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Abstract

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JEL Classification: D9, E7, J2, M5

Keywords: preferences for job attributes, experience, macroeconomic condition, generational difference

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Macroeconomic Conditions When Young Shape Job Preferences for Life

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Preferences for monetary and non-monetary job attributes are important for understanding workers' motivation and the organization of work. Little is known, however, about how those job preferences are formed. We study how macroeconomic conditions when young shape workers' job preferences for the rest of their life. Using variation in income-per-capita across US regions and over time since the 1920s, we find that job preferences vary in systematic ways with experienced macroeconomic conditions during young adulthood. Recessions create cohorts of workers who give higher priority to income, whereas booms make cohorts care more about job meaning, for the rest of their life.

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1 Introduction

Workers are not exclusively motivated by money. Many workers also deeply care about the meaning of their job and other non-monetary job attributes (Cassar and Meier, 2018) and are willing to give up income for it (Maestas et al., 2018; Schneider et al., 2020). This is not only of great relevance for mission-oriented organizations, such as not-for-profits and public sector organizations. Also for-profit firms typically do not just maximize profits, but take into account social factors as well (Hart and Zingales, 2017). While there is by now an extensive literature about how organizations attract, motivate, and retain a motivated workforce (Besley and Ghatak, 2018), very little is known about how workers' preferences for different job attributes form, how the balance between income and meaning is shaped, and how and why this balance changes over time.

Since the nineteenth century, it has been claimed that generations vary in their preferences and beliefs based on their shared experience (Jaeger, 1985). However, in most of the literature, the classification of generations is to a large extent arbitrary.[1] Here we follow an alternative approach, where individuals form preferences based on shared macroeconomic experiences. In particular, we empirically investigate how the shared experience of macroeconomic conditions when young affects job preferences for work meaning and income. As such, we investigate the long-term consequences of business cycles for job preferences.

We combine insights from economics and psychology to develop our key hypothesis.[2] Standard microeconomic theory predicts that if job meaning is a normal or luxury good, workers' demand for it is low in bad times: that is, when income is low (in absolute terms and/or compared with a relevant peer group). In psychology, it has been argued that the years between age 18 and 25 (the so-called impressionable years) are particularly important for the formation of people's preferences, beliefs, and attitudes. They are shaped during those years and change little after (Krosnick and Alwin, 1989). Most people enter the job market in those years, which may

[1] Most recently, Millennials (the generation born between 1981 and 1996) are portrayed as having different work values (Twenge et al., 2010) and different preferences in general (Ertas, 2016; Rooney et al., 2018; Knittel and Murphy, 2019; Koczanski and Rosen, 2019).

[2] Our hypothesis is also closely related to Inglehart (1971)'s theory of intergenerational value change, which argues that young people are more likely to adopt post-materialist values under conditions of economic prosperity. See also Inglehart (2008).

make them particularly important and formative.[3] Together these two insights from economics and psychology suggest that lasting differences in job preferences between cohorts may be due to different macroeconomic experiences when young, with cohorts that grow up in a recession giving higher priority to income and cohorts that grow up in a boom giving higher priority to job meaning, for the rest of their life. We expect these patterns to hold beyond the impact of macroeconomic conditions at job market entry on earnings and education, which we carefully control for (Kahn, 2010; Oreopoulos et al., 2012; Schwandt and Von Wachter, 2019).

To test this hypothesis, we make use of data from multiple waves of the General Social Survey (GSS) between 1973 and 2014, covering nearly 20,000 workers. Using variation in income-per-capita across US regions and over time since the 1920s, we find strong support for our hypothesis. People who experience relatively bad macroeconomic conditions between age 18 and 25 give a higher priority to income for the rest of their career. Conversely, people who experience relatively good macroeconomic conditions between age 18 and 25 rank job meaning higher for the rest of their career.[4] We perform a series of checks to ensure the robustness of our results. Among others, we show — in line with the impressionable years hypothesis — that macroeconomic conditions in young adulthood matter most, while macroeconomic conditions during other stages of one's life generally matter much less or not at all. Moreover, we uncover a few additional empirical relationships, among others of job preferences with contemporaneous business cycle fluctuations (in the same direction and about as strong as our main effect) and with age (a strongly positive relation between age and the importance of job meaning, and conversely for the importance of income).[5] These relationships hold controlling for the respondent's household income and labor market status and so do not simply reflect that older people earn more, and consequently care less about income and more about meaning.

Our paper builds on previous studies showing that macroeconomic conditions during the impressionable years have lasting effects on preferences for redistribution (Giuliano and Spilim-

[3]Recent studies have shown that the conditions at labor market entry not only affect lifetime earnings and education (e.g. Kahn, 2010; Oreopoulos et al., 2012; Schwandt and Von Wachter, 2019) but also social and health outcomes (Schwandt and Von Wachter, 2020). See Von Wachter (2020) for a recent survey of this literature.

[4]To our knowledge, we are the first to show how attitudes about different job attributes change over the business cycle, but the results are consistent with the recent findings by Blom et al. (2020) that cohorts who go to school during high unemployment years choose majors that earn higher wages.

[5]This age pattern is in line with earlier studies, see e.g. the meta-analysis by Kooij et al. (2011).

bergo, 2014), personality traits (Bianchi, 2013, 2014, 2016) and risk preferences (Shigeoka, 2019).[6] We contribute to this literature by analyzing the shaping of preferences for job attributes. In most of our analysis, we follow the methodology of the seminal paper by Giuliano and Spilimbergo (2014), who show that growing up in a recession increases support for income redistribution and enhances empathy with the poor. Their results may originate from increased compassion, but one cannot rule out that a self-interested concern for income plays a key role instead, as people who grow up in a recession tend to perform worse in the labor market for a prolonged period of time (Kahn, 2010; Oreopoulos et al., 2012; Schwandt and Von Wachter, 2019). Our result that people who grow up in a recession give a higher priority to earning a high income and a lower priority to job meaning points in this direction.

Job preferences have been shown to affect discipline of study, occupational choices, and work productivity (Wiswall and Zafar, 2017; Mas and Pallais, 2017; Burbano et al., 2019; Carpenter and Gong, 2016) and are thus of first-order importance for labor market performance and macroeconomic outcomes more broadly. Systematic differences in what generations prefer in a job can result in different job search and bargaining behavior and as such lead to a shift in how work is organized, in what types of firms get founded, and in the mission of firms competing for workers. Moreover, as we shall discuss in the concluding section, the effect we find of the business cycle on job preferences may in turn affect business cycle dynamics.

2 Data and Empirical Strategy

We provide evidence on how preferences for job attributes are shaped and change over time using data from the General Social Survey (GSS). From 1973 until 2014, a representative sample of the US population was asked in 18 of those 42 years to rank five job attributes: a high income, job security, chances for advancement, short working hours, and meaning of work — see the Data Description in the Appendix for more details about the GSS and about the exact wording of the question and Table A1 in the Appendix for some descriptive statistics. Meaning of

[6] Other research shows that persons' experiences more generally shape their economic preferences (e.g. risk and time preferences) and political views (Alesina and Fuchs-Schündeln, 2007; Malmendier and Nagel, 2011, 2015; Fuchs-Schündeln and Schündeln, 2015; Slotwinski and Stutzer, 2018; Laudenbach et al., 2019; Falk and Hermle, 2018; Corneo and Neher, 2014; Fisman et al., 2015).

work is elicited by asking for the ranked importance of "Work important and gives a feeling of accomplishment". Clearly, this question captures only one dimension of meaning of work (Rosso et al., 2010; Cassar and Meier, 2018). However, compared to the other four job attributes, it best captures meaning of work. Meaning of work and having a high income are the two most important job attributes consistently across waves and also show a fair amount of variation over time. We therefore focus here on these two job aspects (and show results for the other three attributes in the Appendix).

In exploring differences in job preferences between cohorts we need to carefully control for time effects and life-cycle effects. As a first step, Figure 1 plots the average rank that people of different age groups give to high income and job meaning over time during the last four decades (Figure A1 in the Appendix shows the same for the remaining three job attributes). The charts also include the national unemployment rate as a key indicator of macroeconomic conditions. Three results are important. First, the rankings of job meaning and income vary substantially over time. Second, there are substantial life-cycle effects. The young (18-25 years old) clearly rank income higher and meaning lower than do older respondents. This is not just the case in recent waves; it has been a consistent pattern throughout most of the sample period. Third, job preferences follow a cyclical pattern, with income (meaning) becoming more (less) important when unemployment increases. Job preferences of young people seem to be most affected by macroeconomic conditions. For instance, the young in the most recent years value meaning much less and income more than most earlier cohorts did at the same age. We observe a similar pattern in the early eighties. In both these periods, the economy was in a deep recession (the Volcker Recession and the Great Recession, respectively).

In a next step, we explore how much of the variation in Figure 1 can be explained by shared experiences of macroeconomic conditions. Identifying the effect of macroeconomic conditions on preferences is difficult with cross-time variation, as cohorts share many experiences such as technological progress and other national and global shocks. We therefore look at regional variation in macroeconomic conditions during the impressionable years. This allows us to identify the effect of macroeconomic conditions controlling for year fixed effects, age effects, birth cohort effects, and region effects, in addition to a rich set of socio-demographic variables. A closely

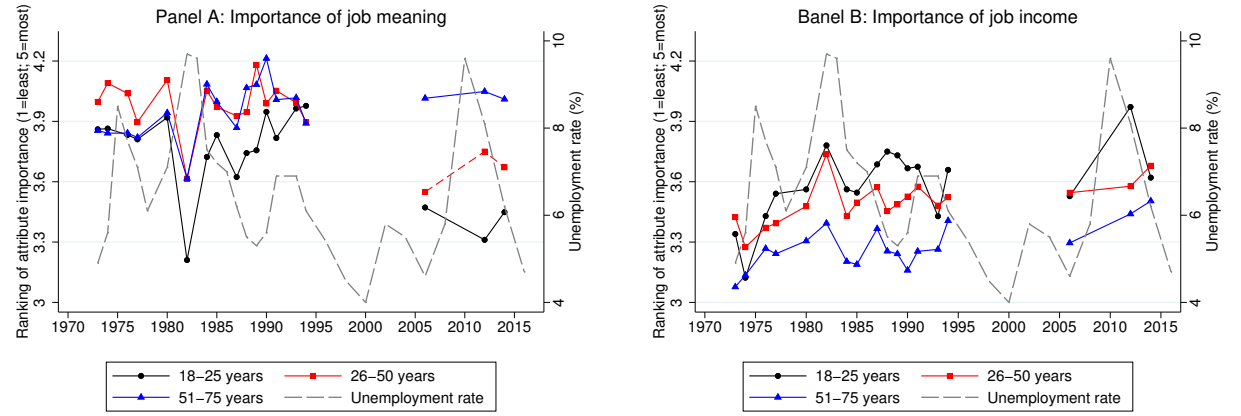

Figure 1: Preferences for meaning (Panel A) and income (Panel B) across different age groups and over time. Note: Based on a total sample of more than 19,000 respondents across 18 waves between 1973 and 2014. Preferences are ranked by respondents on a scale from 1 (least important) to 5 (most important). Right vertical axis plots national unemployment rate.

related empirical approach is used in Giuliano and Spilimbergo (2014).

Using regional income data since 1929 from the US Bureau of Economic Analysis, we construct a measure of macroeconomic conditions during people's impressionable years by calculating the $IncomeLevel^{18–25}$. This measure is given by the logarithm of the average regional income per capita experienced in each of the eight years between 18 and 25 years of age, in the region in which a respondent resided at the age of 16.[7] The yearly regional income per capita is adjusted for inflation, using national-level CPI indexes, so that it is expressed in 2017 US dollars. The Data Description in the Appendix provides more details on how the measure is constructed.[8]

[7]The region in which a respondent resided at the age of 16 is our best proxy for where the respondent resided between 18 and 25 years of age. The underlying assumption is that during the impressionable years, individuals lived in the same region as they did at age 16. Table A2 in the Appendix shows that restricting the sample to either respondents who at the time of the survey live in the same region as they did at the age of 16 or to respondents who moved regions between the age of 16 and the time of the survey does not alter our results.

[8]Instead of regional income per capita, we could use regional unemployment as an indicator of macroeconomic conditions. However, regional unemployment is only available from 1976 onwards, which drastically reduces the number of people for which we can calculate experienced macroeconomic conditions when young. Regional unemployment is negatively correlated with regional income per capita (-0.31). Using experienced *national* unemployment at age 18-25 (which is available from the 1920s onward) yields results that are consistent with our key results reported below, but is identified by age differences at time of the survey, see Table A3 in the Appendix. The somewhat weaker results in Table A3 underline the importance of using regional variation in experienced income as opposed to just age variation at the time of the survey.

Our main regression specification is:

$$JobPref_i = \beta_0 + \beta_1 IncomeLevel_i^{18-25} + \beta_2 X_i + \tau_i + \rho_i + \rho_i^{age16} + \epsilon_i \quad (1)$$

where the dependent variable $JobPref_i$ is a ranked response indicating how important respondent i finds a certain job attribute, on a scale from 1 (least important) to 5 (most important). $IncomeLevel_i^{18-25}$ is the logarithm of the average annual real income per capita during the impressionable years in the region in which respondent i resided at the age of 16. X_i is a vector of individual specific demographics, including gender, years of education, father's and mother's education, race, marital status, number of children, squared household size, age dummies, the logarithm of household income, the logarithm of household income at the age of 16, work status, and decade-of-birth dummies. The term τ_i represents year fixed effects (i.e., it is a dummy for the year in which respondent i was interviewed). To avoid the well-known collinearity issue between age, year, and cohort fixed effects, but still capture cohort differences, we assume that the effect of birth year on job preferences is the same for all the individuals born within the same decade. Table A4 in the Appendix shows that results are robust to alternative specifications which vary the definition of birth and age categories, and confirms that our conclusions do not hinge on this restriction. Similarly, Table A5 in the Appendix shows that using year-of-birth fixed effects and dropping two cohort dummies instead of using decade-of-birth fixed effects does not matter for the results.

To capture time-invariant region effects, we add region-of-interview fixed effects, ρ_i, and region-at-age-16 fixed effects, ρ_i^{age16}.[9] To control for the possibility that there are common shocks at the region level, we cluster our standard errors at the level of the region in which a respondent lived at the age of 16.[10] Since there are only nine regions in the GSS panel, we use the wild bootstrap procedure suggested by Cameron et al. (2008), which estimates reliable standard errors even with a small number of clusters. In all our tables, we report the p values

[9] To keep the specification as simple as possible, we diverge from Giuliano and Spilimbergo (2014), who also add the term $\rho_i^{age16} \times age_i$, which interacts the region-at-age-16 fixed effects with the respondent's age (linearly). Our results are also robust to, and become stronger when, including this interaction. Additionally, we investigated whether our conclusions change when adding interactions between the region-at-age-16 and a linear time trend, to control for region-specific trends. Our coefficients are also robust to this alternative specification.

[10] Clustering the standard errors at the level of the region in which the respondent lives at the time of the survey does not alter the significance of our estimates.

from these wild bootstrap regressions, and we base statistical significance on the bootstrapped standard errors. For ease of interpretation, we use ordinary least squares (OLS) regressions. Table A6 in the Appendix shows that our results are robust to using a rank-ordered Probit model or a Probit adapted OLS model instead.

3 Results

Table 1 reports the results from estimating equation (1) for the job attributes "Meaning" and "Income." As described above, the regressions control for many variables – importantly time and life-cycle effects. Figures A2 and A3 in the Appendix plot the age and year fixed effects, and show that both life-cycle effects and general time trends are important. Moving from age 20 to age 75, our estimates predict a strong increase in the importance of job meaning and a strong decrease in the importance of a high income, both of about a full point. Our estimates for the year fixed effects indicate that, over the last four decades, the average ranking of job meaning has decreased by about 0.7 points, while the average ranking of high income has increased by almost a full point. As the average ranking ranges from minimum 1 to maximum 5, these are sizeable changes. In contrast, the decade of birth of respondents, that is cohort effects, seems less relevant (see Figure A4 in the Appendix).[11]

[11] The age, time, and cohort coefficients may critically depend on the exact specification of the regression model (see e.g. Deaton, 1997). We examined how Figures A2, A3, and A4 look like when modelling the age, time, and cohort effects in different ways (among others as in the regressions in Tables A4 and A5). We find that the results are robust to nearly every specification. The figures are available upon request.

Table 1: Experienced regional income during the impressionable years and job preferences for meaning and income

Variables	(1) Meaning	(2) Meaning	(3) Income	(4) Income
Income level 18-25	0.340	0.474	-0.292	-0.382
	(0.113)	(0.115)	(0.103)	(0.103)
	[0.002***]	[0.002***]	[0.004***]	[0.001***]
Household income	✓	X	✓	X
Years of education	✓	X	✓	X
Labor market status	✓	X	✓	X
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	19,026	19,026	19,022	19,022
F-value	24.61	18.94	8.59	8.57
R-squared	0.161	0.118	0.068	0.057

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Regarding our key variable of interest, columns (1) and (3) in Table 1 show that macroeconomic conditions during young adulthood shape job preferences in important ways. Individuals who experience a higher level of regional income during their impressionable years rate meaningful work as significantly more important. This happens at the expense of finding a high income important.[12] The extensive control variables include personal income, years of education, and labor market status at time of survey, which have been shown to be affected by macroeconomic conditions at the time of entering the labor market (Kahn, 2010; Oreopoulos et al., 2012;

[12]The importance of the other three job aspects (job security, chances for advancement, and short working hours) is hardly affected by macroeconomic conditions during the impressionable years, see Table A7 in the Appendix. The null finding for job security is somewhat surprising given the evidence in Malmendier and Nagel (2011) that macroeconomic experiences affect willingness to take risk. Note, however, that in contrast to our study, the macroeconomic experiences studied by Malmendier and Nagel (2011) consist of the experienced histories of stock and bond returns and that the risk attitude they consider is in the context of financial risk taking. As Dohmen et al. (2011) show, people's risk attitudes are to some extent sensitive to context. Using a representative sample of Japanese men, Shigeoka (2019) finds that growing up in a recession lowers risk tolerance in both the labor and the financial domain.

Schwandt and Von Wachter, 2019). Hence, the effects on job preferences that we identify hold beyond any possible effect through current labor market experience. In columns (2) and (4) in Table 1 we estimate equation (1) without controlling for these variables. Our results are robust to this alternative specification, and the coefficients of interest become larger, suggesting that experienced income at a young age affects job preferences at a later age partly through affecting current income, labor market status, and attained education. Table A8 in the Appendix adds to the main specification a rich set of dummies for the respondents' current occupation or industry and shows that the coefficients change only marginally, suggesting that the relation between job preferences and macroeconomic conditions during adulthood holds even within occupation and industry.[13] Table A9 in the Appendix studies whether it is really only macroeconomic conditions during the impressionable years (18-25 of age) that permanently affect job preferences, or whether macroeconomic conditions during other stages of one's life matter too. The regression results show a consistent pattern: Macroeconomic conditions during the impressionable years matter most; those in other periods generally matter much less or not at all. Likewise, we investigated how our results change if we additionally control for the income level in each region at the time of the survey. While we find that current macroeconomic conditions matter too and in the same way as macroeconomic conditions during the impressionable years do, our conclusions in Table 1 regarding the permanent effect of income during the impressionable years are not affected, neither qualitatively nor quantitatively (see Table A10 in the Appendix).[14]

The sizes of the coefficients in Table 1 indicate that the effects are economically significant. A one standard deviation increase in experienced income during the impressionable years translates into a move of -0.14 (0.12 of a standard deviation) in the average ranking of income, and a move of 0.17 (0.13 of a standard deviation) in the average ranking of meaning, where the lowest possible rank is one and the highest possible rank is five. To put this into context, the magnitude of the effect of (a one standard deviation increase in) experienced income on preferences for income is over 1.8 times that of the effect of gender (being female rather than male), and as large as the

[13] Note that job design can make that job meaning and income differ greatly even within occupation and industry (Cassar and Meier, 2018; Dur and Van Lent, 2019).

[14] We have also examined whether macroeconomic conditions have a stronger impact when household income at age 16 is low or when father education is low. It turns out these socio-economic background characteristics do not matter for the results. Likewise, a test for heterogeneous effects across respondents' gender and education shows small differences between these groups that are not statistically significant. The results of all these tests can be found in Tables A11, A12, A13, and A14 in the Appendix.

effect of being unemployed.[15] Comparatively, the magnitude of the effect of (a one-standard-deviation increase in) experienced income on preferences for meaning is 0.65 times as large as the gender effect and 3.4 times that of the unemployment effect.[16]

To shed more light on the magnitude of the coefficients, we look at regional variation in income level (see also Figure A5 in the Appendix). At the start of our sample period (in 1929), regional differences in income were as high as a full log-point. Our estimates predict that those residing in particularly rich regions (such as Middle Atlantic and the Pacific area) would rate the importance of meaning about 0.34 points higher and the importance of income about 0.29 points lower (on a 5-point scale) than similar individuals residing in the poorest region (the East South Central area).[17] In more recent years, percentage differences in regional income have decreased, but the difference between the richest and poorest region still amounts to about 42%. There is also substantial variation in regional income over time (see Figure A5 in the Appendix).

In Table A15 in the Appendix we additionally control for the standard deviation of experienced income during the impressionable years, to allow for the fact that some respondents have lived through much more volatile times. This variable does not appear to predict job preferences, nor does adding it to the regression change our key results in any important way.

Finally, we ask whether the effects that we find in Table 1 persist into old age or decay over time. The regressions in Table 2 allow the effect of income during the impressionable years on job preferences to vary with current age. Results show that there is little decay of the effect of macroeconomic conditions during the impressionable years over a person's lifetime. Our results thus suggest that there are long-run consequences of booms and recessions for job preferences: positive macroeconomic experiences during the impressionable years lead cohorts of workers to give higher priority to meaning and lower priority to income for the rest of their life, while recessions have the opposite effect.

[15] The coefficient for the gender dummy (female = 1) is -0.08 (p value=0.000) and the coefficient for being unemployed is -0.14 (p value=0.008).

[16] The coefficient for the gender dummy (female = 1) is 0.26 (p value=0.000) and the coefficient for being unemployed is 0.05 (p value=0.406).

[17] Note that a 0.34 increase in the average ranking of meaning is equivalent to 34% of the population putting meaning a full rank higher.

Table 2: Experienced regional income during the impressionable years and job preferences for meaning and income: lifetime decay

	(1)	(2)
Variables	Meaning	Income
Income level 18-25	0.397	-0.484
	(0.291)	(0.289)
	[0.013**]	[0.116]
Income level 18-25 * 26-50 age group	-0.138	0.073
	(0.206)	(0.209)
	[0.278]	[0.703]
Income level 18-25 * 51-75 age group	-0.057	0.170
	(0.242)	(0.242)
	[0.709]	[0.432]
Household income	✓	✓
Years of education	✓	✓
Labor market status	✓	✓
Demographic variables	✓	✓
Age FE	✓	✓
Decade of birth FE	✓	✓
Year FE	✓	✓
Region FE	✓	✓
Region at 16 FE	✓	✓
N	19,026	19,022
F-value	24.28	8.51
R-squared	0.161	0.069

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

4 Concluding remarks

We have shown that shared macroeconomic experiences during the impressionable years shape job preferences for life. Our results show that shocks such as the IT boom or the Great Recession do not only have contemporaneous effects, but also long-lasting effects on what people value in work. Recessions make people focus more on income, while booms move job meaning higher up on the list of priorities. For people between 18 and 25 years of age, these changes in priorities

stick for the rest of their life. Moreover, we have presented a few striking descriptive results, including a strong age pattern and a time trend in the importance attached to job meaning and income.

Our findings have possible repercussions for the dynamics of business cycles. When booms create cohorts of workers who care less about income and more about meaning, economic growth may slow down as a result of the revised priorities of the workforce in favor of non-monetary aspects that may not always form a part of GDP.[18] Conversely, economies may more quickly grow out of a recession as they produce cohorts of workers who put a high income first. Our results also suggest that mission-driven organizations such as public-sector organizations and not-for-profits may suffer less from labor market tightness during booms than typically thought, as over time young workers enter the labor market with a stronger desire for meaningful work as a result of the favorable macroeconomic circumstances. In line with this, Table A16 in the Appendix shows that, when regional economic conditions are better, young people between age 18 and 25 are more likely to have an occupation held by people who give a relatively high priority to meaning and less likely to have an occupation held by people who give a relatively high priority to income.[19]

Last, and perhaps most importantly, our study points to an explanation for why some cohorts seem to be more focused on earning a high income, while other cohorts put priority on seeking meaning and purpose. Instead of some hard-to-explain, deeply ingrained, exogenous difference in preferences between cohorts, temporary macroeconomic conditions may be the key to understanding persistent generational differences.

[18] On the other hand, employees who care more about job meaning may work in a more sustainable way and not set their priorities on short term profit, resulting in higher and more sustainable economic growth in the long run.

[19] The strength of the relationship is quite sizeable, but far from statistically significant, which may be due to the relatively small sample size. Table A16 also reports the results on occupational sorting for the full sample including all age categories. The coefficients are smaller in size but more precisely estimated.

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Appendix for "Macroeconomic Conditions When Young Shape Job Preferences for Life"

Contents

Data Description

General Social Survey

The General Social Survey has collected 30 waves of data on attitudes and behaviors in the US, since 1973 up to and including 2016. The study is a repeated cross-section on a representative sample of the adult US population, conducted through predominantly in-person interviews.

In this paper we focus on 18 waves, between 1973 and 2014, in which 21,000 respondents were asked to rank their preferences for five job attributes: job meaning, having a high income, chances for advancement, job security, and short working hours.

Respondents were given a card with the five job characteristics, labeled in this order as:

1. High income
2. No danger of being fired
3. Working hours are short, lots of free time
4. Chances for advancement
5. Work is important and gives a feeling of accomplishment

After reading the card, respondents were asked the following question: *"Would you please look at this card and tell me which one thing on this list you would most prefer in a job? Which comes next? Which is third-most important? Which is fourth-most important?"*

If a job attribute was not chosen, it was labelled as the fifth-most important attribute. In our analysis we re-code the ranks of preferences such that a higher rank corresponds to a higher importance of an attribute.

Gender is a dummy variable taking value 0 for males, and 1 for females. *Race* is a categorical variable, divided into white, black, and other. *Marital status* is classified as married, widowed, divorced, separated, and never married. The *number of children* and the *household size* are numerical variables on a scale from 1 to 8 or more, and 1 to 16, respectively. *Labor market status* is a categorical variable divided into working full-time, working part-time, temporarily not working, unemployed, retired, in school, keeping house, or other. *Age* and *education* are continuous variables, where age runs from 18 to 75 in our selected sample, and years of education run from 0 to 20.

Household income represents the real family income in constant US$. When a respondent did not fill in an amount (7% of the relevant sample), we imputed their household income using responses on socio-demografic questions (respondent's education, labor market status, age, household size, gender, marital status), and dummies for survey year and region of residence at the time of the survey. In all our specifications we control for respondents whose income was imputed, using a binary indicator. Imputation is performed using the *impute* function in Stata.

Birth decades are defined using the birth year of each respondent, in intervals of 10 years between 1898 and 2000. According to this definition, 10 different generations exist in our sample, with the oldest generation including those born between 1904 and 1910, and the youngest generation being made up of respondents born between 1990 and 1998.

Parental education is captured by two numerical variables counting the years of education of the mother and the father of each respondent, ranging from 0 to 20. When a respondent did not

fill in a number (20% of the relevant sample for mother education and 30% for father education), we imputed their parents' education using the average mother's and father's education level in the sample. In all our specifications we control for respondents whose parents' education was imputed, using a binary indicator. Imputation is performed using the *impute* function in Stata.

Household income at the age of 16 is defined as a categorical variable on a 5-point scale, ranging from "far below average" to "far above average". When a respondent did not fill in a category (7% of the relevant sample), we imputed their household income at the age of 16 using the average level in the sample. In all our specifications we control for respondents whose income at the age of 16 was imputed, using a binary indicator. Imputation is performed using the *impute* function in Stata.

In the GSS, states are grouped into nine macro regions: 1. New England (Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island), 2. Middle Atlantic (New York, New Jersey and Pennsylvania), 3. East North Central (Wisconsin, Illinois, Indiana, Michigan and Ohio), 4. West North Central (Minnesota, Iowa, Missouri, North Dakota, Nebraska, Kansas), 5. South Atlantic (Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, District of Columbia), 6. East South Central (Kentucky, Tennessee, Alabama, Mississippi), 7. West South Central (Arkansas, Oklahoma, Louisiana, Texas), 8. Mountain (Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico), 9. Pacific (Washington, Oregon, California, Alaska, Hawaii).

Those who only moved to the US after the age of 16 are coded as foreigners (5.4%). Since we do not know whether these respondents were in the US during their impressionable years, their experiences in that period are unknown and they are not included in the sample.

Table A1 shows descriptive statistics.

Income and unemployment

The U.S. Bureau of Economic Analysis (BEA) provides yearly data on state-level personal income (SAINC1 Personal Income Summary: Personal Income, Population, Per Capita Personal Income) since 1929.

The Bureau of Labor Statistics (BLS) provides yearly data on the unemployment rate at the state level since 1976. Since using this measure would restrict our sample size significantly, in regressions with unemployment experience during the impressionable years we use national-level data on unemployment. National unemployment rates are available from the BLS since 1929.

Constructing experienced regional income during the impressionable years

Income data spans from 1929 to 2016. As the BEA data is at the state level, we use state-level income per capita and state level-population to calculate the regional income per capita:

$$IncCapR_{j,t} = \frac{\sum_i IncCapS_{i,t} * PopS_{i,t}}{\sum_i PopS_{i,t}} \tag{A-1}$$

where income per capita in each state i in region j at time t ($IncCapS_{i,t}$) is weighted by the population of each state i at time t ($PopS_{i,t}$) in region j to obtain the regional income per capita $IncCapR_{j,t}$.

In the next step, the regional income per capita is adjusted to control for inflation. To do this, we re-weight regional income per capita using data on US national-level CPI factors since 1929. We choose 2017US$ as the base, and adjust regional income per capita with the corresponding factor of 245.1, such that:

$$IncCapR_{j,t}^{adj} = \frac{IncCapR_{j,t} * 245.1}{cpi_t} \tag{A-2}$$

where cpi_t is the consumer price index each year, between 1929 and 2014.

Next, using the age of each respondent in the survey and the year of the survey, we identify the years in which individuals were between 18 and 25 years of age. Using $IncCapR_{j,t}^{adj}$ each year between 1929 and 2016, we create the average experienced regional income during the impressionable years, such that:

$$IncomeLevel_i^{18-25} = \log\left(\frac{\sum_{t=1}^{T} IncCapR_{j,t}^{adj}}{T}\right) \tag{A-3}$$

where $IncomeLevel_i^{18-25}$ is the log of the average of the adjusted regional income per capita in each of the eight years when respondent i was in the impressionable years (between 18 and 25 years old). When a respondent is below 25 at the time of the survey, the experience is a weighted average of income in the subset of years between 18 and up to the current age.

Additional Figures

Figure A1: Preferences for advancement, job security, and short hours, across different age groups and over time

Figure A1 shows the average rank that people give to chances for advancement, job security, and short hours for three different age groups during the last four decades.

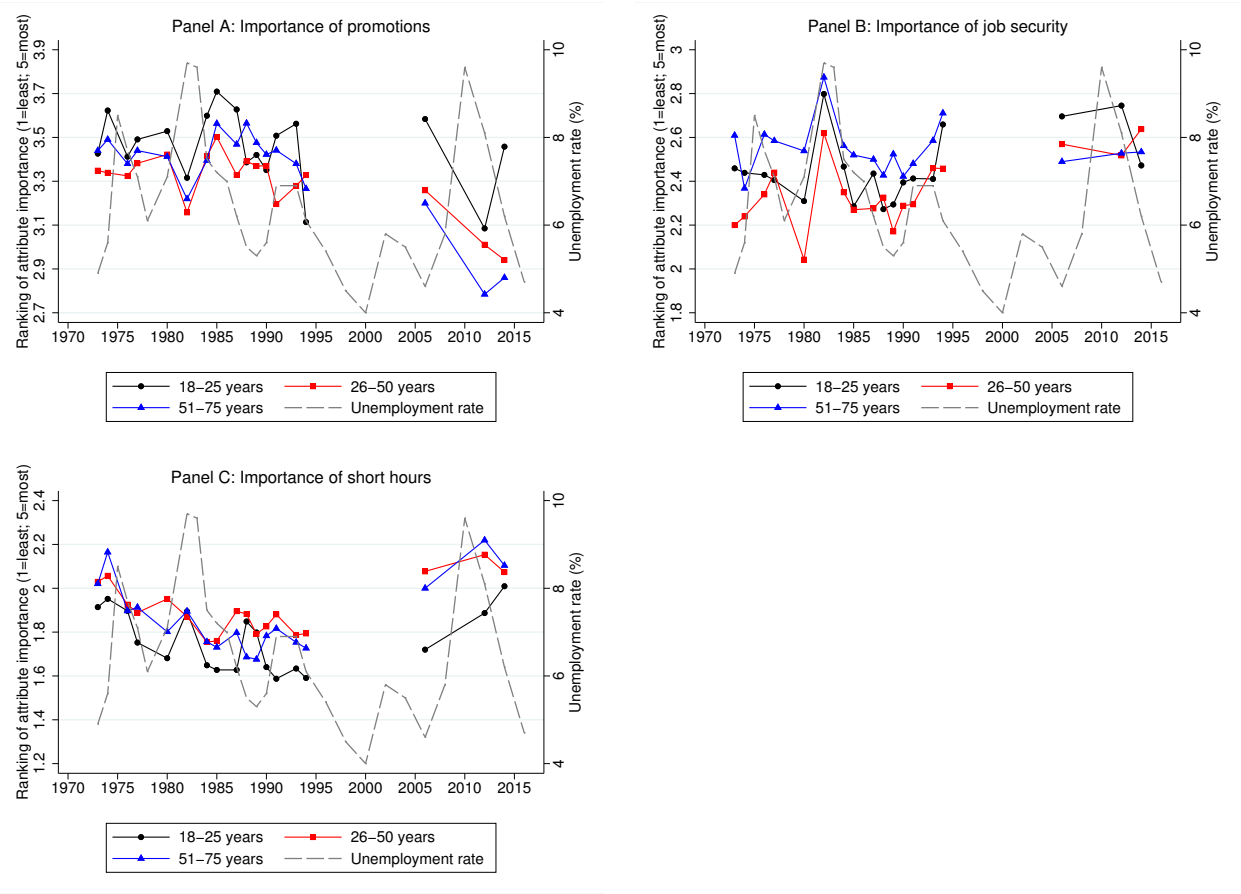

Figure A1: Preferences for chances for advancement (Panel A), job security (Panel B), and short hours (Panel C) across different age groups and over time. Note: Based on a sample of more than 19,000 respondents who ranked preferences for job attributes in 18 waves, between 1973 and 2014. Preferences are ranked by respondents on a scale from 1 (least important) to 5 (most important). Right axis plots national unemployment rate.

Figures A2, A3, and A4: Age, year, and decade-of-birth fixed effects

The figures below show on the horizontal axis the coefficients and standard errors of age, year, and decade-of-birth fixed effects from estimating equation (1). Figure A2 shows strong life-cycle effects: As respondents become older, meaning starts playing a more important role, at the expense of how important having a high income is. Figure A3 shows strong time trends: Over time, having a high income has become more important at the expense of how important meaning is. Figure A4 shows that while income has become slightly more important and meaning has become slightly less important for more recent generations, the decade of birth appears to play a somewhat less substantial role in the ranking of preferences for meaning and income.

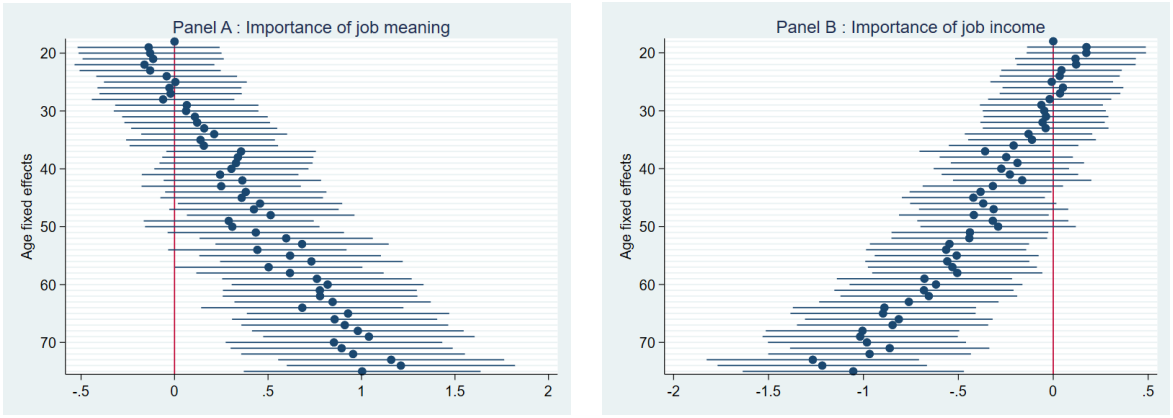

Figure A2: Age fixed effects. Figure shows coefficients and standard errors of age fixed effects from estimating equation (1). Panel A shows results for importance of job meaning and Panel B for income. Reference group is age 18.

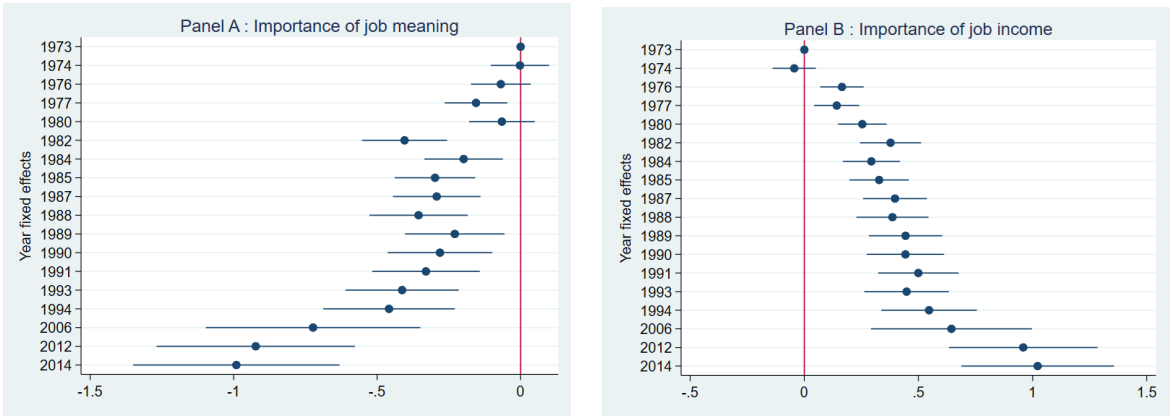

Figure A3: Year fixed effects. Figure shows coefficients and standard errors of year-of-survey fixed effects from estimating equation (1). Panel A shows results for importance of job meaning and Panel B for income. Reference group is year 1973.

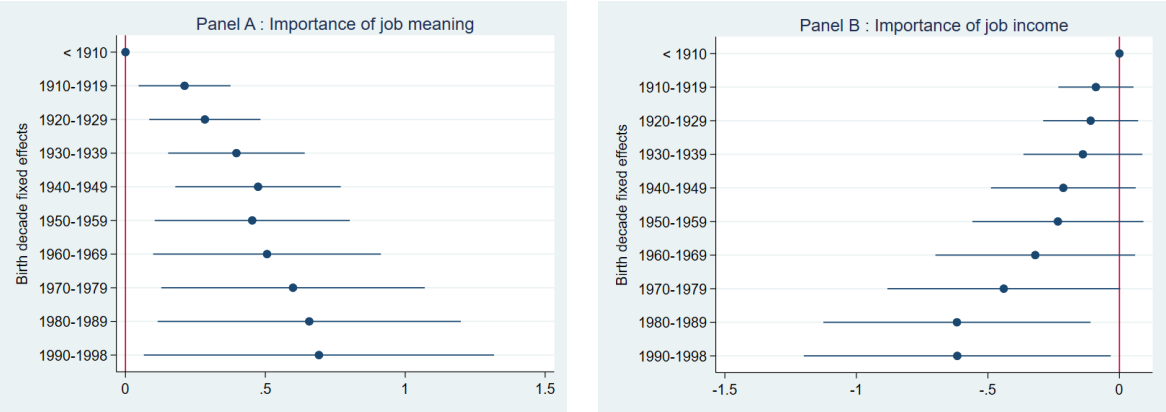

Figure A4: Birth-decade fixed effects. Figure shows coefficients and standard errors of decade-of-birth fixed effects from estimating equation (1). Panel A shows results for importance of job meaning and Panel B for income. Reference group is those born before 1910.

Figure A5: Income per capita across the nine US regions between 1929 and 2014

Figure A5 shows the fluctuations in regional income per capita in the nine US regions between 1929 and 2014.

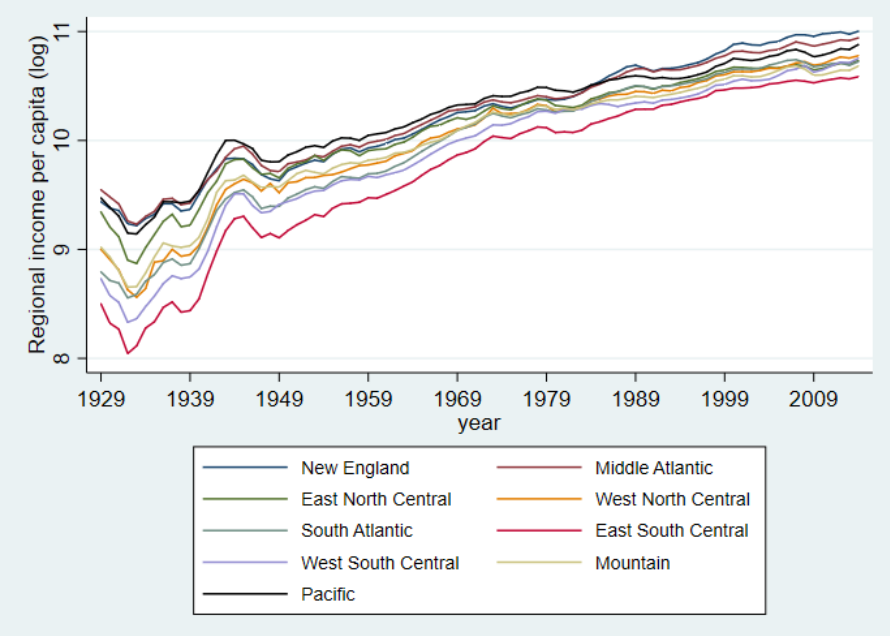

Figure A5: The logarithm of regional income per capita each year, between 1929 and 2014. The regional income per capita is adjusted for inflation and expressed in 2017US$.

Additional Tables

Table A1: Descriptive statistics

Table A1: Descriptive Statistics

	Mean	Standard deviation	N
Preferences			
Meaning	3.93	1.29	19,026
Income	3.43	1.52	19,020
Advancement	3.35	1.20	19,020
Security	2.41	1.22	19,020
Hours	1.89	1.15	19,018
Socio-Demographics			
Male	0.45	0.50	19,026
Years education	12.65	3.00	19,026
Age	42.80	15.38	19,026
Birth year	1944.53	18.71	19,026
Annual income	31,539.96	26,557.01	19,026
Household size	2.87	1.56	19,026
No. children	1.97	1.82	19,026
% Married	0.58	0.49	19,026
% White	0.83	0.37	19,026
% Full-time employed	0.52	0.50	19,026
% Part-time employed	0.11	0.31	19,026
% Temporarily not working	0.02	0.15	19,026
% Unemployed	0.03	0.18	19,026
% Retired	0.09	0.29	19,026
% In school	0.03	0.18	19,026
% Keeping house	0.18	0.39	19,026
Mother years of education	10.54	3.60	15,264
Father years of education	10.17	4.29	13,195
Household income at 16 (1-5)	2.78	0.85	17,665
Experiences 18-25			
National unemployment	6.78	3.54	19,026
Regional income (2017US$)	23,913.76	9,757.81	19,026

Table A2: Restrict analysis to non-movers and movers

In the main text, we assume that people who live in a certain region at age 16 still live there during their impressionable years — but we only know where they live at age 16 and at the time of the survey. To test the robustness of our assumption, in Table A2, in columns (1) and (2) we restrict the sample to those respondents who at the time of the survey live in the same region as they did when they were 16 years old, assuming that these individuals never moved regions. 79% of the original sample resides in the same region as they did when they were 16. Using this subsample, we find that all coefficients are similar and remain statistically significant, suggesting that this type of selection does not present a major threat to the validity of our results. In columns (3) and (4) we restrict the sample to those respondents who at the time of the survey live in a different region than they did when they were 16 years old. As this group only represents 21% of the sample, the estimated coefficients are naturally noisier. However, the coefficients for this group are also in line with our main findings.

Table A2: Experienced regional income during the impressionable years and preferences for meaning and income: non-movers and movers

Variables	(1) Meaning (non-movers)	(2) Income (non-movers)	(3) Meaning (movers)	(4) Income (movers)
Income level 18-25	0.368	-0.298	0.278	-0.361
	(0.131)	(0.121)	(0.226)	(0.206)
	[0.011**]	[0.001***]	[0.071*]	[0.475]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	X	X	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	14,982	14,980	4,044	4,042
F-value	19.17	6.97	8.38	9.18
R-squared	0.150	0.066	0.23	0.11

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A3: Unemployment experience and preferences for job attributes

In the main text, we use regional variation in income per capita to capture differences in experienced macroeconomic conditions. Here we analyze how unemployment experienced during the impressionable years relates to job preferences at the time of the survey. As regional unemployment data are only available from 1976 onwards, we use US-level unemployment rates from 1929 up to 2016. Hence, since there is no regional variation in these unemployment rates, the variation in macroeconomic experiences comes from age differences at the time of the survey. We estimate the same regression as in equation (1), but with national unemployment rate during the impressionable years.

Table A3 shows that in line with the findings in Table 1 in the main text using experienced regional income per capita, a similar substitution between income and meaning is observed when using the experienced unemployment rate. Experiencing higher unemployment during the impressionable years leads to ranking the importance of income higher at the time of the survey, at the expense of meaning.

Table A3: Experienced national unemployment during the impressionable years and preferences for meaning and income

	(1)	(2)	(3)	(4)
Variables	Meaning	Meaning	Income	Income
Unemployment level 18-25	-0.009	-0.012	0.014	0.015
	(0.007)	(0.007)	(0.006)	(0.006)
	[0.136]	[0.022**]	[0.018**]	[0.005***]
Household income	✓	X	✓	X
Years of education	✓	X	✓	X
Labor market status	✓	X	✓	X
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	19,026	19,026	19,022	19,022
F-value	24.53	18.75	8.59	8.52
R-squared	0.161	0.117	0.068	0.057

Notes: Regressions are estimated using OLS. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (non-linearly), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** p<.01, ** p<.05, * p<.1.

Table A4: Alternative definition of generations and age categories

In our main results, we define a birth cohort as all those individuals born in the same decade, in order to avoid the well-know collinearity issue of age, birth year, and survey year. However, one could alternatively choose to control for birth-year fixed effects and replace the age fixed effects with broader categories. To ensure that our results are not dependent on the (somewhat arbitrary) delimitation of birth cohorts, we employ an additional robustness check. Columns (1) and (3) in Table A4 replace birth decades with categories of birth years in groups of 5 years. Columns (2) and (4) replace birth decades with fixed effects for each birth year, and groups the age fixed effects in categories of 5 years instead. Our results are robust to both alternative specifications, suggesting that our results hold regardless of the chosen specification for respondent age and birth year.

Table A4: Experienced regional income during the impressionable years and preferences for meaning and income: alternative specifications for birth and age fixed effects

	(1)	(2)	(3)	(4)
Variables	Meaning	Meaning	Income	Income
Income level 18-25	0.325	0.343	-0.241	-0.226
	(0.121)	(0.130)	(0.110)	(0.118)
	[0.034**]	[0.004***]	[0.012**]	[0.023**]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	X	✓	X
Age groups (intervals of 5)	X	✓	X	✓
Birth year FE	X	✓	X	✓
Birth year groups (intervals of 5)	✓	X	✓	X
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	19,026	19,026	19,022	19,022
F-value	23.15	19.76	8.21	7.34
R-squared	0.162	0.163	0.069	0.071

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A5: Results using year-of-birth fixed effects instead of decade-of-birth fixed effects

Table A5 below shows that our key results do not change when using year-of-birth fixed effects and dropping two cohort dummies instead of using decade-of-birth fixed effects. In the regressions below, the two oldest birth years in our sample are not controlled for.

Table A5: Results using year-of-birth fixed effects instead of decade-of-birth fixed effects

	(1)	(2)
Variables	Meaning	Income
Income level 18-25	0.345	-0.223
	(0.130)	(0.118)
	[0.004***]	[0.030**]
Household income	✓	✓
Years of education	✓	✓
Labor market status	✓	✓
Demographic variables	✓	✓
Age FE	✓	✓
Year of birth FE	✓	✓
Year FE	✓	✓
Region FE	✓	✓
Region at 16 FE	✓	✓
N	19,026	19,022
R-squared	0.17	0.07

Notes: Regressions are estimated using OLS. Instead of decade of birth fixed effects, we break the collinearity between age, year, and birth year fixed effects by dropping the two oldest birth years in our sample. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A6: Results with Probit and Probit-adapted OLS

Table A6 shows that our results remain the same when using Ordered Probit and Probit adapted OLS, developed by Van Praag and Ferrer-i Carbonell (2004).

Table A6: Experienced regional income during the impressionable years and preferences for meaning and income: Ordered Probit and Probit adapted OLS

	(1)	(2)	(3)	(4)
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.299	-0.256	0.205	-0.236
	(0.102)	(0.098)	(0.078)	(0.085)
	[0.003***]	[0.009***]	[0.009***]	[0.004***]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	19,026	19,022	19,026	19,022
Wald χ^2	2832.85	1094.00		
F-value			24.92	8.61
Pseudo R-squared	0.063	0.024		
R-squared			0.16	0.07

Notes: Regressions in columns (1) and (2) are estimated using an ordered Probit model. The p-values should be interpreted with care as they are not estimated using the wild bootstrap procedure suggested by Cameron et al. (2008). Regressions in columns (3) and (4) are estimated using the Probit adapted OLS model, developed by Van Praag and Ferrer-i Carbonell (2004). The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A7: Experienced regional income during the impressionable years and preferences for chances for advancement, job security, and short working hours

We estimate equation (1), where the dependent variables are the ranked preferences (on a 5-point scale) for chances for advancement, job security, and short working hours. Table A7 shows no significant relationships between experienced income during "impressionable years" and the remaining three job preferences. The coefficients are substantially smaller than those in Table 1, and they are not significant at any conventional level.

Table A7: Experienced regional income during the impressionable years and preferences for chances for advancement, job security, and short working hours

	(1)	(2)	(3)
Variables	Advancement	Security	Short hours
Income level 18-25	0.162	-0.038	-0.172
	(0.108)	(0.107)	(0.104)
	[0.125]	[0.715]	[0.235]
Household income	✓	✓	✓
Years of education	✓	✓	✓
Labor market status	✓	✓	✓
Demographic variables	✓	✓	✓
Age FE	✓	✓	✓
Birth decade FE	✓	✓	✓
Year FE	✓	✓	✓
Region FE	✓	✓	✓
Region at 16 FE	✓	✓	✓
N	19,021	19,021	19,019.
F-value	6.44	13.01	4.89
R-squared	0.052	0.094	0.041

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A8: Experienced regional income during the impressionable years and preferences for meaning and income: controlling for industry and occupation fixed effects

The table below shows estimation results of regressions that include industry dummies (columns 1 and 2) and occupation dummies (columns 3 and 4). Industries are classified according to the North American Industry Classification System (NAICS) 2007, covering 270 different industries. The data on occupations cover more than 500 different occupations and are classified according to the US Census occupational classification. We have also checked whether including dummies for both occupations and industries at the same time changes our findings and it does not.

Table A8: Experienced regional income during the impressionable years and preferences for meaning and income: controlling for industry and for occupation

	(1)	(2)	(3)	(4)
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.367	-0.325	0.366	-0.339
	(0.118)	(0.108)	(0.118)	(0.107)
	[0.005***]	[0.004***]	[0.003***]	[0.002***]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
Industry FE	✓	✓	X	X
Occupation FE	X	X	✓	✓
N	17,771	17,765	17,791	17,785
F-value	10.74	4.19	101.66	9.03
R-squared	0.187	0.090	0.202	0.104

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), household income at the age of 16, and occupation fixed effects. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A9: Experienced regional income during other years and preferences for meaning and income

Following research in psychology and economics cited in the Introduction, we focus on the impressionable years between 18 and 25. In Table A9 we investigate the possibility that the impressionable years are not the only important period in shaping job preferences. We separately investigate the effects of experienced income between different ages, in similarly constructed intervals of eight years. Specifically, we look at two additional intervals prior to the impressionable years (ages 0-9 and ages 10-17), and two equal-length intervals after them (ages 26-33 and ages 34-41). To assess the effect of experiences at each of these ages on preferences for income and meaning requires additional restrictions on the sample size. Specifically, controlling for experienced macroeconomic conditions after the "impressionable years" (26-33 and 34-41) mechanically restricts the sample to those individuals who are at least as old as that. For this reason, we do not incorporate all five experience variables in one model but instead look at their effect on preferences for meaning and income in separate regressions.

As the alternative "impressionable years" are further away from the age of 16, the likelihood that the individual moved to another region between the age of 16 and the time of the survey is much higher. In line with Giuliano and Spilimbergo (2014), we address this issue by restricting the sample to those individuals who did not move between the age of 16 and the time of the survey, as in Table A2. We control for the usual demographics, age, and generation fixed effects, year fixed effects, and region at 16 fixed effects.

Columns (1) and (3) of Table A9 show that, in general, experiences during years other than at age 18 to 25 do not appear to explain preferences for job attributes. Following the procedure of Giuliano and Spilimbergo (2014), we add in columns (2) and (4) experienced income during the impressionable years. In these "horse races," the impressionable years are almost without exception the most important when it comes to income and meaning preferences.

Table A9: Experienced regional income during other years and preferences for meaning and income

Variables	(1) Meaning	(2) Meaning	(3) Income	(4) Income
Panel A: Ages 0-9				
Income level 0-9	0.062	-0.115	0.032	0.215
	(0.114)	(0.128)	(0.104)	(0.120)
	[0.563]	[0.250]	[0.821]	[0.215]
Income level 18-25		0.627		-0.650
		(0.232)		(0.219)
		[0.028**]		[0.005***]
N	13,298	13,298	13,296	13,296
Panel B: Ages 10-17				
Income level 10-17	0.221	0.053	-0.101	0.035
	(0.109)	(0.126)	(0.103)	(0.119)
	[0.046**]	[0.489]]	[0.184]	[0.741]
Income level 18-25		0.428		-0.346
		(0.171)		(0.160)
		[0.008***]		[0.012**]
N	14,454	14,454	14,452	14,452
Panel C: Ages 26-33				
Income level 26-33	0.398	0.203	-0.020	0.369
	(0.180)	(0.253)	(0.163)	(0.233)
	[0.165]	[0.227]	[0.880]	[0.014**]
Income level 18-25		0.186		-0.503
		(0.184)		(0.176)
		[0.203]		[0.006***]
N	12.690	12,690	12.688	12,688
Panel D: Ages 34-41				
Income level 34-41	0.648	0.356	-0.055	0.130
	(0.232)	(0.314)	(0.207)	(0.291)
	[0.090*]	[0.410]	[0.812]	[0.684]
Income level 18-25		0.203		-0.278
		(0.181)		(0.171)
		[0.033**]		[0.078*]
N	9,672	9,672	9,670	9,670
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A10: Experienced regional income during the impressionable years, regional income at the time of the survey, and preferences for meaning and income

Table A10: Experienced regional income during the impressionable years, regional income at the time of the survey, and preferences for meaning and income

	(1)	(2)
Variables	Meaning	Income
Income level 18-25	0.325	-0.286
	(0.113)	(0.104)
	[0.002***]	[0.010**]
Income level at survey	0.503	-0.182
	(0.314)	(0.303)
	[0.047**]	[0.410]
Household income	✓	✓
Years of education	✓	✓
Labor market status	✓	✓
Demographic variables	✓	✓
Age FE	✓	✓
Decade of birth FE	✓	✓
Year FE	✓	✓
Region at 16 FE	✓	✓
N	19,026	19,022
F-value	24.47	8.54
R-squared	0.162	0.068

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A11: Experienced regional income during the impressionable years and preferences for meaning and income, by parental income at age 16

Parental income at age 16 is measured on a 5-point scale where 1 corresponds to "far below average" and 5 corresponds to "far above average". For 7% of our sample we impute parental income at age 16 with the mean value in the sample of 2.78. In the analysis below we split the sample into those with low parental income (namely below a value of 3) and those with high parental income (namely with a value of 3 and above).

The differences between the regression coefficients for these subsamples are small and not statistically significant. The priority given to meaning seems somewhat more responsive to economic conditions for respondents with relatively poor parents, but the difference with respondents with relatively rich parents is not statistically significant (the p-value on the difference between the coefficients in column (1) and column (3) is 0.114; the p-value on the difference between the coefficients between column (2) and column (4) is 0.939).

Table A11: Experienced regional income during the impressionable years and job preferences for meaning and income, by parental income at age 16

	(1)	(2)	(3)	(4)
	Low Parental Income		**High Parental Income**	
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.559	-0.296	0.188	-0.280
	(0.190)	(0.175)	(0.141)	(0.127)
	[0.003***]	[0.294]	[0.088*]	[0.067*]
Household income	✓	✓	✓	✓
Education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	7,019	7,017	12,007	12,005
R-squared	0.18	0.09	0.15	0.07

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for race, years of education completed, father and mother education, marital status, number of children, and household size (squared). In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A12: Experienced regional income during the impressionable years and job preferences for meaning and income, by father's education

Low educated fathers are those with less than 12 years of education. High educated fathers have 12 or more years of education, corresponding to graduating high school.

The difference between the coefficients for these subsamples is small and statistically insignificant. The p-value for the difference between the coefficients in column (1) and column (3) is 0.150 and the p-value for the difference between the coefficients in column (2) and column (4) is 0.595.

Table A12: Experienced regional income during the impressionable years and job preferences for meaning and income, by father education

	(1)	(2)	(3)	(4)
	Low educated father		**High educated father**	
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.363	-0.365	0.468	-0.225
	(0.133)	(0.120)	(0.239)	(0.227)
	[0.009***]	[0.003***]	[0.059*]	[0.187]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	12,632	12,630	6,394	6,392
R-squared	0.15	0.08	0.17	0.08

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for race, mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A13: Experienced regional income during impressionable years and job preferences for meaning and income, by gender

Table A13 shows that there is only a small and statistically insignificant difference between how men's and women's job preferences respond to economic conditions during the impressionable years. The p-value for the difference between the coefficients in column (1) and column (3) is 0.713 and the p-value for the difference between the coefficients in column (2) and column (4) is 0.868

Table A13: Experienced regional income during the impressionable years and job preferences for meaning and income, by gender

	(1)	(2)	(3)	(4)
	Female		**Male**	
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.285	-0.292	0.368	-0.257
	(0.150)	(0.135)	(0.171)	(0.159)
	[0.128]	[0.019**]	[0.054*]	[0.009***]
Household income	✓	✓	✓	✓
Years of education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	10,458	10,454	8,568	8,568
R-squared	0.17	0.09	0.16	0.07

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A14: Experienced regional income during impressionable years and job preferences for meaning and income, by respondent's education

We define low educated respondents as those with at most 12 years of education. The high educated respondents are those with 12 or more years of education, corresponding to having at least some tertiary education. To avoid a baseline conflict when testing the difference between coefficients, we control for years of education through a trend rather than categorically. We find relatively small and statistically insignificantly differences between the responses of high-educated and low-educated workers to economic conditions during the impressionable years. The p-value for the difference between the coefficients in column (1) and column (3) is 0.150 and the p-value for the difference between the coefficients in column (2) and column (4) is 0.595.

Table A14: Experienced regional income during the impressionable years and job preferences for meaning and income, by respondent's education

	(1)	(2)	(3)	(4)
	Low educated		**High educated**	
Variables	Meaning	Income	Meaning	Income
Income level 18-25	0.224	-0.312	0.556	-0.199
	(0.145)	(0.128)	(0.181)	(0.179)
	[0.117]	[0.003***]	[0.026**]	[0.131]
Household income	✓	✓	✓	✓
Education	✓	✓	✓	✓
Labor market status	✓	✓	✓	✓
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	10,998	10,994	8,028	8,028
R-squared	0.12	0.08	0.14	0.07

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. Education is controlled for through a trend in years of education completed. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A15: Experienced regional income and the standard deviation of experienced regional income

The standard deviation of income during the impressionable years is calculated for all respondents in our sample. To keep the interpretation comparable and simple, we use the logarithm of the measure. The small difference in the number of observations between Table A15 and Table 1 is caused by the fact that for those respondents who are 18 at the time of the survey and have only had one impressionable year, there is no variance in experience. Hence, these subjects are left out of the specification.

Table A15: Experienced regional income during the impressionable years and preferences for meaning and income: average income vs. standard deviation of income

	(1)	(2)
Variables	Meaning	Income
Income level 18-25	0.324	-0.255
	(0.120)	(0.109)
	[0.014**]	[0.002***]
Standard deviation of income 18-25	0.022	-0.032
	(0.027)	(0.025)
	[0.410]	[0.234]
Household income	✓	✓
Years of education	✓	✓
Labor market status	✓	✓
Demographic variables	✓	✓
Age FE	✓	✓
Decade of birth FE	✓	✓
Year FE	✓	✓
Region at 16 FE	✓	✓
N	18,903	18,899
F-value	24.58	8.54
R-squared	0.163	0.068

Notes: Regressions are estimated using OLS. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.

Table A16: Experienced regional income during the impressionable years and occupation scores

In Table A16 we explore how experienced regional income at age 18 to 25 relates to the choice of occupations. Our results in Table 1 in the main text show that people who experience relatively high regional income when young, give higher priority to job meaning and lower priority to earning a high income. We would therefore expect these workers to end up in occupations that are generally considered more meaningful and less financially rewarding. Lacking data on these occupational characteristics, we followed the suggestion of one of the reviewers to create occupational scores predicted from regressions of job preference for meaning and job preference for income on occupation fixed effects. These occupational scores thus indicate the average priority given to job meaning and income, respectively, by people in a particular occupation. The GSS contains quite detailed data on respondents' occupation following the US Census occupational classification. In total, there are 515 different occupations in our sample. To estimate the occupation fixed effects, we use the same 18 waves of the GSS as in the main analysis, namely the waves that contain the questions about job preferences. Next, we use all available waves of the GSS (30 waves since 1972 amounting to almost 50,000 observations) to run regressions of a respondent's occupational score (given by the occupation fixed effect) on the respondent's experienced regional income at age 18 to 25. We include the same set of controls as in the main analysis, but exclude the controls for household income, years of education, and labor market status, as these are likely to be highly endogenous to occupation. The first two columns of Table A16 show, as expected, that people who experienced relatively high regional income at age 18 to 25 tend to hold occupations with a relatively high occupation score on job meaning and a relatively low occupation score on the importance of income. The coefficients are small in magnitude (the standard deviation of the occupation scores for meaning and income are 0.43 and 0.26, respectively), but close to statistically significant. Columns (3) and (4) show the same regressions for the subsample of people of age 18 to 25. The signs of estimated coefficients are in line with expectations, much larger than for the full sample, but also less precisely estimated.

Table A16: Experienced regional income during the impressionable years and occupation scores

Variables	(1) Meaning (all)	(2) Income (all)	(3) Meaning (18-25)	(4) Income (18-25)
Income level 18-25	0.066	-0.030	0.227	-0.110
	(0.026)	(0.016)	(0.184)	(0.122)
	[0.116]	[0.092*]	[0.362]	[0.291]
Demographic variables	✓	✓	✓	✓
Age FE	✓	✓	✓	✓
Decade of birth FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Region FE	✓	✓	✓	✓
Region at 16 FE	✓	✓	✓	✓
N	49,513	49,513	6,022	6,022
F-value	67.32	16.66	15.64	5.43
R-squared	0.16	0.05	0.17	0.07

Notes: Regressions are estimated using OLS. The dependent variable is calculated at the occupation level, and is given by the average ranking of meaning and income, as assigned by those respondents in each occupation. The 'Income level 18-25' is log-linearized. Demographic variables include controls for gender, race, father and mother education, marital status, number of children, household size (squared), and household income at the age of 16. In parentheses, heteroskedasticity robust standard errors are reported. In brackets, p-values are reported estimated using the wild bootstrap procedure suggested by Cameron et al. (2008), by clustering standard errors at the level of the region at age 16. Since the number of clusters is small, the more conservative Webb weights are used (Webb, 2013), implemented using the *boottest* estimator developed by Roodman et al. (2019), with 5000 replications. Sample re-weighted using the *wtssall* population weights in the GSS. Significance levels: *** $p<.01$, ** $p<.05$, * $p<.1$.