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Evidence from a new
benefit program

Tuomas Matikka

Tuuli Paukkeri

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Tuuli Paukkeri

Tuomas Matikka, VATT Institute for Economic Research (Helsinki, Finland)
and CESifo, tuomas.matikka@vatt.fi

Tuuli Paukkeri, VATT and Aalto University, tuuli.paukkeri@vatt.fi

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Tuomas Matikka – Tuuli Paukkeri

Abstract

The effectiveness of transfer programs can be significantly reduced if eligible individuals fail to apply for them. In this paper we study the impact of information provision on the take-up of social benefits. We exploit the implementation of the guarantee pension program in Finland in 2011, which offered a minimum monthly pension (688 euros) to low-income pensioners. The Finnish Social Insurance Institution sent information letters and application forms to a portion of the eligible population a month before implementation. We find clear evidence that this mailing significantly increased take-up and prompted pensioners to apply sooner, showing that simple and inexpensive mailings can have a large effect on benefit take-up among individuals outside the labor force.

Key words: Take-up of social benefits; information

JEL classes: H24, H55, D03

Tiivistelmä

Sosiaaliturvan alikäyttö voi merkittävästi heikentää sosiaaliturvajärjestelmän toimivuutta. Tämä ongelma korostuu erityisesti sellaisten etuuksien kohdalla, jotka on kohdennettu kaikkein heikoimmassa taloudellisessa asemassa olevien henkilöiden tukemiseen. Tässä tutkimuksessa arvioimme informaation vaikutusta sosiaaliturvan alikäyttöön tarkastelemalla takuueläkkeen käyttöönottoa vuonna 2011. Takuueläke turvaa pienituloisille eläkeläisille vähimmäiseläketulon, 688 euroa kuukaudessa vuonna 2011, mikäli eläketulot ovat alle tämän rajan.

Takuueläkkeen käyttöönoton yhteydessä Kela lähetti osalle tukeen oikeutetuista eläkeläisistä tietoa takuueläkkeestä sekä esitäytetyn hakulomakkeen. Kirje sisälsi tietoa henkilön mahdollisesta oikeudesta saada takuueläkettä, sekä tietoja takuueläkkeen tulorajoista ja takuueläkkeen hakemisesta. Tutkimuksessa

havaitsemme, että kirje ja hakulomake vaikuttivat hyvin merkittävästi takuueläkkeen hakemiseen. Kirjeen saaneet henkilöt hakivat takuueläkettä useammin ja nopeammassa aikataulussa kuin ne tukeen oikeutetut eläkeläiset, jotka eivät saaneet kirjettä. Tulokset osoittavat, että henkilökohtaista informaatiota lisäämällä voidaan merkittävästi vaikuttaa sosiaaliturvien alikäyttöön. Tutkimuksessa ei sen sijaan havaita, että takuueläkkeestä uutisoinnilla olisi yhtä vahvaa vaikutusta hakemiseen.

Asiasanat: Sosiaaliturvien alikäyttö, informaatio

JEL-luokat: H24, H55, D03

1 Introduction

A prominent feature of various social benefit programs is that some proportion of the targeted individuals fail to apply for the benefits they are entitled to (Currie 2006). This incomplete take-up impairs the effectiveness of benefit programs and limits the ability to reduce poverty and increase well-being. Therefore, knowledge of how to affect the take-up rate is a key issue in implementing such policies.

Various factors could explain why individuals do not apply for the benefits they are entitled to. These have traditionally been categorized into information costs, transaction costs and stigma related to applying for the benefit, assuming that people rationally judge these costs against the size of the benefit (Currie 2006). Recently, different types of cognitive costs that could interfere in the take-up decision have gained attention, such as the complexity and non-transparency of many programs (Chetty, Friedman and Saez 2013; Chetty and Saez 2013; Liebman and Zeckhauser 2004). Therefore, evidence of the effectiveness of various means to increase the availability of information and the clarity of benefit rules and application procedures is relevant in terms of policy-making, as these factors are likely to play a significant role in affecting take-up.¹

We study how a simple information letter sent to eligible individuals affects the take-up rate. We study the introduction of the guarantee pension program in Finland in 2011. The program offers a minimum monthly pension of 688 euros for all pensioners below this pension income level, targeted at pensioners with no or very little work history. For a typical eligible pensioner, the guarantee pension increased monthly income by 100–170 euros.

As part of an information campaign, the Finnish Social Insurance Institution (SII) sent information letters together with an application form to a group of eligible pensioners prior to implementation. This provides us quasi-experimental variation in receiving this letter that enables a compelling analysis of the impact of the letter on the take-up rate of this benefit.

We contribute to the scarce literature on the effectiveness of information by studying individuals outside the labor force, namely the low-income elderly and disability pensioners. Earlier literature on take-up has mostly concentrated on analyzing low-income working individuals who are entitled to social benefits or tax credits, such as the Earned Income Tax Credit (EITC) in the US (Bhargava and Manoli 2015; Chetty et al. 2013; Chetty and Saez 2013). However, knowledge of how inexpensive and simple information provision affects take-up among non-working individuals is very policy-relevant, as in-

¹Complex social programs that lead to incomplete take-up can be effective in targeting the benefit at those with the greatest need (see e.g. Kleven and Kopczuk 2011). However, this is not necessarily the case when considering benefits that are specifically targeted at non-working individuals at the very low end of the income distribution with clear eligibility criteria, such as the guarantee pension program in Finland.

complete take-up is bound to impair the effectiveness of welfare policies targeted at these vulnerable individuals in great economic need. We also compare the effectiveness of the information letter to that of press coverage in affecting the take-up rate, thus providing evidence of the effectiveness of different measures of information provision. In addition, by utilizing detailed register data on medicine reimbursements and medical diagnosis, we provide new evidence of the effects of directed information for individuals with different states of health.

The SII sent the letters to a selected group of eligible pensioners in late January 2011, a month before actual implementation of the program. The mailing included information about the guarantee pension program and the eligibility criteria, details on how to apply for the benefit, and an application form and a postage-paid return envelope.

The SII targeted the letters at pensioners who were most likely eligible for the guarantee pension: recipients of a full national pension from the SII. This group constitutes 65% of the (estimated) eligible population, leaving 35% of eligible individuals without the letter. The treatment group (letter in January) and the control group (no letter in January) are very similar, consisting of eligible low-income pensioners with no or small employment pensions (earnings-related pensions), with both groups also receiving other social benefits from the SII and eligible for varying amounts of guarantee pension benefits. In addition, during August and September 2011 the SII contacted all remaining pensioners who were potentially eligible for the guarantee pension but had not applied for it by then.

The overall take-up rate of the guarantee pension was very high, as 93% of all eligible pensioners applied for it by the end of 2011. Nevertheless, our results show that the letter had a significant impact on take-up, and prompted eligible pensioners to apply sooner. We find a clear difference in the take-up rate of eligible pensioners whose probability of receiving the letter is higher, compared to individuals with similar pension income who are eligible for similar benefit amounts but were less likely to receive the letter. This shows that selection to the treatment group based on national pension income level is not driving the results. Furthermore, we observe a clear increase in take-up in the control group after the SII contacted all remaining eligible pensioners during August–September of 2011 who had not applied by then. This evidence also illustrates the impact of personal information.

Our regression results show that receiving the letter increased the average probability of applying for the guarantee pension before August by 33 percentage points – 55% relative to the control group take-up rate. In addition, the January letter increased the take-up rate by 12 percentage points (15% relative to control group) by the end of 2011, implying a significant effect of early information on the overall take-up that persists despite the second round of information campaigning in August–September.

We find larger responses among severely ill or disabled pensioners receiving a specific

benefit intended for assistance in normal daily activities (cooking, eating, dressing etc.). This finding suggests that the effect of the letter was greater for those who were more likely not to manage their financial issues solely by themselves but rather receive assistance from, for example, close relatives. In contrast, we find no significant differences in responses between individuals with or without medical expenses for severe or long-term illnesses, nor between individuals with or without prescribed medicine for mental illnesses. This suggests that deteriorated health does not confound the effect of the letter, at least within the population with prescribed medicine for their illnesses. Overall, the letter had a large and significant effect on take-up in various subgroups, implying that the response is not limited to any specific types of pensioners. Finally, we find no evidence of the impact of press coverage on take-up, implying that informing the eligible population through the mass media is significantly less effective than personal mailings.

Our work is related to recent empirical literature that has found information provision to play a key role in take-up. Bhargava and Manoli (2015) show that clarifying the details and simplification of the application form for the EITC in the US increased claiming for this tax credit, while attempts to reduce perceived stigma and claiming costs did not. Mastrobuoni (2011) finds that the official social security statement sent to people close to their retirement age in the US increased the accuracy of their estimates of their future social security benefits. In a similar vein, Liebman and Luttmer (2015) show that simple information interventions increased the understanding of means-tested social security benefits in the US, and increased labor supply among individuals close to retirement age. Bettinger, Long, Oreopoulos and Sanbonmatsu (2012) find that mere information treatments did not increase the take-up of college financial aid in the US, whereas the combined treatment of information and personal assistance did. However, Zantomio (2015) finds that a bundle of measures intended to encourage take-up, including simplified claiming procedures, application assistance and targeted mailings, had no impact on take-up of the pension credit, which replaced the existing minimum income guarantee program in the UK in 2003.²

We add to the literature by finding that information has a distinctive role in the take-up of social benefits, particularly among vulnerable individuals outside the labor force. Providing simple information on eligibility and an application form had a very significant effect on take-up, and prompted eligible individuals to apply for the new benefit sooner. From a policy perspective, providing this type of a simple treatment to eligible individuals provides a cost-effective way to increase take-up and the effectiveness of social programs targeted at the very low end of the income distribution.

²Information provision can also reduce take-up. For example, Hertel-Fernandez and Wenger (2013) find that providing accurate information about unemployment insurance (UI) benefits reduced self-reported willingness to apply for UI benefits. They hypothesize that the experiment participants had an overly optimistic view of UI generosity and the ease of application, and by correcting those beliefs, the new information reduced participation intentions.

The paper proceeds as follows: Section 2 describes the guarantee pension program and the information campaign. Section 3 introduces the data and presents the descriptive analysis. Section 4 presents the regression results, and Section 5 concludes the study.

2 Guarantee pension and the information campaign

2.1 Guarantee pension program

Prior to the implementation of the guarantee pension program, the main sources of pension income for low-income pensioners were typically the state-paid national pension and employment pensions (earnings-related pensions) based on contributions accumulated during working life. The national pension provides the basic subsistence for pensioners with little or no employment pension income due to short work histories. The maximum amount is 586.46 euros per month for single persons and 520.19 euros for those living with a partner.³ If the person has employment pension income above 51.79 euros per month, this gradually reduces the national pension such that each euro of employment pension income reduces the national pension by 50 cents.⁴

The guarantee pension was implemented on March 1, 2011. The goal of the guarantee pension program is to reduce pensioner poverty by raising all pensioners' incomes to a minimum level – it is a top-up benefit for low pension incomes. The program is targeted at approximately 100,000 low-income pensioners out of a total of 1.3 million pensioners in Finland. The target group is pensioners with little or no work history, who therefore have accumulated very little or no employment pension. The target population consists mainly of low-income old-age pensioners, and the disabled who collect a permanent disability pension. The guarantee pension is administered by the Finnish Social Security Institution (SII), which administers most welfare benefits in Finland, including national pensions.

The main eligibility requirement for the guarantee pension is having total pension income below 687.74 euros per month. Figure 1 illustrates the simple linear relationship between total pension income and guarantee pension entitlement. If an eligible pensioner has zero total pension income, she is eligible for the maximum benefit equal to the threshold. Each euro of pension income reduces the benefit by one euro. The minimum payable amount is 6.23 euros.

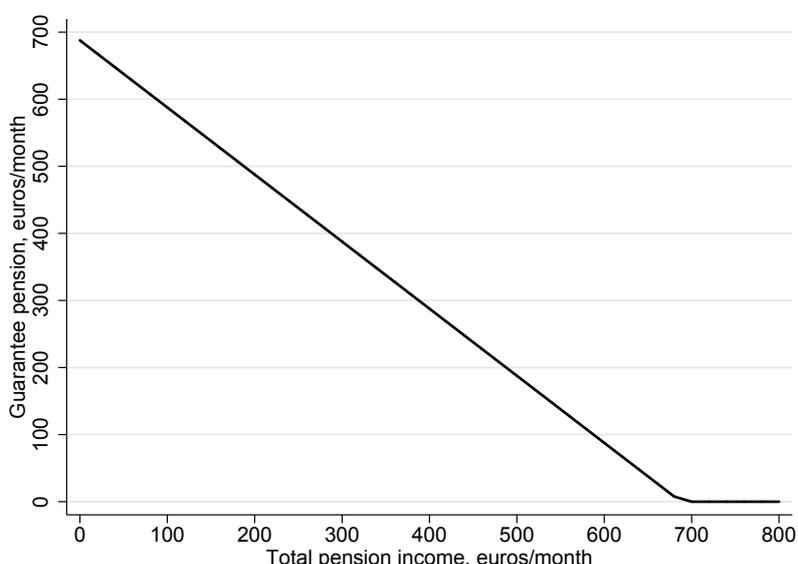
Only pension income affects the guarantee pension – other types of social benefits do not. Low-income pensioners may be eligible for pensioners' housing allowance from the SII or social assistance from their municipality. The SII also provides health-related benefits

³Since our analysis focuses on 2011, the year of implementation, we express all monetary amounts in 2011 terms. The amounts of national pension and guarantee pension are increased annually according to a cost-of-living index.

⁴In addition, the national pension can be lowered due to, for example, having taken up an early old-age pension or having lived abroad for long periods during one's working life.

such as reimbursements for medical expenses and a care allowance for those who live at home but need constant assistance in daily activities due to severe illness or disability, but these benefits do not affect guarantee pension eligibility either. Also, the applicant’s earnings (earned income and capital income) and wealth do not affect eligibility, nor do their spouse’s pension income, earnings, or wealth. Additional eligibility requirements are that the pensioner is currently living in Finland, and has lived in the country for at least 3 years between the ages of 16–65. Also, part-time employment pensions do not give entitlement to guarantee pension benefits.

Figure 1: Guarantee pension eligibility based on total pension income.



An application to the SII is required in order to receive the guarantee pension. In the Finnish welfare system, an application to the SII is always required in order to claim a benefit.⁵ Applying for the guarantee pension became possible one month before implementation, on February 1 2011. There is no re-application requirement, meaning that once a person has been granted the benefit, she receives it monthly until her retirement ends or she passes away. However, the benefit amount may of course change if the person’s pension income changes.

If an individual does not apply for the guarantee pension immediately, she can receive the benefits retrospectively for up to six months. Beyond that time older benefit months are lost permanently. Thus if a pensioner was eligible when the benefit was implemented in March 2011 and applied by September 30 of that year, she could receive the total sum of benefits she was eligible for, starting from March.

The application process was made extremely simple. The application form requires

⁵This requirement even includes child benefits that every household with children under the age of 17 is eligible for, irrespective of household income or any other characteristics.

only the applicant's name and bank account information, and a declaration of any received pension income not paid out by the SII or Finnish pension funds. The application form is presented in Figure A.2 in the Appendix. In addition to the paper form, the benefit can be applied for using the SII online platform, calling the SII service number or visiting an SII office. In addition to low transaction costs, stigma costs are also likely to be low. Implementation of the benefit was based very much on a notion of fairness, which was clearly visible in the news coverage of the political process during 2008–2010. Therefore, negative feelings about take-up are likely to be low, especially relative to other more discretionary benefits such as social assistance. Therefore, the program constitutes a suitable testing ground for the impact of the letter and personal information, as other types of take-up costs are low.

2.2 Information campaign

January letters: information prior to implementation. The SII wanted to ensure that the eligible population became aware of the benefit and would know how to apply for it. For our purposes, the main feature of the information campaign was the targeted information letter sent to a portion of the eligible population prior to implementation. The SII aimed to avoid personally informing ineligible pensioners about the new benefit. Therefore, they targeted the mailing at a subpopulation that was most likely to be eligible: those receiving a full national pension. For this group of pensioners, the total amount of pension income can easily and reliably be checked in the SII registers, and thus the room for errors in eligibility status was small. Therefore, this procedure was not originally selected by the SII in order to study how the letter affects take-up, but rather to avoid informing potentially ineligible pensioners about the program in the early stages of implementation.

The SII sent the letters on January 24–28, 2011. No pensioners other than the recipients of full national pensions were approached in this way, so their knowledge of the benefit relied on, for example, reading the news or perhaps visiting an SII office for other reasons. The SII originally estimated that there would be around 115,000 eligible pensioners in 2011, 75,400 of whom were sent an information letter.

The mailing consisted of a short letter explaining the existence of the new benefit and the eligibility criteria, and that the recipient was likely to be eligible. In addition, the letter included an application form and a postage-paid return envelope. Thus, in addition to information provision, the letter presumably reduced the costs of applying for the benefit by providing the application form and a return envelope. The information letter and the application form are presented in the Appendix (Figures A.1 and A.2). Since the SII sends out letters to its clients frequently (e.g. regarding benefit application decisions), there are standardized procedures for mass mailings in place, and therefore

this particular information letter mailing was relatively inexpensive to carry out.

We utilize the quasi-experimental variation in receiving the letter to identify the effect of the letter treatment on take-up. We evaluate the impact of receiving the letter on overall take-up, but focus especially on the impact on *early* take-up – applying before August 2011 – as we will clarify in detail below. Since the letters were targeted at those on a full national pension, letter recipient status among the eligible population is not random. Nevertheless, the treatment group – pensioners who received the letter in January – and the control group – eligible pensioners who did not receive the letter in January – both consist of low-income pensioners receiving some pension benefits from the SII, mainly varying amounts of national pension. This implies that both groups were very accustomed to dealing with the SII, and knew how social benefits are applied for in Finland. Furthermore, since selection to the treatment is based on observable characteristics related to the level and composition of total pension income, we can control for any of these differences between the treatment and control groups. We discuss the differences between the treatment and control groups in more detail in Section 3.

August information campaign: reminders after implementation. In addition to the January letter, the SII conducted a second targeted information campaign in August–September 2011. As the guarantee pension benefit can be granted retrospectively for up to six months, at this point in time the SII wanted to ensure they reached the entire pool of eligible persons by the end of September. SII district offices were instructed to contact those deemed eligible but who had not yet applied for the benefit between August 9–September 14. Persons deemed to be eligible were either sent a letter (similar to that in January) or phoned by local SII officials. The SII estimated that this active campaigning meant that all eligible individuals were likely to have heard of the benefit by mid-September 2011.

Our main analysis focuses on estimating the impact of the January letter on take-up by the end of July 2011. Later take-up is affected by the second round of information in August–September, and would at least partly confound our analysis. Moreover, as guarantee pension recipients consist of very low-income individuals with limited access to any outside income, there are no obvious incentives to postpone application for several months. Therefore, it is reasonable to assume that the potential effect of the January letters materialized soon after they were received. However, we also analyze the effect of the January letter beyond September 2011, and study how the August–September information campaign itself affected take-up.

Media coverage. In addition, the SII’s information campaign included strong visibility in various media. The SII sent out several press releases over the course of the year, published news items in the SII’s customer magazine and website, and distributed infor-

mation brochures at local SII offices. Overall, the SII published 14 press releases between the falls of 2010 and 2011. Their own media monitoring found 130 hits related to guarantee pensions in various media in January-October 2011, and several others towards the end of 2010.

For those who did not receive the letter in January, their awareness of the benefit and their potential eligibility would thus rely on being exposed to these other information channels. Since almost all eligible pensioners received at least some national pension income and very often other types of benefits from the SII, it is likely that most of the eligible population would have been exposed to some form of information on the benefit during 2011. Receiving a personal letter with an application form was, however, likely to be a much stronger prompt about eligibility than the more general information and publicity.

Furthermore, given the wide media coverage and other potential sources of information, our results on receiving the January letter can be interpreted as the effect of personal information within an environment of widespread general knowledge of the benefit. In addition, we conduct a separate analysis on the effectiveness of press coverage in increasing take-up in Section 4.4.

3 Data and descriptive analysis

3.1 Data

We use detailed register data from the SII covering both the national pensions that the SII administers as well as all other pension data that the Finnish Centre for Pensions collects from pension funds. The base population consists of all pensioners in 2011 with a valid pension at the end of the year. For pensions paid out by the SII, we observe monthly payments, but for employment pensions we can only observe the information at the end of the year. Therefore, we use the amount paid in December as our measure of monthly pension income.⁶

The data also include background characteristics such as gender, place of residence and age. Also, we have data on individual medicine expenses reimbursed by the SII, and, for severe illnesses, the medical diagnosis related to these prescription medicines.⁷ Ad-

⁶Changes in monthly pension payments within a year are very rare.

⁷The national health insurance system covers part of individual medicine expenses. Basic medicine expenses cover prescribed medicine for a wide variety of illnesses, such as exanthema and allergies, and common prescribed medicines such as antibiotics. Special medicine expenses cover prescribed medicine for severe and long-term illnesses, such as cancer and cardiovascular diseases. Basic reimbursement is directly subtracted from the selling price at the pharmacy. The eligibility for special reimbursements is based on a medical certificate, and once the reimbursement status is granted, the reimbursed amount is directly subtracted from the selling price at the pharmacy. For more information on the special medicine reimbursement scheme, see http://www.kela.fi/web/en/reimbursements-for-medicine-expences_special-reimbursement (accessed 30.8.2016).

ditionally, we have merged information from the registers of Statistics Finland regarding education level and other income types.

We limit our estimation sample to pensioners who we estimate to be eligible for the guarantee pension benefit based on the eligibility criteria described above. We discuss our eligibility estimation in more detail below. In order to reliably study the effect of the January letter on take-up, we further restrict our sample to pensioners who were retired on January 2011 and continued their retirement until at least December 2011. With these restrictions, we have a sample of 105,574 eligible pensioners. The treatment group consists of 68,655 pensioners who received the January information letter.

Table 1 shows the average characteristics of the sample. Old-age pension and full disability pension are the most common pension types. Almost all pensioners (97%) in the sample receive national pension income from the SII. There is a small minority who do not receive any national pension, which can be due to, for example, receiving other pension income or having lived abroad for many years. Less than half of the eligible pensioners have employment pension income. Other sources of pension income are rare.

Average total pension income is 574 euros per month in the sample, and average guarantee pension benefits received are around 102 euros per month. Approximately half of the pensioners receive pensioners' housing allowance from the SII, and a similar number receive pensioners' care allowance. 98% of eligible pensioners receive some of these benefits or the national pension from the SII, indicating that the entire sample is accustomed to dealing with the SII. Even though guarantee pension eligibility does not depend on income from other sources (labor, capital or entrepreneurial income), non-pension income is not very common among the sample, except for small amounts of capital income. However, variation within the sample is notable, as there are some individuals with relatively high non-pension income.

As explained above, the treatment group to whom the January letter was sent was not chosen randomly among the pool of eligible pensioners, but was based on receiving a full national pension. The treatment and control groups are therefore likely to differ in some characteristics. Table 1 shows that the treatment group has more disability pensioners, and the control group more old-age pensioners. This also affects the difference in the average age between the groups. Disability pensioners are also typically male and unmarried, which is visible in the group averages. Unsurprisingly, only 17% of pensioners in the treatment group have positive employment pension income, and the average level is also very low. However, average pension income is similar in both groups, which indicates they are eligible to similar amounts of guarantee pension benefits. There are also no notable differences regarding other sources of income between the treatment and control groups, except perhaps the prominence of small amounts of annual capital income in the control group. Still, it is important that both groups consist of pensioners with low total pension income who receive benefits from the SII.

Table 1: Descriptive statistics for the total sample of pensioners eligible for the guarantee pension, and for the treatment group (January letter) and the control group (no January letter).

	Total sample (N=105,574)		Treatment group (N=68,655)		Control group (N=36,919)	
	share	mean	share	mean	share	mean
National pension, eur/month	0.97	528	1.00	566	0.91	451
Employment pension, eur/month	0.43	139	0.17	33	0.91	177
Other pension income, eur/month	0.02	138	0.01	109	0.03	156
Total pension income, eur/month	–	574	–	572	–	576
Guarantee pension (observed), eur/month	0.92	102	0.97	108	0.82	88
Old-age pensioners	0.39	–	0.26	–	0.63	–
Disability pensioners	0.51	–	0.64	–	0.26	–
Other pension types	0.12	–	0.10	–	0.16	–
Pensioners' housing allowance, eur/month	0.48	238	0.58	238	0.30	239
Pensioners' care allowance, eur/month	0.44	143	0.56	147	0.21	125
Basic medicine expense reimbursement	0.81	348	0.78	355	0.85	335
Special medicine expense reimbursement	0.57	1,159	0.58	1,286	0.56	911
Any mental illness medicine reimbursement	0.24	–	0.30	–	0.12	–
Male	0.38	–	0.44	–	0.26	–
Has a spouse	0.34	–	0.20	–	0.61	–
Age, years	–	59	–	53	–	69
Level of education (1–5)	–	1.4	–	1.4	–	1.5
Labor earnings in 2011	0.06	4,899	0.05	4,817	0.08	4,997
Capital income in 2011	0.30	2,883	0.24	2,342	0.41	3,467
Entrepreneurial income in 2011	0.04	6,064	0.02	6,000	0.06	6,105
Foreign income in 2011	0.03	1,236	0.02	772	0.04	1,728
Net income in 2011	–	11,820	–	12,096	–	11,307

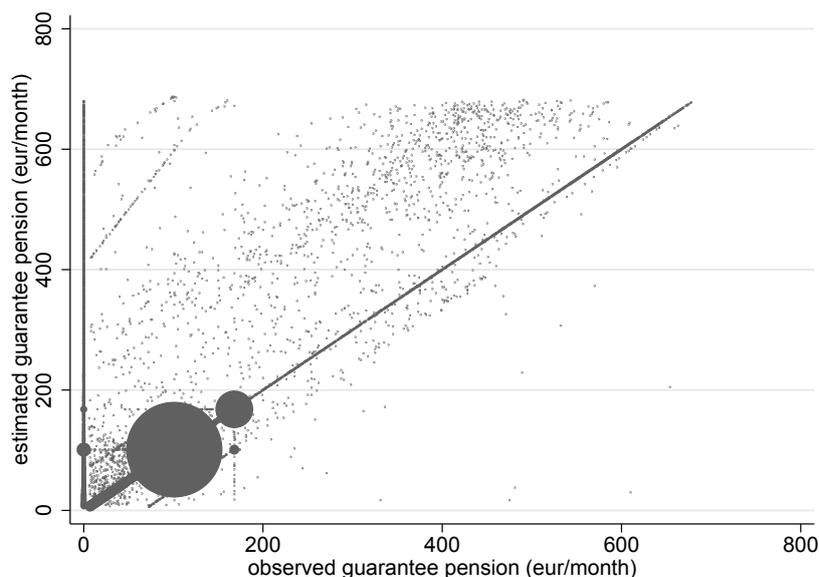
Notes: Means for monetary variables are calculated for positive observations and presented in euros (in 2011). 'Share' denotes the relative share of recipients within each group. Other pension income includes veterans' pensions, pensions from traffic injuries and accidents, and foreign pension income. Other pension types include early old-age pensions, temporary rehabilitation benefits, unemployment pensions, and farm closure compensation pensions. Guarantee pension refers to observed amount of guarantee pension for recipients in 2011. Medicine reimbursements for mental illnesses include special reimbursements based on a medical diagnosis under the category of mental disorders, such as dementia, psychosis, paranoia and schizophrenia, and medicine prescribed for Alzheimer's disease. Level of education refers to a categorical measure of education level (1=elementary school, 5=graduate or post graduate degree). Net income information is available for 105,555 pensioners and income information by income type for 105,549 pensioners.

3.2 Descriptive analysis

In order to analyze the effect of the January letter on take-up, we first need to estimate eligibility for the guarantee pension program among all pensioners. As described above, the eligibility criteria are rather straightforward, as eligibility mainly depends on total pension income, which we can accurately observe from the register data. Figure 2 presents a weighted scatter plot of estimated guarantee pensions (vertical axis) and observed

guarantee pensions (horizontal axis). The majority of observations lie on the 45-degree line. The estimated guarantee pension is equal (± 10 euros) to the observed amount for 97% of pensioners receiving the guarantee pension. The points at the zero level of actual guarantee pension describe individuals not receiving a guarantee pension but who we estimate to be eligible for it. According to our estimation, incomplete take-up occurs at all levels of the guarantee pension, implying that the level of the benefit does not drive the estimated incomplete take-up.

Figure 2: Eligibility estimation.

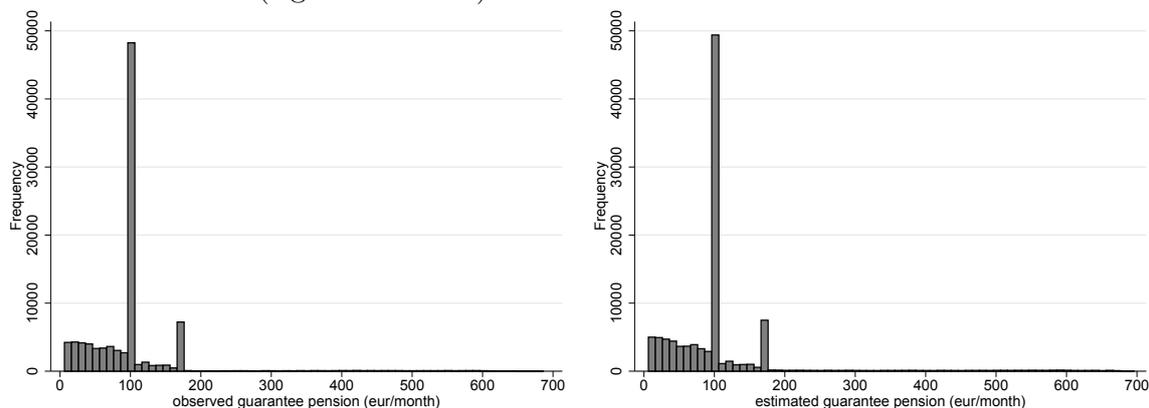


Notes: The figure presents a weighted scatter plot of estimated guarantee pensions (vertical axis) and observed guarantee pensions (horizontal axis). The majority of observations lie on the 45-degree line (line not drawn). The largest concentrations on the 45-degree line correspond to the guarantee pension entitlement of typical recipients of a full national pension (101 euros for single pensioners and 168 euros for cohabiting pensioners).

Figure 3 shows the distribution of observed guarantee pensions and our estimate of the distribution based on the eligibility criteria. The left-hand side of the figure shows that there are two clear spikes in the actual distribution. These mark the guarantee pension received by pensioners with a typical full national pension from the SII (101 euros for single pensioners and 168 euros for cohabiting pensioners). The right-hand side shows that the estimated distribution is very similar to the observed distribution, implying that we can very accurately capture the distribution of guarantee pension benefits.

Our measure of take-up is a dummy indicating whether we observe that a person applied for the guarantee pension by some specific point in time. We measure take-up as having applied, irrespective of the benefit decision of the SII. The number of rejected applications is very small, and thus including rejections does not affect our results in a significant way. Among our sample of 105,574 estimated eligible pensioners, 1,186

Figure 3: Actual guarantee pension distribution (left-hand side) and estimated guarantee pension distribution (right-hand side).



Notes: The figure shows the distribution of observed guarantee pensions (left-hand side) and our estimate of the distribution based on the eligibility criteria (right-hand side). The distinctive spikes in both distributions mark the guarantee pension received by pensioners with a full national pension from the SII (101 euros for single pensioners and 168 euros for cohabiting pensioners).

applied but were not granted the benefit (438 in the treatment group and 748 in the control group).

Table 2 shows the take-up rates of the guarantee pension program among the eligible population. The overall take-up rate by the end of 2011 is relatively high, as 93% of all eligible individuals had applied for the benefit. The table shows that the take-up rate increased over time during 2011, but was already at 77% in March of 2011 when the benefit was introduced. The average recipient applied for the benefit right after its implementation in week 11 (March 14–18, 2011). The table also reveals clear differences in the behavior of letter recipients and the control group, which we discuss in more detail below.

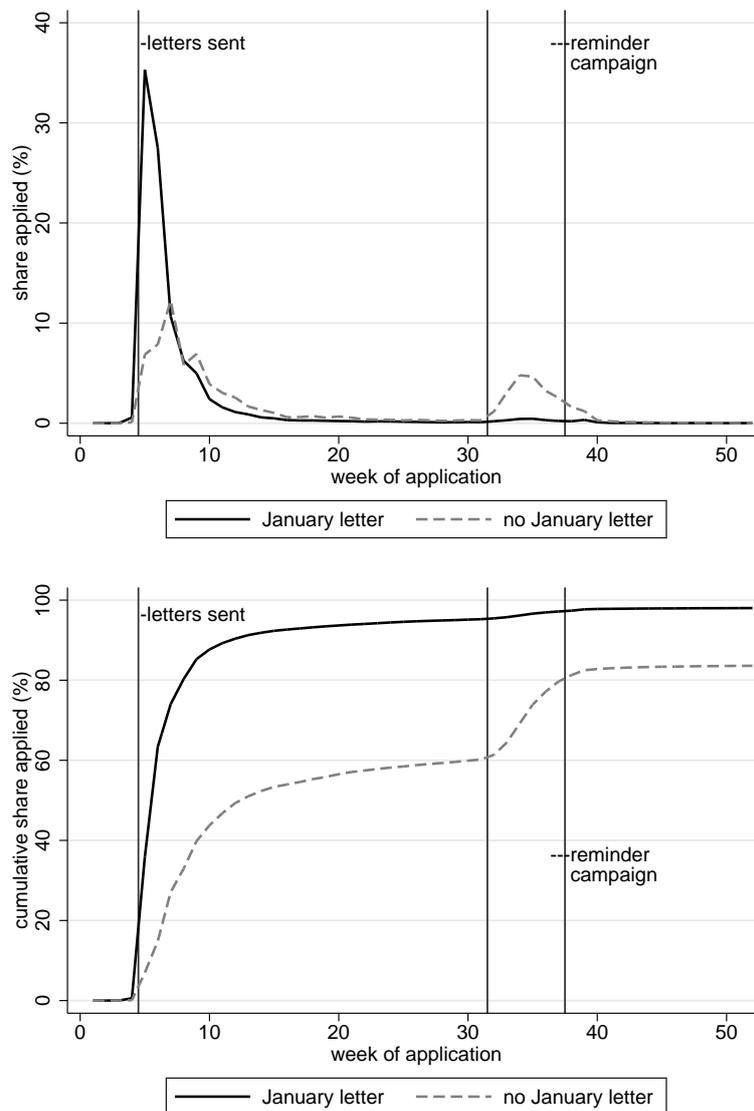
Table 2: Guarantee pension take-up rates.

	Whole sample (N=105,574)	Treatment group (N=68,655)	Control group (N=36,919)
Applied by end of March 2011	0.77	0.91	0.51
Applied by end of July 2011	0.83	0.95	0.60
Applied by end of September 2011	0.92	0.98	0.82
Applied by end of 2011	0.93	0.98	0.84
Average week of application	11 (March 14–18)	8 (February 21–25)	18 (May 2–6)

Figure 4 provides graphical evidence of the effect of the letter on the take-up rate. The upper graph shows the share of treatment and control group pensioners who applied for the benefit in different weeks in 2011. The first vertical line denotes the week when the January letters were sent (week 4, January 24–28). The second (week 32, August

8–12) and third (week 37, September 12–16) lines denote the period in which the SII contacted all remaining potential recipients of the guarantee pension. This includes both those who already received the first letter in January and those who did not.

Figure 4: Above: The share of received applications in different weeks in 2011 in the treatment and control groups (January letter/no letter). Below: Cumulative share of applications in different weeks in the treatment and control groups.



Notes: The figure shows the share of eligible pensioners in the treatment and control groups who applied for the guarantee pensions in different weeks in 2011 (above), and the cumulative share of applications in different weeks (below).

The graph highlights that a significant share of pensioners applied for the benefit immediately after receiving the letter in late January. Over 30% of pensioners in the treatment group applied for the benefit in week 5, compared to less than 10% in the control group. This illustrates the sharp effectiveness of the January letter. Second, the share of weekly applications was very similar in both groups after week 9 and until the

end of July. Within this period, no personal information or application forms were sent to any of the eligible pensioners, and there are no visible differences in take-up intensity between the groups in that period. Third, we observe a clear increase in applications in the control group starting in week 32 when the SII began to contact all remaining pensioners potentially eligible for the benefit who had not applied by then. This again shows that personally provided information on potential eligibility and details on how to apply appear to be very important for take-up. However, we do not observe a sharp increase in applications in the group that received the January letter, even though those who had not applied by then were contacted again in August–September. This finding can be at least partly explained by the fact that most of the January letter recipients had already applied before August.

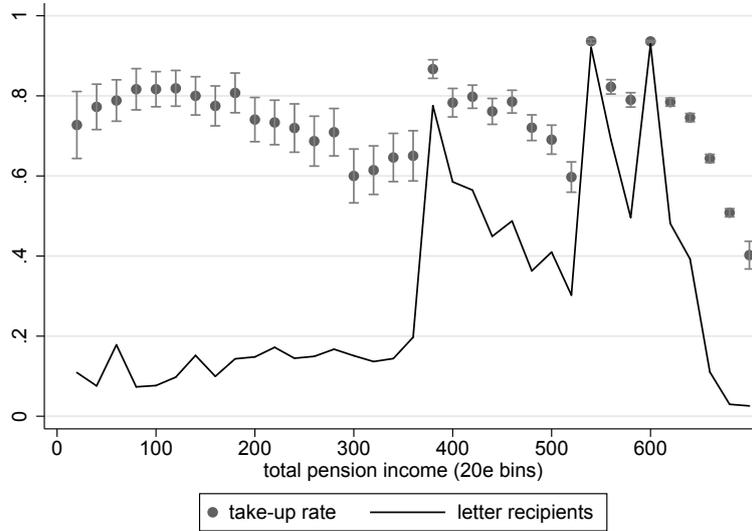
The lower graph shows the cumulative share of applications for the treatment and control groups. The take-up rate in the treatment group rises to over 80% already at the time of implementation, and reaches 91% by the end of March 2011. In comparison, the take-up rate is 51% in the control group by the end of March. This indicates that the letter significantly expedited take-up. In addition, the take-up rate is 98% in the group that received the January letter by the end of 2011, and 84% in the group that did not receive the January letter.

Figure 5 shows the average take-up rates by the end of July 2011 for eligible pensioners in 20 euro bins of monthly total pension income, together with the probability of receiving the January letter in each bin. We observe that the probability of receiving the letter is highest at three specific total pension income levels. This stems from the fact that the letters were sent to pensioners receiving the full national pension, which typically corresponds to specific levels of total pension income.⁸ However, there is variation in the full national pension income level and in combinations of full national pension and employment pensions, which translates into variation in the probability of receiving the letter across different total pension income levels.⁹ Therefore, we observe a positive average probability of receiving the letter in all total pension income bins in the Figure.

⁸In addition to the spikes in the probability of receiving the letter in the bins containing pension amounts of 520 and 586 euros per month, the third spike at the 380 euro bin reflects a concentration of pensioners who have taken up an early old-age pension, and therefore have a permanently lowered national pension, even though it is notionally full.

⁹Small amounts of employment pension income (below 52 euros per month) do not affect the national pension benefit, but increase total pension income and thus reduce the guarantee pension benefit. Having lived abroad for many years during one’s working life can result in a downward-adjusted national pension, even though it is still notionally “full” due to sufficiently small employment pension. Also, the full national pension can be reduced due to taking up early old-age pension. In that case, the full rate is reduced by 0.4% for each month that the pension is brought forward before the age of 65 (and the maximum guarantee pension level is reduced accordingly). The pension remains at this level permanently, also after turning 65.

Figure 5: Average take-up rate (by the end of July) with 95% confidence intervals and the probability of receiving the January letter in 20 euro bins of total pension income.



Notes: The figure shows the average take-up rates of the guarantee pension in different total pension income bins of 20 euros, and the share of eligible pensioners who received the January letter within each bin.

There are clear spikes in the take-up rate exactly where the probability of receiving the letter is higher. This illustrates the significant effect of the letter on take-up. Importantly, we observe that the take-up rates are significantly higher among eligible pensioners who were more likely to receive the letter, compared to pensioners in adjacent bins who have similar pension income but were less likely to receive the letter. Similar results are obtained when plotting the letter and take-up probabilities with respect to national and employment pension incomes separately.

4 Estimation and results

4.1 Estimation model

In our main analysis, we use the following linear probability model

$$Y_i = \alpha + \beta \times letter_i + \delta \mathbf{X}_i + \varepsilon_i \quad (1)$$

where Y_i is a dummy equal to 1 if the person had applied for the guarantee pension. The coefficient β denotes the effect of receiving the letter on take-up probability. We control for the observed differences between the treatment and control groups, as well as other factors that are likely to influence take-up, such as the size of the benefit and education level, in vector \mathbf{X}_i , and ε_i is the error term.

We expect the size of the guarantee pension to have a positive effect on take-up

probability. However, it is possible that there is a correlation between benefit size and receiving the letter, as those with a full national pension (the target group of the letters) were typically eligible for 101 or 168 euros of guarantee pension. Therefore, we also estimate the equation by adding an interaction term $letter \times benefitsize$ to the model to control for the potential interaction of the letter and the size of the guarantee pension.

We use benefit applications by July 31, 2011 as the baseline dependent variable. This shows the impact on early take-up – six months from the January information letter. In addition to the baseline analysis, we vary the time window by analyzing the effect of the January letter on take-up by the end of March, September and December. The end-of-March estimates highlight the impact of the letter on applying within one month of implementation of the program. The September and December regressions capture the effects of the letter beyond the time when all eligible pensioners who had not applied by the end of July 2011 were eventually contacted, describing the more persistent effects of the January letter.

We also conduct various subsample analyses for those with different reimbursed medicine expenses and medical diagnosis, and for old-age pensioners and disability pensioners. These estimations provide interesting information on the potential differences in responses between these groups, and characterize the potential mechanisms behind the effect of the letter. In addition, these estimations serve as robustness checks on the observed differences between the treatment and control groups.

4.2 Baseline results

Table 3 reports the results for the baseline OLS regression. Receiving the January letter increased the probability of applying for the guarantee pension by approximately 33 percentage points, which implies a 55% increase in take-up relative to the control group. This shows that the letter had an economically and statistically significant effect on take-up. Furthermore, the point estimates for receiving the letter without including other covariates (column (1)) and with different sets of control variables (columns (2)–(3)) are very close to each other. This observation highlights that different observed characteristics between the treatment and control groups do not significantly affect our results, indicating that the effect of the letter is not affected by the fact that the letters were targeted at the recipients of a full national pension.

In columns (4)–(5), the negative coefficient of the interaction term (letter \times benefit amount) implies that the impact of the letter is smaller for pensioners entitled to larger benefits. Since larger entitlements typically exhibit higher take-up, the letter could therefore be of less importance at larger benefit sizes. For a typical guarantee pension level (100–170 euros), the effect of the letter in columns (4)–(5) is in line with the average impact estimated in columns (1)–(3).

Table 3: Main results. Dependent variable: application status (0/1) by the end of July 2011.

	(1)	(2)	(3)	(4)	(5)
Letter	0.352 (0.003)***	0.326 (0.003)***	0.326 (0.003)***	0.385 (0.005)***	0.385 (0.005)***
Benefit amount (divided by 50e)		0.005 (0.001)***	0.006 (0.001)***	0.009 (0.001)***	0.009 (0.001)***
Letter * Benefit amount (divided by 50e)				-0.027 (0.002)***	-0.027 (0.002)***
Employment pension		-0.043 (0.003)***	-0.042 (0.003)***	-0.049 (0.003)***	-0.049 (0.003)***
Other pension income		-0.115 (0.012)***	-0.114 (0.012)***	-0.118 (0.011)***	-0.117 (0.012)***
Disability pension		0.012 (0.003)***	0.011 (0.003)***	0.012 (0.003)***	0.012 (0.003)***
Other pension type		-0.020 (0.004)***	-0.021 (0.004)***	-0.021 (0.004)***	-0.022 (0.004)***
Male		-0.021 (0.002)***	-0.020 (0.002)***	-0.022 (0.002)***	-0.021 (0.002)***
Age		-0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***	-0.001 (0.000)***
Spouse		0.081 (0.003)***	0.082 (0.003)***	0.091 (0.003)***	0.093 (0.003)***
Pensioners' housing allowance		0.093 (0.002)***	0.087 (0.002)***	0.090 (0.002)***	0.085 (0.002)***
Pensioners' care allowance		-0.041 (0.002)***	-0.043 (0.002)***	-0.043 (0.002)***	-0.045 (0.002)***
Basic medicine expenses (divided by 1,000e)		0.006 (0.001)***	0.005 (0.001)***	0.006 (0.001)***	0.006 (0.001)***
Special medicine expenses (divided by 1,000e)		0.001 (0.000)***	0.000 (0.000)***	0.001 (0.000)***	0.001 (0.000)***
Any mental illness medicine expenses		0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)
Net income in 2011 (divided by 10,000e)		-0.012 (0.003)***		-0.012 (0.003)***	
Earnings in 2011 (divided by 10,000e)			-0.072 (0.016)***		-0.072 (0.016)***
Capital income in 2011 (divided by 10,000e)			-0.007 (0.002)***		-0.007 (0.002)***
Entrepreneurial income in 2011 (divided by 10,000e)			-0.032 (0.008)***		-0.032 (0.008)***
Foreign income in 2011 (divided by 10,000e)			0.017 (0.012)		0.016 (0.012)
Education dummies	no	yes	yes	yes	yes
Constant	0.599 (0.003)***	0.639 (0.009)***	0.629 (0.008)***	0.635 (0.009)***	0.625 (0.008)***
R2	0.20	0.22	0.23	0.23	0.23
N	105,574	105,555	105,549	105,555	105,549

Notes: Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. For pension income types, the omitted category is national pension. For pension types, the omitted category is old-age pension. Control group take-up rate by the end of July is 60%.

In addition, we find that receiving housing allowance from the SII increases take-up, but receiving care allowance reduces it. This presumably reflects the poorer income situation of the former group, and the worse health condition of the latter group. However, other health indicators (medical expenses and diagnoses) have practically no impact. We return to the impact of health in more detail in the following subsection.

Columns (1)–(4) of Table 4 summarize the regression results when we estimate the effect of the January letter on take-up by the end of March, July (baseline), September and December of 2011, respectively. In addition, column (5) reports the impact of the letter on take-up by the end of July when we only include pensioners who eventually received the guarantee pension at some point in 2011, thus providing a lower bound for our baseline result. All regressions include the full set of controls, similarly as in column (2) of Table 3 above.

The effect of the letter on take-up is larger by the end of March, compared to the baseline model. This implies that the effect of the January letter was concentrated in the first weeks after the information was provided, as was expected. As discussed above, during August and September 2011 SII district offices contacted all potential eligible pensioners who had not applied for the benefit by then. Columns (3) and (4) show that even conditional on this other personal information provided to all eligible pensioners later on, the January letter still has a significant effect on take-up. Receiving the information letter prior to implementation increased the probability of later take-up by approximately 13 percentage points (16% relative to control group take up). The effect of the January letter on take-up by the end of September is similar to the effect by the end of the year. This indicates that the information provided to all eligible pensioners in August and September had a rapid impact on take-up, and thus reduced the effect of the January letter immediately.

Column (5) shows the result for the subpopulation of eligible pensioners who we observe to have received the guarantee pension at some point in 2011. Thus this group only includes pensioners who are definitely eligible, compared to our baseline analysis in which eligibility status is based on our estimation. Therefore, column (5) represents the lower-bound estimate for the effect of the letter by the end of July, excluding all eligible pensioners who did not apply for the guarantee pension at all in 2011, or whose application was rejected. This estimate, 25 percentage points, is highly significant but somewhat smaller than our baseline estimate, thus further supporting the finding that sending a simple information letter and an application form to eligible individuals can have a large impact on take-up, and in particular prompt eligible individuals to apply for the benefit more quickly.

One potential issue in interpreting the results above is that information on eligibility could spread within various networks. This would imply that the effect of the letter is downwards-biased if the information in the letter spilled over to the control group. One

Table 4: Impact of the January letter on take-up at different points in time.

Dependent variable: Apply by the end of...					
	March (1)	July (baseline) (2)	September (3)	December (4)	July, lower bound (5)
Letter	0.382 (0.004)***	0.326 (0.003)***	0.128 (0.003)***	0.119 (0.002)***	0.246 (0.003)***
Control group take-up rate	51%	60%	82%	84%	72%
R2	0.23	0.22	0.12	0.12	0.18
N	105,555	105,555	105,555	105,555	97,034

Notes: Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Regression specification as in column (2) of Table 3. Column (5) includes only pensioners who received the guarantee pension at some point in 2011, and replaces the estimated guarantee pension amount in the regression by the actual observed amount.

feasible example of such a spillover is information spreading within a household when one of the (eligible) spouses received the letter, but the other did not. However, there are only very few cases (350) in our sample where only one of the two eligible spouses received the letter, implying that this direct spillover channel is not likely to significantly contribute to the average effect of the letter.

Finally, it is possible that pensioners receiving other means-tested benefits would be less willing to apply for the guarantee pension if they fear that applying will just reduce their other benefits by the same amount. However, in the case of pensioners' housing allowance, only 40% of income above a certain income threshold affects the benefit, so pensioners receiving this benefit would therefore “lose” only 40% of their guarantee pension income to lower housing benefits if the housing allowance thresholds are exceeded.¹⁰ We take into account the potential confounding effect of the housing allowance by controlling for housing allowance recipient status in the regression. In the case of social assistance, all other social benefits are considered primary, and need to be claimed before social assistance can be granted. Therefore, pensioners relying on social assistance need to apply for the guarantee pension in order to receive social assistance (if they are still eligible for it). Additionally, average annual net income is very similar in both treatment and control groups, indicating that we have no clear reason to assume differences in social assistance eligibility between the groups. Therefore, we conclude that interactions with other income transfers or benefits are not likely to significantly affect the take-up rate or the impact of the letter.

¹⁰In 2011, the income thresholds for the full housing allowance were 8,091 euros per year for pensioners without a spouse, and 11,860 euros and 12,996 euros per year for cohabiting pensioners depending on whether the spouse is also eligible for housing allowance or not. The size of the allowance is affected by place of residence, type of housing, and a variety of characteristics of the residence such as the heating system and construction year.

4.3 Subgroup analysis and potential mechanisms

We study the potential mechanisms closer by comparing the impactfulness of the letter among different subgroups. Table 5 summarizes the results for different subsamples of eligible pensioners. The table shows the regression results for the baseline setup and for the lower bound sample (including only individuals who applied for and received the benefit at some point in 2011). The dependent variable and the control group take-up rate are defined using the application status by the end of July 2011, and all regressions include the full set of controls.

First, the table shows the results separately for old-age pensioners, disability pensioners, and those with positive or zero employment pension income. These characteristics – pension type and whether or not the pensioner received employment pension – are also the most prominent differences between the treatment and control groups. The results show that the letter appears to be more effective among old-age pensioners compared to disability pensioners, but the effect is nevertheless clearly significant in both groups. The disability pensioners - who are younger - claim the benefit more actively, which is reflected by the higher take-up rate in the control group (66% vs. 59% among old-age pensioners). This indicates that disability pensioners were more active in applying even without receiving the letter.

We find that eligible pensioners with (small) positive employment pension income respond to the letter more actively than those with no employment pensions. One explanation for this finding is that pensioners with employment pensions were not as certain about their eligibility as those with no employment pension. Thus the effect of the letter stating potential eligibility for the benefit had a larger effect among those who were likely to be less certain about their eligibility.

Deteriorated health can have an effect on benefit take-up. In addition, it could negatively impact the effectiveness of information provision in increasing take-up. We utilize the SII's medical register data, including both total reimbursed expenses for severe and long-term illnesses and diagnostic information, to provide new evidence on these effects. We detect no differences in the effectiveness of the letter between individuals with positive or no reimbursed medicine expenses for severe illnesses. This indicates that deteriorated health is not a driving factor behind information effects or take-up behavior, at least among pensioners with medicine for their illnesses.

In addition to total reimbursements, we focus on reimbursed medicine expenses for mental illnesses.¹¹ These types of illnesses could affect cognitive ability to apply for the benefit and to understand the eligibility rules and provided information. Nevertheless, we find no differences in responses among those with medicine expenses for diagnosed mental

¹¹Medicine reimbursements for mental illnesses include special reimbursements based on a medical diagnosis under the category of mental disorders, such as dementia, psychosis, paranoia and schizophrenia, and medicine prescribed for Alzheimer's disease.

illnesses compared to those without such a diagnosis. This suggests that mental illnesses do not confound the effect of the letter, at least within the population with prescribed medicine.

Furthermore, we study pensioners receiving pensioners' care allowance. Eligibility for the care allowance typically requires a severe long-term illness or disability, such that the recipient requires constant assistance in normal daily activities such as eating, dressing, or taking medications. We find that the effect of the letter is larger for those receiving the care allowance compared to those without it, indicating that more severely ill or disabled pensioners respond to the letter more actively.¹² This finding also suggests that information on eligibility is more efficient when the take-up process is potentially assisted or managed by someone else than the recipient of the letter, such as close relatives, which is more likely among those with severe illnesses or disabilities. Nevertheless, the effect of the letter is not limited to those with care allowance, as the letter also significantly affected take-up for those not receiving it. Also, as an additional result not shown in the table, we find no differences in responses within the population of care allowance recipients between those with or without prescribed medicine for mental illnesses, indicating that these types of severe illnesses do not drive the results.

In addition to information on eligibility requirements and potential eligibility, the January letter included an application form and a postage-paid return envelope. Therefore, in addition to information, the letter presumably reduced the costs of applying. As there is no variation in the content of the mailing within the treatment group, we cannot distinguish a causal difference between the effects of the different components of the mailing. Thus the average effect of the letter needs to be interpreted as containing both of these channels.

In earlier literature, Bhargava and Manoli (2015) find that providing information is more effective in increasing take-up than reducing claiming costs among the EITC eligibles in the US. Our subgroup results provide suggestive evidence that both of these channels are important for low-income pensioners. As mentioned above, information on eligibility could explain the larger response among those with positive employment pensions, who are presumably less certain about their eligibility in the absence of information compared to those with only national pensions. Also, a part of the larger response to the mailing among care allowance recipients could be due to reduced costs of applying. For these severely ill or disabled pensioners, the transaction costs are presumably larger than for those with a better ability to, for example, visit the SII field office in order to apply for the benefit. Nevertheless, it is important to note that the costs of applying for the guarantee pension are extremely low even when not receiving a personal mailing, as the benefit can be applied even with a telephone call to the SII service number. Therefore,

¹²We also find that the impact is greater the higher the level of care allowance (results not reported in the table).

Table 5: Results for different subgroups of eligible pensioners (dependent variable: application status (0/1) by July 2011).

	Old-age pensioners		Disability pensioners	
	Share received letters: 45 %		Share received letters: 82 %	
	Average take-up rate: 75 %		Average take-up rate: 90 %	
	baseline	lower bound	baseline	lower bound
Letter	0.372	0.293	0.267	0.221
	(0.004)***	(0.004)***	(0.006)***	(0.005)***
Control group take-up	59%	69%	66%	75%
R2	0.22	0.19	0.16	0.14
N	40,111	36,017	53,346	51,051
	Employment pension > 0		No employment pension	
	Share received letters: 26 %		Share received letters: 94 %	
	Average take-up rate: 68 %		Average take-up rate: 94 %	
	baseline	lower bound	baseline	lower bound
Letter	0.371	0.255	0.238	0.142
	(0.004)***	(0.004)***	(0.011)***	(0.010)***
Control group take-up	58%	70%	76%	90%
R2	0.16	0.13	0.06	0.03
N	45,346	38,789	60,209	58,245
	Special medicine expenses > 0		No special medicine expenses	
	Share received letters: 66 %		Share received letters: 64 %	
	Average take-up rate: 84 %		Average take-up rate: 81 %	
	baseline	lower bound	baseline	lower bound
Letter	0.331	0.250	0.318	0.240
	(0.004)***	(0.004)***	(0.005)***	(0.005)***
Control group take-up	61%	71%	59%	73%
R2	0.23	0.19	0.22	0.16
N	60,140	56,167	45,415	40,867
	Mental illness medicine expenses > 0		No mental illness medicine expenses	
	Share received letters: 82 %		Share received letters: 60 %	
	Average take-up rate: 89 %		Average take-up rate: 81 %	
	baseline	lower bound	baseline	lower bound
Letter	0.324	0.261	0.326	0.244
	(0.008)***	(0.007)***	(0.004)***	(0.003)***
Control group take-up	59%	67%	60%	72%
R2	0.25	0.21	0.21	0.17
N	25,121	24,156	80,434	72,878
	Care allowance > 0		No care allowance	
	Share received letters: 83 %		Share received letters: 51 %	
	Average take-up rate: 87 %		Average take-up rate: 79 %	
	baseline	lower bound	baseline	lower bound
Letter	0.433	0.343	0.283	0.212
	(0.007)***	(0.006)***	(0.004)***	(0.003)***
Control group take-up	49%	59%	63%	75%
R2	0.29	0.26	0.19	0.14
N	46,464	44,243	59,091	52,791

Notes: Standard errors in parenthesis. *** p<0.01, ** p<0.05, *p<0.1. Baseline regression specification as in column (2) of Table 3. Lower-bound regression specification includes only pensioners receiving the guarantee pension at some point during 2011, and replaces the estimated guarantee pension amount in the regression by the actual observed amount. Disability pensioners are restricted to those not receiving old-age pension at the same time, and vice versa. Displayed take-up rates are measured by the end of July 2011.

providing information on eligibility and the application procedure is likely to increase take-up even without providing the application form and the return envelope. Finally, from the point of view of practical policy, it is relatively inexpensive and straightforward to include both the application form and information on eligibility when sending letters to the eligible population. Therefore, knowledge on the combined effect of these channels is of key importance when considering the effectiveness of practical means to affect the take-up rate.

4.4 Media coverage

The guarantee pension program received plenty of attention in the media, particularly in the first half of 2011. Most of the media coverage concentrated at the time of implementation around March 2011. The role of the SII was also active, as they sent out several press releases over the course of the year, and published news items in the SII's customer magazine and website. Overall, high visibility in the media implies that general awareness of the program was presumably high. However, it remains an open question whether media coverage had an effect on guarantee pension take-up, which was probably at least one of the goals of the SII's active media campaign. We study this by analyzing the effect of a SII press release on the number of guarantee pension applications.

We focus on the press release issued on May 10, 2011. With this press release, the SII informed that many eligible pensioners had not applied for the benefit, and offered simple information on applying. The headline of the release highlighted that the SII was still expecting at least 20,000 eligible pensioners to apply for the guarantee pension. In addition, the release included information on how to apply for the benefit, and what the eligibility criteria were. The press release was published in most of the largest regional newspapers and covered by the Finnish Broadcasting Company on the day it was issued.¹³

Previous press releases were concentrated around the time of implementation (late January-end of March), and it is thus difficult to separate the effects of this media coverage from other factors potentially affecting take-up at the time of implementation, including the January letter. Therefore, analyzing the May 10 press release allows us to better isolate the potential effect of media coverage. Our own media survey reveals that previous news items on the guarantee pension appeared more than three weeks before the May 10 press release, and the following ones appeared four weeks later. This suggests that no confounding coverage was taking place close to the May 10 press release.

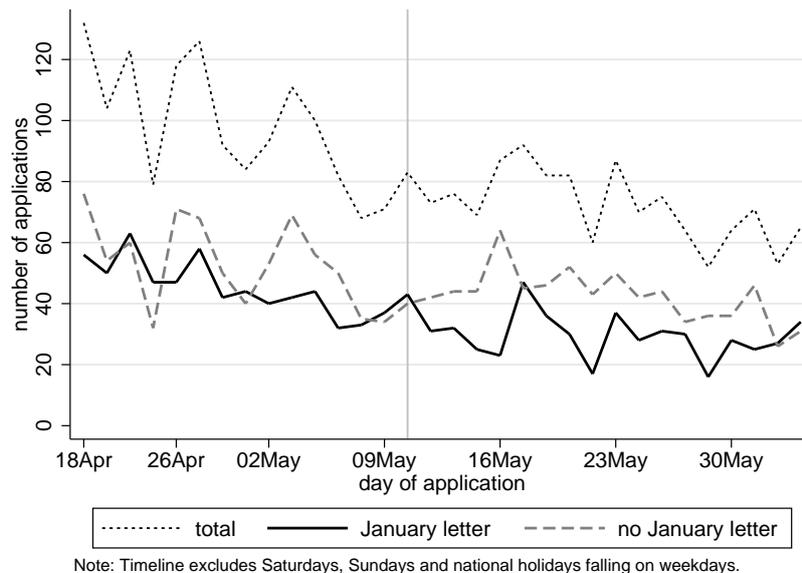
Figure 6 illustrates the number of daily guarantee pension applications around the time of the press release, denoted by the vertical line. There were 23,264 eligible pensioners in our sample not having claimed by April 18, which is the first day in the figure. The

¹³Regional newspapers include e.g. Turun Sanomat, Kaleva, Etelä-Suomen Sanomat and Savon Sanomat.

date labels displayed on the horizontal axis indicate Mondays. The figure displays total daily applications, and the number of applications for the treatment and control groups, excluding weekends and bank holidays, when no applications are processed.

The figure shows that there is no jump in the number of overall applications after the press release. This suggests that publicly available information is significantly less successful than personally provided letters in affecting take-up. Supporting this visual observation, we find that the coefficient for the effect of the press release on the number of daily applications is very small, 0.32 (standard error 0.45), and not significantly different from zero. There is potentially a tiny increase in applications among the group that did not receive the January letter, compared to the group that did receive it. However, the difference in the number of daily applications between the groups before and after the press release, 0.45 (0.24), is small and not statistically significantly different from zero at 5% level.¹⁴

Figure 6: The number of applications per day around the SII press release on May 10, 2011.



Overall, these findings suggest that the impact of the media campaign on take-up is trivial, particularly when compared to the notable effect of personally provided information. This finding is underlined when comparing the large increase in applications in the control group (no January letter) in August and September, when all eligible pensioners who had not applied by then were contacted personally (see Figure 4 above). Impor-

¹⁴In the first regression model, the number of daily applications is regressed on the application date, day of the week, the press release dummy (0 before May 10, and 1 afterwards), and the interaction term of the press release dummy and the application date using a time interval of one month before and after the May 10 press release. For the difference between the control and treatment groups, the dependent variable is the difference in daily applications between the groups. The coefficient of the interaction term measures the effectiveness of the press release in increasing the number of applications.

tantly, those pensioners who responded to this second round of personal information provision had not yet applied at the time of the May 10 press release. Therefore, the low effectiveness of press coverage, particularly in the control group, cannot be explained by individuals more prone to information having already applied by the time of this press release.

5 Concluding remarks

We study the impact of an inexpensive, targeted information treatment on the take-up rate of a social benefit targeted at low-income pensioners outside the labor force. Our results clearly indicate that sending information on eligibility and an application form directly to eligible individuals increased take-up and also prompted eligible persons to apply more quickly. We find that press coverage does not affect the take-up rate in a significant manner, implying that personal mailings are much more effective in increasing take-up.

The letter had a significant effect on take-up within various subgroups. However, the results suggest that directed information is more effective, for example, among elderly individuals and in cases where uncertainty about eligibility is potentially larger (pensioners with positive employment pensions). In addition, we find that the effect of the letter is larger for those severely ill or disabled pensioners who require constant assistance in daily activities, suggesting that the letter is more effective when the application process is assisted or managed by someone other than the recipient of the letter, such as close relatives. In contrast, we find no differences in responses between pensioners with different levels of medicine reimbursements, indicating that deteriorated health does not affect the effectiveness of the letter, at least for those with medicine for their illnesses.

Our setting also relates to the take-up of a newly introduced benefit which is not yet well known among the eligible population. In such a situation there can be more confusion about eligibility rules, and information provision can be critical in order to reach eligible persons from the very beginning. In addition to increasing the overall take-up rate, the timing of applications can also be important. In cases where benefits cannot be applied for retrospectively, eligible individuals can lose part of the benefit flow they are entitled to if they do not apply in time. This is an issue for both existing benefit programs as well as new programs.

Finally, the low costs of information treatments make providing targeted information an attractive instrument for increasing the effectiveness of social policy. However, it should be borne in mind that an important requirement for the usability of information treatments is that the eligibility of individuals can be assessed easily. This is not the case for some of the more discretionary social benefits in Finland and elsewhere. Sending information to ineligible individuals can result in increased flows of applications that end

up being rejected, increasing the workload of officials and creating negative publicity for social policy and the institutions implementing it, and even further increasing confusion about social benefit policies among low-income individuals.

References

- Bettinger, Eric P., Bridget Terry Long, Philip Oreopoulos, and Lisa Sanbonmatsu**, “The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment,” *Quarterly Journal of Economics*, 2012, 127 (3), 1205–1242.
- Bhargava, Saurabh and Dayanand Manoli**, “Psychological frictions and the incomplete take-up of social benefits: evidence from an IRS experiment,” *American Economic Review*, 2015, 105 (11), 3489–3529.
- Chetty, Raj and Emmanuel Saez**, “Teaching the tax code: Earnings responses to an experiment with EITC recipients,” *American Economic Journal: Applied Economics*, 2013, 5 (1), 1–31.
- , **John N. Friedman, and Emmanuel Saez**, “Using differences in knowledge across neighborhoods to uncover the impacts of the EITC on earnings,” *American Economic Review*, 2013, 103 (7), 2683–2721.
- Currie, Janet**, “The take-up of social benefits,” in A. Auerbach, D. Card, and J.M. Quigley, eds., *Public policy and the income distribution*, Russell Sage Foundation, 2006, pp. 80–148.
- Hertel-Fernandez, Alexander and Jeffrey B. Wenger**, “Taking up social benefits: A cautionary tale from an unemployment insurance survey experiment,” 2013. Mimeo. Available at www.ssrn.com/abstract=2341885.
- Kleven, Henrik and Wojciech Kopczuk**, “Transfer program complexity and the take-up of social benefits,” *American Economic Journal: Economic Policy*, 2011, 3 (1), 54–90.
- Liebman, Jeffrey B. and Erzo F.P. Luttmer**, “Would people behave differently if they better understood social security? Evidence from a field experiment,” *American Economic Journal: Economic Policy*, 2015, 7 (1), 275–299.
- and **Richard J. Zeckhauser**, “Schmeduling,” 2004. Mimeo.
- Mastrobuoni, Giovanni**, “The role of information for retirement behavior: Evidence based on the stepwise introduction of the Social Security Statement,” *Journal of Public Economics*, 2011, 95 (7-8), 913–925.

Zantomio, Francesca, “The route to take-up: Evidence from the UK pension credit reform,” *Oxford Bulletin of Economics and Statistics*, 2015, 77 (5), 719–739.

A Appendix

THE SOCIAL INSURANCE INSTITUTION OF FINLAND

P.O.Box 78
00381 Helsinki

Mailed on

27.1.2011

Date of birth: xxxxxx

APPLYING FOR GUARANTEE PENSION

Dear pensioner

The Act on guarantee pensions comes into force on March 1st, 2011. You might be entitled to a guarantee pension. A guarantee pension can be granted only if an application is made. For that purpose, we are sending you a pre-populated application form and a return envelope.

Pensioners whose national pension and other pensions before taxes amount to no more than 687.74 e/month can receive guarantee pension benefits. We ask you to clarify in the application whether you have any other pension income or compensation, from Finland or other countries, in addition to your national pension. The care allowance for pensioners, veterans' supplements, child supplements or pensioners' housing allowance are not considered pension income.

The attached application form is pre-populated with the details of the bank account to which your national pension is paid. If you wish your guarantee pension benefits to be paid to another account, please state the correct account number on the form.

The guarantee pension has a retroactive application period of six months. If you wish to get a guarantee pension starting on March 1st, 2011, you need to apply for it in September 2011, at the latest.

For additional information, call 020 692 352 (mon-fri 8am-6pm). Regular land line or mobile phone charges apply. You can also find more information about the guarantee pension from the SII's offices and web site www.kela.fi/takuuelake.

Sincerely,

THE SOCIAL INSURANCE INSTITUTION OF FINLAND

Attachments

Guarantee pension application
Return envelope

Kela|Fpa 

Mailing address
P.O.Box 78
00381 Helsinki

www.kela.fi

Enquiries 020 634 11

Figure A.1: January information letter template (translated from Finnish)

i The guarantee pension can only be granted once you have applied for all pensions to which you are entitled, in Finland and abroad.

Application period: You can apply for the guarantee pension for a maximum of six months retroactively.

1. The applicant

Social security number Name

Phone number Email address

i The SII gets home address information from the population register.

2. Bank account

3. Application

- I am applying for
- guarantee pension
 - a revision to guarantee pension
 - a temporary revision guarantee pension starting on ____.

4. Pensions and remunerations

- i** You don't have to report pension income from SII or Finnish employee pension institutions.
- Are you currently receiving or applying for pension or remuneration from Finland or abroad? (e.g. voluntary supplementary pension, remuneration based on an accident)
- No
 - Yes, I am receiving: Please specify type of remuneration, starting date, country and granting institution. Please attach a decision letter.

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1 (2)

- Yes, I am applying for: Please specify type of remuneration, country and granting institution.

5. Attachments

i You can also send attachments online.

Part 4, Pensions and remunerations:

- Pension income paid from abroad: decision letter, receipt, or other proof specifying the current gross amount per month.

6. Additional information

- Additional information on a separate sheet. Please mark your name and social security number on the sheet.

7. Signature

I consent to the bank returning any unduly paid pensions to the institution that paid them. This consent applies only to such pension instalments paid unduly after the death of the pensioner.

I assure the information given here is correct and I will notify the SII should the information change.

Date

Signature

If the signatory is not the same as the applicant, please specify the reason for this.

8. Person assisting with the application

Name and phone number

We might use information provided in the context of this benefit decision in other benefit decisions as well, if the law so requires. We might also use information from other benefit decisions in ruling for this benefit. The SII can provide you with a description of where we can get information about you, and where we can pass on such information.

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2 (2)

Figure A.2: Application form (translated from Finnish)