Financial exclusion in developed countries: a field experiment among migrants and low-income people in Italy

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Abstract

We designed an experiment to estimate the socio-economic and behavioral characteristics associated with financial exclusion in a developed economy and the demand for savings products progressively trading-off flexibility for commitment. Our sample includes people in Italy living below the poverty line, stratified by migration status. Despite a large bank branch penetration in the study area, we find a high rate of financial exclusion, with households below the sample median income being unbanked at twice the rate of those above (30% vs. 15%), a difference that is especially significant for migrants. Financial exclusion is associated with poverty and social exclusion, as measured by unemployment, low food consumption, and little help from personal networks. Despite a high-declared willingness to open new accounts and a strong interest in commitment products following a financial education training seminar, actual uptake in the year to follow remains low, suggesting that demand-driven factors besides knowledge hamper access to formal financial services, namely incomes that are perceived too low to make accounts worthwhile. Yet, migrants, especially if non-Muslim, appear more willing to become financially included than non-migrants, suggesting that there are gains to be made by targeting minorities.

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Introduction

Access to formal financial services is crucial to economic well-being. Transaction and savings accounts allow households to smooth income and consumption in face of adverse shocks and variable income streams; to transfer resources over time, space, and agents; to accumulate large lump sums to finance bigger expenses and investments; to decrease the reliance on expensive fringe credit; to protect against claims on wealth by others (Levine, 2005; World Bank, 2008; Helms, 2010). Financial access is especially critical for the poorest households, who are more often trapped in the present, exposed to more unpredictable shocks and seldom equipped with high levels of education and critical information (Lusardi, 2008; Collins et al. 2009; Banerjee and Mullainathan, 2010; Duflo et al. 2011; Sha et al., 2012; Bernheim et al., 2015). While financial exclusion (FE) is especially acute in developing countries where poverty occurrence is most frequent (Helms, 2010; Karlan and Morduch, 2010), surprisingly high rates of FE are also detected in high-income countries, where the penetration and outreach of financial intermediaries are larger and financial access should be easier in principle (Demirgüç-Kunt and Klap-

per, 2015). As a result, developed economies have started to focus increasing attention on the issue[1]. The European Union, in particular, has placed the reduction of FE among one of its 2020 strategic objectives. While the definition of FE is context-specific[2], its average for the EU-27 countries is estimated to be between 10% and 12% and, if focusing on the bottom of the income distribution, between 14% and 22% (Table S1).

Although an increasing literature is focusing on the financial performance of poor people in rich countries[3], very

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[1] Considering the massive waves of migrants reaching Europe, this problem is expected to grow worse. Refugees, asylum seekers and economic migrants are identified as disproportionately represented among the financially excluded.

[2] Here we define FE as not having a transaction bank account, i.e. not having any account or only accounts without an easy mean of payment such as a debit card. The European Commission proposed a more comprehensive, yet less operational, definition of FE: "a process whereby people encounter difficulties accessing and/or using financial services and products in the mainstream market that are appropriate to their needs and enable them to lead a normal social life in their society" (European Commission, 2008).

[3] Some studies have investigated debt management and over-indebtedness issues in the USA (Amar et al. 2011; Melzer, 2011; Bhutta et al. 2015; Skiba and Tobacman, 2015).

little is known about the determinants of FE, its impact on households' financial decisions and wellbeing, and potential solutions. This is problematic, first, because the sizeable exclusion indicated above suggests the potential of severe negative financial and economic consequences. Second, because, in high-income countries, having a current account is often required to access many services and to avoid a much wider social and political exclusion, as well as psychological distress (Anderloni and Carluccio, 2006; Atkinson et al., 2007; European Commission, 2008; Mitton, 2008). On the upside, banking low-income people in rich countries has the potential to be highly effective in getting them out of economic and social exclusion, given the more developed infrastructure, well-functioning institutions and better access to information and training.

Against this background, our study focuses on Italy, a country with one of Europe's largest FE rates (see Table S1) and a share of people living in poverty of about 20%, compared to a EU average of 17% (Eurostat). The goals of this study are twofold: 1) understand the socio-demographic characteristics of those who are financially excluded; and 2) test the potential demand for new financial instruments offering different flexibility vs. commitment features. To do so, in partnership with a local financial institution (FMBCC, a regional network of cooperative banks in Central Italy), we implemented a year-long field experiment to assess the take-up and usage of innovative financial products that have the potential to address the needs of low-income people, with a special attention to migrants.

Financial exclusion in the literature

The literature on FE points to factors that can be grouped either as supply or demand side explanations. For developing countries, the main causes of FE have been attributed mostly to supply side reasons: impediment to physical access to banks and financial services providers, such as distance and infrastructures' poor state (Burgess and Pande, 2005; Dupas et al. 2014). Even in rich countries, where physical access should not really be an obstacle, supply side factors, such as prohibitive fees, administrative hassles, stringent requirements of credit history, collateral or guarantees (including identification documents), may still prevent people from accessing widely available financial services (Washington, 2006; Celerier and Matray, 2016). Furthermore, the existing products and their characteristics - e.g. minimum account balances, overdraft fees, emphasis on credit, low remuneration of small savings, individual management, etc. - might not be appropriate to the needs of individuals with low and unstable income, or with self-control problems. Additionally, the low profitability of small transactions given fixed costs, the little volume of operations and profits these customers could generate, might not make this segment of the population profitable enough for the providers.

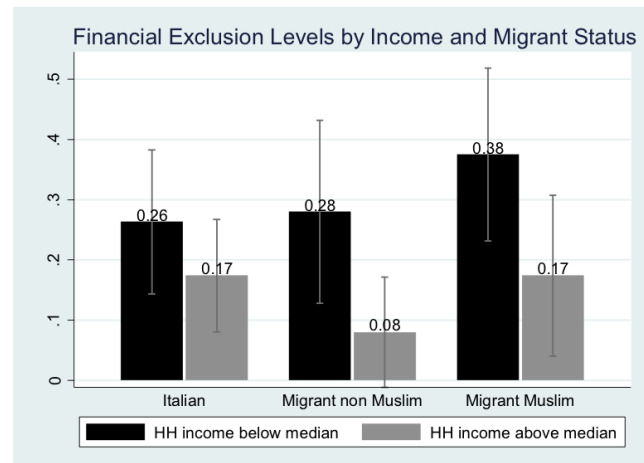Yet, demand-side factors could explain a considerable share of FE, which remains stubbornly high in many rich

Figure 1. The difference in mean financial exclusion rates between households below and above median income is significant for the entire sample (30.5% vs. 14.9% respectively, p= 0.010). Disaggregating migrant categories, this difference is large yet insignificant for Italians, significant for Migrant non-Muslim (p=0.068) but only marginally for Migrant Muslim. Error bars represent 90% confidence intervals.
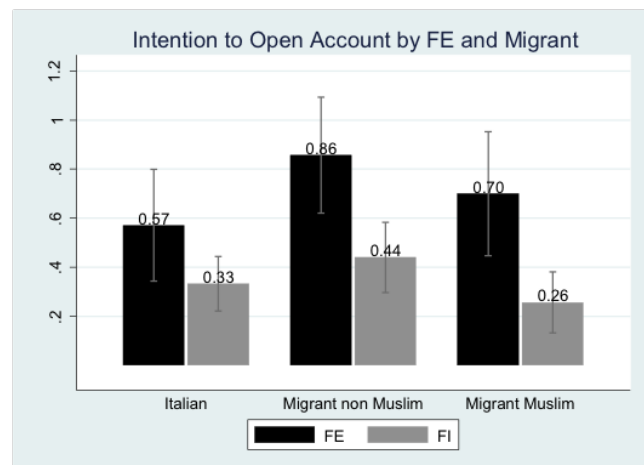

Figure 2. Looking at intentions, a significant difference is found between unbanked vs. banked (68% vs. 34%, p=0.001). Disaggregating migrant categories, this difference remains significant for all three: Italian (p=0.097), Migrant non-Muslim (p= 0.046) Migrant Muslim (p=0.011). Error bars represent 90% confidence intervals.

countries despite significant supply progress (increased competition and automation, etc.). Among those, issues like the fear of being rejected by the formal sector, the low levels of trust towards formal financial institutions and the low financial literacy seem important determinants (e.g. Lusardi and Mitchell, 2014). Furthermore, an emerging literature has focused on a new set of demand-side factors, elements of behavioral and psychological origin that would prevent even people with sufficient means from fully partaking in the
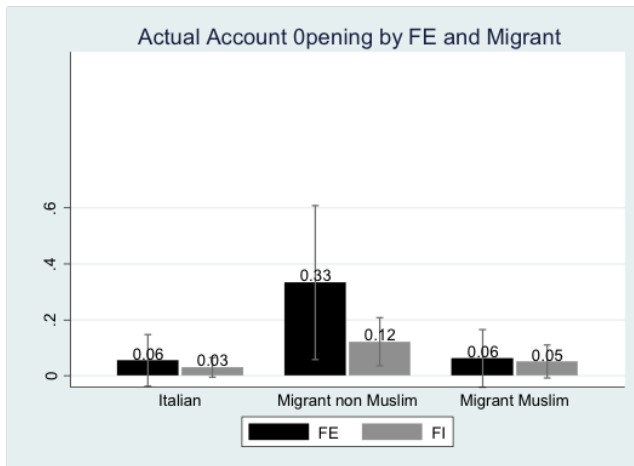
Figure 3. Looking at actual behavior, we did not find not a significant difference between banked and unbanked (6% vs. 12%, p=0.231). Disaggregating migrant categories, this difference becomes weakly significant only for Migrant non-Muslim (p=0.112), but insignificant for Italian and Migrant Muslim. Error bars represent 90% confidence intervals.

benefits of financial inclusion: procrastination and cost of action, present-bias and self-control, limited attention, and strategies to escape pressures from friends and family members (Thaler and Bernartzi, 2004; Baland et al., 2011; Karlan et al., 2013). Innovations in the design of savings products, like commitment savings devices, goal-setting mechanisms, labeled savings accounts, text reminders or limited liquidity accounts have then the potential to help savers overcome some in this last set of challenges (e.g. Ashraf et al., 2006; Karlan et al., 2010; Dupas and Robinson, 2013). The upside is that if individuals are sophisticated in the sense that they correctly anticipate their future self-control problems (O'Donoghue and Rabin, 1999), they may be willing to take up commitment devices. In these cases, illiquid forms of wealth may help people avoid the temptation to spend money previously planned as savings and limit claims from others. Yet, illiquidity can also be costly, especially for poor people with irregular income, who may be willing to forego future returns (and larger utility) in the face of more ready cash-in-hands at present.

Experimental design

The setting
Our study took place in Italy, a country where a significant number of people do not hold a bank account or do not use it to save (more details in Appendix A1.1), despite bank penetration rates are among the highest (52.7 branches per 100k people, Beck et al. 2007).

The experiment was carried out in the Ancona province of the Marche region, located in the center of the country and representative of the median income of Italian provinces according to many statistics. The area enjoys a large network of banks, specifically cooperative banks like the one that part-

nered with us. Its strategic position in front of the Balkans ensures an important and rather stable population of migrants, a group traditionally at-risk of poverty. Today, migrants account for about 10% of the province population (versus 8% nationally)[4].

Sampling strategy
We randomly selected 480 households from the official list of households eligible for public lodging and social benefits from four towns located around the city of Ancona: Fabriano, Falconara Marittima, Jesi and Osimo. We stratified the sample to get an equal representation of natives and migrants, as well as of three categories of income levels (ISEE lower than 2500, between 2500 and 5000, or higher than 5000)[5]. The head (or head's spouse) of each household was then invited to a one-hour interview in the local town hall via a formal letter signed by the mayor of their city[6]. Out of 480 invitations, we completed 189 interviews, implying a survey participation rate of about 40%[7].

Treatments
Figure S1 illustrates the experimental design and Appendix A1 describes it in details. Interviews were administered individually. Each interview comprised an extensive questionnaire aiming at understanding the household's profile. We also included three incentivized lottery games to elicit subjects' time and risk preferences (see Appendix A1 and Figures S2 and S3). After a short session of financial training, we randomly assigned subjects to three groups, each one receiving encouragement to open and use a different set of savings instruments in decreasing order of liquidity, progressively trading-off flexibility for commitment: a Current Account (CA, n=67), a Liquid Savings Account (LSA, n=63) in addition to CA, or a Commitment Savings Account (CSA, n=59) in addition to CA and LSA (see Appendix A1.2). Invitations to open any of these products were made through official vouchers, signed by one of the principal investigators. All accounts were free of charge.

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[4] According to Istat, there were about 45,000 legal migrants in 2016, among which the main countries of origin are Romania, Albania, and Macedonia (37% of total), followed by Morocco and Tunisia (11%), and Bangladesh (7%).

[5] The ISEE index is a normalized measure of households' comprehensive income, taking into account the number of members in the household, the overall yearly income and wealth of households. The index is used to assess whether the household is eligible for a series of services both at national and at local level (e.g. subsidies, tax and medical care exemptions, social housing, etc.).

[6] The majority (78%) of the interviews were answered by the household head, while the remaining ones were answered by the head's spouse (with two exceptions where the respondents were a head's child and a head's parent). The mayor's signature was meant to avoid potential feelings of discrimination or commercial venture.

[7] 50% if we consider that 96 selected individuals could not be reached for an invitation since they had moved without leaving new contact details. To prevent issues of self-selection into the sample along the line of financial exclusion, the invitation letter was intentionally vague and did not mention any bank-related matter, just that the municipality was carrying out a socio-demographic survey and a show-fee would be paid to participants.

The main part of the study ran between August and November 2013. All participant households were then called one month from the initial interview for a satisfaction survey. In January 2014, the expiry date of the offer, we measured actual account openings, and monitored their use for one year, until January 2015.

Results

Financial exclusion

This project's first goal is to estimate the frequency of households living below the poverty line who are financially excluded. Our results indicate a surprisingly high rate of FE: 23% of the participants in our sample lacks access to a basic transaction account[8]. Contrary to conventional expectations, we do not find migrants overall displaying a significantly higher rate of FE than Italians (24% vs. 21%, p=0.643). When we break down the migrant status into Muslim and non-Muslim households (Figure 1 and Table 1), the problem emerges particularly for Muslim migrants (about half of the migrants in our sample), whose rate of FE is nearly 30%, about 10% higher than both the respective rates of Italians (21%) and other Migrants (18%), but not significantly so. One possible reason behind such high FE rate among Muslims may be scarcity of Sharia-compliant financial products.

To verify whether financial exclusion affects disproportionately low-income populations, we compare FE rates of households above the sample per-capita income median to those below, and between Italian and Migrant households (Figure 1 and Table 1). Our data shows that relatively poorer households are on average 15 percentage points more likely to be unbanked than those relatively better off (30.5% vs. 14.9%, p= 0.010). This difference is almost 10% for Italians, but not significant, while it is 20% and significant for all Migrants (p= 0.014). Disaggregating the migrants, this 20% difference in FE between income levels is especially significant for non-Muslim (28% vs. 8%, p=0.068), and only borderline for Muslim (37.5% vs. 18%, p=0.132).

Interestingly, among households without a transaction account at the time of the interview, 66% declared having had one in the past but decided to close it mainly because it was too costly and not useful enough. This seems to indicate that extensive-margin financial exclusion in the current environment is not due to lack of products' supply: the vast majority of unbanked households know what bank accounts are and consciously decided not to have any.

Households' characteristics

Our second objective is to investigate which households' characteristics are predictive of FE. Table S2 displays the descriptive statistics for our sample's demographic and socioeconomic variables. Comparing households with at least one transaction account (FI) from the ones without (FE), we find that, on average, financially excluded households are slightly

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[8] Only 5% in our sample has a savings account.

older, a bit smaller, and with fewer small children. One hypothesis to explain these findings could be that poverty and social exclusion may affect fertility choices. It may also reflect a generational effect, with younger people more likely to be banked.
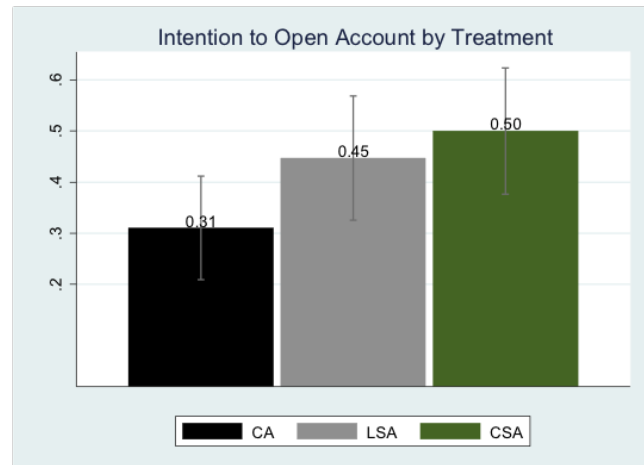

Figure 4. No significant difference is found between intention to open a CSA vs. a LSA (50% vs. 45%, p= 0.612), a weak one between LSA and CA (45% vs. 31%, p=0.153), but a significant one between CSA and CA (50% vs. 31% p= 0.050). Error bars represent 90% confidence intervals.
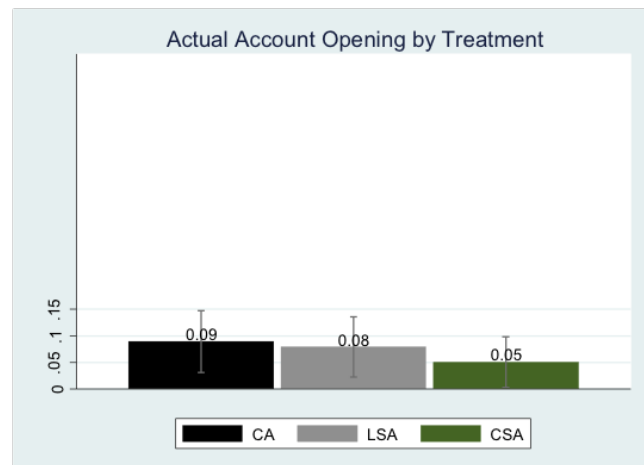

Figure 5. Looking at actual behavior, despite high declared interest, very few accounts were open, with no significant difference between the three treatments. Note however the ranking reversal compared to intentions. Error bars represent 90% confidence intervals.

Given our stratification strategy, it is no surprise that slightly more than half the sample (55%) is constituted by Migrant households (almost all of whom speak some Italian, including at home), with 29% Migrant Muslim. In our sample of low-income people, the proportion of Migrant among the unbanked (58%) is insignificantly higher than among the banked (54%), but if we turn to Muslims, that difference (37%

Table 1. Financial Exclusion by Income and Migrant Status

	All Mean N (Std. Dev.)	Italian	Migrant	t-test (It.=Mig.) P-Value	Migrant non Muslim	Migrant Muslim	t-test (It.=Non M.) P-Value	t-test (It.=Muslim) P-Value
All	0.228 189 (0.420)	0.212 85 (0.411)	0.240 104 (0.429)	0.643	0.180 50 (0.388)	0.296 54 (0.461)	0.659	0.262
Income Below median	0.305 95 (0.463)	0.263 38 (0.446)	0.333 57 (0.476)	0.472	0.280 25 (0.458)	0.375 32 (0.492)	0.885	0.322
Income Above median	0.149 94 (0.358)	0.170 47 (0.380)	0.128 47 (0.337)	0.567	0.080 25 (0.277)	0.182 22 (0.395)	0.299	0.907
t-test P-Value (Below=Above)	**0.010**	0.303	**0.014**		**0.068**	0.132		

Notes. Income indicates household per-capita income.

Below median indicates income below the in-sample median of euros.

Above median indicates income above the in-sample median of euros.

vs. 26%) becomes borderline significant.

Overall, about half of the household heads have only primary education. Financially excluded households are less educated than included ones, but not significantly. They have similar levels of Italian literacy but significantly lower computer literacy. The unemployment rate in our sample is high at about 40%. Nearly 50% of the FE households and 33% of the FI households have a head who is not working, this difference being significant. Only 33% of household heads have a stable occupation in the formal sector vs. almost 50% of the FI, a 17% significant difference. Mean household income per capita is about 255 euros per month, with no significant difference between excluded and included[9].

Table S3 further supplements the analysis by showing that poverty and financial exclusion are associated with significantly lower food consumption and expenditures: FE households consume significantly less meat or fish, are significantly more likely to have been forced to skip a meal in the previous month, have purchased less ready-made meals (notably more expensive) and have eaten out less. Home ownership is low (about 10%) for both categories; rental payments are similar (around 370 euros), and hard to meet (85% for FE and 76% for FI). FE households are significantly less likely to have either a landline or Internet in the house. In conclusion, these

statistics confirm the hypothesis that financial exclusion is associated with a wide measure of poverty.

With respect to financing and social network variables, as expected, the credit access of financially included people is higher than for excluded people. FE households manage to borrow significantly less than FI (3,300 vs. 6,729 euros), not surprisingly especially from banks (19% vs. 33%)[10]. In addition to data in Table S3, we found that although only about 7% of our participants declared to have saved last year, without much difference between FI and FE households, the vast majority (85%) finds important to save but less than half (43%) considers important to have a bank account (47% banked vs. 28% unbanked, p=0.024)[11]. Nearly 20% of the entire sample rely on expensive fringe credit.

FE households score similarly to FI households when it comes to general and financial help from relatives, but significantly less from friends (60% vs. 92% for general help and 19% vs. 54% for money), confirming that financial exclusion is often associated with social exclusion. Overall, the profile emerging from our baseline questionnaire suggests

[9] This is much below the relative poverty line in Italy, which was 972.52 euros for a two-member household in 2013.

[10] It is possible that some of the unbanked people who took credit had an account at the time of the loan and closed it afterwards. The main reported credit purposes are: buying or repairing a car or a motorbike (23% of loans), consuming (21%), financing house works (11%), buying durable goods for the house (10%).

[11] The main constraints reported by the participants are: insufficient income (85%), irregular income (17%), difficulties in controlling spending habits (9.5%) and being indebted (4.5%).

Table 2. Risk Aversion by Financial Exclusion, Migrant Status and Income

	All Mean N (Std. Dev.)	FE	FI	t-test (FE = FI) P-Value	Italian	Migrant	t-test (Italian=Mig.) P-Value	Income Below Median	Income Above Median	t-test (Bel.=Abo.) P-Value
Risk Aversion Level (excl. irrat. & incons.)	4.026 156 (1.654)	4.125 32 (1.809)	4.000 124 (1.618)	0.704	3.946 74 (1.561)	4.098 82 (1.740)	0.569	3.924 79 (1.774)	4.130 77 (1.525)	0.439
Risk Aversion Level (incl. incons.)	3.747 182 (1.712)	3.718 39 (1.863)	3.755 143 (1.675)	0.904	3.735 83 (1.616)	3.758 99 (1.796)	0.930	3.630 92 (1.826)	3.867 90 (1.588)	0.353
High Risk Aversion (excl. irrat. & incons.)	0.429 156 (0.497)	0.500 32 (0.508)	0.411 124 (0.494)	0.369	0.351 74 (0.481)	0.500 82 (0.503)	**0.062**	0.430 79 (0.498)	0.429 77 (0.498)	0.982
High Risk Aversion (incl. incons.)	0.368 182 (0.484)	0.410 39 (0.498)	0.357 143 (0.481)	0.541	0.313 83 (0.467)	0.414 99 (0.495)	0.162	0.370 92 (0.485)	0.367 90 (0.485)	0.968
Moderate Risk Aversion (excl. irrat. & incons.)	0.397 156 (0.491)	0.281 32 (0.457)	0.427 124 (0.497)	0.134	0.500 74 (0.503)	0.305 82 (0.463)	**0.013**	0.342 79 (0.477)	0.455 77 (0.501)	0.152
Moderate Risk Aversion (incl. incons.)	0.385 182 (0.488)	0.231 39 (0.427)	0.427 143 (0.496)	**0.026**	0.482 83 (0.503)	0.303 99 (0.462)	**0.013**	0.315 92 (0.467)	0.456 90 (0.501)	**0.052**
Irrational	0.027 187 (0.162)	0.071 42 (0.261)	0.014 145 (0.117)	**0.042**	0.024 85 (0.152)	0.029 102 (0.170)	0.805	0.011 93 (0.104)	0.043 94 (0.203)	0.180
Inconsistent	0.139 187 (0.347)	0.167 42 (0.377)	0.131 145 (0.339)	0.559	0.106 85 (0.310)	0.167 102 (0.375)	0.234	0.140 93 (0.349)	0.138 94 (0.347)	0.977

Notes. Irrational means choosing the first lottery in row 6, when the second lottery gives a sure higher amount.
Inconsistent means switching multiple times between the two lotteries.

that financially excluded households tend to live more isolated lives than financially included individuals.

Risk and time preference

The interviews also included incentivized lotteries to elicit subjects' risk and time preferences. Table 2 and Figure S5 show that most of the households are very risk averse, switching to the riskier lottery around row 4. If we denote as having high risk aversion those who switch to the riskier lottery only when the good state is sure or almost sure (likelihood ¿83%, i.e. rows 5 or 6), we observe that FE individuals display more high risk aversion that FI (41-50% vs. 36-41%), though not significantly. FI individuals are significantly more likely to have a "moderate" risk profile, i.e. switching to the riskier lottery only in rows 3 or 4, (43% vs. 23-28% for FE), displaying either a limited willingness to take risk or a limited risk aversion. Additionally, FE individuals are significantly more likely to have irrational preferences (7% vs. 1.4% for

FI), which might be linked to lower education or financial experience. People with income above the sample median display significantly higher rates of moderate risk aversion (46% vs. 32-34%). Migrants overall have significantly higher rates of high risk aversion (41-50% vs. 31-35%) and lower rates of moderate risk aversion than Italians (30% vs. about 50%), with Table S4 showing that it is especially so for Muslims.

Turning to time preferences, Table 3 and Figure S6 show that households are very impatient about choices taking place today, although banked households display lower impatience about the present than unbanked ones, yet insignificantly. Interestingly, the difference is starker and becomes significant when it comes to decisions about further future. This difference might be related to a greater "sophistication" of FI individuals' time discounting. A similarly lower future impatience rate can be found between those whose income is above median and those below. Migrants of either category do not exhibit much difference from Italians (see also Table S5). FE

Table 3. Impatience by Financial Exclusion, Migrant Status and Income

	All Mean N (Std. Dev.)	FE	FI	t-test (FE = FI) P-Value	Italian	Migrant	t-test (Italian=Mig.) P-Value	Income Below Median	Income Above Median	t-test (Bel.=Abo.) P-Value
Impatience Level Present (excl. incons.)	3.531 179 (2.237)	3.872 39 (2.226)	3.436 140 (2.238)	0.283	3.654 81 (2.180)	3.429 98 (2.288)	0.503	3.618 89 (2.259)	3.444 90 (2.224)	0.605
Impatience Level Present (incl. incons.)	3.420 188 (2.247)	3.674 43 (2.222)	3.345 145 (2.256)	0.400	3.553 85 (2.190)	3.311 103 (2.297)	0.463	3.489 94 (2.275)	3.351 94 (2.227)	0.674
Impatience Level Future (excl. incons.)	2.525 177 (2.419)	3.297 37 (2.402)	2.321 140 (2.391)	**0.029**	2.456 79 (2.385)	2.582 98 (2.458)	0.732	2.875 88 (2.477)	2.180 89 (2.324)	**0.056**
Impatience Level Future (incl. incons.)	2.459 185 (2.391)	3.024 42 (2.394)	2.294 143 (2.373)	**0.082**	2.373 83 (2.362)	2.529 102 (2.424)	0.660	2.815 92 (2.440)	2.108 93 (2.301)	**0.044**
Hyperbolic Discount	0.430 172 (0.497)	0.361 36 (0.487)	0.449 136 (0.499)	0.349	0.455 77 (0.501)	0.411 95 (0.495)	0.565	0.407 86 (0.494)	0.453 86 (0.501)	0.541
Hyperbolic Discount (incl. incons.)	0.422 185 (0.495)	0.405 42 (0.497)	0.427 143 (0.496)	0.803	0.458 83 (0.501)	0.392 102 (0.491)	0.371	0.402 92 (0.493)	0.441 93 (0.499)	0.597
Inconsistent Present	0.048 188 (0.214)	0.093 43 (0.294)	0.034 145 (0.183)	0.116	0.047 85 (0.213)	0.049 103 (0.216)	0.962	0.053 94 (0.226)	0.043 94 (0.203)	0.734
Inconsistent Future	0.043 185 (0.204)	0.119 42 (0.328)	0.021 143 (0.144)	**0.006**	0.048 83 (0.215)	0.039 102 (0.195)	0.767	0.043 92 (0.205)	0.043 93 (0.204)	0.988

Notes. Present indicates choice between a lower amount paid tomorrow or a higher amount paid in a month.
Future indicates the choice between a lower amount paid in 6 months or higher amount paid in 7 months.
Hyperbolic Discount indicates subject less patient in near future than in distant future.
Inconsistent means switching multiple times between the two lotteries.

individuals are more likely to give inconsistent answers. A bit less than half of the sample (43%) displays some sort of hyperbolic discounting, i.e. they appear to be less patient in the near future than in the distant future, but with little difference between banked (slightly higher rates) and unbanked households, or migrant. The significantly negative correlation we also find between impatience (especially about the future) and income, suggests a further link between financial exclusion and poverty.

Take-up rates

In addition to the questionnaires, we randomly offered interviewed subjects three different types of savings bundles to assess their demand for savings products. The experimental design neutralizes any supply-constraints to financial inclusion and thus aims at estimating demand-driven determinants of FE. Overall, 41% of the sample declared a willingness to use the voucher to open the proposed bank account(s), while only 7.4% actually did so (see Table 4 and Figure 3). Financially excluded individuals expressed a significantly higher intention to open accounts (68% vs. 34%, p=0.001), but only those with income above median ended up doing it (21% vs. 7.5%, p=0.104). Only non-Muslim migrants expressed more interest than Italians (significantly for those below median income), a willingness followed by action with significantly higher opening of accounts (especially for those whose income is above median).

In Table 5, we estimate the factors that predict intentions and actual uptake by means of Probit regressions[12]. Columns

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[12] Usage data of the limited number of newly opened accounts (intensive-margin outcomes) doesn't show much activity: in CA treatment, only one new transaction account out of three is actively used (the others being dormant); in LSA the utilization rate is about 50% for both transaction and liquid savings account; in CSA two out of three transaction accounts are being

Table 4. Intended and Actual Take-up Rates

	All Mean N (Std. Dev.)	FE	FI	t-test (FE = FI) P-Value	Italian	Migrant non-Muslim	t-test (It.=non M.) P-Value	Muslim	t-test (It.=Muslim) P-Value
Intention to Open Account	0.411	0.677	0.342	**0.001**	0.379	0.512	0.179	0.364	0.874
	151	31	120		66	41		44	
	(0.494)	(0.475)	(0.476)		(0.489)	(0.506)		(0.487)	
Income Below Median	0.394	0.706	0.296	**0.002**	0.276	0.526	**0.083**	0.435	0.240
	71	17	54		29	19		23	
	(0.492)	(0.470)	(0.461)		(0.455)	(0.513)		(0.507)	
Income Above Median	0.425	0.643	0.379	**0.071**	0.459	0.500	0.768	0.286	0.200
	80	14	66		37	22		21	
	(0.497)	(0.497)	(0.489)		(0.505)	(0.512)		(0.463)	
t-test (Below=Above) P-Value	0.705	0.720	0.347		0.131	0.871		0.316	
Actual Opening of Account	0.074	0.116	0.062	0.231	0.035	0.160	**0.010**	0.056	0.570
	189	43	146		85	50		54	
	(0.263)	(0.324)	(0.241)		(0.186)	(0.370)		(0.231)	
Income Below Median	0.053	0.069	0.045	0.641	0.026	0.120	0.140	0.031	0.904
	95	29	66		38	25		32	
	(0.224)	(0.258)	(0.210)		(0.162)	(0.332)		(0.177)	
Income Above Median	0.096	0.214	0.075	**0.104**	0.043	0.200	**0.032**	0.091	0.431
	94	14	80		47	25		22	
	(0.296)	(0.426)	(0.265)		(0.204)	(0.408)		(0.294)	
t-test (Below=Above) P-Value	0.260	0.171	0.464		0.691	0.451		0.356	

(1) to (5) show the estimated effect of FE, income, migration status, experimental treatments, risk aversion, impatience and other socio-demographic variables on the declared willingness to use the voucher to open the offered account, whereas Columns (6) to (10) display the effect of the same set of regressors on the actual opening of accounts. Looking at intentions, we find a significant difference between unbanked vs. banked, with FE individuals expressing a significantly higher interest in opening the proposed account (estimated average marginal effect of about 30 percentage points). On the contrary, actual behavior shows that FE households do not actually open more accounts, implying persistent barriers. Interestingly, once we isolate Muslims from the other Migrants, we see that Migrants are on average much more eager to open accounts than Italians (both declaring a higher willingness and actually following through at a greater rate), while Muslims display a significantly lower interest and actual uptake, possibly a result

of the fact that our interest-bearing savings products are not Sharia-compliant.

With respect to the experimental treatments, we again see the reverse between people declared intentions and what they actually do. While people want to save and therefore value the liquid savings account (LSA), and especially the commitment savings device (CSA), more than the current account (CA baseline category), they do not open such accounts more often (the CSA even tends to be opened less often than the basic current account). Figure 3A and B show that the CSA received the highest valuation with 50% of our sample wanting to open one, though only 5% actually did so. The idea of not being able to access the account, while highly valued in principle, appears to be much harder to implement (plausible explanations are fear of tying one's hands in future, cost of foregoing liquidity, or complexity of the system).

With respect to the behavioral preferences, we find weak evidence that impatient individuals are more interested in the savings products, while risk aversion is strongly positively related with intentions but not with actual behavior. The head's age is positively associated with both interest and action, while

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used while only one out of the three commitment savings account is used. Moreover, nobody used the automatic deposit option from the current to the commitment account, and nobody respected the stated monthly savings commitment beyond three months.

Table 5. Willingness to Use Voucher Vs. Actual Financial Product Uptake

VARIABLES	Intention to Open Account					Actual Opening of Account				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Financial Exclusion	0.88***	0.93***	0.93***	1.04***	0.93***	0.43	0.50	0.53	0.46	0.18
	(0.26)	(0.27)	(0.27)	(0.30)	(0.32)	(0.31)	(0.33)	(0.33)	(0.37)	(0.43)
Income Above Median	0.14	0.14	0.13	-0.02	0.10	0.39	0.43	0.42	0.36	0.86**
	(0.21)	(0.21)	(0.22)	(0.24)	(0.25)	(0.29)	(0.30)	(0.31)	(0.33)	(0.43)
Migrant		0.41	0.45*	0.64**	1.00***		0.87**	0.92***	1.09***	2.04***
		(0.26)	(0.26)	(0.28)	(0.32)		(0.34)	(0.36)	(0.39)	(0.62)
Muslim		-0.45	-0.50*	-0.78**	-1.07***		-0.63*	-0.67*	-0.72*	-0.97**
		(0.28)	(0.29)	(0.32)	(0.35)		(0.36)	(0.37)	(0.39)	(0.45)
LSA (Liquid Savings Account)			0.40	0.47*	0.52*			0.05	-0.11	-0.40
			(0.26)	(0.29)	(0.31)			(0.34)	(0.37)	(0.43)
CSA (Commitment Savings Account)			0.54**	0.55**	0.51*			-0.36	-0.38	-1.06*
			(0.26)	(0.27)	(0.29)			(0.39)	(0.40)	(0.54)
Risk Aversion Level				0.21***	0.23***				0.10	0.13
				(0.07)	(0.08)				(0.10)	(0.11)
Impatience Level Present				-0.22	-0.19				0.36	0.59
				(0.27)	(0.28)				(0.36)	(0.42)
Impatience Level Future				0.53*	0.53*				0.22	0.28
				(0.28)	(0.30)				(0.36)	(0.41)
Age (hh head)					0.03**					0.09***
					(0.02)					(0.03)
Education (hh head)					-0.25***					-0.31**
					(0.09)					(0.14)
Constant	-0.49***	-0.60***	-0.90***	-1.75***	-2.41***	-1.78***	-2.21***	-2.16***	-2.83***	-6.71***
	(0.17)	(0.21)	(0.27)	(0.39)	(0.82)	(0.25)	(0.36)	(0.41)	(0.67)	(1.77)
Observations	151	151	151	144	143	189	189	189	180	179

Probit Estimates. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

The variables Impatience Level Present, Impatience Level Future and Risk Aversion Level include inconsistent subjects.

head's education is negatively correlated (likely because it increases the likelihood that he/she has already an account or already knows about its potential benefits). Finally, once all the other variables are included, income displays a modest but positive correlation to actual account openings, reinforcing the main result that it takes a certain level of income to make financial products worthwhile.

Conclusion

Our study shows that financial exclusion is correlated with economic and social exclusion. As such, becoming financially included should be a desirable condition for poor households. Yet, independent of migration status, low-income people hardly take-up basic financial services such as transaction and savings accounts, even when these are fully available and offered at subsidized rates. This is even more puzzling when we consider that those who do not demand financial products actually declare a great desire to save and a willingness to be included in the formal financial sector. In fact, despite a stated strong interest, especially among the unbanked, our field experiment resulted in low take-up rates, with the highest rate among non-Muslim migrants. Our results differ from the optimistic ones of Beshears et al. (2015), whose experiments in the U.S. reveal that a large fraction of subjects actually do allocate part of their endowments into illiquid, even costly, commitment accounts, displaying a level of sophistication about self-control awareness that we do not find in our more vulnerable subject pool of migrants and low-income people.

Our study contributes to the existing literature on FE showing: First, how precarious the lives of poor households in developed countries are, despite a larger presence of social safety nets than in developing countries. Second, how migrants (especially non-Muslim) may be more reactive to financial inclusion campaigns than other categories. Third, how behavioral traits like impatience and risk aversion appear to contribute positively to a hypothetical demand for savings products, although not necessarily translated in actual account opening. Finally, our study indicates that, even when the supply of financial products is unrestricted, there are still binding constraints to financial inclusion, which are mainly attributable to low-income and its corollary consequences (low education, low food consumption, social isolation, etc.).

Acknowledgments

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