

Fuel Subsidy, Neighborhood Effect and Household's Fuel Consumption Choices: Evidence from Indonesia

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Motivation

- **Question:** How community's fuel choice influence household's fuel choice? How policy should be designed to influence household's fuel choice?
- **Contribution:**
 - reduce selection bias in neighborhoods' fuel choice through a massive conversion program.
 - the first nation-wide policy study that investigates neighborhood effect of fuel choice.

The Subsidy Policy

Start: Mid 2007 in Indonesia.

Purpose: reduce kerosene subsidies.



Kerosene (1,2) | Liquid Petroleum Gas (LPG) (3,4)

Data and Methods

Data: Indonesia Family Life Survey (IFLS) panel data for the years 2000, 2007 and 2014.

Method: Random effects logit model by grouping consumers into three categories according to the main fuel: LPG, kerosene, and wood.

Empirical Strategy

$$Y_{irt} = \alpha R_{rt} + \beta P_{rt} + \gamma R_{irt} * P_{rt} + \tau FE_{irt} + \lambda X_{irt} + \epsilon_{irt}$$

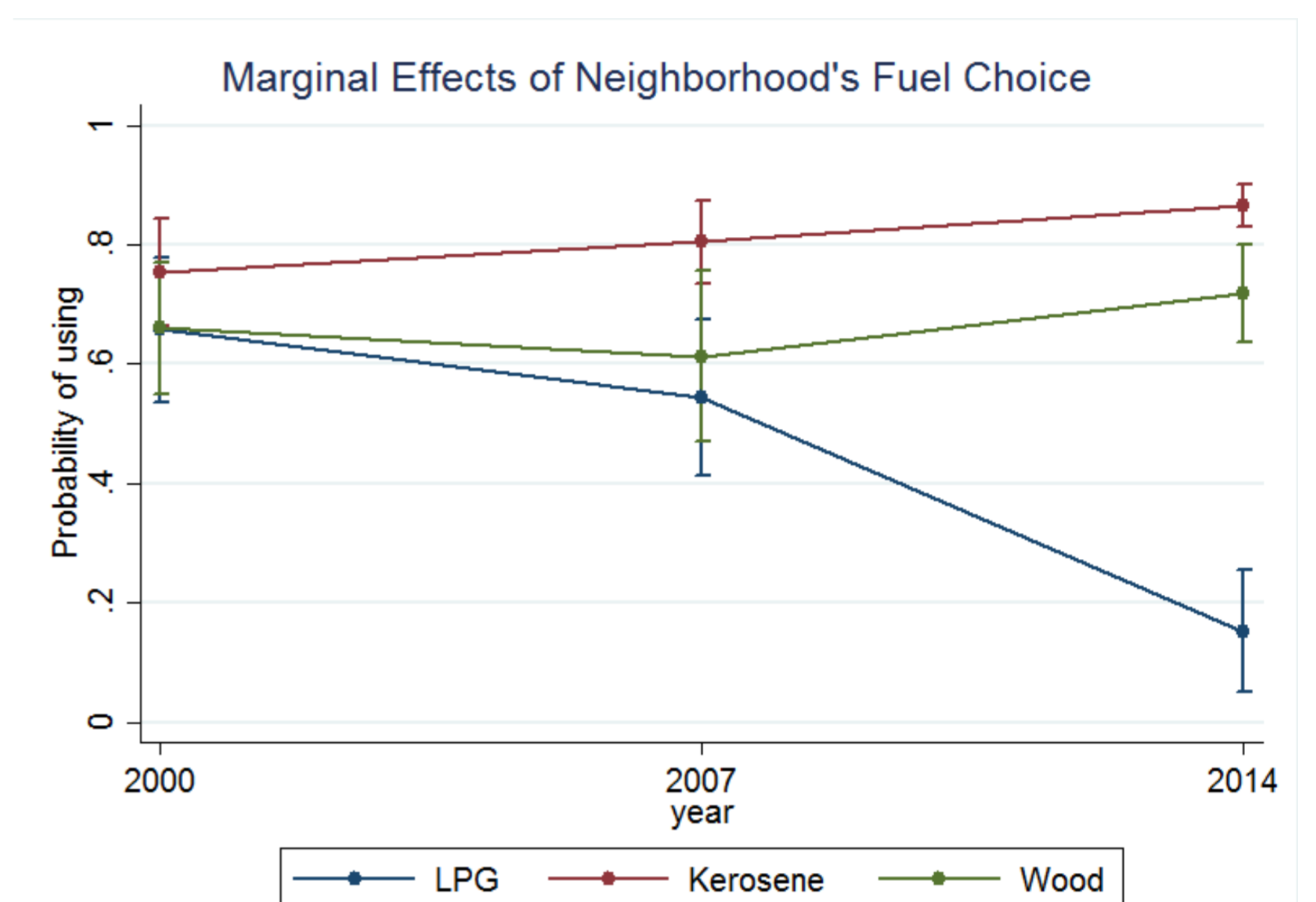


Fig 2: The program reduce the neighborhood effect.

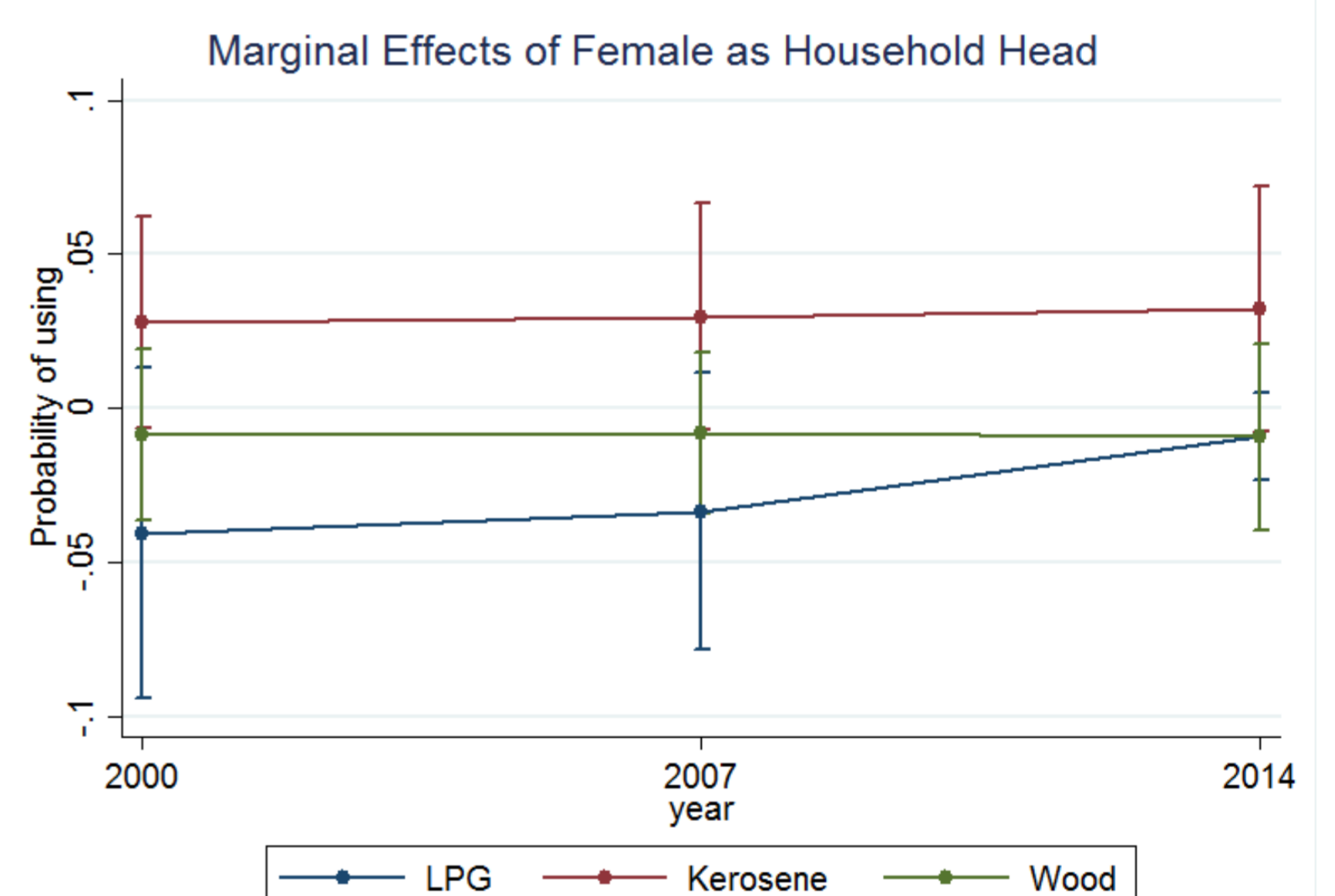


Fig 3: Take up rates is higher for female headed households.

Results Highlight

The LPG subsidy program reduced the **neighborhood effects by 20%**. Take-up rates of LPG is higher on female headed households.

Policy to influence household's fuel choice could be a mixed between price control and quantity restriction, and could be more effective if targeted to woman community.

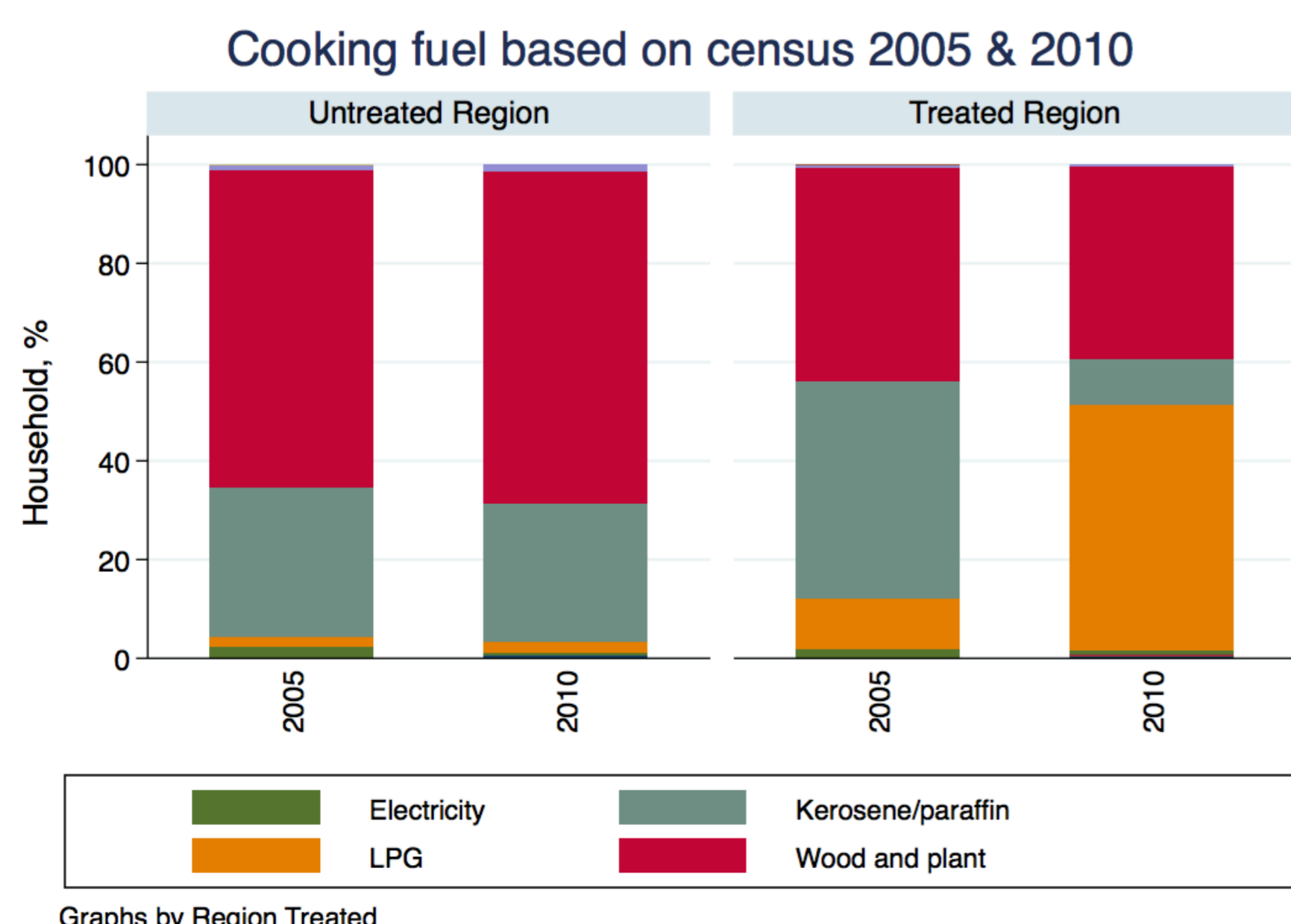


Fig 1: Program Effect on Fuel Choice



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