Seðlabanki Íslands

How has households' position changed in the recent term and what can measures to support households achieve?

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The opinions expressed herein are those of the authors and do not necessarily reflect the opinions or policy of the Central Bank of Iceland.

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I. Introduction

Analysis of the position of Icelandic households

- From the outset, the objective of the study has been to estimate Icelandic households' ability to withstand increased debt service under conditions of declining income and employment levels.
- The first preliminary findings were presented a year ago, and further findings were available in June and October 2009.
- According to these findings, 20-26% of households had debt service above common danger limits in early 2009, and about one-fifth had negative housing equity at year-end 2008.

Analysis of the position of Icelandic households

- Also presented were the results of an analysis of private sector debt restructuring following systemic financial crises through the years, and the lessons that can be learnt from other countries’ experience of debt restructuring.
- It emerged that Icelandic households are among the most indebted that have experienced a systemic financial crisis and that the percentage of households in financial distress would rise without efficient debt restructuring measures.

Analysis of the position of Icelandic households

- The data compilation for the study is one of the most extensive that any country has undertaken in the wake of a financial crisis.
- It was clear from the outset that it would be time-consuming to process the data, but emphasis has been placed on presenting interim findings as they emerge.
- This analysis by the Central Bank is nearing completion.

II. Additions and improvements to the Central Bank's analysis of households' position

Additions and improvements to the Central Bank's analysis of households' position

1. Minimum living expenses for various family types are considered in the assessment of households' position.
2. Mortgage interest allowances and child benefits are added to households' disposable income with consideration of family type, income, and equity of each household, and an assessment is made of income development until February 2010.
3. Debt service on all loans is considered, including those that were frozen and excluded from the original assessment of debt service, and the impact of freezing on debt service has been estimated.

Additions and improvements to the Central Bank’s analysis of households’ position

4. Estimates are made of how households’ ability to support debt service and necessary living expenses has developed in the past two years, and how their household equity has changed.
5. The possible impact of measures to assist households is assessed.
6. The composition of the group likely to need further assistance is analysed by family type, age, and other factors.
7. Some corrections have been made to data since the last presentation.

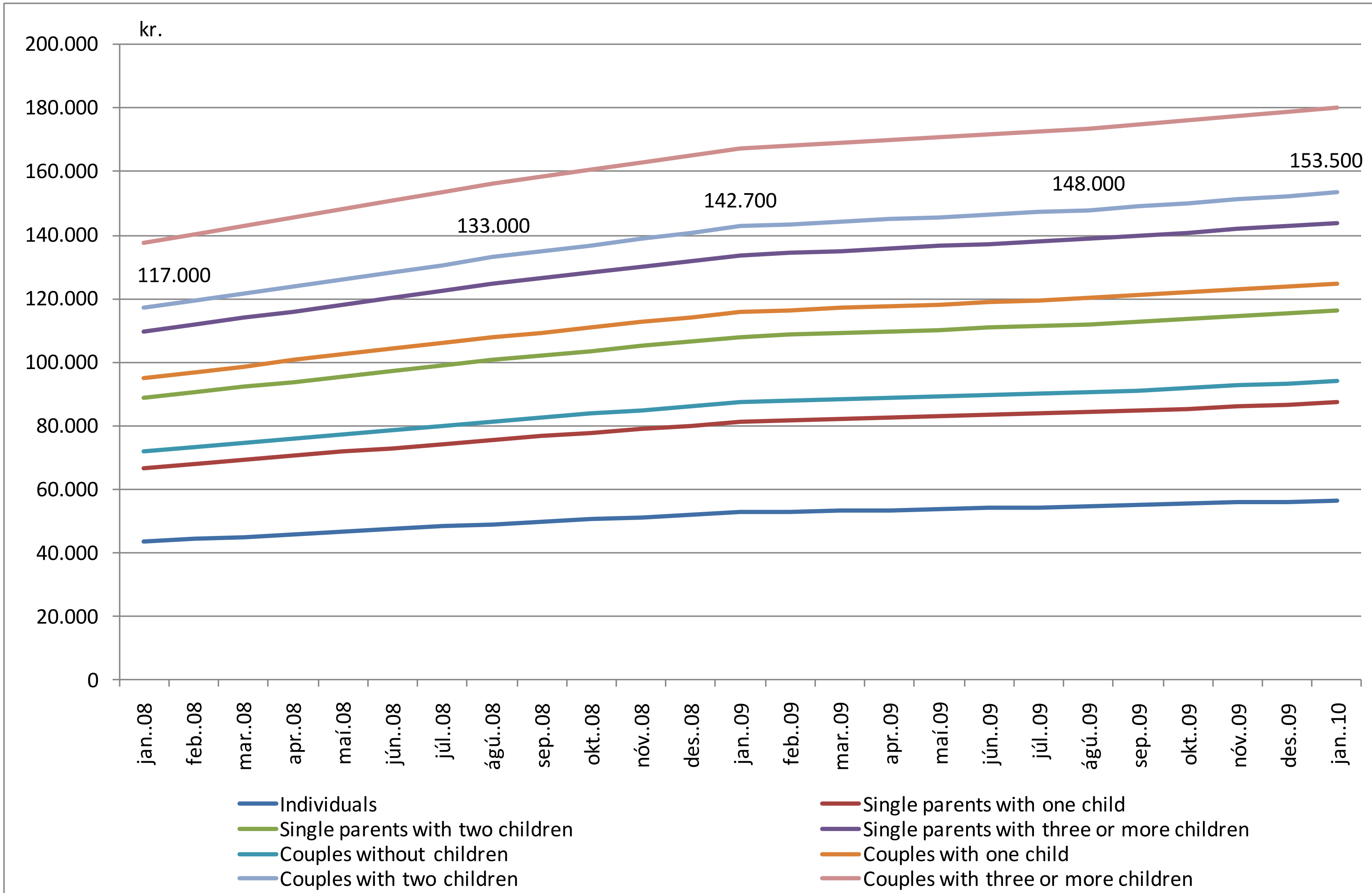
Assumptions concerning household living expenses

- Households' ability to cover debt service and minimum living expenses is estimated.
- The Domestic Debt Advisory Service's consumption guidelines for minimum living expenses for various family types are used as a basis for the estimates.
- The cost of motor vehicle operation is added for households that have motor vehicle loans.
- It should be noted that the consumption guidelines do not include various fixed expenses such as telephone, subscriptions, property tax, insurance, and day care.

Assumptions concerning household living expenses

- Estimating necessary expenses for these items for various family types is not beyond dispute.
- However, a couple with children will probably need up to ISK 100,000 more in order to pay for day care, insurance, and other fixed costs.
- The analysis shows the percentage of households that cannot make ends meet or have less than ISK 50,000 left after paying loans and minimum living expenses, by family type, and how that percentage has changed.
- For couples with children, the percentage that cannot make ends meet or have less than ISK 100,000 left is also shown.

Household living expenses

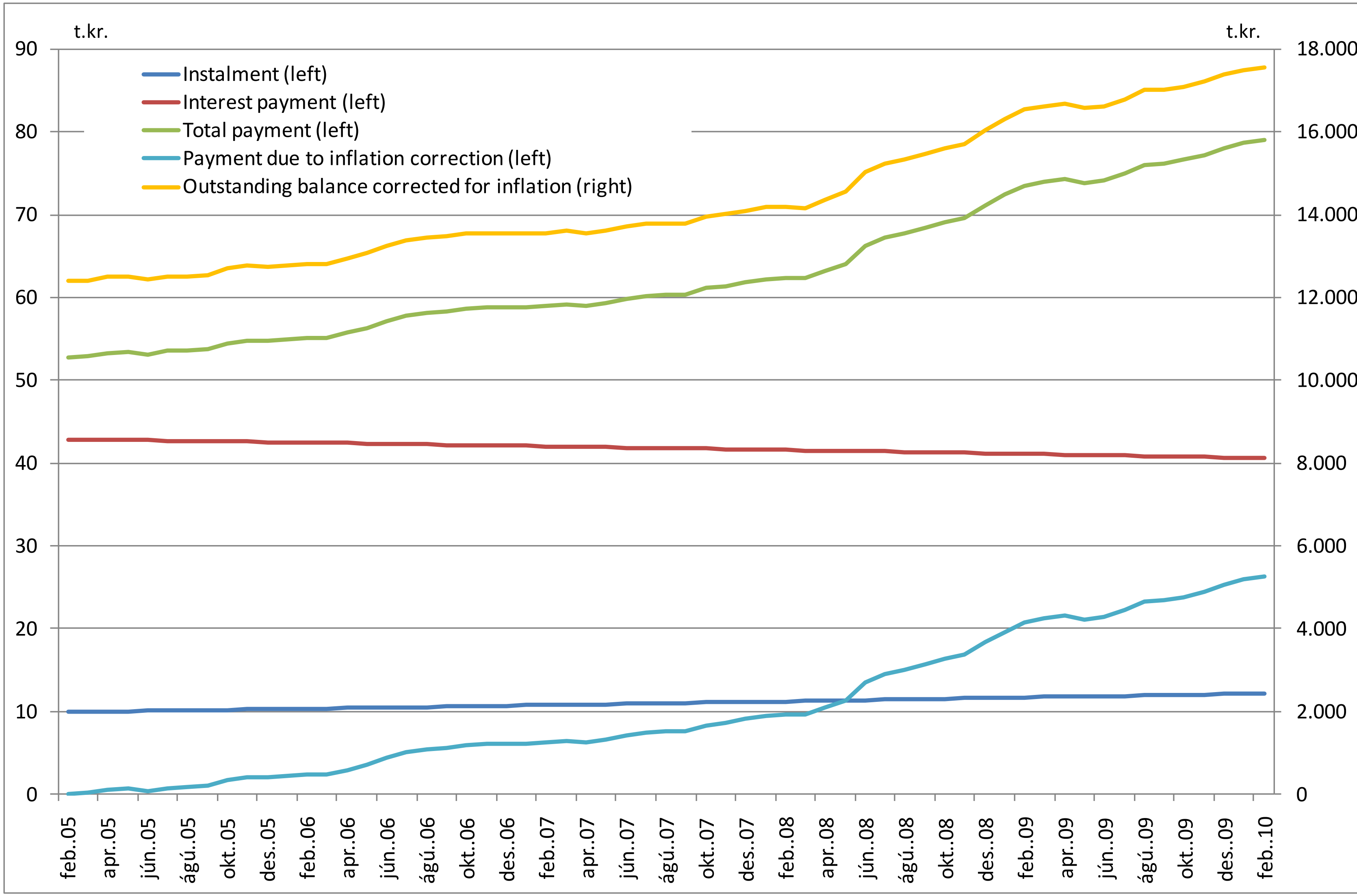


The Domestic Debt Advisory Service's consumption guidelines are updated in January and August each year. The analysis of households' position is based on a linear approach so that living costs rise month-on-month instead of increasing in stages each January and August. Motor vehicle operating expenses are not included here, but are added for those households with motor vehicle loans.

Preparation of payment profile for each loan

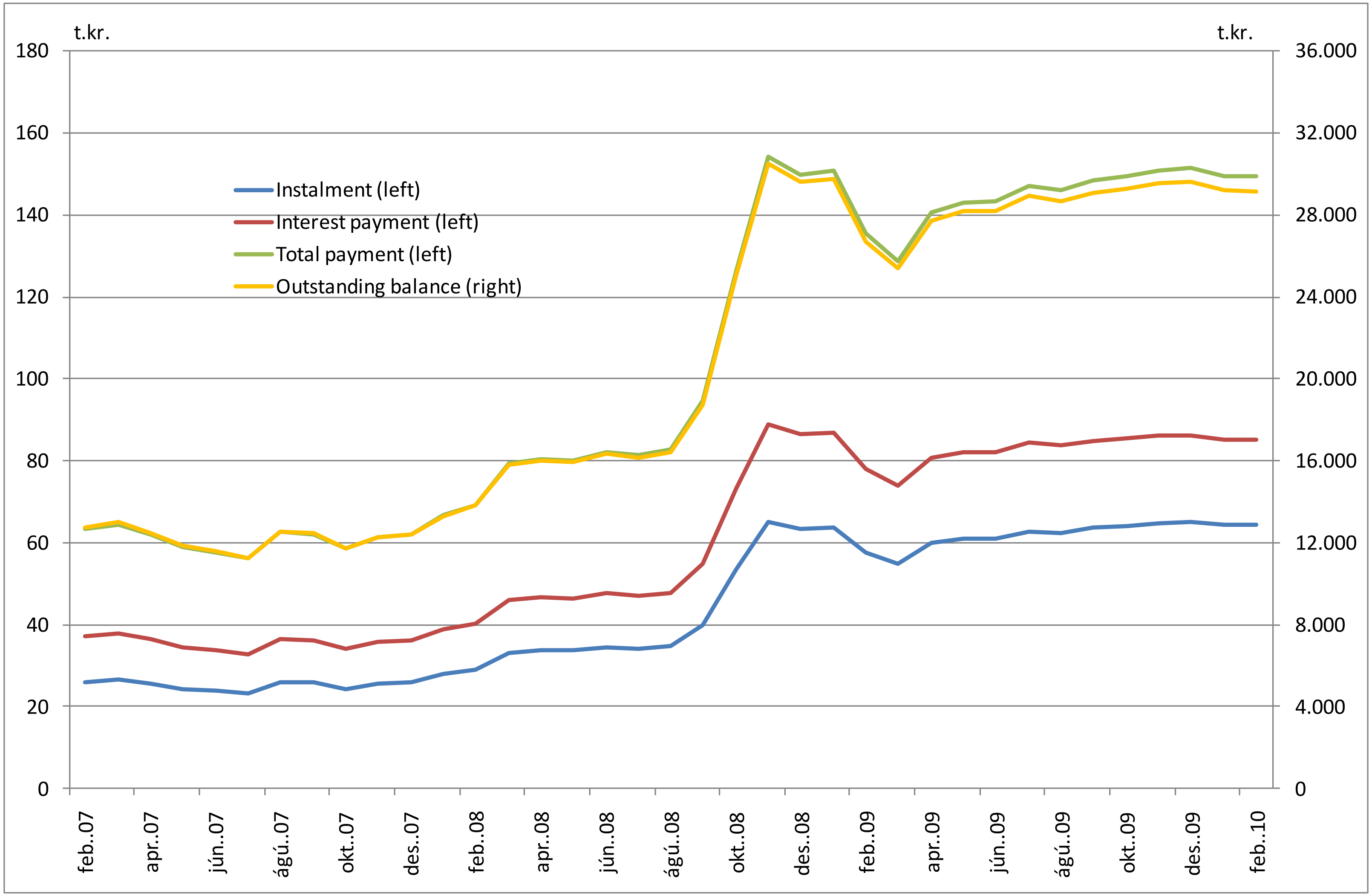
- From the outset, it was planned to compile detailed data to enable the preparation of a payment profile for each loan and determine how debt service develops over time.
- It is not easy to prepare such profiles for hundreds of thousands of loans based on hundreds of millions of data points, but this work is now nearing completion.
- Payment profiles have been prepared for each loan, showing how instalments, interest payments, and outstanding balances develop from the original loan date to February 2010.
- Two payment profiles are examined as examples of two types of mortgage.

Example of payment profile for indexed mortgage loan



The chart shows the payment profile for an indexed 40-year amortised loan in the amount of ISK 12.4 m, taken early in 2005 at 4.15% interest.

Example of payment profile for foreign-denominated mortgage loan



The chart shows the payment profile for a 30-year mortgage loan in Japanese yen, in the amount of ISK 12.5 m, taken in early 2007, with a 150 bp interest premium over and above LIBOR.

Assumptions underlying assessment of income

- In the database are total wages in February 2009 and February 2008, according to tax withholding records.
- In order to assess households’ ability to service their debt and cover minimum living expenses during the period January 2008 to February 2010, it is necessary to restate the given wage figures.
- This is done by estimating household income from January-December 2008 in terms of reported income in February 2008 and allowing income to develop in line with the wage index.
- In a comparable manner, household income from January 2009-February 2010 is estimated in terms of reported income in February 2009, and income is extrapolated in line with the wage index.

Assumptions underlying assessment of income

- It should be noted that the bulk of the contraction in hours worked and number of workers had already occurred by February 2009, when information on household income was received.
- Interest subsidies and child subsidy allowances are calculated for each household.
- Consideration is also given to changes in taxes and personal tax deductions and the resulting impact on each household's disposable income.
- The impact of private pension fund payouts on disposable income is not included, but over 45,000 individuals have received a pre-tax total of ISK 36 bn.

Uncertainties

- When payment profiles have been prepared for each loan, and when assumptions concerning living expenses and disposable income are available, it is possible to assess how households' ability to service debt and cover living expenses has developed in the recent term, and what effect various measures have.
- This is the focus of the following presentation.
- It is appropriate, however, to begin by explaining various uncertainties that must be considered in interpreting the findings.

Uncertainties

Factors that overestimate the problem

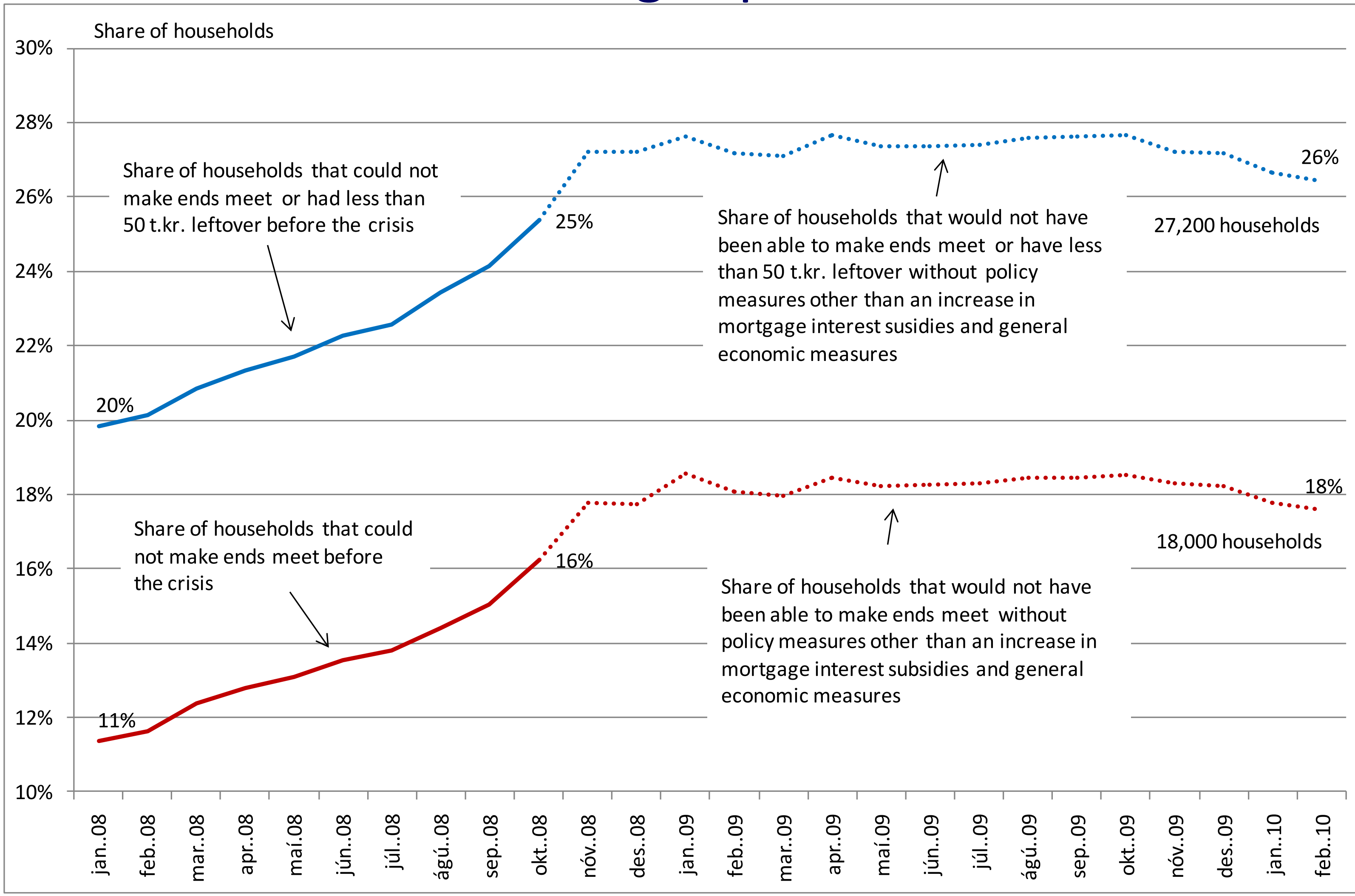
- Private pension fund payouts are not considered.
- Alimony/Child support and financial income are not considered.
- No consideration is given to rises in the lowest wages over and above the wage index.
- Households' possibilities of re-negotiating short-term loans on better terms are not considered.
- Changes in personal circumstances are not considered.

Factors that underestimate the problem

- Income could be overestimated if insufficient consideration is given to contraction in employment levels.
- Debt service for student loans and various smaller obligations is not included.
- Debt services on new loans that have been taken in recent months is not included.
- Changes in personal circumstances are not considered.

III. How has households' ability to service debt and cover living costs developed, and what can various measures achieve?

Developments in households' ability to cover debt service and minimum living expenses

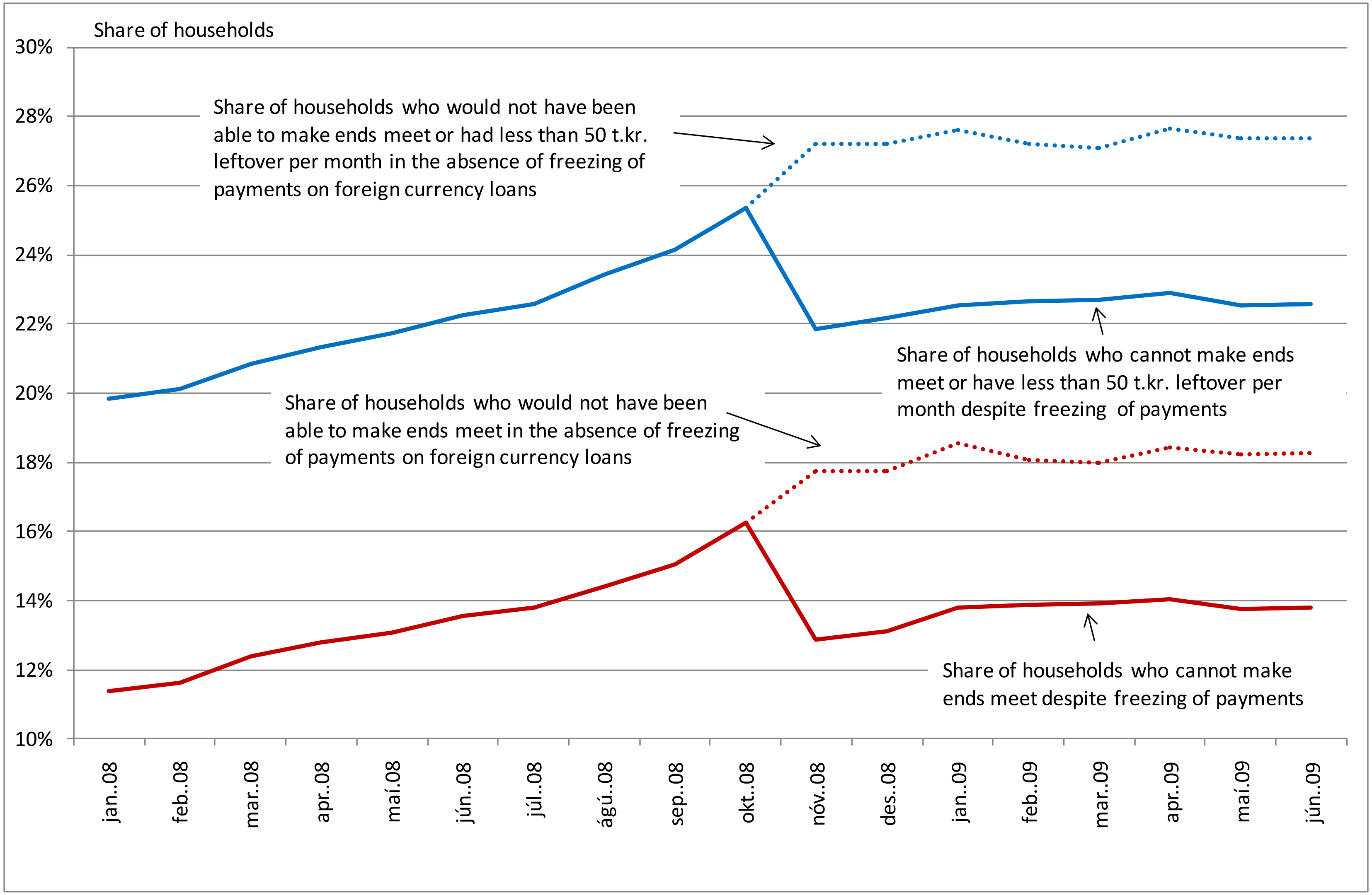


The share of households that cannot make ends meet rose sharply in 2008 and would have remained high without policy action in addition to increased mortgage interest allowances and general economic measures.

Freezing of foreign-denominated loans

- In reality, development was different from what the previous graph portrayed as measures were introduced
- Shortly after the banks failed, the authorities instructed financial institutions to freeze instalments and interest on foreign-denominated loans until the FX market calmed down, and advised households to avail themselves of this measure, irrespective of financial position.
- The Central Bank database includes information on which loans were frozen at the beginning of 2009.
- If it is assumed that frozen loans were frozen from November 2008 until mid-2009 and other loans were paid as usual, the short-term effects of freezing would have been these:

Developments in households' ability to cover debt service and minimum living expenses after adjusting for freezing of loans



Due to freezing of foreign loans, the share of households that could not cover debt service and minimum living expenses was lower than it would otherwise have been.

Measures to assist households

- One aim of freezing was to provide room for manoeuvre to develop measures to address household financial distress.
- Several factors vary: how long loans were frozen, when measures were introduced, and to what extent households took advantage of debt restructuring measures.
- The following is an examination of the possible effect of various measures to ease financial distress on the proportion of households that cannot cover debt service and necessary living expenses or are on the brink of such difficulties.

Payment smoothing of mortgage loans

- Payment smoothing of indexed mortgages
  - Debt service for each loan will be the same in November 2009 as it was in January 2008 and will then follow the modified mortgage payment index.
  - Loan principal is corrected for the difference between payments under debt smoothing and payments that would have been made with continued indexation to the CPI.
- Payment smoothing of foreign-denominated mortgage loans
  - Debt service for each loan will be the same in July 2009 as it was in May 2008 and will then follow the modified mortgage payment index.
  - The maturity of each loan will be adjusted to reflect the difference between actual payments and payments as they would have been without debt smoothing. The maturity is never extended by more than three years, however.

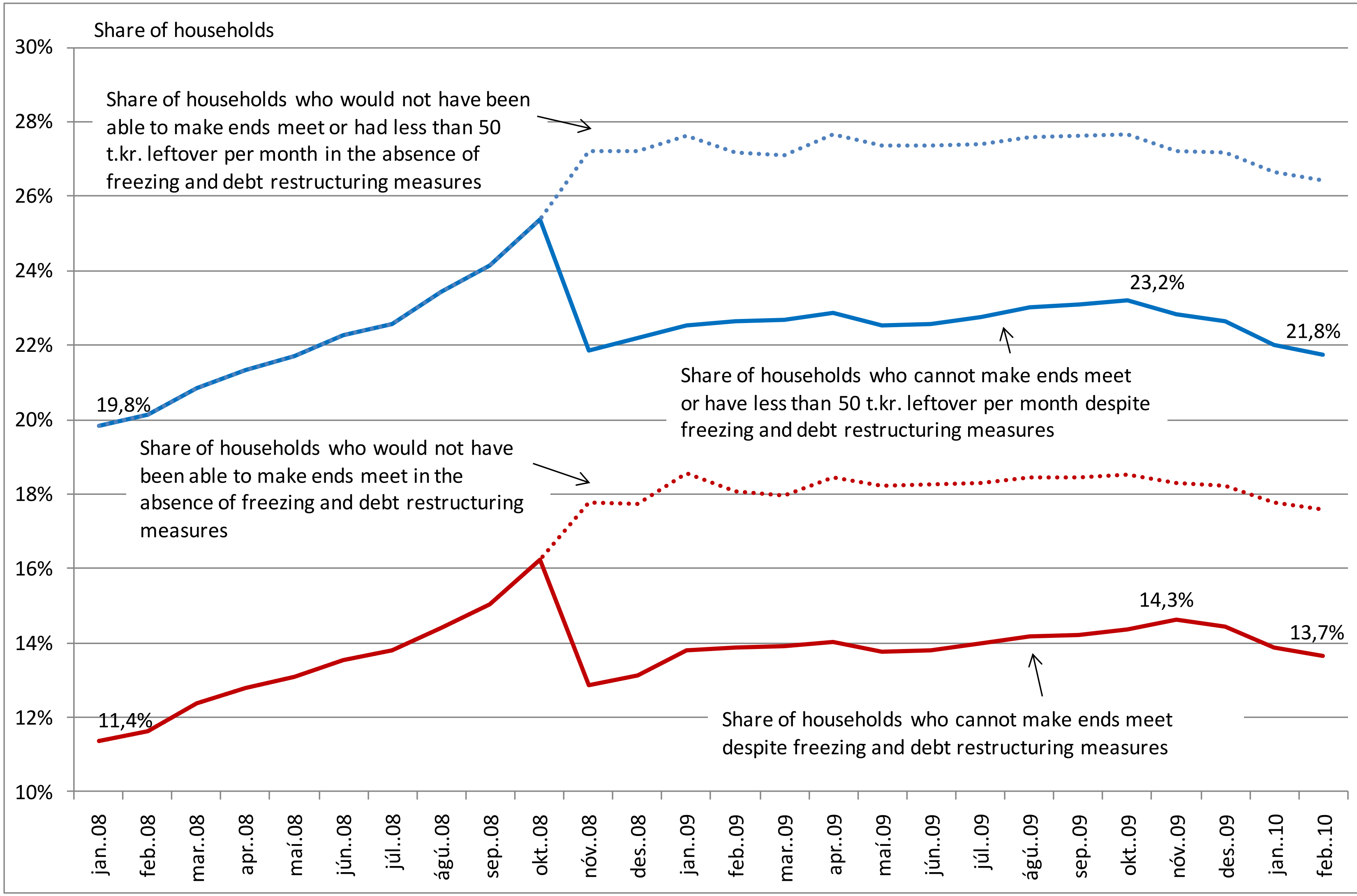
Adjustment of principal for foreign-denominated motor vehicle loans

- Adjustment of principal for foreign-denominated motor vehicle loans
  - Principal on foreign-denominated motor vehicle loans is reduced by 23% in November 2009, and loans converted to non-indexed ISK loans at 9.5% interest.
  - Maturity is kept unchanged; however, extending loan maturities would have reduced debt service considerably.

Caveats concerning effects of policy actions

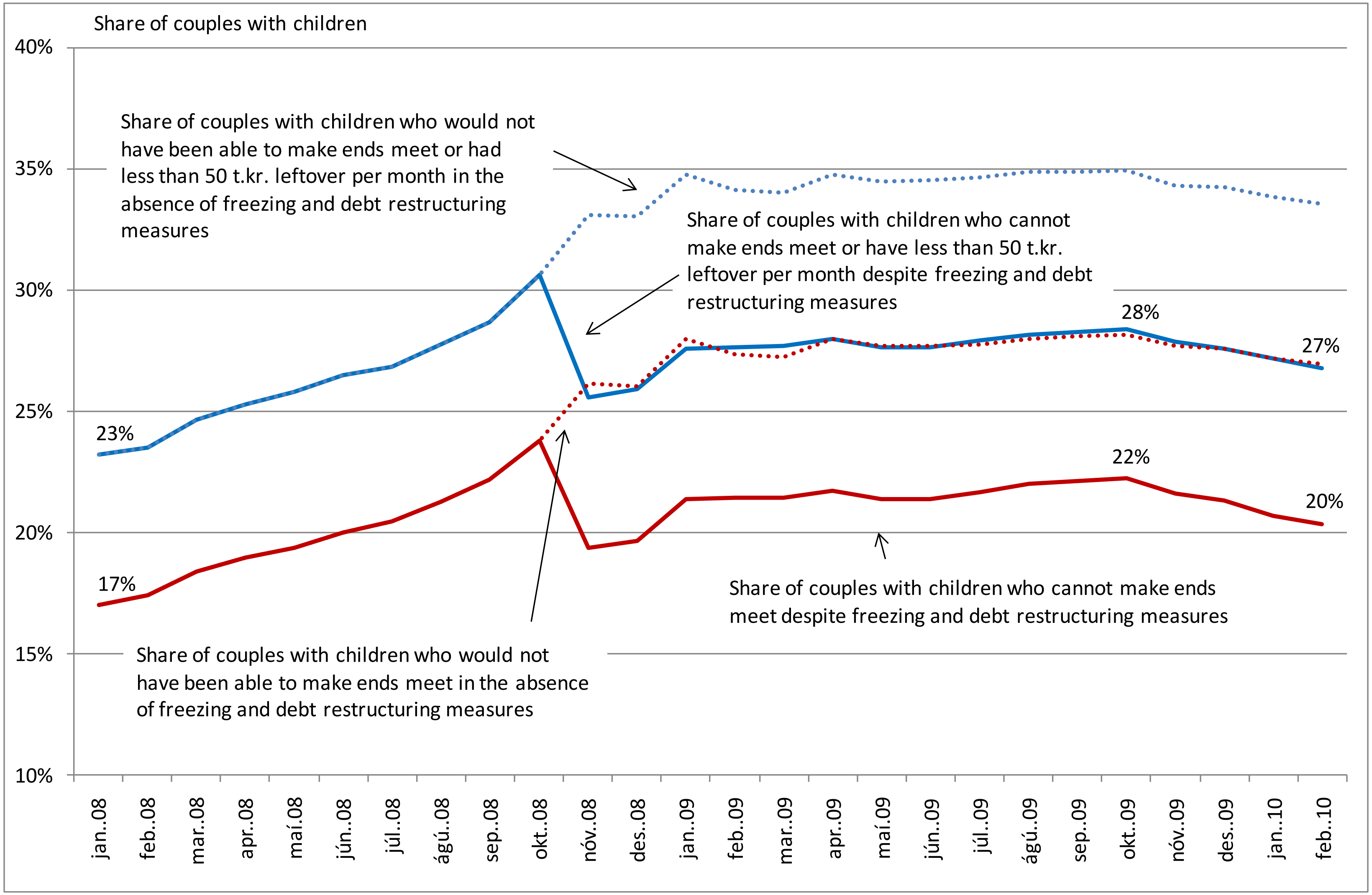
- Certain measures have not been included in the study, such as decentralised debt restructuring, debt mitigation, private pension fund payouts, extension of loan maturity, etc.
- The findings therefore give an indication of the proportion of households that could need further assistance.

Developments in households' ability to cover debt service and minimum living expenses, before and after policy actions



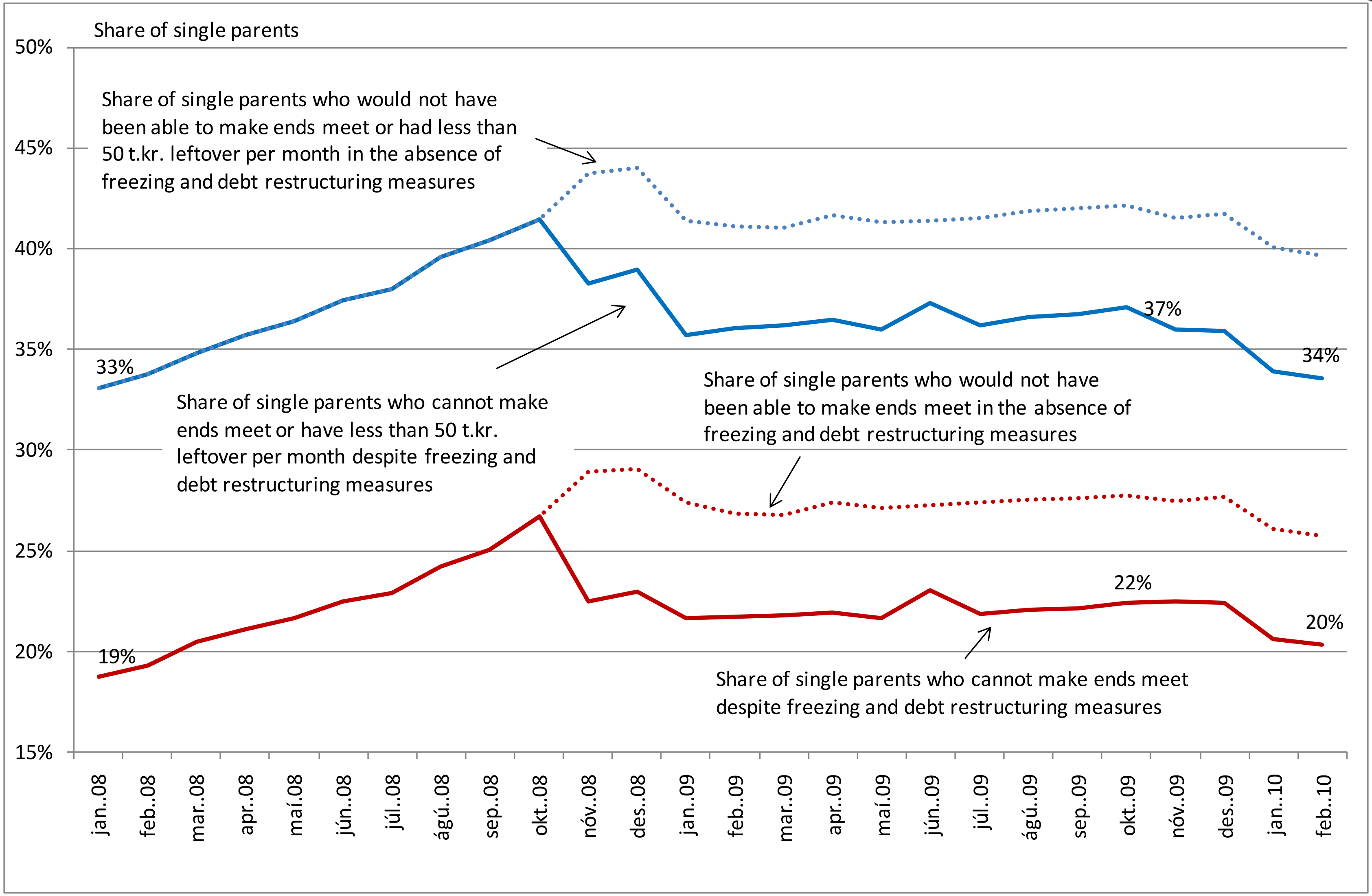
Following the measures examined here, the share of households that could not make ends meet or had 50 t.kr./month or less leftover has fallen to 22%, which is somewhat higher than in the beginning of 2008.

Couples with children: Developments in ability to cover debt service and living expenses, before and after policy actions



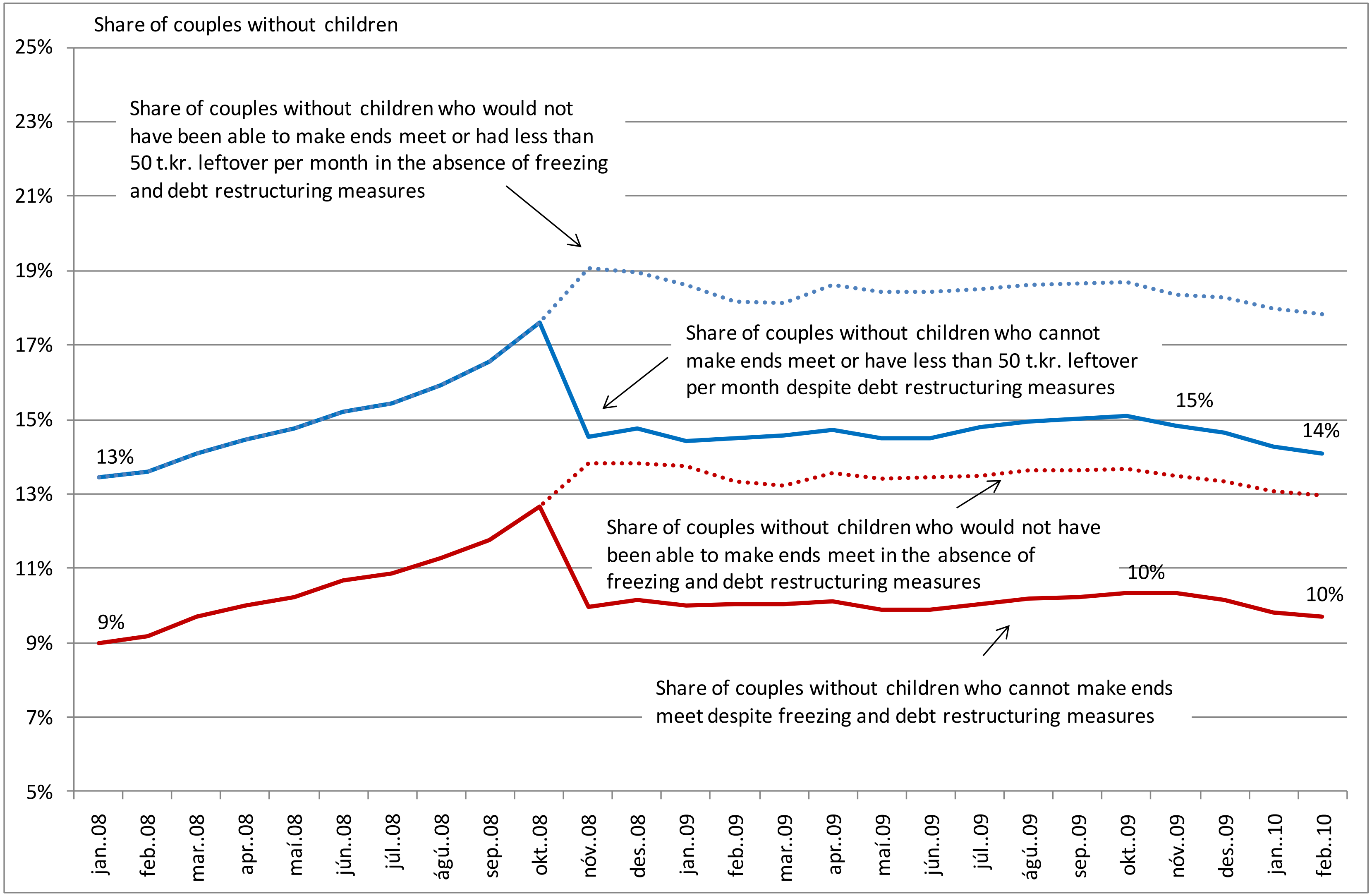
The share of couples with children who are likely to experience financial distress following policy actions is higher than that for all households and could be around 27%.

Single parents: Developments in ability to cover debt service and minimum living expenses, before and after policy actions



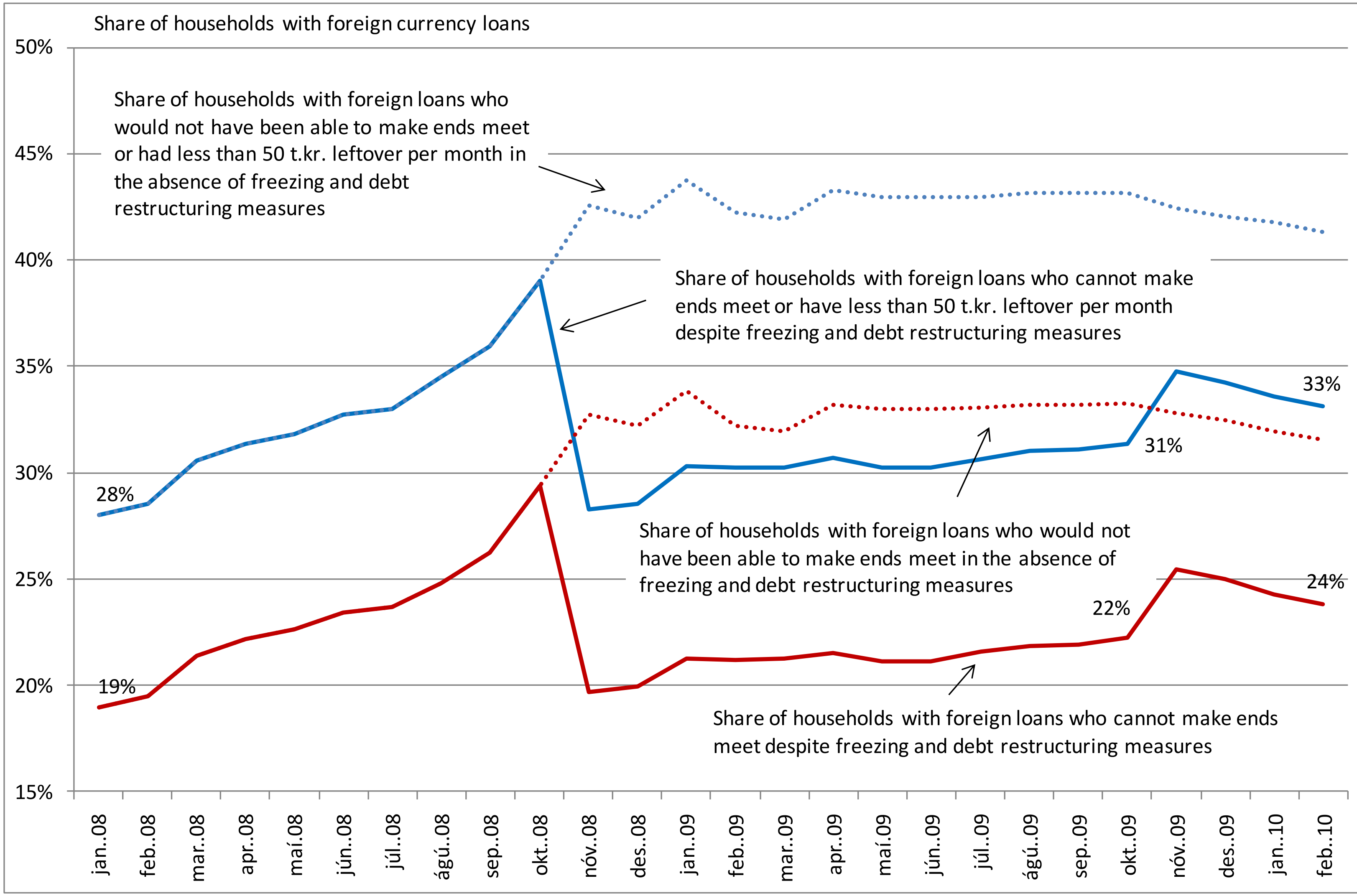
The share of single parents who are on the brink of being unable to make ends meet following policy actions is even higher, or more than 1/3, which is similar to early 2008.

Childless couples: Developments in ability to cover debt service and minimum living expenses, before and after policy actions



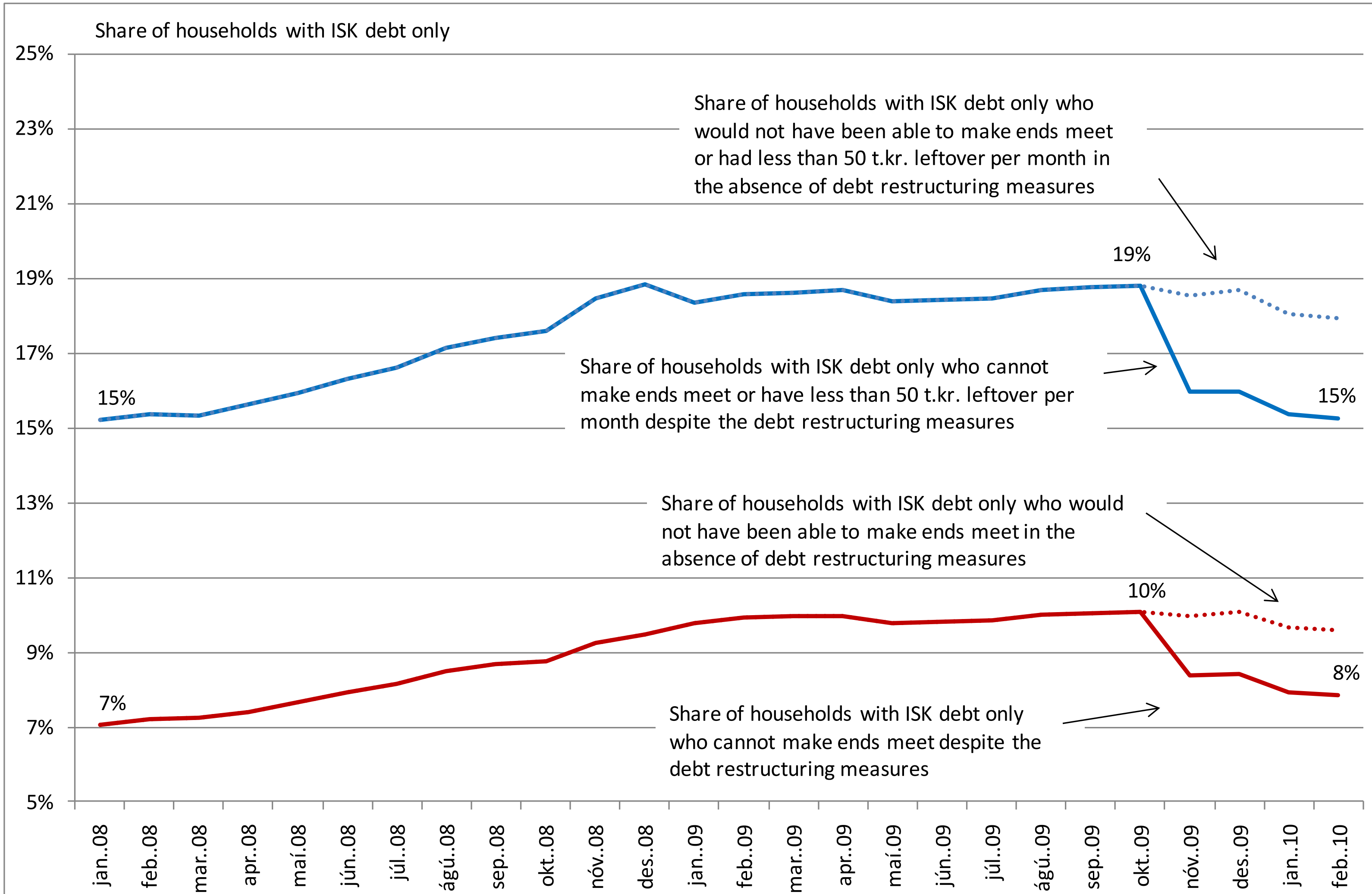
A much lower share of childless couples is likely to experience financial distress following policy actions, or approximately half the percentage of couples with children.

Households with foreign loans: Developments in ability to cover debt service and minimum living expenses, before and after policy actions



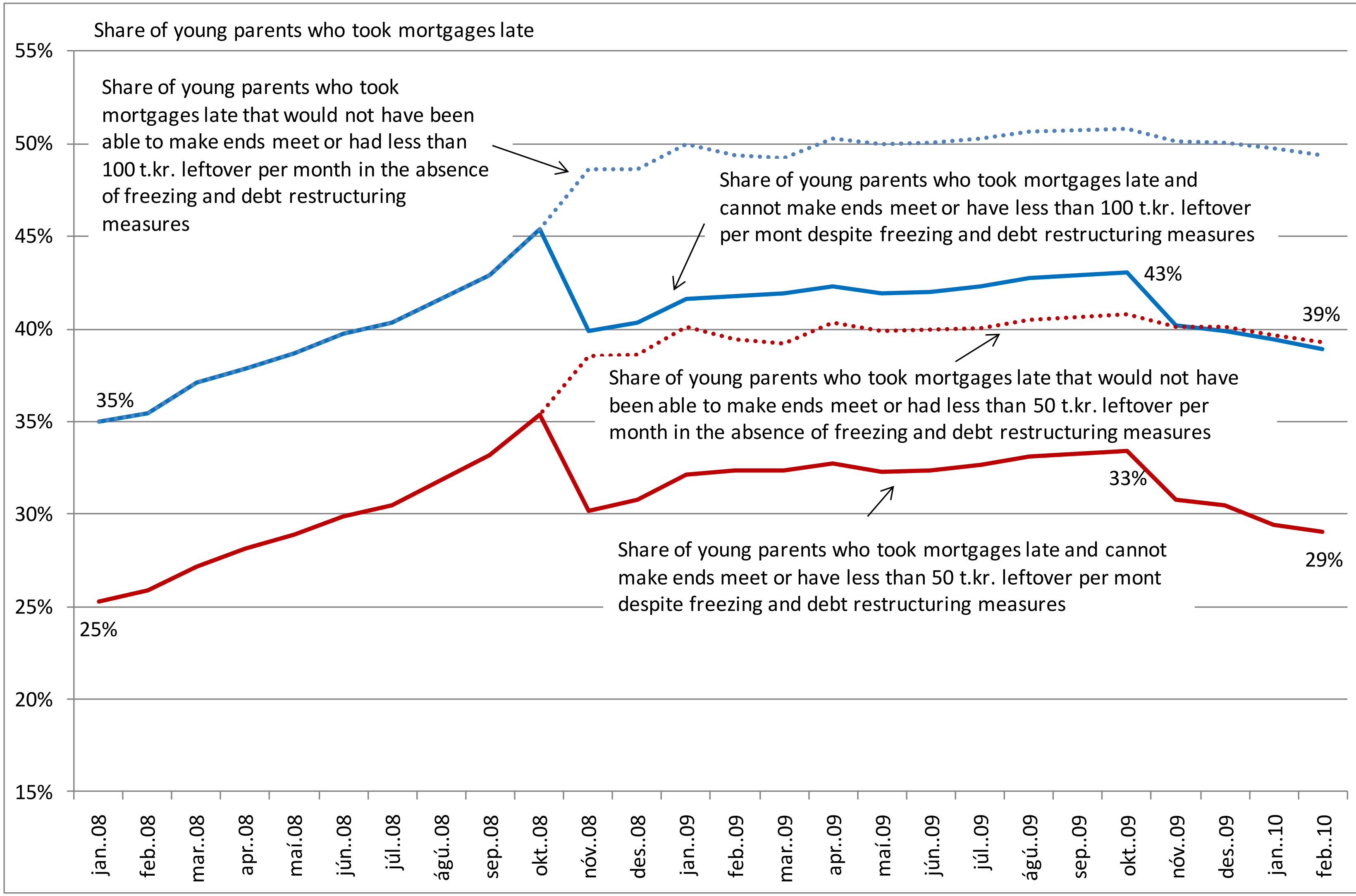
Some 37,000 households have foreign-denominated mortgages and/or motor vehicle loans, and the share that is likely to experience financial distress following policy actions is much higher, or about 1/3.

Households with ISK debt only: Developments in ability to cover debt service and living expenses



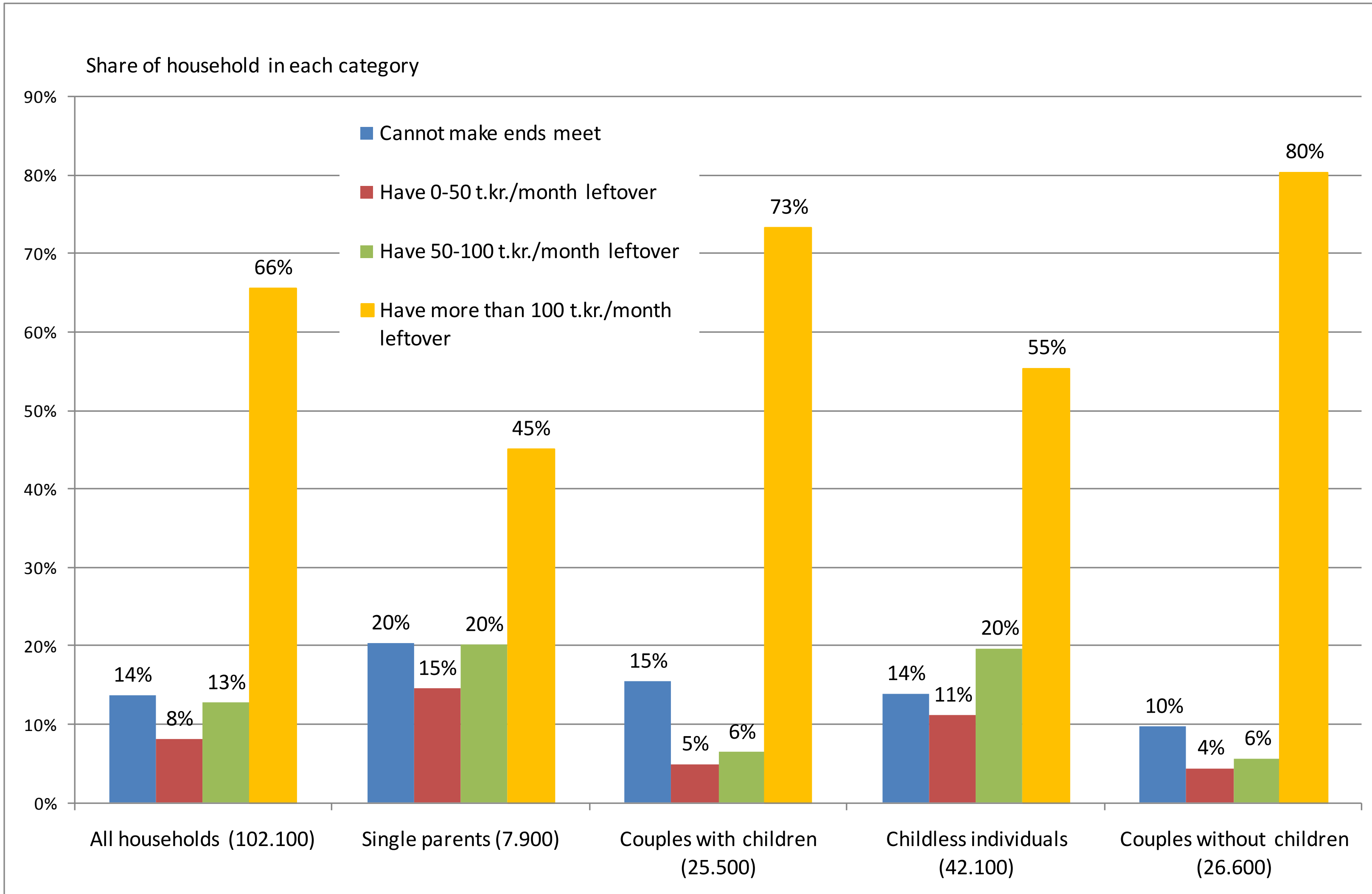
Some 65,000 households have loans in ISK only. The share that is likely to be on the brink of being unable to make ends meet is much lower than among households with foreign debt, or 15%.

Young parents who took mortgages late: Developments in ability to cover debt service and living expenses



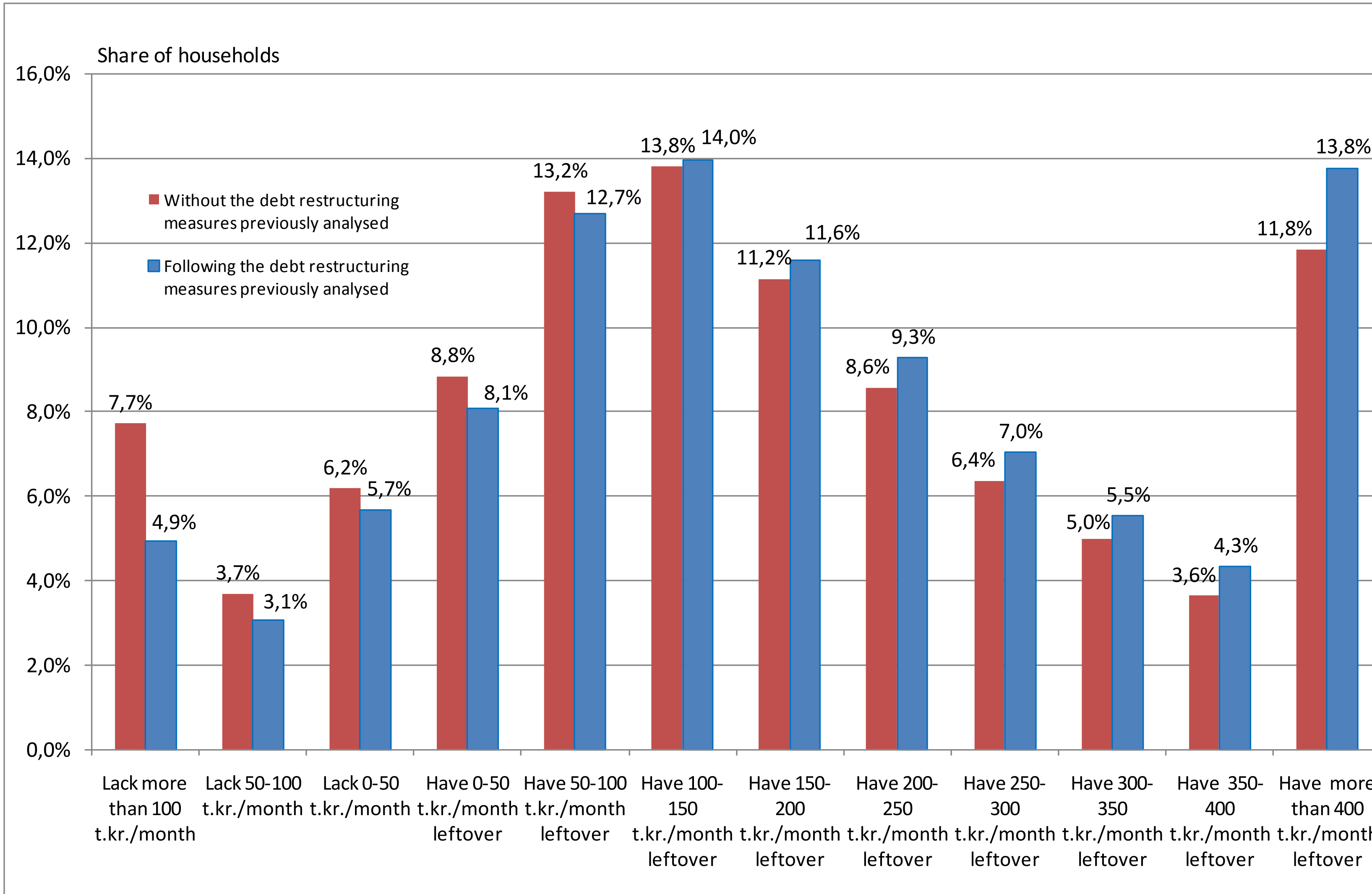
A large share of the young parents who took mortgages after 1 January 2006 is likely to experience financial distress. This share has remained high in spite of freezing but has dropped below 40% following policy actions.

Status of various family groups in February 2010, following policy action



The share of those unable to make ends meet or on the brink of being unable to cover debt service and living expenses is higher among parents than among those who are childless.

Comparison of household position in February 2010 with and without policy actions



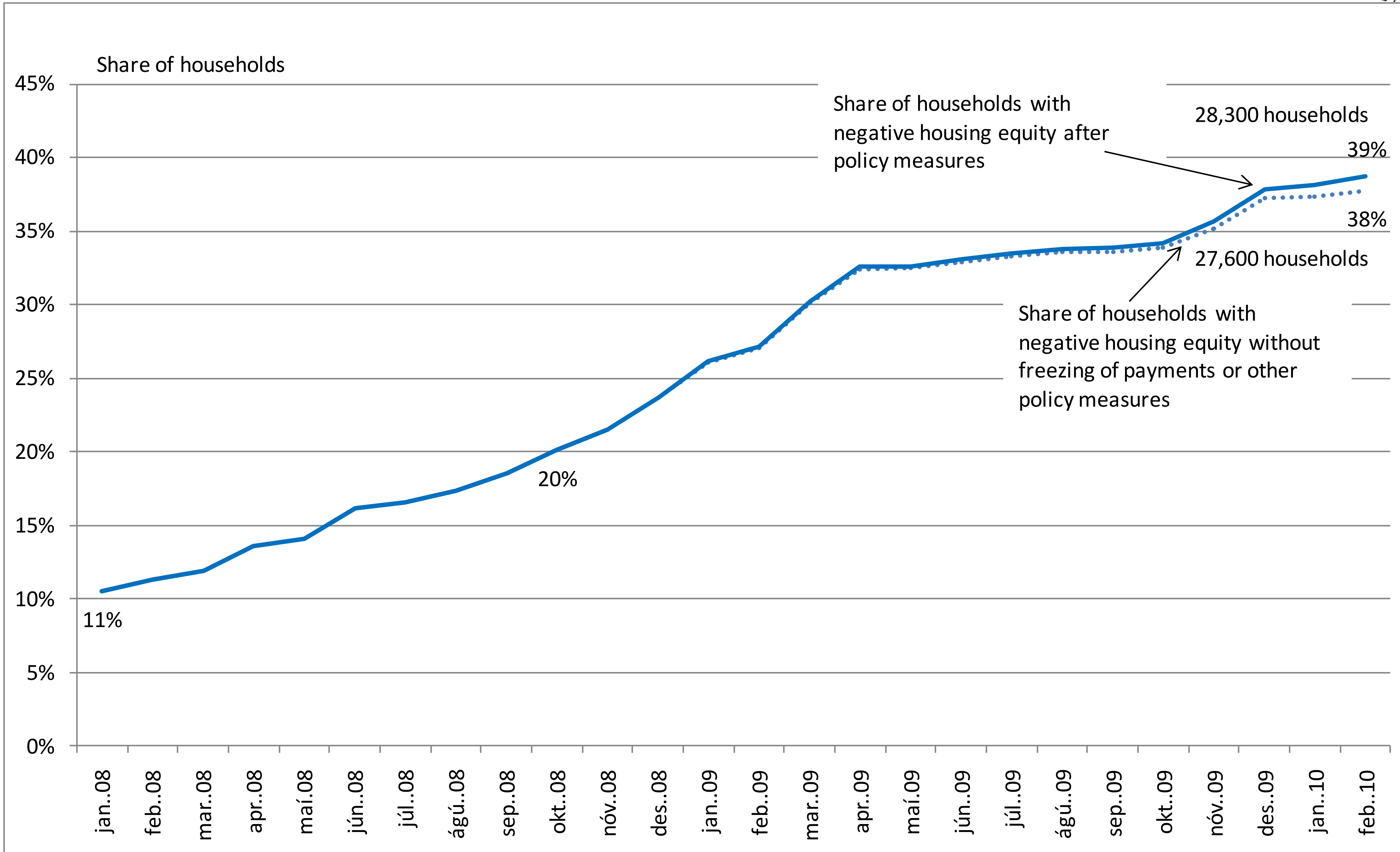
The share of households that cannot make ends meet or have less than ISK 50,000 left each month is about 22% after policy actions but would have been about 27% without them.

IV. Housing equity

Assumptions underlying estimates of household equity

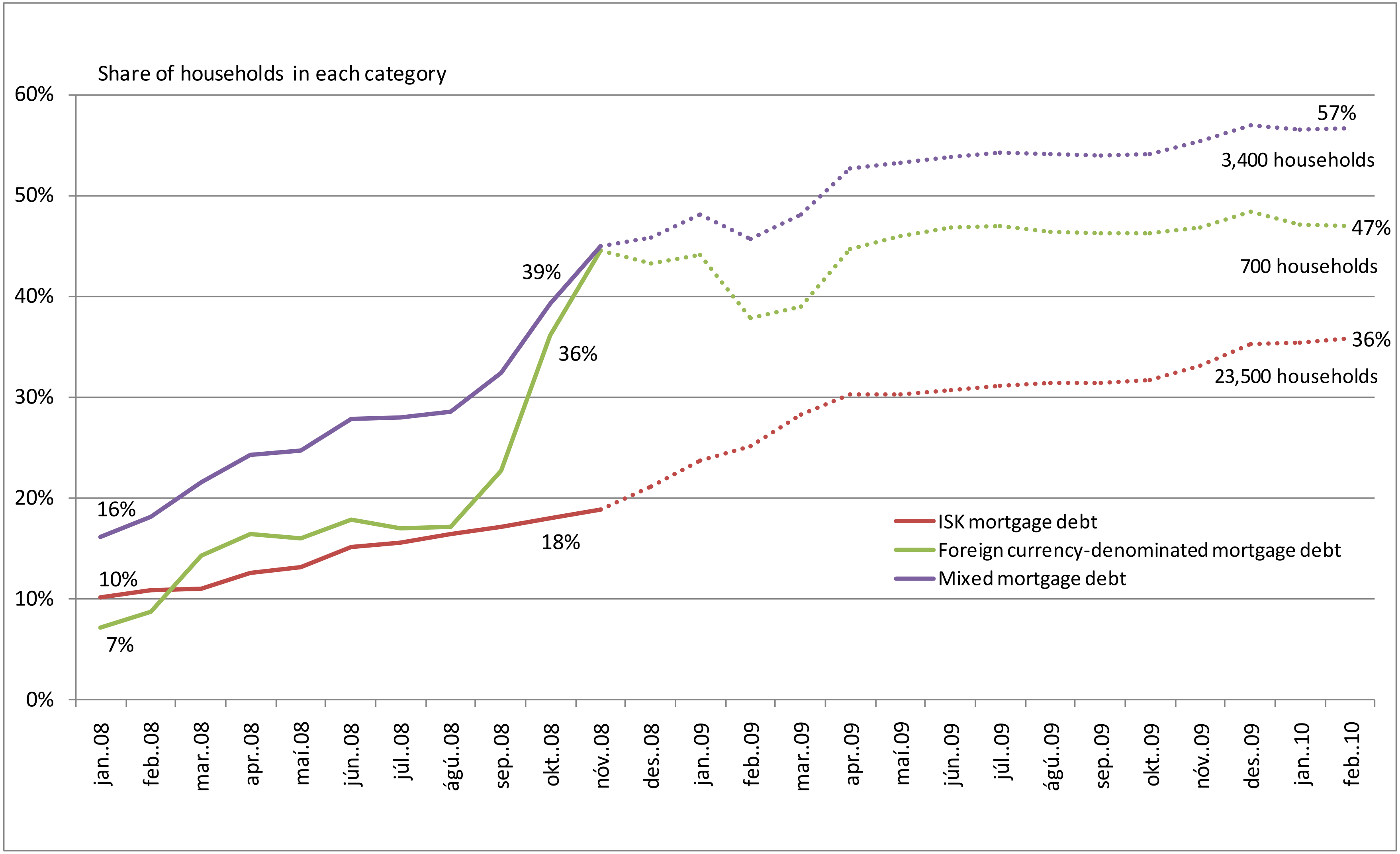
- The database contains information on the official valuation of all real estate used as collateral for mortgage loans.
- The official property valuation is from December 2008.
- Asset values are allowed to develop in line with house prices as they are measured with the housing price index by the Icelandic Property Registry.

Households with negative housing equity



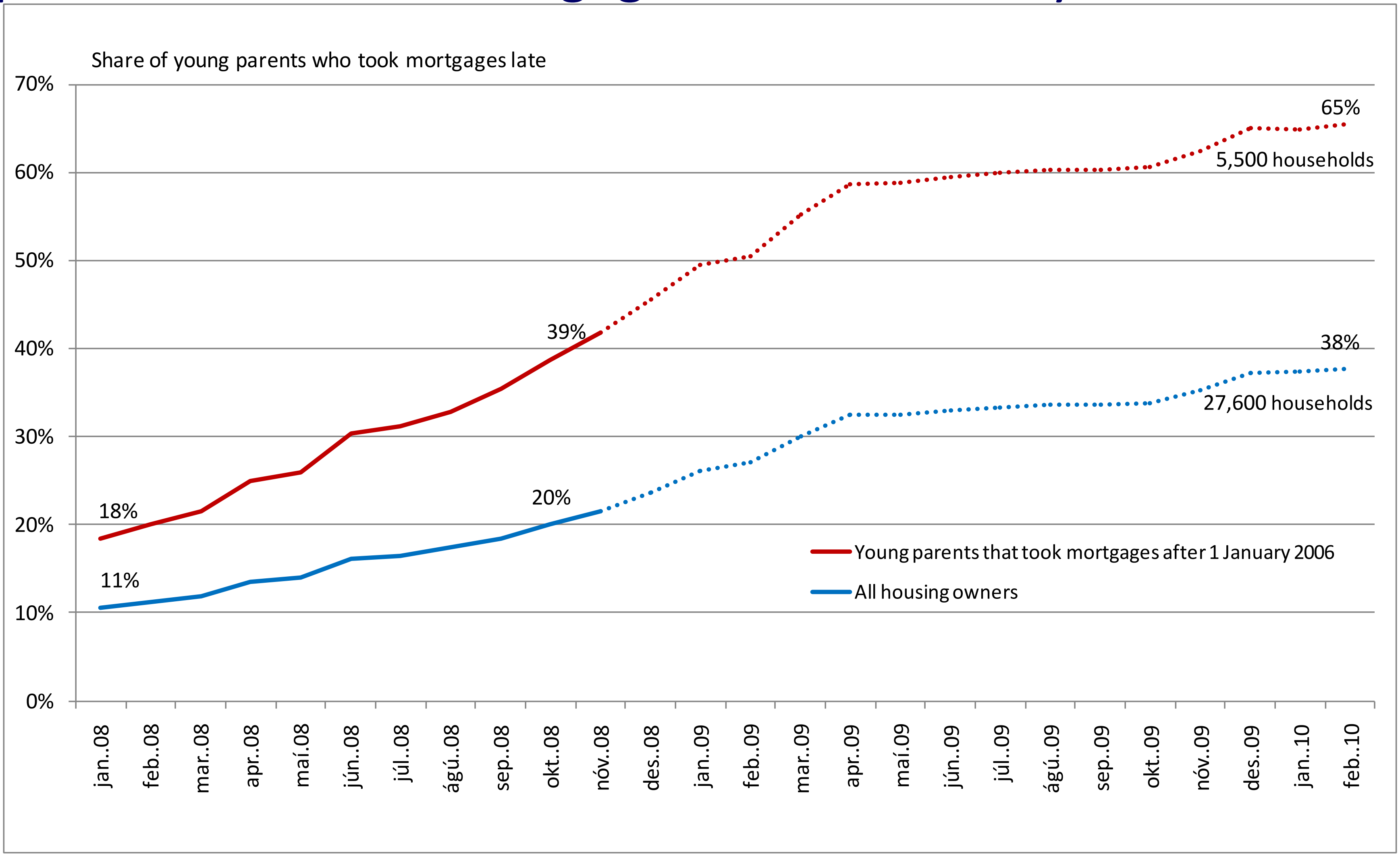
The share of households that owe more than they own in real estate rose from 11% in January 2008 to 20% when the banks collapsed. It has continued to rise and is probably now around 39%. Freezing and payment smoothing has increased that share.

Households with negative housing equity: various currency groups



The share of households that owe more than they own in real estate grew most rapidly among those with foreign-denominated mortgages, although the majority of those with negative housing equity have ISK loans.

Households with negative housing equity: Young parents who took mortgages after 1 January 2006



The majority of young parents who took loans late in the housing bubble owe more than they own in their property. This group accounts for one-fifth of all those with negative housing equity.

V. Composition of the group of households needing more assistance

Households in financial distress

- There is no single obvious way to assess which households are having difficulty covering debt service and living expenses.
- Based on the findings above, the group of households unable to make ends meet or on the brink of being unable to do so includes nearly 24,000 households that are likely to need more assistance.
- The following is a closer examination of this group, by family type, residence, etc.

Information on households in financial distress

Income distribution	Number of households in distress	Total number of indebted households	Households in distress as % of total households in each category
0-150 þ.kr.	8.850	11.100	80%
150-250 þ.kr.	7.000	23.250	30%
250-350 þ.kr	4.200	20.200	21%
350-500 þ.kr	2.700	19.500	14%
500-650 þ.kr.	850	14.000	6%
yfir 650 þ.kr.	250	14.050	2%
	23.850	102.100	

Around 80% of households in the lowest income groups are in distress and the share of households decreases rapidly as disposable income increases. Two out of three households in distress have disposable income below 250 t.kr./month. It should be noted, however, that students' income in the lowest income group could be underestimated.

Information on households in financial distress

Residence	Number of households in distress	Total number of indebted households	Households in distress as % of total households in each category
Greater Reykjavík – central	4,700	23,400	20%
Greater Reykjavík – outskirts	10,000	42,350	24%
Reykjanes peninsula	2,100	6,750	31%
South Iceland	2,050	7,200	28%
East Iceland	700	3,950	18%
North Iceland	2,450	10,750	23%
West Iceland	1,000	4,700	21%
West Fjords	530	2,200	24%
Unspecified	320	800	
	23,850	102,100	

The share of households in distress is highest on the Reykjanes peninsula and in South Iceland. It is higher on the outskirts of the greater Reykjavík area, where the number of new buildings is larger. The percentage is lowest in East Iceland.

Information on households in financial distress

Age distribution	Number of households in distress	Total number of indebted households	Households in distress as % of total households in each category
18-24 years	3,350	7,150	47%
24-29 years	3,150	10,000	32%
30-39 years	5,450	20,900	26%
40-49 years	4,750	20,650	23%
50-59 years	3,650	19,350	19%
60-69 years	2,050	12,950	16%
70 years +	1,450	11,100	13%
	23,850	102,100	

The share of households in distress declines as borrowers become older. Half of borrowers in distress are under age 40, but it is likely that income is underestimated for students in the lowest age groups.

Information on households in financial distress

Family type	Number of households in distress	Total number of indebted households	Households in distress as % of total households in each category
Single	10,500	42,100	25%
Single parents w/children	2,750	7,900	35%
Couples without children	3,750	26,600	14%
Couples with children	6,850	25,500	27%
	23,850	102,100	

Single parents and couples with children have the highest share of households in distress even though individuals represent the largest number of households in distress.

Currency composition of loans	Number of households in distress	Total number of indebted households	Households in distress as % of total households in each category
Foreign-denominated loans	13,300	37,300	36%
ISK loans only	10,550	64,800	16%
	23,850	102,100	

About 56% of households in distress have foreign-denominated mortgages or motor vehicle loans.

What share of debt is borne by households in distress?

	ISK billions	ISK billions	Share of debt in each category borne by households in distress
Motor vehicle loans	53.7	127.5*	42%
Mortgage loans	405	1,510*	27%
Mortgages + motor vehicle loans	458.7	1,637.5*	28%

Households in distress have a much larger share of total motor vehicle debt than the size of the group indicates. About 23% of households are in distress, but they carry some 42% of total motor vehicle debt. This group's share in mortgage debt is about 27%, roughly in line with the size of the group. Roughly 30% of households in distress have negative housing equity which makes them more vulnerable.

It seems as these households' indebtedness due to motor vehicle purchases plays an important role in creating the problems they face. Around 3800 of these households have more than one motor-vehicle loan.

* Note that these total outstanding balances are based on the assumption that freezing and other measures discussed above have been employed. They reflect the balance at end-February, based on these assumptions.

VI. Conclusions

Summary

- The foregoing analysis has focused on estimating how households' ability to cover their debt service and living costs has developed in the recent term.
- Previous reports, however, provided only a view of households' position at the beginning of 2009.
- The analysis has also been supplemented in a number of ways.
- Various uncertainties remain, however, and this must be considered in any interpretation of the findings presented here.

Summary

- The percentage of households unable to cover debt service and living costs or on the brink of being unable to do so grew rapidly in 2008.
- Indicators suggest that, by early 2008, a number of households were already vulnerable due to debt accumulation during the upswing.
- It is likely that up to 28% of households would have been in serious difficulties immediately after the banks failed if loans had not been frozen.
- In spite of the freezing measure, nearly one-fourth of households were on the brink of being unable to make ends meet by mid-2009.

Summary

- The effects of mortgage debt smoothing and adjustment of motor vehicle loan principal on households’ ability to cover debt service and living expenses were examined.
- Indicators suggest that policy actions have reduced the percentage of households on the brink of being unable to cover debt service and living expenses by 4-5 percentage points in the short term.
- It is likely that some 23% of indebted households, or 24,000 households are still in financial distress in spite of the measures examined here.

Summary

- Households with foreign-denominated mortgages or motor vehicle loans were hardest hit and are facing the greatest difficulties following the crisis.
  - There are indicators that about one-third of them are still on the brink of being unable to make ends meet.
- Families with children are likelier than childless households to be on the brink of being unable to make ends meet.
  - Indicators suggest that about one-third of single parents and 27% of couples with children could be in financial distress.
- Households that took mortgage loans late in the asset bubble are also likelier to have difficulty.
  - Indicators suggest that nearly 40% of young parents in that group are still on the brink of being unable to make ends meet.

Summary

- Indicators imply that the percentage of households in distress is largest in the lowest income groups and the bulk of households in distress have disposable income below 250 t.kr.
- The share of households in distress seems to be highest in the new neighbourhoods built during the upswing.
- The share of households in distress seems to decline in line with higher age of borrowers.
- Households in distress carry 42% of motor vehicle debt and 27% of mortgage debt, indicating that these households' motor vehicle debt plays an important role in creating the problems they face.

Summary

- The analysis above portrays a clearer picture of how households' position has changed in the last couple of years than could be presented in previous reports.
- The share of households in distress is in line with previous results of the Central Bank.
- It is appropriate to emphasise that uncertainties remain concerning households' position and concerning the benefits derived from the measures designed to assist them.
- The success of continued household debt restructuring measures and developments in the labour market will be important determinants of the progress made in the near future.