

Mind v. Matter: Determinants of Take-up Rates of Social Benefits in the UK

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Background and Motivation

- One of the overlooked issues of delivering social benefits to their target population is imperfect take-up.
- The literature, while limited, shows that a proportion of individuals or households eligible for social benefits do not claim them. This phenomenon is not limited to the UK, but is widespread across countries.
 - It is estimated that in many western European countries, more than half of working-age beneficiaries do not claim social benefits even if they are eligible, notwithstanding the generous schemes in some countries (e.g., [Matsaganis, Paulus, and Sutherland, 2008](#); [Bargain, Immervoll, Viitamäki, 2012](#); [Harnisch, 2019](#); [Fuchs et al., 2020](#); [Hernanz, Ko and Moffitt, 2022](#)).
- This target inefficiency distorts the intended impact of social benefits and increases the degree of uncertainty surrounding estimates of budgetary implications and attainment of social policy objectives.

Background and Motivation

- Despite its relevance, the topic is however still poorly understood.
 - How have the take-up rates changed over the years? Have they increased or decreased?
 - Why do eligible individuals choose not to claim benefits? Is non-claiming temporary or permanent?
 - Are there groups in society that are more inclined not to claim social benefits?
- Furthermore, this study explores the interplay of economic, societal, and psychological factors, including personality traits and cognitive skills, using longitudinal methods.
- Answering these questions will help to move away from the assumption - common in the policy debate - of full compliance to benefit rules, provide new insights to improve policy design, and fill research gaps in the literature.

Background and Motivation

- This study focuses on UK benefits (Child Benefit and Legacy Benefits with Universal Credit) from 2010 to 2019 using microsimulation techniques and longitudinal survey data.
- The data used in this study are drawn from the first nine waves (i.e., 2010-2019) of UKHLS, and eligibility simulations are based on the UKMOD tax-benefit calculator ([Bronka, Popova, and Richiardi, 2023](#)). This dataset makes UKHLS compatible with UKMOD, facilitating the tracking of individuals over multiple years and simulating their eligibility for taxes and benefits in UKMOD.

Preview of Findings

- The findings indicate that eligible amounts, state dependence and some socio-economic factors are important determinants in benefit claiming.
- Weak direct relationship between personality traits and take-up. (Personality traits assumed constant over time, affecting take-up decisions during the initial eligibility period.)
- Strong presence of state dependency and that residual unobserved heterogeneity largely drives benefit take-up decisions: Public and personal stigma may act as barriers to claiming entitled social benefits.

Measuring Take-up

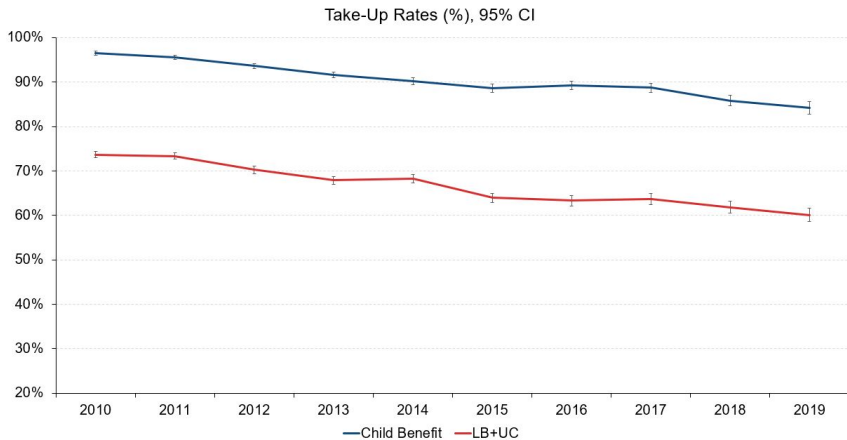
$$\text{Take-up rate} = \frac{\text{claimants}}{\text{eligible individuals}}$$

- One method for estimating the eligible population for a particular benefit is to use UKMOD. This model simulates the eligibility criteria for a given year using data from the UK Household Longitudinal Survey (UKHLS). This panel survey captures detailed socio-economic and demographic conditions at the household and individual levels.
- Estimates of take-up rates is estimated by dividing the number of actual recipients by the number of eligible beneficiaries.

Data

- The data used in this study is drawn from the first nine waves (i.e., 2010-2019) of the UK Household Longitudinal Study (UKHLS) and eligibility simulations are based on the UKMOD tax-benefit calculator.
- The novel dataset of [Bronka, Popova, and Richiardi \(2023\)](#) combines these two elements where the same individuals are followed over many years and their taxes and benefits are simulated in UKMOD.
- UKMOD identifies whether an individual is entitled to a specific benefit, while UKHLS allows us to identify whether individuals have received the benefit.
- Benefits considered: Child Benefits and Legacy Benefits combined with Universal Credit

Estimated Take-up Rates



Dynamic Logit Model: Wooldridge Method

- Dynamic models using panel data allow both unobserved heterogeneity and state dependence.
- The latent regression is:

$$y_{it} = \alpha_0 + z_i\alpha + x_{it}\beta + \gamma y_{it-1} + u_i + \epsilon_{it}$$

where $y_{it} = 1$ if and only if $y_{it}^* > 0$.

- True state dependence is measured by γ , and persistent unobserved heterogeneity is captured by u_i
- y_{i0} is probably not exogenous:
 - It is probably not the true starting point of the "process", just the start of our sample
 - In any case, y_{i0} is probably not randomly allocated, but related to u_i as are the other y_{it} .

$$y_i^* = \mu_0 + x_{it}\beta + z_i\alpha + \gamma y_{it-1} + \bar{x}_i\delta + \gamma_0 + y_{i0} + \eta_i + \epsilon_{it}$$

Probability of take-up (2011): selected results (1)

	Child Benefit	LB+UC
Log Simulated Benefits	.743 (.496)	.454*** (.075)
Age	.316*** (.088)	.030 (.060)
Age2	-.004*** (.001)	-.001 (.001)
Gender (Base: Female)		
Male	-.134 (.299)	.108 (.195)
Marital Status (Base: Married/Legal Partner)		
Single	.191 (.360)	-.165 (.196)
Divorced/Separated/Widowed	.227 (.379)	.432* (.240)
Ethnicity (Base: White)		
Mixed	-1.119* (.664)	.101 (.493)
Asian or Asian British Chinese	-2.051*** (.354)	-.500** (.237)
Black or Black British	-.599 (.515)	.057 (.409)
Arab and any other	-.806 (1.091)	.471 (.593)

Probability of take-up (2011): selected results (2)

	Child Benefit	LB+UC
No. of children in household (Base: One/Zero or One)		
Two	.620* (.326)	.342* (.199)
Three or more	.593* (.319)	.773*** (.168)
Minimum age of child in HH	-.096*** (.029)	.001 (.017)
Responsible for housing costs	-.113 (.252)	.297** (.150)
Education (Base: Non-tertiary)		
Tertiary	-.285 (.258)	.053 (.161)
Number of rooms in HH	.100 (.094)	-.158*** (.048)
Market Income	-.714*** (.219)	-.330** (.155)
Neighbourhood take-up rate	.774 (.605)	.627** (.275)
Housing Tenure, Occupation	x	x
Region	x	x
Personality and Cognitive Ability	x	x
N	2,848	2,018

Dynamic model: selected results for CB take-up

	Pooled	RE	Wooldridge
Lag take-up	4.091*** (.121)	4.080*** (.142)	2.902*** (.172)
Initial Take-up			3.604*** (.342)
Log of Simulated Benefits	.421*** (.099)	.472*** (.109)	.568*** (.125)
Age	-.035 (.058)	-.037 (.063)	-.101 (.083)
Age2	.000 (.001)	.000 (.001)	.001 (.001)
Minimum age of child in HH	-.073* (.040)	-.079* (.041)	-.154*** (.046)
No. of rooms in HH	-.104*** (.030)	-.115*** (.033)	-.126*** (.038)
Neighbourhood Take-up	.939*** (.208)	1.039*** (.227)	1.148*** (.274)
Average of Original Income	-.744*** (.259)	-.812*** (.270)	-1.011*** (.316)
Individual Characteristics	x	x	x
Time Effects	x	x	x
N	16,303	16,303	16,303

Dynamic model: selected results for LB+UC take-up

	Pooled	RE	Wooldridge
Lag take-up	4.637*** (0.827)	2.965*** (0.557)	3.153*** (0.292)
Initial take-up			3.153*** (.292)
Log of Simulated Benefits	.492*** (.046)	.531*** (.051)	.747*** (.081)
Marital Status (Base: Married/Cohabiting)			
Single	.486* (.266)	.553** (.279)	.856** (.353)
Separated, Divorced, Widowed	-.005 (.317)	.028 (.340)	.489 (.443)
No of children in HH			
Two	.386* (.200)	.414** (.207)	.624** (.256)
Three or more	.435** (.206)	.472** (.215)	.640** (.270)
Minimum age of child in HH	-.081*** (.027)	-.088*** (.029)	-.099** (.041)
Neighbourhood Take-up	.591*** (.157)	.687*** (.174)	.713*** (.226)
Average of Original Income	-.539*** (.168)	-.567*** (.178)	-.425* (.247)
Individual Characteristics	x	x	x
Time Effects	x	x	x
N	7,905	7,905	7,905

Take-away points

- The results reveal a strong state dependence of take-up behaviour for both CB and LB/UC
 - As expected, individuals tend to continue receiving entitled benefits automatically, unless there is a change in eligibility.
- UH plays an important role for take-up behaviour for social benefits. We find that the impact of state dependence would be overestimated if UH is not controlled for.
- Expected benefits v. anticipated costs: economic considerations appear to be most important in the take-up decision.
 - The elasticity of expected benefit is more sensitive to CB, being a universal benefit. Take-up of LB/UC is less sensitive to income.
 - Gross income and financial wealth matter too: negatively associated with take-up.
- Education negatively predicts take-up (stigma costs), psychological factors do not matter much.
- Individual take-up is higher in neighbourhood areas where there is higher take-up: knowledge sharing and lower stigma costs.

Policy Implications

- Public expenditure: while non-take-up behaviour is expected to reduce public expenditure on benefits in the short run, it can exacerbate public spending in the longer term, for example, through the scarring effects of poor nutrition, delayed health care, and an impoverished environment
- Incentives for take-up: offers an alternative to directly intervening with traditional fiscal policy tools (e.g. modifying eligibility conditions or benefit amount)
- Effect on social outcomes: move away from perfect take-up assumption and its effect on social outcomes

Thank you for your attention.
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