

Addressing self-disconnection among prepayment energy consumers: A behavioural approach

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The use of prepayment meters is widespread in the UK. By 2012, 4.2 million household electricity consumers (15.5% of the total) and 3 million household gas consumers (13.3% of the total) paid through a prepayment meter (Ofgem 2012). The most recognizable problem in this type of payment is self-disconnection, which happens when consumers exhaust all available credit in their meter and are left without supply of energy for a certain period. Self-disconnection has serious consequences for the wellbeing of consumers, such as lack of heating; impacts on food preparation; leisure and psychological impacts, e.g. shame or loss of self-esteem (Consumer Focus 2010). Likewise, self-disconnection generates costs for the energy suppliers since it may contribute to lower energy consumption, higher debt levels, and higher costs related to reconnection of energy supply.

This research aims to understand the determinants of self-disconnection and most importantly, proposes a mechanism that minimizes the number of self-disconnections. We design a mechanism that induces higher rates of savings committed to energy consumption and that decreases the likelihood that consumers will self-disconnect. This is achieved through the introduction of a commitment in the contract between the energy supply firm and the consumer. That is, the consumer commits to allocate a portion of each top-up into savings to use in future energy expenditure.

Consumers differ in their degree of self-control and in their willingness to accept a commitment contract. The energy supply firm does not know the different degrees of self-control amongst consumers and so needs to target consumers effectively. The mechanism proposed here comprises a commitment contract and an energy consumption reminder in order to account for the heterogeneity of consumers and their private information. The commitment contracts differ in terms of flexibility and saving targets. We propose also a reminder for consumers who do not wish to commit to a specific plan involving savings, either because they do not think that they need it (even though some might need it), or because they do not wish to commit to one firm.

We empirically examine the determinants of self-disconnection and the choice of different commitment contracts using data from a representative survey that we have designed for this purpose. The survey was applied to a subset of British Gas customers already using gas prepayment meters.

We find that self-control problems play a role in self-disconnection. We are able to identify those consumers who would benefit from a commitment contract. These respondents are more likely to be between 34 and 54 years old, to have low and medium levels of income, to have basic and medium education and top-up more during the winter. Moreover, we show that there is a demand for commitment and saving opportunities among consumers. These findings demonstrate that there is a scope to introduce a commitment contract. Overall, we show that there is an interest over the different commitment saving contracts, and that a significant share of consumers would prefer to smooth their energy expenditures if a commitment contract enabled them to do so.

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