

# The Impact of Household Overindebtedness on Physical and Mental Health

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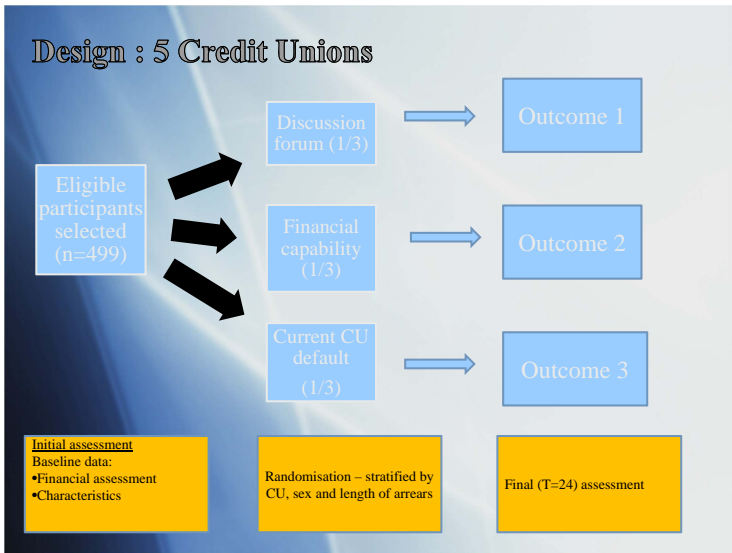
Queens University Management School

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# Outline

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## Project



# Overview

- We analyse data collected from a survey of Northern Irish households experiencing varying degrees of financial hardship and examine whether debt affects physical health, mental health and health-related behaviours.
- We find that neither the size of the debt, the type of debt nor the number of different lenders used affect health.
- Instead, the subjective experience of feeling financially stressed has a robust relationship with most aspects of health including ability to self-care, problems performing usual activities, pain problems and psychological health.
- This is important as cuts to social care spending in the UK government are already exacerbating indebtedness in low-income households and putting strain on the healthcare system.

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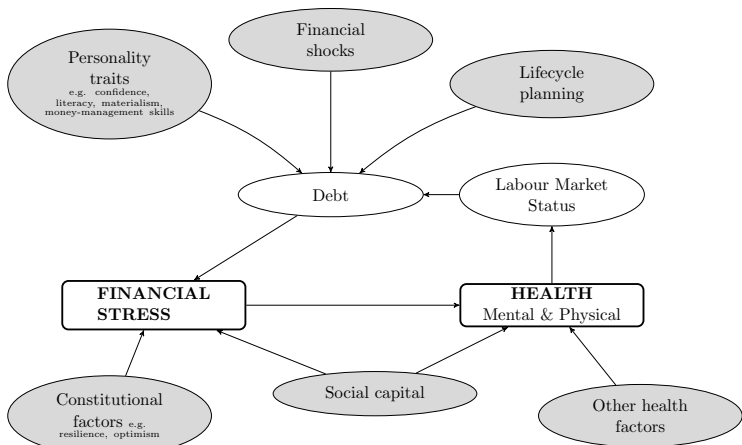
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- Generally there is a lack of consideration of endogeneity of debt & data on debt and health limited.

Figure 1: Links between debt and health



# Modelling strategy

$$h_j = \beta' X_j + \gamma d_j + \epsilon_j \quad (1)$$

where  $h_j$  health for individual  $j$ ,  $X_j$  controls,  $d_j$  debt and  $\epsilon_j$  error. Controls are household demographic variables.

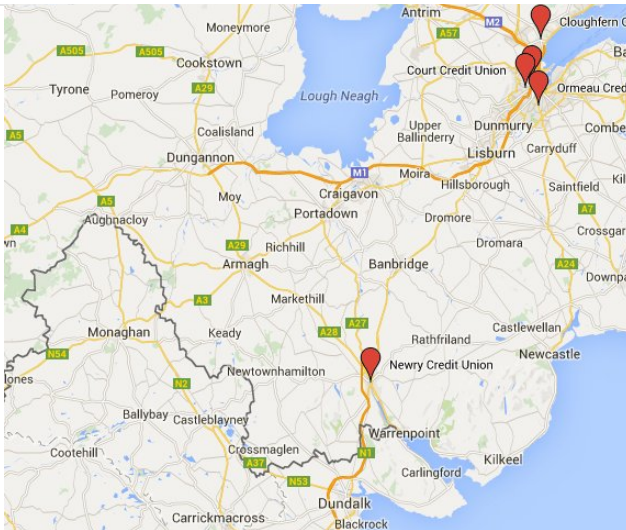
Allowing for the potential endogeneity of debt results in the following model :

$$\begin{aligned} h_j &= \beta' X_j + \gamma d_j + \epsilon_j \\ d_j^* &= \delta' W_j + u_j \end{aligned} \quad (2)$$

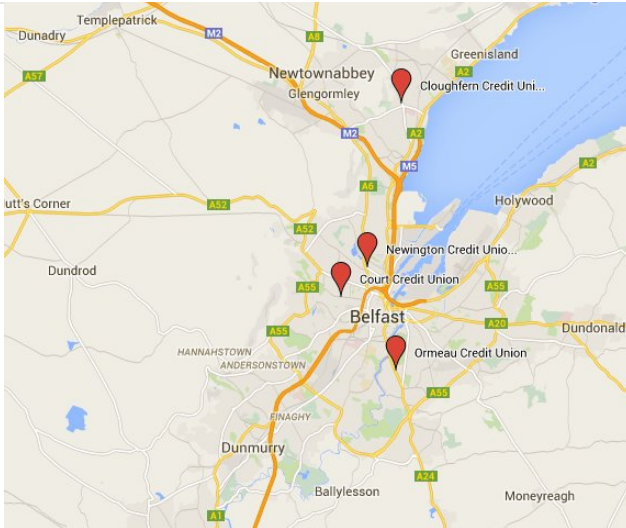
## Data collection

- Cloughfern, Court, Newington, Newry and Ormeau credit unions.
- 1,091 members with either loans in arrears for greater than 9 weeks or loans that had been rescheduled. Only one participant per household was interviewed.
- January to April 2014.
- Face-to-face lasting one hour approx.
- 499 completed surveys.

# Credit Union Locations



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# Survey

- Household demographics, employment, income and benefits, expenditure, savings & assets and health.
- Consumer credit, unsecured debt and mortgage debt.
  - ▶ Current balance, arrears and APR estimate.
  - ▶ Partner debt.
  - ▶ Arrears on a list of typical household bills.
- Subjective financial well-being
  - ▶ 'Trouble with debts..', 'Money over...', 'Not managing financially...'
- Health
  - ▶ EQ5D (mobility, self-care, usual activities, pain/discomfort, anxiety/depression)
  - ▶ Smoking, alcohol, drugs, physical activity, nutrition, access to healthcare

Table 1 : Descriptive statistics

Variable	Sample	NI
<i>Health</i>		
High GHQ12 score	0.28	0.19
Not enough to eat	0.14	0.02
Fruit & veg (5+ a day)	0.19	0.33
Eat fast food	0.57	
Currently Smoke	0.41	0.24
Drink alcohol	0.58	0.81
Illegal drugs (aged <60)	0.07	0.05
Physically active	0.72	0.60
Seen GP last 2 weeks	0.35	0.23
N	499	

*Notes* : Source for NI data is Health Survey Northern Ireland 2013/14 (Standardised). Except *Illegal drugs* 2010/11 Northern Ireland Drug Prevalence Survey (Unstandardised).



Table 3 : Instrumental variables estimates of the impact of debt on the EQ-5D health index score

	(1)	(2)	(3)	(4)	(5)
	LIML	LIML	LIML	Wooldridge	ML
	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.
Unsecured debt	0.018 (0.022)	-0.001 (0.015)	0.007 (0.018)	-0.007 (0.013)	-0.011 (0.012)
Secured debt	0.016 (0.015)	0.002 (0.010)	0.008 (0.012)	-0.003 (0.008)	-0.009 (0.007)
Financial stress	-0.937*** (0.262)	-0.487** (0.161)	-0.686*** (0.198)	-0.353*** (0.075)	-0.301*** (0.050)
N	470	470	470	470	470

*Notes* : All models include controls - household demographic variables (age, gender, female, respondent has partner, homeowner, household income and the number of children under five), educational qualifications and employment status. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 4 : Maximum likelihood estimates of the impact of debt on dimensions of the EQ-5D health questionnaire (marginal effects)

	Mobility problems	Self- care problems	Usual activities problems	Pain problems	Anxiety/ depression problems
Unsecured debt	-0.001 (0.013)	-0.001 (0.006)	-0.004 (0.012)	0.028 (0.017)	0.032 (0.017)
Secured debt	-0.001 (0.010)	0.006 (0.005)	0.000 (0.009)	0.006 (0.011)	-0.003 (0.011)
Financial stress	0.158 (0.127)	0.183*** (0.040)	0.281* (0.110)	0.376*** (0.109)	0.578*** (0.057)
Log-likelihood	-373.6	-322.3	-376.5	-437.3	-451.7
N	471	471	471	471	471

Notes : All models include controls as before. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# Table 5 : Maximum likelihood estimates of the impact of debt on health behaviours

	GP	Cigs.	Drink	Active	Fast food	Fruit & veg	Drugs
	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.	coef./s.e.
Unsec. debt	0.087 (0.049)	-2.507 (2.497)	-0.041 (0.043)	0.121* (0.052)	-0.011 (0.053)	0.063* (0.031)	-0.057 (0.050)
Sec. debt	0.023 (0.032)	-1.165 (1.770)	-0.029 (0.030)	-0.054 (0.037)	-0.036 (0.036)	-0.022 (0.021)	-0.027 (0.040)
Fin. stress	0.965** (0.299)	42.608* (17.893)	0.518 (0.387)	-1.072*** (0.322)	0.550 (0.436)	-1.421*** (0.150)	1.447*** (0.200)
N	499	471	499	499	499	499	499

*Notes :* *GP* - Have you consulted your GP or other health professional in the past two weeks? *Cigs.* - Cigarettes smoked per week. *Drink* - How often have you had an alcoholic drink of any kind during the last 12 months? Response on scale 1-8. *Active* - Achieving NI Chief Medical Officer's recommended levels of physical activity. *Fast food* - Can you tell me how often do you visit fast-food outlets? *Fruit & veg* - How many portions of fruit and vegetables do you eat each day? *Drugs* - During the last 4 weeks have you taken any non-prescription substances ? (i.e. illegal drugs)

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- Our conclusions are that the level of financial stress matters for physical health, mental health and health-related behaviours.
- The adverse effect of financial difficulties on health is mediated through worse diets, lower levels of physical activity and increased consumption of cigarettes and drugs.
- Rising levels of indebtedness will lead to resource issues for the healthcare system.