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This paper brings new evidence on the differences in informal care provision across individuals, supporting the hypothesis that women and the "young old" people are more likely to be caregivers. We exploit exogenous changes in the demand for care following the COVID-19 outbreak and make use of variations in lockdown policies across Europe. We use the SHARE Corona survey, which involves about 50000 respondents of age 50 and over in 28 countries and has detailed information on the provision of care, characteristics of the caregiver and of the care recipient. We link the SHARE Corona Survey data with an individual specific "stringency index", which measures the intensity of the lockdown policies and the degree of individual's exposure to these restrictions. We propose a new methodology to measure the degree of rationing of care that older people experienced during the pandemic (and after) and find that women and people in the age group 50-65 were indeed more likely to provide help/care, and also document the multi-facet interaction with the labour market status of caregivers.

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informal care, care provision, caregiver, gender, women, COVID-19, SHARE data, SHARE-COVID-19

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D1, I14, I18, J14, J16

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Unequal care provision: evidence from the Share-Corona Survey*

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Abstract

This paper brings new evidence on the differences in informal care provision across individuals, supporting the hypothesis that women and the "young old" people are more likely to be caregivers. We exploit exogenous changes in the demand for care following the COVID-19 outbreak and make use of variations in lockdown policies across Europe. We use the SHARE Corona survey, which involves about 50000 respondents of age 50 and over in 28 countries and has detailed information on the provision of care, characteristics of the caregiver and of the care recipient. We link the SHARE Corona Survey data with an individual specific "stringency index", which measures the intensity of the lockdown policies and the degree of individual's exposure to these restrictions. We propose a new methodology to measure the degree of rationing of care that older people experienced during the pandemic (and after) and find that women and people in the age group 50-65 were indeed more likely to provide help/care, and also document the *multi-facet* interaction with the labour market status of caregivers.

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1. INTRODUCTION

This paper explores the provision of help and care to older people, in order to identify the reasons for the marked differences observed between caregivers: women are typically more likely to provide care and provide more hours of care. We make use of the shock generated by the Covid-19 virus pandemic, which heavily affected care provision.

During the two main waves of the pandemic, as from March 2020[1], the lives of individuals have been disrupted in several ways: from being directly affected by the virus and suffering health deterioration, to losing jobs or stopping economic activities and suffering the consequences of lockdown measures such as social distancing. However, the impact and the spread of the disease has not been the same between (and even within) countries. For instance, in Europe, Italy and Spain have been heavily hit by the first wave at very early stages in 2020, while Northern countries such as Finland and Sweden were almost unaffected and imposed restrictions much later in the same year. Furthermore, countries characterized by an ageing population have suffered the highest toll in terms of deaths caused by the Covid-19.

Governments faced an emergency scenario and responded with different policies aimed at contrasting the spread of the virus: many people experienced long periods of hard lockdown measures. As a result, working patterns and mobility were severely affected; many individuals experienced isolation and/or income uncertainty, which was often associated with changes in their health status, especially mental health conditions.

At the same time, significant changes occurred in public expenditure for hospitals and emergency health care units, causing difficulties in receiving care. Initial assessments of the impact of the COVID-19 crisis found that the combination of lockdown measures and the reduction of funds normally devoted to welfare policies, enhanced these negative (unintended) effects in terms of foregone health treatment, missing visits to the doctor and lack of caring activities for the population aged 50 and over (Smolic et al., 2021). However, little is known about how Covid-related restrictions affected different groups of individuals and households in Europe.

[1] Although the outbreak of the pandemic has been dated by the WHO at the beginning of March 2020, scientific evidence suggests that the Coronavirus was already present in Europe from the Fall of 2019 (Apolone et al. 2020)

Our work provides novel evidence on help and care given to older people, it describes the mechanism through which the pandemic enhanced differences in the patterns of care provision. The basic distinction is between informal care, i.e. care provided by family members or friends, and formal care, i.e. paid services acquired on the market or made available by public institutions and typically offered by health-care professionals. We focus on the difficulties in reaching out for help or care during the emergency, due to the lockdown and social distancing policies, and the implications for adult children in terms of supply of informal care. Many individuals in the age group 50-65 had to face a true challenge: while coping with new working arrangements or abrupt changes in working times, they also had to take care of family members.

A growing literature has analysed the effects of the Coronavirus on the economy and on society, but the evidence on care provision is limited. Some studies show that individuals with severe diseases, such as dementia (Wang et al. 2020) or cancer (Porzio et al. 2020) experienced difficulties in receiving care, and care givers in turn experienced anxiety and developed signs of exhaustion and burnout (Wang et al. 2020). In a companion paper, Bassoli et al. (2021) show that older individuals, those with low income and with limitations in everyday life, faced a higher probability of receiving help because of the lockdown policies.

It is more challenging to investigate informal home-care provision and activities of home-care providers (Chan et al. 2020 is one exception). The few studies that address these issues show that Europe is facing a very serious and widespread societal problem: in the UK 17% of individuals having limitations with activities of daily living (ADL) reported not receiving any external informal assistance, pointing to potential unmet need for care (Evandrou et al. 2020). Using data from the ELSA COVID-19 study, Chatzi et al. (2020) report that, during the coronavirus pandemic, 35% of caregivers stopped (or reduced) the amount of care provided while 12% of women in the sample became new caregivers for someone outside the household.

The main point of our investigation is that women have taken on the burden of such caring activities, and that the pandemic has changed in complex ways the pattern of the supply of care. It is a stylized fact that women are responsible for most of the unpaid care and domestic work even in non-emergency cases (Bratti et al., 2015 and Fenoll 2020). Since the Pandemic implied a sudden reduction of available professionals both for babysitting activities and for care to older people, one possible outcome is that adult women had to supply caring activities to help younger

generations and older generations at the same time. The experience from past pandemic outbreaks in developing countries shows that women are more heavily affected than men by these shocks (Wehnam et al., 2020).

In order to show that the pandemic reinforced an existing mechanism of gender differences in the supply of care, we exploit the occurrence of the Covid-19 shock, which provides a better grasp of the responses (elasticities) in terms of supply of care, as these are notoriously hard to measure. We explain the behaviour of care-givers who are engaged in labour market activities, taking into account the endogeneity of the decision to work and the caring activity decision. Our approach rests on the assumption of (partial) substitutability between formal and informal care (Bonsang 2009, Kalwij et al., 2014) by exploiting lockdown policies as measures of rationing on the former. We take advantage of the SHARE Corona Survey[2] carried out in the Summer of 2020 and 2021. About 28 countries and 52000 individuals were interviewed and asked questions about their life in the lockdown periods, such as their health status, help and care provision, job-market status and financial situation. It should be stressed that SHARE is a longitudinal survey, that allowing the researcher to look at effects of lockdown policies also in the medium or long-run, and not just the immediate responses.

Because the supply of formal care varies a lot geographically, even within one country, in order to identify the local effect of lockdown policies on care, we construct a summary variable (an index) measuring the intensity of such policies varying across time, between countries and across geographical areas within countries.

The results suggest that the pandemic affected individuals differently according to the strictness of the lockdown policies, gender and job market status. Harder anti-pandemic policies increase the likelihood of providing help to others for daily activities (outside the home). Women and young older individuals working were more likely to provide help.

When we focus on individuals providing *personal care*, the "strictness" of the policies increases the probability of providing both help and care to people outside the home, suggesting a substitution effect between formal and informal care to family members. As anticipated women

[2] Börsch-Supan, A. (2022 a) and Börsch-Supan, A. (2022 b).

are more likely to provide help or care compared to men. An interesting pattern of "giving more help or care" emerges for people who are part of the labour force: overall active individuals seem to provide more help, but people out of the labour force are not providing more help than those who are retired.

By making use of the longitudinal dimension of the SHARE data, we show that lockdown policies had a negative effect on individuals, not only at the time of the outbreak, but also up to the Summer of 2021, i.e. almost eighteen months later.

2. DATA

In this analysis we use the SHARE Corona survey data: this survey was conducted in the Summer of 2020 and in the Summer 2021 and focused on the period of the outbreak of the pandemic for the first questionnaire and on the follow up for the following year. It contains information on health of the respondents, help given and care provided, working status, demographic variables and the general economic situation.

About fifty-thousand individuals were interviewed in 28 countries[3]. We augmented the SHARE Corona survey to generate a unique dataset in several dimensions. First, we linked the information recorded in the Corona Survey to the information retrieved from the regular waves of the panel. In particular the linkage was done with wave 8, for the countries that completed the interviews of that wave in 2019-2020, while for the other countries the pre-Covid information were retrieved from the previously available waves. Besides this set of variables, recorded at the individual level, we attached to each respondent an index (stringency index) of the extent and timing of lockdowns and other restrictive measures, as explained below.

We present a simple model of "help or personal care given". These activities typically would take place between generations: care given by adult children to their parents or help provided to the older respondents in the Survey.

[3] Austria did not take part in initial Share Corona Survey of Summer 2020, but joined later in the fall.

In this sense, the SHARE survey is also unique because we can look at the same time at more generations and different directions of help provision. The sample provides information on "the young old", i.e. individuals aged between 50 and 64, who might be still in the labour market and can provide help to older parents, but also at older individuals, aged 65 and above, measuring help given to look after grandchildren. We know whether the respondent provided help to others with necessities in everyday life (e.g. food purchases, medications or emergency house repairs).

The behaviour of respondents in terms of care given is recorded in two ways: whether the respondent provided help for necessity or for personal care, as well as the frequency of care provision. While help for necessity involves relatively simple and ordinary tasks, which might have been performed due to the recommendations given to older people to "stay home", providing ***personal care*** involves a more intense commitment, which might occur because of the limitation of ordinary care assistance due to the pandemic. Being able to study both types of activities, and to investigate the care-relationship during the first wave of Covid-19, is crucial to understand the final effect on the wellbeing of older people. It also allows us to investigate the level of the "reserve of informal care" that older people can have access to, when the public/formal welfare provisions and care provisions are rationed.

The lockdown measures play a key role in our study: during the pandemic governments implemented country-specific measures to limit the spread of the virus, with different intensity and length of the restrictions. These policies have been documented by the Oxford COVID-19 Government Response Tracker at country-day level. The tracker provides the so-called stringency index : this measure aggregates policy responses about schools' closures, workplaces' closure, canceling of public events, restrictions on gatherings, closure of public transports, "stay at home" requirement, restrictions on local travelling, international travel controls and public campaigns information. Each single policy has been recorded on a daily basis and a "degree of severity" has been assigned to it. For example, schools' closure policy could be 0 if schools remained open, 1 if closure was recommended, 2 if it was required at certain school level and 3 if the overall closure was required. The index is the sum of the policy indicators on a daily basis, it spans from 0 to 100, with greater values associated with greater strictness[4]. Given the

[4] For further information see Hale et al. (2020).

information on the date[5] of the interview of each respondent from the Share Corona questionnaire, we can match each respondent to the original stringency index of her country of residence on that day, but also to a measure of the cumulated exposure to stringency policy. In detail, following Bassoli et al. (2021), we build a cumulative measure of the stringency index by summing up, for each country, all daily stringency indexes from the start of the pandemic (in fact, since the 1st of January 2020) until the interview date. In 2021 (second wave of the pandemic), countries were affected with different intensity during the year, governments responded implementing measures in a heterogeneous way: some countries repeated the strong lockdown closures, while others decided for milder actions.

As a result, countries that implemented lockdown policies later will have a lower index. At the same time, if two countries have the same start date of lockdown policies, but different intensity, the country with stricter policies will have a higher S-index.

We expect the index on stringency policies to be positively correlated with the demand for help: with increasing mobility restrictions, older people experienced greater needs for necessities and personal care. At the same time, given schools' closure, older people may have provided help to family and relatives to take care of grandchildren[6].

One issue is that, even if we measure with some detail the lockdown measures experienced by different individuals in different geographical locations and different times in Europe, we do not have enough geographical details of the respondent to assess the potential supply of formal care by institutions in a given location. This is a crucial piece of information to draw any conclusion on the effective "rationing effect". To overcome this lack of information on the potential professional care in a given area, we create a proxy measure as follows. In the SHARE Corona survey, individuals who reported receiving care before the Corona outbreak, were asked whether they experienced difficulties in getting home care during the Pandemic. Under the assumption that respondents "living in the same area" were assigned to the same interviewer by the survey agency, we created clusters of respondents associated to the same interviewer's code. For densely

[5] For the second SHARE Corona questionnaire we know the month, thus we take the stringency index of the 15 of the interview's month as a proxy

[6] We also experimented with other measures of the severity of the Pandemic, for example with the cumulative number of deaths per country/region, but these do not capture the actual rationing impact, as we observe that countries with the same mortality/morbidity could decide for different lockdown policies.

populated areas, more than one interview could be present, with respondents randomly allocated to each. We then assign to all individuals living in the same area (same interviewer) the average "lack of professional care" as obtained by the reported answers within the same cluster.

Besides, we estimate the "standard/objective provision of formal care" by counting the number of beds in the hospitals and the number of doctors available from Eurostat (at geographical level NUTS2). These records are matched with the geographical location of the respondent at the finest possible level of aggregation. Given the major disruption of services that the healthcare systems have faced all over the countries in Europe, we consider the potential availability of formal care the year before the interview as an estimate of formal care availability in the respondent's area.

Further, we can rely on the previous waves of SHARE to take account of the respondent's working situation and other relevant conditions at the time of the outbreak, such as income and access to financial resources.

3. DESCRIPTIVE ANALYSIS

Before describing in detail the data, we should recall that there are two waves of the Share-Corona Survey and that this is a longitudinal sample. However, not all respondents take part to both waves and transitions between waves are only available for about 43000 individuals out of 49500.

For all individuals we have the pre-pandemic information either from the regular wave of 2018 or from the regular wave of 2016.

Table 1.1 reports the descriptive statistics for the 28 countries amounting to about 50000 individuals for the pooled data: 58% of the respondents are females; about 35% of the sample has low education, while 41% has middle education (at least secondary school) and 23% a college degree or more.

The variable of interest is "help provided": overall, 32% of the respondents reported giving help for necessities such as food purchases, medications and housing repairs, while only 8.7% provided personal care outside home. Help was provided to parents (12%), children (12,5%), friends (22%) and relatives (6.8%). Personal care was mainly provided to parents (3%) and children (2%).

Figures 1.1 and 1.2 show the prevalence of help or care given by gender and geographical areas. In Figure 1.1, females are more likely than males to provide help. Individuals in Northern and Center countries reported a higher fraction of help provided than those in the South and Eastern countries.

Switching to personal care provided, the same result for females applies. Indeed, in Figure 1.2, women in Southern Europe have the highest prevalence of care given, followed by women in Eastern Europe[7]. These pictures suggest that women were more likely to step in and provide help and personal care when needed.

Along with the individual level data coming directly from the survey, we make use of a stringency index (S-index) which varies over time and countries and takes values between zero (no restrictions ever) and one hundred (maximum restrictions). The figures presented in Table 1.2 and Figures 1.3, refer to the time of the first wave of the Share-Corona sample, linked to the exact interview date of each respondent[8]. Hence, for each respondent we attach the value of the S-index prevailing at the time in a specific location, also capturing the degree of exposure to the pandemic. Table 1.2. shows that Italy is the country exhibiting the highest mean value of the S-index in Europe, which is in line with the timing of policy responses and severity of the adopted measures. Northern countries and Eastern countries are characterised by the lowest average values. Interesting enough, some countries which did not implement restrictions very early in time, exhibit a much higher variability of the S-Index (e.g. Sweden), which may be due to the number and timing of interventions. Figures 1.1 show the distribution of the S-index for the entire sample and for selected countries, respectively. In Italy the S-index is highly concentrated at values above 50, at the other extreme we obtain highly concentrated values around 36 for Finland. Germany, Portugal and Sweden exhibit higher variability of the S-index, but quite different mean/median values. For brevity, we do not report all the countries: these cases are valid examples of the variability in the severity of the policy measures implemented, possibly correlated to the spread of the virus in each country and the timing of policy decisions.

[7] We check that individuals who were receiving care at home were not providing personal care at the same time: only 3.78% percent of those providing care are also regular home care givers, which we regard as a negligible percentage.

[8] For the second wave in 2021 we only know the month of the interview

Finally, since we investigate the dynamics of help and care provided, it is crucial to have a clear understanding of the labour market status of the respondent before and during the pandemic. We start from the information about the occupational status before the pandemic, namely in the regular wave 8 (or the wave of 2016), we then updated the information according to the respondent's answer about whether she was currently working or not working (due to Covid-19) during the first Corona Survey. We then further update the job status from the information provided in the second wave of the Corona Survey. The distribution of the job status is reported, by wave, in Table 1.4, while the transition from the pandemic situation 2020 to the final recording in the year 2021, is displayed in Table 1.5. It should be recalled that the transitions are available for about 43000 individuals out of 49500.

In Table 1.4 we see that overall only 20.70% of individuals are working (third column), while the majority is retired, about 66.57%. A small percentage is unemployed, 4%, and the rest is either sick or disabled, 2.38%; or homemaker 6.29%. From Table 1.5 we see that, among those working in the first Corona survey, 18.59% retired, while 2.33% became unemployed. Also, a large percentage of unemployed individuals (22.94%) enters retirement by the second Corona survey. We want to focus on the working status of respondents providing help or care: Table 1.6.1 shows that about 32.08% of those at work also provided help outside the household; only 8.7% of working individuals provided personal care, as shown in Table 1.6.2. This figure is in line with the type of task and commitment these activities involve: providing help can involve a short amount of time, for example, for grocery shopping, while providing personal care involves more time and effort. Indeed, among those providing both help and personal care, only 739 out of 2281 (22.5%) were also working, as shown in Table 1.6.3.

An important point of our investigation is to confirm that there are relevant gender differences for individuals providing help and/or care, also taking into account their working status. In Table 1.6.4 first it should be noted that there are significantly more women providing help or care, regardless of the working status. Also, by and large, it is more likely that respondents provide help or care if they are not working. When we focus on individuals providing help (upper part of the table): among those working, 60.9% of women were providing help compared to only 39.1% of men, in other words women are more likely to combine work and helping activities. In the bottom part of the table, we focus on those providing *personal care*: 69.5% of the women

were also working. Finally, when we control for providing both help and personal care in Table 1.6.5, we find that among those working 70% were women.

Hence, *prima facie* evidence suggests that women are more likely to provide help and care and that they are also more likely to undertake such activities even when working. However, working decisions and caring decisions are not independent, requiring an approach which explicitly accounts for these interactions.

To recap: our model will explain activities such as "giving help" or "providing care" as a function of a set of characteristics of the caregiver and of the environment in which help/care is provided. The S-Index measures the immediate effect of the constraints on formal care provision generated by lockdown measures, under the assumption that informal care and formal care are – to a large extent – substitutes. Because caregiving interacts with the working status, we have to take care of the endogeneity generated by these joint decisions of the respondent.

4. EMPIRICAL STRATEGY AND RESULTS

We first model the probability of providing help outside home as a function of the severity of the policy responses (recorded at the level of the country and time period) and demographic characteristics:

$$Providing\ help_{it} = \beta_1 log(Cumul(index\_Stringency_{it})) + \mathbf{X}\, Demographics_{it} + \theta_1(Unemployed\ due\ to\ covid\ )_{it} + \theta_2 Log(Cumul(Covid\ deaths))_{it} + \theta_3 Log(Formal\ care\ supply)_{it-1} + \theta_4 Lack\ of\ Care\ in\ the\ Area_{it} + \lambda_i + \delta WaveDummies_t + \varepsilon_{it} \quad (1)$$

"Providing help" is a dummy variable taking value 1 if the respondent gave a positive answer to the question: "*Since the outbreak of Corona, did you help others outside your home to obtain necessities, e.g. food, medications or emergency household repairs?*". We are looking at adult children providing care to individuals outside home (parents, children, relatives and friends).

Demographic variables included in the model are: age and the income level. Analyses are run by gender.

To control for the potential endogeneity of the job status, we instrument the variable "being working" with two dummy variables: the eligibility for early retirement and the eligibility for statutory retirement, following the institutional information about retirement ages for each country-year[9]. The eligibility variables are therefore dummy variables that "switch on" for each individual when she/he satisfies the eligibility conditions given by the law. The intuition is that some respondents may have decided to retire during the pandemic, precisely because they want to devote all their time to providing care. Since the eligibility conditions for retirement do not correlate with the individual's decision to provide help/care, but they have a good correlation with the "working" or "not working" decision, they represent a valid instrumental variable. There is a third category for the labour market status "unemployed due to COVID-19", which we consider as a residual category, because it is not under the control of the individual, but it is mostly due to the general epidemic situation in the country and the employer's choice.

We argued that lockdown policies have a direct impact on caring activities because they act as a rationing mechanism on formal care: many professional caregivers were prevented from travelling and visiting other people's homes. Also, in some cases, local medical units and medical centers could not offer the type of services they could normally offer to older people ranging from preventive medicine to treatment. At the same time, the demand for help/care did not vanish, if anything it increased. These considerations call for a more refined measure of the supply of formal care, as the S-index is a mixture of different types of restrictions. As a proxy for formal care supply, we sum the number of beds available in the hospitals and the number of medical doctors at the geographical level NUTS2 (regions) of the Share countries before the outbreak of Covid-19 (in the year 2019). This generates the variable (*Formal care supply*).

Since the timing and severity of the lockdown measures changed significantly across regions or even across municipalities in Europe, while both the S-index and the *Formal Care Supply* variable vary at regional level, our estimates would gain from a more granular information at the local

[9] The institutional information are available from the OECD (2021).

level, which currently is not available in Share. Furthermore, even a more detailed geocoding would be providing an administrative measure of the location, which may not coincide with the actual area of activities of daily living and of service provision of older people. In order to overcome this limitation, we record information about the lack of service in the area provided by respondents who already received care before the pandemic by creating clusters of respondents. Under the assumption that respondents who are assigned to a given interviewer leave close enough to that interviewer, we define a cluster as the respondents associated to a specific interviewer's code. Obviously, this strategy has some drawbacks, for example different interviewers could cover areas which are more populated than other areas, hence the distances within different clusters are not balanced. It is also possible that these clusters reflect to some extent differences in health and other dimensions of the respondents, but for sure the assignment rule by the survey agency of the respondent to the interviewer is not based on these dimensions.

The construction of this variable enables us to retrieve information at NUTS3 level for some countries, which is the most refined geographical level, if compared to the NUTS2 information we discussed above. In the Appendix, in Table A1.2 we show the percentage of interviewers working in multiple NUTS3: more than 25% of them are working in several NUTS3, covering up to 6 areas. Furthermore, Table A1.3 reports the number of respondents, interviewers and interviewers in multiple areas by NUTS3. For countries with information at NUTS2 level only, we report the same statistic in Table A1.4 and A.5, respectively[10]. Finally, in Figures A.1 we show the density of the respondents and the fraction of interviewers by NUTS2 . As expected more populated areas have also higher proportion of interviewers.

The information about "Having experienced difficulties in receiving home care" is collected only for individuals who reported to have received care before the Pandemic started. The maps in Figure 2.3 (a) and (b) show the average percentage of individuals in the respective geographical area who reported a lack of home care to the interviewer. The percentage is computed starting

[10] It is confirmed that 19% of interviewers acted in multiple zones.

from the ratio of the total number of individuals affected by the lack of professional care over the total number of individuals receiving care, interviewed by the same interviewer[11].

In Figures 2.3 (a) and (b) , it is possible to see a decrease in the lack of home care, which is in line with the different intensities of the pandemic. In 2020, the initial shock had caused significant disruption of health care services due to the outburst of COVID-19, and governments were under extreme pressure to manage the healthcare services. In 2021, after one year of pandemic, governments were able to limit or mitigate the diversion of personnel and services in the healthcare system. However, in 2021 some areas show a high percentage of difficulties in home care service in both years, thus, suggesting that the individuals were still exposed to severe rationing.

Concerning the lockdown measures, it is worth recalling that the S-index has individual variability depending on the time of the interview and the degree of exposure to the lockdown and related measures. We compute the cumulative exposure of the individuals to the lockdown policies as these cumulative effects are the ones which would be most felt by older people in need of care, we transform the index by taking the logarithm.

In order to control for unobserved heterogeneity of our panel data, which may confound the results on caregiving decisions, we want to perform individual's Fixed-Effect (FE) estimations as described by λ_i in equation (1) and focus on two separate samples (men and women respectively). Our estimations are presented through a set of tables containing pooled OLS (POLS) along with FE-OLS specifications[12].

Table 2.1 shows that the effect of changes in the cumulative exposure increases the likelihood of "providing help" in each of the estimated specifications. The effect is always more precisely estimated for women than for men, but in general the estimated coefficients would not be statistically different between genders. A striking difference emerges instead for the variable

[11] It should be noted that in generating the variable "lack of care" we never use cells where the number of observations is below 12. This is both for data protection reasons and in order to prevent any possible "reflection problem" generated by aggregating information that comes from the estimation sample.

[12] Standard errors are clustered at the individual level. We also control for time fixed effects, represented by δ in equation (1).

"lack of care in the area" as women respond to changes in this variable with a significant increase of the probability of providing help of around 2% , also younger adults are more likely to provide help.

An essential dimension of the analysis is the relationship with the labour market: working individuals, are more likely to provide *help for necessities* than retirees, especially women.

In Table 2.2, we focus on the probability of providing *personal care*, which is a more demanding activity. Once again, the effect of the "rationing" due to the stringency index is captured both in the pooled-OLS estimate and the FE estimate, both for men and women. The role of "lack of care" is also relevant for both men and women, but in some cases (pooled OLS) the estimated coefficient is higher for women than for men. Younger individuals in the age group 50 to 65, with low income, are more likely to provide care.

In Table 2.2, the coefficient of the "working" variable is not statistically significant, and the same for individuals who stopped working during the pandemic or were out of the labour force. This finding suggest that, while individuals who work are more likely to help with necessities (like doing the shopping or other activities which have to do with the housing), the labour market status becomes irrelevant when it comes to providing personal care, even if controlling for age[13]. Our interpretation is that providing personal care during the pandemic was a true "emergency situation" as captured by the relevant explanatory variables.

Our estimates are quite robust for alternative specifications, of these various alternative specifications/definitions we present the one where we explore alternative measures of the lockdown policies. In fact, while for the Corona-sample of 2020 we know the exact date of the interview, for the follow up interview of 2021 we know only the month. So one could argue that we introduce some measurement error in our estimates because of the way the S-index is specified.

To overcome this problem, we use the daily stringency index prevailing at the time of the interview of first SHARE Corona sample and the monthly stringency index in the follow up.

[13] We repeat the same set of analyses clustering standard errors at the interviewer's level. Results are confirmed and reported in the Appendix from Table A-2.1 to A-2.4.

The results of the new measure (different stringency indexes) are reported in Table 2.3 and 2.4 for providing help and care, respectively. In Table 2.3, the findings confirm the previous results of increasing likelihood of helping when the policies are stricter, and this is particularly true for females when there is lack of care in the area; low income individuals, and people who are working (only in the pooled model). For personal care provided in Table 2.4, we find the same main results as Table 2.2. Thus, the role of the stringency index as main driver of the rationing effect can be confirmed.

5. CONCLUSION

This paper investigates the extent of unequal caring behavior by relying on the effect of the lockdown policies implemented during the pandemic outbreak. In fact, the Covid-19 shock provided a unique opportunity to measure the "elasticity" of care provision for different types of individuals. In all European countries travelling and commuting were heavily regulated and working arrangements radically changed in response to the pandemic: these policies had an impact on the provision of care for older people.

We make use of the SHARE Corona sample, which allow us to observe several outcomes during the pandemic years (2020 and 2021 respectively), for individuals aged 50 and above in Europe. The richness of the information about health, socio-economic conditions, receipt and provision of care is also combined with the information collected in previous waves of the SHARE data, which allows us to take into account the starting conditions for individuals going through the Corona-virus crisis.

The mechanism is as follows: the lockdown measures have generated rationing of the supply of care, especially the supply of formal care, the demand for care is not reduced, so to the extent that formal and informal care exhibit a degree of substitutability, the demand for informal care increases sharply. However, the response by different individuals differ substantially, over and above the innate "preference" for providing care.

This model hinges on the measures of care provision provided in SHARE: "help for necessities", which involves relatively simple and ordinary tasks and "providing ***personal care***", which involves a more intense commitment and time use. Our approach is a first attempt to investigate

the level of the "reserve of informal care" that older people can have access to, when the public/formal welfare provisions and care provisions are rationed.

We construct a measure of the stringency of lockdown policies experienced by each sample respondent since the outbreak of the pandemic, varying at the individual level depending both in the extent of and the exposure to the stringency measures. Along this measure, we propose a new variable capturing the rationing effect: because the supply of formal care varies a lot geographically even within one country, we construct on the basis of lagged information available in SHARE, a summary variable for the "lack of care". In dealing with caregiving related to the working status of the individuals, we control for the potential endogeneity of the decision to work and/or provide care by making use of eligibility conditions for retirement, varying across countries and over time.

When we measure caring activities provided by adult children we find that stricter lockdown policies are associated to a higher probability of help or care provided. Women and younger-old people are more likely to provide help/care, so that the typical caregiver is a woman aged 50 to 65. An important difference emerges in terms of labour market conditions: while individuals providing help with necessities tend to be also workers, when it comes to providing personal care the labour market status is irrelevant, suggesting that providing informal care is totally dominated by the nature of the demand and the prevailing restrictions on the supply.

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FIGURES AND TABLES

Table 1.1 The SHARE Corona sample

Variable	Obs	Mean	Std.Dev.
Help given	49505	0.220	0.415
Personal care given	49505	0.059	0.236
Age 5065	49505	0.374	0.484
Age 6675	49505	0.459	0.498
Age 7680	49505	0.167	0.373
Female	49505	0.582	0.493
Low income	49505	0.294	0.455
Middle income	49505	0.459	0.498
High income	49505	0.248	0.432
Low education	49505	0.793	0.405
Middle education	49505	0.105	0.307
High education	49505	0.102	0.302
Retired	49505	0.684	0.465
Working	49505	0.215	0.411
Loose job because of COVID-19	49505	0.127	0.333
Lack of care in the area	49505	0.161	0.368
Information below is conditioned on providing help or care			
Help given to parents	20137	0.123	0.329
Help given to children	21679	0.125	0.33
Help given to friends	8070	0.22	0.414
Help given to relatives	21316	0.068	0.251
Personal care given to parents	20145	0.031	0.174
Personal care given to children	21685	0.02	0.139
Personal care given to friends	8048	0.103	0.304
Personal care given to relatives	21329	0.022	0.148
Country prevalence			
AT	49505	0.020	0.141
DE	49505	0.066	0.248
SE	49505	0.031	0.172
NL	49505	0.016	0.125
ES	49505	0.026	0.16
IT	49505	0.055	0.228
FR	49505	0.052	0.222
DK	49505	0.044	0.205
SW	49505	0.05	0.219
BE	49505	0.052	0.222
IS	49505	0.018	0.132
PL	49505	0.052	0.222
HU	49505	0.016	0.125
LIT	49505	0.033	0.178
BU	49505	0.019	0.138
CY	49505	0.009	0.093
FI	49505	0.032	0.176
LAT	49505	0.02	0.139
RO	49505	0.036	0.186
SLK	49505	0.03	0.171
GR	49505	0.079	0.269
LUX	49505	0.024	0.152
EST	49505	0.079	0.27
PORT	49505	0.014	0.12
CZECH	49505	0.062	.241
CRO	49505	0.035	.184
SLO	49505	0.065	.247

Figure 1.1 Help given for necessities, by area and gender

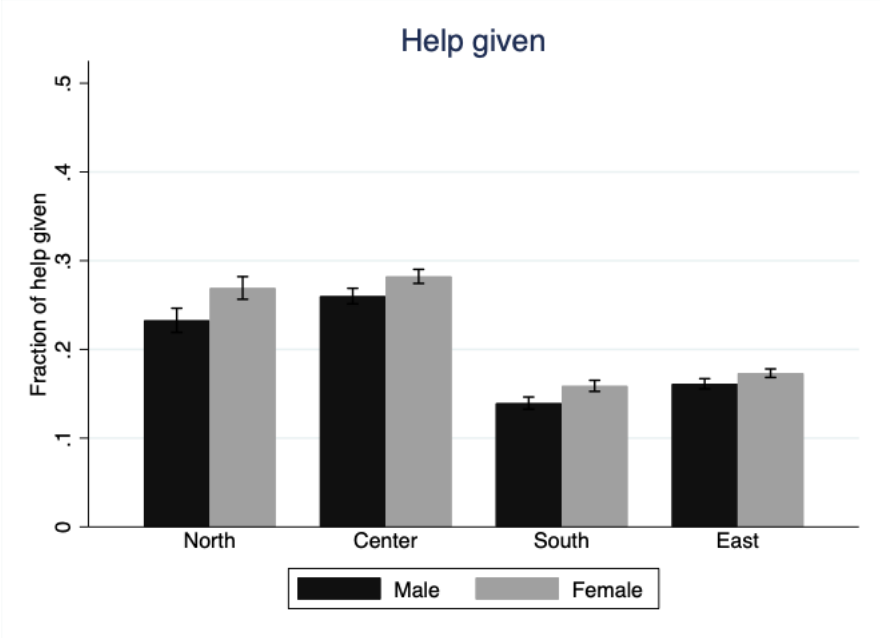


Figure 1.2 Personal care provided, by area and gender

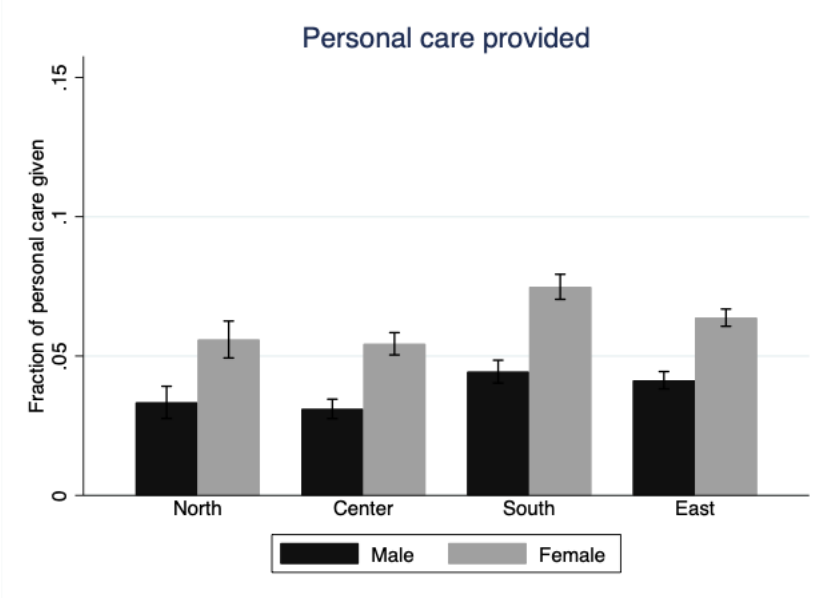


Table 1.2. Mean and Standard deviation of the Stringency Index

Country identifier	Mean S-index	Sd	N obs
Italy	63.635	9.50	6919
Portugal	55.439	6.81	2115
France	52.38	2.677	3876
Germany	53.955	11.723	4632
Austria	51.173	3.757	2224
Greece	51.148	8.471	6897
Netherlands	49.416	12.468	1495
Belgium	48.371	2.442	7208
Spain	48.106	1.153	3731
Malta	47.997	2.438	618
Bulgaria	46.993	12.481	1462
Poland	46.146	3.621	5630
Cyprus	45.079	4.071	1409
Denmark	44.618	5.058	3556
Romania	43.952	3.007	2889
Switzerland	43.504	3.748	3578
Lithuania	43.204	2.203	2478
Croatia	42.539	5.497	3832
Slovakia	40.688	2.585	1821
Finland	40.567	4.436	2735
Latvia	40.54	1.152	1872
Israel	39.818	13.942	2643
Hungary	39.299	7.693	1827
Czech Republic	39.162	2.385	4702
Luxembourg	38.849	2.722	1758
Sweden	37.362	2.468	2316
Slovenia	36.093	3.398	4987
Estonia	32.021	5.196	6784

Figure 1.3 Distribution of the stringency index in the full sample and in selected countries

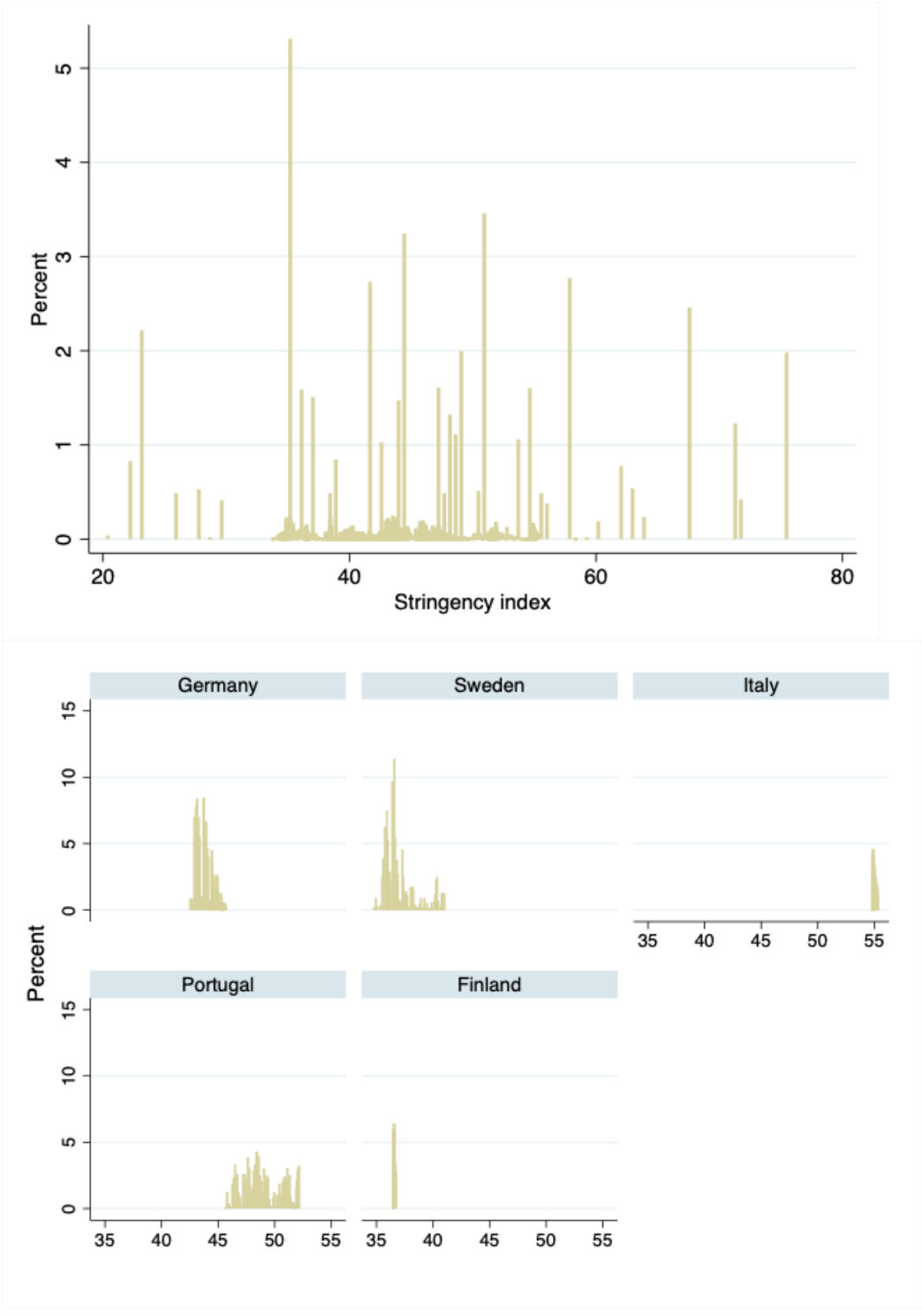


Table 1.4 Distribution of the Job status by wave

Job situation	Wave		
	Cati1(wave8)	Cati2	Total
Retired	17353	15603	32956
	52.66	47.34	100.00
	63.41	70.48	66.57
Working	5910	4337	10247
	57.68	42.32	100.00
	21.60	19.59	20.70
Unemployed	1637	373	2010
	81.44	18.56	100.00
	5.98	1.68	4.06
Sick/Disable	676	502	1178
	57.39	42.61	100.00
	2.47	2.27	2.38
Homemaker	1790	1324	3114
	57.48	42.52	100.00
	6.54	5.98	6.29
Total	27366	22139	49505
	55.28	44.72	100.00
	100.00	100.00	100.00

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages. Information of wave 8 have been updated with information given during the first Corona survey.*

Table 1.5 Transitions of "job status" from Corona survey 1 to Corona survey 2

Working situation	Retired	Working	Unemployed	Sick/disable	Homemaker	Total
Retired	13,731	243	10	85	133	14,202
	96.68	*1.71*	*0.07*	*0.60*	*0.94*	*100.00*
Working	933	3,825	117	68	76	5,019
	18.59	*76.21*	*2.33*	*1.35*	*1.51*	*100.00*
Unemployed	103	97	179	22	48	449
	22.94	*21.60*	*38.87*	*4.90*	*10.69*	*100.00*
Sick/Disable	248	25	14	280	13	580
	42.76	*4.31*	*2.41*	*42.28*	*2.24*	*100.00*
Homemaker	382	45	41	24	998	1,490
	25.64	*3.02*	*2.75*	*1.61*	*66.98*	*100.00*
Total	15,397	4,235	361	479	1,268	21,740
	70.82	*19.48*	*1.66*	*2.20*	*5.83*	*100.00*

NOTE: This table shows the transition from the initial state on the first column to the final job situation in the subsequent column. The second row shows the percentage. Not every individuals which was present in the Corona Survey 1 is also present in the Corona Survey 2.

Table 1.6.1 Distribution of help providers by work situation

Help given	Working		
	No	**Yes**	**Total**
No	31581	6960	38541
	81.94	*18.06*	*100.00*
	80.44	**67.92**	**77.85**
Yes	7677	3287	10964
	70.02	*29.98*	*100.00*
	19.56	**32.08**	**22.15**
Total	39258	10247	49505
	79.30	*20.70*	*100.00*
	100.00	**100.00**	**100.00**

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages*

Table 1.6.2 Distribution of "personal care" providers by work situation

Personal care given	Working		
	No	**Yes**	**Total**
No	37213	9355	46568
	79.91	*20.09*	*100.00*
	94.79	**91.30**	**94.07**
Yes	2045	892	2937
	69.63	*30.37*	*100.00*
	5.21	**8.70**	**5.93**
Total	39258	10247	49505
	79.30	*20.70*	*100.00*
	100.00	**100.00**	**100.00**

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages*

Table 1.6.3 Distribution of "personal care" providers and working status conditional on providing help

Personal care given	working		
	No	**Yes**	**Total**
No	6135	2548	8683
	70.66	*29.34*	*100.00*
	79.91	**77.52**	**79.20**
Yes	1542	739	2281
	67.60	*32.40*	*100.00*
	20.09	**22.48**	**20.80**
Total	7677	3287	10964
	70.02	*29.98*	*100.00*
	100.00	**100.00**	**100.00**

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages*

Table 1.6.4 Distribution of working status and sex

if providing help			
	Sex		
working	Male	Female	Total
No	3080	4597	7677
	40.12	*59.88*	*100.00*
	70.56	**69.66**	**70.02**
Yes	1285	2002	3287
	39.09	*60.91*	*100.00*
	29.44	**30.34**	**29.98**
Total	*4365*	*6599*	*10964*
	39.81	60.19	100.00
	100.00	**100.00**	**100.00**

if providing personal care			
	Sex		
working	Male	Female	Total
No	602	1443	2045
	29.44	*70.56*	*100.00*
	68.88	**69.95**	**69.63**
Yes	272	620	892
	30.49	*69.51*	*100.00*
	31.12	**30.05**	**30.37**
Total	874	2063	2937
	29.76	*70.24*	*100.00*
	100.00	**100.00**	**100.00**

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages*

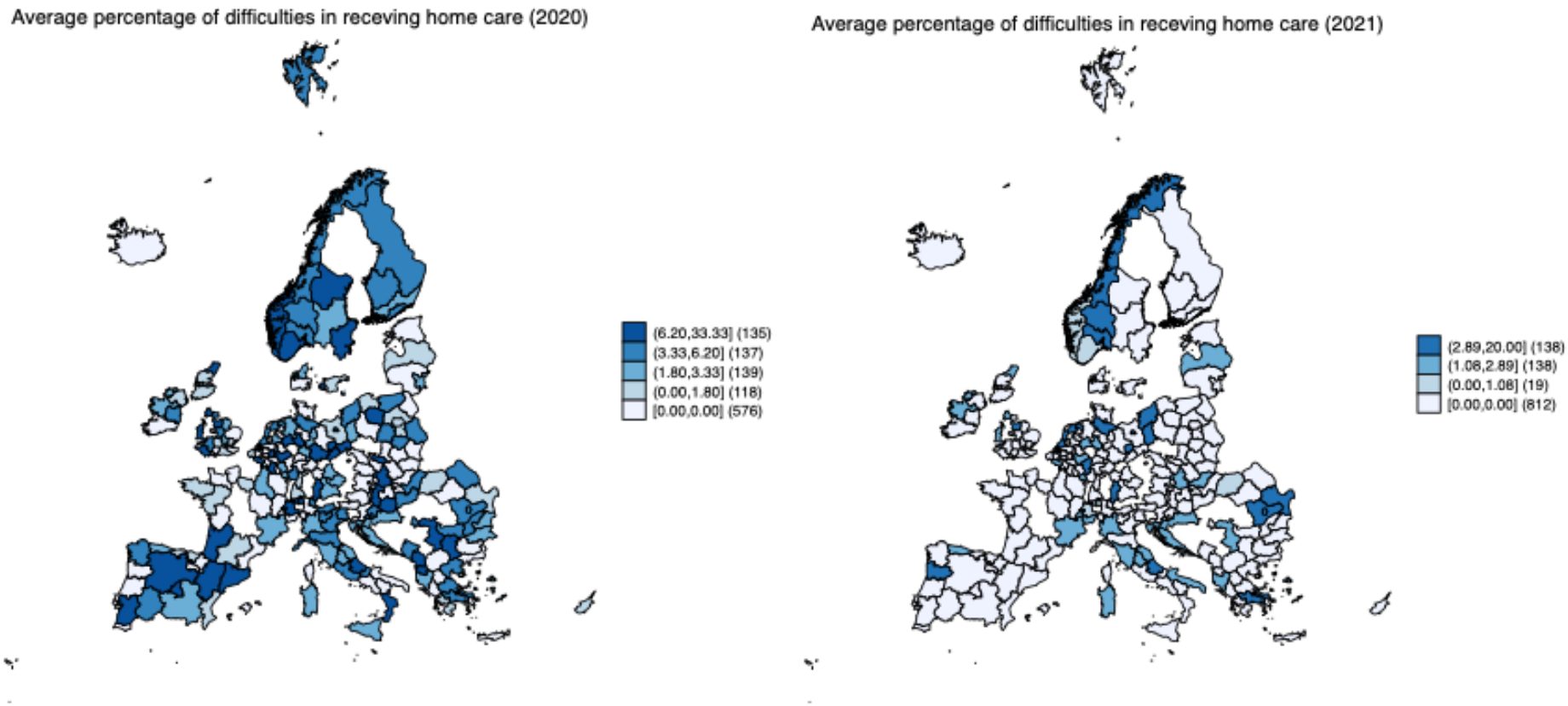
Table 1.6.5 Distribution of working status and sex conditional on providing both help and personal care

	Sex		
working	Male	Female	Total
No	450	1092	1542
	29.18	*70.82*	*100.00*
	67.26	**67.74**	**67.60**
Yes	219	520	739
	29.63	*70.37*	*100.00*
	32.74	**32.26**	**32.40**
Total	669	1612	2281
	29.33	*70.67*	*100.00*
	100.00	**100.00**	**100.00**

NOTE: First row has *frequencies*; second row has *row percentages* and third row has *column percentages*

Figure 2.3 Average percentage of respondents reporting difficulties in receiving home care in (a) 2020 and (b) 2021

(a) (b)



NOTE: These maps show the percentage of individuals reporting to have experienced a lack of home care in 2020 (Figure 2.1 (a)) and 2021 (Figure 2.1 (b)). The percentage is computed as the number of individuals with difficulties in-home care over the total number of individuals receiving care, interviewed by the same interviewer and multiplied by 100. The geographical area is NUTS2.

Table 2.1 Dependent var: help given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Log(cumul index)	-0.0510	-0.0300	0.0280	0.0294
	(0.0349)	(0.0305)	(0.0438)	(0.0373)
Log(cumul deaths)	-0.00302	-0.00458**	-0.00174	-0.00376*
	(0.00235)	(0.00198)	(0.00253)	(0.00212)
Log(formal care)	0.000710	0.000714	-0.000582	-0.000441
	(0.000919)	(0.000782)	(0.00126)	(0.00105)
lack of care in the area	0.00611	0.0245***	0.00608	0.0229**
	(0.00789)	(0.00695)	(0.0111)	(0.00907)
Age 66-75	-0.0903***	-0.122***	0.0371**	0.0174
	(0.01000)	(0.00844)	(0.0179)	(0.0141)
Age 76-80	-0.162***	-0.208***	0.0379	-0.0259
	(0.0115)	(0.00929)	(0.0255)	(0.0211)
low income	0.00699	0.0238***	-0.0273	-0.00457
	(0.0108)	(0.00896)	(0.0728)	(0.0574)
high income	0.00341	0.00276	-0.0642	-0.0806
	(0.0125)	(0.0114)	(0.0862)	(0.0625)
working	0.0291**	0.0429***	0.0158	0.0144
	(0.0129)	(0.0131)	(0.0237)	(0.0239)
unemployed or other	-0.0220	-0.00209	0.00390	0.0259
	(0.0139)	(0.00899)	(0.0243)	(0.0171)
Constant	0.869**	0.710**	-0.0190	0.0401
	(0.355)	(0.311)	(0.447)	(0.381)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the individual level. P-value:
*** p<0.01, ** p<0.05, * p<0.10

Table 2.2 Dependent var: personal care given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Log(cumul index)	-0.000115	-0.0119	0.00489	0.0429*
	(0.0167)	(0.0184)	(0.0240)	(0.0247)
Log(cumul deaths)	0.00202	0.00100	0.00142	8.49e-05
	(0.00129)	(0.00129)	(0.00141)	(0.00140)
Log(formal care)	-0.000461	-0.000421	-0.000916	-0.00186***
	(0.000405)	(0.000449)	(0.000681)	(0.000675)
lack of care in the area	0.0122***	0.0213***	0.00919	0.0169***
	(0.00415)	(0.00442)	(0.00630)	(0.00602)
Age 66-75	-0.0249***	-0.0507***	0.00586	-0.00183
	(0.00471)	(0.00522)	(0.0105)	(0.00936)
Age 76-80	-0.0432***	-0.0766***	-0.0189	-0.0406***
	(0.00531)	(0.00568)	(0.0141)	(0.0131)
low income	0.00701	0.00935*	0.000731	0.0639
	(0.00491)	(0.00526)	(0.0367)	(0.0483)
high income	-0.000362	0.00223	-0.0194	-0.0636
	(0.00541)	(0.00664)	(0.0396)	(0.0492)
working	0.00310	0.0115	0.00800	0.00381
	(0.00623)	(0.00821)	(0.0126)	(0.0159)
unemployed or other	-0.00403	0.00107	0.0121	0.0105
	(0.00674)	(0.00581)	(0.0140)	(0.0119)
Constant	0.0414	0.233	-0.00660	-0.313
	(0.169)	(0.187)	(0.244)	(0.252)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the individual level. P-value:
*** p<0.01, ** p<0.05, * p<0.10

Table 2.3 Dependent var: help given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Index stringency	0.00112**	0.000933**	0.00159***	0.00124***
	(0.000494)	(0.000409)	(0.000570)	(0.000457)
Log(deaths)	0.00540*	-0.00232	0.00480	-0.00346
	(0.00280)	(0.00241)	(0.00296)	(0.00255)
Log(formal care)	0.000587	0.000356	-0.00127	-0.00142
	(0.000961)	(0.000813)	(0.00140)	(0.00113)
lack of care in the area	0.00411	0.0232***	0.00117	0.0196**
	(0.00788)	(0.00695)	(0.0111)	(0.00909)
Age 66-75	-0.0903***	-0.122***	0.0375**	0.0179
	(0.0100)	(0.00845)	(0.0179)	(0.0141)
Age 76-80	-0.162***	-0.208***	0.0401	-0.0250
	(0.0115)	(0.00929)	(0.0255)	(0.0211)
low income	0.00732	0.0245***	-0.0263	-0.00675
	(0.0108)	(0.00898)	(0.0719)	(0.0579)
high income	0.00308	0.00269	-0.0696	-0.0794
	(0.0125)	(0.0114)	(0.0870)	(0.0625)
working	0.0286**	0.0430***	0.0144	0.0149
	(0.0129)	(0.0131)	(0.0236)	(0.0239)
unemployed or other	-0.0223	-0.00221	0.00300	0.0258
	(0.0139)	(0.00899)	(0.0243)	(0.0171)
Constant	0.255***	0.297***	0.160***	0.230***
	(0.0230)	(0.0192)	(0.0346)	(0.0282)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the individual level. P-value:
*** p<0.01, ** p<0.05, * p<0.10

Table 2.4 Dep var p care given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Index stringency	0.000667**	0.000813***	0.00132***	0.00116***
	(0.000276)	(0.000277)	(0.000307)	(0.000314)
Log(deaths)	0.00370**	0.00125	0.00420**	0.000503
	(0.00166)	(0.00172)	(0.00181)	(0.00186)
Log(formal care)	-0.000788*	-0.000950**	-0.00213***	-0.00284***
	(0.000426)	(0.000470)	(0.000774)	(0.000761)
lack of care in the area	0.0117***	0.0207***	0.00612	0.0145**
	(0.00415)	(0.00442)	(0.00631)	(0.00603)
Age 66-75	-0.0250***	-0.0508***	0.00623	-0.00117
	(0.00471)	(0.00522)	(0.0104)	(0.00935)
Age 76-80	-0.0432***	-0.0766***	-0.0174	-0.0391***
	(0.00531)	(0.00568)	(0.0141)	(0.0131)
Low income	0.00794	0.0106**	0.00202	0.0616
	(0.00494)	(0.00526)	(0.0363)	(0.0486)
high income	-0.000456	0.00211	-0.0222	-0.0628
	(0.00542)	(0.00664)	(0.0402)	(0.0496)
working	0.00305	0.0115	0.00728	0.00370
	(0.00623)	(0.00821)	(0.0126)	(0.0159)
unemployed or other	-0.00402	0.000972	0.0120	0.0103
	(0.00674)	(0.00581)	(0.0140)	(0.0119)
Constant	0.0435***	0.0939***	-0.000157	0.0753***
	(0.0124)	(0.0129)	(0.0189)	(0.0203)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the individual level. P-value:
*** p<0.01, ** p<0.05, * p<0.10

Appendix

Table A-1 Prevalence of NUTS by Country

Tabulation of country

Country identifie	NUTS0	NUTS1	NUTS2	NUTS3
Austria	0.989	0.854	0.854	0.781
Germany	0.992	0.818	0	0
Sweden	0.992	0.738	0.738	0.658
Netherlands	0.974	0.598	0.493	0
Spain	0.994	0.666	0.666	0.567
Italy	0.984	0.734	0.734	0
France	0.996	0.619	0.619	0
Denmark	0.992	0.697	0.695	0.499
Greece	0.988	0.92	0.92	0
Switzerland	0.983	0.718	0.718	0
Belgium	0.988	0.781	0.723	0
Israel	0.989	0.182	0	0
Czech Republic	0.999	0.81	0.81	0.81
Poland	0.98	0.819	0.819	0.633
Luxembourg	0.958	0.884	0.795	0.795
Hungary	0.981	0.953	0.947	0.819
Portugal	0.996	0.956	0.956	0.405
Slovenia	0.977	0.934	0.934	0.934
Estonia	0.995	0.838	0.838	0.838
Croatia	0.983	0.951	0.951	0.951
Lithuania	0.973	0.886	0.886	0.886
Bulgaria	0.997	0.952	0.952	0.828
Cyprus	0.932	0.903	0.903	0.903
Finland	0.949	0.891	0.891	0.891
Latvia	0.977	0.926	0.926	0.926
Malta	0.987	0.877	0.877	0.877
Romania	0.975	0.931	0.931	0.783
Slovakia	0.998	0.969	0.969	0.969

Table A-1.2 Tabulation of the number of NUTS3 visited by interviewer

NUTS3	Frequency	Percent	Cum.
1	686	73.68	73.68
2	177	19.01	92.70
3	47	5.05	97.74
4	14	1.50	99.25
5	6	0.64	99.89
6	1	0.11	100.00
Total	931	100.00	

NOTE: This table shows the number of NUTS3 visited by interviewer.
More than 25% of interviewers visited more than one NUTS3.

Table A-1.3 Tabulation of the number of NUTS2 visited by interviewer

NUTS2	Frequency	Percent	Cum.
1	1275	81.57	81.57
2	240	15.36	96.93
3	45	2.88	99.81
4	3	0.19	100.00
Total	1563	100.00	

NOTE: This table shows the number of NUTS2 visited by interviewer.
More than 18% of interviewers visited more than one NUTS2.

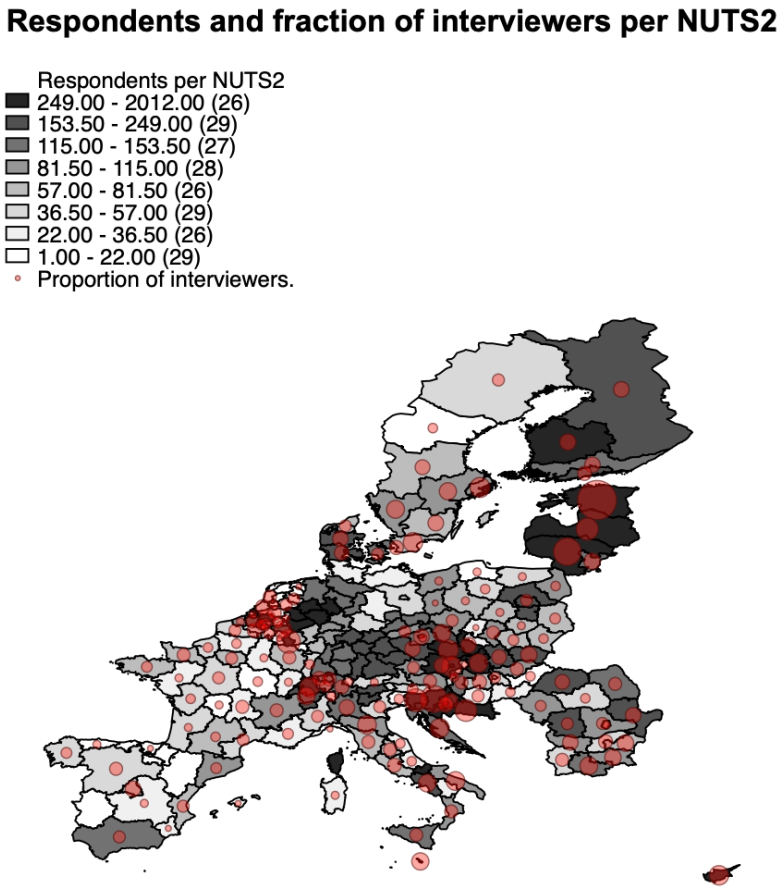
Table A-1.5 Frequency by NUTS2 per country

Country	NUTS2	Number of respondents	Number of Interviewers	Interviewers in multiple NUTS2
Netherlands	NL11	15	3	1
Netherlands	NL12	12	4	1
Netherlands	NL13	6	2	1
Netherlands	NL21	77	11	4
Netherlands	NL22	35	4	1
Netherlands	NL23	11	3	1
Netherlands	NL31	21	6	1
Netherlands	NL32	73	8	1
Netherlands	NL33	121	17	3
Netherlands	NL34	10	1	0
Netherlands	NL41	70	11	1
Netherlands	NL42	28	2	0
Italy	ITC1	121	11	4
Italy	ITC3	44	3	1
Italy	ITC4	270	12	2
Italy	ITF1	76	4	0
Italy	ITF3	374	16	4
Italy	ITF4	231	16	1
Italy	ITF5	50	2	0
Italy	ITF6	177	8	0
Italy	ITG1	291	10	0
Italy	ITG2	52	3	0
Italy	ITH3	116	7	0
Italy	ITH4	30	6	1
Italy	ITH5	198	14	0
Italy	ITI1	143	6	0
Italy	ITI2	142	7	0
Italy	ITI3	60	4	0
Italy	ITI4	133	9	0
France	FR10	162	22	7
France	FRB0	97	6	1
France	FRC1	47	5	0
France	FRC2	47	2	2
France	FRD1	127	7	2
France	FRD2	92	3	0
France	FRE1	85	8	1
France	FRE2	66	3	0
France	FRF1	88	5	0
France	FRF2	52	3	0
France	FRF3	146	6	0
France	FRG0	67	6	3
France	FRH0	148	5	1
France	FRI1	88	6	1
France	FRI2	33	3	1
France	FRI3	91	4	1
France	FRJ1	82	6	1
France	FRJ2	151	4	0

France	FRK1	72	5	1
France	FRK2	203	10	1
France	FRL0	76	6	0
Greece	GR30	1535	52	18
Greece	GR41	31	2	2
Greece	GR42	122	3	1
Greece	GR43	268	5	0
Greece	GR51	428	14	7
Greece	GR52	914	20	4
Greece	GR53	151	2	0
Greece	GR54	146	4	2
Greece	GR61	391	6	0
Greece	GR62	74	2	0
Greece	GR63	186	5	4
Greece	GR64	166	4	0
Greece	GR65	216	3	0
Switzerland	CH01	469	19	7
Switzerland	CH02	572	22	6
Switzerland	CH03	295	10	6
Switzerland	CH04	329	13	12
Switzerland	CH05	304	2	0
Switzerland	CH06	211	4	0
Switzerland	CH07	74	4	0
Belgium	BE10	89	6	2
Belgium	BE21	556	21	7
Belgium	BE22	128	6	1
Belgium	BE23	335	7	0
Belgium	BE24	216	4	0
Belgium	BE25	224	6	0
Belgium	BE31	51	4	0
Belgium	BE32	106	10	1
Belgium	BE33	415	16	1
Belgium	BE34	34	3	0
Belgium	BE35	66	4	0

NOTE: This table shows for each NUTS2 the number of respondents, interviewers and interviewers present in multiple NUTS2

Figure A.1 Geographical representation of respondents and interviewers



Note: This Figure shows the number of respondents by NUTS2 in grey, and the proportion of interviewers in the same area in the red circle. Bigger circles imply a higher fraction of interviewers; as expected, more populated areas also have a higher fraction of interviewers.

Table A-2 Analysis clustered at the interviewer level

Table A-2.1 Dependent var: help given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Log(cumul index)	-0.0510	-0.0300	0.0280	0.0294
	(0.0387)	(0.0350)	(0.0438)	(0.0373)
Log(cumul deaths)	-0.00302	-0.00458*	-0.00174	-0.00376*
	(0.00275)	(0.00243)	(0.00253)	(0.00212)
Log(formal care)	0.000710	0.000714	-0.000582	-0.000441
	(0.00101)	(0.000842)	(0.00126)	(0.00105)
lack of care in the area	0.00611	0.0245***	0.00608	0.0229**
	(0.0103)	(0.00854)	(0.0111)	(0.00907)
Age 66-75	-0.0903***	-0.122***	0.0371**	0.0174
	(0.0105)	(0.00866)	(0.0179)	(0.0141)
Age 76-80	-0.162***	-0.208***	0.0379	-0.0259
	(0.0127)	(0.00970)	(0.0255)	(0.0211)
low income	0.00699	0.0238**	-0.0273	-0.00457
	(0.0117)	(0.00925)	(0.0728)	(0.0574)
high income	0.00341	0.00276	-0.0642	-0.0806
	(0.0128)	(0.0117)	(0.0862)	(0.0625)
working	0.0291**	0.0429***	0.0158	0.0144
	(0.0136)	(0.0129)	(0.0237)	(0.0239)
unemployed or other	-0.0220	-0.00209	0.00390	0.0259
	(0.0148)	(0.00925)	(0.0243)	(0.0171)
Constant	0.862**	0.686*	0.00827	0.0446
	(0.396)	(0.359)	(0.452)	(0.382)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the interviewer level. P-value:

*** p<0.01, ** p<0.05, * p<0.10

Table A-2.2 Dependent var: personal care given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Log(cumul index)	-0.0510	-0.0300	0.0280	0.0294
	(0.0387)	(0.0350)	(0.0438)	(0.0373)
Log(cumul deaths)	-0.00302	-0.00458*	-0.00174	-0.00376*
	(0.00275)	(0.00243)	(0.00253)	(0.00212)
Log(formal care)	0.000710	0.000714	-0.000582	-0.000441
	(0.00101)	(0.000842)	(0.00126)	(0.00105)
lack of care in the area	0.00611	0.0245***	0.00608	0.0229**
	(0.0103)	(0.00854)	(0.0111)	(0.00907)
Age 66-75	-0.0903***	-0.122***	0.0371**	0.0174
	(0.0105)	(0.00866)	(0.0179)	(0.0141)
Age 76-80	-0.162***	-0.208***	0.0379	-0.0259
	(0.0127)	(0.00970)	(0.0255)	(0.0211)
low income	0.00699	0.0238**	-0.0273	-0.00457
	(0.0117)	(0.00925)	(0.0728)	(0.0574)
high income	0.00341	0.00276	-0.0642	-0.0806
	(0.0128)	(0.0117)	(0.0862)	(0.0625)
working	0.0291**	0.0429***	0.0158	0.0144
	(0.0136)	(0.0129)	(0.0237)	(0.0239)
unemployed or other	-0.0220	-0.00209	0.00390	0.0259
	(0.0148)	(0.00925)	(0.0243)	(0.0171)
Constant	0.862**	0.686*	0.00827	0.0446
	(0.396)	(0.359)	(0.452)	(0.382)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the interviewer level. P-value:

*** p<0.01, ** p<0.05, * p<0.10

Table A-2.3 Dependent var: help given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Index stringency	0.00112*	0.000933*	0.00159***	0.00124***
	(0.000589)	(0.000499)	(0.000570)	(0.000457)
Log(deaths)	0.00540*	-0.00232	0.00480	-0.00346
	(0.00327)	(0.00279)	(0.00296)	(0.00255)
Log(formal care)	0.000587	0.000356	-0.00127	-0.00142
	(0.00105)	(0.000874)	(0.00140)	(0.00113)
lack of care in the area	0.00411	0.0232***	0.00117	0.0196**
	(0.0103)	(0.00857)	(0.0111)	(0.00909)
Age 66-75	-0.0903***	-0.122***	0.0375**	0.0179
	(0.0104)	(0.00867)	(0.0179)	(0.0141)
Age 76-80	-0.162***	-0.208***	0.0401	-0.0250
	(0.0127)	(0.00971)	(0.0255)	(0.0211)
low income	0.00732	0.0245***	-0.0263	-0.00675
	(0.0117)	(0.00926)	(0.0719)	(0.0579)
high income	0.00308	0.00269	-0.0696	-0.0794
	(0.0128)	(0.0117)	(0.0870)	(0.0625)
working	0.0286**	0.0430***	0.0144	0.0149
	(0.0136)	(0.0129)	(0.0236)	(0.0239)
unemployed or other	-0.0223	-0.00221	0.00300	0.0258
	(0.0148)	(0.00926)	(0.0243)	(0.0171)
Constant	0.248***	0.272***	0.187***	0.236***
	(0.0308)	(0.0257)	(0.0660)	(0.0513)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the interviewer level. P-value:
*** p<0.01, ** p<0.05, * p<0.10

Table A-2.4 Dependent var: personal care given	(1) Men	(2) Women	(3) Men	(4) Women
	POLS	POLS	FE	FE
Index stringency	0.000667**	0.000813**	0.00132***	0.00116***
	(0.000333)	(0.000354)	(0.000307)	(0.000314)
Log(deaths)	0.00370*	0.00125	0.00420**	0.000503
	(0.00203)	(0.00215)	(0.00181)	(0.00186)
Log(formal care)	-0.000788*	-0.000950*	-0.00213***	-0.00284***
	(0.000478)	(0.000530)	(0.000774)	(0.000761)
lack of care in the area	0.0117**	0.0207***	0.00612	0.0145**
	(0.00569)	(0.00604)	(0.00631)	(0.00603)
Age 66-75	-0.0250***	-0.0508***	0.00623	-0.00117
	(0.00488)	(0.00567)	(0.0104)	(0.00935)
Age 76-80	-0.0432***	-0.0766***	-0.0174	-0.0391***
	(0.00554)	(0.00606)	(0.0141)	(0.0131)
low income	0.00794	0.0106**	0.00202	0.0616
	(0.00514)	(0.00539)	(0.0363)	(0.0486)
high income	-0.000456	0.00211	-0.0222	-0.0628
	(0.00553)	(0.00628)	(0.0402)	(0.0496)
working	0.00305	0.0115	0.00728	0.00370
	(0.00663)	(0.00850)	(0.0126)	(0.0159)
unemployed or other	-0.00402	0.000972	0.0120	0.0103
	(0.00665)	(0.00587)	(0.0140)	(0.0119)
Constant	0.0355**	0.0832***	-0.00218	0.0137
	(0.0159)	(0.0171)	(0.0337)	(0.0415)
Observations	20,676	28,829	20,676	28,829

NOTE: Time dummies apply. Country dummies apply in the POLS analyses. Individual fixed effects are included in column (3) and (4). The variable working is instrumented using eligibility to early and statutory retirement. Clustered standard errors are at the interviewer level. P-value:

*** p<0.01, ** p<0.05, * p<0.10