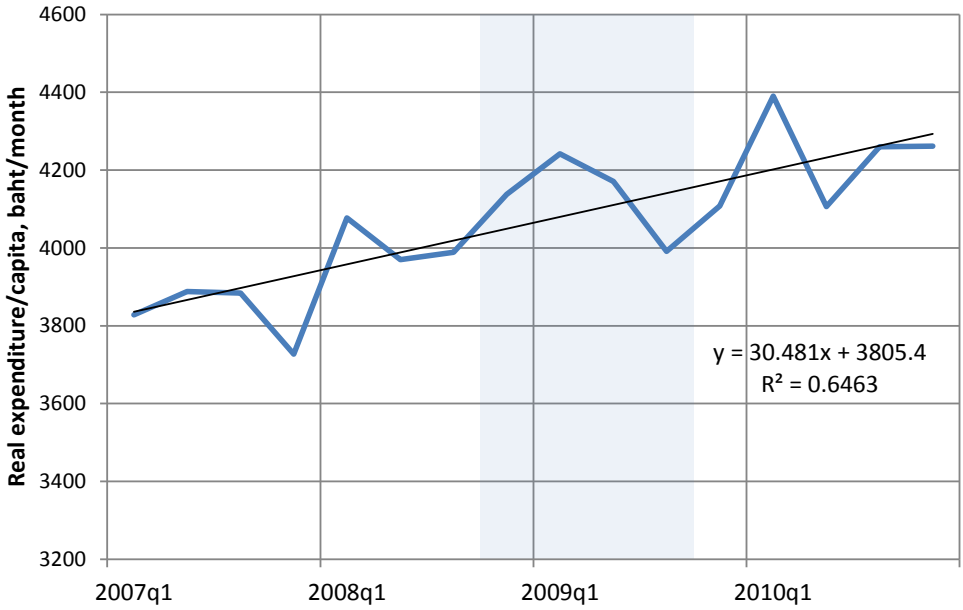

Figure 4.2. Consumption expenditure per capita, 2007 prices.

Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

Some further words of explanation are in order. The information on household consumption spending comes from the socio-economic surveys that are undertaken on a continuing basis by the National Statistics Office. About 3,800 different households are surveyed every month using stratified cluster sampling, for which the weights are known: the strata are the country's provinces, and clusters of households are surveyed in randomly-chosen villages or urban wards. When aggregated to annual or even quarterly levels, the data are nationally representative, but are somewhat less so at the monthly level.

The socio-economic surveys do not collect price data, so in order to calculate real spending we had to match price data from the Bureau of Trade and Economic Indices (2012) with the survey data. More precisely, we matched the monthly price series for about 120 items of consumer spending, which are available for each of the five major regions of Thailand, with spending categories from the socio-economic surveys, region by region. This allowed us to construct real spending for each household. We did not deflate the value of goods produced by the household for its own consumption: a higher price for such goods would work on both the income and expenditure sides of the ledger, with no net effect on wellbeing (assuming no behavioral response to price changes).

Over the four years of interest to us (2007-2010), prices in Thailand were highly variable, rising sharply in early 2008, then falling just as quickly, before resuming a steady rise in early 2009. This pattern shows up clearly in the top panel of Figure 5, which tracks the official consumer price index.

The bottom panel of Figure 5 shows price indexes that we constructed, normalized to 1 in 2007, for households in the top and bottom deciles of expenditure per capita (over the period 2007-2010). Starting in early 2008 there is a clear divergence, with prices rising more rapidly for poor than for affluent households. This mainly reflects the relative rise in the price of food in early 2008, which carries more weight in the expenditure basket of poorer households.

Winners and Losers

We are now in a position to address the central question of this paper, which is to measure the extent to which groups in Thai society saw changes in their wellbeing during the 2008-2009 recession. We start with some graphs, and then offer a more formal treatment of the subject.

The first breakdown is by region. The top panel of Figure 6 shows the level of real expenditure per capita, by month, from January 2007 through June 2010, by region. As expected, real levels of spending are markedly higher in Bangkok than elsewhere, and they are the lowest in the Northeast. The most remarkable feature of this graph is that it does not show any evident

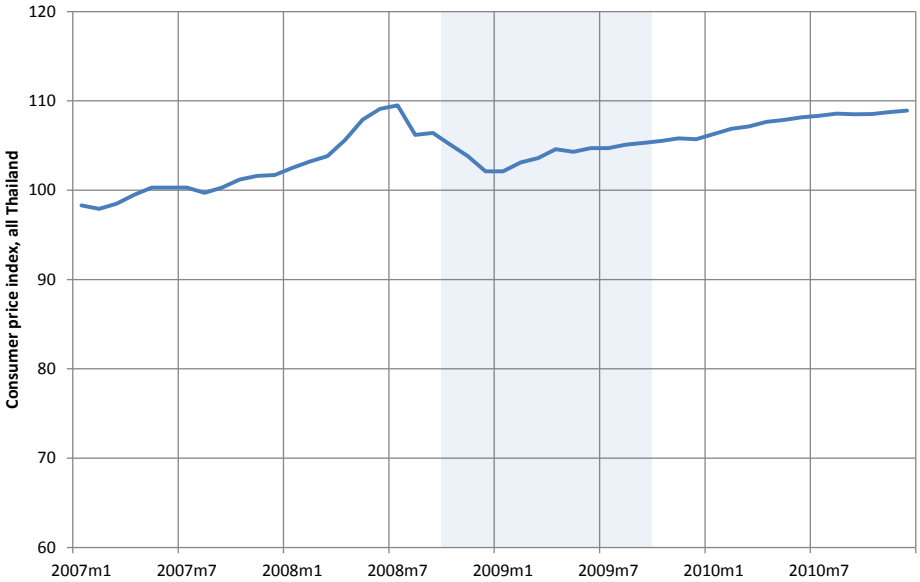

Figure 5.1 Consumer Price Index, Thailand, 2007:M1 – 2010:M12
Source: Reported by Bank of Thailand. Shaded area marks period of recession.

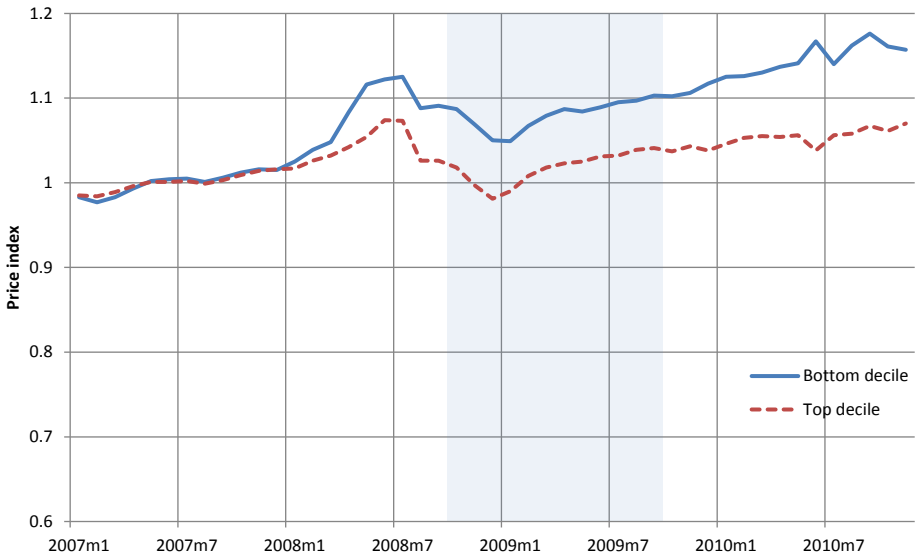

Figure 5.2 Prices Indexes for households in the top and bottom deciles (of real per capita income over 2007-2010), Thailand, 2007:M1 – 2010:M12.
Source: Computed by the authors using Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010, and consumer price index reported by the Bank of Thailand. Shaded area marks period of recession.

deterioration of per capita consumption levels during the recession (2008:Q4 through 2009:Q3), or any real rise subsequently. Indeed for most of the regions there is no discernible trend in these numbers.

The bottom panel of Figure 6 shows the evolution of real per capita expenditure for a selection of deciles, with very little apparent variation over time in the bottom decile (decile 1) or the fifth decile, and some variation but no apparent trend in the top decile. The SES data for 2007-2010 are combined; the measures we used are based on a consistent set of survey questions and protocols that did not change over the period in question. Households are grouped into deciles based on the combined data, so that the deciles represent consistent levels of per capita expenditure over time.

Figure 7 presents two other series. The top line in the upper panel shows the evolution of urban expenditure per capita, which again shows no trend after the beginning of 2008. When expenditure per capita is disaggregated by household size it is clear that larger households have lower levels of per capita expenditure, but they were neither more nor less affected by the crisis than urban households.

The bottom panel of Figure 7 compares real with nominal expenditures per capita for the population as a whole; while nominal expenditures trend upwards, the level of real spending, as we have seen, has remained remarkably steady. This graph also shows nominal income per capita for 2007 and 2009, the two years for which the numbers are available. Not only is expenditure less variable than income – evidence of consumption smoothing – but there is some evidence of higher saving rates in 2009 than in 2007.

While the graphical evidence is striking, it is not completely compelling because it does not include controls. To address this problem, we ran a series of regression equations for which the dependent variable is always real per capita expenditure, and the independent variables include geographic and household variables, as well as dummy variables for each quarter (with 2007:Q1 being the reference period). This allows us to net out the effects of the recession (or at least time) per se, after controlling for other influences – such as education or family composition – that might change over time. Each observation represents a household included in a socio-economic survey between 2007 and 2010.

An example of a regression equation is shown in Table 1; this one covers the entire sample of 176,141 households. The estimated coefficients are sensible: they show, for instance, that expenditure per capita is higher in Bangkok, and for better-educated households, and for households that include professionals, managers, or government employees.

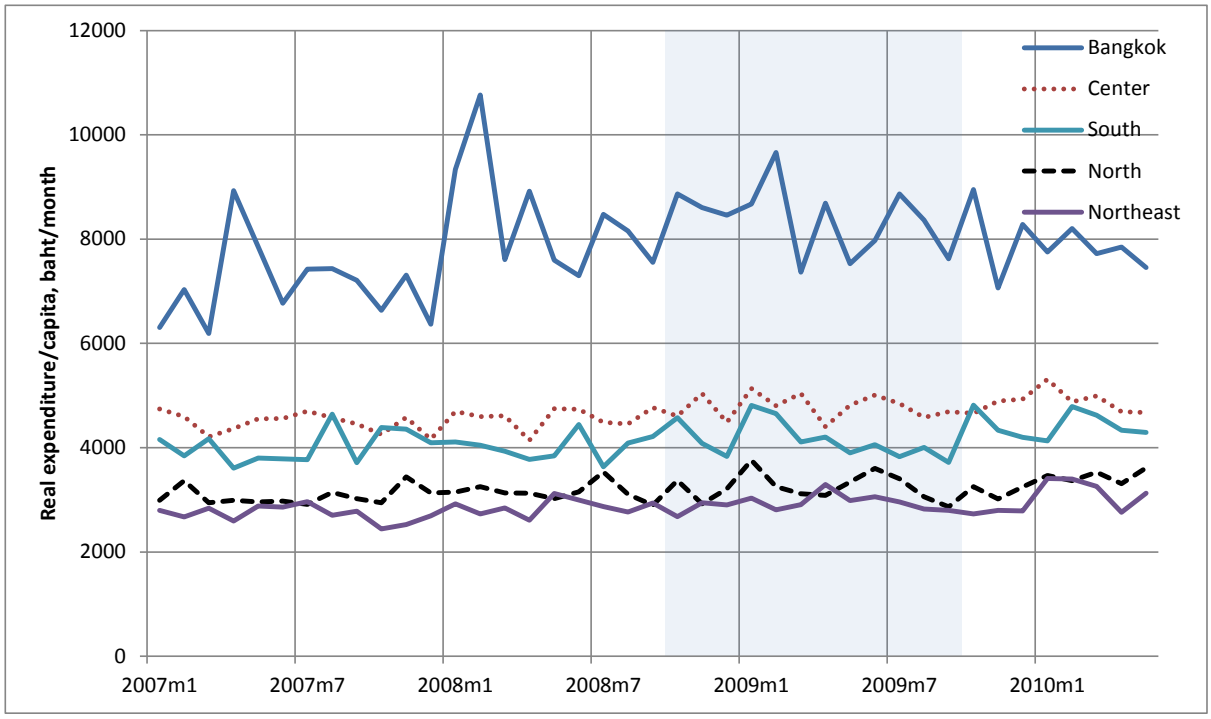

Figure 6.1. Real per capita expenditure by region, Thailand, 2007:M1 – 2010:M6
Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

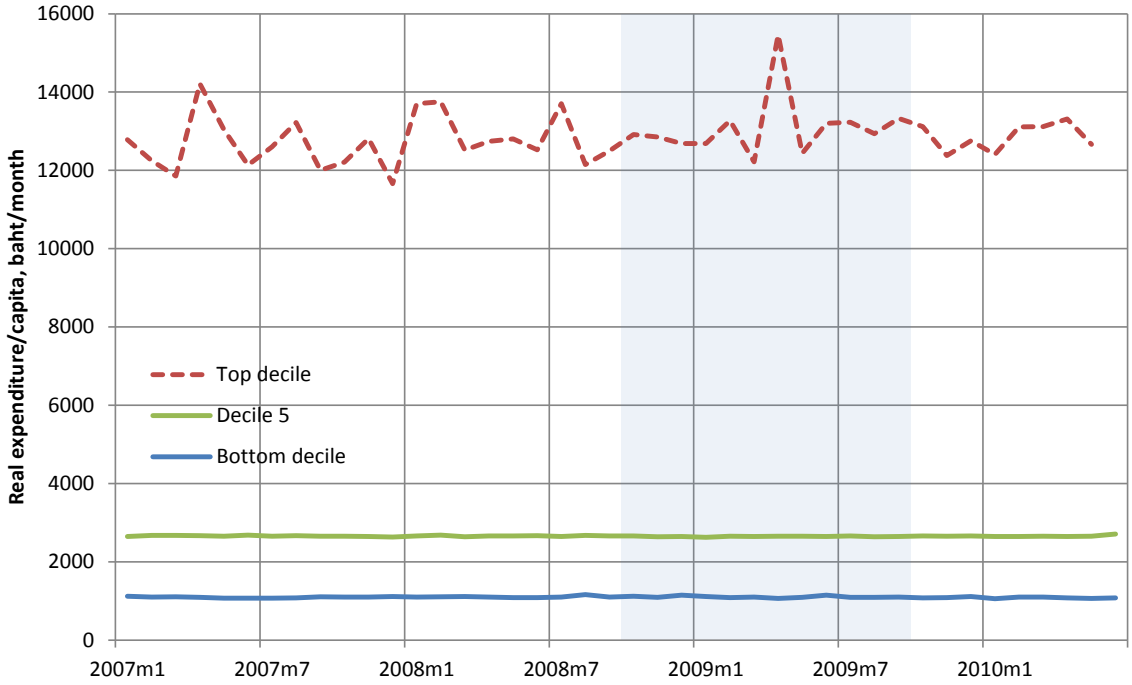

Figure 6.2. Real per capita expenditure by selected expenditure per capita deciles, Thailand, 2007:M1 – 2010:M6

Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

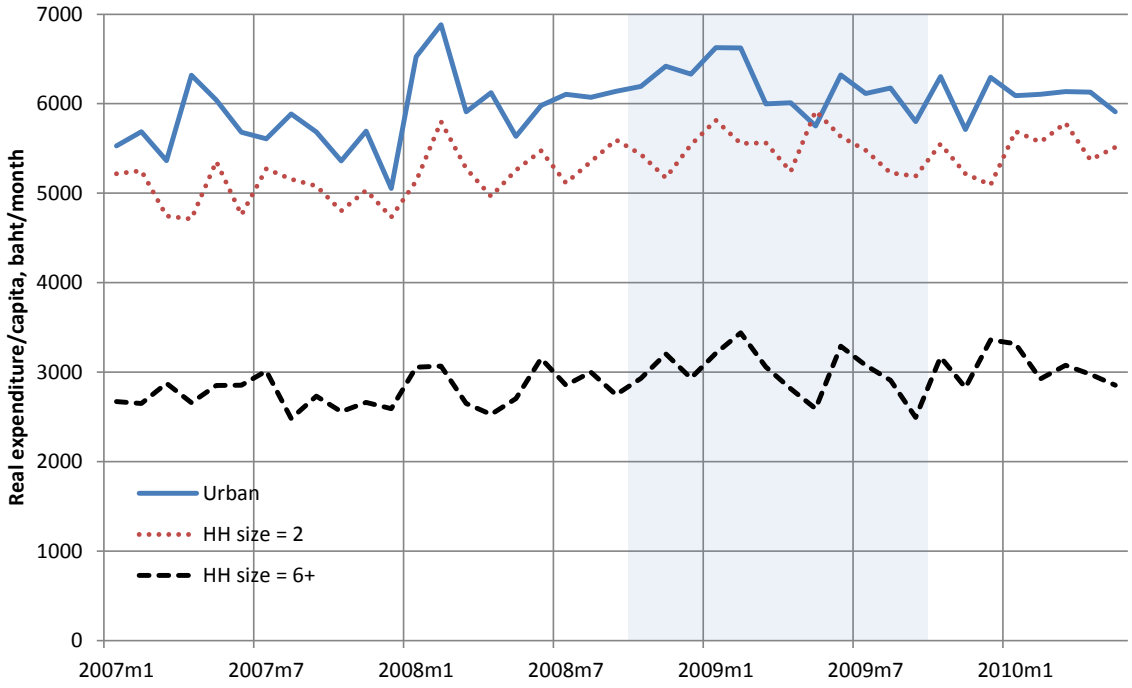

Figure 7.1. Real per capita expenditure by urban areas, and selected household sizes, Thailand, 2007:M1 – 2010:M6

Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

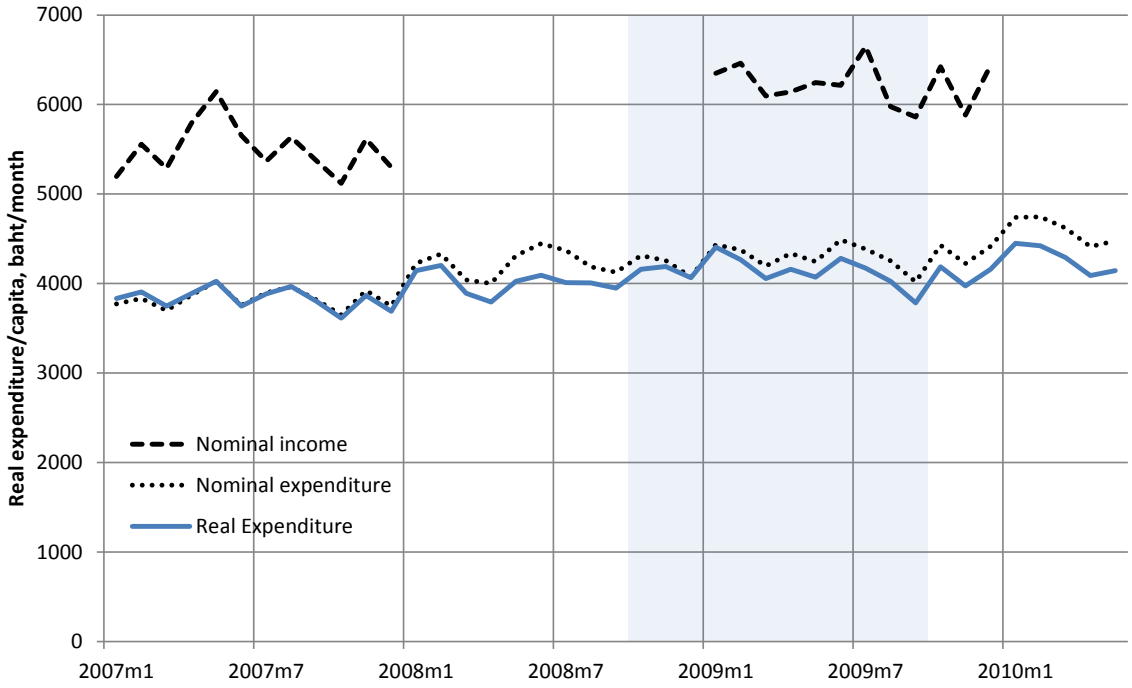

Figure 7.2. Real per capita income (dotted line) and expenditure, Thailand, 2007:M1 –

2010:M6

Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

Our interest is in the coefficients related to the dummy variables for the various quarters; more specifically, we would like to know whether there was a significant change in expenditure per capita between 2007 and 2008, 2008 and 2009, and 2009 and 2010. The results based on the estimates in Table 1 are summarized in Table 2. They show that real per capita consumption was lower in 2008 than in 2007 (p-value = 0.00, and -1,058 is more negative than -291), significantly higher in 2009 than in 2008, and significantly lower again in 2010.

In other words, *real expenditure per capita in Thailand was, on average, higher during the main recession year (2009) than in either the previous year or the subsequent year*, after holding other influences constant. The main explanation is relatively straightforward: prices fell sharply during the recession, which boosted purchasing power, while households were able to smooth their consumption relative to their incomes; we discuss these effects more fully below.

For each section of the population of interest – for instance, urban dwellers, or poor households – we did similar computations, first estimating regressions based on the sample for the group in question, and then testing for changes in expenditure per capita over time. Tables 3-5 report the results; for all cases where there was a significant change in per capita expenditure from one year to the next (at the 5% level), the numbers are shown in bold face; for the cases were real expenditure was lower in 2009 than in 2008 the cells are highlighted in yellow.

The experience of Greater Bangkok was out of synch with the rest of the Thailand. In all of the regions except for Bangkok, real expenditure per capita fell in 2008, rose in 2009 relative to 2008, and then fell again in 2010 (Table 3), and this was also true of rural areas in general. In Bangkok the pattern was reversed, with a large increase in real spending in 2008, a drop in 2009 (although not to the levels of 2007), and a rebound in 2010. The rise in spending in Bangkok in 2008 was not, however, mirrored in urban Thailand overall.

Poor households (defined as those in the bottom 40% of the expenditure per capita distribution) and the very poor (in the bottom fifth) saw their real expenditure levels fall in 2008, recover ground in 2009, and fall again in 2010; the remaining households ("non-poor") also saw a rise in

their real spending per capita in 2009, but the reductions measured for the other years were not statistically significant.

Table 1. Estimates for regression where the dependent variable is real per capita expenditure, Thailand, 2007-2010

Variable	coefficient	p-value	Variable (cont.)	coefficient	p-value
Dependent variable: Real per capita expenditure					
Region: Bangkok (omitted)			No. disabled	-412.78	*0.00*
Center	-2080.29	*0.00*	No. government wkrs.	372.56	*0.00*
North	-3373.03	*0.00*	No. other employees	-193.05	*0.00*
Northeast	-2882.17	*0.00*	No. self-employed	-382.42	*0.00*
South	-2252.21	*0.00*	No. in sales	182.01	*0.00*
Urban	642.28	*0.00*	No. working on stalls	269.13	*0.00*
Size of household	-1074.13	*0.00*	No. of managers	1189.85	*0.00*
Household runs a business	75.31	*0.06*	No. of farmers	141.24	*0.00*
Most income from wages	90.33	*0.03*	No. of subsistence frmrs.	58.70	*0.04*
Most income from profits	321.10	*0.00*	No. in elementary svces.	-65.74	*0.03*
No. of males	100.62	*0.00*	No. of professionals	766.50	*0.00*
No. aged under 5	-109.25	*0.00*	2007 q2	-37.40	*0.54*
No. aged 5-9	74.45	*0.03*	2007 q3	-25.47	*0.68*
No. aged 10-14	134.20	*0.00*	2007 q4	-227.95	*0.00*
No. aged 15-19	209.45	*0.00*	2008 q1	-187.93	*0.02*
No. aged 20-29	-98.03	*0.00*	2008 q2	-321.07	*0.00*
No. aged 30-59	-2.66	*0.89*	2008 q3	-351.89	*0.00*
No. aged 60-64	-257.33	*0.00*	2008 q4	-197.34	*0.01*
No. aged 65-74	-463.19	*0.00*	2009 q1	170.13	*0.01*
No. aged 75 and over	-484.05	*0.00*	2009 q2	99.54	*0.10*
Head is a widow	-250.84	*0.00*	2009 q3	50.55	*0.41*
Head is separated	62.17	*0.07*	2009 q4	72.54	*0.23*
No. with just primary edn.	457.51	*0.00*	2010 q1	-39.42	*0.62*
No. with just second. Edn.	774.53	*0.00*	2010 q2	-220.46	*0.01*
No. with upr. Vocatl. Edn.	1244.85	*0.00*	2010 q3	-45.04	*0.57*
No. with university edn.	2230.56	*0.00*	2010 q4	-133.99	*0.09*
No. with post-graduate edn.	4085.72	*0.00*	Constant	9421.57	*0.00*

Source: Data from Thailand Socio-Economic Surveys of 2007-2010. Data are pooled. Sample size: 176,141 households. Adjusted R^2 = 0.29. Quarterly fixed effects are relative to 2007:Q1.

Table 2. Measuring the Impact of the 2008-09 Recession on Real Expenditure, Thailand

	Change in real expenditure per capita compared to 2007:Q1				Number of households
	2007	2008	2009	2010	
	baht/month				

Average of dummy variables for quarters	-97	**-265**	**98**	**-110**	176,141
p-values for test of equality with previous year		*0.00*	*0.00*	*0.00*	

Sources: As for Table 1.
Notes: The change in expenditure is obtained as the average of the quarterly effects; for instance, -265 = (-187.93 – 321.07 – 351.89 – 197.34)/4, where the right-hand-side numbers come from Table 1. The p-values are based on t-tests of the equality between the sums of quarterly dummy variables of one year compared to the next.

Small households saw a significant rise in expenditure levels in 2010, but most of the other changes do not show up as statistically significant when the data are disaggregated by household size. Households that were net sellers of crops did not see any particularly low expenditure in

Table 3. Measuring the Impact of the 2008-09 Recession on Real Expenditure per capita by region and household size

	Real expenditure per capita	Change in real expenditure per capita compared to 2007:Q1				Number of households
		2007	2008	2009	2010	
		baht/quarter				
All Thailand	4,068	-291	**-1058**	**393**	**-439**	176,141
			0.00	*0.00*	*0.00*	
Memo: nominal exp/cap	4,248	1	**32**	**385**	**391**	176,141
			0.00	*0.00*	*0.00*	
Region 1: Bangkok	7,973	85	**3,906**	**1,299**	**3,461**	10,520
			0.00	*0.00*	*0.00*	
Region 2: Center	4,686	-156	**-423**	**215**	**-267**	51,442
			0.01	*0.00*	*0.00*	
Region 3: North	3,226	-105	**-622**	**-123**	**-439**	43,389
			0.00	*0.00*	*0.00*	
Region 4: Northeast	2,926	-198	**-846**	**-140**	**-613**	45,521
			0.00	*0.00*	*0.00*	
Region 5: South	4,164	39	137	174	375	25,269
			0.48	*0.81*	*0.20*	
Urban	6,037	-132	-59	**107**	111	108,690
			0.63	*0.04*	*0.96*	
Rural	3,184	-32	**-528**	**70**	**-391**	67,451
			0.00	*0.00*	*0.00*	
Very poor (deciles 1-2)	1,321	-8	-24	**5**	**-27**	20,546
			0.07	*0.01*	*0.00*	
Memo: % very poor		*21.9*	*21.1*	*19.5*	*17.6*	
Poor (deciles 1-4)	1,690	-13	**-71**	**3**	**-50**	48,355
			0.00	*0.00*	*0.00*	
Non-poor (deciles 5-10)	5,654	-92	-146	**127**	-1	127,786
			0.32	*0.00*	*0.10*	
Household size: 1	7,972	-189	347	-113	**546**	24,825
			0.11	*0.12*	*0.03*	
Household size: 2	5,355	-153	112	86	**342**	43,083
			0.06	*0.83*	*0.03*	
Household size: 3	4,389	-21	17	109	168	41,391
			0.72	*0.31*	*0.52*	
Household size: 4	3,848	-90	-91	**100**	-47	34,129
			0.77	*0.02*	*0.07*	
Household size: 5	3,367	79	47	152	96	17,879
			0.89	*0.25*	*0.55*	
Household size: 6 and up	2,899	-54	53	165	94	14,834
			0.28	*0.20*	*0.42*	

Net crop seller	2,855	-34	n.a.	94	n.a.	20,816*
			n.a.	*n.a.*	*n.a.*	

Note: The coefficients measure the time fixed effects relative to 2007:Q1. The figures in italics are p-values for a test for whether there is a difference between the fixed effects between that year and the previous year. Values are shown in the prices of 2007. Boldfaced numbers are statistically different from the previous year at the 5% level; yellow cells indicate lower real expenditure per capita in 2009 than in 2008. * Information on who is a net seller of crops is only available for 2007 and 2009, covering a total of 86,899 observations.

2009; however, their situation cannot be compared from one year to the next because information on income was only collected in 2007 and 2009.

The numbers in Table 4 show the effects of the recession by gender, and by age. Each regression is weighted by the number of males, or children aged under 5, or other age category, in the household. This should thus measure the experience of these groupings of individuals during 2007-2010. So, for example, in looking at the effect on women, a household with no women would have no weight in the regression – i.e. the observation would be excluded – and a household with two women would have double weight, and so on. The maintained hypothesis, in the absence of other information, is that the consumption per capita for each household member reflects the average consumption per capita for a household.

Table 4. Measuring the Impact of the 2008-09 Recession on Real Expenditure per capita by gender and age

	Real expenditure per capita	Change in real expenditure per capita compared to 2007:Q1				Number of households
		2007	2008	2009	2010	
		baht/quarter				
Males	4,042	-16	-103	**171**	**1**	152,455
			0.08	*0.00*	*0.00*	
Females	4,153	-93	-56	**100**	76	162,307
			0.78	*0.00*	*0.63*	
Age: under 5	3,093	-72	-67	30	-50	29,922
			0.84	*0.15*	*0.23*	
Age: 5-9	3,184	-103	-122	**37**	-11	33,543
			0.54	*0.03*	*0.52*	
Age: 10-14	3,350	33	-51	**220**	**50**	42,222
			0.25	*0.00*	*0.01*	
Age: 15-19	3,874	117	**142**	153	268	33,469
			0.01	*0.90*	*0.17*	
Age: 20-29	4,722	-83	**562**	**200**	**689**	45,546
			0.00	*0.00*	*0.00*	
Age: 30-49	4,528	-31	**-179**	**145**	**-35**	113,544
			0.02	*0.00*	*0.01*	
Age: 50-59	4,518	-162	**-406**	**16**	**-254**	57,942
			0.00	*0.00*	*0.01*	
Age: 60-64	4,006	50	**474**	322	518	22,635
			0.00	*0.30*	*0.18*	
Age: 65-74	3,774	30	-43	145	75	30,096
			0.57	*0.11*	*0.55*	
Age: 75 and over	3,576	-70	32	106	148	20,119

	0.56	*0.60*	*0.78*

Note: The coefficients measure the time fixed effects relative to 2007:Q1. The figures in italics are p-values for a test for whether there is a difference between the fixed effects between that year and the previous year. Values are shown in the prices of 2007. Boldfaced numbers are statistically different from the previous year at the 5% level; yellow cells indicate lower real expenditure per capita in 2009 than in 2008.

The first point to note is that there are no strong differences in the experience of men and boys compared with women and girls; both may have had falling real spending in 2008, but higher levels of real consumption in 2009. Children and young adolescents were not particularly hard hit by the recession; although they did not see the per capita real spending levels of their families rise in 2008, they did experience improvements in the recession year of 2009.

Young adults, defined as those aged 20 to 29, saw a large improvement in their material living standards in 2008, followed by a real drop from this level in 2009, before a strong rebound in 2010. This is the group that was most clearly hit by the 2008-09 recession, at least relative to the level of material wellbeing achieved on the eve of the recession.

Most prime-age adults (30-59) saw their living standards take a hit in 2008 and 2010, with a modest improvement in 2009. Those at or near retirement (60-64) did very well in 2008 but were hurt (relatively) in 2009; some may have opted for earlier retirement, or been vulnerable to reductions in working hours. Those aged 65 and older did not see any significant changes in their material standard of living through this period.

The remaining results are set out in Table 5, and mainly examine whether some groups, traditionally considered to be vulnerable, were hurt by the recession. The answer is by and large no. Widows, and those who had separated from their spouses, were not differentially affected. The ill and disabled did not become worse off.

The average income of households with children at school is relatively low, but this group was, if anything, better off during 2009. For those aged 15-19 who were at school (Table 5) or in general (Table 4), real consumption levels did not fall during this period, so one would not have expected any generalized effect on school dropout rates. Of all the educational categories, the one group that gained in 2008, and then saw its standard of living fall in 2009, were those with a vocational education. This group may have been affected disproportionately by industrial retrenchment.

It is interesting that government employees took a hit to their (generally comfortable) standard of living in 2008 and 2010, but not in 2009. This is consistent with the idea that most public servants have relatively stable incomes, which makes them vulnerable to changes in the prices of the goods and services that they purchase. In contrast, those working in the informal sector ("basic sales and services") did very well in 2008 and 2010, but less so in 2009.

Table 5. Measuring the Impact of the 2008-09 Recession on Real Expenditure per capita by marital status, education, occupation, and sector of work

	Real expenditure per capita	Change in real expenditure per capita compared to 2007:Q1				Number of households
		2007	2008	2009	2010	
		baht/month				
Widowed	4,054	-145	-123	-4	14	38,396
			0.90	*0.28*	*0.87*	
Separated	4,735	-96	-299	13	-167	16,943
			0.25	*0.11*	*0.36*	
Attends school	3,746	-66	15	**134**	169	83,638
			0.25	*0.03*	*0.53*	
Attends school, aged 15-19	4,177	-97	**165**	189	266	24,910
			0.02	*0.81*	*0.43*	
Primary education only	3,362	-62	-82	**101**	30	125,009
			0.40	*0.00*	*0.10*	
Lower secondary education only	4,181	-176	-23	24	27	41,688
			0.20	*0.58*	*0.97*	
Upper secondary education only	5,199	21	106	271	164	39,395
			0.40	*0.13*	*0.32*	
Upper vocational education	6,423	-307	**289**	-125	**0**	14,799
			0.02	*0.07*	*0.01*	
Higher education (to bachelor)	9,090	-42	102	182	420	32,066
			0.54	*0.71*	*0.27*	
Post-graduate higher education	13,786	194	274	559	112	4,879
			0.90	*0.78*	*0.66*	
Ill/disabled	3,102	129	295	161	311	7,616
			0.28	*0.46*	*0.41*	
Government employee	7,264	-105	**-933**	**67**	**-565**	29,727
			0.00	*0.00*	*0.02*	
Other employee	4,975	-40	-152	**207**	**-46**	68,079
			0.30	*0.00*	*0.03*	
Self-employed	3,399	-79	-157	**63**	-5	96,242
			0.10	*0.00*	*0.25*	
Work in: shop sales	5,348	-156	16	-18	185	25,885
			0.41	*0.83*	*0.20*	
Work in: food and market stalls	4,604	-63	7	140	102	11,313
			0.74	*0.42*	*0.82*	
Work as: manager	6,138	122	55	227	249	22,323
			0.85	*0.39*	*0.91*	
Work as: farmer	3,018	-43	-83	76	78	29,398
			0.58	*0.08*	*0.98*	
Work in: subsistence agriculture	2,336	-190	-355	**-68**	-201	11,769
			0.09	*0.02*	*0.28*	
Work in: basic sales and services	4,628	116	**635**	**162**	**744**	16,899
			0.01	*0.02*	*0.00*	
Work as: professional	9,881	-135	-693	207	-194	14,725
			0.24	*0.07*	*0.43*	

Note: The coefficients measure the time fixed effects relative to 2007:Q1. The figures in italics are p-values for a test for whether there is a difference between the fixed effects between that year and the previous year. Values are shown in the prices of 2007. Boldfaced numbers are statistically different from the previous year at the 5% level; yellow cells indicate lower real expenditure per capita in 2009 than in 2008.

Robustness

Our focus is on a monetary measure of wellbeing in the form of real consumption per capita. Could Thai households be maintaining their consumption levels by reducing investment – for instance, by pulling children out of school so they can work, or by delaying purchases of assets such as cars?

Figure 8 shows age-specific school enrollment rates for 2007-2010, based on data from the socio-economic surveys. The pre-school rate refers to children 5 and younger, and subsequent age groups are associated with the relevant school level: 6-11 for primary education, 12-14 for lower secondary school, 15-17 for upper secondary school, and 18-22 for higher education. There was no perceptible drop in enrollment rates during the 2008-2009 recession – the period shown by the shaded areas in Figure 8.

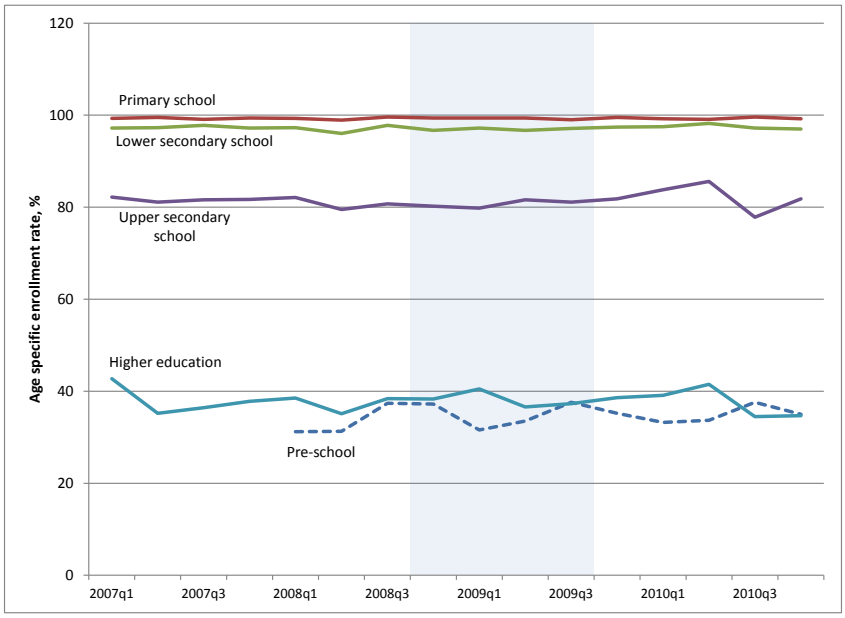

Figure 8. Age-Specific School Enrollment Rates, Thailand, 2007:Q1 – 2010:Q4
Source: Thailand Socio-Economic Surveys of 2007, 2008, 2009, and 2010. Shaded area marks period of recession.

The results of a more formal test are shown in Table 6: we regress the age-specific enrollment rates on binary variables representing each quarter, and test whether there is a difference from one year to the next. We are able to separate private from public schools. The only measurable

effects are the significant uptick in public lower-secondary education, and a fall in upper-secondary education, between 2009 and 2010. In no case is there a significant change in enrollment rates between 2007, 2008, and 2009. We conclude that the recession did not have a measurable effect on the level of enrollments.

Table 6. Measuring the Impact of the 2008-09 Recession on School Enrollment Rates

		Enrollment rate (%)	Change in age-specific enrollment rate compared to 2007:Q1			
Pre-school	Total	34.5		4.1	3.3	3.7
					0.97	*0.95*
	Private	8.8		0.3	-0.2	0.0
					0.82	*0.89*
	Public	25.7		3.9	3.5	3.7
					0.90	*0.97*
Primary school	Total	99.3	0.0	0.0	0.0	-0.1
				0.82	*0.88*	*0.74*
	Private	16.5	-1.4	-1.4	-1.4	-3.7
				0.65	*0.99*	*0.00*
	Public	82.8	1.4	1.3	1.4	3.7
				0.70	*0.99*	*0.00*
Lower secondary	Total	97.2	0.3	-0.2	-0.1	0.3
				0.42	*0.81*	*0.48*
	Private	10.8	-0.7	0.0	0.2	-1.0
				0.53	*0.77*	*0.13*
	Public	86.4	1.0	-0.2	-0.3	**1.3**
				0.25	*0.90*	*0.05*
Upper secondary	Total	81.4	-0.7	-1.6	-1.2	0.0
				0.51	*0.79*	*0.46*
	Private	8.9	1.9	1.3	1.8	**0.1**
				0.87	*0.43*	*0.01*
	Public	72.5	-2.6	-2.9	-3.0	-0.1
				0.56	*0.97*	*0.09*
Higher education	Total	37.9	-6.2	-5.1	-4.4	-5.2
				0.89	*0.83*	*0.80*
	Private	6.8	-4.8	-0.4	-0.4	-0.3
				0.58	*0.99*	*0.97*
	Public	31.1	-4.8	-4.7	-4.1	-4.9
				0.67	*0.81*	*0.76*

Note: Note: The coefficients measure the time fixed effects relative to 2007:Q1. The figures in italics are p-values for a test for whether there is a difference between the fixed effects between that year and the previous year. Boldfaced numbers are statistically different from the previous year at the 5% level; yellow cells indicate lower enrollment rates in 2009 than in 2008.

A common household response to a drop in income is to cut purchases of durable goods sharply in order to be able to maintain consumption of non-durables, including food. The results in Table 7 are designed to determine whether this is what occurred in 2009. We use the same approach as employed earlier, testing whether there are differences in the time fixed effects between one year and the next, for major spending headings.

In no case was there a significant fall in spending on durable goods between 2008 and 2009, and in some cases there were increases, such as for purchases of automobiles/vans/pickups. This is confirmed by the data in the bottom panel of Table 7, which reports on the stock of cars, vans, and motorbikes owned by households. The number of such assets held per household generally rose in 2009 relative to 2008. As a general rule, any drop in spending occurred between 2007 and 2008, not later.

The consumption of non-durables was also higher, or at least not lower, in 2009 than in 2008, and this includes items such as clothing, meat, fish, and prepared food. There is one major exception, and this is the consumption of home-produced "grains and cereal productions", in practice mainly rice. Although *purchases* of cereals rose substantially in 2009, this was offset by a clear drop in own-consumption, although the mean value of the fall in cereals consumption between 2008 and 2009 – at about 14.4 baht per person per month – was small compared to the overall rise in the value of consumption per capita over the same period, which we estimate at 363 baht per person per month.[2] Rice production per capita hardly changed between 2007 (405 kilos of milled rice per capita) and 2008 (404 kg.) and actually rose in 2009 (412 kg.), although it should be noted that the bulk of the harvest arrives in November and is consumed the following year. We surmise that consumption smoothing, to the extent that it occurred, did not occur at the expense of investment in durable goods or schooling, but more probably through lower saving.

Table 7. Measuring the Impact of the 2008-09 Recession on Real Expenditure, by Main Expenditure Heading

	Real expend/ cap	Change in real expenditure/capita compared to 2007:Q1			
		2007	2008	2009	2010
		baht/month			
Electricity	570.6	58.6	175.9	164.4	284.2
			0.00	*0.13*	*0.00*
Clothes, skirts and trousers	292.1	10.4	-24.5	15.5	3.9
			0.00	*0.00*	*0.16*
Soap, toothbrush, shampoo, powder, etc.	247.7	2.8	-2.9	18.7	20.5
			0.04	*0.00*	*0.47*
Purchase automobile, van, pickup	1046.3	88.4	-261.1	104.4	-221.5
			0.00	*0.00*	*0.00*
Purchase motorcycle, bicycle, other vehicle	229.0	-26.8	-68.1	-37.7	-65.2
			0.00	*0.01*	*0.01*
Travel: visiting hometown/relatives, religious activity, other	158.6	10.8	17.1	35.3	32.7
			0.25	*0.02*	*0.74*
Telephone rate and service	508.9	0.8	-55.0	-17.3	-64.6
			0.00	*0.00*	*0.00*

[2] From Table 2, we calculate this as 98 – (-265) = 363. For cereals, the number is -6.9 –(7.5) = -14.4.

TV sets, radio, cassette-tape, disc, video, VCD, DVD player	23.8	-5.6	-5.8	-6.9	-4.8
			0.58	*0.67*	*0.44*
Computer & equipment	18.4	1.1	1.1	2.1	0.9
			0.91	*0.72*	*0.66*
Toys (include baby cars)	8.8	0.3	1.8	2.2	4.7
			0.01	*0.55*	*0.00*
Cinema / sports / traditional arts (admission/fees)	10.6	-2.6	-4.3	-4.6	-4.9
			0.01	*0.79*	*0.74*
Interest payments	224.6	18.2	-174.6	-47.6	-207.5
			0.00	*0.00*	*0.00*
Grains & cereal products: purchased	87.3	4.1	-10.7	0.3	-16.0
			0.00	*0.00*	*0.00*
Grains & cereal products: home production	66.8	0.7	18.2	-7.2	15.1
			0.00	*0.00*	*0.00*
Grains & cereal products: all sources	154.0	4.7	7.5	-6.9	0.9
			0.00	*0.00*	*0.00*
Meat and poultry	482.3	10.7	-84.1	-62.6	-83.3
			0.00	*0.00*	*0.00*
Fish and seafood	351.9	4.3	-51.6	-20.9	-45.5
			0.00	*0.00*	*0.00*
Milk, cheese, and eggs	346.7	-2.6	-30.0	-27.1	-47.2
			0.00	*0.53*	*0.00*
Fruits and nuts	269.5	7.5	-40.3	-20.5	-102.1
			0.00	*0.00*	*0.00*
Spices and condiments	99.7	-5.1	-16.3	-15.7	-18.5
			0.00	*0.45*	*0.00*
Prepared food (taken home)	677.7	50.4	-88.6	44.5	-29.5
			0.00	*0.00*	*0.00*
Food & non-alcoholic beverages (eaten away from home)	1086.4	-66.6	31.6	104.2	71.5
			0.00	*0.00*	*0.04*
Alcoholic beverages: drink at home	130.0	-6.1	-8.3	4.0	-17.7
			0.51	*0.03*	*0.00*
Alcoholic beverages: drink away from home	80.6	-11.0	-9.0	-3.1	-20.4
			0.92	*0.40*	*0.01*
Cigarettes, tobacco, etc.	104.0	-4.3	-8.2	-3.3	-19.9
			0.14	*0.14*	*0.00*
Stock held per household (units)					
	units		*units*		
Bicycles	0.7	0.0	**0.3**	**0.0**	**0.1**
			0.00	*0.00*	*0.01*
Motorbicycles	1.2	0.0	**-0.2**	**0.2**	**0.0**
			0.00	*0.00*	*0.00*
Cars	0.1	0.0	0.0	0.1	0.1
			0.90	*0.08*	*1.00*
Vans	0.3	0.0	**-0.5**	**0.1**	**-0.4**
			0.00	*0.00*	*0.00*

Note: The coefficients measure the time fixed effects relative to 2007:Q1. The figures in italics are p-values for a test for whether there is a difference between the fixed effects between that year and the previous year. Values are shown in the prices of 2007. Boldfaced numbers are statistically different from the previous year at the 5% level; yellow cells indicate lower real expenditure per capita in 2009 than in 2008. Number of observations: 176,141 individuals.

Are Survey Data Essential?

Thailand is unusual in the quality and frequency with which it collects household survey data. Could one have determined the effects of the 2008 recession in a cheaper way, for instance using

readily-available monthly data on such series as international trade, production, or agricultural output? This would make it easier for other countries to build models – based on occasionally-available household survey data – that could then be used, along with easy-to-find data series, to track the effects of external shocks on major groups in society, such as the poor, or women, or older individuals. We note, however, that past efforts to derive welfare effects from a small number of readily-available, or easily-collectable, variables have not been successful (Ravallion 1996; Haughton and Khandker 2009). Certainly, the strong seasonal rhythm of agricultural production (see Figure 9) makes it difficult to use monthly agricultural data to help track the patterns of household consumption.

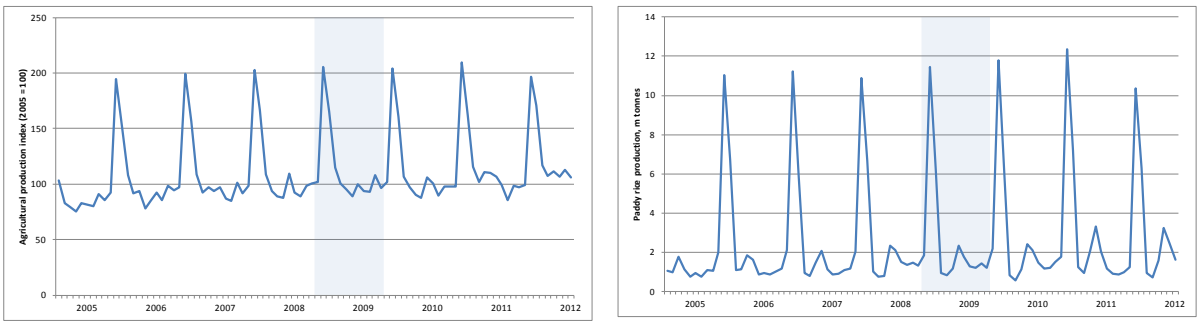

Figure 9. Index of Agricultural Production (left) and Volume of Rice Output (right), Thailand, 2005-2012

Source: Reported by Bank of Thailand, based on data from Office of Agricultural Economics, Ministry of Agriculture and Cooperatives.

The approach we take here is to regress real consumption per capita (for each household), from the socio-economic survey data for 2007 through 2010, on a variety of household level variables (the "survey regression" variables listed in Table 8) and on a number of data series that are published monthly and are readily available ("public data regression" variables in Table 8). If there is a close fit between the public data and per capita income, then the equation would be viable for forecasting purposes. However, the final column of Table 8 shows that such equations never fit well, with values of adjusted R^2 always below 0.15. The fit is substantially better when one uses the survey regression variables (first column of numbers in Table 8), but these are not available in the absence of survey data. When the public data are added to the survey regression variables the improvement in fit is always very small.

One could look more systematically for potential predictors of real per capita income for major groups, but our basic explorations are not promising. There do not appear to be cheaper or easier ways to determine reliably the effect of shocks on households, and so there is a continued need for regular surveys of household living standards.

Table 8. Values of Adjusted R^2 for Regressions With and Without Public Data

	Survey regression	Full regression	Public data regression
Overall	.262	.287	.077
Poor households (bottom 2/5)	.155	.188	.048
Very poor households (bottom quintile)	.100	.128	.030
Net crop sellers	.187	.216	.075
Urban households	.252	.274	.036
Household size:			
One person	.222	.243	.050
Two	.315	.343	.078
Three	.315	.346	.100
Four	.349	.390	.136
Five	.333	.374	.144
Six or more	.351	.392	.145

Variables included:
Survey regression: As in Table 1: size of household; household runs a business; most income from wages; most income from profits; no. of males; no. aged under 5, 5-9, 10-14, 15-19, 20-29, 30-59, 60-64, 65-74, 75 and over; head is a widow; head is separated; no. with just primary education, just secondary education, just upper vocational education, university education, post-graduate education.
Public data regression: Dummies for region (N, C, NE, S, Bangkok is reference), and for urban residence; monthly series on: unemployment rate; consumer price index for south, northeast, north, center, Bangkok; U.S. dollar value of exports of agricultural products, manufacturing, overall; index of baht value of export price, export volume, import price, import volume; terms of trade; business sentiment index; expected business sentiment index; leading economic index; no. of foreign tourists; inverse of price of oil; monthly wage in private sector; monthly wage in government sector; price of 5% broken rice (in baht); price of tapioca flour (in baht); price of tin concentrate (in baht).
Full regression: All variables in Survey and Public Data regressions.
Number of observations: 176,141 households for full sample.

Conclusions

In this paper we ask a straightforward question: Who was hurt in Thailand by the global recession that spread from the world's rich countries to Thailand in late 2008 and persisted for much of 2009?

Somewhat to our surprise, we find that the recession itself was not associated with a reduction in real spending for most groups in Thai society. Neither women, nor the poor, nor rural residents, nor children, were particularly hurt by the recession. The main exception is that young adults, especially those residing in Bangkok, and with a vocational education, were negatively affected in 2009. This is consistent with the observation that export-led manufacturing, which is concentrated around Bangkok, contracted sharply for several months.

There are a number of possible explanations for the benign, and for some people, even beneficial, effects of the recession of 2008-09. The first is that the prices of food – including the

Thai staple, rice – and energy rose sharply in early 2008. The rapid growth of Chinese industry, and the market there for cars, helped pull up the price of oil and other energy, which in turn made it more expensive to produce food. Subsidies for corn-based ethanol, particularly in the United States, also contributed to higher food prices. The global recession of 2008-09 reduced the demand for fuel and food and pushed their prices down, which for most Thai households offset any possible reductions in wages or other income.

Constrained by the data, our focus is on real expenditure, not income. But there is clear evidence that Thai households smooth consumption, and so spending is less volatile than income (Susantud 2012; Khandker, Koolwal, Haughton, and Jitsuchon 2012). Consumption smoothing was also possible in 2009 because most Thai households had experienced an extended period of low unemployment and robust wages, so they had assets they could dip into; this might have been harder had the recession lasted longer.

We also examined the possibility that Thai households maintained their consumption by reducing investments in schooling and in durable goods. The evidence points very clearly to the conclusion that school enrollment rates were maintained throughout the recession; and purchases of durables, which fell in 2008, actually rebounded somewhat in 2009.

The third explanation for the modest impact of the recession is that government intervention may have been effective. In 2008, the government lowered taxes (to the tune of 40 billion baht), extended more loans (an additional 400 billion baht), cut some energy prices (and taxes), and introduced free travel on some bus lines (at a cost of 50 billion baht). Then, in 2009, it introduced a first stimulus package, which extended the earlier policies, and introduced a supplementary budget worth 117 billion baht: checks for 2,000 baht were send to many low-income households, allowances of 500 baht were sent to pensioners, and public education was made free through age 15. Half of the appropriated money had been disbursed by May 2009, and the effect is believed to have been slightly pro-poor. A second stimulus package was introduced later in 2009, and promised 1.43 trillion worth of public investment (through 2012), some price guarantees for rice, and expanded credit guarantees. Jitsuchon (2010, p.28) has expressed the concern that the stimulus packages represented "an excuse to rush spending", and this is indeed possible. It is not the purpose of this paper to try to tease out the relative contributions of government, and other factors, both to the recession and the recovery; this is an important issue, but necessarily the subject of a separate paper. In any event, the Thai economy

rebounded rapidly, as exports surged and tourist numbers recovered quickly, and in 2010 exceeded previous records.

While this paper has focused on the case of Thailand, there are some themes that are more broadly relevant. A simple simulation exercise based on the slowdown of consumption or GDP growth would have been incomplete; by ignoring the changes in relative prices that occurred at the same time, and perhaps other effects that are not easily observed, it would not have correctly identified the losers and winners. In order to identify who is really being hurt, it is important to have actual data. Thailand is a leader in this respect with good-quality monthly household-level data that can help the government target its response more effectively. It would be nice if one could simulate the effects of economic shocks on different social groups using readily-available data series, but our experiments in this suggest that such an approach is not realistic.

Economic structure matters, and that is the second lesson. The effects of the great recession on Thailand reflect the country's dependence on export-oriented manufacturing, rice cultivation, and tourism. These effects are likely to be quite different from those experienced elsewhere, even in neighboring countries such as Myanmar or Malaysia. This makes it difficult to generalize productively about the effects of recession and the appropriate policies needed to soften the social impact. Country-specific policy analysis, rooted in timely local evidence, remains essential.

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