WEALTH, DEBT AND MACROECONOMIC STABILITY

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Agenda

- Descriptive evidence on household debt and assets
- Microdata-based evidence from Denmark
- Financial stability
- Macroeconomic stability

Household debt and assets
Danish households have high levels of debt

Note: Data for 2016.
Source: OECD
... But also substantial financial assets

Note: Data for 2016. Private pensions refer to assets in pensions funds and life insurance and are before taxes.
Source: OECD
Evidence from Danish microdata
Detailed microdata covering Danish families

Administrative registers
Statistics Denmark

- ID no.
- Income
- Wealth
- Debt
- Family relations
- Other background characteristics

Data from mortgage banks

- ID no.
- Principal
- Outstanding loan balance
- Interest rate
- Maturity
- Amortisation profile
- Interest profile
- LTV
- etc.

2.5 million families
of which
800,000 home-owner families
2002-16
Debt is highly concentrated among high-income families...

Source: Own calculations based on household level data from Statistics Denmark
... and among families with large financial assets

Assets, including pension wealth, excluding homes in Denmark (deciles)

Share of total debt stock, per cent

Note: Data for 2015.
Source: Own calculations based on household level data from Statistics Denmark.
Financial Stability
Percent homeowners in cells of debt relative to home value and gross income

<table>
<thead>
<tr>
<th>Debt relative to home value, per cent</th>
<th>Over 150</th>
<th>100 - 150</th>
<th>50 - 100</th>
<th>0 - 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt relative to gross income, per cent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 100</td>
<td>11</td>
<td>9</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>100 - 200</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>200 - 300</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>300 - 400</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>400 - 500</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Over 500</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>

Note: Homeowners are divided into cells based on their total debt relative to the value of their home and gross income. Data for 2016.

Source: Statistics Denmark and own calculations

20. august 2018
Households with IO-loans have lower savings rates

Savings rate, per cent of disposable income

-5 0 5 10 15 20 25 30 35
Liquid assets Pension Mortgage debt Other debt Total savings rate
Increase in savings

Fixed rate, with amortization
Variable rate, with amortization
Fixed rate, without amortization
Variable rate, without amortization

Note: Data for 2015.

20. august 2018
Stress testing households' financial situation

Per cent of households

Financial margin, 1,000 kr.

Note: Data for 2016.
Macroeconomic Volatility:

*Did high debt amplify reduction in consumption after crisis?*
Constructing a measure of consumption

• Start from accounting identity

\[ C = Y^d - S \]

• Imputed measure

\[ C^{imp} = Y^d - P - \Delta NW \]

Observed
Consumption ratio for different pre-crisis Loan-to-value (LTV)

LTV ratio in 2007 < 60 per cent
LTV ratio in 2007 between 60 and 80 per cent
LTV ratio in 2007 between 80 and 100 per cent
LTV ratio in 2007 > 100 per cent
Borrowers have continued to reduce their consumption – in spite of low interest rates

Note: Borrowers are defined as households whose financial liabilities exceed their financial assets (excluding pension savings) and vice versa for savers.
Consumption ratios and gross debt

Median consumption to income ratio

Loan to income (LTI)

2005 2010 2015

Median consumption to income ratio
Main takeaways

• Microdata facilitates in-depth analysis of underlying mechanisms in macroeconomics

• Highly indebted households in Denmark generally have high income and substantial financial assets

• Risks, e.g. from low interest rates, closely monitored by micro data.

• Only few households – most of which are young – are vulnerable to sudden interest rate increases

• High household leverage may increase macroeconomic volatility