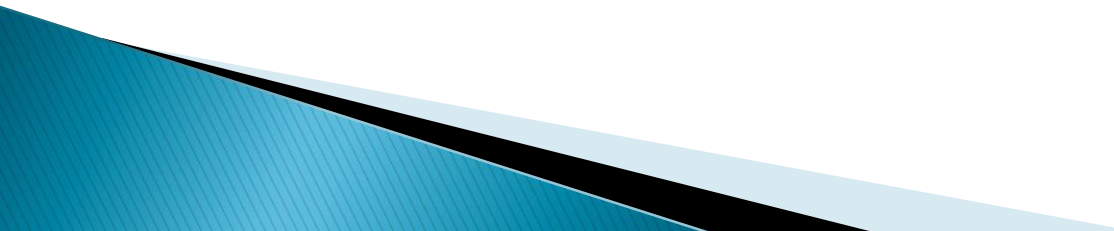


Does borrowing for consumption or debt consolidation always imply higher interest rates?

Evidence from the Household Finance and Consumption Survey

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Outline of the presentation

- ▶ Motivation
 - ▶ Data
 - ▶ Modelling strategy
 - ▶ Results
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Credit objectives

- Purchase of house/apartment,
- Vehicle purchase,
- Purchase of durables,
- Renovation of living space,
- Consumption,
- Repayment of previous debts,
- Education,
- Finance entrepreneurial activity.

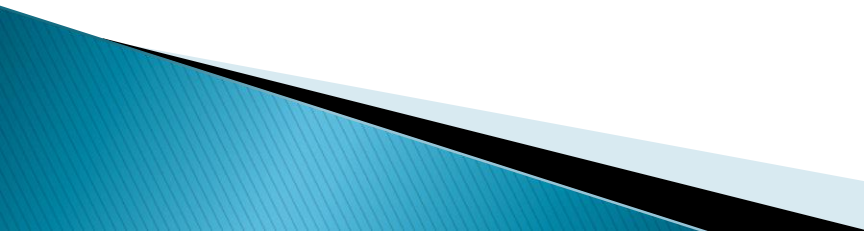
Motivation

- ▶ Is it true that like Edelberg (2006) claims the tendency for the gap between premiums for low and high risk borrowers has been constantly widening,
- ▶ Trends driven by:
 - risk-based pricing,
 - financial product developments,
 - reduction in the cost of data storage
 - development of creditworthiness assessment methods.

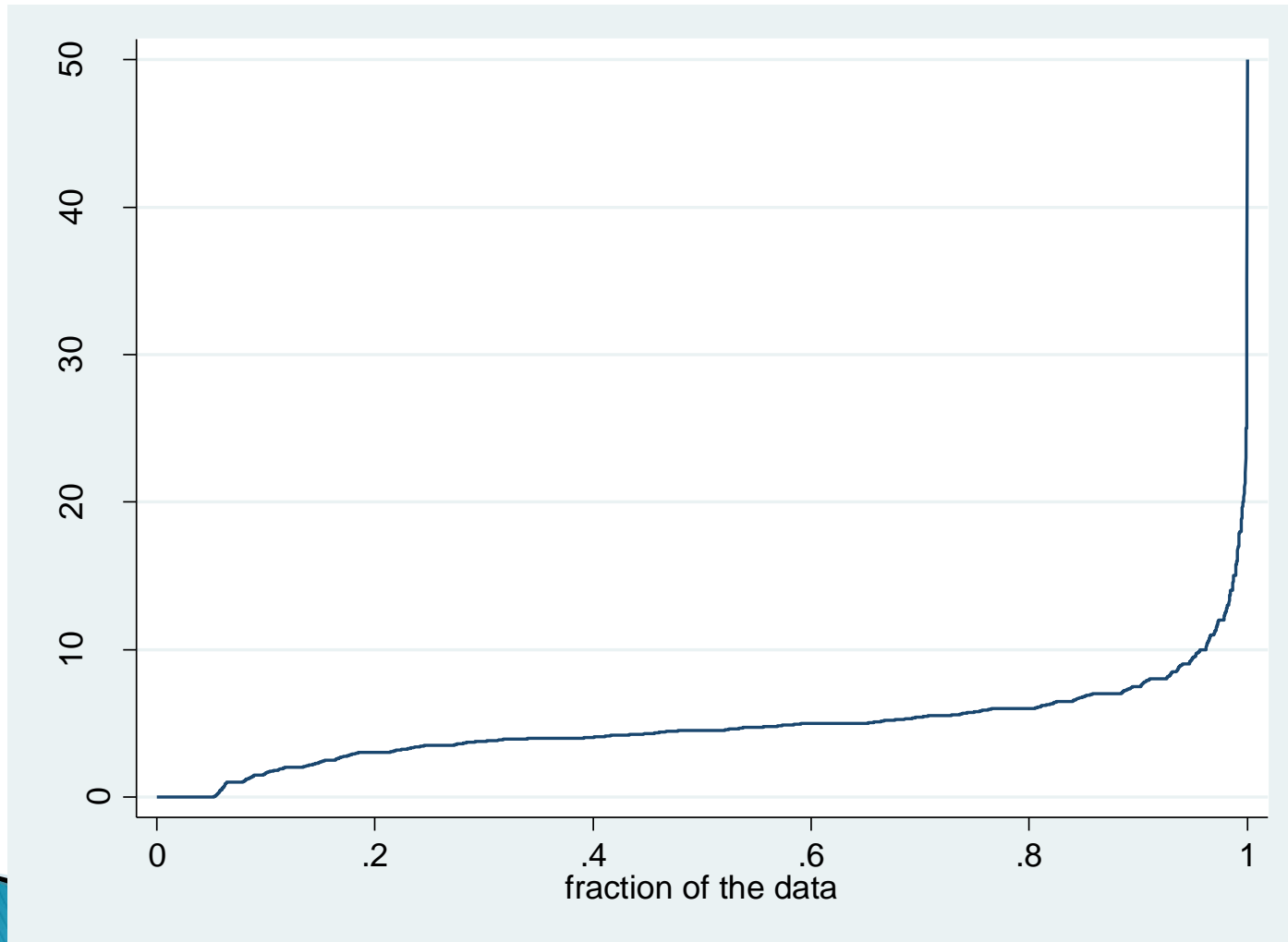
Consumers can always choose the lowest interest, can't they?

- ▶ Credit purpose is not a directly observable feature of a loan, especially non-collateralized one,
 - ▶ Financial institutions exploit a variety of strategies to obtain this information and differentiate interest rates according to purpose,
 - associating products with specific goals (by means of advertisement),
 - cross selling with other goods or services.
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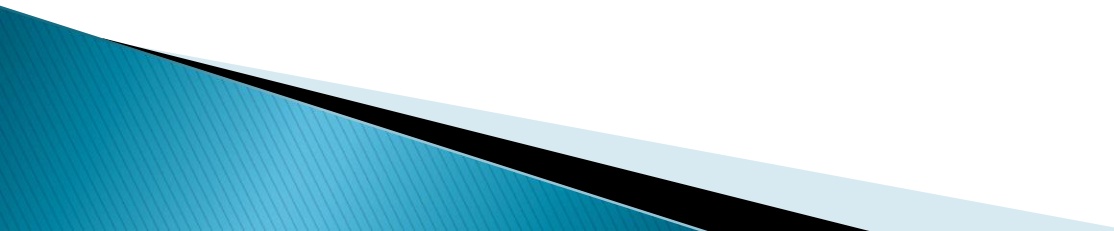
Objectives of the study

- ▶ As literature lacks investigation of the link between purpose and corresponding interest rates premiums, it is investigated whether
 - specific purposes are associated with significantly higher interest rates.
 - Is such behaviour justified by the higher default risk for consumers indebted for corresponding purposes?
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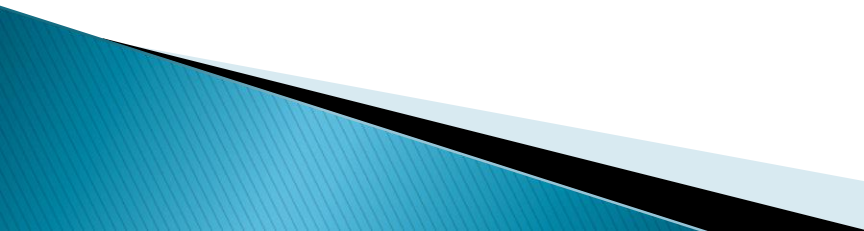
Interest rate across quantiles



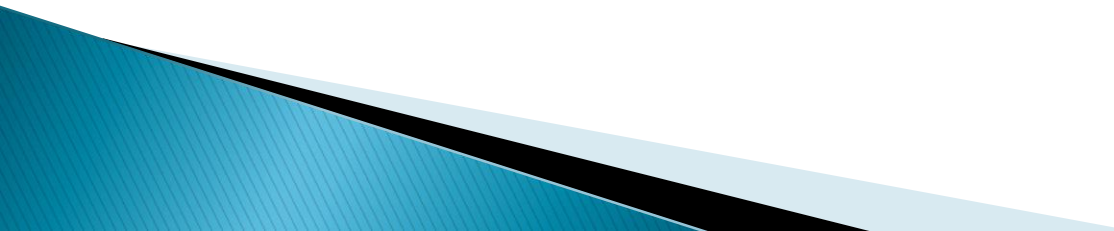
Why should we investigate debt objectives?

- ▶ Savings are often earmarked (Katona, 1975) or subject to mental accounting limitations (Thaler, 1999, 2008) thus non-fungible,
 - ▶ They combine to a direct link between convenient financial resources and specific consumption goals, which subsequently translate into linkage between consumption and credit/savings objectives.
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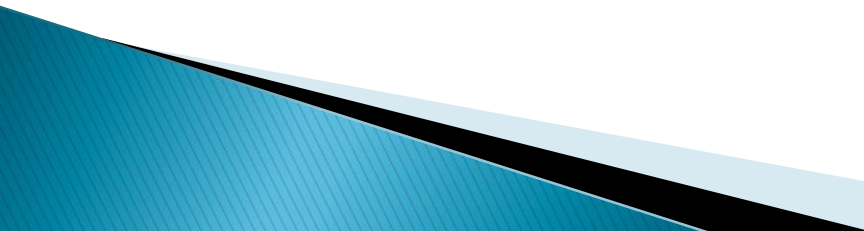
How is it possible to have different interest rates depending on objective

- ▶ Financial institutions → framing and price discrimination of credit products because
 - households have limited understanding of price on the credit market → diverse packaging of credit products is often sufficient to generate different frame,
 - different objectives are associated with different mix of patience → different debt demand elasticity.
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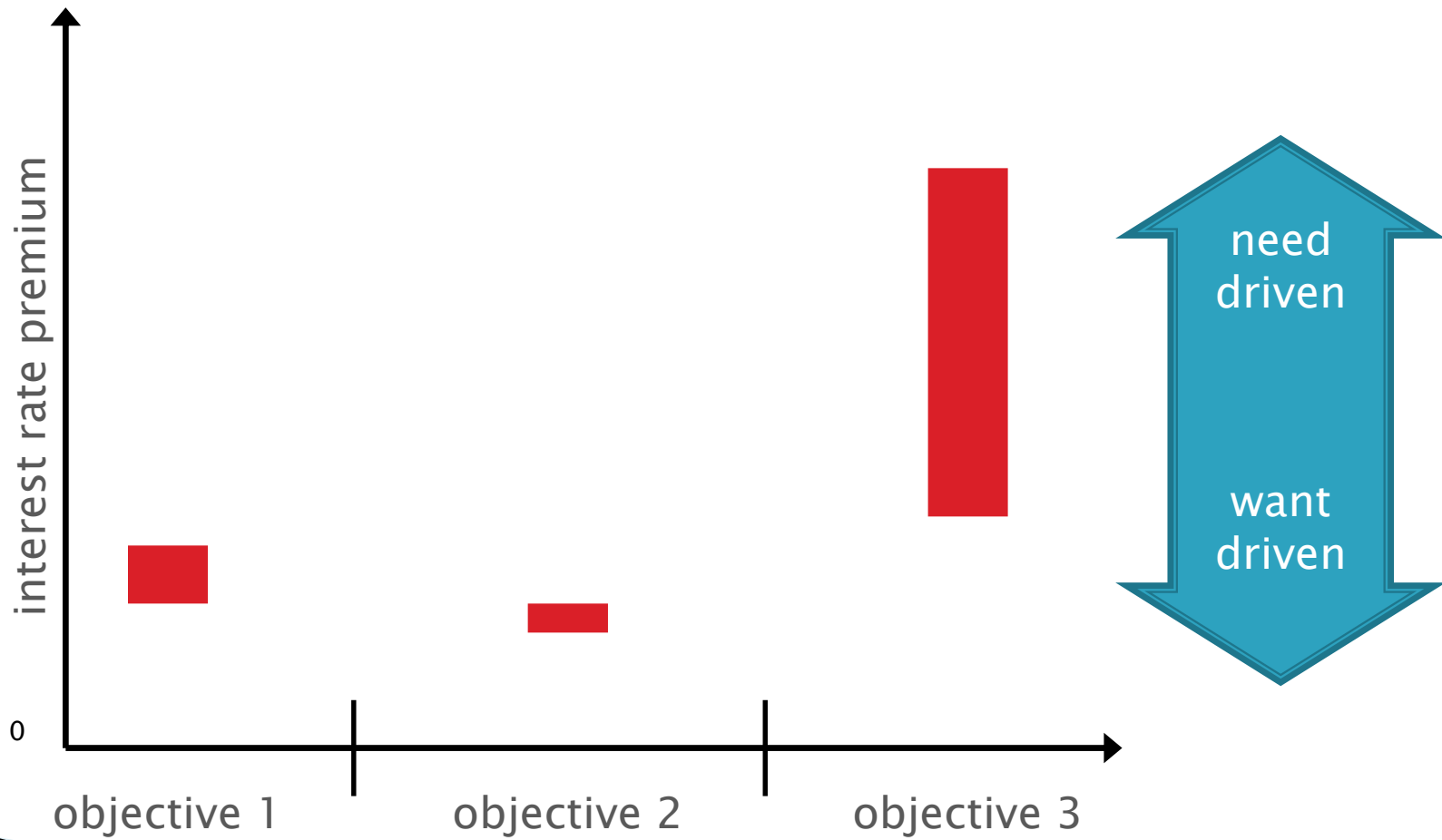
Supply of credit – framing

- ▶ Consumer understanding of actual loan costs is limited
 - They have difficulties in explaining relationship between interest rate, maturity and instalment.
 - Wonder, Wilhelm and Fewings (2008) show consumers are most concerned with immediate consequences of debt, i.e., repayment instalments and loan schedule/duration.
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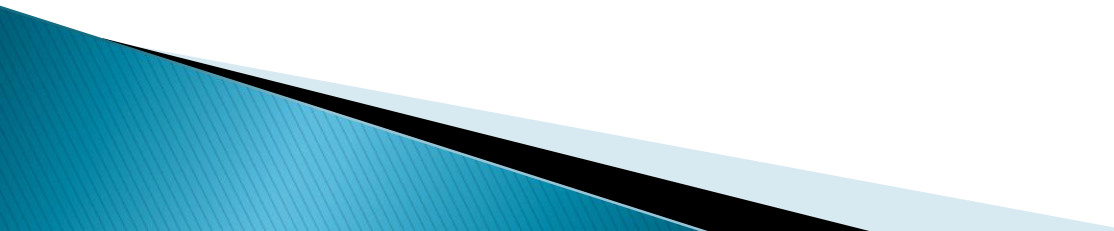
Demand for debt – need and want

- ▶ “Need” → income does not cover household needs,
 - Urgency related to adverse life-events associated with negative income shocks.
 - ▶ “Want” → consumer attitudes and the general approach to handling household finances – with or without the use of credit.
 - ▶ Credit objectives -> some more “need” related, while others determined more by “want”.
 - ▶ It will be assumed that for those sharing a stated credit objective; the group is populated by both consumers driven by “want” and those primarily driven by “need”.
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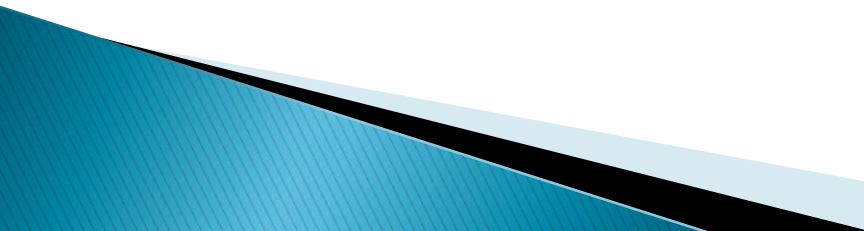
Demand for debt – need and want




Credit objectives and the default risk

- ▶ Two conflicting theories explaining default - ability to pay and the strategic default hypothesis.
 - ▶ More empirical evidence supports ability to pay hypothesis (Crook & Banasik, 2012) → encouragement for financial institutions to maintain a strategy of predicting likelihood of default.
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Standard variables in default risk assessment

- ▶ Income (Berthoud & Kempson, 1992),
 - ▶ Savings (Kamleitner & Kirchler, 2007) → higher savings imply lower need for credit and thus presumably lower credit default risk.
 - ▶ Age → mainly to income stability
 - ▶ Education → associated with ability to make wealth-maximizing choices and sufficient financial literacy (Getter, 2006).
 - ▶ Purpose for credit → the one within the grasp of the financial institution, cross-sold with the consumption good.
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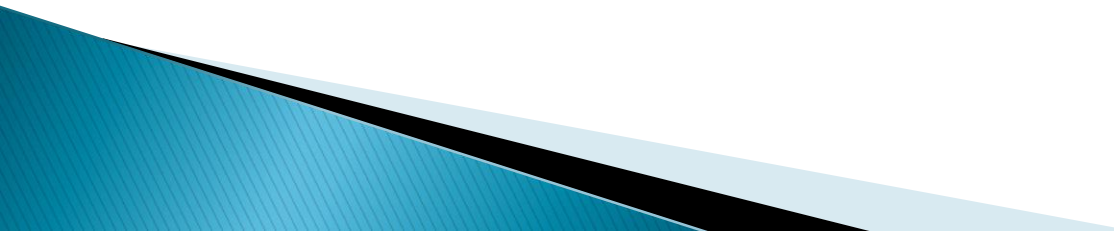
Data – non-collateralized debt

- ▶ The Household Finance and Consumption Survey (HFCS) - a decentralized survey of the Euro area member states of the European Union with broad supervision over the survey results and dissemination by the European Central Bank,
 - ▶ Data from the first wave used, which mostly reflect the year 2010,
 - ▶ More than 62 000 households,
 - ▶ Initial sample comprised 15 countries – final, due to lack of availability of certain variables, was limited to 13 countries.
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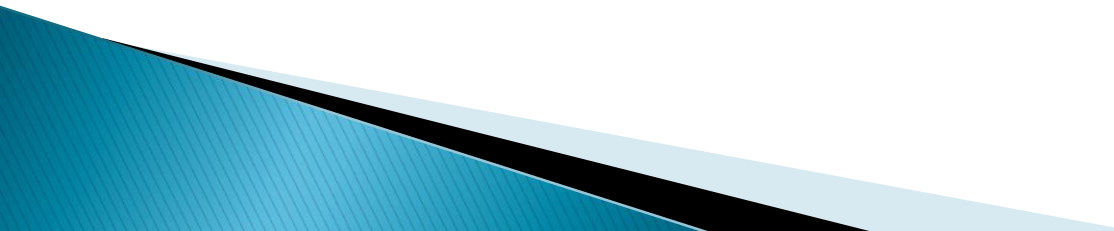
Credit goals and interest rates

	share of the given credit objective in total credit	average interest rate on credit for specific objective
To purchase the HMR*	7.75	4.1%
To purchase another real estate asset	5.47	4.6%
To refurbish or renovate the residence	14.07	5.6%
To buy a vehicle or other means of transport	41	5.9%
To finance a business or professional activity	4.98	6.1%
To consolidate other consumption debts	2.51	7.7%
For education purposes	2.46	2.4%
To cover living expenses or other purchases	16.32	6.2%
Other	5.44	6.1%
Total		5.6%

Analytical approach

- ▶ First - regression of interest on credit purpose and controls → demonstrate the average role of credit purposes,
 - ▶ Second – quantile regression → demonstrate the differences in interest rate across quantiles of users of credit for specific purpose,
 - ▶ Third – logistic regression → verify whether those who pay more also are more likely to default.
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Results – the influence of controls

- ▶ It was possible to show that
 - Log-value of financial assets has negative impact on interest rates,
 - Only respondents with higher education level pay less,
 - Surprisingly all groups of households with head above the age of 35 pay more.
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Results – the role of credit purpose

Independent variables		β (significance)
Credit purpose (ref. to buy a vehicle or other means of transport)	To purchase the HMR	-1.69***
	To purchase another real estate asset	-0.96***
	To refurbish or renovate the residence	-0.89***
	To finance a business or professional activity	-0.38
	To consolidate other consumption debts	1.12***
	For education purposes	-1.69***
	To cover living expenses or other purchases	-0.16
	Other	-0.84***

Quantile regression framework

- ▶ Quantile regression (Koenker & Bassett Jr, 1978) → to account for heteroscedasticity in models for interest rates on non-secured credit.

- ▶ Instead of minimizing

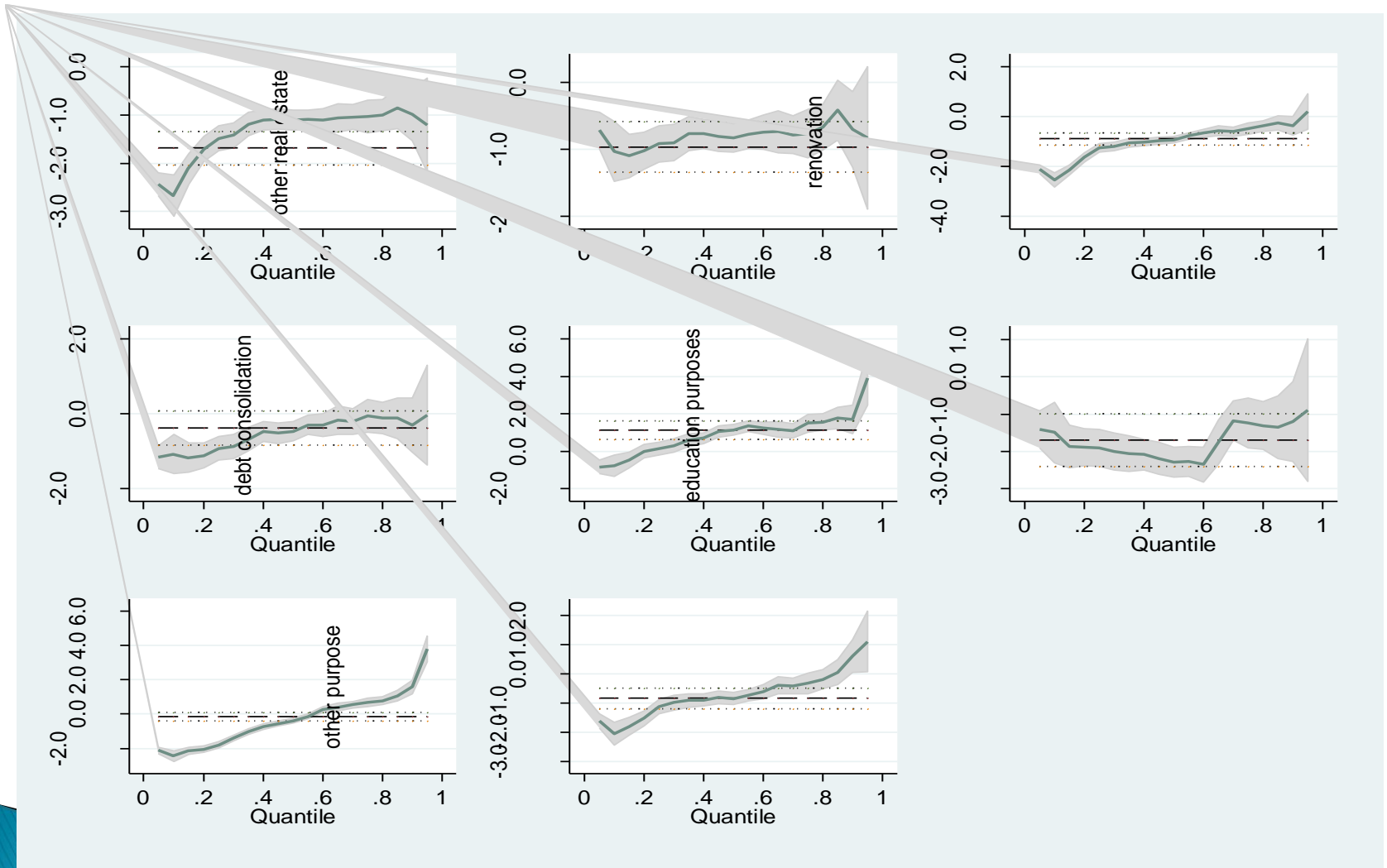
$$\sum_i (\text{interest}_i - \varphi(\beta_0, \beta_1, \gamma_1, \gamma_2, X_i, A_i, G_i))^2, \text{ where}$$

$\varphi(\beta_0, \beta_1, \gamma_1, \gamma_2, X_i, A_i, G_i)$ is the prediction from the linear function → minimization of $\sum_i \sigma_j(\text{interest}_i - \varphi(\beta_0, \beta_1, \gamma_1, \gamma_2, X_i, A_i, G_i))$

- ▶ σ_j is defined for the j-th quantile as $\sigma_j(x) = \begin{cases} j \cdot x & \text{if } x \geq 0 \\ (j - 1) \cdot x & \text{if } x < 0 \end{cases}$ ranges between 0 and 1.

- ▶ Advantage → capture the influence of specific credit purpose over the regression quantiles, i.e., groups of consumers subject to low, medium or high interest rate premiums given their socio-economic characteristics.

Quantile regression results



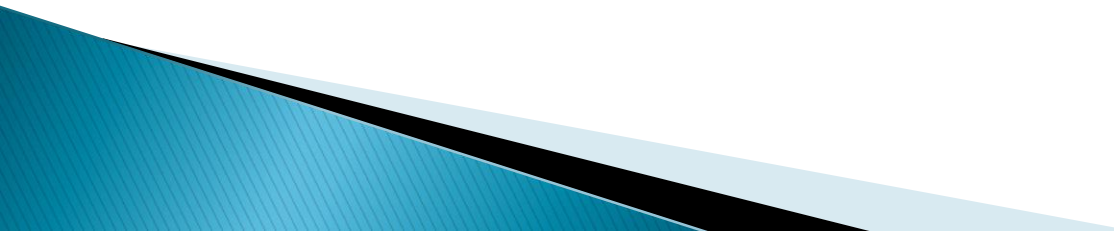
Credit purpose and delays

- ▶ Arrears increase credit costs, which needs to be accommodated by higher interest rate for specific groups of consumers.
- ▶ Different credit objectives might lead to substantial variation in propensity to credit arrears. Relationship between interest rate premiums and the propensity of default was investigated,
 - Two models estimated → standard regression model (as previously but on limited set of countries) and logistic regression with arrears regressed against an identical set of covariates,
 - Marginal effects presented for both.
- ▶ The analysis builds on a limited set of countries – Spain, Luxemburg and Portugal

Results – interest rate premium vs arrears

Independent variables		Interest rate reg. 1	Change in probability of arrears (percentage points) – reg. 2
		β (significance)	β (significance)
Credit purpose (ref. to buy a vehicle or other means of transport)	To purchase the HMR	-1.47***	11.5***
	To purchase another real estate asset	-0.47	4.5
	To refurbish or renovate the residence	-0.44*	7.1***
	To finance a business or professional activity	-0.36	17.3***
	To consolidate other consumption debts	1.41***	22.1***
	For education purposes	-1.95***	3.8
	To cover living expenses or other purchases	0.96**	12.6***
	Other	-0.33	7.4***

Conclusions

- ▶ The analysis revealed the important role of credit purpose for interest rate differences.
 - Households with similar socio-economic characteristics shouldered significantly higher borrowing costs when their purpose was consolidation of debts.
 - ▶ Quantile regression results → households paying low interest rates do not incur extra burdens, even if indebted for consumption or consolidation of debts; high interest rates strongly driven by consumption or debt repayment.
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Thank you for your attention

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