Cash by Any Other Name?
Evidence on Labelling from the UK Winter Fuel Payment

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Introduction

- Many cash transfers and cash-equivalents are labelled:
  - Child benefit, Winter Fuel Payment
  - Rental vouchers, Food stamps
- Standard economic analysis says that the labelling *per se* of such benefits should no affect how they are spent
- Why do Governments label transfers?
  - To make a policy more palatable to voting taxpayers?
  - Can spending patterns actually be influenced by the labelling of cash or cash equivalents?

Does Labelling Matter?

- Theory: mental accounts (Thaler, 1990, 1999)
- To date, no strong evidence that the labelling of transfers matters
    - Child benefit: Kooreman (2000), Edmonds (2002)
    - Food stamps: Moffit (1989), Whitmore (2002)
- Some recent experimental evidence that inframarginal in-kind transfers differ from cash transfers
    - Abeler and Marklein (2010)
- THIS PAPER: evidence from the UK Winter Fuel Payment (WFP) on the behavioral effect of labelling a transfer

The Winter Fuel Payment (WFP)

- The WFP is paid to all households where anyone is over the female state pension age (≈ 60)
- Introduced in 1997; (nominal) value fairly constant after 2000
- Rates (2011/12):
    - Aged 60-79: £200
    - Aged 80: £300
    - Rates are per household (same for singles and couples)
- Payments are made in one lump sum, generally in November or December
- The sharp eligibility criteria (age 60) allow for a regression discontinuity design (RDD)

Regression Discontinuity Design
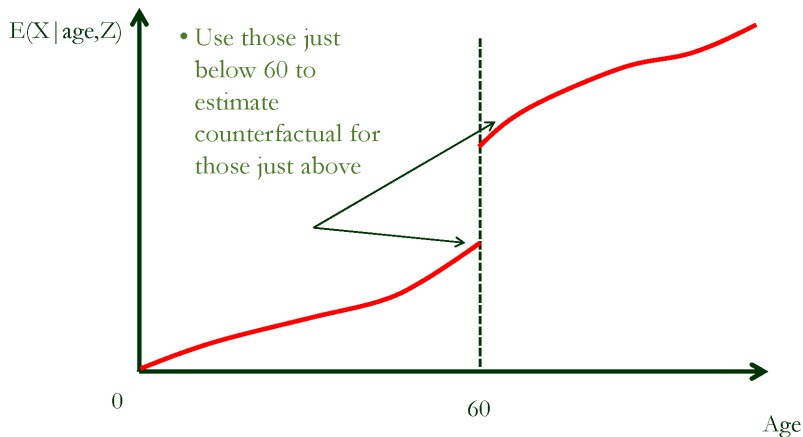
Data: The Living Costs and Food Survey (LCF)

- Formerly the Expenditure and Food Survey (EFS) and before that the Family Expenditure Survey (FES)
- About 6,000 households annually
- Two-week diary as well as questionnaire that asks about infrequently-purchased items, income, demographics etc.
- Spending on fuel includes gas and electricity payments, coal, coke, and bottled gas and coke for central heating

Data: Sample

- We use data from 2000-2008 (and from 1988 -1996, as will be explained below)
- Single men and couples without children
- We exclude households in which the oldest member is female
    - During this period women qualified for the state pension at age 60
    - We don't want this entitlement to drive our results

Income effects and labelling effects - Engel curve
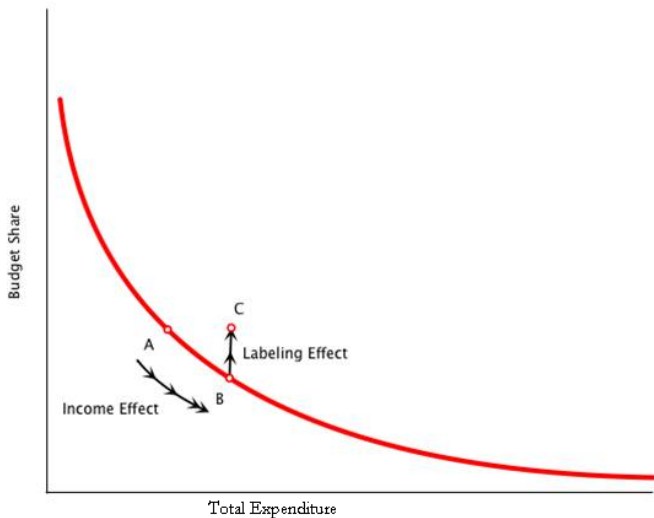
Implementing the RDD in an Engel curve framework

$$w_i = \alpha + \beta_1(A_i - 60) + \beta_2(A_i - 60)^2$$
$$+ \tau D_i + \beta_3 D_i(A_i - 60) + \beta_4 D_i(A_i - 60)^2$$
$$+ \gamma^T Z_i + \varepsilon_i$$

where:

- $D = 1[Age \geq 60]$
- $\tau = \lim_{A\downarrow 60} E[w|A = 60, Z] - \lim_{A\uparrow 60} E[w|A = 60, Z]$
- τ provides an estimate of a discontinuity in average (fuel) budget shares at age 60
- If our identification assumption is true (any discontinuity is driven by the WFP), then τ provides a local estimate of the effect of the WFP (net of its contribution to household budget) 60

Base Specification Results

Shares	Wider window around disc.	Narrower window around disc.
Fuel	0.58***	0.62**
	(0.20)	(0.25)
Food	-0.32	-1.03**
	(0.38)	(0.48)
Clothing	-0.39	-0.74
	(0.32)	(0.40)
Leisure Goods	0.32	0.57
	(0.31)	(0.40)
Age Window	45-75	50-70

NOTES: Coefficients are those on the discontinuity parameter τ from a regression of budget shares (* 100) on: quadratic in log total expenditure; interactions between year and total expenditure variables; month dummies; log of household size; education variables; employment, self-employment and hours, for head and spouse; housing tenure; number of rooms.

Interpreting coefficients

- The income effect of an additional £250 induces approx. 3% of payment to be spent on fuel
- The increase in spending on fuel as a result of the labelling is:

$$\tau(X + WFP)$$

where:
  - τ is the effect of discontinuity on budget share
  - X is pre-transfer expenditure
  - WFP is the Winter Fuel Payment

- Using $\tau = 0.0058$, $X = £16,000$ and $WFP = £250$, we get an increase in fuel expenditure of £94 or 38% of the WFP

- These results imply 41% of the WFP is spent on fuel: 3pp due to the increased income and 38pp due to label.

Identification challenge 1: Employment effects

- Possible changes in employment at age 60
  - Eligibility for Minimum Income Guarantee (MIG) kicks in
- Income effect associated with retirement will be captured in Engel curve framework
- But there is another problem:
  - Technical: Non-seperabilities between leisure and consumption in utility function
  - Non-technical statement: If you're home all day you'll probably leave the heating on more

Identification challenge 1: Response

Two responses:

- **Z** contains controls for employment, self-employment and hours of head and spouse
- Use pre-programme period as a control period. Use period from 1988 to 1996 with MIG but no WFP to estimate effect of non-separability ("Diff-in-RDD")

Letting M be a dummy for pre 1996 years, Engel curve specification becomes:

$$
\begin{aligned}
w_i = \; &\alpha &&+\beta_1(A_i - 60) + \beta_2(A_i - 60)^2 \\
&+\tau D_i &&+\beta_3 D_i(A_i - 60) + \beta_4 D_i(A_i - 60)^2 \\
&+\lambda M_i D_i &&+\beta_5 M_i D_i(A_i - 60) + \beta_6 M_i D_i(A_i - 60)^2 \\
&+\gamma^T Z_i + \varepsilon_i
\end{aligned}
$$

Identification challenge 1: Response

$$\tau = \ \left\{ \lim_{A \downarrow 60} E[w|A=60, Z] - \lim_{A \uparrow 60} E[w|A=60, Z] \right\}_{T_2}$$
$$- \ \left\{ \lim_{A \downarrow 60} E[w|A=60, Z] - \lim_{A \uparrow 60} E[w|A=60, Z] \right\}_{T_1}$$

Identification challenge 1: Results

	Original spec.	**RDD-DiD**
Labelling Effect	0.62***	0.66**
	(0.25)	(0.31)
Age window	45-75	45-75

NOTES: Coefficients are those on the discontinuity parameter τ from a regression of budget shares (* 100) on: quadratic in log total expenditure; interactions between year and total expenditure variables; month dummies; log of household size; education variables; employment, self-employment and hours, for head and spouse; housing tenure; number of rooms. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

Identification challenge 2: Intrahousehold effects

- In two-person households cannot distinguish labelling effect from intra-household effect
  - If husband and wife have different spending preferences could spending pattern be changed by who receives the income and not because of labelling?
- However in our sample husband always the recipient at 60 and men are also the primary earners
  - Not plausible that WFP will shift power
- But we investigate anyway by looking separately at couples and singles

Identification challenge 2: Results

	Original spec.	By household composition
Labelling Effect	0.62***	.
	(0.25)	.
Labelling Effect (single men)	.	1.05**
	.	(0.52)
Labelling Effect (couples)	.	0.37*
	.	(0.19)
Age window	45-75	45-75

NOTES: Coefficients are those on the discontinuity parameter τ from a regression of budget shares (* 100) on: quadratic in log total expenditure; interactions between year and total expenditure variables; month dummies; log of household size; education variables; employment, self-employment and hours, for head and spouse; housing tenure; number of rooms. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

Further robustness checks

- We carry out three falsification tests (looking for a discontinuity where there shouldn't be one)
  - Discontinuity at 55
  - Discontinuity at 66 (not 65 due to male retirement age)
  - Prior to introduction of policy

Further robustness checks: Results

	Original spec.	Disc. at 55	Disc. at 66	Prior to intro.
Labelling Effect	0.62***	0.29	0.00	-0.16
	(0.25)	(0.24)	(0.22)	(0.23)
Age window	45-75	45-75	45-75	45-75

NOTES: Coefficients are those on the discontinuity parameter τ from a regression of budget shares (* 100) on: quadratic in log total expenditure; interactions between year and total expenditure variables; month dummies; log of household size; education variables; employment, self-employment and hours, for head and spouse; housing tenure; number of rooms. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

Conclusion (1)

- Does calling the £200 that most elderly UK households receive a "Winter Fuel" payment make any difference?
- Sharp differences in the eligibility criterion allow use of a RDD to examine how WFP affects fuel spending
- We find a substantial and robust labelling effect
  - We are surprised
- Average recipient household exhibits a marginal propensity to spend on household fuel out of the WFP of around 41%
- This compares to estimates of the (average) marginal propensity to spend household fuel of approximately 3%

Conclusion (2)

- All this does *not*, necessarily, mean that the WFP is a 'success'
- If aim is to encourage all, regardless of income, to consume more fuel - then it would seem to be achieving aim
- If aim (as is often stated) is to tackle fuel poverty, it is poorly targeted and, at £2bn, a good deal more expensive than necessary