Income and Views on Minimum Living Standards

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Abstract: This paper explores the association between income and stated views on minimum living standards; that is, views on items and activities that no one in today's society should have to go without. Using data from a large nationally representative survey, we find the rich deem fewer items to be essential. In our baseline model, people at the bottom of the income distribution report 10% more items as essential than do people at the top of the income distribution. The negative relationship between income and recommended minimum living standards is robust to conditioning on a large covariate set, and remains evident when we use alternative measures of economic status, such as wealth and neighborhood advantage. We find that area-level income inequality amplifies the negative income gradient, and that the rich are no more considerate towards children than they are towards adults. We also find that changes in people's views across time are relatively small, and unrelated to major economic life events. An explanation for this stability is that views are formed primarily in childhood. We find that economic status in childhood has strong effects on views during adulthood, but that intergenerational economic mobility is unimportant.

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1. Introduction

Are the rich less generous towards the poor than other people are? A growing multi-disciplinary literature using a variety of data and methodologies suggests they are (Goleman, 2013; Proud, 2015). The relationship can be explained by differences in beliefs about whether the poor are lazy or hard working, the fairness criteria used, whether luck rather than effort and skill determines income, and views on how deserving the disadvantaged are (Piketty, 1995; Fong, 2001; Corneo and Gruner, 2002; Alesina and Angeletos, 2005; Benabou and Tirole, 2006; Stantcheva, 2020; Alesina et al. 2022). A related explanation is that people with lower economic status are more mindful of other people's welfare as a way to adapt to their unfavorable environments and social class (Kraus et al., 2009; Kraus et al., 2011), and accordingly are more compassionate towards others and engage in more prosocial behaviors (Piff et al., 2010; Schmukle et al., 2019). In contrast, people with high economic status are more socially isolated from those experiencing hardship, which engenders an individualistic focus and reduces awareness of the structural barriers faced by others (Suhay et al., 2021).[1]

We contribute to this literature by comprehensively exploring the association between people's income and their assessment of the items and activities that no one in today's society should have to go without; which we term minimum living standards. This assessment reflects a person's perspective on what is an acceptable level of material deprivation among society's poorest inhabitants, and is therefore a crucial input in to attitudes towards contemporary policy issues, such as the 'fair' level of minimum wages, whether to implement universal basic income, redistributive welfare policies, and regulation that seeks to reduce economic inequality. Understanding the views and preferences of the rich, and how they differ from those held by other economic classes, is important given their

[1] Recent psychological studies indicate a pivotal role played by biases of various kinds. There is widespread evidence that preferences for one's 'group' influences outcomes in nature and in the lab, and recent evidence disentangling this bias suggests the presence of substantial individual level variation across group identities (Kranton et al., 2020). The fact that people are driven by altruism and inequality aversion (Epper et al., 2020), and the finding that even those of low-income status care about their relative income rank (Mujcic and Frijters, 2012, Kuziemko et al., 2014, Fisman et al., 2017 and Karadja et al., 2017) are other factors that are explanatory.

disproportionate power in policy making, and society's increased dependence on their assistance with the provision of goods and services for the poor (Andreoni and Payne, 2013; Fuentes-Nieva and Galasso, 2014; Andreoni et al., 2017; Sullivan 2017).

Although large economic literatures have examined the impact of income and wealth on preferences for redistribution (Alesina and La Ferrara, 2005; Kuziemko et al., 2014; Fisman et al., 2015; Cohn et al., 2019) and on charitable giving (Knutsson et al., 2013; Andreoni and Payne, 2013; Andreoni, 2015; Meer and Priday, 2020), to the best of our knowledge, no study has conducted a comprehensive evaluation of views on minimum living standards.[2] As a shorthand, we characterize these views as 'compassion' towards the poor. Other possible terms are 'considerateness', 'magnanimity', 'support', and 'preference'.

Our analysis is based on information from the 2014 and 2018 surveys of a large nationally representative study in Australia. These data are particularly suitable, because in addition to information on views on minimum living standards, there are detailed data on socioeconomic status (SES), including income, wealth, self-assessed prosperity, and childhood economic circumstances. Further, many of the items listed in the minimum living standards module are common across the few studies that have considered related topics in other countries, including the United States, the UK and Europe. The findings of this study are thus relevant more broadly.

We find a robust association between income and views on minimum living standards, which persists when we include other measures of economic status, such as wealth, neighborhood advantage, and self-rated prosperity. In our baseline empirical specification that conditions on demographics, educational attainment and work status, people at the bottom of the income distribution are estimated to report 10% more items as essential (relative to the sample mean), than do people at the top of the income distribution. Naturally, there is variation in the strength of the income gradient across items

[2] Previous work on gauging attitudes towards what constitutes the necessities of life or minimum acceptable standards in the developed world has focused on their use in building poverty lines (Dickes et al., 2009; Saunders and Naidoo, 2009).

and activities. For example, we find no difference on average between rich and poor in their views on whether heating and security are essential for everyone, but particularly large differences when it comes to the ownership of consumer durables, such as a washing machine or a motor vehicle. Similar to Côté et al. (2015), we also find that inequality significantly exacerbates the negative income gradient, supporting the contention that in areas with high inequality, the rich are likely to believe that they are more deserving than others.

Using the panel dimension of the data, we analyze the stability of views regarding minimum living standards over time. We find that the four-year changes in people's views are relatively modest, and are concentrated among younger adults. Moreover, changes in views during adulthood are unrelated to major health, social and economic life events, including positive and negative financial events. One explanation for this stability is that a person's views on minimum living standards are formed primarily in childhood. We explored this possibility, finding that mother and father SES have strong negative effects on how considerate one's views are in adulthood, even conditional on contemporaneous economic status. In line with these findings, we document that immigrants from lower income countries (for example, from South Asia) consider more items as essential than the native-born and immigrants from high-income countries. We do not, however, find empirical support for an intergenerational mobility effect. This paper most clearly fits within the literature exploring the relationship between income and attitudes towards redistribution, where, in general, the conclusion is that the rich are less compassionate and less supportive of helping the poor.

Our work is also related to the large literature on determinants of charitable giving (Auten et al., 2002; Bauer et al., 2015; DellaVigna et al., 2012). However, it is not clear that charitable giving is driven by the desire to improve the lives of the disadvantaged, and while it is positively associated with inequality (Mastromatteo and Russo, 2017), its impacts in terms of changing circumstances are mostly small (Jehle 1994). Further, the rich may engage in charitable giving for alternate purposes,

such as signaling wealth status (Glazer and Konrad, 1996), warm-glow effects (Andreoni, 1990, Andreoni et al., 2017), and other motives (Yamamura et al., 2017). Further, since charity maintains the hierarchy and does not alter social standing, it is intuitive to find that in studies of income rank, it is the rich who are more likely to give, and mostly to people below them in the income distribution (Karadja et al., 2017; Meer and Priday, 2020).

2. Data and Descriptive Analysis

2.1. Measuring views on minimum living standards

The data used in this study are from the Household, Income and Labor Dynamics in Australia (HILDA) survey, a nationally representative household panel study collected using multi-stage random sampling techniques and conducted annually since 2001. The survey includes a face-to-face household questionnaire answered by one person, and a face-to-face person questionnaire and a self-completion questionnaire answered by all household members aged 15 years and above. The questionnaires cover a wide range of topics including labor market status, income, wealth, family demographics, health, personality, and subjective wellbeing.

To measure views on acceptable living standards, we use data from the household questionnaires included in the 2014 and 2018 surveys; the only years that contain the relevant information. People's views are elicited with the following prompt: 'I am going to read out a list of items and activities, and I want you to tell me whether you think each of these are things that are essential – things that no one in Australia should have to go without today'. Following this module of questions is another asking whether the respondent owns each of the items.

We generate a variable measuring minimum living standards by summing answers (No = 0, Yes = 1) regarding the nine items shown in Table 1. In summary, these items represent whether a person has: heating; a secure home; a non-leaking roof; a telephone; decent furniture; a washing

machine; internet access; a motor vehicle; and money to buy presents for family or friends once per year. There are additional items that we do not use because nearly all respondents (> 99 percent) agree that they are essential: medical treatment when needed, medicines when prescribed by a doctor, warm clothes when it is cold, and a meal once a day.[3]

Importantly, we restrict our main estimation sample to the 74% of respondents who possess all of the nine items. This restriction is imposed so that the estimated income coefficients reflect the association between income and people's views on minimal acceptable living standards; and not the association between income and people's desire to own the item, or the association between income and absence of knowledge regarding the usefulness or enjoyment of an item. Notably, the vast majority of people have each of the individual items: 99.0% have heating; 98.2% have a secure home; 92.8% have a non-leaking roof; 99.7% have a telephone; 99.0% have decent furniture; 98.2% have a washing machine; 91.9% have internet access; 92.9% have a motor vehicle; and 93.4% have money to buy presents for family or friends once a year.[4] This reinforces the fact that each of the nine items in Table 1 are common everyday items.

Table 1 presents the proportions of the estimation sample that consider each item to be something that no one should have to go without (essential). Most people consider heating and security to be essential, while only around one-half of people consider internet access, a motor vehicle, and buying presents once per year to be essential. On average, people report that 6.6 of the 9 items are essential, 23% of people consider all nine items to be essential, and 27% consider five or fewer items to be essential. In some parts of the results section, we present estimates using the binary indicator of 'five or fewer items', in addition to estimates using the overall count.

[3] The almost unanimous agreement that medical treatment and medicines are essential is likely to be a viewpoint specific to Australia and other countries that have a public health care system. The Australian healthcare system is based on the principle that healthcare is essential: low-income households can usually access medical treatment for free and prescription medication at heavily discounted prices.

[4] The importance of imposing this restriction leads to the exclusion of some less commonly owned items that were contained in the survey module. For example, only 67% of people have a "week's holiday away from home each year", and only 73% have "home contents insurance".

To provide a broader understanding of what the minimum living standards variable captures, we have analysed its correlation with reported personality types. In the HILDA self-completion questionnaire, people are presented with 36 words and are asked to rate how well the words describe themselves. The personalities most positively correlated with the minimum living standards variable include 'kind', 'sympathetic' and 'warm', while the personalities most negatively correlated include 'selfish', 'complex' and 'harsh'. We have also studied the association between charitable giving and the minimum living standards variable. The HILDA questionnaire asks 'how often do you give money to charity if asked.' About 25% of the sample answered 'often' or 'very often.' Appendix Table 1 reports results of the association between the minimum living standards variable and an indicator for those who gave to charity 'often' or 'very often', conditional on economics status. This association is significant but relatively small in magnitude. Those who hold compassionate views on minimum living standards are also likely to donate to charitable causes; however, the effect is muted as compared to the significant positive economic gradient.

2.2. Sample Description

Our main estimation sample includes respondents aged 20 to 80 years, with non-missing information on the nine essential item attitude questions, and who possess all of the nine items. This yields a sample of 9,218 people and 12,909 observations. We have two observations – from 2014 and 2018 - for 3,691 people.

Summary statistics are presented in Appendix Table 2. The average age is 47 years, 42% of the sample is male, and 69% are married. The average number of children in the household is 0.6. In terms of highest educational attainment, 33% have a university degree, 35% have a diploma or vocational certificate, 14% completed high school, and 19% were high school dropouts. Approximately half the sample is employed full-time, about a quarter is employed part-time, and a

quarter is not currently in the labour force. Average annual household disposable income is about $96,000 (USD 74,000), while mean household wealth is about ten times that.

2.3. Raw relationship between income and views on minimum living standards

Figure 1 presents a scatter plot between a person's income percentile and the count of essential items, our measure of a person's support for or considerateness of others regarding living standards. Here and throughout the paper, income is measured by real disposable equivalized household income.[5] The first and tenth deciles of this income measure equal $17,430 and $244,247, respectively. We use percentiles rather than log income or absolute income for ease of interpretation, but our results are robust to alternate choices.

The raw data demonstrates a strong negative correlation: people with higher incomes view fewer items as essential. The univariate regression line has a slope of -1.00, indicating that an increase from the bottom percentile to the top percentile reduces the number of essential items by one (t-statistic = 12.5).[6] Appendix Figure 1 presents similar graphs for each of the nine items separately. The pairwise correlation is lowest for heating (-0.01) and security (-0.03), and highest for washing machine (-0.12) and motor vehicle (-0.18). For motor vehicles, the univariate regression coefficient (-0.32) indicates that an increase from the bottom to the top income percentile reduces the probability of viewing a motor vehicle as essential by 32 percentage points.

3. Do the Rich have Less Considerate Views on Minimum Living Standards?

We begin by describing our main income gradient results, and then test the sensitivity of these

[5] Income is equivalized using the OECD-modified scale in which the household head is assigned a value of 1, each additional adult member (15 years and over) is assigned 0.5, and each child (under 15 years) is assigned 0.3.

[6] Using the predicted first factor of the nine items, rather than the sum, gives a univariate regression income coefficient of -0.47 (t-statistic = 12.00). This indicates that an increase in income from the bottom to the top percentile reduces the predicted factor by 47% of a standard deviation.

estimates to alternate measures of economic status. These analyses are followed by a description of heterogeneity in the income gradient by demographic characteristics, and a breakdown of the income gradient by individual items. Section 3 concludes with a discussion of our results for child-specific items.

3.1. Main income gradient estimates

Table 2 reports coefficient estimates from regressions of the number of items that the respondent believes no one in society should have to go without, which ranges from 0 (none of the items are essential) to 9 (all items are essential). The univariate regression estimate in column (1) indicates that an increase in income from the bottom to the top of the income distribution reduces the number of essential items by 1.00. This represents 50% of a standard deviation change (SD of the outcome equals 2.00). If we instead model the likelihood of choosing 5 or fewer items as essential, a similar income change increases this outcome by 18.21 percentage points (67% relative to the sample mean). Either way, the results indicate that people with high household income view fewer items as essential.

The strong income gradient remains evident when we condition on people's demographics and socioeconomic status. In particular, the estimated coefficient in column (2) indicates that an increase in income from the bottom to the top of the income distribution reduces the number of items by 0.64 (32% of a SD). The equivalent estimate for 5 or fewer items equals 12.40 percentage points (46% relative to the sample mean).[7]

Educational attainment is also strongly related to support for higher living standards among the poor. Holding income constant, having a university degree relative to being a high school dropout

[7] The 'motor vehicle' item could be considered an outlier compared with other items in the essential items list, and Figure 3 indicates that the income association with this item is particularly large. Nevertheless, the results in Table 2 are not reliant on the inclusion of this item. If excluded from the count, the estimated income coefficient (based on the regression specification from column 2 in Table 2) equals 0.42, and the equivalent estimate for 5 or fewer items equals 10.9 percentage points.

reduces number of items by 0.55. Alternatively, university graduates are around 9 percentage points more apathetic (≤ 5 are essential). The estimated association with education has the same sign as the education gradient reported in Alesina and La Ferrara (2005), which suggests that people with more years of education are more averse to redistribution. On the other hand, Côté et al. (2015) find no significant relationship between education and generosity.

We consider the regression specification in column (2) to be our baseline model. Column (3) builds on this model by including area fixed-effects. Opinions on whether an item is something that no one should have to go without will depend somewhat on location of residence. A motor vehicle is less likely to be viewed as essential in metropolitan areas with comprehensive public transport systems, while is more likely to be viewed as essential in low density rural areas. [8] As expected, including area fixed-effects further reduces the income gradient, but it remains significantly negative. Interestingly, in this area fixed-effects regression, employment status is now a significant predictor. People who work full-time report 0.11 fewer items as essential compared with people not in the labor force living in the same area.[9]

We have additionally investigated whether certain income groups drive the income gradient evident in Table 2. It is possible that the negative association is driven primarily by the rich, and not the lower and middle-income classes. To test this possibility, we re-estimate the baseline model with the continuous income variable replaced with nine income categorical variables representing income in the 2nd to 10th deciles (the first decile being the reference category). The estimates are graphically depicted in Appendix Figure 2. The income gradient appears roughly linear. That is, an increase in

[8] The areas included in Column (3) are called Statistical Areas Level 3 (SA3), a geographical construct defined by the Australian Bureau of Statistics (ABS). There are 358 spatial SA3s covering the whole of Australia. They have a population between 30,000 and 130,000 people, making them less populous than the average U.S. county.

[9] Potential alternative approaches, such as conducting a principal component factor analysis of the items, or scoring the items using an item response theory (IRT) approach, give qualitatively very similar results. These are reported in Appendix Table 3. In the same vein, including additional items and not restricting the sample to those who possess these items also provides estimates consistent with the main results (see Appendix Table 4).

income reduces stated views on minimum living standards for people across most income classes.[10]

3.2. Gradients using alternatives measures of economic advantage

An advantage of our data is that they contain various measures of economic status, including wealth, neighborhood socioeconomic status, and self-rated prosperity. Column (1) in Table 3 reproduces the income estimate from our baseline model for ease of comparison. Also included are the coefficient estimates for the control variables 'university degree' and 'employed full-time', which are often used to represent economic status. Column (2) of Table 3 shows that the wealth coefficient is slightly larger than the income coefficient. An increase in wealth from the bottom to the top of the observed wealth distribution decreases the number of essential items by 0.74. The neighborhood SES coefficient is slightly smaller than the income coefficient. The difference in the number of essential items between people living in the most economically disadvantaged and advantaged neighborhood equals 0.56. Column (4) reports results for self-rated prosperity. The survey question asks 'would you say that you and your family is: prosperous, very comfortable, reasonably comfortable, just getting along, poor, very poor?' The difference in the number of items between prosperous (top 1.70% of the sample) and poor / very poor (bottom 2.50%) equals -0.86, which is larger than the estimated effect of an increase from the bottom percentile to the top percentile of the income distribution.

Coefficient estimates reported in column (5) highlight that the income association is not completely explained by these other measures of economic advantage. Simultaneously including all four measures reduces the magnitude of the income coefficient by around 40% – from 0.64 to 0.37 – but does not drive it to zero. The robustness of the income coefficient is noteworthy. Also noteworthy is the fact that the different measures of economic advantage appear additive in their effects, and are

[10] We also find similarly strong income gradients when using different income variables. Appendix Table 5 reports the estimated coefficients on real total household income, log total real household income, and their equalized versions. The equalized measures tend to provide a better fit than their non-equalized counterparts, however, the association between income and the number of essential items remains negative and significant in each regression.

of similar magnitude, ranging from -0.35 for neighborhood SES to -0.50 for highest self-rated prosperity. If we compare someone with highest income, wealth, education, self-rated prosperity and neighborhood SES, with someone with the lowest values of these variables, the total estimated difference in number of essential items equals -2.08 (*t*-stat = -9.67). Alternatively, the person with highest economic advantage is estimated to be 37 percentage points (*t*-stat = 8.10) more likely to report 5 or fewer items than the person with lowest economic advantage.[11]

3.3. Heterogeneity in the income gradient

It is possible that the association between income and views on minimum living standards is larger for some demographic groups. We investigate this possibility by re-estimating our baseline regression using subsamples defined by gender, age, immigrant status and education. Overall, the results in Figure 2 demonstrate that the income gradient is broadly similar across groups, and for no group is the income gradient close to zero. However, there are notable differences. The income gradient is comparatively smaller for younger individuals (20-39 years) than for the middle-aged (40-59) and older populations (60-79). It is also noticeably larger for immigrants than for natives; though the immigrant estimate has a wider confidence interval due to the smaller sample (N = 2,693).

An alternative approach for exploring heterogeneity is to estimate one regression that includes interaction terms between income and each of the demographic characteristics; the advantage being that this enables control for collinearity in characteristics (for example, younger cohorts tend to be more educated). In this regression, the only interacted characteristic that has a large and precisely estimated coefficient is being 40-59 years old. The results imply that though higher income is associated with less generous views for all demographic groups, the difference in views between the

[11] The percentage of the variance in number of essential items explained by all the demographic and socioeconomic variables in Column (5) of Table 3 equals 8.1%. Therefore, a substantial percentage of the differences between people in their views on minimum living standards is unexplained. Possibly important determinants are political views, religiosity, and personality type.

rich and poor is particularly evident for middle aged respondents.

3.4. Income gradient for individual items

Next, we analyze how the income gradient varies across the nine items. Specifically, we estimated the baseline regression specification for each item separately, with the binary dependent variable indicating that the respondent believes the item is something no one should have to go without. Figure 3 reports the resulting income coefficients. It is clear that the gradient is practically zero for heating and a secure home. That is, there is no difference on average between rich and poor in their views on whether heating and security are essential. The negative gradient is small but discernible for decent furniture, telephone and a non-leaking roof. Ownership of a washing machine, the ability to buy presents once a year, and ownership of a motor vehicle have the largest estimated associations. In particular, an increase from the bottom of the income distribution to the top reduces the probability that an individual believes a motor vehicle is essential by 22 percentage points (44% relative to the sample mean of 50%).

We additionally analyzed how the income gradient varies across items after controlling for area fixed-effects. It is possible that area-level factors are especially important for some items and not for others. As noted above, the large income gradient for motor vehicles may be explained by where one lives. It turns out that area does not explain the pattern of income gradients across items. Conditioning on area fixed-effects reduces the income coefficient proportionately for all items, apart from internet access, which becomes larger.

We end this section on adult-specific items by noting that we estimated regressions using two groupings of similar items. The ‘basic housing’ group includes heated house, secure home, non-leaking roof, and decent furniture, and the ‘other’ group includes telephone, washing machine, internet and motor vehicle. These results are reported in Appendix Table 6 and show that while the income

coefficient is smaller for the 'basic housing' group as compared to the 'other' category, it is still larger (more negative) than any other variable in the regression. Hence although the income gradient for 'basic housing' is flatter than the gradient for the consumer/durable goods 'other' category, it remains economically important.

3.5. Estimates for child-specific items

Are rich adults more caring for poor children than they are for poor adults? It is revealing to determine whether there is a different income association when people are thinking about children as compared to adults. We answer this using the child-focused items presented in Table 1: dental check-up, school trip, hobby, separate bed, and new school clothes. We evaluated these items separately because if there are no children less than 15 years in the household, respondents are not asked the follow up questions on whether they own the items.

Estimates from the regression of the count of the five child-focused items are reported in Table 4. Across the three columns, the income gradients are significantly negative. The income coefficient from the baseline specification in column 2 indicates that an increase from the bottom to the top of the distribution reduces the number of child items considered essential by 0.28. Given a sample mean of 3.90, this is a 7.20% decrease; only slightly smaller than the 9.60% decrease for the main essential item outcome in Table 2. We therefore conclude that the rich are not more considerate towards poor children than they are towards poor adults.

We report the estimated income coefficients from regressions on individual child-focused items in Appendix Figure 3. From this figure, visits to the dentist are the least sensitive to income, whereas school clothes are the most sensitive.[12] An increase from the bottom to the top income

[12] In Australia, almost all schools require students to wear a school uniform, and most often, there are separate summer and winter uniforms. Among the survey respondents with dependent children, around two-thirds report purchasing new school clothes for all their children each year.

percentile reduces the probability that an individual believes new school clothes are essential by 14 percentage points.

4. Are the Rich Less Considerate in Areas with High Inequality?

4.1. The role of area-level income inequality

A prominent study by Côté et al. (2015) shows that area-level income inequality modifies the relationship between income and generosity. More specifically, their analysis of data from the Measuring Morality study demonstrates that high-income participants residing in states with high Gini coefficients were less generous than low-income participants were. Schmukle et al. (2019) attempted to replicate this finding, with different data and methods, but in contrast find no evidence for such an effect. In a follow-up study, Côté and Willer (2020) acknowledge that area-level income inequality may have only weak effects on tempering the association between generosity and income. In this section, we contribute to this ongoing debate by investigating whether area-level income inequality helps explain the income gradient documented in Section 3.

Côté et al. (2015) argue that inequality may be a key moderator because in areas with high inequality, the rich are more likely to engage in favorable downward comparisons, fostering a belief that they are more important and deserving than others. In addition, in high inequality areas, the rich may be especially concerned about descending the economic ladder, and having to suffer the 'bleak' living conditions of the poor. We test this hypothesis by matching Gini coefficients of respondents' local area of residence to their reports on minimum living standards.[13] The SA3-level Gini coefficient in our sample has a mean of 0.46 and ranges from 0.37 to 0.63. The standard deviation of the Gini in

[13] Areas are Statistical Areas Level 3 (SA3), which are similar to but less populous than U.S. counties. This definition of area was used in the area fixed-effects regressions reported in Section 3.

our sample is 0.05.

Results are shown in Table 5. In column (1), we present the 'main' associations between views on minimum living standards and a person's income, Gini coefficient and neighborhood SES. All other covariates from our baseline regression are also included, but not presented for parsimony. Neighborhood SES is added to this specification because it is correlated with both area-level inequality and the regression outcome (that is, it is a confounding factor). The results in column (1) show that conditional on individual and area SES, there is no significant difference between areas with high and low levels of income inequality. Specifically, an increase in the Gini by 0.1 (2 standard deviations) is estimated to reduce the number of essential items by only 0.09.

In column (2) we introduce interaction terms between area-level inequality (Gini) and a person's income and neighborhood SES. This provides our test for whether area-level income inequality moderates the relationship between income and attitudes towards minimum living standards. The coefficient on income equals -0.48, which is the income gradient for a person living in an area with mean inequality.[14] The coefficient on the income and Gini interaction term indicates that the income gradient is significantly more negative in areas with high inequality. An increase in the Gini coefficient by 0.1 increases the magnitude of the income gradient by 0.51. Column (3) shows that this substantial moderating effect is robust to the inclusion of area fixed-effects. The main Gini coefficient term is no longer identified, but the interaction term remains large and significant: a 0.1 increase in inequality increases the slope of the income gradient by 0.43.

We further investigate the role of income inequality by allowing for non-linearity in the association between inequality and the income gradient. Our approach is to estimate a regression that allows the income gradient to differ by quintiles of the Gini coefficient. The results are presented in Figure 4 and indicate that the income gradient is smaller (around -0.25) and statistically insignificant

[14] Income, neighbourhood SES and the Gini coefficient were all de-meaned prior to being interacted.

in areas with low inequality (first two quintiles). In other words, in areas with low inequality there are only small differences in views of minimum living standards between people who are rich and poor. In contrast, the income gradient is large and significant in areas with high inequality (gradient = -1.00 with *t*-statistic = -6.80). If we instead model the likelihood of choosing 5 or fewer items as essential, we find a similar pattern across inequality quintiles: a small gradient in areas with low Gini coefficients, and a large gradient in areas with a high Gini coefficient. Specifically, an increase from the bottom to the top income percentile in a high inequality area is estimated to increase the probability of reporting 5 or fewer items as essential by 17 percentage points (64% relative to the sample mean).

We conclude that inequality significantly amplifies the negative association between income and opinions on minimum living standards. Hence, our results support those presented in Côté et al. (2015).

4.2. Cultural background as an inequality moderator

Another potentially important determinant of the moderating effect of inequality is a person's economic and cultural background. We proxy for this using an individual's country of birth. Someone who grew up in a low-income country and was exposed to poverty may feel greater preference for the poor. Alternatively, the living standards of a person's home country may form the benchmark for their views on what minimum living standards should be in their current country of residence, implying that their views may be less compassionate. In particular, affluent respondents who immigrated from unequal parts of the world (relative to immigrants from countries with less inequality) may hold similar views to the rich born in Australia who reside in more unequal areas (versus residents in regions with less inequality). While we cannot interpret these results as causal, in order to provide additional plausible evidence in support of inequality as a moderator, we estimate a regression with indicators for region of birth, and region of birth interacted with current income. The resulting coefficient

estimates are presented in Table 6. For ease of interpretation, the 'main effect' estimates and the 'interaction' estimates are presented side-by-side for each region of birth (all reported coefficient estimates are from a single regression).

Being born in Australia (native) is the excluded 'main effect' category, and so the estimates in column (2) indicate that immigrants from South and East Europe (0.54), the Middle East (1.17), South East Asia (1.26), East Asia (0.99) and South Asia (1.50) report a significantly higher number of items as essential than do native-born respondents. The differences are large, with some of the estimated coefficients around twice as large as the coefficients on income percentile and university education. It seems that originating from a less developed country, and possibly enduring financial hardship during childhood, have positive effects on later life attitudes towards the poor.

The interaction coefficients presented in column (3), which represent the estimated income gradient for each birth region, are less coherent. The estimated gradient for native born equals -0.60. The birth regions with smaller gradients are South and East Europe, South Asia and Africa, while the birth regions with larger gradients are NZ and the Pacific Islands, South East Asia and the Americas. Hence, in some lower-income regions (for example, South Asia), higher household income has only a weak association, while in other lower-income regions (for example, South East Asia), higher household income has strong negative associations. The results also show that the interaction terms are negative and significant for more unequal areas of the world like the Americas as compared to more equal areas such as West and North Europe. Hence although not definitive, there is suggestive evidence that previous exposure to inequality, perhaps in childhood, an important time-frame as we elaborate on below, may moderate views on minimum living standards.

5. Are Childhood Experiences Instrumental in Shaping Views in Adulthood?

In this section, we examine whether childhood circumstances are able to explain the association with

current economic status. We begin by considering the association with parent's SES, as captured by fathers' and mothers' occupation. Specifically, we use the Australian Socioeconomic Index 2006 (AUSEI06) which is a scale of economic status predicted by people's occupation (McMillan et al., 2009). In our analysis, the scale ranges from 0 to 1, with laborers at the bottom of the scale and medical practitioners at the top. Column (1) of Table 7 shows that mother and father's SES have strong negative associations with an individual's views on minimum living standards. The coefficient magnitudes indicate that having a father who was a doctor, compared to a father who was a laborer, decreases the stated number of essential items by around 0.60. The coefficient for mothers is smaller at -0.43. The greater magnitude of father's occupation index may be expected given the greater labor force participation of men compared to women in the generations under consideration.[15]

We then add parent's education to the regression specification and report the results in column (2). Having mothers with a university degree appears influential while the coefficient on father's education is small. The coefficient on mothers' education indicates that those with highly educated mothers report around 0.21 fewer items as essential. An interpretation of these results is that the impact of father's education works completely through father's income, whereas mother's education has direct effects on children's views. This could be due to mothers from previous generations being the majority caregiver throughout their children's lives. In line with earlier research (Johnston et al., 2014; Brown and Van der Pol, 2015), we find in supplementary regressions that mother's occupation index and education are more strongly related to their daughters' views, while conversely, father's occupation index and education are more strongly related to their son's views.[16]

In column (3), we extend the specification to test whether childhood experience of economic adversity affects current attitudes. Specifically, we consider the impact of a substantial spell of paternal

[15] The mean age of respondents in our sample is 47 years.
[16] We present interaction effects of income with parents' occupation and education in order to understand whether these variables moderate the income gradient. Results in Appendix Table 7 indicates that these interactions are mostly insignificant.

unemployment (6 months or greater) while the respondent was growing up. Conditional on other measures of parental economic status, respondents who experienced childhood economic adversity along this dimension are more likely to be compassionate to the disadvantaged today. The coefficient in column (3) indicates people who had this childhood experience report 0.17 more items as essential.[17]

We further consider whether expensive private school attendance colors current views. Results in Boisjoly et al. (2006) and Rao (2019) suggest that exposure to peers from other income classes in childhood influences subsequent behavior. The estimate in column (4) indicates that people who attended private school are less considerate, and the size of this association is about the same as an increase from the bottom to the top of mother's occupation index.

The last column includes measures of contemporaneous SES including income, employment and education, as well as controls for parental death or divorce during childhood, in order to control for additional between-family heterogeneity. An increase from the bottom to the top of the income distribution is estimated to reduce the number of essential items by about 0.50, which is close to the size of the income coefficient in our baseline specification reported in Table 2. The coefficients on father's occupation index, mother's education, father unemployment, and private school attendance remain mostly unaffected, indicating that childhood circumstance is associated with adulthood views even conditional on adulthood SES. This finding is robust to the inclusion of contemporaneous measures of wealth, neighborhood SES and self-rated prosperity. Though we are unable to interpret these estimates causally, they suggest that childhood SES may have long-lasting impacts on views towards those who are less well off.

6. Do Short-Term and Longer-Term Life Experiences Alter Views?

[17] This result resonates with findings in Giuliano and Spilimbergo (2014).

6.1. Stability in views by age

A subset of the sample (3,691 individuals) completed the survey module on minimum living standards in both 2014 and 2018. With these longitudinal data we can explore whether respondents' views change over time, and whether the changes are associated with major economic, health and social events. The mean change over time in the number of reported essentials (2018 value minus 2014 value) is close to zero (-0.02); however, there are several observed increases and decreases. Around 70% of the sample change their number of essentials by at least one, and around 10% change by at least four (see the histogram in Appendix Figure 4). We present non-parametric regression estimates of the absolute change in the number of essentials by age in Figure 5. The graph demonstrates that views are especially variable in young adulthood, and that the variability stabilizes from around 50 years of age onwards.

Another way to understand the changes in stability across ages is to calculate the correlation in people's views between 2014 and 2018. The correlation for the whole sample equals 0.47 (*p*-value < 0.001). The age-specific correlations for respondents aged in their 20s, 30s, 40s, 50s, 60s and 70s equal: 0.37, 0.43, 0.46, 0.52, 0.47, and 0.39, respectively. These correlation statistics suggest that younger respondents have relatively more volatile views, and that respondents in their 50s have the most stable views. Respondents in their 70s also have low wave-to-wave correlation in reported number of essentials.

6.2 Changes in views following major life events

It is possible that people change their views on minimum living standards following major life events. For instance, Hvidberg et al. (2020) find that Danish survey respondents who have experienced unemployment, disability, and hospitalization in recent years are more likely to view inequality as

unfair, while those who have been promoted are less likely to view inequality as unfair.[18] We study this possibility by estimating the association between changes in views and the occurrence of 12 life events. Specifically, we estimate an individual fixed-effects regression of number of essential items that includes indicators for whether each life event has occurred in the 36 months prior to the interview, following the modeling structure in Hvidberg et al. (2020). The regression estimates are presented in Figure 6, and show that 11 of the 12 major life events have 95% confidence intervals that overlap with zero.[19] The exception is 'death of a close friend'. This estimate indicates that people who have had a close friend die in the past three years report 0.20 fewer items. We have additionally estimated separate individual fixed-effects regressions for each of the nine individual items. The only noteworthy result is that people who have experienced a major improvement in their finances (such as 'won lottery, received an inheritance') are 8 percentage points less likely to report that a motor vehicle is an essential item (*t*-statistic = -2.24). [20]

Overall, the results suggest that people's views do not change in response to observed events. In light of these results, it is therefore unsurprising that changes in household income are also not associated with changes in views. The coefficient on income percentile from an individual fixed-effects regression equals 0.06 (*t*-statistic = 0.27).

6.3. Role of intergenerational mobility

In this subsection, we test whether intergenerational mobility moderates the contemporaneous income gradient. Recently, Cohn et al. (2019) concluded that people who experience upward income mobility

[18] Hvidberg et al. (2020) note that their cross-sectional analysis may not identify causal effects: "the shocks are not random and may be correlated with other unobservable characteristics of the respondents that also affect their views". An advantage of our longitudinal data is that we are able to control for some of these characteristics with individual fixed-effects.

[19] The lack of statistical precision is partly due to the rare occurrence of the life events combined with observing views on minimum living standards only twice over 4 years.

[20] In Section 1 of the Appendix, we treat our data as a cross-section and follow the 'natural experiment' approach used in Hvidberg et al. (2020). We find that the life event 'major improvement in finances' affects how compassionate one's views on minimum living standards are, which is in-line with the fixed-effect regression result for motor vehicles.

(between childhood and adulthood) have a higher tolerance for inequality. If this pattern was relevant for our outcome, we would expect a negative association between intergenerational mobility and the number of essential items. To test for this, we generate a measure of mobility by calculating the difference between own occupation index and father's occupation index, both of which are scaled from 0 to 1. The mean and standard deviation of this mobility measure equal 0.08 and 0.28, respectively.

Column (1) of Table 8 shows that higher own and father SES are both associated with reduced number of items that are viewed as essential. Column (2) indicates that intergenerational occupational mobility itself is not important. This is also predicted by column (1) and the fact that both coefficients are negative. Column (3) is similar to the analysis in Cohn et al. (2019) with measures of mobility added to a regression that also has a measure of own income percentile. The negative and positive mobility indicators represent whether the intergenerational change in the occupation index is in the bottom 25% of changes (large negative change, implying lower SES than father) or in the top 25% of changes (large positive change, implying higher SES than father). In this specification, only own income is significantly associated with more pro-social views. Finally, in column (4) we interact own income percentile with the mobility indicators in order to test whether the estimated income gradient is dependent upon whether a person was upwardly or downwardly mobile. The coefficients on the interaction terms are small and imprecisely estimated, suggesting that mobility does not moderate the income gradient. Overall, we conclude that while a privileged personal background in childhood is associated with viewing fewer items as essential, changes in economic status vis a vis father's economic background are not impactful.

7. Conclusion

This paper studies the relationship between income and views on minimum living standards, which is

a relatively unexplored topic. Using the number of items an individual reports that 'no one should have to go without', we find a robust negative relationship between income and views on minimum living standards. In our baseline specification, an increase in income from the bottom to the top of the distribution is estimated to reduce the number of items considered as essential by 0.64, an approximately 10% decline relative to the sample mean.

The negative income gradient persists when we condition on SES and when we use alternate measures of economic status, such as wealth, neighborhood SES, and self-rated prosperity. Broadly similar to Côté et al. (2015), we find that area-level income inequality exacerbates the negative association. There is heterogeneity by demographic groups, and younger people in particular are more generous as compared to middle-age people. Considering child-specific outcomes, our results reveal that the rich are equally uncaring for children as for adults.

We find that views on the necessities of life are less stable in young adulthood, and father's occupational index and mother's completion of a university degree both exert strong negative effects on the number of items considered as essential. Alternatively, childhood shocks such as paternal unemployment increase support for the poor, while income mobility as measured by the difference between own occupational index and father's occupational index has no effect. Focusing on cultural backgrounds, there is suggestive evidence that immigrants from poorer countries view more items as essential than the native-born. These results underscore that the rich are relatively less compassionate along a plethora of factors.

As preference towards the poor is likely to influence one's preferences for redistribution, studying this outcome yields insights in designing policies that seek to improve the lot of the disadvantaged. In particular, our results have implications for social welfare policies in an arena where some people with means believe that those without are undeserving, and then act on these beliefs to not direct resources to the needy. Our findings also resonate with current debates on the provision of

a universal basic income or institutionalization of a minimum wage (and the 'fair' level to which it should be set). If the rich – who are also likely to have disproportionately higher say in decision-making circles – are relatively less generous, then such provisions are unlikely to be adopted, further fueling inequality and intergenerational poverty.

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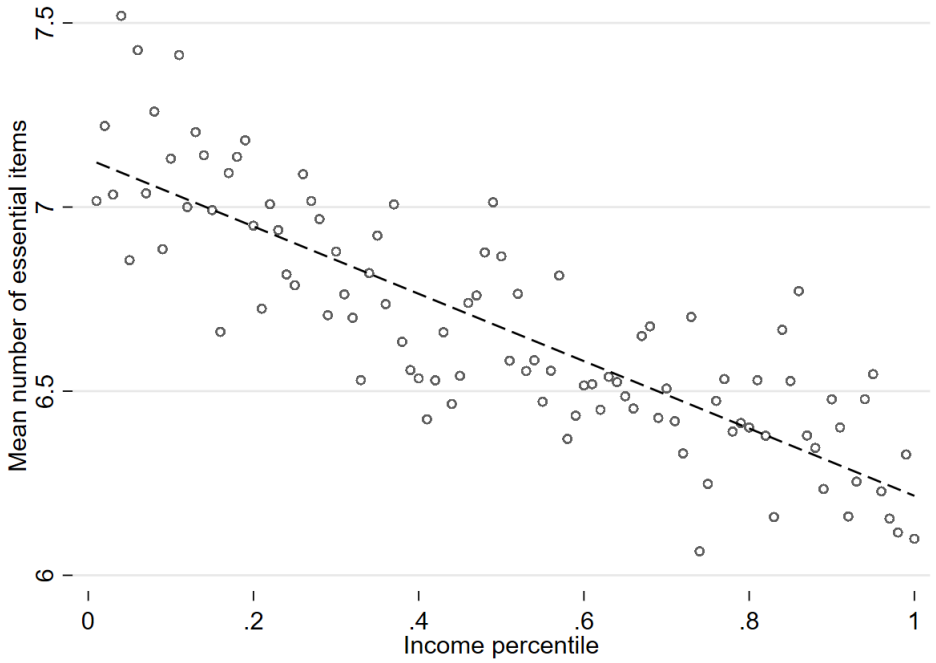
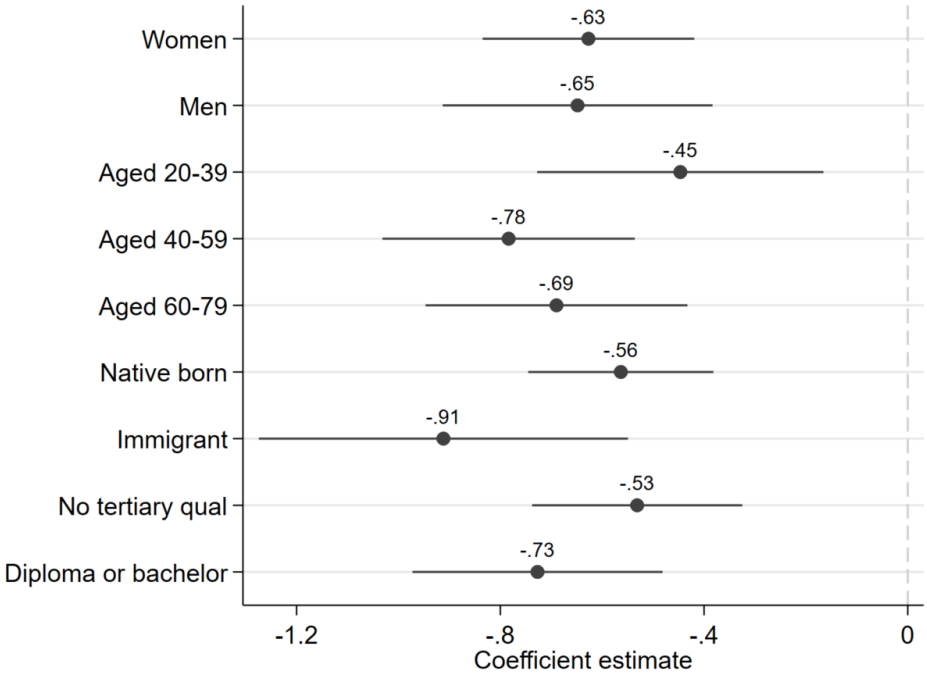
Figure 1. Mean number of items regarded as essential by household income percentile



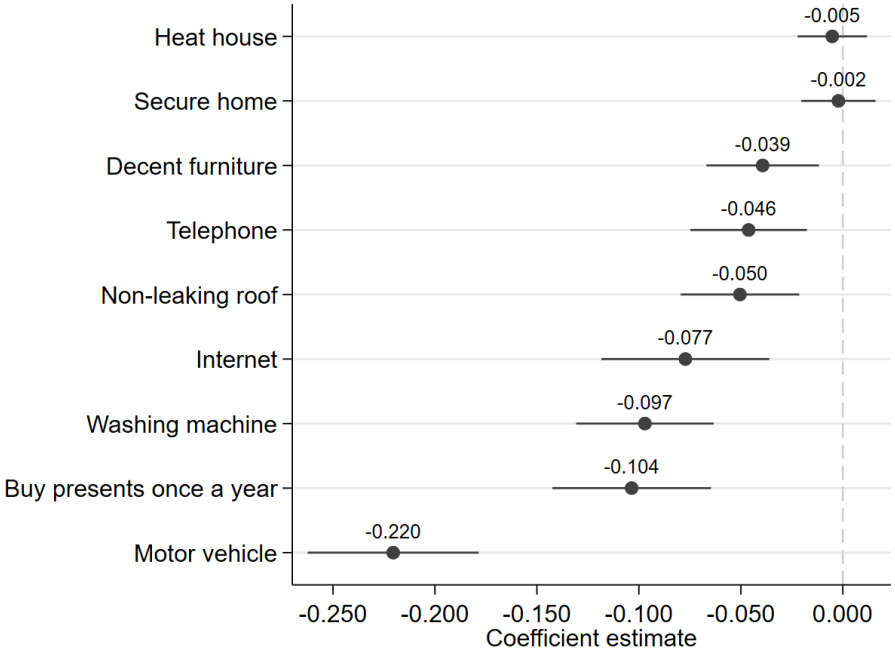
Notes: Sample size equals 12,909. Figures are the % of estimation sample that think the listed item is something 'that no one in Australia should have to go without today'.

Figure 2. Estimated income gradients from subsample regressions



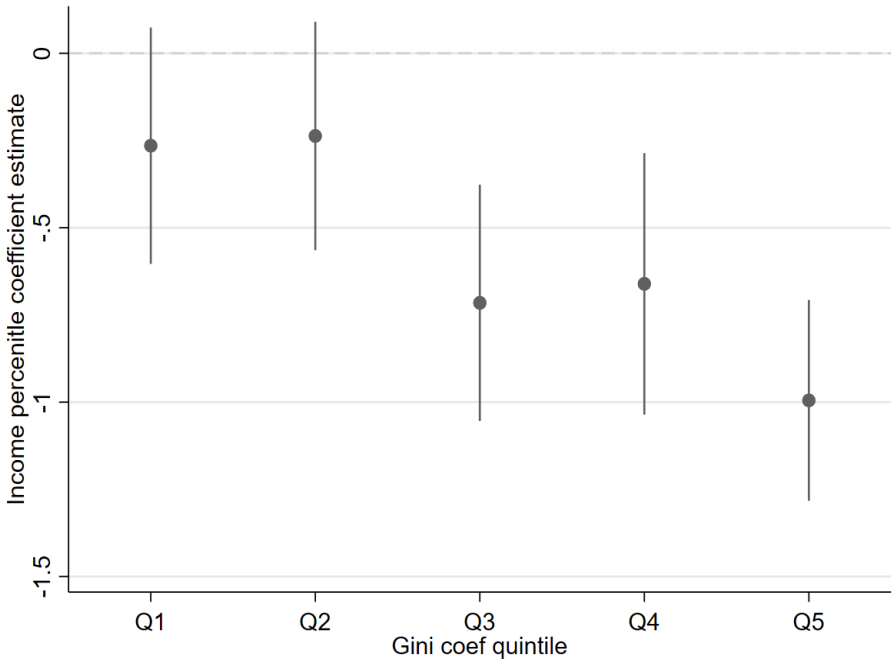
Notes: Figure reports income coefficient estimates and 95% confidence intervals from regressions of number of reported essentials, estimated separately by subsample. Covariates same as in column (2) of Table 2. Standard errors clustered at the area level.

Figure 3. Estimated income gradient for individual items



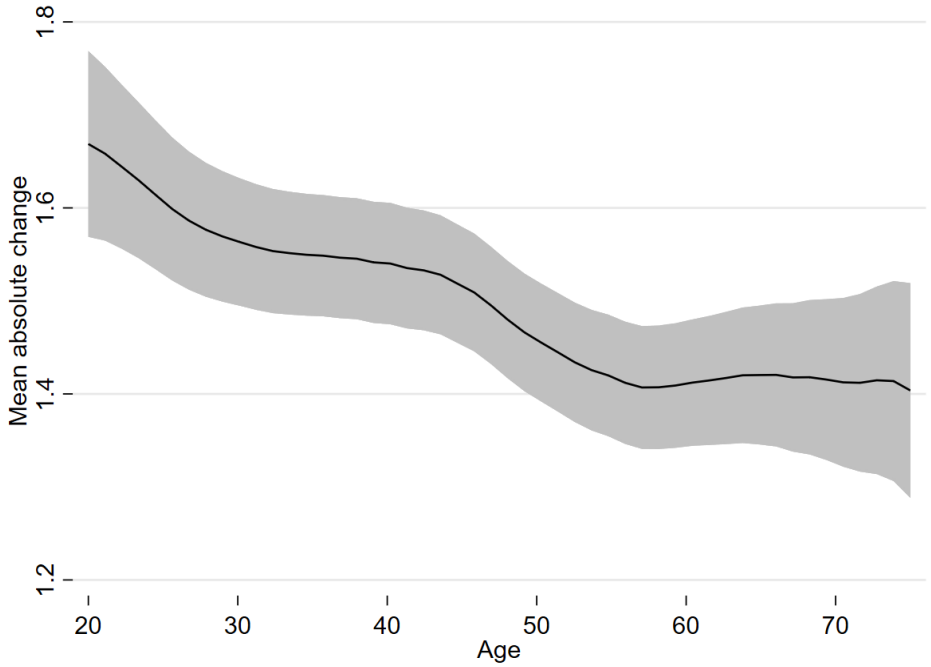
Notes: Figure reports income coefficient estimates and 95% confidence intervals from separate regressions. Covariates same as in column (2) of Table 2. Standard errors clustered at the area level.

Figure 4. Estimated income gradient for each neighborhood Gini coefficient quintile



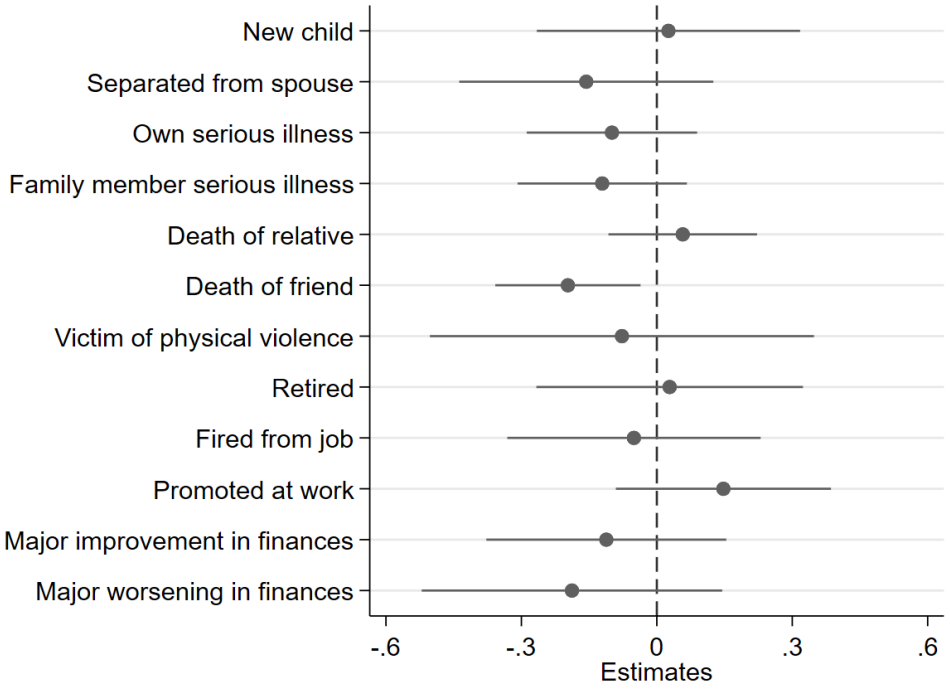
Notes: Figure reports coefficient estimates on the interaction between income percentile and each of the five quintiles of the Gini coefficient. Other covariates same as in column (2) of Table 2. Standard errors clustered at the area level.

Figure 5. Mean absolute change in number of essentials between 2014 and 2018 by age



Notes: Smoothed values and 95% confidence intervals displayed from kernel-weighted local polynomial regression of absolute change in reported number of essential items and age.

Figure 6. Estimated life event coefficients from an individual fixed-effects regression



Notes: Figure shows estimated coefficients and 95% confidence intervals associated with indicators for whether the life event occurred in the 36 months prior to the interview. Regression includes individual fixed-effects, and age and month-year fixed-effects. Standard errors clustered at the area level.

Table 1. Description of minimum living standard items used in empirical analysis

Items	% reporting it is essential
Main measure	
When it is cold, able to keep at least one room of the house warm	95.7
A home with doors and windows that are secure	94.7
A roof and gutters that do not leak	86.4
A telephone (landline or mobile)	83.4
Furniture in reasonable condition	82.7
A washing machine	76.2
Access to the internet at home	52.0
A motor vehicle	50.2
Buying presents for immediate family or close friends once a year	44.7
Child focused measure	
A yearly dental check-up for each child	94.4
Children being able to participate in school trips and school events that cost money	83.1
A hobby or a regular leisure activity for children	81.7
A separate bed for each child	78.4
New school clothes for school-age children every year	54.3

Notes: Sample sizes equal 12,909 and 12,737 for top and bottom panel, respectively. Figures are the % of estimation sample that think the listed item is something 'that no one in Australia should have to go without today'.

Table 2. Estimated association between income and reported number of essential items

	(1)		(2)		(3)	
Income percentile	-0.999***	(0.080)	-0.642***	(0.085)	-0.451***	(0.077)
Male			0.031	(0.044)	0.053	(0.043)
Married / cohabitating			0.028	(0.056)	-0.002	(0.053)
Divorced / separated			0.040	(0.076)	0.018	(0.074)
Number of children			-0.019	(0.024)	-0.021	(0.023)
University degree			-0.554***	(0.059)	-0.484***	(0.060)
Diploma / certificate			-0.253***	(0.055)	-0.269***	(0.054)
High school graduate			-0.278***	(0.066)	-0.271***	(0.068)
Employed full-time			-0.077	(0.054)	-0.112**	(0.053)
Employed part-time			-0.059	(0.053)	-0.059	(0.051)
Unemployed			0.035	(0.120)	0.019	(0.119)
Age Fes	×		✓		✓	
Country of birth Fes	×		✓		✓	
Month-year Fes	×		✓		✓	
Area FEs	×		×		✓	
R-squared	0.019		0.073		0.148	
Number of observations	12909		12896		12896	

Notes: Figures are coefficient estimates from regressions of reported number of essential items (0 to 9). Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 3. Estimated associations between alternative measures of economic status and number of essential items

	(1)	(2)	(3)	(4)	(5)
Income percentile	-0.642***				-0.366***
	(0.085)				(0.095)
Wealth percentile		-0.744***			-0.421***
		(0.088)			(0.113)
Neighborhood SES percentile			-0.561***		-0.353***
			(0.091)		(0.102)
Self-rated: Prosperous				-0.859***	-0.503**
				(0.196)	(0.200)
Self-rated: Very comfortable				-0.564***	-0.279**
				(0.119)	(0.130)
Self-rated: Reasonably comfortable				-0.439***	-0.255**
				(0.117)	(0.125)
Self-rated: Just getting along				-0.306***	-0.222*
				(0.117)	(0.124)
University degree	-0.554***	-0.554***	-0.570***	-0.613***	-0.442***
	(0.059)	(0.059)	(0.057)	(0.061)	(0.062)
Employed full-time	-0.077	-0.136**	-0.151***	-0.177***	-0.059
	(0.054)	(0.055)	(0.054)	(0.057)	(0.061)
R-squared	0.073	0.074	0.073	0.072	0.081
Number of observations	12896	12396	12895	11607	11196

Notes: Figures are coefficient estimates from regressions of reported number of essential items (0 to 9). Other covariates same as in column (2) of Table 2. Income, wealth and neighborhood SES variables range from 0 to 1. Omitted self-rated prosperity category is poor or very poor. Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 4. Estimated association between income and reported number of essential items for children

	(1)	(2)	(3)
Income percentile	-0.367*** (0.046)	-0.282*** (0.050)	-0.210*** (0.045)
Male		0.186*** (0.026)	0.190*** (0.026)
Married / cohabitating		-0.068** (0.031)	-0.077** (0.031)
Divorced / separated		0.044 (0.044)	0.025 (0.044)
Number of children		-0.085*** (0.016)	-0.080*** (0.016)
University degree		-0.342*** (0.036)	-0.342*** (0.037)
Diploma / certificate		-0.149*** (0.033)	-0.169*** (0.033)
High school graduate		-0.214*** (0.043)	-0.221*** (0.045)
Employed full-time		-0.004 (0.034)	-0.018 (0.035)
Employed part-time		-0.040 (0.033)	-0.050 (0.032)
Unemployed		0.064 (0.072)	0.055 (0.072)
Age FEs	×	✓	✓
Country of birth FEs	×	✓	✓
Month-year FEs	×	✓	✓
Postcode FEs	×	×	✓
R-squared	0.007	0.046	0.108
Number of observations	12737	12725	12725

Notes: Figures are coefficient estimates from regressions of reported number of essential items for children (0 to 5). Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 5. Heterogeneity in income gradient by neighborhood Gini coefficient

	(1)	(2)	(3)
Income percentile	-0.493***	-0.480***	-0.411***
	(0.084)	(0.082)	(0.076)
Gini coefficient	-0.937	-0.594	
	(0.715)	(0.712)	
Neighborhood SES percentile	-0.422***	-0.422***	-0.202*
	(0.093)	(0.094)	(0.103)
Income percentile*Gini coefficient		-5.104***	-4.295***
		(1.466)	(1.436)
Income percentile*Neighborhood SES		-0.189	-0.036
		(0.262)	(0.255)
Area fixed-effects	×	×	✓
R-squared	0.077	0.079	0.149
Number of observations	12613	12613	12613

Notes: Figures are coefficient estimates from regressions of reported number of essential items (0 to 9). In columns (1) and (2), other covariates same as in column (2) of Table 2. In column (3), other covariates same as in column (3) of Table 2. Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 6. Estimated associations between country of birth and number of essential items

	Number of observations per country of birth (1)	Main effect (2)	Interaction with income effect (3)
Australia (native)	10,203		-0.604***
			(0.092)
NZ and Pacific Islands	378	0.361	-1.163***
		(0.263)	(0.410)
West and North Europe	975	-0.069	-0.728***
		(0.149)	(0.245)
South and East Europe	237	0.536**	-0.401
		(0.221)	(0.448)
Middle East	92	1.165***	-0.705*
		(0.195)	(0.391)
South East Asia	288	1.256***	-1.170***
		(0.228)	(0.404)
East Asia	164	0.994***	-0.659
		(0.318)	(0.584)
South Asia	231	1.503***	-0.328
		(0.229)	(0.331)
Americas	166	0.420	-1.196**
		(0.389)	(0.607)
Africa	162	-0.300	-0.396
		(0.410)	(0.673)

Notes: Figures are coefficient estimates from one regression of reported number of essential items (0 to 9). Column (2) presents the coefficients on country of birth categorical indicators, and column (2) presents coefficients on income interacted with country of birth categorical indicators. Other covariates same as in column (2) of Table 2. Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 7. Estimated associations between measures of family economic background and number of essential items

	(1)	(2)	(3)	(4)	(5)
Father occupation index	-0.596***	-0.603***	-0.580***	-0.519***	-0.339***
	(0.106)	(0.115)	(0.116)	(0.117)	(0.115)
Mother occupation index	-0.426***	-0.326***	-0.317***	-0.290***	-0.172
	(0.100)	(0.107	(0.107)	(0.106)	(0.107)
Father university degree		0.058	0.059	0.082	0.112
		(0.073)	(0.073)	(0.073)	(0.072)
Mother university degree		-0.209***	-0.209***	-0.199**	-0.174**
		(0.077)	(0.078)	(0.077)	(0.076)
Father unemp ≥ 6mths during childhood			0.165***	0.160***	0.128**
			(0.062)	(0.061)	(0.061)
Attended private school				-0.289***	-0.220***
				(0.064)	(0.064)
Parent died during childhood					-0.023
					(0.121)
Parents divorced during childhood					-0.053
					(0.069)
Income percentile					-0.484***
					(0.091)
R-squared	0.067	0.068	0.068	0.070	0.081
Number of observations	11027	11027	11027	11027	11027

Notes: Figures are coefficient estimates from regressions of reported number of essential items (0 to 9). Occupation indices range from 0 (lowest status/income occupation) to 1 (highest status/income occupation). Columns (1) to (4) additionally include gender, country of birth, age, and month-year of survey fixed-effects. Column (5) includes 'adulthood' covariate set from column (2) of Table 2. Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Table 8. Estimated associations between intergenerational mobility measures and number of essential items

	(1)	(2)	(3)	(4)
Own occupation index	-0.777***			
	(0.126)			
Father's occupation index	-0.465***			
	(0.109)			
Income mobility (change in occup indices)		-0.001		
		(0.087)		
Income percentile			-0.590***	-0.627***
			(0.111)	(0.144)
Negative mobility indicator			-0.088	-0.174
			(0.055)	(0.143)
Positive mobility indicator			-0.058	-0.046
			(0.057)	(0.159)
Income * negative mobility				0.148
				(0.222)
Income * positive mobility				-0.014
				(0.233)
R-squared	0.068	0.060	0.064	0.064
Number of observations	8616	8616	8616	8616

Notes: Figures are coefficient estimates from regressions of reported number of essential items (0 to 9). Occupation indices range from 0 (lowest status/income occupation) to 1 (highest status/income occupation). Income mobility variable is own occupation index minus father's occupation index. Negative and positive mobility indicators represent income mobility values in the bottom and top quartiles, respectively. Other covariates same as in column (2) of Table 2. Standard errors clustered at the area level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix

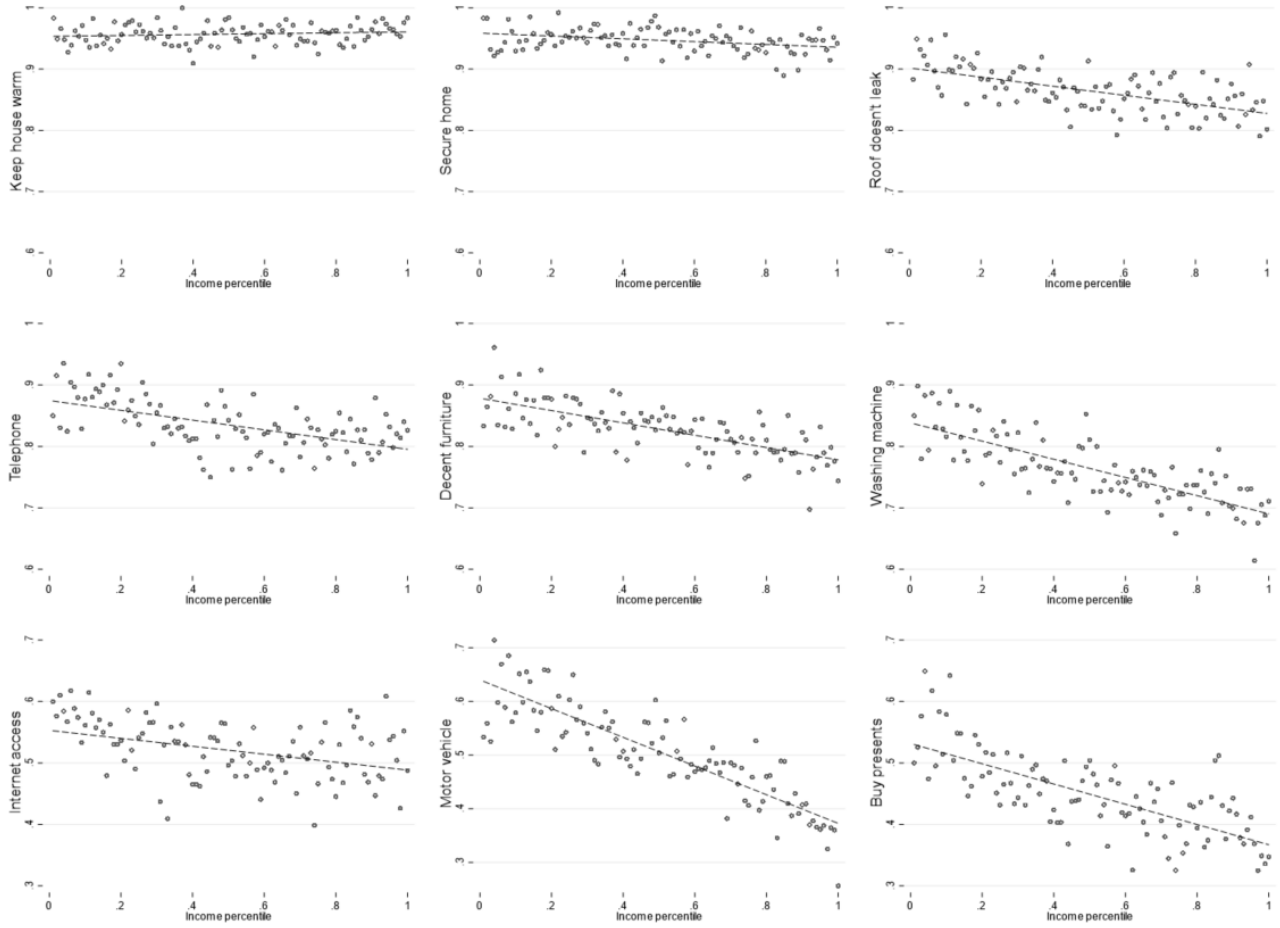
Section 1: Impact of shocks on stated views

Similar to Hvidberg et al. (2020) we analyse whether health shocks, a major improvement or deterioration in financial situation, receiving a promotion, or being unemployed for an extended spell of time affects the income gradient. As we only have two essential item observations (from 2014 and 2018) and as these years are relatively close, we conduct this analysis in a cross-sectional fashion as done in Hvidberg et al. (2020). Health shocks are measured by an indicator for serious personal illness or injury, major improvement in finances includes winning the lottery or receiving an inheritance, major worsening of financial situation includes going bankrupt, and extended unemployment measures one or more periods of unemployment lasting at least 10 weeks. We focus on shocks that occurred in the prior 36 months, and set the pre-shock period to 36-72 months. We restrict the sample to those respondents who did not experience any of these three shocks in the pre-shock window of time, include controls from column (2) of Table 2, and condition on average income in the pre-shock period. Neither health shocks nor unemployment had significant impacts and so we report estimates for major improvement or deterioration in financial position, and for whether the respondent received a promotion in the previous 36 months.

Results from a model that regresses household income percentile on these measures are reported in column (1) of Appendix Table 8. It is clear that a major improvement in financial situation increases the household income percentile by one decile, which is a large increase. Promotions also have a significant positive impact but the size of the coefficient is significantly smaller. As expected, a major worsening in financial position has significant negative effects on the income percentile. Hence, all three shocks have the expected effect on income rank. Considering the number of essential items in column (2) next, as before, only experiencing major financial improvements in the prior three years has a significant impact. The coefficient on this variable indicates that the number of items considered essential declines by 0.19. We conclude that large income improvements are associated with measurable declines in the number of items considered essential.

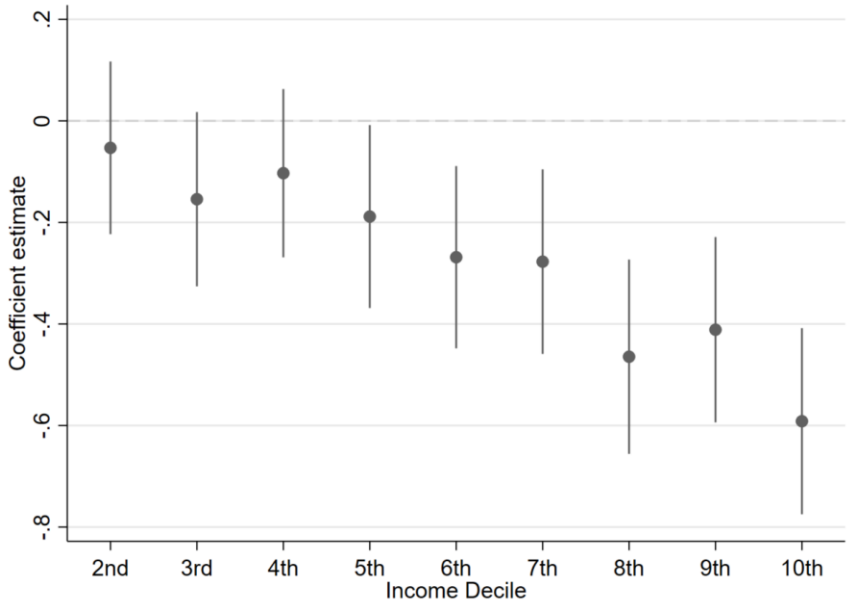
Section 2: Supplementary Figures and Tables

Appendix Figure 1. Percent of people regarding the item as essential by household income percentile



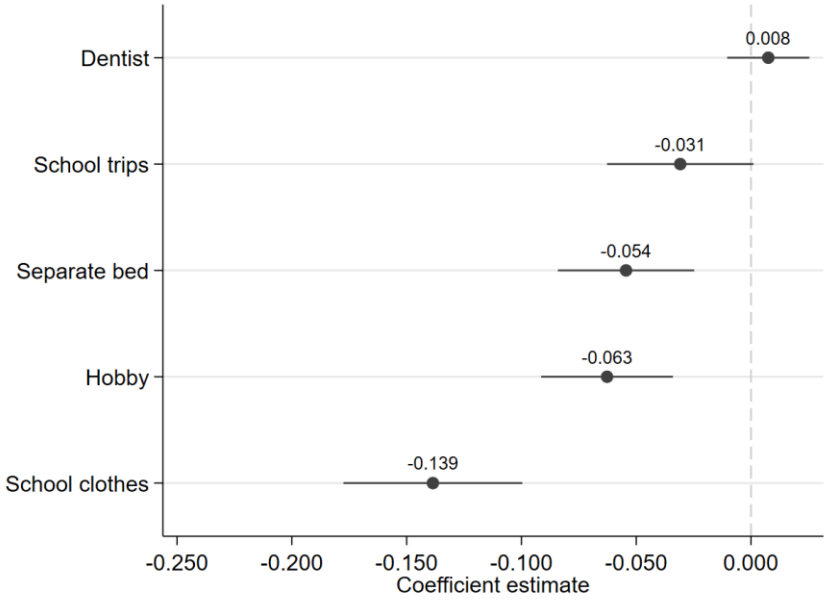
Notes: Sample size equals 12,909 individuals. An essential item is one 'that no one in Australia should have to go without today'.

Appendix Figure 2. Estimated coefficients on income decile indicators from a regression of number of essential items



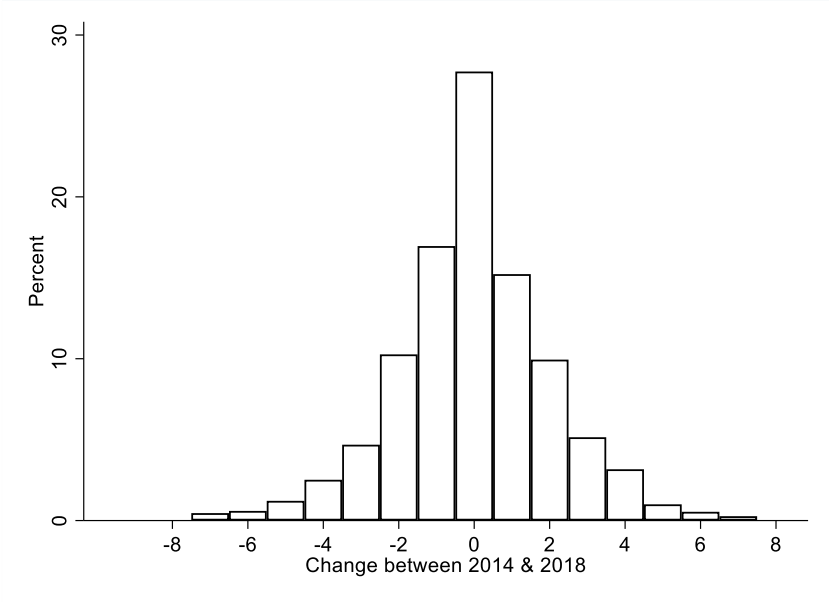
Notes: Sample size equals 12,909 individuals. An essential item is one 'that no one in Australia should have to go without today.' Figure reports coefficient estimates.

Appendix Figure 3. Estimated income coefficients from regressions on individual child-focused items



Notes: Sample size equals 12,737 individuals. An essential item is one 'that no one in Australia should have to go without today.' Figure reports coefficient estimates.

Appendix Figure 4. Histogram of the change in the number of items regarded as essential



Notes: Sample size equals 12,909 individuals. An essential item is one 'that no one in Australia should have to go without today.'

Appendix Table 1. Impact of number of essential items and economic status on charitable giving

Variables	(1)
Number of essential items	0.004**
	(0.002)
Income percentile	0.127***
	(0.021)
Wealth percentile	0.055**
	(0.022)
Neighborhood SES percentile	0.011
	(0.017)
Self-rated: Prosperous	0.218***
	(0.042)
Self-rated: Very comfortable	0.175***
	(0.027)
Self-rated: Reasonably comfortable	0.098***
	(0.022)
Self-rated: Just getting along	0.059***
	(0.022)
Number of observations	11126

Notes: Table reports coefficient estimates. Standard errors clustered at the SA3 level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 2. Description of covariates used in regression analyses

Variable	Sample Mean (1)	Sample Std. Deviation (2)
Age	46.620	15.486
Male	0.416	0.493
Married or cohabitating	0.686	0.464
Divorced or separated from spouse	0.121	0.327
Number of children in household	0.575	0.973
Educational attainment: University degree	0.327	0.469
Educational attainment: Diploma or vocational certificate	0.347	0.476
Educational attainment: High school graduate	0.136	0.342
Educational attainment: High school dropout	0.190	0.392
Employed full-time	0.490	0.500
Employed part-time	0.224	0.417
Unemployed	0.023	0.150
Not in the labour force	0.262	0.439
Household annual disposable income	96,291	89,010
Household wealth	961,177	1,414,212
Self-assessed financial status: prosperous	0.017	0.131
Self-assessed financial status: very comfortable	0.164	0.371
Self-assessed financial status: reasonably comfortable	0.540	0.498
Self-assessed financial status: just getting along	0.254	0.435
Self-assessed financial status: poor	0.020	0.139
Self-assessed financial status: very poor	0.005	0.069
Father's educational attainment: University degree	0.159	0.365
Mother's educational attainment: University degree	0.115	0.320
Father unemployed for >6 months during childhood	0.122	0.327
Educated at a private (independent) school	0.126	0.331

Notes: Unweighted statistics. Sample size equals 12,909.

Appendix Table 3. Income association using alternative formulations of the nine items

	1st factor from principal components analysis		IRT two-parameter logistic model	
Income percentile	-0.297***	(0.042)	-0.321***	(0.042)
Male	-0.002	(0.022)	0.028	(0.022)
Married / cohabitating	0.009	(0.028)	0.015	(0.028)
Divorced / separated	0.010	(0.038)	0.027	(0.037)
Number of children	-0.009	(0.012)	-0.006	(0.012)
University degree	-0.259***	(0.029)	-0.281***	(0.029)
Diploma / certificate	-0.121***	(0.027)	-0.118***	(0.027)
High school graduate	-0.130***	(0.033)	-0.136***	(0.033)
Employed full-time	-0.042	(0.027)	-0.031	(0.026)
Employed part-time	-0.028	(0.026)	-0.034	(0.027)
Unemployed	0.007	(0.059)	0.025	(0.060)
Age Fes	✓	✓	✓	✓
Country of birth Fes	✓	✓	✓	✓
Month-year Fes	✓	✓	✓	✓
Number of observations	12896	12896	12896	12896

Notes: Each outcome is standardized to have a mean of zero and a standard deviation of one. Standard errors clustered at the SA3 level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 4. Income association using counts of different sets of items

	Count of main set of 9 items	Count of all 20 surveyed items	Count of 10 most commonly owned items	Count of 10 least commonly owned items
Income percentile	-0.494***	-0.562***	-0.247***	-0.316***
	(0.074)	(0.128)	(0.053)	(0.086)
Male	-0.009	-0.099	-0.056**	-0.043
	(0.036)	(0.060)	(0.025)	(0.040)
Married / cohabitating	0.086**	0.146**	-0.004	0.151***
	(0.043)	(0.071)	(0.030)	(0.048)
Divorced / separated	0.021	-0.008	-0.035	0.027
	(0.057)	(0.096)	(0.039)	(0.066)
Number of children	-0.004	-0.047	0.011	-0.058**
	(0.020)	(0.036)	(0.015)	(0.025)
University degree	-0.551***	-1.218***	-0.342***	-0.876***
	(0.049)	(0.083)	(0.033)	(0.059)
Diploma / certificate	-0.223***	-0.432***	-0.152***	-0.280***
	(0.045)	(0.074)	(0.031)	(0.050)
High school graduate	-0.239***	-0.555***	-0.161***	-0.393***
	(0.051)	(0.091)	(0.035)	(0.065)
Employed full-time	-0.052	0.081	-0.056*	0.137**
	(0.044)	(0.079)	(0.032)	(0.054)
Employed part-time	-0.058	0.004	-0.042	0.047
	(0.047)	(0.081)	(0.031)	(0.057)
Unemployed	0.122	0.113	0.092	0.021
	(0.082)	(0.145)	(0.062)	(0.099)
Age FEs	✓	✓	✓	✓
Country of birth FEs	✓	✓	✓	✓
Month-year FEs	✓	✓	✓	✓
Number of observations	17679	17679	17679	17679

Notes: Standard errors clustered at the area level in parentheses. Regressions estimated on samples where the ownership restriction is not imposed. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 5. Association of alternative income measures and number of essential items

	(1)	(2)	(3)	(4)
Total real household income ($'00,000s)	-0.154***			
	(0.035)			
Total real household equalized income ($'00,000s)		-0.270***		
		(0.063)		
Log total real household income			-0.261***	
			(0.041)	
Log total real household equalized income				-0.314***
				(0.041)
Age FEs	✓	✓	✓	✓
Country of birth FEs	✓	✓	✓	✓
Month-year FEs	✓	✓	✓	✓
Postcode FEs	×	×	×	×
Number of observations	12896	12896	12896	12896

Notes: Table reports coefficient estimates. Standard errors clustered at the SA3 level in parentheses. Equivalized values are constructed using the 'modified OECD' scale. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 6. Association of income and housing and non-housing items separately

	Number of 'basic housing' items (0-4)	Number of 'other' items (0-4)	All 4 'basic housing' items deemed essential (0-1)	All 4 'other' items deemed essential (0-1)
Income percentile	-0.097***	-0.441***	-0.062***	-0.145***
	(0.033)	(0.055)	(0.018)	(0.020)
Male	-0.085***	0.061**	-0.045***	0.026***
	(0.015)	(0.028)	(0.009)	(0.010)
Married / cohabitating	-0.005	0.047	-0.005	0.028**
	(0.020)	(0.036)	(0.012)	(0.013)
Divorced / separated	-0.020	0.049	-0.006	0.035**
	(0.028)	(0.049)	(0.016)	(0.017)
Number of children	-0.013	-0.001	-0.007	0.001
	(0.009)	(0.015)	(0.006)	(0.006)
University degree	-0.094***	-0.371***	-0.055***	-0.114***
	(0.021)	(0.037)	(0.013)	(0.014)
Diploma / certificate	-0.072***	-0.143***	-0.047***	-0.027**
	(0.020)	(0.035)	(0.012)	(0.014)
High school graduate	-0.049*	-0.175***	-0.025	-0.041***
	(0.027)	(0.042)	(0.016)	(0.016)
Employed full-time	-0.024	-0.060*	0.007	0.007
	(0.023)	(0.034)	(0.013)	(0.012)
Employed part-time	0.005	-0.065*	0.020	-0.024*
	(0.021)	(0.033)	(0.013)	(0.013)
Unemployed	-0.024	-0.019	-0.008	0.014
	(0.047)	(0.075)	(0.028)	(0.028)
Age FEs	✓	✓	✓	✓
Country of birth FEs	✓	✓	✓	✓
Month-year FEs	✓	✓	✓	✓
Number of observations	12896	12896	12896	12896

Notes: Table reports coefficient estimates. Standard errors clustered at the SA3 level in parentheses. 'Basic housing' includes heat house, secure home, non-leaking roof and decent furniture, while 'other' includes telephone, washing machine, internet and car. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 7. Heterogeneity in income gradient by measures of family economic background

	Father's occupation	Mother's occupation	Father's education	Mother's education	All included
Income percentile	-0.548***	-0.517***	-0.594***	-0.578***	-0.381***
	(0.087)	(0.097)	(0.090)	(0.091)	(0.111)
Interactions with income					
Father occupation index	-0.445				-0.609
	(0.331)				(0.427)
Mother occupation index		0.161			0.622
		(0.328)			(0.381)
Father university degree			-0.186		0.046
			(0.206)		(0.288)
Mother university degree				-0.445*	-0.423
				(0.227)	(0.289)
Age FEs	✓	✓	✓	✓	✓
Country of birth FEs	✓	✓	✓	✓	✓
Month-year FEs	✓	✓	✓	✓	✓
Number of observations	12021	10189	12329	12435	9154

Notes: Table reports coefficient estimates. Standard errors clustered at the SA3 level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 8. Impact of recent economic/financial shocks on income and number of essential items

Variables	Income percentile	Number of essential items
	(1)	(2)
Major improvement in financial situation	0.108***	-0.185**
	(0.009)	(0.082)
Major worsening in financial situation	-0.050***	0.044
	(0.010)	(0.102)
Received a promotion	0.018***	-0.069
	(0.006)	(0.075)
Age FEs	✓	✓
Country of birth FEs	✓	✓
Month-year FEs	✓	✓
Postcode FEs	✗	✗
Number of observations	8655	8655

Notes: Table reports coefficient estimates. Standard errors clustered at the SA3 level in parentheses. *, ** and *** denote statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.