DURABLE CONSUMPTION DURING THE GREAT RECESSION: THE ROLE OF *Ex-ante* HETEROGENEITY

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Introduction

Question: What is the impact of types of contract (permanent vs fixed-term) on households' consumption patterns over the Great Recession?

In this paper:

- Novel empirical evidence from Bank of Italy's Survey of Households' Income and Wealth
- Structural model of households' saving and consumption behaviour augmented with types of contract

Particular focus:

- Durable consumption
- Separate analysis of the extensive and intensive margins of durable purchases

Main results:

- Drop in durable consumption over the Great Recession was **along both margins and unevenly distributed** in the population
- Mechanisms at play in durable consumption's contraction are **different** between:
  - the extensive and intensive margins
  - Permanent and Fixed-term households
- Change in **composition of the Fixed-term group**

Empirical Evidence

Car purchases are used to measure households' consumption of a durable good

Empirical findings:

- Both groups decreased their car purchases over the Great Recession on the **intensive and extensive margins**
- Fixed-term households cut their car purchases **twice as much** as Permanent households on the extensive margin
- Both groups maintained their non-durable consumption

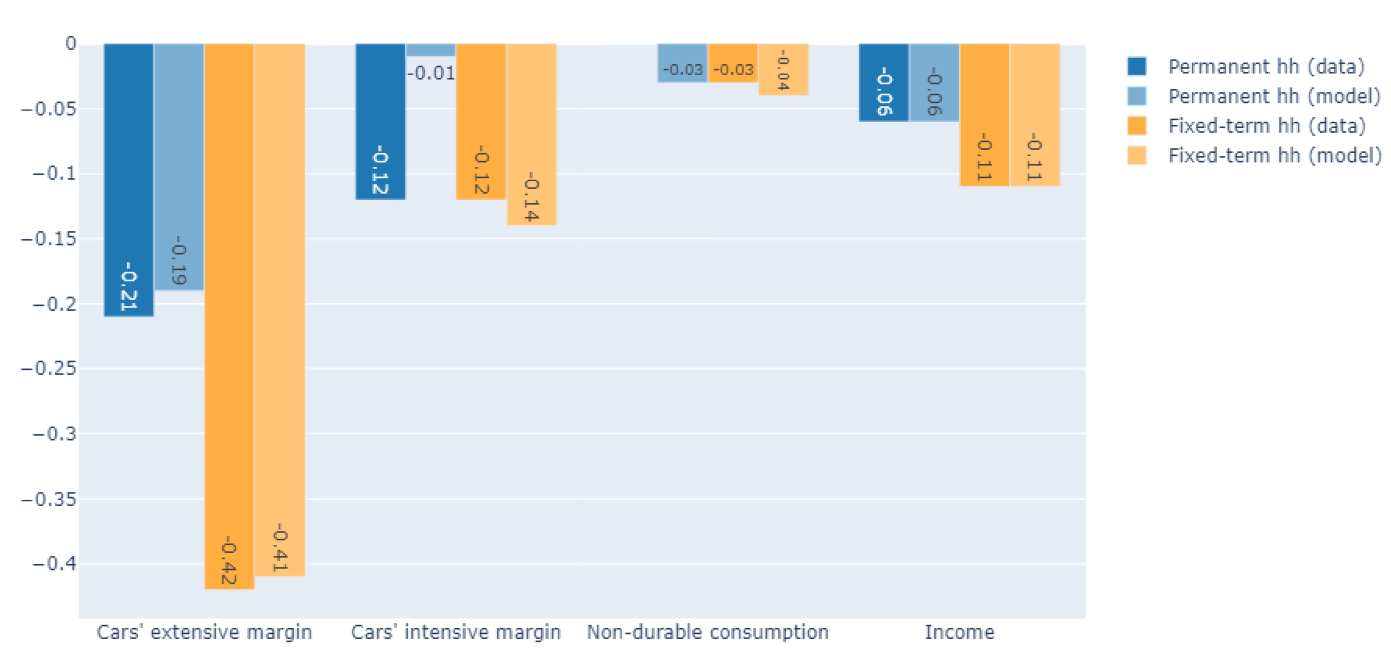


Fig. 1: **Changes in households' consumption and income over the Great Recession**

Model

- Households derive utility from car purchases and non-durable consumption

$$V = E_0 \max_{\{c_{it}, D_{it}\}} \sum_{t=0}^{\infty} \beta^t \frac{\left[c_{it}^{\alpha} D_{it}^{(1-\alpha)}\right]^{(1-\sigma)}}{1-\sigma}$$

- Car purchases are subject to a **non-convex adjustment cost**

$$A(D_{it-1}, D_{it}) = \begin{cases} 0, & \text{if } D_{it} = (1-\delta)D_{it-1} \\ \tau(1-\delta)p_{it}D_{it-1}, & \text{otherwise} \end{cases}$$

- Households' budget constraint:

$$a_{it} + c_{it} + p_{it}D_{it} \leq (1+r)a_{it-1} + y_{it} + (1-\delta)p_{it}D_{it-1} - A(D_{it-1}, D_{it})$$

- **Idiosyncratic employment risk:**
  1. Employed with a permanent contract
  2. Employed with a fixed-term contract
  3. Unemployed
  - transitions between 3 employment states follow a Markov process
- **Aggregate risk:** state dependent employment transition matrices

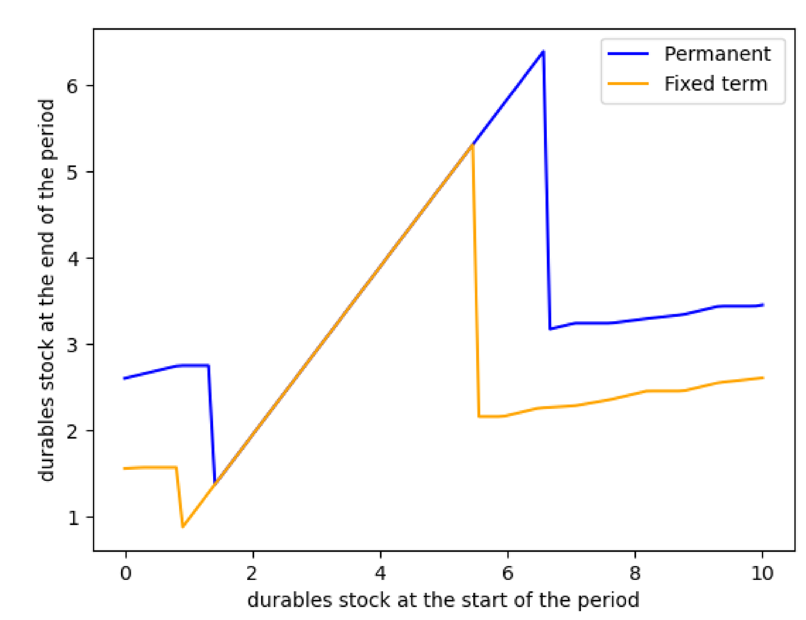


Fig. 2: **Car stock policy function: evidence of a (S,s) adjustment rule**

The Great Recession Experiment

- The model matches most durable and non-durable consumption fluctuations (**Fig 1**)

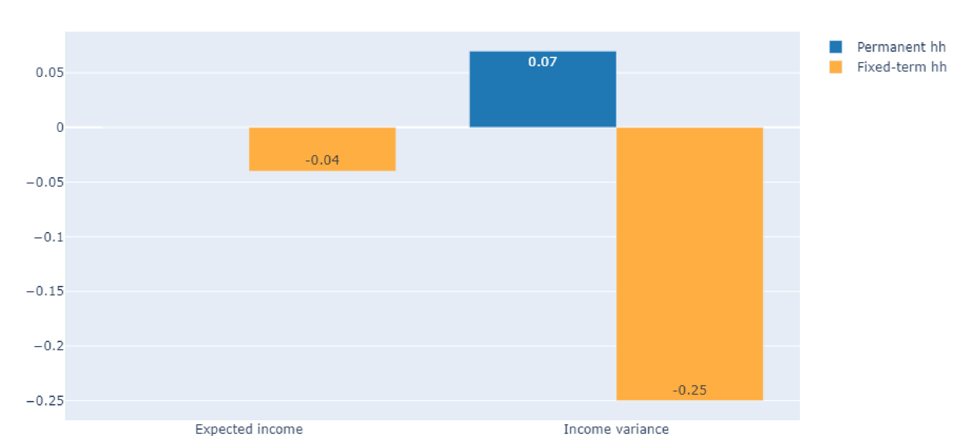


Fig. 3: **Changes in households' risk (boom v.s recession)**

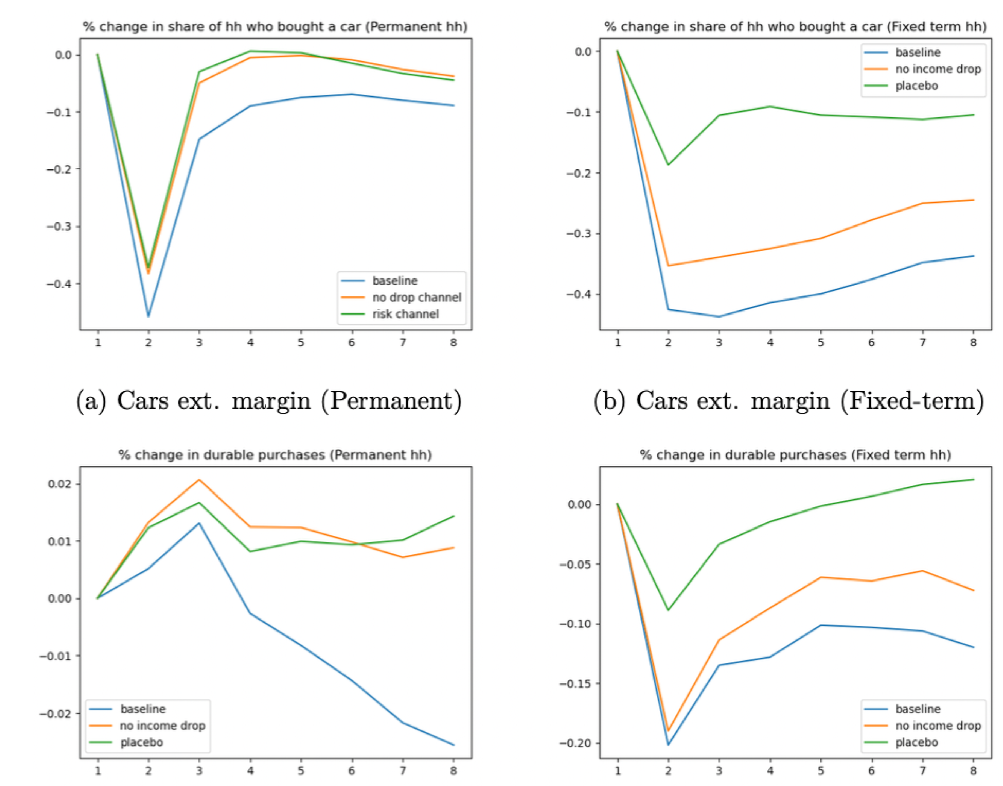
Perceived Risk

Heterogeneous impact of the Great Recession on perceived risk (**Fig 3**)

- Permanent households: **higher uncertainty**
- Fixed-term households: **lower upside income risk**

IRFs' Break Down

- **"Baseline" Great Recession experiment:** recession employment transition matrix and extra labour income drop
  - realised income losses and change in perceived risk
- **"Placebo" experiment:** boom employment transition matrix and no extra labour income drop
  - change in perceived risk only



(a) Cars ext. margin (Permanent) (b) Cars ext. margin (Fixed-term)
(c) Cars int. margin (Permanent) (d) Cars int. margin (Fixed-term)

Fig. 4: **IRFs' break down**

Results

Mechanisms behind the durable consumption drop

- **Perceived risk** is a strong driver on the extensive margin
  1. Permanent households
     - **"wait-and-see" strategy**
     - strong but **short lived** response
  2. Fixed-term households
     - **"wait-to-downgrade" strategy**
     - strong and **persistent** response
- **Realised income losses** is the main driver on the intensive margin

Change in composition of the Fixed-term group

- Without **composition effect**, the consumption crash that motivated this paper would have been even larger