Nominal versus real income: The impact of regional price levels on happiness

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Abstract

So far, studies investigating the influence of income on individual well-being have used nominal income, adjusted for inflation, as explanatory variable. According to economic theory, however, it should be purchasing power of a given nominal income and not nominal income as such that matters. Therefore, this paper uses data on regional price levels to single out the effect of purchasing power on subjective well-being. We use a fixed effects model that controls for district heterogeneity other than the price level. The results show that higher prices significantly reduce well-being for individuals in the four lowest deciles of the income distribution. Our results provide a strong argument in favor of regional indexation of transfer payments such as social welfare benefits and contribute to our understanding of how people perceive nominal versus real terms.

Keywords: Subjective well-being, money illusion, redistribution, price index
JEL-Codes: I31, D60, D63, D31, C23

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1 Introduction

Studies on the effect of income on subjective well-being are abundant, both for across country comparisons and within single countries.[1] Due to lack of data all existing studies use nominal, usually inflation adjusted income to study its effect on individual well-being. According to standard economic theory, however, individuals derive utility from consumption of goods that they can afford with their income. Thus, the channel via which income affects well-being is purchasing power for which nominal income can at best be a rough proxy. From this perspective, real income that takes into account regional price differences is the appropriate variable for explaining individual well-being. In the light of this argument, we study whether different price levels at district level have an effect on individual well-being once we control for nominal income and other regional heterogeneity.

This paper uses novel and comprehensive data on price levels of all 393 German districts to obtain a precise measure of individual real income. The regional price levels are comprised in a price index at district level based on data from 2004 to 2009. The price index reveals that there is a price differential of 37% between the cheapest and the most expensive district in Germany. To get an intuition for the uniqueness of this data set note that the price index is based on roughly 7 million data points that measure prices of 205 distinct goods. Items included in the calculation of the price index are among many others rental rates, electricity prices, cinema tickets, fees for checking accounts, car prices, all kinds of food prices and dentist fees. We match the price index and data from the German Socio Economic Panel (GSOEP) covering the time span 2004-2008. The GSOEP is a very detailed, representative panel study of German households.

To explain individual well-being we use an individual fixed effects regression approach and control for regional heterogeneity. We find that a higher regional price level reduces subjective well-being for individuals in the four lowest deciles of the income distribution. Looking at the whole income distribution, the difference between real and nominal income does not seem to significantly influence individual well-being. One plausible reason for this finding are decreasing marginal gains from an extra Euro on well-being. For richer individuals the difference between nominal and real

[1] For survey articles see e.g. Frey and Stutzer (2002), Di Tella and MacCulloch (2006) and Dolan, Peasgood and White (2008).

income that is driven by differences in the price level is not large enough to affect individual well-being. In contrast, for individuals in the lower part of the income distribution, the price level has an effect on individual well-being, since for them the difference between an extra Euro in nominal or real terms matters. The estimated effect of the price level on individual well-being is substantial: controlling for regional differences other than the price level, our results imply that, for a given yearly nominal income of 10,000 Euros, moving from the cheapest German district to Munich, the most expensive one, reduces subjective individual well-being by 1.7 points on a 10 point scale.

Besides providing new insights for the literature on individual well-being, our results have important policy implications and contribute to understanding how people perceive real versus nominal values.

On the one hand, our results do not question findings from former studies on well-being that used nominal inflation adjusted income as a proxy for real income if they aimed at analyzing well-being of the population as a whole. Our results show that measurement error due to using nominal instead of real income only marginally affects estimated coefficients of income. On the other hand, our results also imply that measurement error is substantial and significantly affects estimation results when analyzing well-being of individuals in the lower part of the income distribution. In our sample that is representative for Germany, the poorest 40% of the population are less satisfied with their life when living in a more expensive region.

In terms of policy implications, our results provide a strong argument in favor of regional indexation of transfer payments, in particular of those transfers which target needy groups such as the US Supplemental Security Income (SSI) or the German so called Arbeitslosengeld II, the lowest level of unemployment support. Our results also question country-wide uniform public sector wages. They show that not adjusting nation wide payments to regional price differences treats equals unequally in terms of individual well-being which seems hard to warrant in terms of justice.

Finally, our results promote the understanding of how people perceive real versus nominal terms, which is, among other things, crucial for determining optimal inflation rates to be targeted by the central bank. According to our results, people tend to perceive money values in real terms and thus, do not exhibit money illusion (only) if the difference between real and nominal values is large enough relative to their total income.

The paper is organized as follows: section 2 describes the data, section 3 presents our empirical strategy. Results are summarized in section 5. In the last section, we discuss implications of our results and conclude.

2 Data

This paper uses novel and comprehensive data on price levels in all 393 German districts ("Kreise") to obtain a precise measure of individual real income. The data on prices at district level have been collected by the German Administrative Office for Architecture and Comprehensive Regional Planning. They are used to construct a price index that provides an overall price level for each district. The price index is based on roughly 7 million data points that measure prices of 205 distinct goods that are categorized in 57 classes of goods. In terms of classes of goods, this amounts to matching the basket of commodities used by the German Federal Statistical Office to calculate the Germany wide inflation rate to 73.2%. When constructing the price index the weight attached to each individual commodity is the same as the one used by the Federal Statistical Office. Items included in the calculation of the price index are, for example, rental rates, electricity prices, cinema tickets, fees for checking accounts, car prices, all kinds of food prices and dentist fees to name just a few. For a more detailed description of data collection and construction of the price index see Kawka, Beisswenger, Costa, Kemmerling, Mueller, Puetz, Schmidt, Schmidt and Trimborn (2009). We are not aware of any other data source from any other country that provides such a comprehensive price index below the national level.

Collecting such comprehensive data cannot be managed in a single year. The data were gathered in the years 2004 to 2009, with most of the data, roughly 85%, being collected from 2006 to 2008. The data are used to build a single time-invariant price level for each district. Such a procedure implicitly assumes that the relative price level of each district stays constant over the period of study. To underline that this assumption is quite realistic Kawka *et al.* (2009) compare the relative rental prices at district level of 2004 with those of 2008 and find a correlation coefficient of 0.989. With a share of about 20%, rents are by far the most influencial component of the price index.

The original price index uses the district of the former German capital Bonn as baseline (100 points). The cheapest district is Tirschenreuth in East Bavaria with 83.37 points, while Munich, with 114.40 points the most expensive district, lies in Southern Bavaria. Hence, the most expensive district is around 37% more expensive than the cheapest, showing an extreme price differential within Germany. Figure 1 shows a map of Germany indicating the relative price level of each district. Three observations are worth mentioning: Price levels are lower in East than in West Germany and lower in Northern than in Southern Germany. Moreover, urban areas are unsurprisingly relatively more expensive than rural ones. To have a better interpretation of the estimates of our model (for details see section 3) we first rescale the price index to be always larger than or equal to 100 points and then divide it by 100 points. That is, we let the cheapest district be the base of 1 and rescale the other price levels accordingly.

We match the rescaled price index data and data from the GSOEP covering the years 2004-2008 by using district identifiers. The GSOEP is a representative panel study of German households that covers the years from 1984 on. In addition to household level information, individual information is available. Data cover a wide range of topics such as individual attitudes and health status, job characteristics, unemployment and income, family characteristics and living conditions. Haisken-DeNew and Frick (2003) provide a detailed description of the GSOEP.

The dependent variable is the answer to the question: "How satisfied are you with your life, all things considered?", which is answered on a ten point Likert scale. Frey and Stutzer (2002) list findings showing the validity of this question for measuring individual subjective well-being. In particular, the answers strongly correlate with real behavior such as smiling in social interactions or committing suicide.

Our explanatory variable of interest is real income. To our best knowledge, we provide the first study that uses a true measure of real income, i.e. one that takes regional price differences into account, as a determinant of individual well-being. The goal of our real income measure is to capture purchasing power of a given nominal income as precisely as possible: we start with household disposable nominal income, i.e. after tax household income including all kinds of government transfer income.[2] We then form the corresponding per person equivalence income as suggested

[2]We adjust all income measures for inflation using 2004 as the baseline year. We use the Germany wide inflation

Figure 1: Regional Price Index

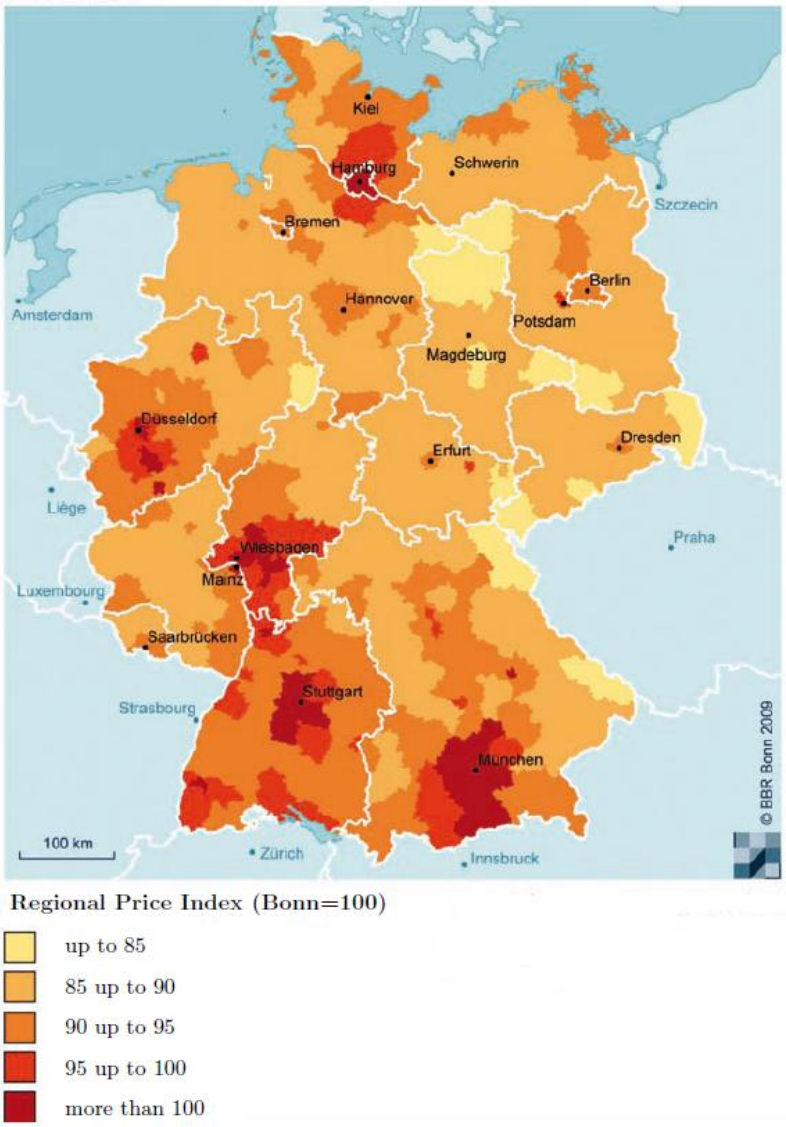

Figure reproduced from Kawka *et al.* (2009) page 60.

by the OECD, see Grabka (2008) for an application to GSOEP data. The idea of the equivalence income is to assign each household member the income that corresponds to the disposable income the household member would have if it were single. The equivalence income corrects household income for the number of persons living in a household by dividing through a factor. The factor takes a value of 1 for the first household member; 0.7 is added for each additional adult and 0.5

rate since there are no comprehensive data on regional inflation rates. The limited existing data on regional inflation rates suggest, however, that the inflation rate is quite uniform over Germany.

for each child. Last, to obtain our measure of real income, we divide the nominal equivalence income by the rescaled district specific price level.

Finally, we use a well established set of control variables similar to Frijters, Haisken-DeNew and Shields (2004), who also work with GSOEP data and investigate the influence of nominal income on happiness. These control variables are dummies for marital status (Married, Separated, Divorced, Widowed with being single as omitted category), dummies for employment status (Employed full time, Employed part time, Maternity leave, Non-participant with being unemployed as omitted category), the level of disability (Level of disability), the number of children in the household (Number of children), a dummy for whether a disabled person is living in the household (Invalid in household), and district dummies. Summary statistics of all variables can be found in Table A.1 in the Appendix. Moreover, we include year dummies. To have a representative sample of the German population we use all subsamples of the GSOEP data and use the cross-sectional weights provided in the GSOEP data, since the GSOEP oversamples certain population groups.

3 Empirical Strategy

The aim of our specification is to figure out whether, for a given nominal income, differences in purchasing power affect individual well-being. The identification is not hampered by reverse causality problems since it can be safely assumed that individual well-being does not influence regional price levels.

At first sight, it might seem natural to simply estimate a specification typically used in the literature on individual well-being and just substitute nominal by real income. Due to regional differences in price levels, an individual's position in the German distribution of nominal income may differ substantially from the same individual's position in the distribution of real income. Still, the overall distributions of nominal and real income that determine coefficient estimates are very similar, e.g. the corresponding correlation coefficient is 0.997. The reason is that differences in nominal income (that ranges from close to zero to about 3.6 million Euros) are tremenduously larger than differences in regional regional price levels that range from 1 to 1.37 using our rescaled price index. Consequently, while different regional price levels may well affect individual well-being this effect could not be captured by using a specification with real instead of nominal income as

explanatory variable. Any coefficient estimate of real income would, to the largest share, be driven by differences in nominal income and not by differences in price levels.

Thus, we estimate the following individual fixed effects specification[3] for individual i's well-being at time t, H_{it}:

$$H_{it} = \alpha N_{it} + \gamma N_{it}^2 + \delta(R_{it} - N_{it}) + x_{it}\beta + c_i + \epsilon_{it},$$

where N is nominal equivalence income adjusted for inflation, which we will call nominal income hereafter, R is real income, x includes all further regressors as described in section 2, c is an individual fixed effect, and ϵ is the error term. To avoid having inconsistent estimates because of unobserved time-invariant individual characteristics that are correlated with our explanatory variables we use the fixed effects estimator. Doing so, any time-invariant regressor is dropped in our specification. The rescaled price index, P, is time-invariant: it takes just one value for each region. Thus, using P as a seperate regressor we would identify the potential effect of purchasing power on individual well-being only via the few individuals in our sample who have moved in the period under study.

In contrast, we choose to identify the potential effect of purchasing power on individual well-being by including the difference between real and nominal income, $R-N$, as regressor. Since $R = N/P$, we can identify the effect of P via the coefficient δ for any given N.[4] $R - N$ is always smaller than or equal to zero and is decreasing in P since $R - N = (\frac{1}{P} - 1) \times N$ and P is rescaled to be larger than or equal to 1. So, a positive coefficient δ indicates that there is a purchasing power effect: a higher price level causes lower well-being. In contrast, a negative coefficient δ indicates that there is money illusion, since higher price levels induce higher subjective well-being. Note that we can only identify the effect of time-invariant P if there is sufficient variation in nominal income over time: only changes in nominal income induce variation in real income.[5]

[3]From a theoretical perspective, an ordered multinominal model seems to be most appropriate for modelling individual well-being. However, Ferrer-i-Carbonell and Frijters (2004) show that using a latent variable model changes estimation results only marginally. Consequently, as most of the literature does, we abstain from estimating an ordered multinominal model.

[4]Including district dummies allows us to interpret δ as measuring changes in the price level only and not in district characteristics.

[5]Due to variation of P across districts changes in nominal and real income are not perfectly correlated.

An advantage of our specification is that it is easy to compare to existing studies: a δ that is (not) significantly different from zero implies that former studies that used nominal instead of real income did (not) suffer from omitted variable bias.

Finally, we cannot use the log of income variables, since the time-invariant price index would drop out in our fixed effects specification:

$$\log(R) - \log(N) = \log(\frac{N}{P}) - \log(N) = \log(P).$$

To still account for the possibility of a decreasing marginal effect of income on well-being we include the squared nominal income.

4 Results

Table 1 presents estimation results for the three income terms in our specification.[6]

Table 1: Regression results

	Quantile				
	100%	99%	75%	50%	25%
	(-)	(63,035€)	(21,357€)	(15,126€)	(11,095€)
N	0.004^{**}	0.026^{***}	0.072^{***}	0.092^{**}	0.158^{**}
	(0.002)	(0.007)	(0.021)	(0.039)	(0.065)
N^2	-0.0000009^{*}	-0.0003^{**}	-0.0018^{***}	-0.0025	-0.0041
	(0.0000005)	(0.0001)	(0.0007)	(0.0017)	(0.0038)
$R-N$	0.017	0.055	0.103	0.228	0.524^{**}
	(0.012)	(0.035)	(0.089)	(0.164)	(0.252)
	Observations				
	104,474	103,427	78,199	52,045	25,962

***, **, and * denotes significance at the 1%, 5% and 10% level, respectively. For each quantile, the corresponding highest income is shown in brackets. Standard Errors, clustered on household level, are in brackets.

Looking at the first column that uses the whole sample, the coefficient of $(R-N)$ is positive but not significant. The positive sign points in the direction of a purchasing power effect, but for the population as a whole this effect is not strong enough to significantly affect individual well-being. Furthermore, we find a positive but decreasing effect of nominal income on individual well-being. Since we do not use the log of income, the income distribution is very skewed and in an OLS specification, high incomes have an especially large influence on the estimated coefficients. To avoid having a strong effect on the estimated coefficients driven by just a few observations we

[6]For complete estimation results please see Table A.2 in the Appendix.

also look at the regression excluding the 1% richest individuals. The second column displays the corresponding estimation results that exclude nominal incomes above 63,035 Euros. As one would expect, at the 99% quantile, all three coefficients are substantially larger and the coefficients of N and N^2 become significant at the 1% and 5% level, respectively. Again, the purchasing power effect is present; it is now larger, but still not significant.

We find that the marginal effect of nominal income is decreasing. Consequently, there may exist some income level below which marginal effects of income on well-being are large enough for different price levels to become relevant in relatively poor people's every day life and hence significant for explaining individual well-being. Thus, the next step of our analysis in columns 3-5 of Table 1 is to look at lower quantiles of the income distribution. While at the 75% quantile the effect of nominal income is still significantly decreasing, this is no longer the case at the 50% and 25% quantile. Moreover, at the 25% quantile the purchasing power effect is significant at the 5% level. This means that people with a relatively low nominal income fare significantly better when living in a cheaper district.

Table 2: Regression results for lower quantiles

	Quantile						
	43.39%	37.13%	30.84%	24.41%	18.41%	13.24%	8.93%
	(14,000€)	(13,000€)	(12,000€)	(11,000€)	(10,000€)	(9,000€)	(8,000€)
N	0.091^{**}	0.160^{***}	0.143^{***}	0.168^{**}	0.208^{***}	0.190^{**}	0.164
	(0.046)	(0.052)	(0.055)	(0.065)	(0.080)	(0.091)	(0.113)
N^2	-0.0022	-0.0061^{**}	-0.0040^{**}	-0.0044	-0.0068	-0.0069	-0.0024
	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)	(0.007)	(0.010)
$R-N$	0.25	0.424^{**}	0.434^{**}	0.599^{**}	0.647^{**}	0.597^{*}	0.429
	(0.187)	(0.195)	(0.200)	(0.255)	(0.317)	(0.346)	(0.436)
	Observations						
	45,161	38,618	32,072	25,358	19,083	13,682	9,206

***, **, and * denotes significance at the 1%, 5% and 10% level, respectively. For each quantile, the corresponding highest income is shown in brackets. Standard Errors, clustered on household level, are in brackets.

To investigate for which share of the population differences in the price level significantly influence individual well-being we further partition the lower part of the income distribution in Table 2. Beginning with a yearly nominal income of 14,000 Euros, the 43.39% quantile, we decrease income in steps of 1,000 Euros and investigate the corresponding quantiles. Overall, our results show that regional price differences significantly affect individual well-being for a large share of the population, namely those about 40% who have a nominal income of less than 14,000 Euros.

For them, for a given nominal income, a higher price level reduces individual well-being.[7]

As robustness checks we also performed the analysis using only the years 2005 to 2008 or 2006 to 2008: despite the reduced number of observations and the reduced variation in nominal income results are very robust in the 2005 to 2008 specification. When dropping a further year, 2005, we still find that a higher price level reduces individual well-being but this effect is not significant at conventional levels.

5 Discussion

Our results provide new insights for the literature on individual well-being, they have important policy implications, and contribute to our understanding of money illusion.

Thanks to the availability of new and comprehensive price index data our study is the first to analyze the effect of real instead of nominal income on individual well-being. The good news is that our results do not question results from former studies that used nominal income as a proxy for real income if they aimed at analyzing well-being of the population as a whole. Our results show that measurement error due to using nominal instead of real income only marginally affects estimated coefficients of income. The reason is that variation in real income is mainly driven by variation in nominal income and only to a small extent by variation in local price levels. However, our results also imply that measurement error is substantial and significantly affects estimation results when analyzing well-being of individuals in the lower part of the income distribution. In our sample that is representative for Germany, the poorest 40% of the population are less satisfied with their life when living in a more expensive region. For example, our results predict that, for a given yearly nominal income of 10,000 (13,000) Euros, moving from the cheapest German district to Munich, the most expensive one, reduces subjective individual well-being by 1.7 (1.1) points on a 10 point scale. Moving from Berlin to Munich would still decrease well-being by 1.1 (0.9) points.

Policy usually aims at treating equals equally. Our estimation strategy allows for valuable insights

[7] Due to the low variation in nominal income the coefficients of nominal income and the purchasing power effect are no longer significant at the 9% quantile and below. For example, the within variance of $(R - N)$, which is the part of the total variance that is used for identifying the coefficient of $(R - N)$, drops from 120.4 to 92.5, i.e. by 23%, when decreasing nominal income from 11.000 to 8.000 Euros.

on whether this is fulfilled when granting people the same nominal or the same real payment. Our results imply that real income more precisely predicts individual well-being than nominal income does, especially in the lower part of the income distribution. This finding has important policy implications in many domains: it provides a strong argument in favor of regional indexation of government transfer payments, in particular of those transfers which target needy groups such as the US Supplemental Security Income (SSI) or the German so called Arbeitslosengeld II, the lowest level of unemployment benefit. Our results also question country-wide uniform public sector wages. In all examples, not adjusting nation wide payments to regional price differences treat equals unequally in terms of individual well-being which seems hard to warrant in terms of justice.

Furthermore, our results add to the understanding of how people perceive real versus nominal terms. Economic theory usually assumes that people think and act in terms of real quantities and are not guided by nominal quantities. Fisher (1928) was the first to suggest that people exhibit money illusion, i.e. think in nominal rather than real terms. Money illusion was then again banned from economic research until the notion of money illusion was reintroduced by Shafir, Diamond and Tversky (1997) who show compelling evidence in favor of money illusion using questionnaire and experimental data. In particular, Shafir *et al.* (1997) argue that people think in both terms, nominal and real. The interaction of these two representations results in a bias towards nominal evaluation, which they define to be money illusion. Weber, Rangel, Wibral and Falk (2009) provide neuroeconomic evidence in favor of money illusion using functional magnetic resonance imaging. Our study adds to the understanding of how people perceive nominal and real quantities by investigating the relationship between subjective well-being, nominal, and real income. In particlar, our results are based on yearly income data, i.e. large stakes for an individual. From an economic policy perspective, perception of real versus nominal terms is, for example, important for determining optimal inflation rates to be targeted by the central bank. In their book "Animal Spirits" Akerlof and Shiller (2009) argue that positive but low inflation rates can help reducing unemployment: if people exhibit money illusion, people do not insist on indexing their labor contracts which reduces real wages over time. However, Akerlof and Shiller (2009) argue that this will only hold up to a certain level of inflation after which workers are going to thrive for indexed contracts.

In a similar vein, our results imply that people perceive money values in real terms if the difference between real and nominal values is large enough relative to their total income. Being in the lower

part of the income distribution and thus, restricted in consumption, people have a more precise understanding of what their money is really worth. This is also in line with Shafir *et al.* (1997) who note that "people may resort to an analysis in real terms when inflation is high", i.e. when the difference between real and nominal values is large and consequently, relevant for every day life.

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Appendix A Additional Tables

Table A.1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Life satisfaction	106,052	6.89	1.84	0	10
P	106,052	1.11	0.07	1	1.37
N	106,052	18,465	28,485	0	3,523,331
R	106,052	16,591	27,255	0	3,523,331
$R - N$	106,052	-1,874	2,612	-228,820	0
Number of children	106,052	0.56	0.92	0	9
Single	106,051	0.24	0.43	0	1
Married	106,051	0.60	0.49	0	1
Separated	106,051	0.02	0.13	0	1
Divorced	106,051	0.08	0.27	0	1
Widowed	106,051	0.07	0.25	0	1
Level of disability	105,851	7.12	20.98	0	100
Invalid in household	105,968	0.04	0.20	0	1
Unemployed	106,052	0.06	0.24	0	1
Employed full time	106,052	0.39	0.49	0	1
Employed part time	106,052	0.15	0.36	0	1
Maternity leave	106,052	0.02	0.12	0	1
Nonparticipant	106,052	0.39	0.49	0	1

Table A.2: 2004-2008 Regression

	Quantile				
	100%	99%	75%	50%	25%
	(-)	(63,035€)	(21,357€)	(15,126€)	(11,095€)
N	0.004**	0.026***	0.072***	0.092**	0.158**
	(0.002)	(0.007)	(0.021)	(0.039)	(0.065)
N^2	−0.0000009*	−0.0003**	−0.0018***	−0.0025	−0.0041
	(0.0000005)	(0.0001)	(0.0007)	(0.0017)	(0.004)
$R - N$	0.017	0.055	0.103	0.228	0.524**
	(0.012)	(0.035)	(0.089)	(0.164)	(0.252)
Number of children	0.052*	0.062**	0.055*	0.032	−0.012
	(0.027)	(0.027)	(0.030)	(0.036)	(0.052)
Married	0.201***	0.182**	0.280***	0.259**	0.108
	(0.0760000)	(0.0760)	(0.0900)	(0.1240)	(0.175)
Separated	−0.271**	−0.279**	−0.161	−0.177	−0.2
	(0.124)	(0.125)	(0.145)	(0.185)	(0.248)
Divorced	0.157	0.142	0.234*	0.109	−0.053
	(0.110)	(0.111)	(0.133)	(0.170)	(0.226)
Widowed	−0.253	−0.276*	−0.16	−0.225	−0.434
	(0.163)	(0.163)	(0.184)	(0.222)	(0.320)
Level of disability	−0.004***	−0.004***	−0.005***	−0.006***	−0.007***
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
Invalid in household	−0.632***	−0.634***	−0.613***	−0.662***	−0.813***
	(0.089)	(0.089)	(0.099)	(0.126)	(0.193)
Employed full time	0.646***	0.630***	0.646***	0.644***	0.528***
	(0.056)	(0.056)	(0.060)	(0.075)	(0.101)
Employed part time	0.435***	0.429***	0.419***	0.401***	0.359***
	(0.059)	(0.060)	(0.064)	(0.078)	(0.102)
Maternity leave	0.456***	0.460***	0.429***	0.414***	0.422**
	(0.097)	(0.097)	(0.104)	(0.127)	(0.166)
Nonparticipant	0.383***	0.381***	0.356***	0.352***	0.286***
	(0.056)	(0.056)	(0.059)	(0.068)	(0.089)
d-2005	0.113***	0.114***	0.099***	0.093***	0.058
	(0.020)	(0.020)	(0.024)	(0.031)	(0.052)
d-2006	−0.048**	−0.047**	−0.052**	−0.051	−0.058
	(0.022)	(0.022)	(0.025)	(0.034)	(0.054)
d-2007	0.013	0.016	−0.005	0.007	0.015
	(0.022)	(0.022)	(0.026)	(0.035)	(0.053)
d-2008	0.009	0.019	−0.003	−0.003	−0.018
	(0.024)	(0.024)	(0.029)	(0.038)	(0.061)
	Observations				
	104,474	103,427	78,199	52,045	25,962

***, **, and * denotes significance at the 1%, 5% and 10% level, respectively. For each quantile, the corresponding highest income is shown in brackets. Standard Errors, clustered on household level, are in brackets.