Analyzing household and intra-urban variants in the consumption of financial services: uncovering 'exclusion' in an English City.

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Abstract

This study provides an empirical assessment of the socioeconomic factors that determine household exclusion from consumer financial services. A unique microeconomic data set, of interview data, collected from a representative cross-sectional sample of 1,005 households is analysed using logistic regression techniques. In investigating exclusion from consumer financial services, both financial self-exclusion and institutional led financial exclusion are examined. Indicators of financial self-exclusion include the absence of a savings account or home contents insurance, while indicators of institutional led financial exclusion include the use of 'doorstep lenders'. Findings show that both measures of financial self-exclusion are determined by income, education, age, housing tenure and social participation while financial exclusion is generally associated with socioeconomic characteristics such as age, gender, housing tenure, working status, income, disability and the presence of young people in household but not with respondents' residential area, education level, internet use and social participation. These results are useful to both policy makers and financial services providers. They provide useful insights to policy makers and could have an important bearing on the range and mix of policies, and policy instruments, that local and central Government could use to mitigate their extent.

Key words: financial exclusion, self-exclusion, household data

Analyzing Household and Intra-Urban Variants in the Consumption of Financial Services: Uncovering 'Exclusion' in an English City.

Introduction

This study seeks to understand the characteristics of households that suffer exclusion from consumer financial services. Specifically, the study investigates the factors that determine a household's lack of a savings account, home contents insurance or those who use the services of doorstep lenders. Economic theory suggests that households consume financial services up to the point where the marginal value of another unit of services is equal to its marginal cost. In the past, regulation prevented financial markets reaching this point of equilibrium. Subsequent to the 1980s deregulation of UK financial markets, there was a rapid expansion of the financial services sector, which stimulated competition and financial services product development. This changed the function of UK financial institutions such that retail banking institutions diversified extensively in mortgage and insurance markets. Likewise 'building societies', which traditionally were involved in the mortgage market, began offering some of the services that banks traditionally offered, such as personal loans (Arnold 2008).

This change in the financial services marketplace required adaptation on the part of consumers as well as the incurrence of transition costs associated with the need for information and learning. This changed marketplace gave rise to the need for greater financial literacy as well as financial capability among consumers of financial services. Not all consumers are equally endowed with these financial literacy and capability skills, and as such this can lead to market failures on the demand side. Market failures also occurred on the supply side of the market, increased competition led financial institutions to scramble for more affluent consumers (Carbo et al. 2007; Leyshon and Thrift 1995; Wallace and Quilgars 2005). The Financial Service Authority refers to this as 'cherry picking' (Kempson et al. 2000, p.17). Additionally, the features of some products act as a barrier and prevent some people from availing of them, such as a high minimum cover for an insurance policy, or the requirement of having a fixed address to open a bank account (Honohan 2008).

These market failures give rise to equity issues as the growth of the financial services sector left some members of society excluded. Concern with the issue of financial exclusion

emerged in the aftermath of the 1980s financial deregulation. The term financial exclusion refers to the "inability, the difficulty, or the reluctance to access mainstream financial services" (McKillop and Wilson 2007, p.9). The Financial Inclusion Taskforce (2010) has identified the financially excluded as "...the poorest and most deprived households" [p.2]. Financial exclusion is related to the more general phenomena of social exclusion.

One basic form of financial exclusion is not holding a bank account. In the UK, 2.7% of households did not hold a bank account in 2011/12 (Rowlingson and McKay 2014). This figure shows a decline in recent years down from 4% in 2008/09 and 10% in 2002/03 (Financial Inclusion Taskforce 2010). The incidence of not holding a bank account is substantially lower in the UK than in the US, where 7.7% of households did not hold a bank account in 2013 (FDIC 2014). In advanced economies, 10% of the adult population are found to have no access to financial services (Honohan 2008).

Not holding a bank account incurs costs on individuals, for example, the cost of cashing a pay cheque, or not being able to obtain the savings on utility bills that are offered through direct debits payments. This makes it more expensive to manage money or to plan for the future, as well as placing individuals in a more vulnerable position to financial distress (HM Treasury 2007a). As well as being a measure of financial exclusion in its own right, holding a bank account may also provide a pathway to other financial products and services, such as holding a savings account or obtaining home contents insurance.

While substantial progress has been made in the UK in ensuring most households have access to a bank account, there are still a large number of households who experience these more nuanced forms of financial exclusion. 50% of households in the bottom half of the income distribution do not have home contents insurance, while 13 million people do not have sufficient savings to support them for a month should they experience a 25% reduction in income (Financial Inclusion Commission 2015). Only 41% of UK households report to be saving (Rowlingson and McKay 2014). Savings accounts or home contents insurance are not routinely declined when requested, hence failure to hold these products can be thought of as a form of financial self- exclusion.

Failure to interact with some financial services, which are not routinely declined by the banking system, may result in individuals or households being excluded from mainstream

credit markets. As a result, these households may turn to alternative financial services that lie outside the mainstream banking system. Alternative financial services may include, pawn broking, payday loans, check-cashing services or the use of home credit (doorstep lending) etc. The use of such services results in higher costs, such as paying higher rates of interest, which can lead to financial pressure. These costs are borne by the most vulnerable people in society and can lead to spiralling debt difficulties (Carbo et al. 2007; HM Treasury 2007a). Two million people in the UK took out a high cost loan in 2012 due to exclusion from other forms of affordable credit (Financial Inclusion Commission 2015).

The role of government policy is deemed vital to help alleviate financial exclusion. HM Treasury (2007a) suggests that an appropriate policy strategy should aim to ensure that everyone should be able to plan for the future having access to affordable credit and a savings account, as well as basic insurance products. In 2005, HM Treasury set up the Financial Inclusion Taskforce whose objectives were to improve access to banking, make credit affordable and to offer free advice on money matters including savings and insurance. However, since 2010, national policies have focused on fiscal rectitude, this has involved various welfare and pension reforms and there is a concern that this will be disruptive to the progress made on social and financial exclusion, which ought to be a greater policy priority (Financial Inclusion Commission 2015).

In light of the difficulties which still exist regarding the more nuanced elements of financial exclusion, and the current policy environment, this study seeks to understand the characteristics of those households that either lack a savings account, home contents insurance (financial self-exclusion) or who use the services of doorstep lenders (financial exclusion). An understanding of their determinants provides useful insights to policy makers on the appropriate policies and policy instruments that local and central Government could use to mitigate their extent. This study seeks to empirically address these increasingly high profile issues via analysis from a source of demographically representative interview survey evidence drawn from a single UK city, Portsmouth. There is a dearth of studies into financial exclusion at the city level.

The City of Portsmouth is not a wholly typical English city, though this makes it an interesting case study. Portsmouth is the UK's second most densely populated city outside London. It is an island city with banking institutions clustered in commercial areas which are

well spread across the island. All city neighbourhood districts (postcodes) contain at least one bank branch and several ATMs, ensuring physical accessibility is not a barrier to use of financial services. The city is also untypical as more of its residents are categorised as being constrained by circumstances, while fewer residents live in areas described as prospering suburbs (Portsmouth City Council 2010). This makes it a useful case study for examining financial exclusion. The survey data shows that 19% of households do not hold home contents insurance, 21% do not hold a savings account, while 2.9% use the services of doorstep lenders.

Social exclusion is a topic subject to extensive analytical scrutiny and measurement. This study empirically explores an important and contentious dimension of this phenomenon - influences on household financial self-exclusion and institutional led exclusion. Simple logistic regressions are used to establish the quantitative impact of factors such as gender, age, income, education, working status, tenure, city neighbourhood districts, social participation, disability, internet use and the presence of young people in the household on financial exclusion. The findings of this paper show that a similar set of variables determine both measures of financial self-exclusion; these include income, education, age, housing tenure and social participation while institutional led financial exclusion is generally associated with socioeconomic characteristics such as age, gender, housing tenure, working status, income, disability and the presence of young people in the household but not with residential area, education level, internet use and social participation.

The paper is organised in the following manner. The next section provides a review of the literature on financial exclusion and the more limited literature on financial self-exclusion. The following sections describe the data used and the results obtained. Concluding remarks and some policy implications are offered in the final section.

Financial Self-Exclusion and Institutional led Financial Exclusion: A Brief Retrospect

Financial exclusion is currently a topic of interest, in the UK and elsewhere, among government, industry participants, regulatory agencies and consumer groups. However, the term financial exclusion in both the academic literature and in policy-making has a range of both implicit and explicit definitions (European Commission 2008). The following retrospect sets out to define financial exclusion and to motivate the use of the dependent variables in

this study. Previous empirical literature is reviewed to set out some benchmark expectations regarding the socioeconomic factors determining financial exclusion.

An early definition of financial exclusion focused on the physical lack of access to banking services, resulting from local branch closures (Leyshon and Thrift 1993). Concern with financial exclusion developed to include those people who are constrained, in any way, in their access to mainstream financial services (Devlin 2005; Kempson and Whyley 1999). McKillop and Wilson (2007) define financial exclusion as "the inability, difficulty or reluctance to access mainstream financial services" [p.9]. Given this definition, financial exclusion maybe institutional led or the result of individual choice.

Individuals or households may choose (explicitly or otherwise) not to participate in some financial markets, for example, not holding a current account, a savings account or an insurance product. In this case, it is inappropriate to say that access is a problem if self-exclusion is primarily voluntary (Beck and de la Torre 2006). In terms of capturing aspects of self-exclusion, this study focuses on those that self-exclude, either deliberately or otherwise, from engaging with some basic financial services. This includes the possession of a savings account or the possession of basic home contents insurance. These financial services are widely available and are not routinely declined by retail financial institutions if requested.

On the other hand, financial exclusion may not be a matter of consumer choice, and rather can be institutional led due to access exclusion, condition exclusion, marketing exclusion and/or price exclusion (Kempson and Whyley 1999). As a result of institutional led exclusion, consumers may have no choice but to use alternative sources of high cost credit that lie outside the mainstream financial services industry. Such high cost credit services includes pawn broking, payday loans and home credit (doorstep lending). Leyshon et al. (2006) suggests that home credit is a key feature in poorer areas for people living on low incomes with limited credit opportunities. Other studies suggest that those with a poor credit history are also affected and these people are forced to rely on illegal money lenders (Kemspon and Whyley 1999). The result of using such services will be higher rates of

interest[1] which can cause financial pressure amongst the most vulnerable in society. Limited access to credit has become an important part of financial exclusion as "...borrowing from money lenders is seen in the academic literature as an indicator of exclusion from more affordable sources of credit" (Byrne et al. 2007, p.45). Using the services of doorstep lenders is adopted in this study as an indicator of institutional led financial exclusion.

In understanding the determinants of both institutional led financial exclusion, and self-exclusion, education plays an important role. With regards to education and financial services products, the terms financial literacy, financial knowledge and financial education are often used interchangeably in the literature (Huston 2010). O' Donnell and Keeney (2010) consider the term financial literacy to be a component of the broader term financial capability. Financial literacy refers to an individual's ability to understand financial concepts, whereas financial capability refers to an individual's ability to plan ahead, to find and use information, to know when to seek advice, and the ability to understand and act on this advice (HM Treasury 2007a; Mitton 2008). Self-exclusion may result due to a lack of knowledge of the products or services being offered (Beck and de la Torre 2006; Collard et al. 2001). In this study, education is used as an explanatory variable to capture the role of general knowledge in determining both financial self-exclusion and institutional led exclusion. Education is found to be a determinant of financial exclusion (Devlin 2005; Office of Fair Trading 1999). Education is also found to be related to financial capability (McQuaid and Edgell 2010).

Previous research has found that accessibility to financial services is important for consumers, and that the closure of local bank branches has contributed to financial exclusion. The impact of bank branch closures increased concern with regards to financial exclusion, because individuals on low incomes and with limited mobility would have more distance to travel to access branch services (Leyshon et al. 2008). It was found that the bank and building society closures that occurred in Britain during the period 1995-2003 were more pronounced in poorer areas (Leyshon et al. 2008). Consequently, not everyone can reap the benefit of access to financial services as the "...industry operates in a way that favours the socially powerful" (Leyshon and Thrift 1995, p.14). Additionally, studies such as Ergungor

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[1]For example home collected loans attract APR's in excess of 1500%. The website lenderscompared.org.uk quote an APR of 1834.8% on a £100 loan over 15 weeks. Quote obtained on 24th of September 2012.

(2010) supports the argument that the presence of bank branches are important in the community as it allows financial institutions that specialise in lending to gather soft information about its "informationally opaque borrowers" [p.1321]. Moreover, financial exclusion was found to be more prevalent in deprived neighbourhoods (Collard et al. 2001; Fuller 1998). This study controls for city neighbourhood districts in the empirical models to account for geographical effects.

From a supply side perspective, branch closures are motivated by cost savings for the financial service providers. Technological developments have facilitated such closures. Investment in technology has led to the rapid expansion of alternative channels of banking such as telephone banking and internet banking. Such developments are to provide improved services and may prove beneficial to the most vulnerable in society (Marshall 2004). Unfortunately, those in society whose access to financial services is limited may also experience a similar situation with regards to access to technology. This gives rise to the widely used term of the digital divide, which represents the failure to engage a significant proportion of the population in the use of internet technologies. It has been reported that non-users of the internet includes those with disability, lower incomes, lower socioeconomic status, less education (Bucy 2000; Bunyan and Collins 2013; Dutton et al. 2009). To investigate the potential interaction between financial exclusion, and the ability to access services and products online, the 'use of the internet' is used as a control variable.

The underlying factors of financial exclusion are deeply related to those of the more general phenomenon of social exclusion (European Commission 2008). Winchester (2009) refers to social exclusion as "…the different ways in which some groups are persistently prevented from participating fully in society" [p.8], whereas financial exclusion, more specifically, refers to those in society who have limited access to financial products and services (Devlin 2005). It is the most vulnerable people in society who are more likely to experience financial exclusion. These include those living on low incomes, social housing tenants, lone parents and the unemployed (Collard et al. 2001; Devlin 2005; Kempson et al. 2000). As a consequence, this can increase the severity of the more widespread problem of social exclusion (Carbo et al. 2001; Devlin 2005; Kempson et al. 2000; Mitton 2008).

Additional reasons posited for self-exclusion include past refusal of financial services, negative word of mouth from peers, confusion with regards to products or lack of trust on the

part of the household (Devlin 2005; Kempson and Whyley 1999). There are also individuals or households that have 'disengaged themselves', meaning they have used financial products or services in the past, but not anymore. Disengagement can be prompted by factors such as a fall in income. This may arise in the case of retired people, or those who suffer an income loss, for example, due to an illness or disability (Kempson and Whyley 1999). Other demographic issues may drive choices to hold a savings account or home contents insurance, such as, being young or old, or being too asset poor or wealthy, or gender effects. To capture the impact of more general socioeconomic determinants of financial self-exclusion and institutional led financial exclusion the following explanatory variables are used in the modelling section of this study; income, housing tenure, working status, disability and the presence of young people in the household. Additionally, in this study, a social participation variable is used to capture a respondent's participation in society through the act of volunteering. The following empirical section of this study contributes to understanding financial exclusion at a city level using a representative sample of urban households.

Data

The data used in this study was obtained from a resident's survey of 1,094 households carried out by Portsmouth City Council in 2007. The survey was conducted by Ipsos Mori and commissioned by Portsmouth City Council. 92% of the households contacted responded to this survey, leaving a sample size of 1,005. Respondents were interviewed face-to-face in their own homes between 6th October and 14th December 2007. Respondents were randomly selected from sampling points across the city, using a stratified sampling method based on the 2001 census (gender, age and work status). Only households within the Portsmouth boundary where the respondent was aged 16 or over were included. As is typical in this type of survey, 34% of the sample did not reveal their gross household income. For these missing observations an income variable was imputed using multiple imputations[2].

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[2]Rubin (1977) proposes using the method of multiple imputations to calculate missing income observations. "This method produces a subjective probability interval for the statistic that would have been calculated if all non-respondents had responded. Background information which is recorded for both respondents and non-respondents plays an important role in sharpening the subjective interval…The general idea can be applied to any problem with non-respondents or missing data" (Rubin 1977, p.538). This method is considered the most reputable method to deal with missing data (Tabachnick and Fidell 2007).

Portsmouth is the UK's only island city. The city has an urban population of approximately 200,000 residents living on a land area of around 40 square kilometres, making it the most densely populated city in the UK outside of London with 5,146 residents per square kilometre (ONS 2012; Portsmouth City Council 2012). The City of Portsmouth is located on the south coast of England situated 64 miles south west of London and 19 miles south east of Southampton.

The formal modelling section of this paper examines both financial self-exclusion and institutional led financial exclusion. In the survey, there are three questions specific to financial products and services. Two of the questions are used here as indicators of financial self-exclusion. This includes the question; does your household have home contents insurance? and the question, does anyone in your household have a savings account? An indicator of institutional led financial exclusion includes the question, have you or anyone in your household ever used the services of doorstep lenders? The percentage of replies received for each question is provided in Table 1.

(Table 1 about here)

The responses indicate that the vast majority of respondents do not suffer from institutional led financial exclusion and do not self-exclude. However, a substantial proportion of respondents do not possess home contents insurance or a savings account. It is found that 19% of households have no home contents insurance, while 21% have no savings account. The proportion of respondents who have used the services of doorstep lenders is almost 3%. This study provides a detailed picture of the socioeconomic characteristics of these excluded individuals and households.

Table 2 provides a summary of the cross tabulations of respondents that are excluded (financial self-exclusion or institutional led financial exclusion) by each of the explanatory variables. Firstly, with respect to gender, Table 2 shows that a similar proportion of males and females have no home contents insurance, 19.73% and 19.10%, respectively. With regards to having a savings account, 23.80% of females and 19.78% of males have no savings account. With regards to institutional led financial exclusion, 4.21% of females have used the services of doorstep lenders while only 1.5% of males have done so.

Exclusion can also be considered across age groups. There is a large distinction in both institutional led financial exclusion and self-exclusion across age groups. As people get older there is a consistent decrease in financial self-exclusion and financial exclusion. For the age group (16-24) a significant proportion, 49.26%, have no home contents insurance. As respondents get older this proportion reduces substantially, with only 2.83% of the age group (65-74) report to having no home contents insurance. A similar relationship between age and holding a savings account is evident. A higher proportion of younger respondents do not hold a savings account. With regards to institutional led financial exclusion, it can be seen that a higher proportion of individuals in the younger age groups have used the services of doorstep lenders compared to older age groups. The proportion of respondents in the age groups (16-24), (25-34), and (35-44), that report to having used the services of doorstep lenders, is 3.16%, 5.73% and 4.74%, respectively.

Income levels are also related to both forms of self-exclusion. Table 2 shows that a larger proportion of respondents in the lower income categories have either no home contents insurance or no savings account. With regards to those who have used the services of doorstep lenders, the relationship with income does not show a clear pattern, although, the higher proportions of respondents who have used doorstep lenders are in the lower income categories. It appears that the relationship between financial exclusion and income may be more nuanced, this will be explored further in the formal modelling section of this paper.

The education level of respondents is also related to exclusion. Those who have a degree, or equivalent, have a lower percentage of respondents who report to having, no home contents insurance or no savings account. Similarly, a lower percentage of those with a degree, or equivalent, have used the services of doorstep lenders.

Indicators of financial self-exclusion or institutional led financial exclusion are also found to be related to the working status of the respondent. The unemployed, homemakers and students have the highest percentage of respondents that are self- excluded. Similarly, these groups have higher proportions of respondents who report financial exclusion.

Housing tenure is also related to both financial self-exclusion and financial exclusion. A substantially higher percentage of respondents who live in social housing or rent from a

private landlord have neither home contents insurance nor a savings account. Additionally, non-home owners more often report to having used the services of doorstep lenders.

A greater proportion of those who have a disability, which limits their daily activities or the work they can do, report to not having home contents insurance or a savings account, and to having used the services of doorstep lenders at 21.57%, 28.29% and 5.84% of respondents, respectively. The presence of young people in households also helps to explain all three measures of exclusion. Households in which young people are present have a slightly higher percentage of respondents that are either self-excluded or excluded by financial institutions.

There is also a distinction in the degree of exclusion across the various postcodes within the city. Portsmouth is divided into six postcode areas. Portsmouth City Council (2010) uses the output area classification (OAC) of Vickers and Rees (2007) to profile the population of Portsmouth geographically. This is based on the 2001 census. According to Portsmouth city Council (2010), more of its residents are categorised as being constrained by circumstances while fewer residents live in areas described as prospering suburbs than is typical of the UK population. Those who are categorised as being constrained by circumstances are more likely to live in flats and to rent from the public sector. They are less likely to hold higher education qualifications and unlikely to have more than one car per household. Those who are categorised as living in areas described as prospering suburbs are more likely to live in detached housing, have central heating and have access to two or more cars.

With respect to the postcode areas, those who reside in postcode PO5 and PO1, have the highest proportion of residents that have no home contents insurance, 31.40% and 33.05%, respectively, and no savings account, 28.46% and 33.33%, respectively. While those who reside in PO1 have the highest proportion of residents that have used the services of doorstep lenders, 6.40%. The most common 'super group' in the PO1 postcode area are those constrained by circumstances, while the most common 'super group' for PO5 is city living. The characteristics of households in the city living 'super group' include living in flats, renting from the private sector, are born outside the UK, have higher education qualifications, live alone and are less likely to have children.

Those who do not use the internet have a higher proportion of respondents that don't have home contents insurance or a savings account compared to those who use the internet, at 25.14% and 28.29% respectively. In relation to having used the services of doorstep lenders, a slightly lower percentage of those who do not use the internet have used the services of doorstep lenders compared to those who use the internet.

With regards to the social participation variable, those who do not participate in volunteering have a higher proportion of respondents who do not have home contents insurance or a savings account compared to those who do participate in volunteering, at 23.20% and 25.74% respectively. 2.5% of respondents who do not participate in society through the act of volunteering have used the services of doorstep lenders compared to 4% of respondents who do participate in volunteering.

(Table 2 about here)

The formal modelling phase of this study estimates two logistic regressions to establish the joint contribution of these variables in explaining financial self-exclusion. Given that there are only 29 respondents in the sample that have used the services of doorstep lenders, a regression analysis approach is not used to explain institutional led financial exclusion. Rather, a descriptive approach based on an association analysis is employed. The results of the aforementioned regressions and of the association analysis are reported in the next section.

Results

To understand the determinants of self-exclusion two logistic regression models are estimated. Model 1 identifies the characteristics of respondents that do not have home contents insurance, model 2 identifies the characteristics of respondents that do not have a savings account. For both models the estimated coefficient of each explanatory variable is reported along with their marginal effects and the standard errors of the marginal effects. The explanatory variables initially included in all models were the following; gender, age[3],

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[3]Using age categories reported in Table 2.

income[4], education, working status, housing tenure, city neighbourhood districts, disability, presence of young people in the household, social participation and the use of internet. Results are reported for variables that are found to be at least statistically significant at the 5% threshold level. The results for models 1 and 2 are reported in Table 3 below.

The models were tested for multicollinearity, spatial clustering and potential interaction between income and other covariates in determining self-exclusion. Additionally, the models were tested for the potential endogeneity of both income and tenure with regards to both forms of financial self-exclusion. All results confirm the model reported here and are provided in the appendix, Tables A1-A4.

(Table 3 about here)

Models 1 and 2: Self-Exclusion; Possession of Home Contents Insurance and Possession of a Savings Account

The first two models explain the attributes of those who are more likely to self-exclude from financial markets, by choosing not to hold home contents insurance, or not to hold a savings account. Model 1 identifies that the statistically significant determinants of those who do not hold home contents insurance includes tenure, income, education, age, gender, internet use and social participation.

With regards to tenure, living in social housing or renting from a private landlord decreases the probability of holding home contents insurance by 0.256 and 0.233 respectively, than for respondents who own their own home.

Income is another statistically significant determinant of not having home contents insurance. The results show that respondents earning less than £200 per week decreases the probability of having home contents insurance by 0.048 compared to those earning between £200 and £500 per week. By contrast, having an income of £500 or more per week increases the probability by 0.114 compared to those earning between £200 and £500 per week.

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[4]For the purpose of the estimation, the variable income has been re-grouped into three main categories (0-200, 200-500, and 500[+])

In relation to education, having an education such as GCSE A level or equivalent increases the probability of possessing home contents insurance by 0.051 compared to those who have no formal qualifications in a statistically significant manner. The same positive impact on home contents insurance is reported for the remaining qualifications with the exception of GCSE with low grade (D/E) or equivalent. However, the impact is not statistically significant at the 5% level.

In relation to age, the analysis shows that belonging to the age group 45-54, and older age groups, generally increases the probability of having home contents insurance compared to those in the age group 35-44. By contrast, those in age groups 16-24 and 25-34 show a generalised lower probability. Furthermore, the magnitude of age impact seems to be somewhat symmetrical around the 45-54 group. For example, being aged 16-24 or 65-74 changes the probability of about 10% in absolute value. With regards to gender, being male decreases the probability of holding home contents insurance compared to being a female by 0.044.

In order to control for access to technology among respondents, the regression includes the variable 'internet use'. Results show that those respondents who do not use the internet decreases the probability of having home contents insurance by 0.06 compared to those respondents using the internet. Therefore, even at the time of the survey[5], in which smart phones were just starting to hit the market, the internet played a significant role in shaping consumers' financial behaviour under this respect.

Finally, the variable social participation is used to capture respondent's participation in society through the act of volunteering. This variable is found to be statistically significant showing that those who participate in volunteering increases the probability of holding home contents insurance by about 6%.

Model 2 identifies the statistically significant determinants of those who do not have a savings account to include tenure, working status, income, education, age and social participation. As previously mentioned, Table 3 reports the estimates only for the statistical

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[5] 2007

significant variables. Therefore, both 'gender' and 'internet use' are not reported given that they resulted in being not statistically significant to help explain the choice of not having a savings account.

With regards to tenure, living in social housing or renting from a private landlord decreases the probability of holding a savings account by 0.137 and 0.175, respectively, compared to those who own their home. In relation to the working status of the respondent, working on a part-time basis increases the probability of having a savings account by 0.081 in a statistical significant manner compared to those working full-time. With the exception of being retired (positive), all the remaining categories show a negative but not having a statistically significant impact on the probability of having a savings account.

In relation to income, earning a higher income increases the probability of holding a savings account by 0.075 compared to those who earn between £200 and £500 per week. However, the results show that earning a lower income has no statistically significant effect. Education is also found to be an important determinant of exclusion in relation to not having a savings account. It shows that those who have an education such as a degree or equivalent, GCE A level or equivalent, GCSE grades A/B/C or equivalent are more likely to hold a savings account compared to those with no formal qualifications.

With regards to age, the analysis substantially confirms the pattern described for the possession of home content insurance in terms of the signs of the coefficients. Only the age group 75^+ shows a statistically significant effect on having a savings account. Respondents in this age group have an increased probability of possessing a savings account by 0.128. Finally, the variable social participation is found to be statistically significant. The results show that those who participate in the act of volunteering increase the probability of holding a savings account by 0.084.

Institutional led financial exclusion: Services of doorstep lenders

This section aims to explain the attributes of those who experience institutional led financial exclusion by having made use of the services of doorstep lenders. Given the small sample size of those having used the services of doorstep lenders, this section is based on association analysis. The results are presented in Table 4 below, reporting the Pearson chi-square test

between those who have used the services of doorstep lenders and selected socioeconomic characteristics.

(Table 4 about here)

Table 4 identifies a statistically significant association between those who have made use of the services of doorstep lenders and the reported socioeconomic characteristics. These include age, gender, tenure, working status, disability, the presence of young people in household, and income. The variables, education, city neighbourhood district, internet use and social participation are not found to be statistically significant. Admittedly, our analysis is based only on statistical association and, therefore, the direction of causality along with magnitude and signs will require further investigation.

Summary, discussion and concluding remarks

This paper has contributed to a growing body of literature on financial exclusion by empirically investigating influences on household financial exclusion and self-exclusion, using a source of demographically representative survey data drawn from a single UK city, Portsmouth. This dataset allows for the investigation of three aspects of financial exclusion. More specifically, an in-depth analysis of those who lack a savings account or home contents insurance (indicators of financial self-exclusion) and an exploratory association analysis is provided of those who have made use of 'doorstep lenders' (an indicator of institutional led financial exclusion).

An additional novelty of this data is that Portsmouth is not a wholly typical English city, more of its residents are categorised as being constrained by circumstances, while fewer of its residents live in areas described as prospering suburbs (Portsmouth City Council 2010). Portsmouth's island status has encouraged the development of densely populated neighbourhoods, with a dispersion of bank branches across districts which provides insights into financial exclusion despite accessibility to bank branches. Previous studies found accessibility to financial services to be important, and that the closure of many branches was contributing to financial exclusion. (Ergungor 2010; Leyshon and Thrift 1995; Leyshon et al. 2008).

The importance of the issue of financial inclusion is well recognised by the British government. Financial inclusion first emerged as a named policy in the UK in 1997 (Financial Inclusion Commission[6]). At this time, the Social Exclusion Unit was established, by the then new Labour government, to tackle social exclusion. Within the Social Exclusion Unit, financial inclusion was recognised as an important form of social inclusion. The Social Exclusion Unit set up one of its 18 Policy Teams, the National Strategy for Neighbourhood Renewal Policy Action Team 14, with the responsibility of tackling financial exclusion in the UK (Social Exclusion Unit 2001). Following this, the Financial Inclusion Taskforce was established in 2005, which was subsequently dissolved, as planned, in 2011. During the Financial Inclusion Taskforce's period of operation, several success were achieved including a 50% reduction in the number of people without a bank account (Financial Inclusion Commission 2015). Despite the disbandment of the Taskforce, the UK's Conservative led coalition government, continued to tackle the barriers to financial inclusion with policy initiatives such as the Credit Union Expansion Project, the inclusion of financial education on the school curriculum in England, the regulation of high cost short-term lending, the nudge for automatic enrolment for workplace pensions and the provision of fee-free basic bank accounts (Financial Inclusion Commission 2015).

In addition to national policy efforts, local community solutions to financial exclusion also emerged, such as, the Portsmouth Area Regeneration Trust (PART). PART was set up in 2000 in order to offer banking services, including loans, to those who experience exclusion from the mainstream financial institutions and also to help those on low incomes (Collard et al. 2001). Another recent civil society response, undertaken by the Church of England, aims to promote the creation of a fairer financial system in the UK, with an emphasis on the high cost of borrowing for the financially excluded[7]. The impetus for this civil society response was due to the rapid rise of high cost pay day lending in the UK, particularly since the financial crisis of 2007. The policy actions of the Church of England include support for the credit union and community finance sector, debt advice services, financial education and the promotion of savings behaviour through school savings clubs. These community led solutions are attractive in that credit is made more affordable for those living on low incomes and their existence signals gaps in official policy.

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[6] http://www.financialinclusioncommission.org.uk/history . This was accessed on the 8th September, 2015.
[7] To Your Credit. http://www.toyourcredit.org.uk/#toyourcredit

The results from this study show that self-exclusion and institutional led financial exclusion is explained by different subsets of the various socioeconomic independent variables tested here. However, the determinants of all three measures of financial exclusion have much in common.

In terms of explaining self-exclusion, the variables tenure, income, education, age and social participation are found to be statistically significant in determining both the possession of home contents insurance and a savings account. Additionally, this study finds that gender and internet use is statistically significant in determining the possession of home contents insurance, while it is not a determinant of holding a savings account. Part-time workers are more likely to hold a savings account than those in full-time employment. Institutional led financial exclusion is found to be associated with tenure, income, age, working status, gender, disability and the presence of young people in the household. However, the direction of causality of this relationship cannot be addressed by the present dataset. The finding that a range of socioeconomic variables are associated with financial exclusion is similar to previous studies which found that it is the most vulnerable people in society that are excluded (Collard et al. 2001; Devlin 2005 and 2009; Kempson et al. 2000).

There are important policy implications arising from this study which is of interest to those concerned with tackling financial exclusion including government, industry participants, regulatory agencies and consumer groups. The results indicate that policy needs to take account of the particular characteristics of the financially excluded. A one size fits all approach may not be appropriate. The more nuanced understanding, offered in this study, of the characteristics of the financially excluded will assist in continuing policy design and development.

In general, the findings reiterate the idea that those who do not engage with some basic financial services (such as possession of a savings account or possession of home contents insurance), which would not be routinely declined by financial institutions if requested, are those, as such, that are the poorest and most deprived. This is captured by the relationship between income and both forms of financial self-exclusion.

The finding that education contributes to both forms of financial self-exclusion points to the usefulness of policies focusing on financial literacy and capabilities. For example, the inclusion of financial education on the national curriculum in England, perhaps should be extended to the whole of the UK. Moreover, the finding that younger people are more likely to be self-excluded from financial services, reiterates the usefulness of initiatives in schools. Indeed, the current civil society response by the Church of England, through the promotion of school savings clubs, is currently filling this government policy gap. Government policy should assist in improving financial capability skills which has become increasingly important so that people are educated with regards to the "...proper use of financial services" (Byrne et al. 2007 p.1).

The finding that housing tenure is a determinant of both forms of financial self-exclusion is also policy relevant. Those who do not own their own home are less likely to have home contents insurance. Currently, UK policies such as the insurance-with-rent schemes, where tenants pay for general home contents insurance as part of their rent payments, would be supportive of this group. These insurance-with-rent schemes are run by local authorities and housing associations to provide access to those who might otherwise be excluded. However, the availability of such schemes is patchy (HM Treasury 2007b). The findings here suggest the importance of more comprehensive support for all non-home owning groups. In particular, similar policies should be extended to those renting from private landlords as this group are just as likely not to take up home contents insurance. Moreover, the proportion of households in the private rental sector has increased in recent years and now surpasses the social rental sector (Department for Communities and Local Government 2015).

Likewise, those that do not own their own home are less likely to hold a savings account. Additionally, 25 out of the 29 respondents who have used doorstep lenders are not homeowners. The findings point to homeownership being a proxy for credit quality, with homeownership enabling access to regular financial services. The promotion of savings behaviour among this group could be advantageous, particularly if it were to enable people to take steps towards home-ownership. However, this group could also be constrained by means in their ability to save as the findings also show that holding a savings account is also determined by income. The role of home ownership in determining both forms of financial exclusion is a pertinent area for policy action as the proportion of households owning their

own homes in England has decreased over the last decade (ONS 2014). Policy actions in support of home ownership will assist in increasing financial inclusion.

The social participation proxy, participation in volunteering activities, confirms the role of social participation in determining financial self-exclusion. Social participation explains both forms of self-exclusion, being involved in volunteering activities increases the probability of having both home contents insurance and a savings account. This close association with social exclusion generally, suggests a policy prescription taking account the multi-facetted aspects of exclusion would be useful, such as that pursued by the former Social Exclusion Unit. More generally, those who experience financial self-exclusion are similar in characteristic to those who experience the greater problem of social exclusion (European Commission 2008). The link between social exclusion and financial exclusion highlights to policy makers that financial exclusion cannot be solved separately from other policy areas.

Another aspect of social exclusion that is found to be related to financial exclusion is digital exclusion, as indicated by internet use. Internet use is found to be a determinant of whether an individual holds home contents insurance. Purchasing a complex and differentiated product, such as home contents insurance, can be facilitated through internet use. The internet enables consumers, both in making a purchase, and in conveniently comparing differentiated service offerings. Indeed, dedicated comparison websites successfully facilitate consumer decision-making. As internet usage increases, and has increased since 2007, this ought to be supportive of the take up of home contents insurance. More recently the UK has become a 'smartphone society', with 66% of UK adults now owning smart phones (Ofcom 2015). However, as with internet use, there is still a substantial excluded minority. The joint tackling of digital exclusion with financial exclusion would be useful. Policy initiatives encouraging the take up of home contents insurance could be channelled electronically via the internet. However, it is important that policy design also takes account of the digitally excluded minority especially given that the UK is setting itself up to be on the cutting edge of financial services technology.

The finding that males are less likely than females to hold home contents insurance is consistent with the broader literature on attitudes to risk which suggests that women are more likely to perceive the world as risky, or to be more fearful of risk and hence acquire home

contents insurance (Kellstedt et al. 2008; O'Connor et al.1999). Devlin (2005) did not find gender to be statistically significant as a determinant of holding home contents insurance. The final insight into the determinants of financial self-exclusion is that part-time workers are more likely to hold a savings account than those employed full-time. This is likely to be a rational choice on the part of part-time workers. Part-time workers may be more likely to experience fluctuations in earnings, or hours of work, and the choice to hold a savings account may be due to this groups need to mitigate against such risks. From an actionable policy perspective, this is a positive finding in the sense that this group are more likely to require a savings account for household budgetary planning. Part-time workers are responding to this need by holding a savings account.

In summary, in taking policy actions to promote financial inclusion, the results of this study suggest a focus on education, the promotion of home ownership, and more broadly tackling the problem of social participation and internet use. However, there are limitations to this study that need to be addressed.

The findings are limited to a focus on only three forms of financial exclusion from a single city perspective. It would be useful to establish whether these findings hold in other locations. Also, it would be useful to understand the dynamic aspect of consumers' choice to hold a financial product across time, for example, a respondent who does not hold a savings account now, did they have one in the past, and if so what determined the change. Additionally, it would be informative to learn more about other aspects of financial exclusion, such as holding a current account, life assurance, or a private pension. It would also be informative to understand the role played by credit unions in providing access to financial markets. For example, it would be interesting to know if respondents were members of a credit union.

Technological innovations have allowed non-traditional loan providers, such as *Wonga, QuickQuid etc.*, who provide a new alternative access to credit beyond the mainstream financial institutions. More traditional style pawn-broking services have also expanded since the financial crises of 2007. As developments continue, and the internet develops increasingly as a medium for financial services delivery, it is important to ensure that this rising tide of financial technology lifts all boats. This is especially so in the UK as the country is setting itself to becoming a financial technology leader. Whilst this survey did not address such online short term loan providers, it would be a useful direction for further work,

especially since internet usage features in the estimates of the probability of using financial services. Further work might also provide some assessment of the extent of substitution with doorstep lender services.

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Table 1: List of Variables and Definitions

Dependent Variables	Definition	% of Respondents
Possession of home contents insurance	Does your household have home contents insurance? 1 = Have home contents insurance 0 = Have no home contents insurance	 77.3 18.6
Possession of savings account	Does anyone in your household have a savings account? 1 = Have a savings account 0 = Have no savings account	 75.8 21.3
Have not used the services of doorstep lenders	Have you or anyone in your household ever used the services of doorstep lenders? 1 = Have not used the services of doorstep lenders 0 = Have used the services of doorstep lenders	 95.6 2.9

Table 2: Percentage of respondents that are excluded (financial self-exclusion or institutional led financial exclusion) in Portsmouth, England by each of the explanatory variables

Explanatory Variables and definition	% of respondents (N=1005)	% of respondents without home contents insurance	% of respondents without savings account	% of respondents that have used the services of doorstep lenders
Gender 1=Male	52.9	19.73 (47.59)	19.78 (42.06)	1.50 (24.14)
0=Female	47.1	19.10 (52.41)	23.80 (57.94)	4.21 (75.86)
Age of Individual Age in years ranges from 16-95 Age categories 1=16-24	16.5	49.26 (35.83)	36.67 (25.70)	3.16 (17.24)
2=25-34	15.7	26.62 (21.93)	26.45 (19.16)	5.73 (31.03)
3=35-44	21.2	15.09 (17.11)	19.72 (19.63)	4.74 (34.48)
4=45-54	13.1	12.12 (8.56)	18.18 (11.21)	2.27 (10.34)
5=55-64	12.5	13.11 (8.56)	19.67 (11.21)	0.81 (3.45)
6=65-74	10.6	2.83 (1.60)	16.35 (7.94)	0.94 (3.45)
7=75+	10.2	11.76 (6.42)	11.00 (5.14)	0.00
Household Income Can you please indicate the group in which you would place you and your partner/spouse's current total gross income from all sources before deductions, tax and national insurance – that is income from work and any other sources, such as pensions and benefits? 1=Under £50 per week	1.0	28.57 (1.07)	10.00 (0.47)	0.00
2=£50-£74 per week	2.9	55.56 (8.02)	50.00 (6.54)	10.71 (10.34)
3=£75-£99 per week	4.3	52.50 (11.23)	56.10 (10.75)	9.52 (13.79)
4=£100-£149 per week	10.1	37.11 (19.25)	36.46 (16.36)	2.00 (6.90)
5=£150-£199 per week	11.7	30.36	25.45	2.61

		(18.18)	(13.08)	(10.34)
6=£200-£249 per week	10.0	23.16 (11.76)	27.27 (12.62)	5.05 (17.24)
7=£250-£299 per week	9.2	27.59 (12.83)	25.56 (10.75)	6.59 (20.69)
8=£300-£399 per week	11.1	15.89 (9.09)	19.09 (9.81)	1.79 (6.90)
9=£400-£499 per week	9.8	8.51 (4.28)	11.70 (5.14)	0.00
10=£500-£599 per week	8.0	2.53 (1.07)	16.25 (6.07)	2.50 (6.90)
11=£600+ per week	21.9	2.74 (3.21)	8.26 (8.41)	0.92 (6.90)
Highest Education Qualification				
1= Degree of equivalent	18.1	11.05 (10.70)	12.99 (10.85)	1.68 (10.34)
2=GCE A level or equivalent	17.3	22.70 (19.79)	20.12 (16.04)	4.07 (24.14)
3=GCSE grades A/B/C/ or equivalent	19.3	18.58 (18.18)	18.09 (16.04)	2.11 (13.79)
4=GCSE grades D/E or equivalent	6.3	34.48 (10.70)	40.00 (11.32)	6.56 (13.79)
5=Other	10.4	17.17 (9.09)	13.59 (6.60)	0.95 (3.45)
6=No formal qualifications	27.2	22.18 (31.55)	31.32 (39.15)	3.72 (34.48)
Working Status of Respondent				
1=Fulltime	36.9	13.06 (25.27)	17.26 (29.44)	1.10 (13.79)
2=Part time	11.7	11.50 (6.99)	11.21 (6.07)	2.56 (10.34)
3=Retired	25.7	7.87 (10.75)	15.26 (17.76)	0.39 (3.45)
4=Student	10.1	44.71 (20.43)	35.16 (14.95)	1.02 (3.45)
5=Homemaker	8.4	46.99 (20.97)	40.48 (15.89)	18.07 (51.72)
6=Unemployed	4.6	43.18 (10.22)	51.11 (10.75)	4.35 (6.90)
7=Other	2.2	47.62 (5.38)	50.00 (5.14)	13.64 (10.34)
Tenure				
1=Homeowner	64.3	5.27 (17.65)	12.92 (37.85)	0.63 (13.79)

2=Social housing (rent from council or housing association)	14.6	44.68 (33.69)	38.46 (25.70)	8.90 (44.83)
3=Private Landlord	18.8	50.00 (46.52)	40.44 (34.58)	6.49 (41.38)
4=Other	1.9	21.05 (2.14)	21.05 (1.87)	0.00
Disability Do you have any long term-illness, health problem or disability which limits your daily activities or the work you can do? 1=Yes	15.3	21.57 (17.65)	28.29 (20.09)	5.84 (31.03)
0=No	84.7	18.99 (82.35)	20.75 (79.91)	2.39 (68.97)
Young People in Household Are there young people under 18 in the household? 1=Yes	39.8	22.31 (45.45)	22.31 (40.65)	5.60 (75.86)
0=No	60.2	17.50 (54.55)	21.67 (59.35)	1.17 (24.14)
City Neighbourhood Districts Postcode where respondent resides 1=PO1	12.8	31.40 (20.77)	28.46 (16.91)	6.40 (27.59)
2=PO2	17.2	14.97 (13.66)	19.30 (15.94)	3.47 (20.69)
3=PO3	12.5	12.40 (8.20)	9.92 (5.80)	2.40 (10.34)
4=PO4	24.9	15.61 (20.22)	22.63 (26.57)	2.85 (24.14)
5=PO5	12.0	33.05 (21.31)	33.33 (19.32)	0.00
6=PO6	18.7	15.76 (15.85)	17.68 (15.46)	2.73 (17.24)
Internet Use 1=use the internet	64.0	16.07 (52.41)	18.26 (52.80)	3.33 (72.41)
0=does not use the internet	36.0	25.14 (47.59)	28.29 (47.20)	2.23 (27.59)
Social Participation 1=those who participate in volunteering	27.6	9.63 (13.90)	11.90 (14.95)	4.00 (37.93)
0=those who do not participate in volunteering	72.4	23.20 (86.10)	25.74 (85.05)	2.52 (62.07)

Note: For each explanatory variable the values reported in parenthesis refers to column percentages.

Table 3: Logistic Results to identify the characteristics of those that are self-excluded, Portsmouth, England

Variable	Model 1: Possession of Home Contents Insurance			Model 2: Possession of Savings Account		
	B	dy/dx	S.E.	β	dy/dx	S.E.
Tenure[1]						
Social Housing	-1.993***	-0.256	0.055	-0.807***	-0.137	0.048
Private Landlord	-1.922***	-0.233	0.051	-1.019**	-0.175	0.050
Other	-1.542**	-0.212	0.142	-0.550	-0.092	0.128
Working Status[2]						
Part-time				0.665*	0.081	0.035
Retired				0.132	0.018	0.064
Student				-0.183	-0.027	0.068
Homemaker				-0.191	-0.029	0.050
Unemployed				-0.627	-0.106	0.078
Other				-0.591	-0.10	0.103
Income[3]						
<£200 per week	-0.597**	-0.048	0.024	-0.229	-0.034	0.037
£500+ per week	1.942***	0.114	0.021	0.567 *	0.075	0.034
Education[4]						
Degree or equivalent	0.163	0.012	0.029	0.958**	0.112	0.031
GCE A Level or equivalent	0.865**	0.051	0.019	1.323 ***	0.142	0.028
GCSE grades A/B/C or equivalent	0.190	0.0131	0.024	0.902 **	0.107	0.028
GCSE D/E or equivalent	-0.198	-0.015	0.038	0.007	0.001	0.050
Other Qualifications	0.061	0.004	0.029	1.133 **	0.120	0.027
Age[5]						
16-24	-1.003 **	-0.098	0.048	-0.402	-0.063	0.0583
25-34	-0.828**	-0.076	0.041	-0.301	-0.046	0.047
45-54	0.006	0.000	0.030	-0.046	-0.007	0.048
55-64	0.874**	0.048	0.019	0.228	0.031	0.052
65-74	2.926 ***	0.097	0.016	0.643	0.0771	0.055
75+	1.404***	0.066	3.970	1.266*	0.128	0.042
Males[6]	-0.598***	-0.044	0.0171			
Internet Use[7]						
Do not use the internet	-0.759***	-0.060	0.025			
Social Participation[8]						
Those who participate in volunteering	0.912***	0.056	0.016	0.645**	0.084	0.027
Constant	2.515***			0.760*		
N	946			954		
LR Chi-square P-value	Chi-sq(18) = 364.38 0.000			Chi(23)= 176.29 0.000		

The reference categories are [1]those who own their own home, [2]those who work full-time, [3]those who earn between £200 and £500 per week, [4]those who have no formal education qualifications, [5]those aged 35-44, [6]females, [7]those who use internet and [8]those who do not participate in volunteering.
Significance level: *p<0.05, **p<0.01, ***p<0.00

Table 4: Association between having used the services of doorstep lenders and socio-economic characteristics

Variables	Pearson chi-sq(1)
Age	13.5141 (0.036)
Education	6.9808 (0.222)
Gender	6.3605 (0.012)
Disability	5.4492 (0.020)
Young people in household	16.3227 (0.000)
City Neighbourhood District (Postcode)	9.0746 (0.106)
Tenure	38.8181 (0.000)
Income	25.4415 (0.005)
Working Status	87.1846 (0.000)
Internet	0.9731 (0.324)
Social participation	1.5352 (0.215)

P-values in parenthesis.

Table A.1: Variance Inflation Factor (VIF)

Variable	Home Contents Insurance		Savings Account	
	VIF	1/VIF	VIF	1/VIF
Age	6.24	0.160	5.79	0.173
Education	5.49	0.182	5.72	0.175
Income	7.56	0.132	4.09	0.245
Tenure	3.30	0.303	4.09	0.244
Gender	1.94	0.514		
Internet Use	4.08	0.245		
Social Participation	1.49	0.672	1.44	0.694
Working Status			3.89	0.257
Mean VIF	4.30		4.17	

Table A.2: Estimation with and without district clustering

	Home Contents Insurance		Savings Account	
	(1)	(2)	(3)	(4)
Tenure	-0.803**	-0.790**	-0.416**	-0.404**
	(0.123)	(0.139)	(0.108)	(0.134)
Income	0.985**	0.966**	0.313*	0.327
	(0.155)	(0.053)	(0.139)	(0.186)
Education	-0.172*	-0.180**	-0.245**	-0.258**
	(0.073)	(0.056)	(0.057)	(0.071)
Age	0.506**	0.505**	0.240**	0.250**
	(0.074)	(0.055)	(0.056)	(0.077)
Gender	-0.469*	-0.460**		
	(0.208)	(0.115)		
Internet Use	0.940**	0.956**		
	(0.264)	(0.189)		
Social Participation	0.855**	0.800*	0.700**	0.640**
	(0.274)	(0.363)	(0.222)	(0.174)
Working Status			-0.141*	-0.134
			(0.055)	(0.074)
Constant	-0.424	-0.387	1.722**	1.704**
	(0.621)	(0.393)	(0.561)	(0.626)
District Cluster	No	Yes	No	Yes
N	946	930	954	937

Regressions (1) and (2) refer to Home Contents Insurance as dependent variable; regressions (3) and (4) refer to Savings Account as dependent variable. Standard Errors in parenthesis.* $p<0.05$; ** $p<0.01$

Table A.3: Logistic Results to identify the interaction between income and selected variables.

Variables	(1) Home Contents Insurance	(2) Home Contents Insurance	(3) Home Contents Insurance	(4) Home Contents Insurance	(5) Savings Account	(6) Savings Account	(7) Savings Account	(8) Savings Account
Tenure	-1.129**	-1.107**	-0.799**	-0.806**	-0.869**	-0.941**	-0.418**	-0.422**
	(0.333)	(0.322)	(0.123)	(0.123)	(0.296)	(0.284)	(0.109)	(0.109)
Income	0.494	0.650	0.882**	1.068**	0.036	-0.184	0.392	0.670*
	(0.557)	(0.358)	(0.324)	(0.309)	(0.453)	(0.282)	(0.272)	(0.270)
Education	-0.309	-0.172*	-0.228	-0.176*	-0.357*	-0.255**	-0.202	-0.261**
	(0.203)	(0.073)	(0.171)	(0.074)	(0.168)	(0.057)	(0.138)	(0.058)
Age	0.577**	0.493**	0.516**	0.549**	0.391*	0.217**	0.233**	0.418**
	(0.200)	(0.075)	(0.080)	(0.158)	(0.166)	(0.057)	(0.059)	(0.129)
Gender	-0.487*	-0.466*	-0.479*	-0.467*				
	(0.212)	(0.209)	(0.210)	(0.209)				
Internet Use	0.968**	0.964**	0.938**	0.946**				
	(0.266)	(0.265)	(0.264)	(0.264)				
Social Particiaption	0.862**	0.868**	0.852**	0.853**	0.710**	0.716**	0.702**	0.697**
	(0.276)	(0.277)	(0.274)	(0.275)	(0.223)	(0.223)	(0.222)	(0.222)
Income*Tenure	0.170	0.157			0.228	0.267*		
	(0.159)	(0.153)			(0.140)	(0.134)		
Income*Education	0.072		0.031		0.045		-0.022	
	(0.099)		(0.085)		(0.076)		(0.065)	
Income*Age	-0.041			-0.030	-0.099			-0.114
	(0.113)			(0.096)	(0.088)			(0.073)
Working Status					-0.128*	-0.137*	-0.142*	-0.131*
					(0.057)	(0.056)	(0.055)	(0.056)
Constant	0.561	0.254	-0.259	-0.532	2.517*	2.847**	1.586*	1.204
	(1.152)	(0.909)	(0.771)	(0.712)	(1.014)	(0.801)	(0.689)	(0.655)
N	946	946	946	946	954	954	954	954

Regressions (1) to (4) refer to HCI as dependent variable; regressions (5) to (8) refer to SA as dependent variable. Standard Errors in parenthesis.* $p<0.05$; ** $p<0.01$

Table A.4: Smith-Blundell test of exogeneity of tenure and income

Variable	Home Contents Insurance^	Savings Account*
Tenure	1.342838 (0.2465)	1.830339 (0.1761)
Income	1.104406 (0.2933)	0.5297105 (0.4667)

Chi-sq(1). P-value in parenthesis. ^Instruments for tenure: working status, income, education, gender, and age; ^instruments for income: education, gender, age, and working status. *Instruments for tenure: education, income, gender, and age; *instruments for income: education, gender, and age.