Well-being and financial decisions

Selected issues

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Outline of the presentation

• Measuring household financial conditions
• Consequences of debt and benefits of savings
• Falling into arrears and its impact on well-being
• The impact of carry trade on well-being
Approaching the measurement of household financial conditions

- Objective indicators → based on monetary assessment
- Subjective indicators → based on survey questions about perceived financial situation
Subjective and objective indicators – examples

• Examples of objective indicators
  • Brunetti et al. (2012) → the amount held by households in fully liquid assets such as bank or postal accounts, total yearly disposable income, expected expenses and unexpected expenses,
  • Jappelli et al. (2008) → household debt to GDP ratio,

• Examples of subjective indicators of household financial conditions
  • Anderloni et al. (2012); Keese (2012); McCarthy (2011); Cobb-Clark and Ribar (2009); Jappelli et al. (2008) → self-reported and perceived debt burden, perceived financial hardship, opinion on repayment difficulties or financial situation stability, evaluation of difficulty level in making ends meet and other qualitative assessments of financial problems.
Why merging subjective and objective indicators?

• In a period of financial instability (example: Great Recession) → discrepancies between the two types of indicators emerge

• Objective measures usually do not change rapidly during the crisis period, whereas subjective ones do → they seem to play complementary roles

• By using both objective and subjective indicators to assess household financial conditions we get
  • a broader picture
  • more reliable basis for forecasts and policy assessments
  • a tool to compensate for their different sensitivity to economic events (with indicators from one group only, it is not easy to assess the critical levels pointing to the existence of financial problems).
Measuring financial conditions in Italy – two dimensions emerging

**Measures (questions)**

- Ability to make ends meet (condgen);
- Amount of income necessary for a household to live well, but not in luxury, related to household income (inc_suff);
- Logarithm of average yearly equivalent income expressed in real terms (log_y);
- Logarithm of equivalent wealth expressed in real terms (log_w);
- Average savings divided by income (sav);
- Relation of total consumption expenditures to average income (c_total);
- Relation of food consumption to average income (c_food).
The financial position of Italian households was improving only between 2004 and 2006. Starting from 2008, it gradually deteriorated.

Financial prudence increased till 2008, i.e., when financial positions were already declining. This indicates that households even if exposed to financial problems, managed their current incomes better. In 2010, financial prudence decreased, which might have, on the one hand, resulted from worse financial position and, on the other hand, brought about an increase in the financial stress caused by income management, in particular, drop in savings.
Debt and savings – impact on well-being and health

• Despite claims that debt that can be repaid or managed is not problematic (Fitch et al. 2007), all types of debt (not only problem debt) can be detrimental to well-being.

• Earlier studies confirmed the impact of debt on depression and suicidal thoughts (Fitch et al. 2007; Richardson et al. 2013; Turunen and Hiilamo 2014), various coping behaviours, including alcohol, tobacco and drug dependence (Richardson et al. 2013; Turunen and Hiilamo 2014; Angel 2016).
Debt and savings – impact on well-being and health

• Especially non-mortgage debts are likely to affect well-being (Brown et al. 2005; Tay et al. 2017) with “over-indebtedness” being a particular stressor.

• Over-indebtedness
  • increases the likelihood of ill health independently of other dimensions of socio-economic status (Angel 2016),
  • is detrimental to well-being (D’Alessio and Iezzi 2013) with particular impact on psychological stress (Gathergood 2012),
  • leads to mental disorders (Emami 2010), poverty and consequent social exclusion (D’Alessio and Iezzi 2013),
  • Is associated with overweight and obesity (Münster et al. 2009; Emami 2010).
Debt and savings – impact on well-being and health

• Savings play protective role for well-being:
  • Predict higher life satisfaction (Berlin and Kaunitz 2015),
  • Facilitate progress towards stated goals and thus lead to positive affect (Diener and Fujita 1995),

• Savings are often associated with individual time preferences (Komlos et al. 2004), providing an indicator for value assigned to future emotional health outcomes. Higher savings correspond to activities that lead to favourable outcomes (e.g., positive health behaviours such as healthier eating, sporting activity or not smoking).
Data, Methods and Outcomes

• Social Diagnosis Survey – 3 waves (2011, 2013, 2015)
  • The largest socio-economic household panel study in Poland,
  • Almost 12,000 households and more than 35,000 individuals examined in each wave.

• Modeling approach
  • An outcome-wide approach was applied, in which multiple outcomes were considered simultaneously for a single exposure (VanderWeele 2017),
  • Over-indebtedness identified via the latent class approach – over-indebted individuals have numerous consumer related loans, loans for repayment of previous debts, loans from pay-day lenders.

• Outcomes: 14 health outcomes classified as either physical (5) and emotional (9) health; 3 health behavior outcomes complemented the analysis.
Results – savings, debt and over-indebtedness on well-being

Debt proved a significant stressor, affecting three of five physical health measures. Over-indebted individuals suffered even more in terms of physical health outcomes. The role of savings in physical health was much less significant.

Savings significantly improved emotional health. Debt (over-indebtedness in particular) influenced loneliness and increased suicidal thoughts.

Savings appeared significant for health behaviours reducing smoking and increasing uptake of sport activities, while debt had no significant effect in these areas.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Credit (ref.=no credit) and savings (ref. no savings) in 2013</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Credit - not overindebted</td>
<td>Credit - overindebted</td>
</tr>
<tr>
<td><strong>Physical health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>satisfaction with health</td>
<td>est. -0.056*</td>
<td>-0.255**~</td>
</tr>
<tr>
<td>count of psychosomatic symptoms in the month preceding the survey</td>
<td>est. 0.449***</td>
<td>0.723*</td>
</tr>
<tr>
<td>not being worried about health conditions</td>
<td>OR 0.866*</td>
<td>0.463***~</td>
</tr>
<tr>
<td>sleeping well</td>
<td>OR 0.915</td>
<td>0.583*~</td>
</tr>
<tr>
<td>not feeling tired</td>
<td>OR 0.865</td>
<td>0.755</td>
</tr>
<tr>
<td><strong>Emotional health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>happiness</td>
<td>est. -0.034*</td>
<td>-0.085</td>
</tr>
<tr>
<td>life satisfaction</td>
<td>est. -0.037</td>
<td>-0.181*</td>
</tr>
<tr>
<td>life perception</td>
<td>est. -0.052*</td>
<td>-0.09</td>
</tr>
<tr>
<td>the last year was a good one for you</td>
<td>OR 0.914</td>
<td>0.586*</td>
</tr>
<tr>
<td>being full of energy</td>
<td>OR 0.916</td>
<td>0.856</td>
</tr>
<tr>
<td>having visited a psychologist or a psychiatrist in the last year</td>
<td>OR 1.091</td>
<td>1.283</td>
</tr>
<tr>
<td>having thoughts about suicide in the recent months due to feeling depressed</td>
<td>OR 1.490*</td>
<td>2.385*</td>
</tr>
<tr>
<td>willingness to live</td>
<td>est. -0.052</td>
<td>-0.199</td>
</tr>
<tr>
<td>feeling lonely</td>
<td>OR 1.218*</td>
<td>1.627*</td>
</tr>
<tr>
<td><strong>Health behaviours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>smoking tobacco products every day</td>
<td>OR 1.053</td>
<td>1.06</td>
</tr>
<tr>
<td>drinking too much alcohol in the last year</td>
<td>OR 1.244</td>
<td>1.428</td>
</tr>
<tr>
<td>practicing sport or other physical activity</td>
<td>OR 1.006</td>
<td>1.039</td>
</tr>
</tbody>
</table>
Slightly different approach for the US
(not published yet)

  • a nationally representative sample of over 18,000 individuals living in 5,000 families in the United States.

• Methods: Difference-in-differences propensity score matching approach (Heckman et al. 1997) to investigate the impact of different forms of increase in indebtedness on well-being (treatment group – households experiencing increase in indebtedness in a given debt category, control group – households with zero debt between two consecutive waves of the study).

• Outcome: a well-being measure – life satisfaction.
Results ...

Depending on the type of debt, different impact on well-being was noted.

Mortgages, car loans or loans from relatives do not have impact on well-being.

Credit card debt and student loans decrease life satisfaction.

Arrears pose even larger threat to well-being.

<table>
<thead>
<tr>
<th>Debt Type</th>
<th>Life satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card debt</td>
<td>-.08**</td>
</tr>
<tr>
<td>Student loans</td>
<td>-.09**</td>
</tr>
<tr>
<td>Mortgage</td>
<td>NS</td>
</tr>
<tr>
<td>Car loans</td>
<td>NS</td>
</tr>
<tr>
<td>Credit from relatives</td>
<td>NS</td>
</tr>
<tr>
<td>At least 3 months behind on mortgage</td>
<td>-.54***</td>
</tr>
</tbody>
</table>

NS – not significant; significance levels *<0.1, **<0.05, ***<0.001
Arrears – when hard times come

- Arrears are mostly associated with factors beyond household control (Nettleton & Burrows, 2001) and can easily evolve into a social problem.

- Contrary to common beliefs, households rarely acquire debt, which subsequently transforms into arrears, in order just to improve their living standards.

- Falling into arrears is usually a consequence of past decisions and accumulated problems (Whitfield & Dearden, 2011)
  - partly explained by a *keeping up with the Joneses* attitude (Christen & Morgan, 2005), since households satisfied with their material situation and comparing favourably to others are less likely to overspend and fall into debt (Walker, 1996).
Arrears – likely response

- Households are rarely passive in response to arrears (Netleton & Burrows, 2001) and usually adopt one (or more) of numerous strategies for coping with debt (Waldron & Redmond, 2017).

In response to arrears households can:
- reduce expenditures and/or increase incomes (it requires space for expenditure cut and/or labor market opportunities),
- take on additional debt to cover earlier obligations or at least prioritize immediate bills in order to maintain the appearance of financial liquidity (likely not a long-term solution and possibility of a vicious circle of debt emerging),
- refinance their debt by acquiring financial products with lower interest or extended repayment period - reduced financial pressure,
- liquidate assets,
- ask family members for assistance.
Arrears – data, method, outcomes

• Aim: to model the relationship between arrears (including response to arrears) and well-being.

• Data: 6 waves of the Swiss Household Panel (SHP) (yearly data 2010-2015). In 2010-2012, around 4500 households were surveyed in each wave from 2013 to 2015; subsequently the sample was significantly increased – the number of participating households reached 8335, 7333, 6775 in the waves of 2013, 2014 and 2015 respectively.

• Method: fixed effects panel regression.

• Outcomes: Two well-being measures: (1) satisfaction with the household financial situation and (2) general life satisfaction of the household head. Both outcomes were measured on 11-point Likert scale.
Severe debt problems disproportionately affect self-reported satisfaction measures.

If households had a safety cushion in the form of savings or were able to cope with arrears by restricting to essentials, further deterioration in self-reported well-being was not observed.

If arrears required resort to bank credit, disposal of household valuables or borrowing from family and friends, satisfaction with the household financial situation and household head’s life satisfaction were likely to suffer additionally.
The impact of carry trade on well-being is mostly unknown

- Relatively little is known about the consequences to well-being of households having mortgages denominated in foreign currencies
  - in the literature the group of households with such mortgages is referred to as "carry traders" (Beer et al. 2010; Galati et al. 2007),
  - numerous in almost all Central and Eastern European (CEE) countries.
Research problem

• January 2015 in Poland - homeowners with Swiss franc denominated mortgages exposed to a significant currency exchange rate shock – appreciation of the Swiss franc against Polish zloty
  • considerable increase of the local currency value of their mortgages.

• Hypothesised to negatively impact
  • household finance (obvious),
  • the psychological well-being and physical health of people.
Unique window of opportunity

Shaded areas - Social Diagnosis 2013 and 2015 field questionnaire

Field questionnaire was conducted shortly after the shock at about 15% higher exchange rate than in 2013.
Financial outcomes

• Decision by the Swiss National Bank – influential from the financial perspective
  • The value of debt and instalment payments in relation to household income diverged between treatment and control groups.
Data, Methods and Measures

• Mortgage debtors – from the Social Diagnosis Survey:
  • analysis addressed the situation of 1,159 Poles aged 25 and over, who in 2015, had either
    Swiss franc (322) or Polish zloty (837) mortgages.

• Difference-in-differences propensity score matching approach to investigate
  the impact of sudden Swiss franc appreciation (treatment group – households
  with mortgages in Swiss Francs, control group – mortgages in Polish zloty).

• Three complementary outcomes: (1) self-reported health (SRH); (2) number of
  somatic symptoms measured using the Patient Health Questionnaire (PHQ-15); (3) willingness to live (WL)
Well-being and health outcomes

- SNB decision – lack of significant impact on psychological and physical aspects of individual well-being, i.e., health and willingness to live.

**ATT estimates**

<table>
<thead>
<tr>
<th>Model</th>
<th>ATT</th>
<th>SE</th>
<th>Z</th>
<th>p-value</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 – SRH</td>
<td>-0.178</td>
<td>0.132</td>
<td>-1.34</td>
<td>0.181</td>
<td>(-0.438; 0.083)</td>
</tr>
<tr>
<td>Model 2 – PHQ-15</td>
<td>0.078</td>
<td>0.486</td>
<td>0.16</td>
<td>0.873</td>
<td>(-0.875; 1.030)</td>
</tr>
<tr>
<td>Model 3 – WL</td>
<td>-0.104</td>
<td>0.176</td>
<td>-0.59</td>
<td>0.556</td>
<td>(-0.448; 0.241)</td>
</tr>
</tbody>
</table>

Coefficients reported for all difference-in-difference effects, despite pointing to relative worsening of the situation for Swiss franc mortgage owners, are not significant.
Conclusions (reflections)

• Interconnection between financial decisions and well-being are relevant for policy
  • The aggregated US household debt amounts to $13.5 trillion being at the all time high (Federal Reserve Bank of New York, 2019) and amounts to 80% of the US GDP (International Monetary Fund, 2019);
  • Levels of student loans have increased along with the transitions into serious delinquency for credit card accounts (Federal Reserve Bank of New York, 2019). Those types of debt were shown earlier to be particularly important for well-being.

• High levels of debt are likely caused by lack of financial planning, poor financial management skills and detrimental consumption behaviors resulting from beliefs that material things can lead to happiness (Donnelly, Iyer, & Howell, 2012; O’Neill, Xiao, & Ensle, 2017).
  • Such behaviors lead to vulnerability
Conclusions (Reflections)

• Despite having one of the highest personal disposable incomes in the World, American adults are often financially fragile.
  • Various estimates show that between 46% (Gupta et al., 2018) and 59% (Report on the Economic Well-Being of U.S. Households in 2017, 2018) of American adults are incapable of immediately coping with a $400 emergency expense utilizing their available financial resources.