



Central Bank of Iceland

Balance sheet vulnerabilities and debt restructuring in the aftermath of financial crises

The case of Icelandic households

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Introduction

The Icelandic crisis is similar to other crisis ...



- In many ways, the Icelandic financial crisis is strongly reminiscent of other systemic crises
- The prelude was characterised by macroeconomic imbalances and the development of asset and credit bubbles that made the economy vulnerable to a sudden reversal of capital flows
- Loss of confidence in the ability of one of the nation's key sector to fulfil its obligations fuelled a deposit run, closing of credit lines and foreign currency shortages
- Capital outflows significantly weakened the currency, and asset prices fell, causing erosion of assets and liabilities, bringing a large share of private agents into technical bankruptcy

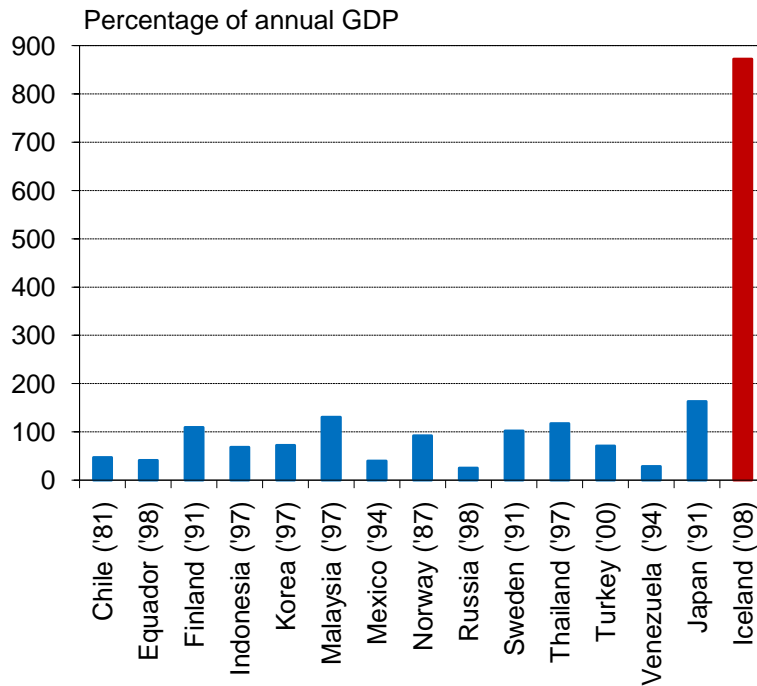
... but with the largest banking system, ...



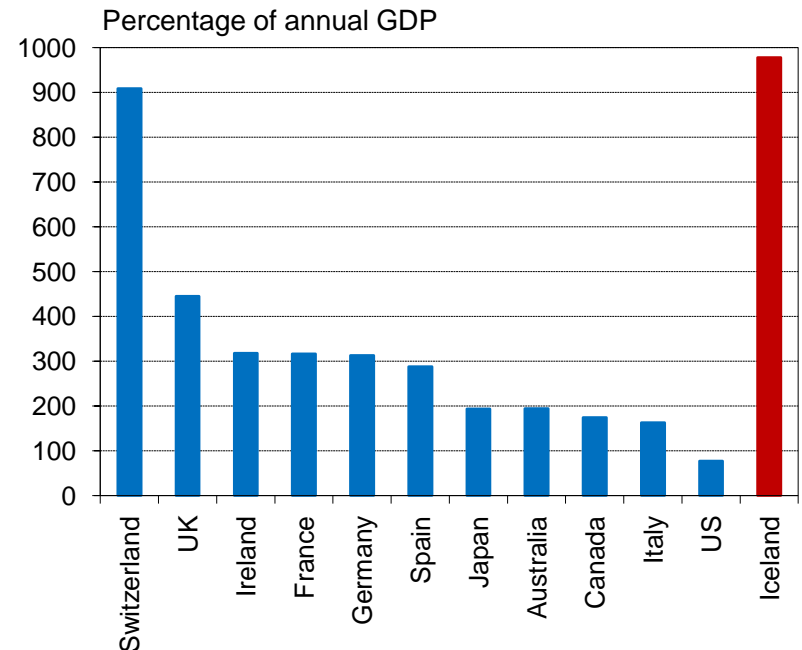
Much larger banking system than in previous crises ...

... and even when compared to the largest banking systems in the global crises of 2007-2009

Commercial banks' assets in percent of GDP a year before the onset of a crisis



Consolidated banking group assets relative to GDP by nationality of ownership at year end 2007



1. Total consolidated banking group assets from domestically owned banking sector only. This includes assets of domestic banks held abroad. End-2007 except UK (end 2008) and Iceland (June 2008).

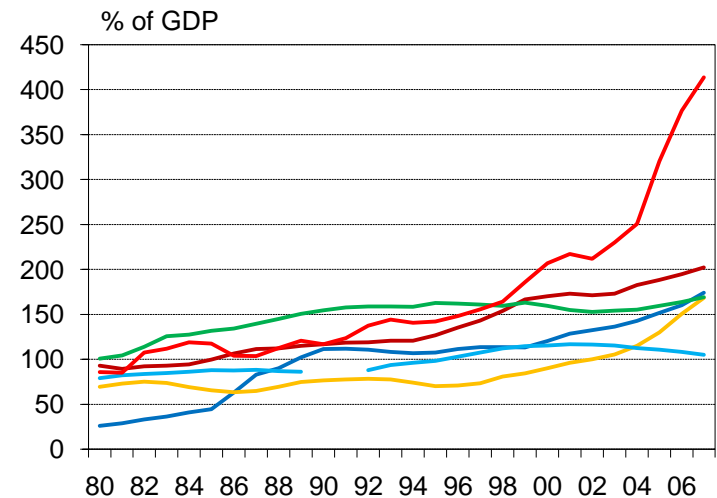
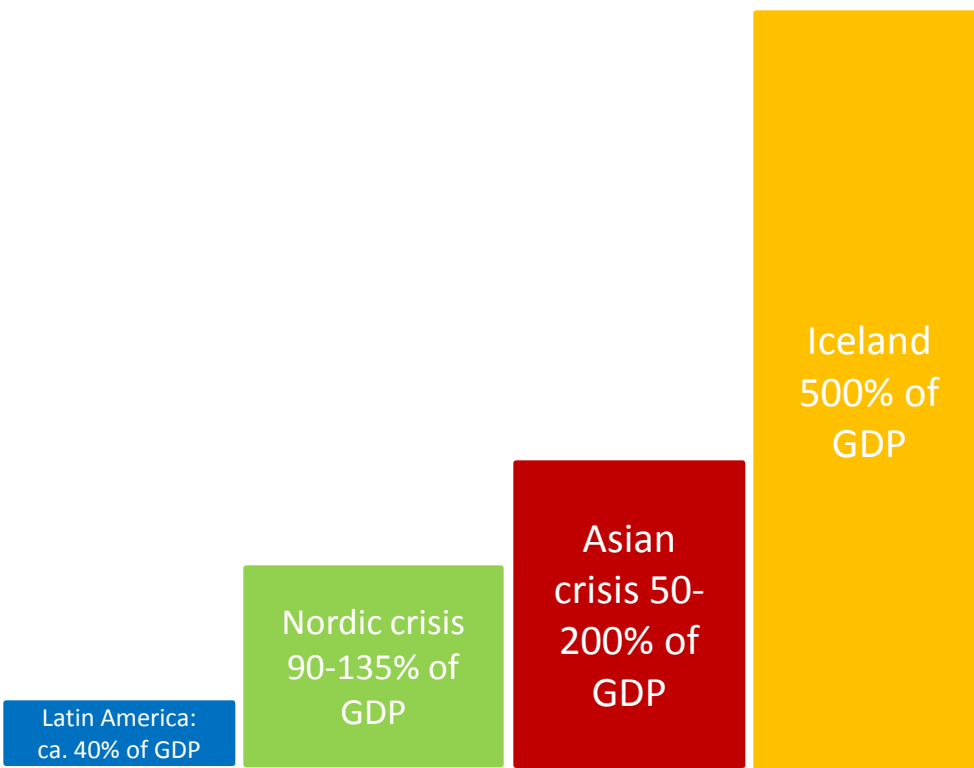
Sources: Bank of England, Central Bank of Iceland.

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... the most indebted private sector ever to have experienced a systemic financial crisis ...



Private sector debt in selected countries 1980-2007



— United Kingdom — United States
— Spain — Switzerland
— Germany — Iceland

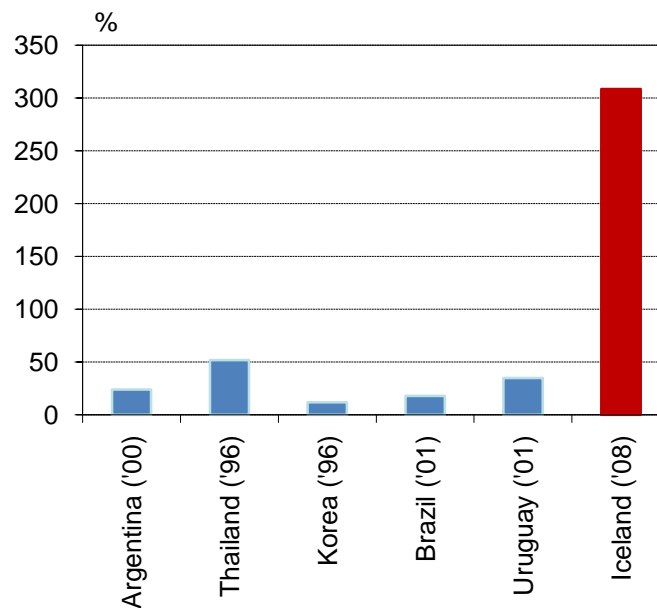
Sources: Bank of England, Central Bank of Iceland.

... and widespread borrowing in foreign currency



- 70-75% of corporate debt is in foreign currency, especially JPY and CHF
- 20% of household debt is in foreign currency

Corporate foreign currency debt to GDP in a few crisis countries



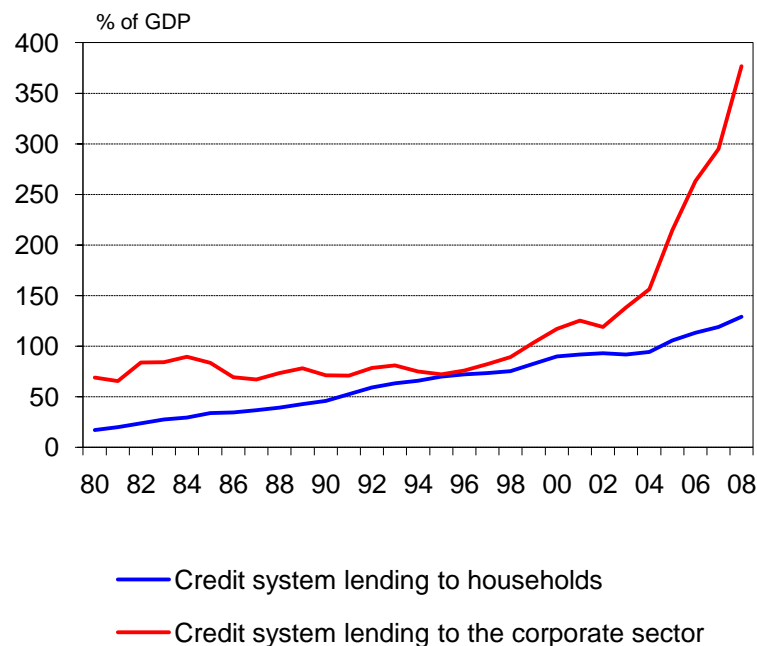
Sources: IMF, Central Bank of Iceland.

Crisis of extraordinary proportions



- The Icelandic financial crisis is therefore a crisis of extraordinary proportions
- Household and corporate balance sheets have been hit by mutually reinforcing shocks to the exchange rate, inflation, asset prices and credit
- Balance sheet dynamics warrant special attention

Private sector debt to GDP in Iceland
1980-2008



1. Value for 2008 is for September 2008.

Source: Central Bank of Iceland.



I. Central Bank of Iceland's household sector analysis

Evidence from aggregate figures



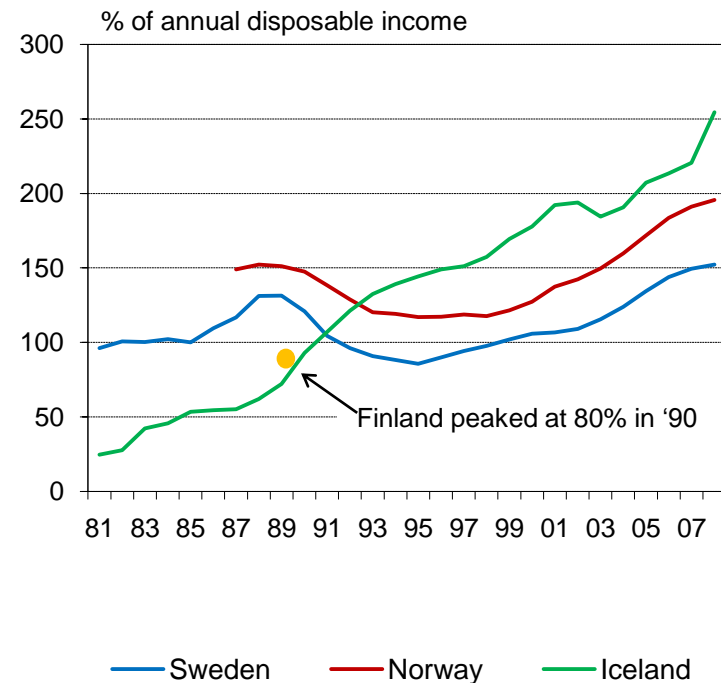
- In recent years the Central Bank's analysis of the economic situation of the household sector was based on a mixture of aggregate data, surveys and micro data from the tax authorities
- The results were usually that despite a rapid accumulation of debt, household assets increased even faster and their equity position improved so households seemed to be in a position to withstand shocks
 - Debt service ratio decreased until 2007
- The Bank nevertheless expressed concerns about the distribution of debt and warned against FX borrowing

Evidence from aggregate figures



- Icelandic households are more indebted than households in the Nordic banking crises

Household debt to income ratios in selected countries 1981-2007



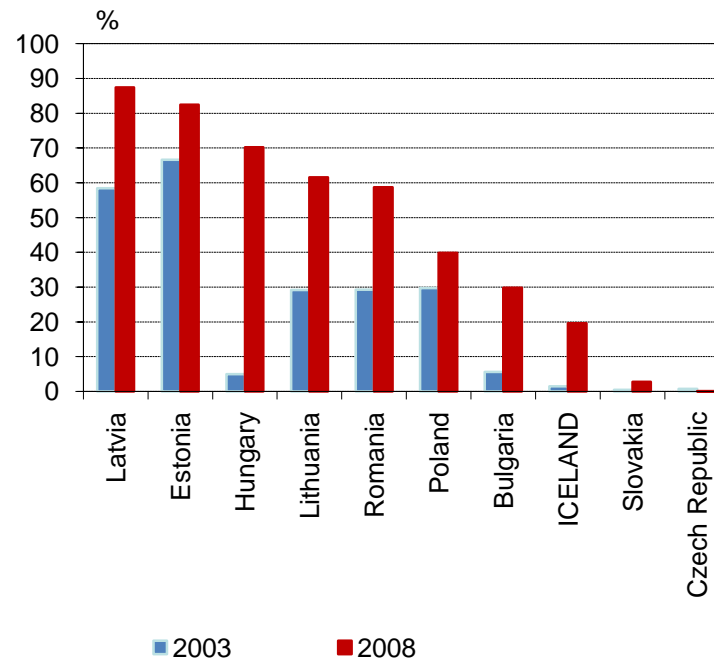
Sources: Riksbanken, Norges Bank, Central Bank of Iceland.

Icelandic households were not alone in increasing their FX borrowings



Share of banks' household loans in foreign currency in a few countries

Comparison between 2003 and 2008

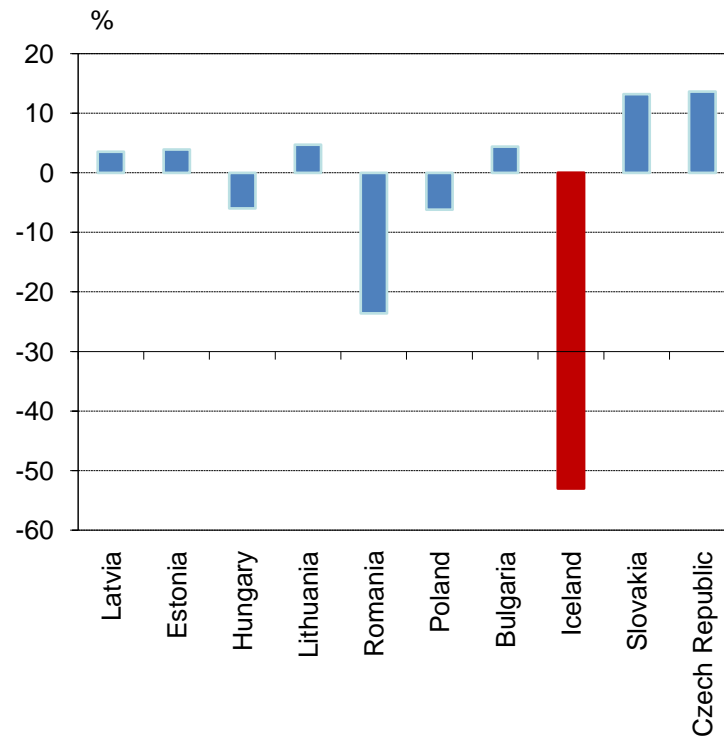


Sources: Magyar Nemzeti Bank, Central Bank of Iceland.

... but Icelandic households have experienced the largest nominal depreciation



Nominal exchange rate changes
from July 2007 to August 2009



Sources: BIS, Central Bank of Iceland.

The household sector project



- Assessing the extent of debt problems in the private sector, their effects on the crisis dynamics and developing the policies needed to limit the severity of the crisis is a daunting challenge
- One of many preconditions for success is access to valuable data on household and corporate sector balance sheets
- The Central Bank has assembled a unique database for households and an analysis on the household balance sheet and debt servicing capabilities is ongoing
 - Preliminary results were presented in March, April and June
- The Central Bank is gathering similar data on firms

The household sector database



- The database contains financial data on all individual customers of the nationalised banks, savings banks, smaller financing undertakings, pension funds and the Housing Financing Fund (HFF)
- Income data from the tax authorities (RSK)
- Data on unemployment from the Directorate of Labour
- The data are encrypted and have been processed in a format which is not personally identifiable
- This data base is unique for a country experiencing a financial crisis and offers many possibilities for analyses and projections

The household sector database



- **Assets**

- Housing assets, automobiles, bank deposits, pension assets
- Housing wealth: Market value at origin of loan, Land Registry Value in Dec. '08

- **Liabilities**

- Housing mortgages, auto loans, overdrafts, loan to purchase securities, other non-secured debt
- Amount of original loan and outstanding principal as of year-end 2008

- **Income**

- Income in February 2009 and February 2008 according to PAYE records
- Income in 2007 according to tax returns (wages and financial income)
- Disposable income = total income net of tax and pension contributions, having regard for personal deduction

- **Debt service**

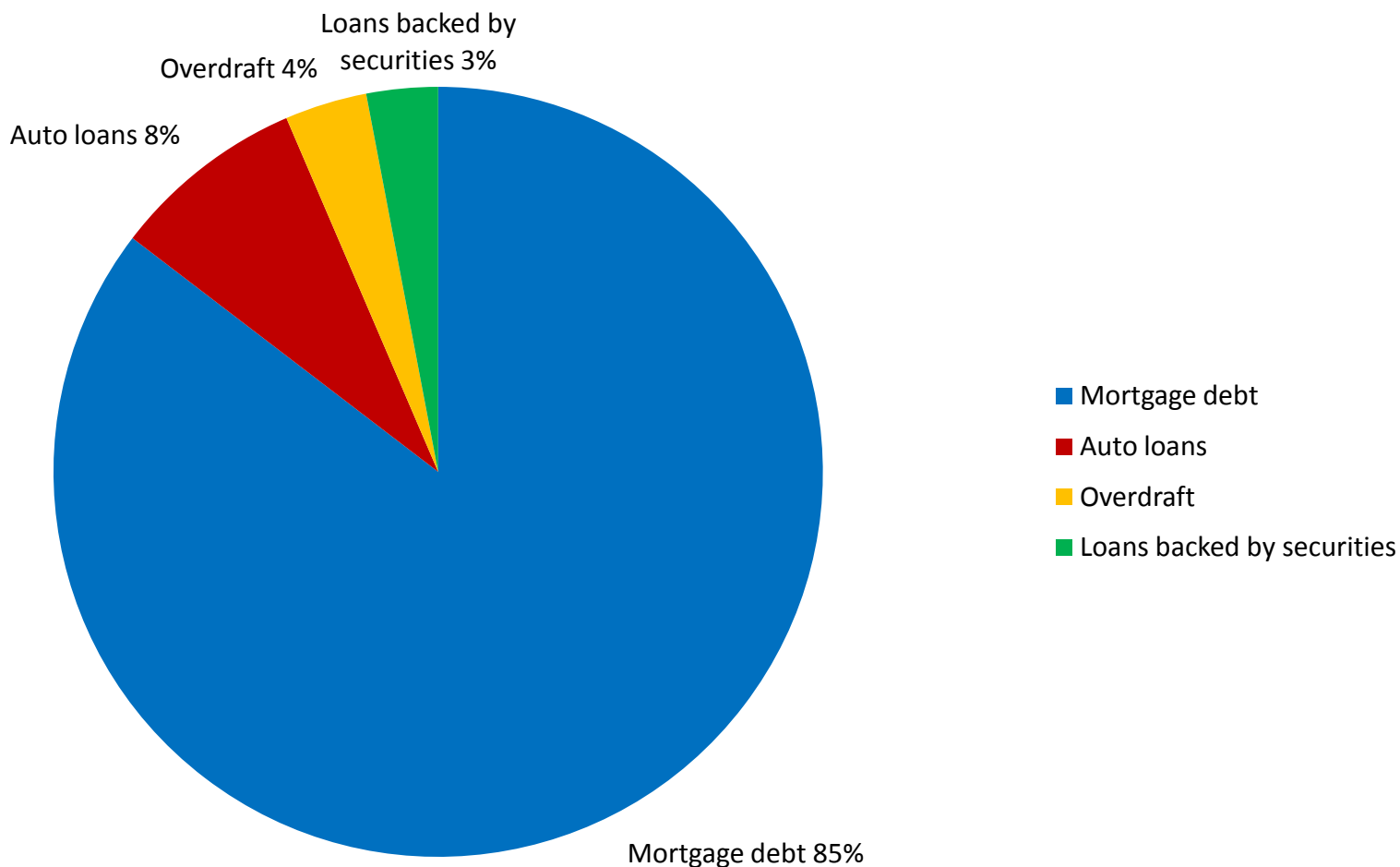
- Avg. debt service from issuance of the loan and most recent debt service in ISK
- Currency composition, loan conditions, type, maturity, date of origin
- Debt service ratio = debt service / disposable income

- **Unemployment**

- Applicants for unemployment benefits 1 May 2009
- Individuals receiving unemployment benefits as of 20 April
- Benefit %, % of full-time employment

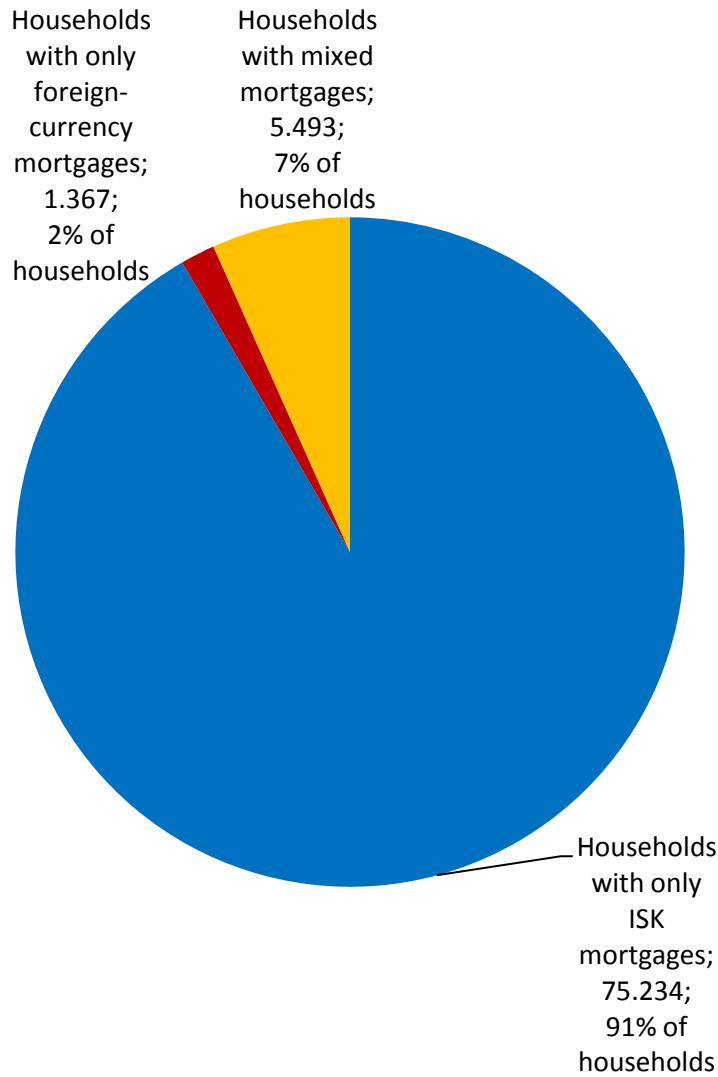
- **Demographics**

The household sector liabilities by loan category

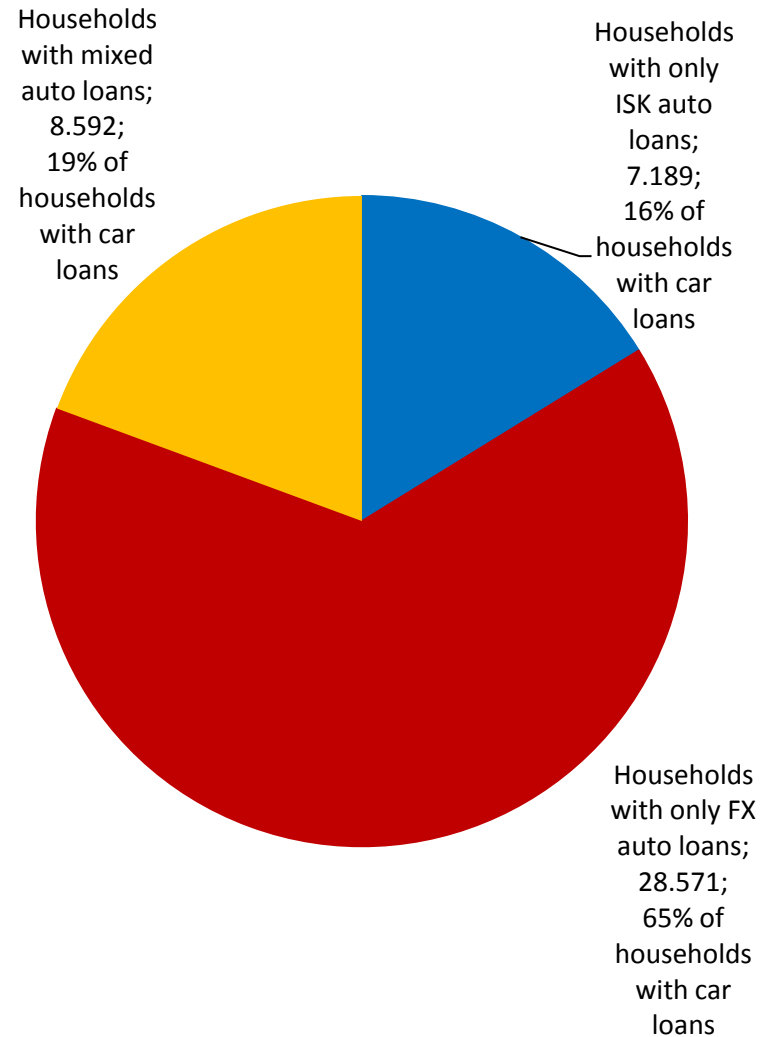


Student loans (116 b.kr.), loans from some smaller pension funds and more complete data on loans backed by securities are missing from the database.

Foreign-currency borrowing by households



Less than 7 thousand households have foreign currency mortgages

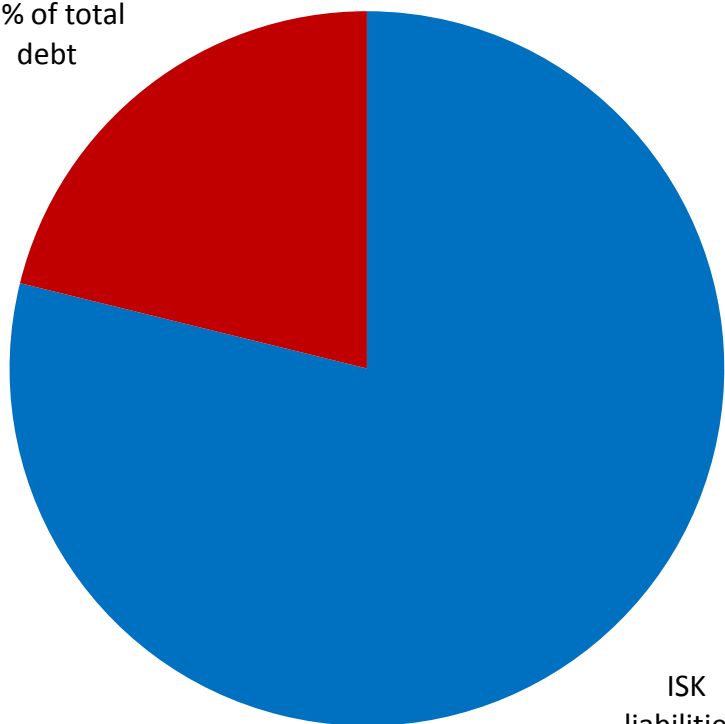


But 37 thousand households have foreign currency auto loans

Foreign-currency borrowing by households

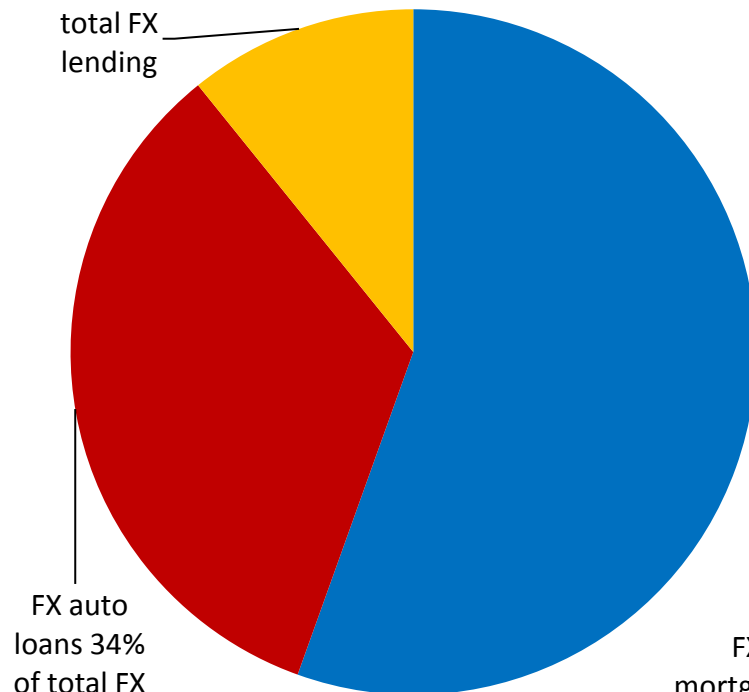


Foreign-currency liabilities; 21% of total debt



ISK liabilities; 79% of total debt

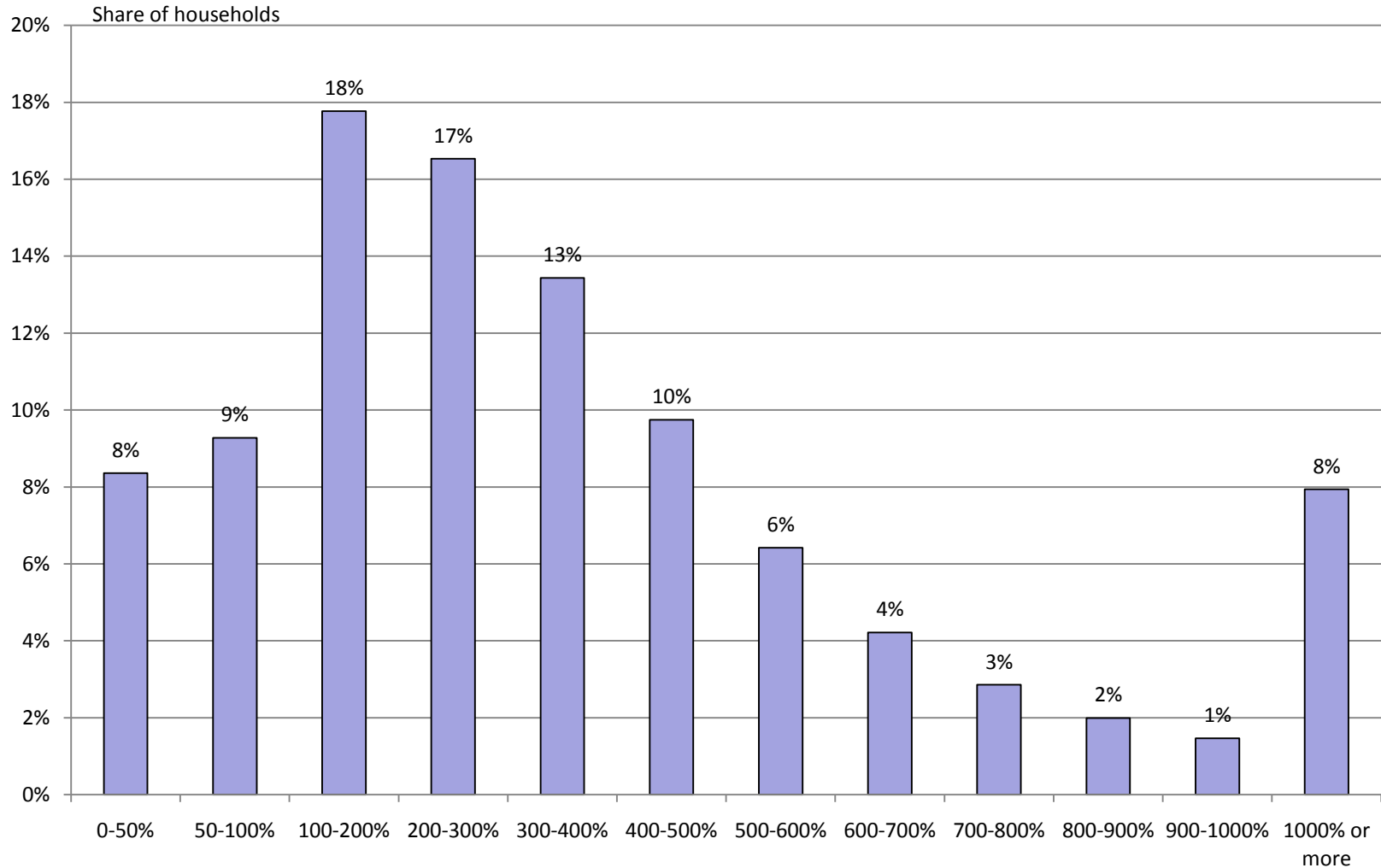
FX loans backed by securities 11% of total FX lending



FX auto loans 34% of total FX lending

FX mortgages; 55% of total FX lending

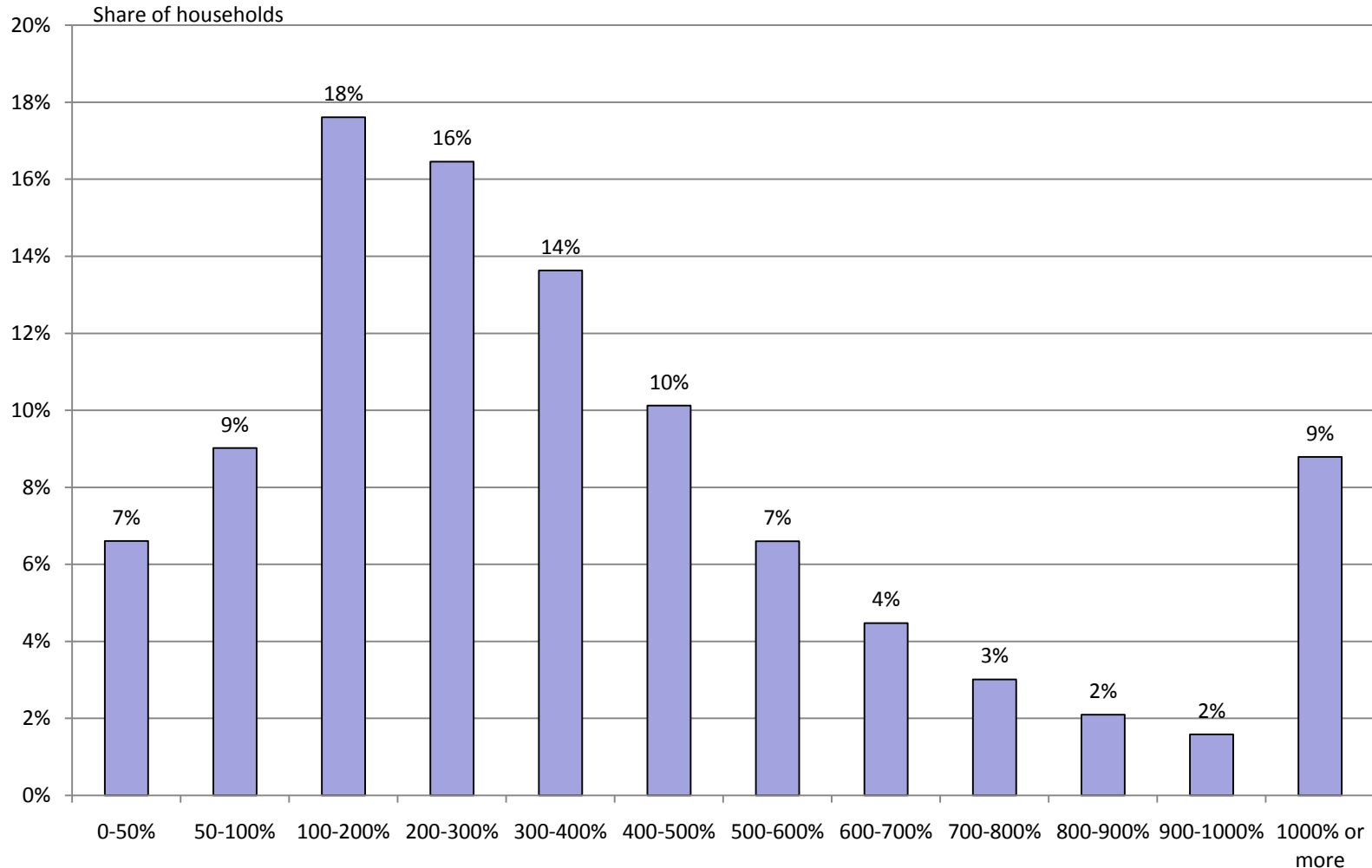
Distribution of mortgage debt



Outstanding mortgage debt as % of annualised disposable income (based on income data for February 2009)

Over half of households have housing debt amounting to less than three times their annual disposable income, one-quarter owe more than 500% of annual income

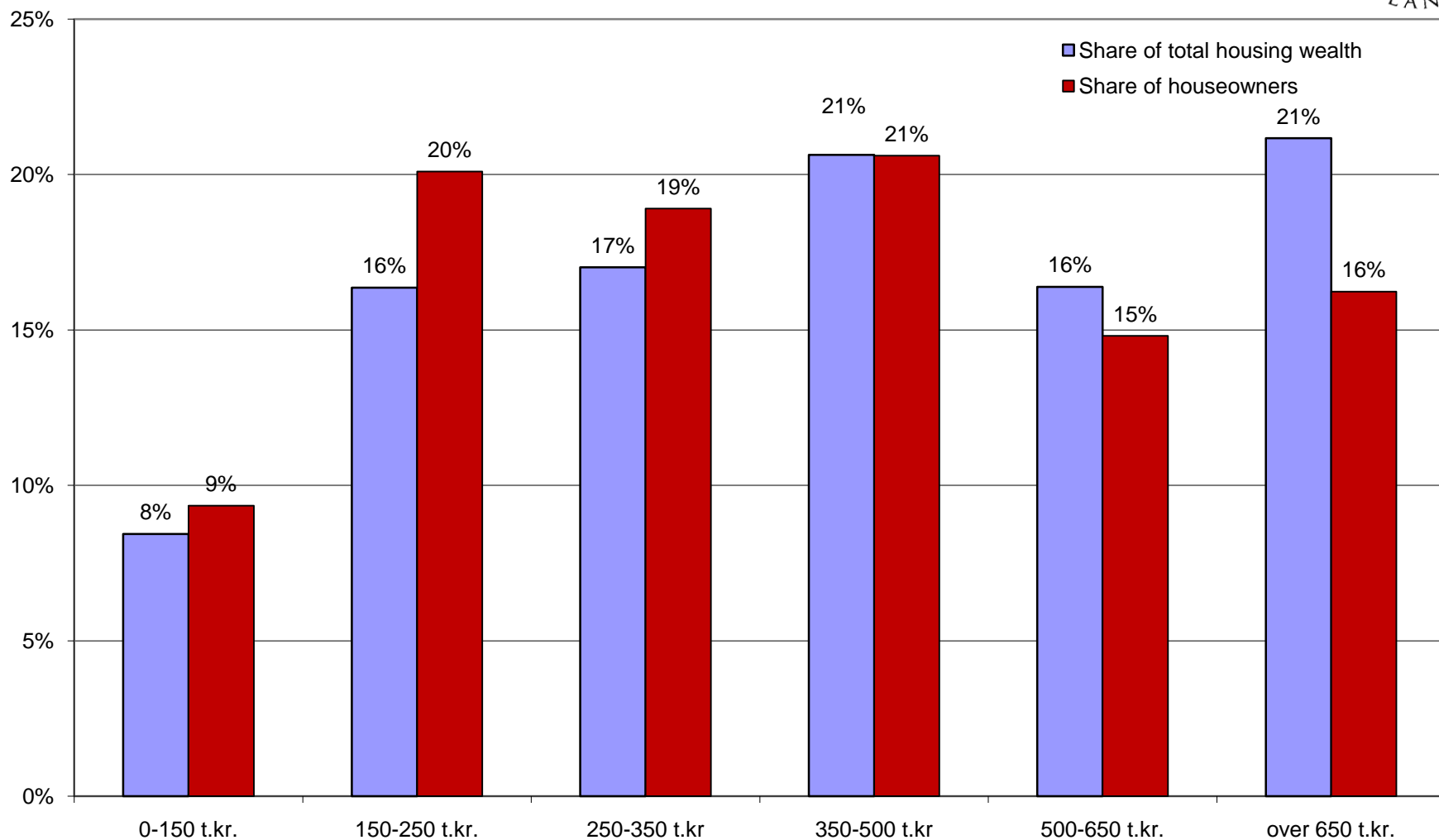
Distribution of combined debt



Outstanding mortgage, auto and overdraft debt as % of annualised disposable income (based on income data for February 2009)

Total debt of 63% of households is less than four times their annual disposable income, while just over 1/4 have total debt equivalent to more than 500% of annual income which is a smaller share than in Norway prior to the banking crisis

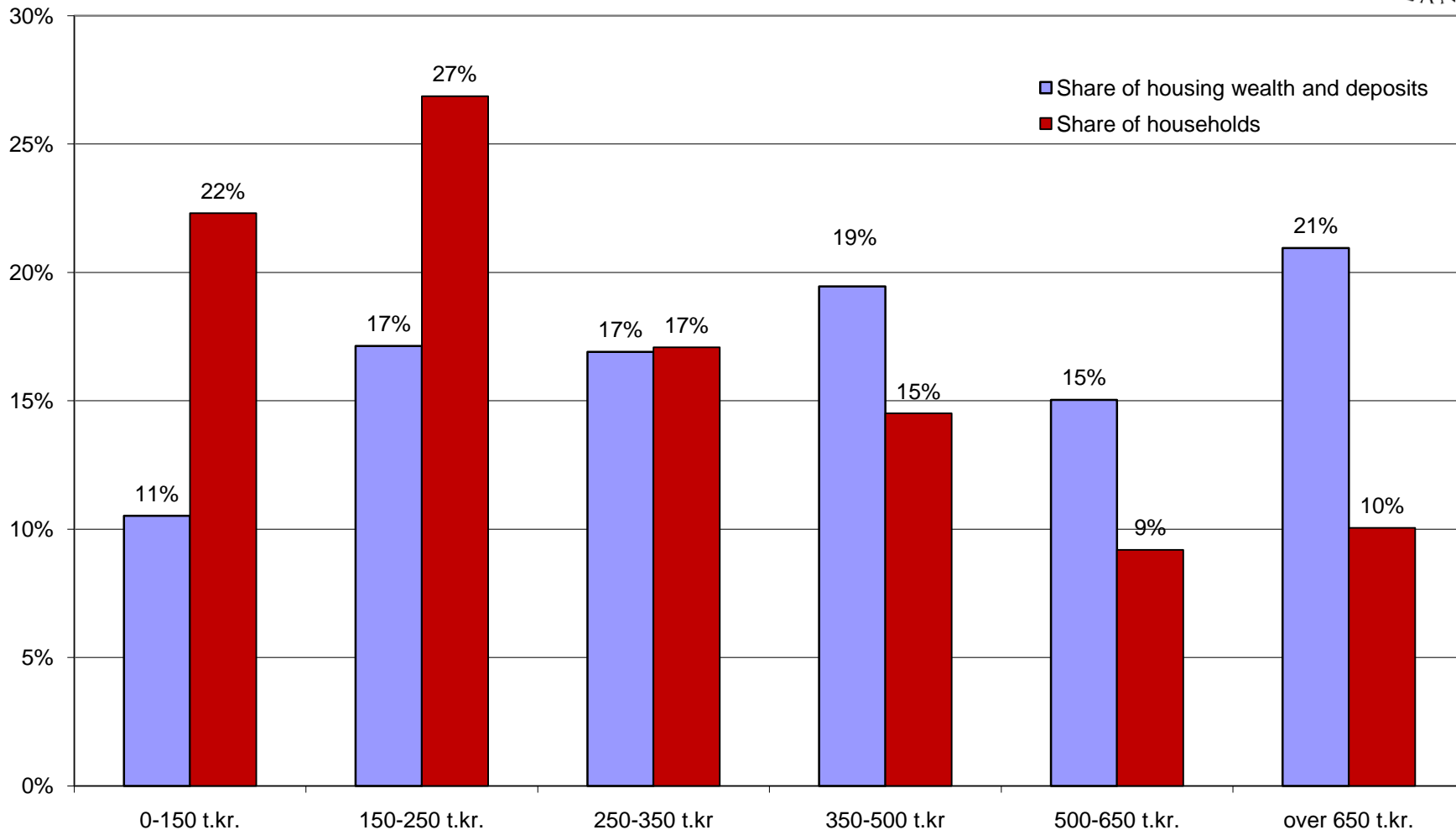
Breakdown of housing wealth by income group



Monthly disposable income (February 2009)

Housing wealth is distributed roughly in proportion to homeowners' income distribution, although there is some tendency for higher income groups to own a proportionally greater share of housing wealth (debt free homeowners excluded if they have not allowed others to use their housing as collateral)

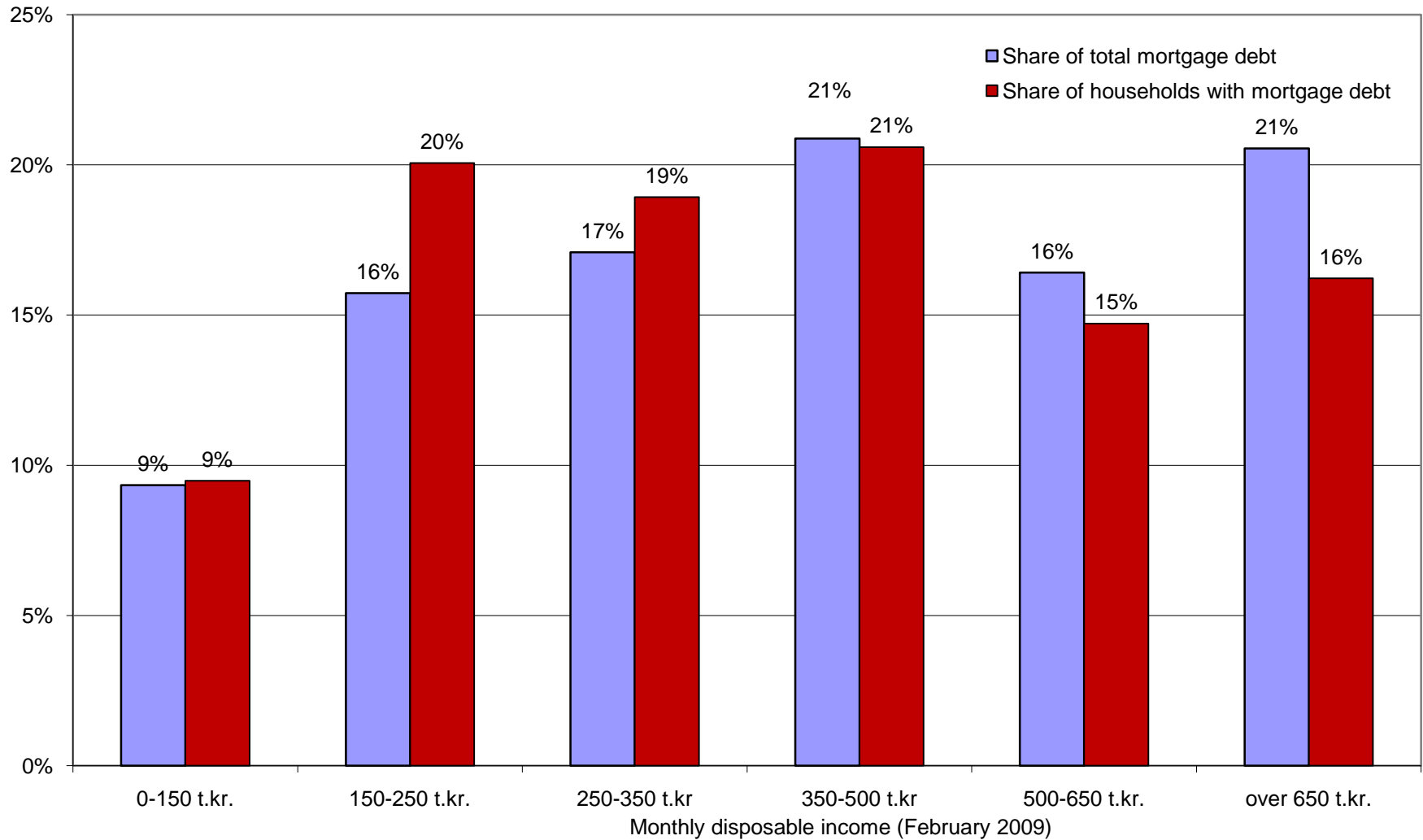
Breakdown of combined housing wealth and deposits by income



Monthly disposable income (February 2009)

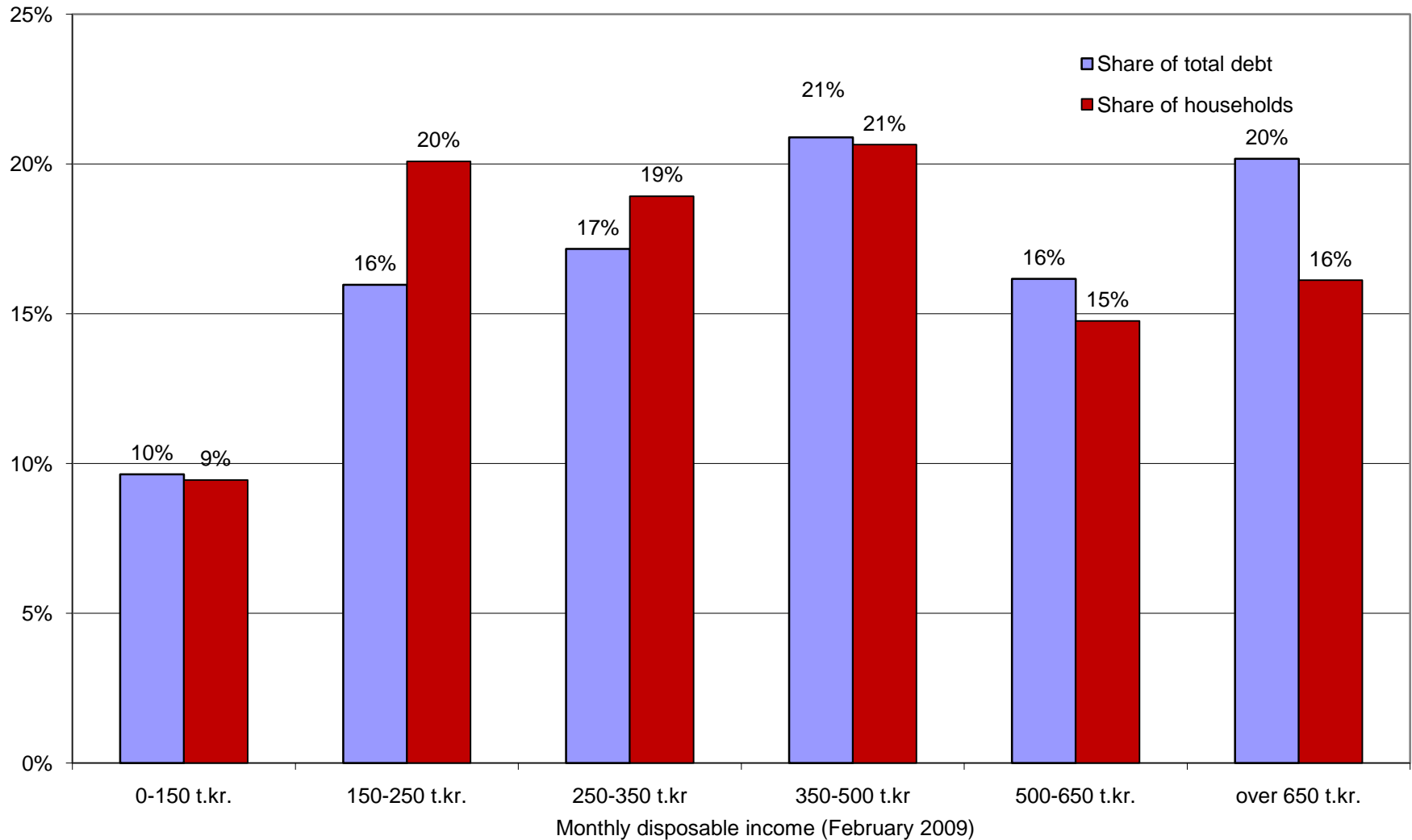
The distribution of bank deposits is somewhat more unequal than that of housing wealth and this is reflected in the distribution of combined housing wealth and deposits

Breakdown of total housing debt by income group



The distribution of housing debt is roughly proportional to household income distribution and the tendency of higher income groups to have a proportionally larger share of housing debt is limited

Breakdown of total debt by income group



The distribution of total debt is roughly proportional to household income distribution and the tendency of higher income groups to have a proportionally larger share of total debt is less than in many other countries

Changes in debt levels



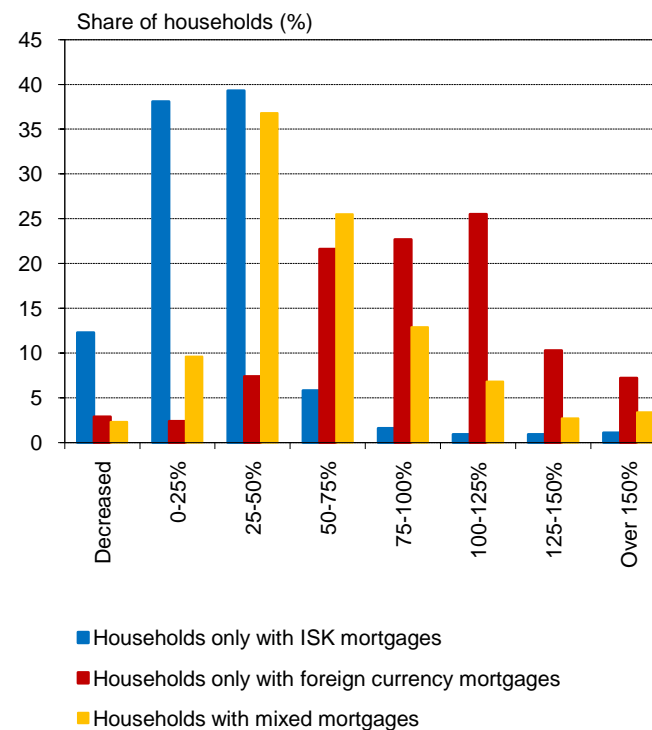
- Comparison of loan amount at origin and outstanding amount at the end of 2008
 - FX lending concentrated in the last few years before the collapse

Households with FX mortgages have experienced the greatest increase in debt levels ...



- Housing liabilities have more than doubled for 43% of households with pure FX mortgages and risen more than 50% for roughly half of households with mixed mortgages
 - Relatively few households
- Less impact for households with indexed ISK mortgages but a third has nevertheless experienced more than 30% increase

Change in outstanding amount of mortgages from date of origin to year-end 2008



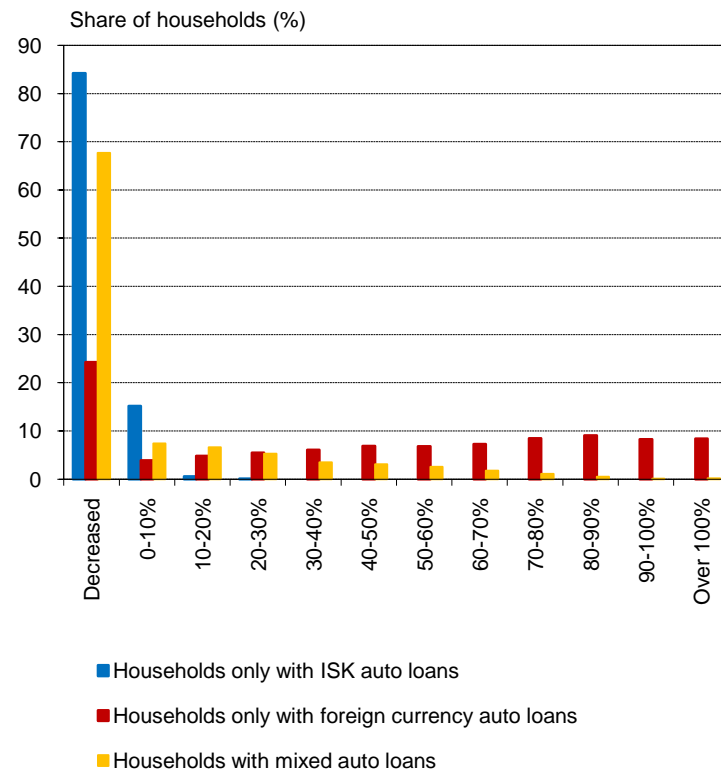
Source: Central Bank of Iceland.

... and so have the great number of households with FX auto loans



- Liabilities due to car loans have risen by more than 50% for roughly half of households with pure FX auto loans
 - Relatively many households

Change in outstanding amount of auto loans from date of origin to year-end 2008



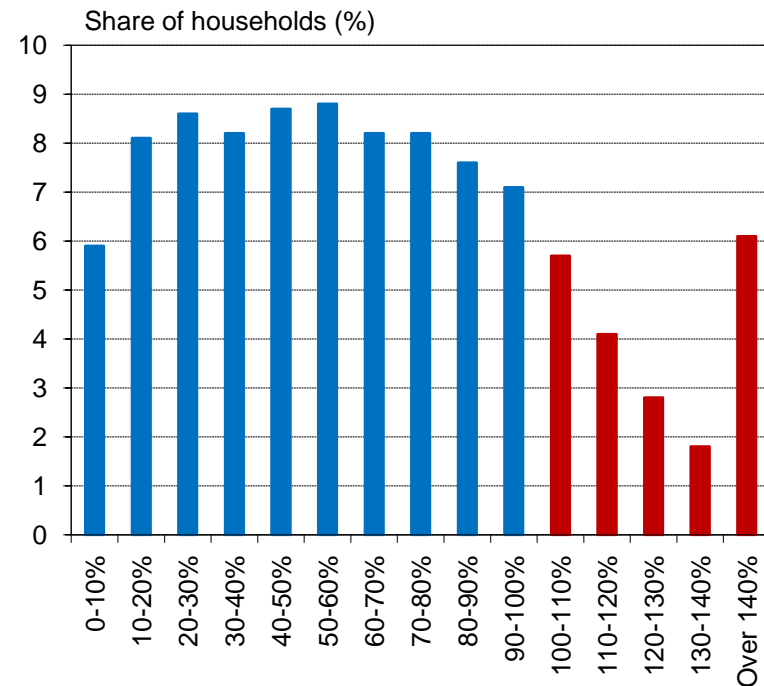
Source: Central Bank of Iceland.

Roughly 20% of households were in negative housing equity at year-end 2008



- Likely that around a third of homeowners will go into negative territory in the coming years as house prices continue to fall

Mortgage debt as a share of housing wealth at year-end 2008



1. Based on outstanding amount of mortgage debt and Land Registry value of residential property in December 2008.

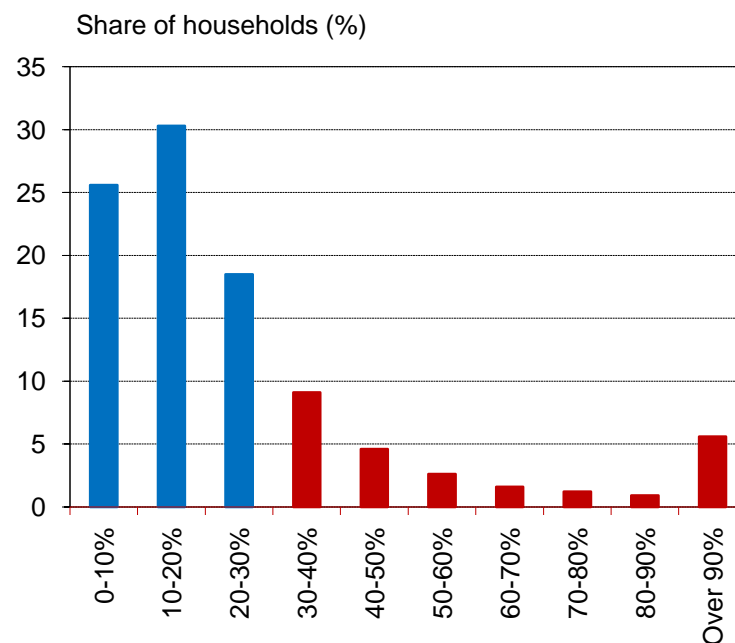
Source: Central Bank of Iceland.

20-26% of households with debt service ratio above common danger points



- Households that have to use more than 30-35% of their disposable income to service their mortgage debt are often considered at risk
- Around 74% of households devote less than 30% of their disposable income to service their housing mortgages
- 20% of households need to devote more than 35% of their income to service their mortgage debt
 - 35-40% of households with FX mortgages or mixed mortgages

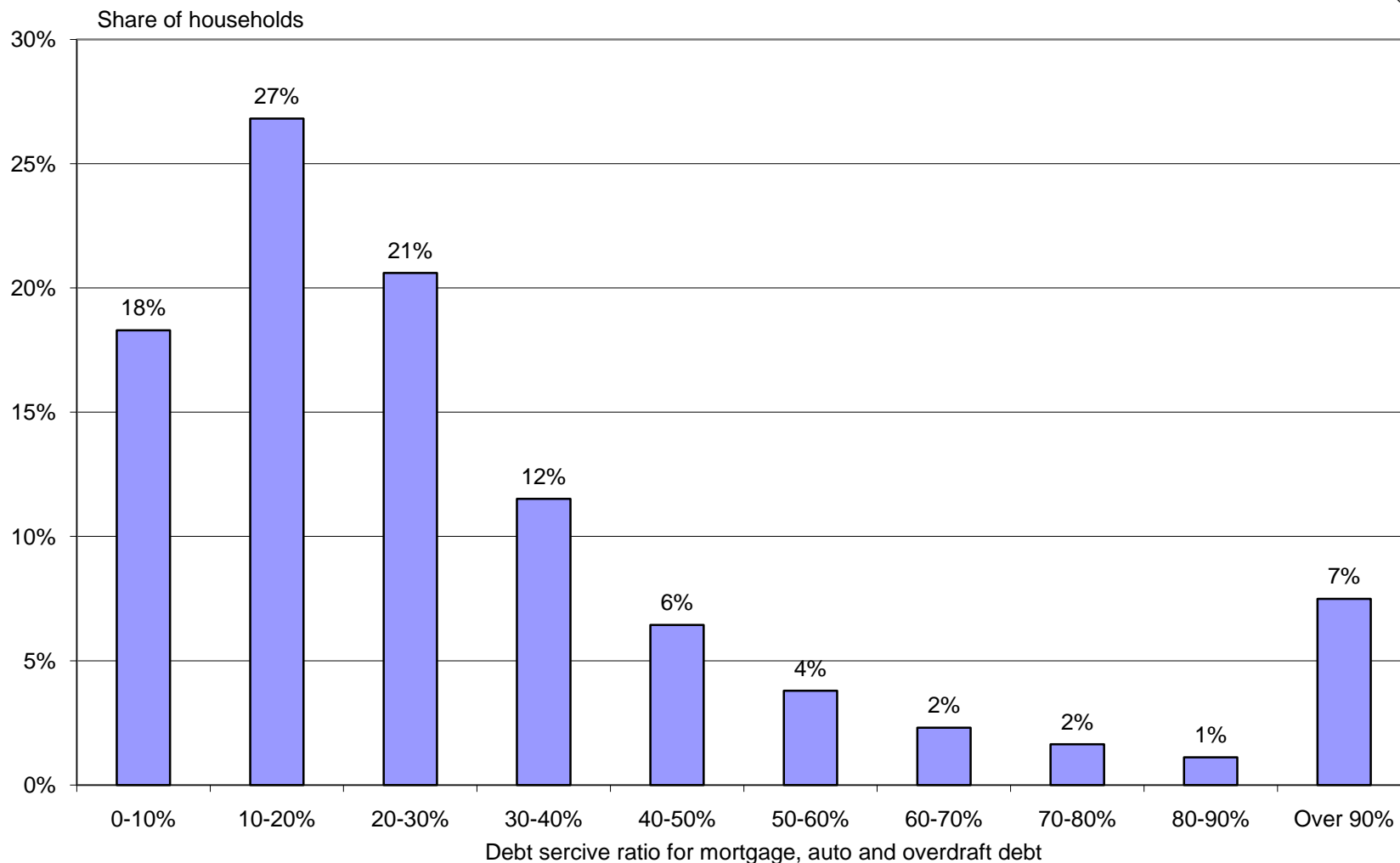
Mortgage debt service ratio



1. Mortgage debt service as per cent of disposable income in early 2009.

Source: Central Bank of Iceland.

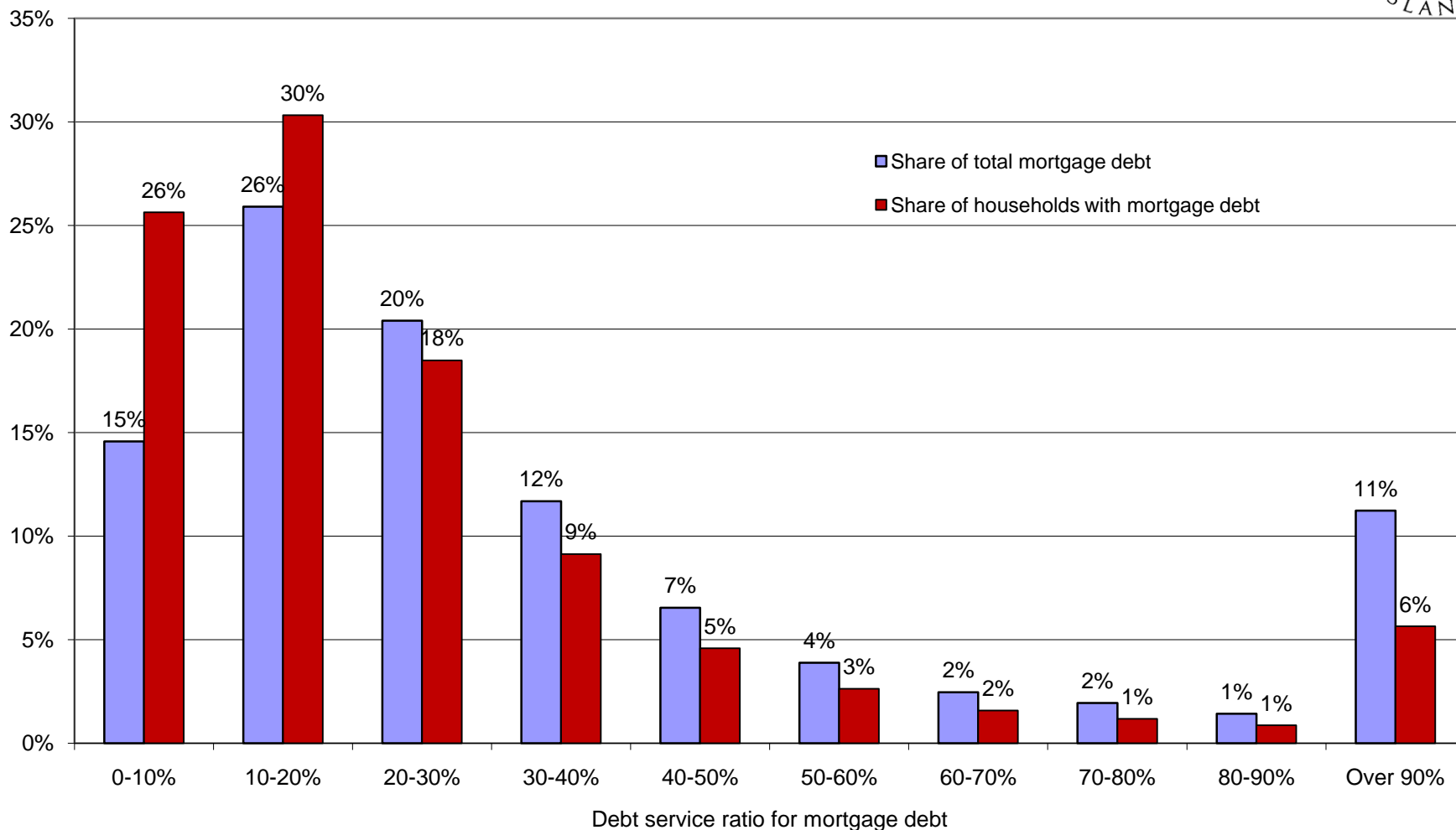
Total debt service



*Excluding households with loans where interest or principal payments have been frozen.

Total debt service is less than 40% of the disposable income of around 77% of households, while one in six households must pay more than half of disposable income in payments on loans

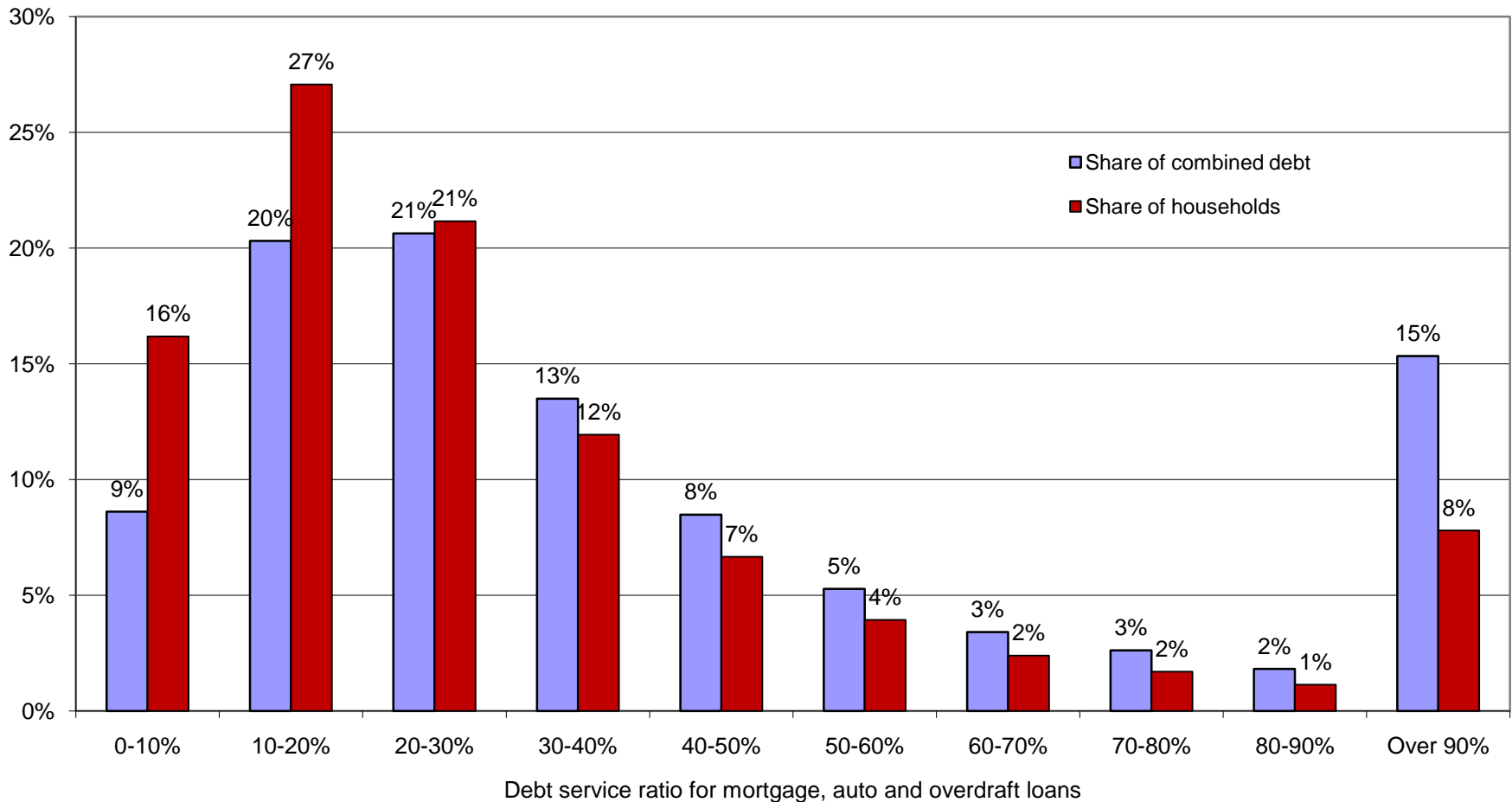
Breakdown of housing debt by debt service



*Excluding some households with mortgage loans where interest or principal payments have been frozen.

Households whose debt service on housing mortgages is less than 30% account for around 60% of total housing mortgage debt, while households with very heavy debt service (over 50%) account for some 20% of mortgage debt

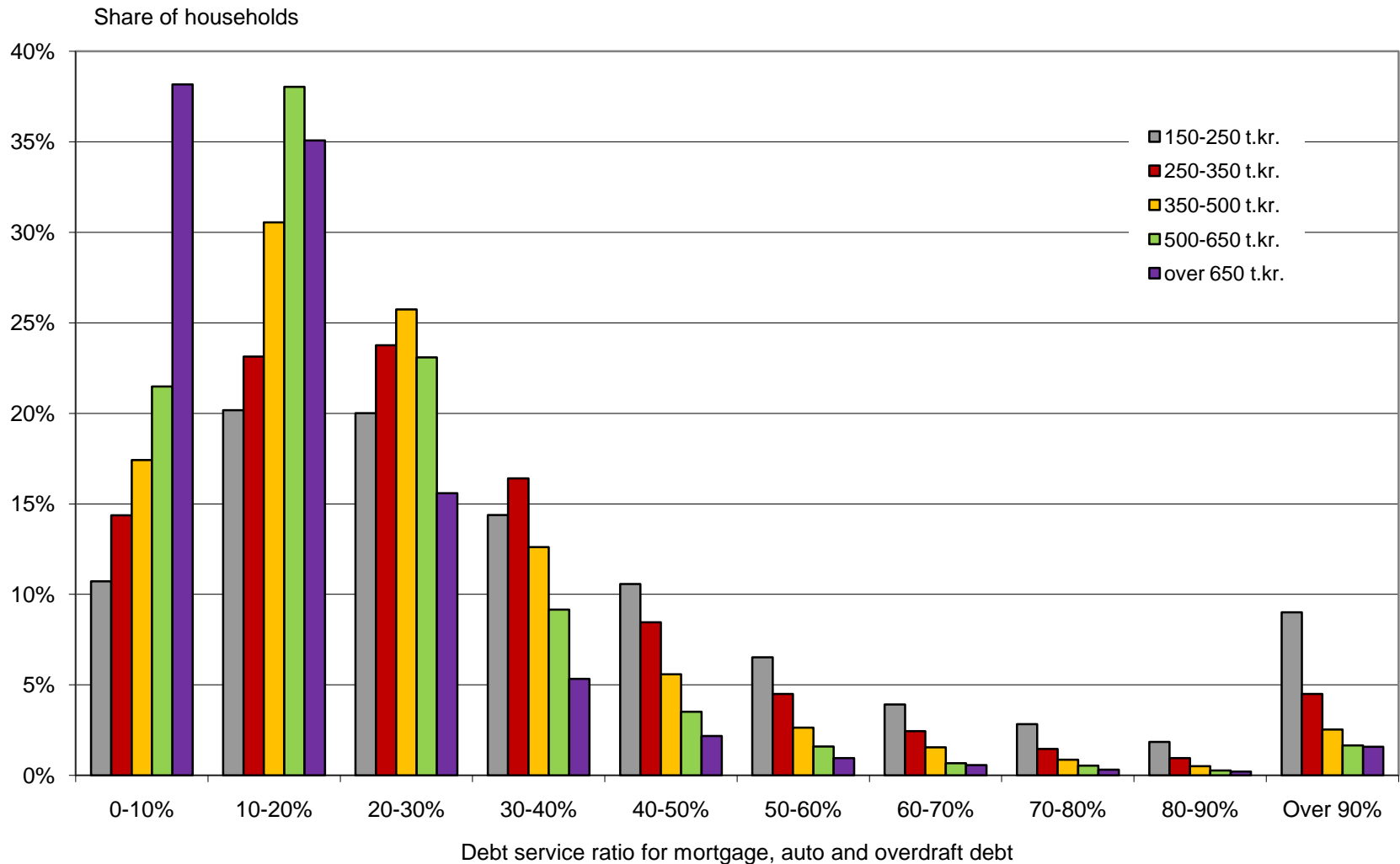
Breakdown of combined mortgage, auto and overdraft debt by debt service



* Excluding households with loans where interest or principal payments have been frozen.

Households whose combined debt service for mortgage, auto and overdraft debt is less than 40% account for around 63% of combined debt, while households with very heavy debt service (over 50%) account for some 28% of combined debt

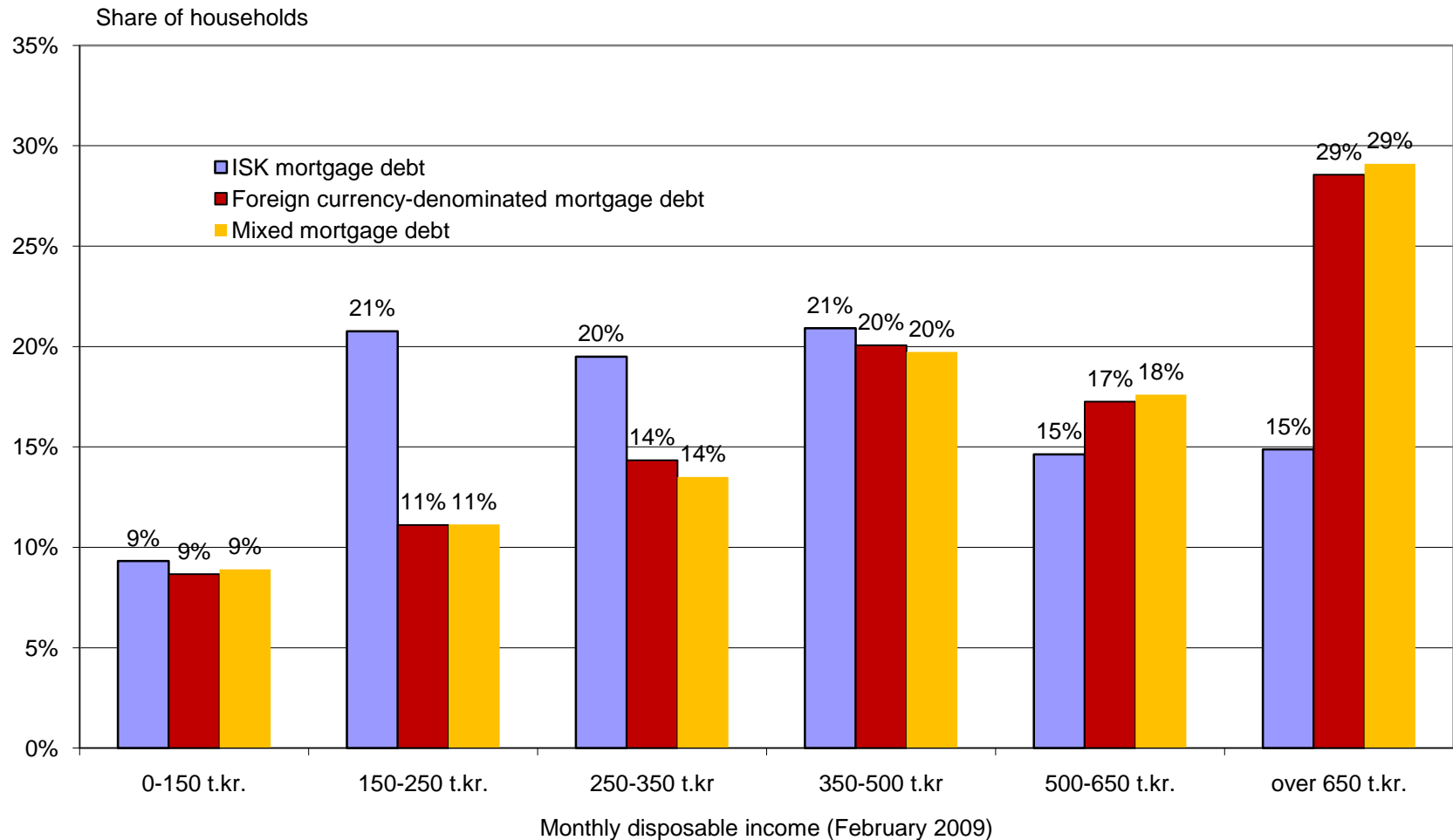
Breakdown of total debt service by income group



* Excluding households with loans where interest or principal payments have been frozen.

Households with a heavy debt service tend to belong to lower income groups

Income breakdown of currency groups



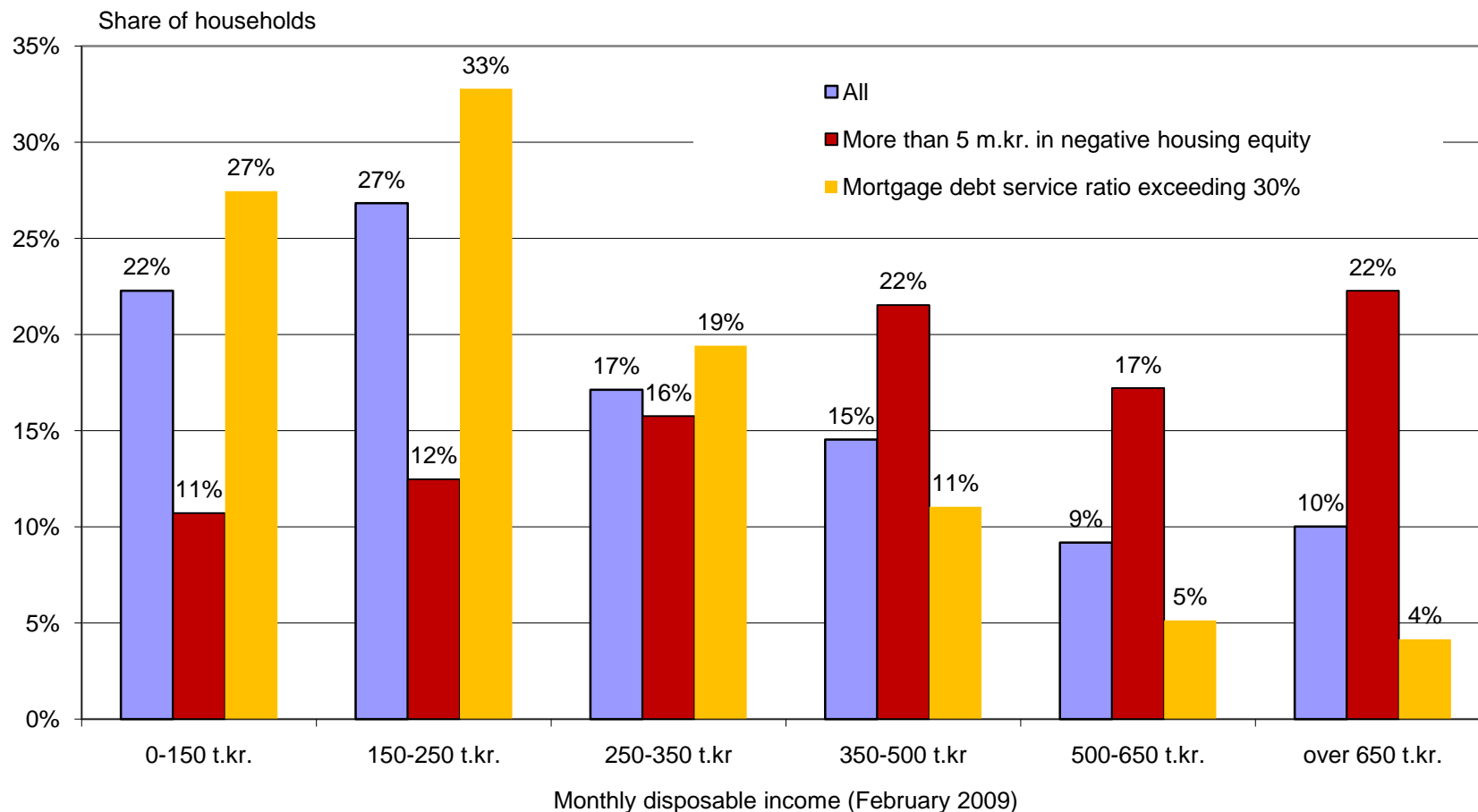
Almost half of households with housing mortgages partly or fully foreign-denominated have monthly disposable income over ISK 500,000

Groups at risk



- **Heavy debt service**
 - Mortgage payments over 30% of disposable income
 - Around 26% of households are in this group and account for around 39% of total housing mortgages
 - Around 79% of these households have disposable income of less than ISK 350,000 per month
- **Negative equity position**
 - Negative housing equity (difference between assets and liabilities)
- **Heavy debt service and very negative equity position**
 - Around 2.5% of homeowners are in this group and account for around 8% of total housing mortgages
 - These households are distributed fairly evenly over all income groups
- **Unemployed**

Income breakdown of groups at risk



Households with a very negative housing equity position tend to belong to higher income groups and households with heavy debt service tend to belong to lower income groups

Roughly 20% in need of assistance



- The debt service levels in the database reflected the situation in early 2009
- Income has continued to decline, the exchange rate of the króna is weaker and living expenses risen – hence, the share of households likely to experience payment difficulties has increased
- On the other hand, various measures have been introduced to temporarily lower the debt service burden
- Information from the banks and results of surveys suggest that the share of households in need of assistance is still around 20%

II. Private sector debt restructuring in the aftermath of the Icelandic crisis

Financial crises and debt restructuring



- Numerous studies have shown that restructuring private sector debt is an important element in economic recovery from a systemic financial crisis
- The timing, formulation, and execution of such restructuring measures is quite complex, however, and it often takes several years to implement them.
- The results of debt restructuring can take a number of years to emerge, and when it is unsuccessful, a country can end up suffering a prolonged economic crisis; e.g. Japan

Financial crises and debt restructuring



- The government plays an important role in initiating debt restructuring measures because banks and private entities face enormous co-ordination problems, the courts are ill-prepared for the system-wide scope of bankruptcy, and uncertainty about optimum criteria and social unrest could prevent the adoption of the necessary measures
- Experience shows that measures to assist households and businesses tend to be delayed, with costly repercussions. In addition, debt restructuring measures are often poorly co-ordinated with other government policy action, particularly banking system reconstruction

Aims of private sector debt restructuring



- In general, the aims of private sector debt restructuring are to restructure the debt of viable firms so that they can tolerate their debt service burden, liquidate non-viable firms as soon as possible, and enable as many households as possible to withstand their debt service burden
- Debt restructuring is also intended to support the restoration of a viable banking system and create the conditions for as rapid an economic recovery as possible, at minimum cost

Government involvement in debt restructuring



- Experience from other countries shows that private sector debt restructuring can hardly begin before the following conditions are met:
 - Reasonable macroeconomic stability has been regained; i.e., significant stabilisation of price levels and exchange rate, return to normalcy in key markets.
 - Banking system recapitalisation is complete, so that banks know how much margin they have for further write-offs.
 - A preliminary assessment of the scope of the debt problem has been carried out.
 - Improvements in regulatory environment and banks' accounting have been considered, so as to promote a more efficient framework.

Debt restructuring in Iceland



- Clearly, debt restructuring will take place under challenging circumstances in Iceland
 - In proportional terms, the largest banking system that has collapsed in a systemic crisis
 - An unusually large proportion of the system collapsed, with sources of credit other than domestic bank loans virtually non-existent
 - The most heavily indebted private sector that has ever suffered a systemic collapse, and an unusually large proportion of foreign indebtedness
 - The public sector has extremely limited margin to take on an increased burden
 - Global economy in recession
- Mitigating factors include small size, flexibility, and industriousness

Debt restructuring in Iceland



- The restoration of macroeconomic stability and the reconstruction of the banking system have been delayed
- However, reasonable macroeconomic stability and banking system reconstruction are on the horizon; both are prerequisites for private sector debt restructuring
- The conditions are developing for private sector debt restructuring to begin in earnest
- The government must choose which approach to use in Iceland

Three approaches to private sector debt restructuring



1. *Centralised approach*: governments themselves play a key role in private sector debt restructuring

- a) *Across-the-board measures* available to all, irrespective of viability or need for assistance
- b) *Conditional assistance* for those meeting specified criteria
- c) Transfer of loans and other assets to a separate state-owned *asset management company* that administers debt restructuring and asset sales

Three approaches to private sector debt restructuring



2. *Decentralised creditor-led approach*: Debt restructuring takes place via direct collaboration between debtor and creditor, but the government creates the debt structuring framework and provides indirect financial support.

3. *Hybrid approach*

- Limited general support, with debt restructuring taking place mostly through direct collaboration between borrower and lender.
- The Icelandic government has indicated that it wants to use this approach

Key factors for the success of direct collaboration between debtor and creditor



1. The bank must have a strong capital position so as to have the margin for restructuring.

- The most common mistake is to inject too little capital into the banking system during recapitalisation
- Banks with a weak capital base do not attempt genuine debt restructuring; they lengthen loans and grant extensions so as to avoid contributing to their loss provisioning accounts, which would erode their capital position (cosmetic restructuring)
- Countries that have avoided providing banks with adequate capital and instead have granted them prolonged exemptions, assuming they would strengthen their capital base through interest margins, have been hardest hit, and non-viable banks and firms have been kept afloat for years, with harmful effects on GDP growth and employment
- Icelandic financial institutions are heterogeneous in this respect

Key factors for the success of direct collaboration between debtor and creditor



2. The institutional framework gives both borrower and lender a genuine incentive to participate actively in debt restructuring.

- Bankruptcy legislation: Determines the outcome if debtor and creditor cannot reach an agreement and is therefore a determinant of the parties' incentive to bring useful suggestions to the negotiation process
- Rules on financial companies' accounting: Affects loan classification and loan provisions
- Possibility to receive an out-of-court ruling on disputes: The judicial system cannot handle the case load in a systemic crisis; therefore, various countries have established a new channel so as to expedite restructuring and ensure that results are achieved

Key factors for the success of direct collaboration between debtor and creditor



3. Relationship between creditor and debtor

- It is important to ensure that links between the borrower and the lender – whether these are business connections, ownership ties, or family or friendship ties – do not have a detrimental effect on debt restructuring
- This posed serious problems in Mexico, Korea, Thailand, Indonesia, and Japan
- Definitely an issue here in Iceland that has to be considered in the design of the restructuring

Debt restructuring in Iceland



- Iceland must learn from the experience of others and adapt those lessons to Icelandic circumstances
- Debt restructuring is a demanding but vital task that we must take on. How we fare with that task will affect our success in underpinning economic recovery, a viable banking system, and social cohesion without jeopardising fiscal sustainability
- The experience of the Nordic countries is of great interest in this respect and I look forward to discussions with you on that issue