Over-indebtedness in the EU

Stefan Angel
Marina Einböck
Karin Heitzmann

WU Vienna University of Economics and Business
Institute for Social Policy

March 31st, 2011, 2nd EU-Microdata Userconference Mannheim
Contents

• Introduction
• The concept of over-indebtedness
• Research & Research Gaps
• Critical Incidents
• Policy against over-indebtedness in the EU
• Data/Methodology
• Results
• Conclusion & Discussion
Introduction and Context

• Tradition of research on private indebtedness
  – Life-Cycle-Hypothesis (Ando/Modigliani 1963, Modigliani 1986)
    • Indebtedness as a planned and rational decision
    • Permanent income: indebtedness allows inter-temporal redistribution of consumption
  – Behavioral-Life-Cycle-Theory (Shefrin et al. 1983, Graham 2002)
    • „farsighted planner“ vs. „myopic doer“
    • Consumption plans affected by impatience and lack of self-control:
      “[...] individuals will forego certain income because they are psychologically incapable of managing their saving and spending plans in the manner described by neoclassical consumption theory.“ (Graham 2002: 932f)

• Social Policy Dimension: over-indebtedness
  – Involuntary situation of indebtedness representing a financial burden
The Concept of Over-indebtedness

- Broad range of definitions (for Meta-Analysis see European Commission 2008, Korczak 2003)
  - Household income – fixed costs < monthly liabilities (Backert 2001)
  - Assets < debt (Schmitt 1993); assets + income < debt (Korczak 2003)
  - Repayment of liabilities/debt impossible before appropriate deadline (ASB 2007, Korczak 2003)
  - Subjective Definitions; Psychological Burden (Korczak 2003, Betti et al. 2007)
  - Definitions related to legal consequences (Hirsland 1999, Betti et al. 2007)
- Common aspect: **illiquidity**, resulting in defaults, arrears or legal consequences (private bankruptcy, garnishment)
- Relevance?
  - EU-Commission -> SP & SI: “tackle financial exclusion and over-indebtedness” (European Commission 2011)
  - Adverse consequences for financial markets (substantial no. of defaults)
Research & Research Gaps

• What has been looked at yet?
  – Conceptual work on definitions; incidence (cf. slide 4)
  – Focus on persons consulting debt counselling services
  – Qualitative Methodology
  – Cross-Sectional Analyses

• What is less in focus?
  – Longitudinal research
  – Policy evaluation/impact
  – Multivariate analyses (covering broader populations)

• -> Research Questions
  – Which Factors have a positive significant effect on the probability of over-indebtedness at the micro level (persons/households)?
  – What evidence can be found on the relation between policy measures and over-indebtedness in this context?
Critical Incidents (a.k.a. Critical life events)

- Event that impacts social role and usually requires major adaption/change of behavior
- „positive” (desirable) or „negative” (undesirable)
- Concept originally developed in the fields of medicine (stress-factors), psychology
- Also applicable for analysing over-indebtedness (Reiter 1991, Schwarze 1999)
  - Distortion of individual's original income expectations and payment plans concerning debt and/or other expenses
  - Change of consumer status
  - Possibly necessary to make new debts although redemption a priori difficult
  - Most frequent events (Angele et al. 2008; Knobloch & Reifner 2009):
    - Unemployment, divorce/separation, health problems, birth of a child, business failure (self-employment) -> income shocks
Policy Measures in the EU - Overview

• Preventative policy
  – Financial education programmes:
    • usually provided by public sector; AT & BE: provided by NPOs exclusively
  – Consumer protection for lending:
    • f.ex. (AT) advise on legal rights and obligations for customers before signing credit contract
      ○ Legislative requirements to check affordability
        through
      ○ Maintaining and using credit registers
        • Mandatory or voluntary
        • Differences in elaborateness of stored data
  – (Right for a bank account)
  – Disclosure requirement for credit costs
  – Usury laws & Interest rate ceiling

Cf. Angel/Einböck/Heitzmann 2009; EC 2008
Policy Measures in the EU - Overview

• Remedial policy
  – Debt counselling services
    • Counselling concerning debt settlement procedures, household budget plans etc.
    • Often provided by a combination of state, municipal and third sector organisations
  – Judicial debt settlement procedures
    • Based on payment plans (with minimum income as residual)
    • Creditors’ participation is compulsory
    • Courts can write off some part of debt
  – Non-judicial debt settlement
    • Formal procedure for debt settlement
    • Payment plans & negotiations with creditors and debtors
    • Creditor participation is not compulsory
    • Repayment arrangements not usually legally binding

Cf. Angel/Einböck/Heitzmann 2009; EC 2008
• Data
  – EU-SILC User Database 2006 (V.2006-1)
  – EU-SILC User Database 2008 (rev 1)
• Dependent Variables
  – Arrears on mortgage or rent payments (hs010) or utility bills (hs020) or hire purchase instalments or other loan payments (hs030) during the last 12 months for financial reasons; 1=yes, 0=no; (current arrears for MV)
  – Financial burden of the repayment of debts from hire purchase or loans (heavy burden or somewhat a burden =1, not a burden = 0); not used in MV
Data and Operationalisation

• Models
  – A) Separate country logistic reg, individual level, SILC 2006
  – B) Multi-Level logistic reg based on pooled sample, SILC 2008
    • Household level
    • Including variables related to critical events
    • Including policy variables

• Independent variables of interest
  – A) Proxies: “Results” of critical events
    • employment and marital status
  – B) Income shocks (Critical Events), policy variables

• Controlling for
  – A) Age & equivalised income (LCH), household type, ISCED
  – B) Asset income (dichotomous), equivalised income, household type, welfare regime (cf. Arts et al. 2010)
Results
Descriptive Results

Source: EU-SILC UDB 2006 & 2008
Descriptive Results

Source: EU-SILC UDB 2006 & 2008

Subjective 2006 | Subjective 2008

Countries: CY IS LU IE SI UK PL GR SK FI LV ES CZ DE EE HU SE NO FR LT BE IT PT DK AT NL BG RO

% of households
# Policy Measures in the EU

## Preventative policy

### Services & in-kind transfers

- Financial education programmes
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
  - IT: X
  - LT: X
  - LU: X
  - NL: X
  - NO: n.a.
  - PT: X
  - PL: X
  - SE: X
  - UK: X

- Credit reporting/credit register
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
  - IT: X
  - LT: X
  - LU: X
  - NL: X
  - NO: X
  - PT: X
  - PL: X
  - SE: X
  - UK: X

### Regulations

- Consumer protection for lending
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
  - IT: X
  - LT: X
  - LU: X
  - NL: X
  - NO: X
  - PT: X
  - PL: X
  - SE: X
  - UK: X

- Legislative requirements to check affordability
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
  - IT: X
  - LT: X
  - LU: X
  - NL: X
  - NO: X
  - PT: X
  - PL: X
  - SE: X
  - UK: X

- Right for a bank account
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
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  - IT: X
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  - LU: X
  - NL: X
  - NO: X
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  - PL: X
  - SE: X
  - UK: X

- Disclosure requirement for credit costs
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
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  - NO: X
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  - SE: X
  - UK: X

- Usury laws
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
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- Interest rate ceiling
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
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  - SE: X
  - UK: X

## Compensatory policy

### Services & in-kind transfers

- Debt counselling services
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
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  - NO: X
  - PT: X
  - PL: X
  - SE: X
  - UK: X

- Judicial debt settlement procedures
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
  - IT: X
  - LT: X
  - LU: X
  - NL: X
  - NO: X
  - PT: X
  - PL: X
  - SE: X
  - UK: X

- Non-judicial debt settlement
  - AT: X
  - BE: X
  - BG: X
  - CZ: X
  - DE: X
  - ES: X
  - FI: X
  - FR: X
  - GR: X
  - IE: X
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  - PL: X
  - SE: X
  - UK: X

### Total

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Source: Angel/Einböck/Heitzmann 2009 based on EC 2008
Descriptive Results: Country Level, 2008

Source: EU-SILC UDB 2008, own calculations
Modeling over-indebtedness
<table>
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<th>p(arrears)</th>
<th>AT (9)</th>
<th>BE (9)</th>
<th>SE (9)</th>
<th>UK (8)</th>
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<td>0.578***</td>
<td>0.726***</td>
<td>0.581***</td>
<td>0.662***</td>
<td>0.671***</td>
<td>0.691***</td>
<td>0.756***</td>
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<td>age</td>
<td>0.983***</td>
<td>0.980***</td>
<td>0.957***</td>
<td>0.958***</td>
<td>0.969***</td>
<td>0.990***</td>
<td>0.968***</td>
<td>0.988***</td>
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<td>MPH-no ch.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>1 pers</td>
<td>0.722</td>
<td>0.930</td>
<td>0.657*</td>
<td>0.676*</td>
<td>0.792</td>
<td>1.358***</td>
<td>0.922</td>
<td>0.893</td>
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<tr>
<td>Sgle. parent</td>
<td>1.587*</td>
<td>1.114</td>
<td>1.473</td>
<td>1.852***</td>
<td>1.212</td>
<td>2.436***</td>
<td>1.540</td>
<td>1.614</td>
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<tr>
<td>MPH&gt;=1 ch</td>
<td>0.800</td>
<td>0.866</td>
<td>0.771</td>
<td>0.844</td>
<td>1.099</td>
<td>1.781***</td>
<td>1.327</td>
<td>0.838</td>
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<td>married</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Never marr.</td>
<td>1.112</td>
<td>0.966</td>
<td>1.464*</td>
<td>0.966</td>
<td>1.126</td>
<td>0.871*</td>
<td>0.986</td>
<td>1.084</td>
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<tr>
<td>separated</td>
<td>1.258</td>
<td>1.630*</td>
<td>1.951</td>
<td>1.683*</td>
<td>1.454</td>
<td>1.087</td>
<td>2.145***</td>
<td>1.429</td>
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<td>widowed</td>
<td>0.139</td>
<td>1.220</td>
<td>0.870</td>
<td>1.544**</td>
<td>1.416</td>
<td>1.105</td>
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<td>divorced</td>
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<td>1.367*</td>
<td>1.622**</td>
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<td>2.046*</td>
<td>1.538***</td>
<td>1.935**</td>
<td>1.923***</td>
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<td>FT-employed.</td>
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<td>PT-employed</td>
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<td>0.996</td>
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<td>0.699</td>
<td>1.214**</td>
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<td>Unemployed</td>
<td>2.106***</td>
<td>2.070***</td>
<td>1.615***</td>
<td>2.296***</td>
<td>2.895***</td>
<td>1.542***</td>
<td>1.268*</td>
<td>1.790***</td>
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<td>student</td>
<td>0.898</td>
<td>0.563***</td>
<td>0.375***</td>
<td>0.504***</td>
<td>0.339**</td>
<td>0.857*</td>
<td>0.352***</td>
<td>0.829</td>
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<td>retired</td>
<td>0.379***</td>
<td>0.892</td>
<td>0.588*</td>
<td>0.542*</td>
<td>0.532*</td>
<td>0.720***</td>
<td>0.603**</td>
<td>0.958</td>
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<td>unfit2work</td>
<td>2.046***</td>
<td>1.300</td>
<td>1.463</td>
<td>1.795***</td>
<td>2.018</td>
<td>1.221**</td>
<td>1.473</td>
<td>1.884***</td>
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<tr>
<td>Military/ser</td>
<td>0.708</td>
<td>0.958</td>
<td>3.030*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dom. work</td>
<td>0.664</td>
<td>0.889</td>
<td>0.675*</td>
<td>1.041</td>
<td>0.981</td>
<td>1.185*</td>
<td>0.768**</td>
<td>0.937</td>
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<td>other</td>
<td>1.512</td>
<td>0.697</td>
<td>1.237</td>
<td>1.586</td>
<td>1.534</td>
<td>1.130</td>
<td>0.994</td>
<td>1.272</td>
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<td>0.885***</td>
<td>0.827***</td>
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<td>0.930***</td>
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<td>0.912</td>
<td>0.619*</td>
<td>2.992***</td>
<td>1.550</td>
<td>0.879</td>
<td>0.955</td>
<td>0.792</td>
<td>0.856***</td>
</tr>
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</table>

| Nagelk. R² | 0.17 | 0.08 | 0.18 | 0.17 | 0.13 | 0.13 | 0.09 | 0.24 |

Source: Own calculations with EU-SILC UDB 2006, exp(B), * p < 0.05, ** p < 0.01, *** p < 0.001, cluster-rob. S.E. (HH=cluster)
Results – EU SILC 2008

• M1: Level 1 Model, hh-variables only
• M2: Random-Intercept Model
• Policy
  – M3: Random-Intercept Model, no. of policy measures at level 2
  – M4: Random-Intercept Model, no. of preventative & compensatory measures at level 2
  – M5: Random-Intercept Model, policy-dummys at level 2
  – M6 : Random-Intercept Model, policy-dummys and welfare regime at level 2
### FE

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
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<tr>
<td><strong>no drop in income</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Job loss</td>
<td>3.208***</td>
<td>3.159***</td>
<td>3.159***</td>
<td>3.159***</td>
<td>3.157***</td>
<td>3.156***</td>
</tr>
<tr>
<td>Change in hours worked/wages</td>
<td>2.645***</td>
<td>2.505***</td>
<td>2.505***</td>
<td>2.505***</td>
<td>2.504***</td>
<td>2.504***</td>
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<tr>
<td>Inability to work</td>
<td>3.156***</td>
<td>3.641***</td>
<td>3.641***</td>
<td>3.640***</td>
<td>3.638***</td>
<td>3.642***</td>
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<tr>
<td>child care (M/P)</td>
<td>1.667***</td>
<td>1.639***</td>
<td>1.639***</td>
<td>1.639***</td>
<td>1.641***</td>
<td>1.642***</td>
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<tr>
<td>Retirement</td>
<td>1.128</td>
<td>1.046</td>
<td>1.046</td>
<td>1.046</td>
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<td>Marr./relationsh. Breakd.</td>
<td>2.021***</td>
<td>2.098***</td>
<td>2.098***</td>
<td>2.097***</td>
<td>2.095***</td>
<td>2.099***</td>
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<tr>
<td>Other change in hc</td>
<td>1.750***</td>
<td>1.800***</td>
<td>1.799***</td>
<td>1.799***</td>
<td>1.801***</td>
<td>1.802***</td>
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<td>Other reason</td>
<td>1.540***</td>
<td>1.791***</td>
<td>1.791***</td>
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<td>epinc (dec.)</td>
<td>0.862</td>
<td>0.852</td>
<td>0.852</td>
<td>0.852</td>
<td>0.852</td>
<td>0.852</td>
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<tr>
<td><strong>One person household</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2 adults, no dep. childr.; both adults &lt; 65</td>
<td>1.312***</td>
<td>1.318***</td>
<td>1.318***</td>
<td>1.318***</td>
<td>1.318***</td>
<td>1.317***</td>
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<tr>
<td>2 adults, no dep. ch., at least 1 adult &gt; 65</td>
<td>0.527***</td>
<td>0.494***</td>
<td>0.494***</td>
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<td>0.494***</td>
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<tr>
<td>Other hh without dep. childr.</td>
<td>1.345***</td>
<td>1.270***</td>
<td>1.269***</td>
<td>1.269***</td>
<td>1.268***</td>
<td>1.268***</td>
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<tr>
<td>Single parent hh, 1 or more dep. childr.</td>
<td>2.778***</td>
<td>2.973***</td>
<td>2.974***</td>
<td>2.974***</td>
<td>2.977***</td>
<td>2.973***</td>
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<tr>
<td>2 adults, one dependent child</td>
<td>1.690***</td>
<td>1.744***</td>
<td>1.744***</td>
<td>1.744***</td>
<td>1.743***</td>
<td>1.742***</td>
</tr>
<tr>
<td>2 adults, three or more dep. childr.</td>
<td>2.038***</td>
<td>2.052***</td>
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Source: Own calculations with EU-SILC UDB 2008; exp(B), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. 

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**FE (cont.)**

**RE**

Est. St.dev for Random . IC:

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* N (Households) = 155.449

R² McFadden (M1), R² dicho (M2-M6)

|                | 0.102 | 0.20  | 0.20  | 0.21  | 0.28  | 0.30 |

Source: Own calculations with EU-SILC UDB 2008, exp(B), * p < 0.05, ** p < 0.01, *** p < 0.001; R² dicho: cf Snijders et al. (2004)
Conclusions and Discussion

• **Conclusions** concerning likelihood of being over-indebted
  – Support for CE-Hypothesis: comparatively greatest impact (+) of negative income shocks due to
    1. Job loss
    2. Inability to work through sickness or disability
    3. Marriage/relationship breakdown
  – Mixed evidence concerning impact of policy evidence
    • Household-specific attributes more relevant
    • No evidence concerning overall influence of policy mix/policy range
    • Some influence of consumer protection for lending (-) and Judicial debt settlement procedures (-)

• **Limitations and Discussion**
  – Over-indebtedness: detailed information on assets is missing
  – Bias in S.E. probable due to missing data on sample variables
  – Cross-sectional perspective
  – Policy variables only proxies
Thank you for your attention!


