

## Chapter 2

### The crisis from the household perspective



This chapter analyses the impact of the global crisis on the economic well-being of households across the transition region. It shows that these households had to reduce consumption more than families in western Europe and offers three explanations for this difference. First, households in the transition region suffered more job losses, wage reductions, and declines in remittances. Second, social safety nets were less effective in absorbing shocks compared with western Europe. Third, pre-crisis borrowing had left some households vulnerable. In particular, this chapter shows that in countries with large currency depreciations, FX-denominated mortgage debt aggravated the consumption compression for households that also experienced income shocks during the crisis.

### The crisis and households' economic well-being

# 38%

of the households in the transition region had to reduce staple food consumption as a result of the crisis, compared with only 11 per cent in western Europe

# 29%

of transition households saw their wages reduced during the crisis, compared with 16 per cent in western Europe

# 49%

of the households in Germany that lost a job successfully applied for unemployment benefits, in contrast to households in Central Asia and the Caucasus where the success rate was on average only 2 per cent

## The crisis from the household perspective

The 2009 and 2010 EBRD *Transition Reports* analysed the causes and implications of the crisis in the transition region mainly from the perspective of the aggregate economy – gross domestic product (GDP), unemployment, aggregate credit, capital flows, trade and asset prices – and particular economic sectors. Based on the 2010 EBRD – World Bank *Life in Transition Survey II* (LiTS), this report complements that analysis from the perspective of households. This chapter examines how the crisis affected the economic well-being of households, while the next chapter analyses its impact on household attitudes towards democracy and market economies.<sup>1</sup>

The LiTS is a combined household and values survey which was undertaken for the first time in 2006.<sup>2</sup> A second round was conducted in the last quarter of 2010 on a face-to-face basis with at least 1,000 randomly chosen households in each of the 29 transition countries and five comparator countries in western Europe (France, Germany, Italy, Sweden and the United Kingdom).<sup>3</sup> The survey collected a host of socio-economic data about respondent households, concerning expenses, housing, education level, age, gender and marital status, labour market status and access to finance. In addition, there are survey modules about the impact of the crisis, attitudes and values, and entrepreneurial activity.<sup>4</sup>

The 2010 LiTS assessed each household's experience of the crisis based on three sets of questions. First, households were asked whether the crisis affected them a great deal, a fair amount, just a little or not at all. Second, all households, except those which said that the crisis did not affect them at all, were asked *how* they were affected. Possible responses included job loss by the head of the household or another household member, closure of the family business, reduction in working hours, delay or suspension of wage payments, reduction in wages and a reduced flow of remittances from abroad. Lastly, households were asked whether they changed their behaviour as a result of a decline in income or other economic difficulty in the past two years – and specifically whether they reduced their consumption, deferred further education plans or medical treatment, or tried to work longer hours. Questions about reductions in consumption applied to a range of items from staple foods to luxury goods.

In addition, the crisis impact module of the LiTS also contained questions about household coping mechanisms, particularly access to government-provided social safety nets (such as unemployment insurance or housing benefits), and borrowing money from banks or informal sources (relatives and friends).

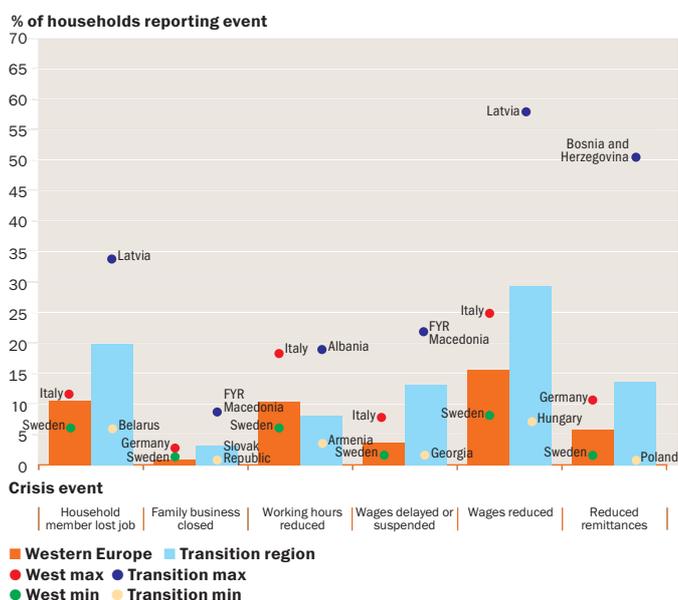
These data, as well as the socio-economic information available about each survey participant, offer considerable insight into how the crisis affected households, and why they

responded in the way that they did. Households were indeed affected severely, although large variations are discernible. This chapter looks to address the reasons for these variations and, in particular, to ascertain why households in the transition region appear to have reduced their consumption, on average, much more than their western European counterparts. In addition, the role of finance is examined more closely, and especially whether mortgage borrowing before the crisis made households better or worse off when the crisis hit, and whether the currency denomination of mortgages played a significant role.

### How households experienced the crisis: the main facts

Chart 2.1 shows the main “shocks” through which the crisis impacted households. The most common experience by far, both in the transition region and in the western European comparators, was a reduction of wages (reported by almost 30 per cent of transition households), followed by the job loss of a household member or a reduction in remittances (reported by about 20 per cent and almost 15 per cent of transition respondents, respectively). The chart also shows that, as a whole, the transition region was hit harder than the Western comparators across all impact categories except reduction in working hours. This was somewhat higher in the Western countries, in part

Chart 2.1  
Wages reduced for almost one-third of transition region households



Source: LiTS  
 Note: This graph shows the severity of various household crisis events in the transition region and western Europe.  
 Maxima and minima refer to the countries reporting the highest and lowest proportion of the crisis event in the transition region and in the western European comparator countries, respectively.

<sup>1</sup> For a description and initial analysis of the LiTS data in relation to these topics, see EBRD (2011), *Life in Transition: After the Crisis*, Chapters 1 and 2.

<sup>2</sup> See EBRD (2007a,b).

<sup>3</sup> The 29 transition countries included the former communist countries of central and eastern Europe and Central Asia (except for Turkmenistan) and also Turkey. In addition, Kosovo was surveyed separately from Serbia, with a sample of 1,000. A larger sample of 1,500 was used in Poland, Russia, Ukraine and Uzbekistan to provide a sufficiently large comparison for a follow-up survey of the same households

being held in late 2011. For the sampling methodology, see EBRD (2011), *Life in Transition: After the Crisis*, annex.

<sup>4</sup> For the questionnaire, go to: [www.ebrd.com/pages/research/publications/special/transitionII.shtml](http://www.ebrd.com/pages/research/publications/special/transitionII.shtml). For a detailed descriptive presentation of the main result of the survey, see EBRD (2011), *Life in Transition: After the Crisis*.

reflecting labour market policies designed to prevent a rise in unemployment.

As is clear from the maximum and minimum country averages shown in the chart for each crisis event, the reported averages mask a large cross-country variation within both regions, and particularly the transition countries. To further demonstrate this heterogeneity and to show how the reported impact at the household level relates to commonly used economy-wide measures of the depth of the crisis, Chart 2.2a plots the country-level average of an index of crisis impact against the change in GDP experienced by the country in 2009. Chart 2.2b does the same for the change in unemployment. In both cases, the impact index measures the average number of crisis events reported by households in that country.<sup>5</sup>

According to the impact index, the hardest-hit transition countries during the financial crisis were in the Baltic region and in south-eastern Europe (FYR Macedonia, Latvia, Lithuania, Moldova, Montenegro, Romania and Serbia). Tajikistan, which saw a sharp decline in remittances due to a return of migrant workers, is also in this group. At the other end of the spectrum, countries where the crisis impact appears to have been relatively mild included the Czech Republic, Georgia, the Kyrgyz Republic and Poland.

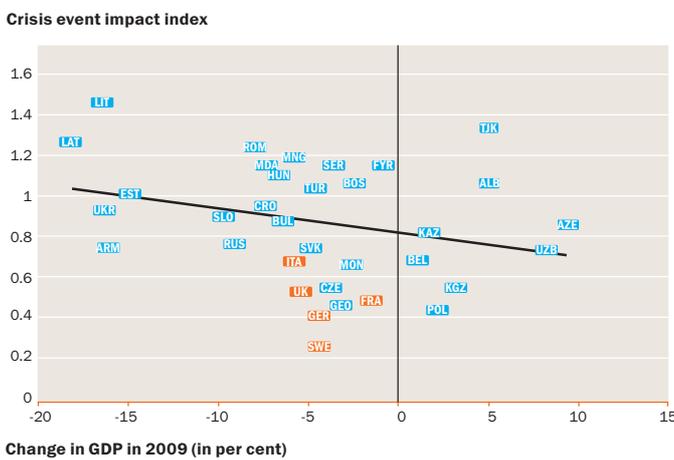
Charts 2.2a and 2.2b show the expected correlations between the crisis event impact index and the change in real GDP and in

unemployment: the higher the unemployment increase and/or the decline in GDP, the larger the crisis impact on households. Some of the hardest-hit countries in terms of household-level measures were also among those with the largest falls in aggregate output and the largest increases in unemployment (Latvia and Lithuania, and to a lesser extent Moldova and Serbia). At the other end of the spectrum, the Kyrgyz Republic and Poland suffered no output declines in 2009 and only slight increases in unemployment. These countries also registered only a small crisis impact from the household perspective.

At the same time, the correlations are not very high. This is partly due to the presence of the five Western countries, in which households on average appear to have suffered fewer crisis events for given falls in aggregate output or increases in unemployment.<sup>6</sup> However, even in the transition region there are examples of collapses in output and increases in unemployment that do not register highly on the household crisis impact scale (as in Estonia). Conversely, there are countries with high crisis impact values from the household perspective that do not register exceptionally in terms of unemployment or output collapse (as in FYR Macedonia and Tajikistan).

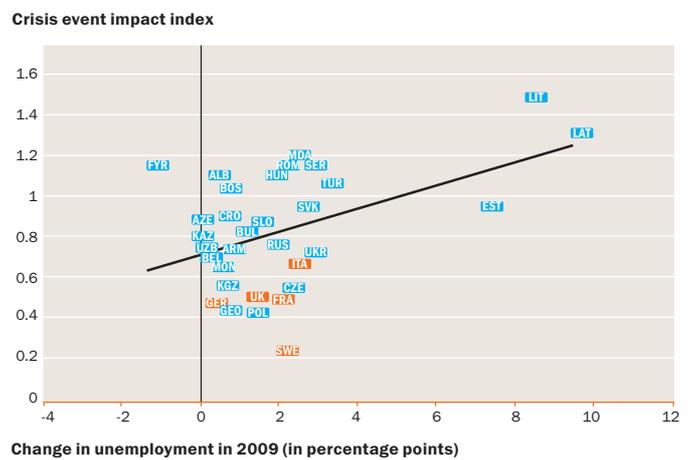
These discrepancies are partly due to measurement: for example, the macroeconomic variables capture collapses in aggregate output and employment in 2009, while the household responses to the crisis period could include experiences

**Chart 2.2a**  
Crisis impact on households related to economy-wide contractions



Source: National Statistical Offices, Eurostat and LITS.  
Note: This chart shows the crisis impact on households in relation to the change in GDP in 2009. GDP growth information missing for the Czech Republic. Western European countries are marked in orange.

**Chart 2.2b**  
Crisis impact on households and rise in unemployment strongly correlated



Source: IMF, International Financial Statistics (IFS) and LITS.  
Note: This chart shows the crisis impact on households in relation to the change in unemployment in 2009. Unemployment information missing for Montenegro and Tajikistan. Western European countries are marked in orange.

<sup>5</sup> The crisis events included in the impact index are: (1) head of household lost job; (2) other member of household lost job; (3) family business closed; (4) working hours reduced; (5) wages delayed or suspended; (6) wages reduced; (7) reduced flow of remittances. For each household, the index is equal to the number of events reported. This is then averaged over all households in a particular country.

<sup>6</sup> If the western European countries are excluded from the charts, the correlation coefficient in Chart 2.2a changes from -0.23 to about -0.35. In Chart 2.2b it moves from 0.46 to 0.50.

before or after that time. Mainly, however, they are likely to reflect differences in the concepts that are being measured. In particular, GDP excludes much informal economic activity (which is considerable in many transition countries) as well as remittance inflows, both of which would register in household responses; and it includes profits and government income that may not directly affect households. Perhaps for this reason, the correlation between unemployment changes and the crisis event impact index is tighter than between the index and changes in GDP. However, even unemployment is only a rough measure of what may happen to households in a recession: household members may stay employed and still suffer through wage income and remittance receipt channels (which are captured in the LiTS crisis impact index). For example, the sharp decline in remittance flows may help explain why countries such as Albania, FYR Macedonia and Tajikistan were hit much harder than their changes in output and unemployment would suggest. Conversely, a country can experience a sharp spike in unemployment while wage levels and remittance inflows are not much affected. The LiTS crisis impact index is therefore likely to be a more comprehensive measure of the effect on the general population than any single macroeconomic variable.

Chart 2.3 shows how household consumption and labour supply decisions were influenced by the crisis and gives a more detailed picture of the likely welfare effects than the previous charts. Like Chart 2.1, this chart suggests that the crisis was on average much harder for households in the transition region than those in the western European countries. This is particularly the case for some consumption categories essential to well-being: only 11 per cent of households in the Western comparators

reported reducing staple food consumption as a result of the crisis, as opposed to 38 per cent in the transition region. In the Western countries, only 4 per cent reported postponing or skipping medical treatment; in the transition region, almost 13 per cent did so. The percentage of households reporting delays in paying utility bills was also more than twice as high in the transition region.

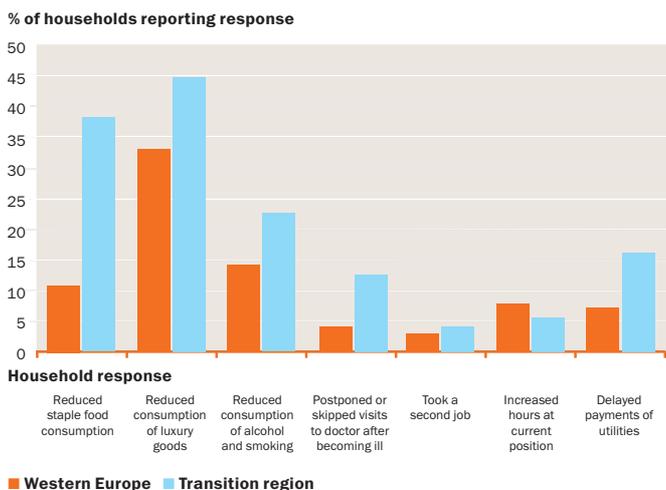
Chart 2.4 shows the cross-country variation in the typical consumption response to the crisis and how it relates to crisis events. The horizontal axis of the chart represents the same crisis event index shown in Charts 2.2a and 2.2b. The vertical axis shows the number of consumption responses reported by households, on average, in each country.<sup>7</sup> The chart includes transition and Western comparator countries.

The chart confirms that Poland was the only country in which the crisis affected households comparably with those in the Western countries, regardless of whether this is measured in terms of crisis events (the horizontal axis) or consumption response (the vertical axis). More generally, the chart shows a close correlation (with a coefficient of 0.72) between crisis impact and consumption response. In some countries, particularly Bulgaria and FYR Macedonia, the compression of consumption reported by households was higher than would have been predicted based on the reported crisis impact; in others, including Bosnia and Herzegovina, Germany, Russia, the Slovak Republic, Sweden and Tajikistan, it was lower. This raises the question as to whether safety nets of some form in these countries softened the blow of the crisis. The fact that this group of countries is so diverse suggests that not only formal safety nets, such as unemployment insurance, but also informal mechanisms, such as borrowing from friends or relatives, may have played a part.

Chart 2.5 shows how households subjectively perceived the impact of the crisis, and compares this to the reported compressions of consumption. The horizontal axis measures country averages of the general consumption response index, while the vertical axis measures the proportion of households in each country which stated that the crisis had affected them “a great deal” or “a fair amount”. There is a close correlation between the subjective crisis measure and the consumption response (of 0.81), which is higher than that between the subjective measure and the index of crisis impact (0.65, not shown). This suggests that what mattered most for households were the consequences of the crisis for consumption, health, education and so on, rather than crisis events such as job loss or wage reduction *per se*. Again, this points to the potential importance of formal or informal safety nets in shielding households from the impact of certain crisis-related events.

Charts 2.6, 2.7a and 2.7b indicate the extent to which various safety nets were used by crisis-affected households according to the LiTS. In the survey, households were asked whether they applied for various forms of social assistance, and whether they tried to borrow from formal sources (such as banks) or informally (from friends, relatives or private money lenders). If the

**Chart 2.3**  
**Well over one-third of transition region households cut staple food consumption**

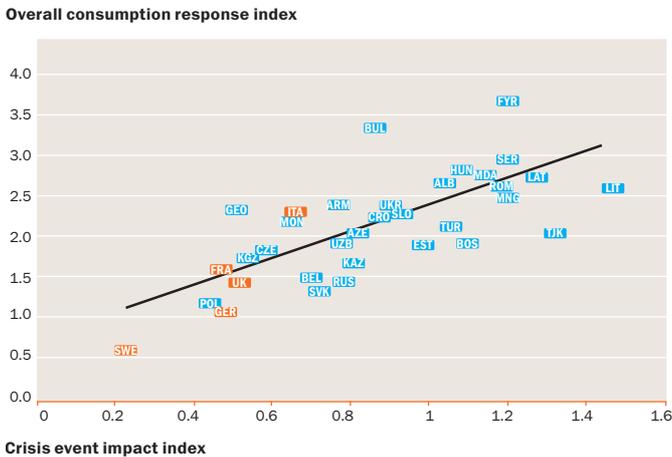


Source: LiTS.

Note: This chart shows the household response to the crisis in the transition region and western Europe.

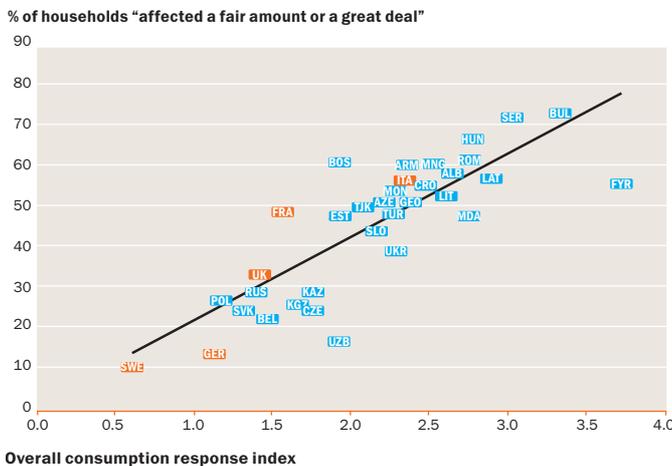
<sup>7</sup> The index includes all adjustment responses undertaken by the household that are listed in question 8.04 of the 2010 LiTS, except for 8.04 h (“Enrolled in further education because of lack of job opportunities”); see LiTS questionnaire (available on the EBRD web site, go to: [www.ebrd.com/pages/research/publications/special/transition1.shtml](http://www.ebrd.com/pages/research/publications/special/transition1.shtml)). The economy-wide index is the average of the index values of all households in a particular country.

**Chart 2.4**  
Household crisis events closely correlated with subsequent consumption response



Source: LITS.  
Note: This chart shows the household consumption response in relation to crisis events, by country. See text for an explanation of the two indices that are being compared. Western European countries are marked in orange.

**Chart 2.5**  
Households in Bulgaria, Hungary and Serbia felt hardest hit by the crisis



Source: LITS.  
Note: This chart shows the subjective crisis intensity in relation to household consumption response, by country. Western European countries are marked in orange.

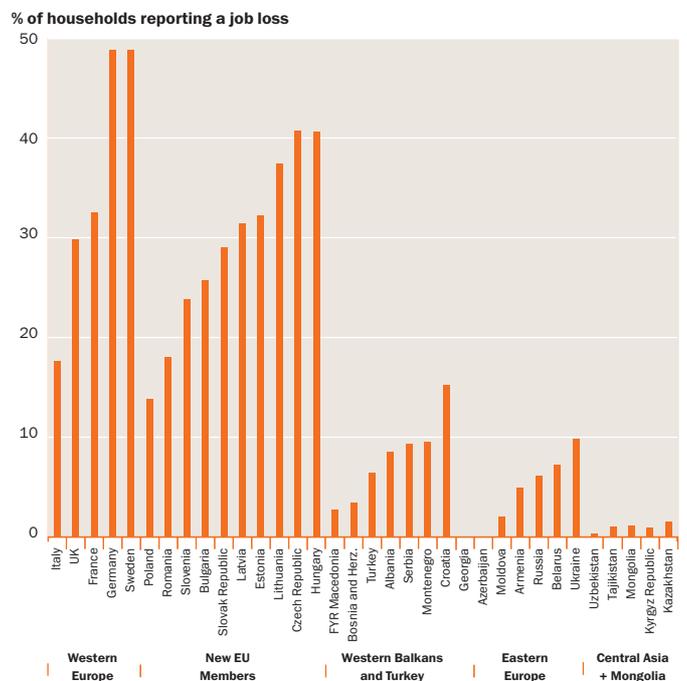
respondents answered any of these questions affirmatively, they were then asked if they were successful, and – in the case of social assistance – whether it was helpful.

One way to ascertain the availability of safety nets during the crisis might be to compare the number of households that attempted to borrow with the number that actually succeeded in doing so. However, this measure could be misleading, since even crisis-affected individuals might not have applied for a benefit or loan if they did not expect to receive it. A better way of comparing coverage across countries might therefore be to focus on the extent to which “needy” individuals, based on information that they reported in the LITS, actually received a benefit or loan.

In Chart 2.6 each bar shows the percentage of households that succeeded in obtaining unemployment benefits among those reporting a job loss during the crisis in a particular country.<sup>8</sup> Among the Western comparator countries, almost one-half of households in Germany or Sweden made successful applications, although in Italy the proportion was much lower (about 18 per cent). In the transition region, unemployment protection was more prevalent among the new European Union (EU) members than the Central Asian and Caucasus countries, where generally fewer than 5 per cent of households obtained benefits.

Charts 2.7a and 2.7b indicate the frequency of formal and

**Chart 2.6**  
Unemployment protection better in West and among the new EU members relative to rest of transition region



Source: IMF, International Financial Statistics (IFS) and LITS.  
Note: This chart shows the successful applications for unemployment benefits as a percentage of households reporting a job loss, by country.

<sup>8</sup> This measure may understate the coverage of unemployment benefits as LITS asked respondents about job losses over the past two years, whereas the unemployment benefit question only refers to the past 12 months.

**Chart 2.7a**  
Large variation within regions in households' use of formal borrowing

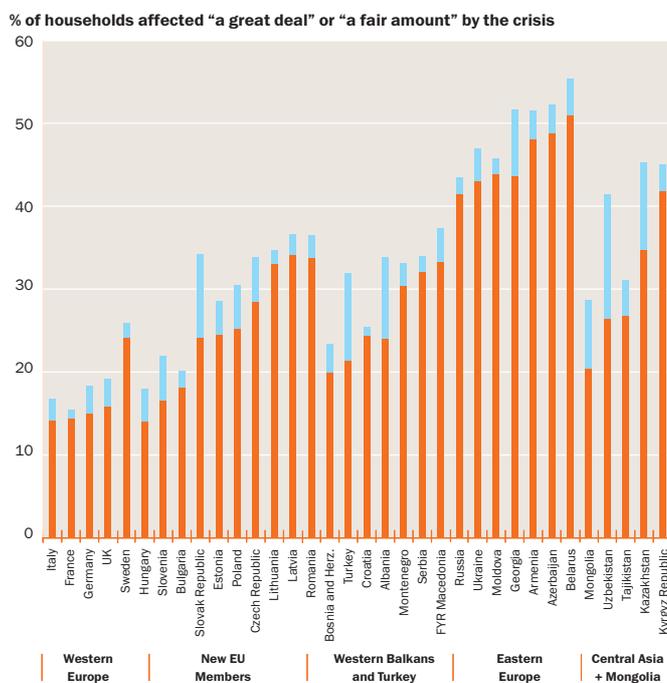


informal household borrowing. They focus on those households affected "a great deal" or "a fair amount" by the crisis, and show the percentage of these households which tried to borrow and also succeeded in doing so. Regarding formal borrowing, Chart 2.7a implies no clear pattern across regions. The striking factor apparent in Chart 2.7b is the much higher use of informal borrowing among crisis-affected households in the transition region compared with western Europe – and particularly in the less advanced and harder-hit countries.

### Understanding the impact of the crisis on household consumption

The preceding section has shown that households in the transition region were hit much harder by the crisis than those in the western European countries, and that there were also large differences in its impact across the region. It is also apparent that simple indices of crisis events and consumption responses are correlated across countries. However, this correlation is imperfect: in particular, in some countries households report

**Chart 2.7b**  
Many crisis-hit households in transition countries borrowed informally, especially relative to the West



relatively few falls in consumption compared with their reported exposure to crisis events. In addition, there appears to be considerable variation in the extent to which households tried, successfully or not, to borrow from formal and informal sources and to access social safety nets.

These findings raise three main questions.

First, how have crisis events – the loss of jobs, reduced wages and hours worked and so on – affected household consumption? We know that there is a correlation, but did the type of event matter to a greater or lesser extent? This is a question with direct relevance for policy-makers. For example, if a reduction in working hours to the degree that typically occurred in this crisis affected households less than job losses, this would strengthen the argument for labour market frameworks that encourage employers to adjust to changes in demand through changes in working hours, rather than the retrenchment or hire of employees.

Second, to what extent have government-provided social

safety nets, such as unemployment and housing benefits, been able to soften the blow of the crisis? Chart 2.3 makes plain that households in the transition region suffered more than their Western counterparts – particularly when measured in terms of basic consumption. Was this because they were exposed to more crisis events, because they were poorer and more vulnerable to begin with, or because they lacked the access to quality official safety nets that Western households had?

Lastly, what was the role of finance in the crisis? On the one hand, access to formal financial services – such as bank accounts, debit and credit cards and mortgages – and informal means of borrowing may have helped households to maintain a more stable level of consumption over time. Such households may therefore have been more resilient and coped better with unexpected income shocks. On the other hand, there are indications that the rapid increase in household debt before the crisis may have left many financially more vulnerable. Should the rapid financial deepening in the decade before the crisis be viewed mainly as a positive structural development, or did it encourage at least some households to saddle themselves with too much debt?

The following section answers these questions using multiple regression techniques, which allow the joint analysis of many potential factors that might have affected the decline in consumption. It also examines the role of finance – and in particular of mortgages denominated in foreign currency (FX) – in more detail.

### Crisis events, crisis borrowing and official safety nets

Table 2.1 presents the results of a regression analysis that examines how household consumption was affected by crisis events and by household attempts to mitigate them through credit (formal or informal) or social protection mechanisms. The household response is measured in two ways:

- first, through the “overall response” index (as in Charts 2.4 and 2.5), which includes the impact on all consumption categories as well as stress responses such as loan defaulting, selling an asset, and relocating
- second, through a narrower concept that looks only at the reduction of basic goods and services consumption, including essential services such as medical care, but excluding luxury goods, car use, vacations or training. This is referred to as the “base consumption” response.

The analysis takes account of household characteristics, such as size, age, gender, income (proxied by annual expenses), wealth, housing expenses, education level, employment and location (urban or rural), that may also have played a role in the extent to which households had to adjust during the crisis.<sup>9</sup> Omitting such characteristics from the analysis could lead to a biased view of how shocks and mitigation strategies affected consumption and

spending. To save space in the table, the impact of these “control variables” is not shown, but in all cases their influence is as expected. For instance, highly educated and wealthier people had to reduce consumption less, as did those with formal, and hence relatively secure, employment. Households that had locked themselves into paying a high proportion of their income towards housing had to adjust their consumption by more compared with those with lower fixed housing costs.

The upper section of Table 2.1 compares the impact of various crisis events (either jointly through the crisis event impact index or separately) on *base* consumption (see columns [1], [2], [5] and [6]) and on the *overall* household response (columns [3], [4], [7] and [8]). The left-hand side of the table shows results for the transition region and the right-hand side for the five western European comparator countries. The table shows that crisis impact on *base* consumption was higher in the transition region than in western Europe. Even when correcting for household characteristics and for the use of credit and social safety nets, transition households had to reduce their base consumption by about 20 per cent more compared with their western European counterparts (see columns [1] and [5]). This is true for all types of shocks with the exception of the forced closure of a business, perhaps because in the transition region an (informal) business is often not the only source of income whereas it is in western Europe. As will be explained later in this chapter, one difference between the transition region and western Europe that may explain the higher impact on basic consumption in the former is the role of pre-crisis mortgage debt.

In contrast, for a given severity of shocks, similar household characteristics and access to social safety nets and borrowing, the *overall* response in consumption, beyond the essential items, appears to have been higher in the Western comparator countries. This is probably because a larger proportion of the population owns a car, goes on vacation and consumes other luxury items. If such consumption was not prevalent in the transition region in the first place, it could not have been lowered during the crisis.

The most severe shocks were job loss and reduced wage income in the transition region and, similarly, job loss but also the closure of a family business in the Western comparators. Interestingly, households which saw their working hours reduced during the crisis had to adjust their consumption pattern considerably less than those which suffered job loss. This may be because the typical reduction in working hours suffered by respondents was relatively small. However, it could also suggest that reducing working hours is an effective way to spread the pain of (temporary) reductions in working potential more evenly across households. Indeed, countries such as Germany and Italy introduced, or expanded, short-time work schemes during the crisis to preserve jobs in firms that experienced a temporary reduction in the demand for their products or services.<sup>10</sup>

The lower section of Table 2.1 provides some insight into the role that social safety nets and formal and informal borrowing

<sup>9</sup> Wealth is measured by the ownership of a personal computer, car and/or second home. Housing expenses refer to either rent or debt servicing and are expressed as a percentage of household income.

<sup>10</sup> See Boeri and Brücker (2011). According to the regression coefficients in the first column of Table 2.1, for example, these schemes would be appropriate in the transition region as long as the positive consumption impact of avoiding a layoff in one household is not more than offset by the typical negative impact of reducing working hours in two other households.

**Table 2.1**  
**Household consumption response, crisis impact and access to credit and safety nets**

Country sample	Transition region				Western Europe			
	Base response	Base response	Overall response	Overall response	Base response	Base response	Overall response	Overall response
Dependent variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Crisis event impact index 1/	0.349*** (0.014)		0.681*** (0.023)		0.291*** (0.043)		0.794*** (0.051)	
Job loss		0.487*** (0.028)		0.897*** (0.046)		0.399*** (0.081)		1.032*** (0.155)
Close business		0.243*** (0.044)		0.753*** (0.089)		0.413** (0.186)		1.033*** (0.347)
Less wage income		0.446*** (0.030)		0.876*** (0.041)		0.319*** (0.072)		0.868*** (0.081)
Less remittances		0.335*** (0.032)		0.678*** (0.065)		0.197*** (0.034)		0.727*** (0.047)
Reduced hours		0.276*** (0.036)		0.526*** (0.073)		0.225*** (0.072)		0.653*** (0.096)
Tried informal borrowing	0.678*** (0.090)	0.683*** (0.090)	1.024*** (0.161)	1.031*** (0.163)	0.768*** (0.227)	0.767*** (0.209)	1.203*** (0.278)	1.195*** (0.249)
Tried formal borrowing	0.583*** (0.090)	0.585*** (0.094)	1.108*** (0.129)	1.114*** (0.137)	0.796*** (0.237)	0.795*** (0.238)	1.791*** (0.475)	1.796*** (0.481)
Applied for housing support	0.251*** (0.073)	0.258*** (0.073)	0.293** (0.118)	0.304** (0.121)	0.527*** (0.133)	0.530*** (0.131)	0.774*** (0.113)	0.785*** (0.112)
Applied for unemployment benefit	0.241*** (0.075)	0.231*** (0.074)	0.415*** (0.119)	0.403*** (0.118)	0.574*** (0.086)	0.539*** (0.117)	0.775*** (0.110)	0.703*** (0.168)
Succeeded informal borrowing	-0.183* (0.104)	-0.183* (0.104)	-0.321* (0.180)	-0.319* (0.182)	-0.133 (0.235)	-0.132 (0.221)	0.099 (0.197)	0.104 (0.170)
Succeeded formal borrowing	-0.365*** (0.086)	-0.365*** (0.088)	-0.582*** (0.144)	-0.587*** (0.147)	-0.620*** (0.202)	-0.616*** (0.205)	-1.400*** (0.316)	-1.402*** (0.327)
Received housing support	0.079 (0.119)	0.070 (0.123)	0.157 (0.146)	0.145 (0.154)	-0.272** (0.121)	-0.279** (0.119)	-0.338** (0.163)	-0.359** (0.167)
Received unemployment benefit	-0.011 (0.098)	-0.038 (0.097)	-0.020 (0.172)	-0.054 (0.169)	-0.460*** (0.159)	-0.457*** (0.163)	-0.532*** (0.188)	-0.518*** (0.194)
Observations	30,469	30,469	30,469	30,469	5,278	5,278	5,278	5,278
R-squared	0.217	0.213	0.250	0.244	0.242	0.239	0.330	0.327
Socio-economic controls 2/	Yes							
Country fixed-effects	Yes							

Source: LITS.

Note: The table shows OLS regression coefficients. Standard errors in parentheses. The dependent variable is either an index of *base consumption response*, constructed by giving one "point" for each type of consumption reduction response that the household names among the possibilities named in LITS question 8.02a, c, f, j, l, n, o or p; or an index of *overall consumption response*, in which a "point" is given for each type of response that the household names among all possibilities named in LITS question 8.02, except for 8.02h.

1/ The crisis event impact summarises the crisis impacts, job loss, business closure, reduced wages, reduced hours and fewer remittances.

2/ Includes household size, income and wealth (the latter is measured by the ownership of a personal computer, car, and/or second home); urban versus rural location of the household; age, gender, education level, and type of employment of the household head; and housing expenses (either rent or debt servicing) as a percentage of income.

may have played in helping households to weather the crisis and maintain consumption.<sup>11</sup> All regressions include variables that indicate whether a household *tried* to borrow formally (from a bank) or informally (from a friend or family member) during the crisis. Two other variables indicate whether a household *applied* for housing support or unemployment benefits (that is, safety mechanisms provided by the state). Separately, the regressions analyse the effect of actually *succeeding* in accessing credit or social safety nets. It is important to distinguish the effects of *applying* and *succeeding*, because the former may contain otherwise unobservable information about why a household might need to access safety nets or credit, while the latter reflects the pure effect of the borrowing or the social benefit.

The results reveal that households which *applied* for any form of credit or state support reduced their consumption significantly more (even when controlling for the severity of the income shocks) than those which did not. This is probably because households which found themselves in particularly dire straits were most likely to apply for help. In contrast, successful access to credit or social safety nets tended to help households, but did not affect consumption in the same way in the Western comparators and the transition region.

One difference relates to the roles of formal and informal borrowing. While access to formal borrowing from a bank reduced the compression of consumption in both regions, only in the transition countries did successful informal borrowing from friends or family mitigate the consumption response. This may reflect the fact that in western European societies, where formal channels of finance are more developed, informal borrowing has become relatively less important.

However, even in the transition region successful informal borrowing only protected consumers to a limited extent. It reduced the difference in consumption responses between those needing, and those not needing, to apply for such finance by about one-third. In contrast, formal borrowing had a larger impact: access to formal finance allowed borrowers to reduce the gap between themselves and those not needing to apply for loans by almost two-thirds (and by 80 per cent in western Europe). Therefore, even when informal mechanisms are active, as in transition countries, access to formal credit seems to be a more effective way to maintain consumption. This is perhaps unsurprising, given that loans from friends and family will tend to be significantly smaller than bank loans. Furthermore, when many households are hit hard by a negative income shock at the same time, informal borrowing from friends and family may work less well.<sup>12</sup>

The regressions also reveal significant differences in the ability of social safety nets to help households through difficult times across the two regions. In the Western comparator countries, households which succeeded in claiming housing support and unemployment benefits during the crisis were significantly better off compared with rejected applicants. In contrast, in the transition region as a whole, neither of these government

supports seems to have had a statistically significant effect in offsetting the crisis impact among applicants. Further analysis (not shown in the table) indicates that this is also true for most individual transition countries, but there are exceptions. In Hungary, Kazakhstan and Latvia unemployment benefits seem to have had a significant impact in dampening the fall in consumption as reported by households. In Poland and Russia, housing benefits seem to have had a similar effect.

It is not clear why formal safety nets were not more successful in the transition region. However, the LiTS data provide some clues. Recipients in the Western comparators received their first housing and unemployment benefit payments almost eight and three days earlier, respectively, than those in the transition region. Western recipients also rated their satisfaction with these government supports about 16 and 11 per cent higher, respectively, than their transition counterparts.<sup>13</sup> Therefore, differences in effectiveness may have had to do with the size of benefits and the speed with which they were actually delivered.

What does the analysis in Table 2.1 suggest about the relative importance of all factors considered so far in influencing the consumption response across transition and western European households? One way of answering this question is to sequentially exclude various groups of variables from the analysis, and record the difference which this makes to the overall explanatory power of the regression. The results (based on regressions [1] and [5], but which are also very similar for the other regressions) are shown in Chart 2.8. The main result is that the variables which most affected household responses in the transition region were differences in exposure to crisis events, and that unexplained country-level differences also played a major role. In contrast, differences in socio-economic characteristics of households and access to safety nets and credit were less important. The western European experience was very different: variations in socio-economic characteristics mattered much more (about twice as much as differences in exposure to crisis events). Success in accessing unemployment and housing benefits was more important in the comparator countries than in the transition region, and unexplained country-level differences mattered relatively little.

#### Did pre-crisis access to finance help or hinder?

Access to emergency borrowing, either from banks or from friends and family, appears to have cushioned households substantially during the crisis. However, to what extent did debt accumulated *before* the crisis actually make households more vulnerable in the first place? The pre-crisis boom period, and the associated optimistic assumptions about future incomes, may have enticed banks and households to ramp up household debt too fast. While this allowed households to increase current spending against potential future earnings, it may also have made them more vulnerable to unexpected income shocks. Consequently, highly leveraged households, with high debt-servicing burdens, may have had to cut back their consumption the most.<sup>14</sup>

<sup>11</sup> This analysis does not take targeted social assistance (TSA) and guaranteed minimum income (GMI) programmes into account, which in some transition countries were used or significantly adjusted during the crisis.

<sup>12</sup> Further analysis shows that the mitigating effect of informal borrowing was particularly high for those households in the transition region that were hit relatively hard. A similar interaction effect was found for western European households which applied for formal finance.

<sup>13</sup> These differences are statistically significant at the 1 per cent (satisfaction) or 5 per cent (delivery speed) levels, with the exception of the three-day difference for unemployment benefits.

<sup>14</sup> For more details, see Brown, De Haas and Grosjean (2011).

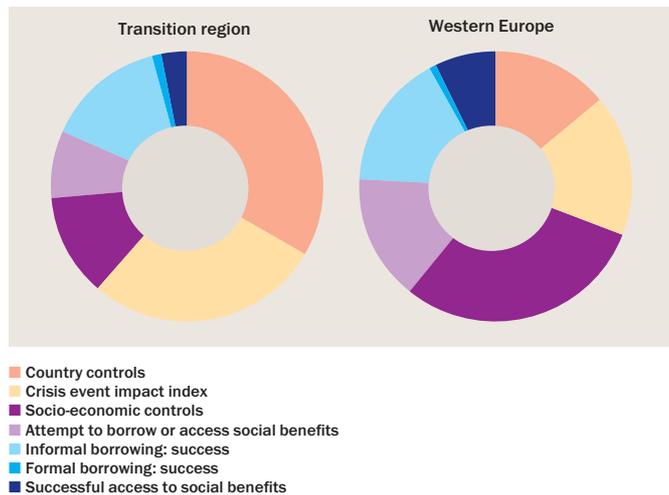
Table 2.2  
Mortgage debt, crisis impact and household response

Country sample	Transition region								Western Europe			
	Base consumption response				Overall response				Base response		Overall response	
Dependent variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Mortgage	0.128** (0.053)	0.067 (0.075)			0.268** (0.107)	-0.053 (0.144)			-0.116*** (0.026)	-0.101*** (0.032)	-0.216*** (0.045)	-0.194*** (0.044)
Local currency mortgage			0.085 (0.054)	0.103 (0.097)			0.193** (0.096)	0.031 (0.159)				
FX mortgage			0.203** (0.084)	0.007 (0.107)			0.402** (0.159)	-0.188 (0.202)				
Bank account	-0.081*** (0.026)	-0.081** (0.034)	-0.081*** (0.026)	-0.081** (0.034)	-0.045 (0.048)	-0.111** (0.056)	-0.045 (0.048)	-0.110* (0.057)	-0.145*** (0.055)	-0.134 (0.081)	-0.101 (0.115)	-0.021 (0.186)
Credit card	0.001 (0.024)	-0.020 (0.021)	0.001 (0.024)	-0.019 (0.021)	0.112** (0.053)	0.031 (0.069)	0.111** (0.053)	0.032 (0.069)	-0.143** (0.067)	-0.066 (0.046)	-0.227** (0.099)	-0.152*** (0.044)
Crisis event impact	0.348*** (0.014)	0.342*** (0.017)	0.348*** (0.014)	0.342*** (0.017)	0.681*** (0.023)	0.628*** (0.024)	0.681*** (0.023)	0.629*** (0.024)	0.290*** (0.041)	0.391** (0.193)	0.792*** (0.048)	1.021*** (0.292)
Crisis event impact * mortgage		0.050 (0.051)				0.258*** (0.085)				-0.027 (0.043)		-0.042 (0.073)
Crisis event impact * Local currency mortgage				-0.016 (0.075)				0.134 (0.114)				
Crisis event impact * Foreign currency mortgage				0.149** (0.063)				0.443*** (0.097)				
Crisis event impact * Bank account		-0.000 (0.025)		-0.000 (0.025)		0.066* (0.037)		0.065* (0.037)		-0.013 (0.163)		-0.143 (0.300)
Crisis event impact * Credit card		0.021 (0.019)		0.021 (0.019)		0.079* (0.041)		0.077* (0.040)		-0.153** (0.076)		-0.149 (0.102)
Observations	30,465	30,465	30,465	30,465	30,465	30,465	30,465	30,465	5,278	5,278	5,278	5,278
R-squared	0.22	0.22	0.22	0.22	0.25	0.25	0.25	0.25	0.25	0.25	0.33	0.34
Socio-economic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Social assistance controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrowing controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: LITS.

Note: See note for Table 2.1.

**Chart 2.8**  
**Crisis events were a key driver of consumption responses in transition region**



Source: LiTS and Table 2.1.  
 Note: This chart shows the relative importance of factors explaining differences in the consumption response across households.

Can such effects be detected in the LiTS, and if so, how damaging was pre-crisis debt in exacerbating the household consumption compression during the crisis? Table 2.2 presents regression results that analyse the impact of the use of credit services on the consumption shock. A distinction is made between having a bank account, using a credit card, and having mortgage debt.<sup>15</sup> For the transition region, regressions are also run to separate the impact of FX-denominated and local-currency denominated mortgages (this distinction is not meaningful for the western European countries where only a handful of LiTS respondents had an FX mortgage). Columns [1] to [8] in the table show results for the transition region, while columns 9 to 12 deal with the Western comparators. The analysis controls for a comprehensive set of socio-economic household characteristics, making it less likely that the financial service variables proxy for something else (such as household income).

The right-hand side of the table shows how the presence of a mortgage, bank account or credit card influenced household responses in the western European countries. Households with access to these financial products reduced consumption to a lesser extent than comparable households without such access. Credit cards and savings in bank accounts appear to have been used to smooth over temporary reductions in income. Having a bank account mitigated the compression of base consumption, but had no statistically significant effect on the overall consumption response. This may be because (limited) savings

allowed a household to continue its base consumption pattern, but were insufficient to also sustain holidays or car use, for example. The same “protective” use of bank accounts to maintain basic, but not necessarily overall, consumption was also evident in the transition region (see left-hand side of the table).

The table also shows that in western Europe, households with mortgage debt reduced their consumption *less* than households without mortgages. This effect is statistically highly significant and works for base consumption and the overall consumption response. There are several possible interpretations. The negative coefficient might reflect unobserved differences between mortgagors and non-mortgagors that are not picked up by the control variables. It is also possible that developed western European mortgage systems enabled households to use their mortgages to withdraw equity from their property during the crisis, making them less financially constrained.<sup>16</sup>

However, as Table 2.2 shows, mortgages did not have such a protective effect in the transition region. Indeed, mortgage debtors were hit harder than households without a mortgage. Why this difference? First, mortgage markets across the transition region are structurally less developed and equity withdrawal is uncommon, therefore limiting a potential source of additional finance. Instead, having a mortgage could only be a constraint, as households had pre-committed themselves before the crisis to a fixed and inflexible debt-servicing schedule.

In addition, the average mortgagor in the transition region may differ from the average borrower in western European countries in ways that may not be fully captured by control variables. For instance, it is likely that mortgagors in western Europe have typically had loans for a longer period of time. Indeed, LiTS statistics show that the average age of mortgage holders in eastern Europe was 39 years compared with 46 years in western Europe. Moreover, the average time since a mortgage was taken out was eight years in western Europe and four in eastern Europe. As a result, western European mortgagors will have had a chance to build up more home equity and would therefore have had a larger pot of “savings” that they could in principle draw on when the crisis hit. In contrast, mortgagors in eastern Europe are on average younger and have taken out mortgages relatively recently. As a result, the ability to draw on home equity would have been more constrained (and the less-developed mortgage system would have made it difficult to liquidate these savings in any case).

Table 2.2 also analyses whether the contrasting impact of mortgage debt in the western European countries and in the transition region was stronger for those households that were hit hardest during the crisis (see coefficients below the solid line). The results on the right-hand side of the table show that all mortgage debtors in western Europe, whether hit hard by the crisis or not, fared better than non-mortgagors. In contrast, the left-hand side shows that the exacerbating impact of having a mortgage in the transition region was driven by those households which scored relatively highly on the “*crisis event impact*”

<sup>15</sup> The pair-wise correlations between mortgage, bank account, and credit card are all smaller than 0.4. Note that across much of the transition region household debt also included consumption and car loans, while in a few specific cases - most notably Hungary - home equity loans were important debt instruments too. LiTS did not ask households about such debt categories.

<sup>16</sup> While tighter credit conditions (and lower house prices) may have limited the ability of homeowners to realise part of the value of their property through taking on additional mortgage debt, many households may still have done so when they experienced a fall in their income during the crisis. Data for the United Kingdom show that while households drew less on their housing equity than before the crisis, this was not the main reason for the sharp decline in overall equity withdrawal (see Reinold, 2011). The main driver was a sharp reduction in the number of housing transactions.

## Box 2.1

## Foreign-currency mortgages and the crisis

Table 2.2 shows that in the transition region, in contrast to western Europe, households with a mortgage were worse off during the crisis than those without one. This effect was caused by households that experienced one or several negative income shocks (such as a reduced flow of remittances or losing a job) and seems to have been particularly strong for households with FX-denominated mortgages.

This section examines the role of different types of mortgages in more detail. The analysis is limited to emerging Europe, which is here defined as central and eastern Europe, south-eastern Europe and Ukraine. In 2010 only 5 per cent of emerging Europe's population reported having a mortgage, compared with 26 per cent in the five western European comparator countries. Forty-two per cent of these mortgages were denominated in a foreign currency and 13 per cent were in arrears at the end of that year.<sup>17</sup> In contrast, in the Western comparators FX mortgages were virtually absent and the level of (self-reported) arrears was significantly lower at only 2 per cent.

Table 2.1.1 analyses the effects of two mortgage characteristics that may have influenced the severity of the impact of the crisis: first, the relative size of the mortgage debt, captured by the variable *debt-service burden*, which measures expenditure on mortgage payments as a percentage of household income; and second, the currency denomination of the mortgage (local or foreign). Both of these variables might have influenced consumption during the crisis through channels that worked in opposite directions.

In both emerging and western Europe the debt-service burden was about 30 per cent in 2010, although with substantial variation across households. A debt-service burden that exceeds 30 per cent is often considered to indicate that a household is financially vulnerable. One would therefore expect households that locked themselves into high mortgage debt before the outbreak of the crisis to have to reduce their consumption more during the crisis (and particularly if they were also hit by negative income shocks). However, some selection effect may be apparent as well, as banks will only give large mortgages (relative to household income) to particularly creditworthy clients, who may also be in a stronger position to maintain consumption during a crisis.

As regards currency denomination, two effects might have played a role too. First, banks and households would be aware that FX-denominated mortgages might be riskier than local currency loans, as they lead to higher monthly mortgage repayments if the local currency depreciates. Banks might therefore advance FX mortgage loans only to relatively creditworthy households, particularly in countries where the risk of a substantial devaluation or depreciation was high. In some countries, such as Poland, bank regulators explicitly demanded stricter screening procedures in the case of FX loans. While the regressions in Table 2.1.1 control for various household characteristics, and therefore for borrower quality in a rough fashion, it is possible that banks had access to better information about borrower quality than is apparent from the LiTS data. As a result, households with FX mortgages might have been stronger financially and therefore less likely to reduce their consumption during the crisis. However, in countries where a large depreciation occurred, any such effect may have been outweighed by the large increases in the local currency value of mortgage payments faced by FX borrowers. In these circumstances, FX borrowers may have been forced to adjust their consumption more, particularly when they were hit by income shocks as well.

To test whether these potentially opposing effects are indeed present, Table 2.1.1 splits the household sample into two groups: mortgage debtors who lived in a country that experienced a large currency depreciation or devaluation during the crisis (right-hand side of the table) and those who lived in a country with a more stable exchange rate (left-hand side). A currency depreciation of 30 per cent is taken as a cut-off point. Three countries: Hungary, Poland and Ukraine fell into this category.

Columns [1] and [2] show that in countries with a stable exchange rate, the currency denomination of mortgages did not significantly affect the base consumption response of mortgage holders. In sharp contrast, households with an FX mortgage in countries with a large depreciation had to reduce consumption significantly more. The difference is large: column [3] shows that, compared with local currency mortgagors, FX mortgagors had to adjust their base consumption by almost twice as much.

Column [4] shows that this exacerbating effect of an FX mortgage is completely driven by households that experienced an income shock during the crisis. As the negative coefficient on the FX mortgage variable in that column shows, in countries that went through a currency crisis, households with an FX mortgage which did *not* experience an income shock reduced consumption by *less* than mortgage debtors holding local currency mortgages. Similarly, the

<sup>17</sup> See Beck and Brown (2011) and Brown and De Haas (2011).

**Table 2.1.1**  
**Households with an FX mortgage in countries with a currency crisis reduced their consumption more**

Exchange rate development	Small depreciation		Large depreciation	
Dependent variable	Base consumption		Base consumption	
	[1]	[2]	[3]	[4]
FX mortgage	0.045 (0.171)	-0.118 (0.188)	0.240*** (0.061)	-0.340*** (0.093)
Debt-service burden	0.309 (0.455)	0.620 (0.492)	0.266 (0.410)	-1.227 (0.952)
Crisis event impact	0.522*** (0.076)	0.548*** (0.150)	0.260* (0.134)	-0.342*** (0.053)
<i>Crisis event impact * FX mortgage</i>		0.123 (0.090)		0.422*** (0.048)
<i>Crisis event impact * Debt service burden</i>		-0.230 (0.372)		1.154*** (0.430)
Observations	702	702	174	174
R-squared	0.237	0.238	0.225	0.262
Socio-economic controls	Yes	Yes	Yes	Yes
Country fixed-effects	Yes	Yes	Yes	Yes

Source: LITS.

Note: The table shows OLS regression coefficients with standard errors in parentheses. The regressions explain a household's consumption response through various mortgage characteristics while controlling for household characteristics. The sample only includes households that held mortgages. For the definition of crisis event impact, see note to Table 2.1.

table indicates that households (in the same countries) which were highly leveraged and hit by a negative income shock compressed their base consumption the most.

Next, Table 2.1.2 investigates whether the differentiated impact of crisis shocks on FX (as opposed to local currency) mortgagors also influenced (self-reported) arrears on mortgage payments. Again, there are possible conflicting effects. If FX households had a better repayment propensity (something which bankers may have detected during the loan application) they might be better risks even if they had to reduce their consumption by more in order to continue to service their mortgage debt. However, it is possible that this effect would be outweighed by the higher debt service burden triggered by a large depreciation.

As expected, the table shows that households that were impacted more by the crisis were more likely to be in arrears on their mortgage (see "crisis event impact" line). This effect is about three times as strong in countries that experienced a large depreciation. However, the results also indicate that, across the entire sample, FX mortgagors tended to be better credit risks compared with local currency borrowers (see negative coefficients in first row of columns [1] and [2]). As shown in columns [3] and [4], this result was driven by countries with no (or only a limited) depreciation during the crisis. However, even in countries that experienced a sharp depreciation, there was no general increase of mortgage-payment arrears associated with FX denomination. Moreover, the interaction terms below the dotted line between crisis impact and FX denomination show that FX households which were hit

Table 2.1.2  
No evidence for higher credit risk on FX mortgages

Dependent variable	Mortgage arrears					
	All countries		Small depreciation		Large depreciation	
	[1]	[2]	[3]	[4]	[5]	[6]
FX mortgage	-0.094*** (0.037)	-0.105** (0.049)	-0.122** (0.053)	-0.129* (0.069)	-0.037 (0.065)	0.032 (0.033)
Debt-service burden	0.077 (0.090)	0.113 (0.092)	0.004 (0.081)	0.080 (0.096)	0.185 (0.182)	0.036 (0.085)
Crisis event impact	0.035** (0.014)	0.040** (0.017)	0.022* (0.011)	0.039** (0.019)	0.076*** (0.012)	0.071*** (0.020)
Crisis event impact * FX mortgage		0.008 (0.020)		0.005 (0.023)		-0.065** (0.026)
Crisis event impact * Debt service burden		-0.030 (0.032)		-0.060** (0.029)		0.155*** (0.038)
Observations	864	864	691	691	173	173
R-squared	0.136	0.135	0.147	0.146	0.110	0.109
Socio-economic controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes

Source: LITS.

Note: The table shows OLS regression coefficients with standard errors in parentheses. The regressions explain a household's consumption response through various mortgage characteristics while controlling for household characteristics. The sample only includes households that held mortgages. For the definition of crisis event impact, see note to Table 2.1.

by an income shock in countries which experienced a large depreciation were generally *better*, not *worse* credit risks than crisis-hit households holding local currency mortgages. In contrast, crisis-hit households with high leverage levels in countries which experienced a large depreciation were more likely to go into arrears than low leverage households (but not in countries with more stable nominal exchange rates).

These results show that the currency composition of mortgage borrowing mattered, although not in a straightforward manner. In countries which experienced a sharp exchange rate depreciation, households which both took out an FX mortgage *and* were hit by one or more negative income shocks had to cut a larger number of expenditure items than similar households with a mortgage in the local currency. Interestingly, however, this does *not* appear to have made these borrowers worse credit risks: arrears on FX mortgages

were in general lower, even in high depreciation cases. On the one hand, this is reassuring, as it suggests that banks generally seem to have done a good job in selecting the appropriate households for FX mortgages. However, the efforts of these households to repay in the face of a crisis and depreciation meant a significant sacrifice in terms of consumption. In this sense, FX mortgages did indeed prove costly in countries that suffered large depreciations.

index. This confirms that, in transition countries, it was those households which experienced the worst shocks that felt the constraint of existing mortgage debt the most.

Columns [3]-[4] and [7]-[8] also show that the negative impact of having a mortgage on consumption in the transition region was mainly driven by FX-denominated mortgages. In particular, FX mortgages led to a sharp consumption response of households which were hit relatively hard by the crisis. Box 2.1 examines the impact of FX mortgages on household vulnerability during the crisis in more detail.

### Conclusion

Households in the transition region suffered much more as a result of the 2008-10 financial crisis than those in western European comparator countries. The crisis led to larger reductions across virtually all consumption categories, particularly in essentials such as staple foods and health expenditures.

The analysis in this chapter points to four main reasons for these differences.

- First, compared with their Western comparator counterparts, transition region households suffered far more job losses, wage reductions and reductions in remittances. For example, the proportion of households which reported a job loss between late 2008 and late 2010 was twice as high (20 per cent) as in western Europe. Cross-country comparisons based on macroeconomic measures (such as the fall in GDP in 2009) tend to underestimate these differences, particularly for countries that are dependent on remittances.
- Second, official social safety nets were weaker in most countries in the transition region. For the transition region as a whole, the analysis shows no statistically significant mitigating effects from unemployment or housing benefits on the fall in consumption. In contrast, these safety nets are shown to have had a strong influence in western Europe.
- Third, while access to formal sources of borrowing helped offset consumption declines in both the transition region and western Europe, the mitigating effects in the latter were stronger.
- Lastly, unlike in the Western comparator countries, pre-crisis borrowing may have left some households across the transition region in a vulnerable state. The analysis shows that mortgage debt did not help transition households to maintain consumption when they were hit by negative income shocks (for instance, by increasing the mortgage to withdraw equity). Furthermore, in countries in which there were substantial currency depreciations, FX-denominated mortgage debt made the compression of consumption worse. In contrast, the

repayment record of FX mortgage borrowers tended to be better than that of local currency borrowers, even in countries that suffered large depreciations. This suggests that banks generally had been careful to select especially creditworthy households for FX lending.

In conclusion, much like earlier *Transition Reports* that have analysed the crisis from a macroeconomic and financial sector perspective,<sup>18</sup> this chapter points to the ambivalent role of finance in shaping the response of the transition region to the crisis. On the one hand, finance helped buffer the impact of the crisis. On the other, it created vulnerabilities – down to the household level – that exacerbated the fall in consumption.

Lastly, this chapter suggests that in many transition countries, official safety nets were not very effective when the crisis struck. Developing and extending social security should be high on the post-crisis policy agenda if support for open and potentially vulnerable economic systems is to be maintained.

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<sup>18</sup> See, in particular, the 2009 *Transition Report, Transition in Crisis?*, Chapters 2 and 3.