Does Past Unemployment Experience Explain the Transition Happiness Gap?

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Abstract

Profound economic and political changes of 1990s had detrimental social effects in all domains of life in post-socialist countries, including diminishing life expectancy and growing unhappiness. Despite economic improvements in the second decade of transition, research documented that happiness lagged behind. We test whether past unemployment experience can explain this transition happiness gap in the context of Ukraine, a country with a painful delayed transition from a planned to a market economy. We analyze unique longitudinal data for a period from 2003 to 2012. Current unemployment has a large effect on subjective wellbeing, and is roughly 50% larger for men as for women. The effect of past unemployment is significant, but small in magnitude compared to the effect of current unemployment. However, it does correspond to about 35% of the ''transition happiness gap'' found by [1] for 2010 suggesting that the experience of past unemployment can be considered as a potential explanation.

Keywords: Transition happiness gap, Unemployment, Life satisfaction, Social comparison, Scarring, Adaptation

JEL Classification Codes: I31, J65

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1. Introduction

For post-communist countries, the profound economic and political changes of the early 1990s led to significant social changes. A stable system of guaranteed employment gave way to labor markets governed by the laws of supply and demand. Many enterprises, whose products were no longer desired, closed down. Other enterprises that did not close still had to significantly downsize their operations. Inflation wiped out many people's financial resources, thus limiting the scope of private investment and entrepreneurial activities, which could have absorbed excess labor supply. These developments resulted in an unprecedented high level of registered and hidden unemployment, wage arrears, and the reduction of non-wage benefits traditionally provided by employers. Moreover, government authorities, faced with hyperinflation and weak institutions, were unable to maintain the system of universal social benefits, which had existed during the socialist times. Hence, the welfare support for the unemployed and the needy were too low to provide meaningful protection.

However, by the early 2000s, most of the post-communist countries had seen a steady improvement in their real GDP per capita and a rise in consumer goods demand. Despite the economic improvement, happiness lagged behind: [2] documented the existence of the "transition happiness gap" of more than one point on a ten point scale (statistically significant at the one percent level), even after adjusting for income and current unemployment status. A more recent analysis, however, shows that the transition happiness gap shrank during the recovery period after the Great Recession [1].

It remains unknown why people in transition countries have been less happy (for reviews, see [2] and [1]). Several theories have been proposed, including increasing economic inequality, the decline of public goods, greater economic uncertainty, and the depreciation of pre-transition human capital. While all of these theories have some merit, none seems to provide a full explanation. We explore another set of possible mechanisms involving unemployment experiences during the most turbulent times. In doing so, this paper bridges the gap between

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the literature on happiness in transition countries in comparison to the rest of the world and the general economic literature on the effect of unemployment on wellbeing.

The negative effect of unemployment on wellbeing is well documented in developed countries. And, although the approaches to estimation vary, there is a consensus as to the causal mechanisms of the effect. Furthermore, the economic literature suggests that unemployment experience has long-lasting negative consequences (known as "scarring"), which are manifested via undermined future labor market possibilities. Hence, future subjective wellbeing is likely to be affected by past unemployment experience via current labor market opportunities. However, it is unknown if there is a direct effect of past labor market experience on wellbeing in transition countries, as there is in developed ones. If there is a direct effect, then the turbulent transition period with high levels of unemployment may partially account for the "transition happiness gap" in the 1990s. It may also explain its disappearance in recent years due to the dissipating effect of past unemployment in transition countries and an increased unemployment in Western countries during the Great Recession.

The economic literature has explored three main mechanisms for how individual happiness relates to unemployment. The first mechanism is social comparisons, because individuals compare themselves to external reference groups, such as individuals in their neighborhood, region, or country. The second main mechanism, known as the adaptation mechanism, is fueled by the observation that people adapt to their circumstances. This mechanism implies that the effect of unemployment diminishes as more time is spent being unemployed. The third mechanism behind individual happiness is that some undesirable condition experienced in the past permanently scars the person, even if this condition is no longer being experienced in the present.

The literature has persistently found that unemployment lowers life satisfaction. This damaging life satisfaction effect of unemployment has been confirmed across countries and time periods studied. See, for example, [1], [3], [4], [2], [5], [6], [7], [8], [9], [10], and [11]. More specifically, [1] consider two most recent data

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sets – the third wave of the Life in Transition Survey (LiTS) (administered in 2015–2016) and the 2000–2016 waves of the annual Gallup World Poll (GWP). The LiTS covers 29 former communist countries (excluding Turkmenistan) and 5 comparator countries. The GWP covers 31 post-communist countries and territories (including Nagorno-Karabakh) and 133 comparator countries. The European Social Survey data for 21 European countries for the period of 2002–2008 are examined in [3], and [7] study 12 European countries between 1975 and 1991 as well as the USA between 1972 and 1994. Waves 3 and 4 of the World Values Survey covering 84 countries are exploited in [2]. Furthermore, [6] and [11] use the British Household Panel Survey (BHPS) data for 1991-1997 and for 1991, respectively. The Great Britain data from the Eurobarometer Surveys between 1973 and 1998 are analysed in [5], who also study the General Social Surveys (GSSs) data for the USA between 1972 and 1998. Germany has been studied by [10] using the German Socio-Economic Panel (GSOEP) data for 1984–1990. Happiness research rarely focuses on transition economies. As few exceptions, in addition to [2] and [1], [8] use the Russian Longitudinal Monitoring Survey (RLMS) data between 1995 and 1999 (as well as the BHPS data for 1996–1997), and [9] utilize the Kyrgyzstan Multipurpose Poverty Survey (KMPS) data for 1993.

The essence of the social comparison mechanism is that people compare themselves to their social reference groups. Current research maintains that the comparison mechanism linking wellbeing and current unemployment works so that unemployment hurts individuals less if there is more of it around. In particular, using the British Household Panel Survey data from the 1990s, both [11] and [6] show that the unemployed's wellbeing is strongly correlated with reference group unemployment at different levels. Furthermore, both studies find that unemployed people who live in areas with high unemployment are less dissatisfied with their lives than those who live in areas with low unemployment levels. Additionally, [6] shows that, in Great Britain, the effect of current unemployment on wellbeing is lower when either the individual's partner or household member is unemployed.

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The adaptation mechanism maintains that people get used to their unemployment status the longer they experience it. In particular, [12] and [13] provide extensive reviews of studies on the economics and psychology of adaptation, respectively. Using the British data (BHPS) for 1991 and German data (GSOEP) for 1984–1994 [11] and [14] find that those who have a shorter duration of unemployment are less happy than those with longer duration of unemployment suggesting that people get used to their situation in the long run. In contrast, having examined the GSOEP data for Germany between 1984 and 2003, [15] conclude that there is little evidence of adaptation to unemployment. Furthermore, men are more affected by negative labor market events than women, and past job loss distresses men for a longer time than it does women.

While the adaptation mechanism focuses on the life satisfaction effect of the length of unemployment, the scarring mechanism is concerned with whether any past unemployment influences human happiness. More specifically, the research on the scarring mechanism (see, for example, [14] and [16]) shows that unemployment experienced in the past reduces a person's current life satisfaction — even after the person becomes re-employed. Both [14] and [16] study Germany and use the GSOEP data for 1984–1994 and 1984–2003, respectively. [14] (p. 221) conclude "life satisfaction is lower not only for the current unemployed (relative to the employed), but also for those with higher levels of past unemployment." Moreover, [16] (p. 283) suggest that "the scar from past unemployment operates via worsened expectations of becoming unemployed in the future, and that it is future insecurity that makes people unhappy."

A notable strand of the economic research on wellbeing focuses on studying the life satisfaction effect of job loss rather than that of unemployment. This strand addresses the concern that unemployment maybe endogenous in the sense that people who are likely to be unemployed are on the downward trend in life satisfaction. However, the literature on job losses does not rule out the causality of the effect of unemployment on life satisfaction. [17] finds persistent effects of involuntary job loss on earnings and wages, which in turn, have adverse effects on life satisfaction, as the research mentioned above maintains. Additionally,

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[17] discovers that repeated job losses are behind this persistence.

125   As in any area which relates to the world of work, the effect of unemployment on wellbeing may affect men differently than women. In labor economic studies, men and women are usually studied separately because of general differences in patterns over the life course of employment in the formal workforce. The sociological literature suggests that the effect of job loss on wellbeing can differ

130   according to the attitude toward work and employment (psychosocial needs) (see [18], among others). For example, women are more likely to leave the workforce for several years to spend time raising children. Therefore, we would not necessarily expect any effect of unemployment on wellbeing to be identical for men and women.

135   The literature on happiness in transition countries has found that Ukraine is at or near the bottom of life satisfaction among 84 countries including 21 transition countries during the decade from 1994 to 2003 ([2]). Specifically, the mean happiness in Ukraine, measured in the World Values Survey, is about 2 points below the predicted value (on a scale from 0–10). More recent evidence

140   on the transition happiness gap by [1] has found that the gap has narrowed. This finding is due both to improved happiness in transition countries and a decline in non-transition countries. They do not report findings specifically for Ukraine, however, according to Figure 2 in [1], the decline in the average life satisfaction for Ukraine has been steeper than predicted for a corresponding

145   drop in GDP per capita from 2010 to 2016, while all other countries, but Italy, have experienced an improvement in both life satisfaction and GDP per capita.

In this paper, we test all three mechanisms linking life satisfaction and unemployment in a new institutional context using the Ukrainian Longitudinal Monitoring Survey (ULMS). Previous research has mostly tested the mecha-

150   nisms of interest using different datasets from several developed countries that are all characterized by a substantial degree of stability and welfare systems, which provide substantial degree of social protection. To the best of our knowledge, we are the first to test all three mechanisms using not only one country but also one data set. Furthermore, the country we focus on — Ukraine —

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is a transition economy known for its turbulent transition period and substantial institutional instability. Our findings based on Ukrainian data are relevant for understanding of the relationship between unemployment and subjective wellbeing in less stable institutional environments with more present oriented population. We study men and women in Ukraine separately during the period 2003–2012 taking into account their full work histories.

We find that current unemployment has a large effect on subjective wellbeing. It is equivalent to loosing the state of being in good health for women and is double the effect of losing the good health status for men (0.3–0.7 points on a 5-point life satisfaction scale, depending on specification). The effect of past unemployment (measured either as a number of months spent being unemployed or as a share of total labor market time spent in unemployment) is significant, but small in magnitude compared to the effect of current unemployment: evaluated at the average past unemployment, it results in 0.09 points loss of life satisfaction for women and 0.07 points loss for men. A more detailed exploration of the persistence of unemployment effect suggest that, unlike in the developed countries, what matters for the subjective wellbeing in Ukraine is mostly the current unemployment status. However, this 0.07-0.09 points wellbeing penalty corresponds to approximately 35% of the "transition happiness gap" estimated by [1]. We also find that, controlling for the current labor market status, both men and women quickly adapt to the state of being unemployed. Moreover, regional unemployment rate does not have a pronounced effect, neither on the level of subjective wellbeing nor on the effect of individual unemployment status. This maybe related to the fact that the share of unemployed registered for unemployment benefits is far from the true unemployment rate. Moreover, given that the size of the unemployment benefits is rather small and the cost of maintaining the status of the unemployed is rather high, the motivation for registering may very much depend on the availability of informal jobs in the area, which would be picked up by the unemployment rate, calculated according to the ILO methodology. And the latter would be a better measure of unemployment rate for the purpose of social comparison. Unfortunately, such statistics

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is not available at the small region level.

2. Estimating the Effects of Unemployment on Life Satisfaction

As our investigation of the relationship between unemployment experience and life satisfaction is motivated by the persistence of the "transition happiness gap" and its dynamics in recent years, we aim at bringing together all three mechanisms described in the literature. However, because the existing studies focus on one mechanism at a time and because of the peculiarities of Ukrainian setting, we are introducing some variations to the empirical approach while striving to follow the literature as closely as possible to enable meaningful comparisons.

2.1. Testing for the Scarring Mechanism

As a starting point, we consider an empirical model that studies whether past cumulative unemployment experience has an effect on life satisfaction, after controlling for current unemployment and other factors.

$$Life\ satisfaction_{it} = \beta_{10} + \beta_{11}If\ currently\ unemployed_{it}$$
$$+ \beta_{12}Past\ cumulative\ unemployment_{it} + \mathbf{x}_{it}\alpha_1 + c_{1i} + u_{1it},$$
$$(1)$$

where the dependent variable $Life\ satisfaction_{it}$ is a life satisfaction index of person i in year t measured on a scale from 1 "not satisfied at all" to 5 "fully satisfied," $If\ currently\ unemployed_{it}$ is a dummy variable indicating whether person i is unemployed at the time of the ULMS interview during year t, $Past\ cumulative\ unemployment_{it}$ is a cumulative time spent unemployed by person i up to the time of interview in year t, measured in months, $\mathbf{x}_{it}$ is a vector of individual characteristics (including time-invariant ones), c_{1i} is an unobserved individual-specific effect, and u_{1it} is an idiosyncratic error. The subscript 1 refers to equation (1). In the above model we intentionally separate unemployment experience into current and past experiences. We expect $\beta_{11} < 0$

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indicating that the current unemployment status at the time of the interview when the person evaluates his life satisfaction, similar to his past cumulative unemployment, hurts this individual's life satisfaction. Furthermore, we expect $\beta_{12} < 0$, implying that an increase in the duration of past unemployment leaves a 'scar' on life satisfaction, even after the person is reemployed.

Next, we test if the scarring mechanism linking life satisfaction and unemployment also depends on the timing of the unemployment experience. To test, whether the negative effect of more distant spells of unemployment dissipates with time, the following model is adopted:

$$
\begin{aligned}
Life\ satisfaction_{it} = \beta_{20} + \beta_{21} If\ currently\ unemployed_{it} \\
+ \gamma_{20} If\ unemployed_{it} + \gamma_{21} If\ unemployed_{i,t-1} + ... \quad (2) \\
+ \gamma_{25} If\ unemployed_{i,t-5} + \mathbf{x}_{it}\alpha_2 + c_{2i} + u_{2it},
\end{aligned}
$$

where $If\ unemployed_{it}$ is a dummy variable indicating whether person i has been unemployed and looking for a job at some point during year t, c_{2i} is an unobserved individual-specific effect, u_{2it} is an idiosyncratic error, and the rest of the variables are defined above. In addition to $\beta_{21} < 0$, as above, our hypothesis is that $\gamma_{20} < 0$ (unemployment at any point during the current year hurts). Furthermore, we anticipate $\gamma_{2k} < 0$, where $k = 1, ..., 5$. Negative coefficients on the lagged unemployment dummies indicate that past unemployment reduces the wellbeing irrespective of current labor market status, meaning that past unemployment "scars."

We estimate the two model specifications above to test the scarring hypothesis (equations (1) and (2)) using the pooled OLS (POLS) and fixed effects (FE) approaches with standard errors robust to heteroskedasticity and serial correlation.[1] A word of caution is needed with regards to the interpretation

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[1]As our analysis is separate by gender, less than 10% of observations in any specific year comes from the same household, which has no significant effect on the size of the standard errors. The tests do not reveal the presence of serial correlation in most specifications. However, as in a couple of cases serial correlation has been detected, we have opted for the standard errors which are completely robust to any form of serial correlation and heteroskedasticity.

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of the effect of past unemployment from the FE specification. Given that the effects are identified from the changes in variables within individuals, most of the variation in past unemployment experience will be wiped out by the fixed effects. Hence, the absence of the significant effect of past unemployment in the FE specification does not mean that there is no effect, but rather that it is not possible to identify the effect of this variable in this setting.

2.2. Testing for the Adaptation Mechanism

Second, we study the adaptation mechanism to see if the negative effect of unemployment dissipates as the person spends more time being unemployed. To be precise, we test the effect of continuous unemployment using a model specification similar to the one used in [15]:

$$
\begin{aligned}
\textit{Life satisfaction}_{it} = {} & \beta_{30} + \beta_{31}\textit{If currently unemployed}_{it} \\
& + \gamma_{30}\textit{If unemployed consecutively}_{it} \\
& + \gamma_{31}\textit{If unemployed consecutively}_{i,t-1} + ... \\
& + \gamma_{35}\textit{If unemployed consecutively}_{i,t-5} \\
& + \mathbf{x}_{it}\alpha_3 + c_{3i} + u_{3it},
\end{aligned}
\tag{3}
$$

where *If unemployed consecutively*$_{i,t-l}$ is a dummy variable indicating that person i has been unemployed consecutively some time in year t and the interview date, $t - l$ refers to being unemployed from some time in year $t - 1$ till the interview date, etc., c_{3i} is an unobserved individual-specific effect, u_{3it} is an idiosyncratic error, and the rest of the variables are defined above. Specification (3) allows us to trace the effect of different durations of unemployment on life satisfaction.

More specifically, model (3) can be viewed as a simple test of the degree of adaptation to unemployment. If individuals fully adapt to unemployment then

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This is achieved by the individual level cluster option in fixed effects specification. Other approaches, like for example Driscoll-Kraay standard errors, are not feasible within our case of large N and small T.

the later values of γ will be insignificant, i,.e. those who are unemployed for longer periods have fully adjusted in terms of their happiness levels. If there is no adaptation to unemployment all of the values of γ will be about the same negative value. If there is some adaptation to unemployment then the later values of γ will be less negative, i.e., (borrowing the terminology from [15]) individuals "bounce back" from unemployment. We estimate model (3) to test the adaptation hypothesis using the POLS and FE approaches with fully robust standard errors.

2.3. Testing for the Social Comparison Mechanism

We investigate if the social comparison mechanism is present in the ULMS sample to see if a person's happiness and happiness response to individual unemployment experience depends in part on the local unemployment rate. We consider the following equation:

$$
\begin{aligned}
\textit{Life satisfaction}_{it} = {} & \beta_{40} + \beta_{41}\textit{If currently unemployed}_{it} \\
& + \beta_{42}\textit{Regional unemployment rate}_{ijt} \\
& + \beta_{43}\textit{If currently unemployed}_{it} * \textit{Regional unemployment rate}_{ijt} \\
& + \mathbf{x}_{it}\alpha_4 + c_{4i} + u_{4it},
\end{aligned}
$$

$$(4)$$

where *Regional unemployment rate*$_{ijt}$ is an unemployment rate in region j where person i lives at time t, c_{4i} is an unobserved effect, u_{4it} is an idiosyncratic shock, and the rest of the variables are defined above. Here, a region is defined as a rayon (a smaller administrative unit in Ukraine, total number 669). We anticipate $\beta_{41} < 0$: an increase in an individual's unemployment has a negative effect on his wellbeing. Furthermore, we expect $\beta_{42} < 0$, since an increase in the unemployment of the social reference group also has an adverse effect on the individual's happiness. This latter negative relationship between wellbeing and the unemployment of the reference group can be justified by two considerations. First, more unemployed people in the area makes it more challenging

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to get a new job. Second, jobs offered in the areas with high unemployment rates usually pay less. Finally, we expect $\beta_{43} > 0$ because, according to the social comparison mechanism, an individual suffers from own unemployment less when the unemployment of his reference group(s) is higher. All of the regressions for social comparison are based on the 2003, 2004, and 2007 waves only since regional unemployment rates are not available for 2012. The regional unemployment rate is demeaned and measures the share of people registered for unemployment benefits among those participating in the labor market. We estimate equation (4) using the POLS and FE approaches with standard errors robust to heteroskedasticity and serial correlation.

2.4. Testing for Multiple Mechanisms

Finally, we test the three hypotheses for how unemployment influences happiness jointly. To do so, we consider model specifications allowing for multiple mechanisms at a time. We look into two potential regression models.

First, we test the presence of the scarring and adaptation mechanisms together using the model specification employed in [14] and [16]:

$$
\begin{aligned}
Life\ satisfaction_{it} = \ & \beta_{50} + \beta_{51} If\ currently\ unemployed_{it} \\
& + \beta_{52} Past\ unemployment\ share_{it} \\
& + \beta_{53} If\ currently\ unemployed_{it} * Past\ unemployment\ share_{it} \\
& + \mathbf{x}_{it}\alpha_5 + c_{5i} + u_{5it},
\end{aligned}
$$

(5)

where $Past\ unemployment\ share_{it}$ is individual i's past unemployment experience as a share of his/her total active labor market time at time t, c_{5i} is an unobserved individual-specific effect, u_{5it} is an idiosyncratic error, and the rest of the variables are defined above. Additionally, we consider two alternative definitions for an individual's past unemployment. More specifically, we also use an indicator for whether a person has been ever unemployed (*If ever unemployed*). Both measures are related to the cumulative unemployment measured in months

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used to test the scarring mechanism earlier: the first measure is the share of total labor market participation time spent in unemployment (months in unemployment/(months in unemployment + months working)), the second is simply an indicator for people with non-zero cumulative unemployment experience. The specification with the past cumulative unemployment is available upon request.

Note that model (5) is sufficiently flexible to accommodate both the scarring mechanism and the adaptation mechanism. On the one hand, $\beta_{52} < 0$ implies that past unemployment "scars." On the other hand, to test the adaptation mechanism in model (5) we focus on β_{53}. We anticipate $\beta_{53} > 0$, which is consistent with the adaptation mechanism meaning that the effect of current unemployment on life satisfaction is not as severe for those who have been unemployed more often in the past.

Second, we augment equation (5) to allow for the social comparisons mechanism to potentially play a role in explaining life satisfaction along with the scarring and adaptation mechanisms:

$$
\begin{aligned}
Life\ satisfaction_{it} = {} & \beta_{60} + \beta_{61} If\ currently\ unemployed_{it} \\
& + \beta_{62} Past\ unemployment\ share_{it} \\
& + \beta_{63} If\ currently\ unemployed_{it} * Past\ unemployment\ share_{it} \\
& + \beta_{64} Regional\ unemployment\ rate_{ijt} \\
& + \beta_{65} If\ currently\ unemployed_{it} * Regional\ unemployment\ rate_{ijt} \\
& + \mathbf{x}_{it}\alpha_6 + c_{6i} + u_{6it},
\end{aligned}
$$

$$(6)$$

where c_{6i} is an unobserved individual-specific effect, u_{6it} is an idiosyncratic error, and the rest of the variables are defined as above. Specification (6) encompasses all three hypotheses jointly. It is similar to specification (5) in that it allows to test for the scarring and adaptation mechanisms. At the same time, it also permits to simultaneously check whether the social comparisons mechanism is at work in the ULMS sample. We estimate both specifications for testing sev-

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eral hypotheses jointly — (5) and (6) — using the POLS and FE approaches
with fully robust standard errors.

3. Data

We analyze individual-level data from four waves of the Ukrainian Longitudinal Monitoring Survey (ULMS): 2003, 2004, 2007, and 2012 (Institute for the Study of Labor (IZA) (2014). The Ukrainian Longitudinal Monitoring Survey (2003 ??? 2007). IDSC of IZA. http://dx.doi.org/10.15185/izadp.7090.1). The ULMS is a nationally representative survey of working age (15-72 year old) population. It provides information on individuals and households, including detailed working history starting from 1986, the year of the Chornobyl disaster. The sample is based on the 2001 population Census and is stratified by age, gender, city, and region [19].

Most importantly for our study, in addition to asking detailed questions about a person's labor market history, the survey also asks whether she or he is satisfied with life ("To what extent are you satisfied with your life in general at the present time?"). We use this latter question to construct our main dependent variable. *Life satisfaction* is a categorical variable ranging from (1) = "not satisfied at all" to (5) = "fully satisfied." The distribution of satisfaction with life is generally uniform across the four best categories for both men and women, with only around 5 percent in the worst category (see Figure 1). For the empirical analyses, we recoded the original variable so that higher numbers indicate greater satisfaction with life.

The contemporaneous data is combined with the retrospective sections of the 2003, 2007 and 2012 waves of the ULMS to construct the individual labor market histories. This allows for the identification of the sufficient number of cases of unemployment during the turbulent transition period of 1990s and onwards. The sample is restricted to those individuals aged 16 to 65 at the time of interview with complete job histories. The retrospective data section is designed to minimize recall by referring to labor market circumstances at specific,

memorable points in time: December 1986 (after the Chornobyl catastrophe), December 1991 (after the collapse of the Soviet Union), December 1997, and every December thereafter until the year 2003. In 2007 and 2017 the retrospective work history questions refer to December of each year in between the survey years. The analytic sample has repeated observations on 3709 women and 2716 men.

The primary independent variables are several measures of unemployment.[2] *Past cumulative unemployment* is the past cumulative time spent unemployment, measured in months. Women in our sample have on average 44 months of past unemployment experience, for men this number is 37 months. *If currently unemployed* is a dummy variable equal to one if the person is unemployed at the time of interview during the year of interest. *If unemployed* is a dummy variable equal to one if the person has been unemployed at some point during the year of interest, prior to the reference week. *If ever unemployed* is a dummy variable equal to one if a person has ever been unemployed. *Past unemployment share* is an individual's past unemployment experience as a share of his total active labour market time. The numbers of 22% for women and 17% for men are a testimony for the significant turbulence which Ukrainian population endured during the period of transition. *If unemployed consecutively* is a dummy variable indicating whether a person has been unemployed consecutively over a certain period of time.

The share of individuals who were unemployed for at least one month in a year is not equivalent to the overall unemployment rate in Ukraine for general population, for several reasons: (i) the share of individuals unemployed for at least one month in a year, versus the share of unemployed among labor market participants at the time of interview used for the official statistics, (ii) ULMS sample is representative of Ukrainian population in year 2003, while the corresponding statistics for other years may not be representative of the population, (iii) [20] document significant discrepancies in the unemployment rates based

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[2]These variables are already mentioned briefly in Section 2.

on the Labor Force Survey data published by Derzhkomstat[3] and the estimates based on the ULMS data. The share of unemployed in any month of the year rose gradually from the late 1980s into the early 2000s, and declined after 2003, remaining fairly high with spikes in 2007 and 2012 (see Figure 2). One conclusion from these graphs is that unemployment was common and volatile in Ukraine during the study period. But it is important to remember that in the late 1980s, many in our sample were too young to be in the labor force, lowering the fraction who were unemployed.

The models also control for other factors that are likely to affect satisfaction with life to investigate pathways through which unemployment affects wellbeing. With the choice of control variables we follow the literature: *If in good health* is an indicator variable equal to one if the person reported being in good or very good health on a 4-point scale ranging from (1) = "very good" to (4) = "bad"; *Household income per capita* is household income per capita measured in thousands of UHA. We also include other covariates, such as whether a person is employed part-time or self-employed, whether a person is a carer (maternity leave, parental leave, taking care of other family members) or not in the labor market for any other reason, if a person is married, if a person is native (Ukrainians represent 77.5% of the population, with Russians being the second largest group at 17.2%), if a person has a bachelor degree or higher, how many kids a person has, and a person's age measured in years.

Table 1 reports the summary statistics for our sample and allows for the comparison of men and women by their past unemployment experience. The significance levels indicate whether those who experienced unemployment in the past are different from those who did not, for men and women separately. As can be seen, the level of life satisfaction is on average lower for those who experienced unemployment in the past for both men and women. The difference is statistically significant at 10% level for women and at 1% level for men. However, the magnitude of the difference is quite small - a fraction of the standard

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[3]Ukrainian State Statistics Committee.

deviation. At the same time, the difference in the indicator variable for being satisfied with life (equal 1 if fully satisfied or satisfied with life), is not at all significant for women but it has a significant 6 percentage point difference for men. Logically, those who experienced unemployment live in areas with larger regional unemployment rates, are more likely to be self-employed, yet, surprisingly, less likely to be out of the labor market for other reason, and more likely to be in good health. They are also less likely to have higher education, lower household income, and are on average younger.

4. Results

We start with a non-parametric exploration of the relationship between unemployment and subjective wellbeing, which reveals an interesting pattern based on age. Overall, wellbeing declines steadily with age for both men and women. But unemployment shocks have such a strong negative effect on subjective wellbeing that the effect is equivalent to increasing the age of young men and women to about age 60. In our data, this decline is apparent from late teenage years into a person's 60s (see Figure 4). An unemployment shock lowers wellbeing to the level of a 60-year old person, for both men and women. For those who are unemployed, wellbeing is only slightly related to age; the main effect of unemployment is to bring down wellbeing to a much lower level. As an informal test for the exogeneity of past unemployment experience, we explore the relationship between current subjective wellbeing and past experience of exogenous job separations (see Figure 5). As can be seen, the pattern is similar to that reported for unemployment.

Unemployment has a detrimental effect on self-reported wellbeing in the basic cross-sectional model that corresponds to equation (1) (see columns one and three in Table 2). Wellbeing declines with longer unemployment experienced in the past, at a rate of -0.002 per month for both women and men, assuming a linear model specification and no individual fixed effects. However, the effect of current unemployment is much more dramatic in magnitude, it is equivalent to

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the 200 months of past unemployment experience for women and of 300 months for men. However, in a model with individual fixed effects, the relationship between past accumulated unemployment and wellbeing is no longer statistically significant, while that of the current unemployment is still highly significant but twice smaller in magnitude (see columns two and four in Table 2). Such a pattern is to be expected, given that part of the unemployment effect is due to the unobserved heterogeneity, while most of the past unemployment experience refers to the 1990s, and, therefore, by construction is wiped out by the individual fixed effects. The coefficients on many other variables have the expected signs. Wellbeing is higher for people who are married, in good health, and have higher income. Comparing the magnitude of the effects of other variables to that of current unemployment, it was worth noting that the letter is quite high in magnitude. For example, it is is almost the same size in absolute value as that of being in good health, and the relative importance does not change after controlling for unobserved heterogeneity.

Next we empirically test possible mechanisms for the general negative relationship between unemployment and wellbeing, starting with the scarring mechanism described in equation (2). There is no consistent evidence in support of the scarring mechanism based on this model specification (see columns (1) and (3) in Table 3 for pooled results). If the scarring mechanism was important, we would expect to see negative coefficients on the lagged dummy variables for unemployment. Although many lagged coefficients are negative, only one of the negative ones is statistically significant. The FE estimates reported in columns (2) and (4) of Table 3 are qualitatively the same. Taken as a whole, there is no compelling evidence in support of the scarring mechanism with the lagged model specification.

There is some evidence in support of the adaptation mechanism as defined in equation (3) (see columns (5) and (7) of Table 3 for pooled results). The coefficients on the lagged consecutively unemployed variables are nearly all not statistically significantly different than zero. This is consistent with the adaptation mechanism because after a few periods, any negative effects of unem-

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ployment on wellbeing have dissipated. Current unemployment has a negative effect on wellbeing, and for men, being unemployed both last period and this period lowers wellbeing. However, the standard errors on the variables with at least two lags are quite large, so this null result is not precisely estimated. Once again, the FE results are in general compliance with our POLS findings.

To test the social comparison mechanism defined by equation (4), we test whether the local unemployment rate affects an individual's wellbeing both by affecting the labor market (negative effect) and by decreasing the social stigma (positive effect). Again, we found little evidence for these effects (see Table 4). After controlling for a person's own unemployment, which of course has a negative effect, the local unemployment rate and the local unemployment rate interacted with the individual's unemployment status are not statistically significant for men, while for women the effect of own current unemployment is exacerbated by the higher unemployment rate in the region. Although, from the methodological point of view, the fixed effects estimates are preferred, they should be still treated with caution and in combination with the pooled OLS estimates, given that the they are identified only for observations that have significant variation in their dependent variable over time. In Ukraine, population mobility is quite low, and, thus, we cannot completely rule out the hypothesis that the local unemployment rate affects individual subjective wellbeing, as, for example for men, there is a negative effect estimated in the pooled regression. However, given the magnitudes of the effects, we conclude that the social comparison mechanism is not as important as the effect of current individual unemployment.

Finally, we move from showing results for a single mechanism and instead allow for multiple competing mechanisms in the same empirical model. In the model specification that includes both scarring and adaptation, corresponding to equation 5, there is some evidence for both hypotheses (see Table 5). In the first specification (columns (1) and (5) of Panel A of Table 5), we model past unemployment as the fraction of time spent unemployed. If the scarring hypothesis is correct, we would expect the coefficient on past unemployment

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share to be negative. If the adaptation hypothesis is correct, we would expect the coefficient on the interaction between current unemployment and past unemployment share to be positive. For women, these hypotheses are borne out with statistical significance at the 5% level or stronger. For men, the result for scarring is also negative and statistically significant, but there is no evidence for the adaptation hypothesis in that model specification. When we add in social comparisons (see Panel B of Table 5), the results are not qualitatively different for either men or women for scarring and adaptation.

To compare our findings with the literature, we refer to [1] analysis based on the Life in Transition survey (LiTS) data. The estimates in their Column (1.4) in Table 1 are based on LiTS III and most closely relate to our pooled OLS specification. Similar to the ULMS, LiTS refers to life satisfaction on a 5-point scale, although it uses observations from all available countries, both transition and others. We compare them to our estimates of the most important factors determining life satisfaction in Columns (1) and (3) in Table 2 and find that the effect of current unemployment in Ukraine is much larger than the average effect across LiTS countries, the effect of higher education is comparable, while that of income is considerably smaller in Ukraine. [1] document the transition happiness gap of the size -0.23 in LiTS II (2010) which disappears in LiTS III (2015/16) (see columns (2.4) and (2.5) in Table 2). As Table 2 shows, one month of past unemployment reduces life satisfaction for both men and women by 0.002 points. Applying the average length of past unemployment to this number, results in 0.09 wellbeing penalty for women and 0.07 for men. Taking into account that [1] analysis is based on a joint estimation for men and women, we use the average number of 0.08, which therefore corresponds to a 35% of the overall magnitude of the transition happiness gap.

5. Conclusion

In this paper we take advantage of a unique data set documenting individual work and life histories in Ukraine, one of the countries of the former Soviet

Union, over a period of significant economic turmoil. The Ukrainian economy lost over 60% of its size during the 1990s. This resulted in a significant share of workers losing their jobs. Importantly for this study, many lost their jobs because of circumstances beyond their control. The longitudinal data also allowed us to test several hypotheses about the mechanisms behind the adverse effect of unemployment on subjective wellbeing. We tested whether past unemployment has any effect on current wellbeing, whether the effect dissipates over time, and whether the local unemployment rate matters, accounting for current employment status, household income, health, and other controls.

We find that current unemployment has a large effect on subjective wellbeing. It is equivalent to loosing the state of being in good health for women and is double the effect of losing the good health status for men (0.3–0.7 points on a 5-point life satisfaction scale, depending on specification). The effect of past unemployment (measured either as a number of months spent being unemployed or as a share of total labor market time spent in unemployment) is significant, but small in magnitude compared to the effect of current unemployment: evaluated at the average past unemployment, it results in 0.09 points loss of life satisfaction for women and 0.07 points loss for men. A more detailed exploration of the persistence of unemployment effect suggest that, unlike in developed countries, what matters for the subjective wellbeing in Ukraine is mostly the current unemployment status. However, this penalty of $0.07 - 0.09$ wellbeing points corresponds to approximately 35% of the "transition happiness gap" estimated by [1]. We also find that, controlling for the current labor market status, both men and women quickly adapt to the state of being unemployed in terms of wellbeing. Moreover, the regional unemployment rate does not have a pronounced effect on either the level of subjective wellbeing or on the effect of individual unemployment status.

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References

[1] S. Guriev, N. Melnikov, Happiness convergence in transition countries, european bank for reconstruction and development, working paper No. 204 (September 2017).

[2] S. Guriev, E. Zhuravskaya, (un)happiness in transition, Journal of Economic Perspectives 23 (2) (2009) 143–168.

[3] M. Wulfgramm, Life satisfaction effects of unemployment in europe: The moderating influence of labour market policy, Journal of European Social Policy 24 (3) (2014) 258–272.

[4] N. Knattab, S. Fenton, What makes young adults happy? employment and non-work as determinants of life satisfaction, Sociology 43 (1) (2009) 12–26.

[5] D. Blanchflower, A. Oswald, Well-being over time in britain and the usa, Journal of Public Economics 88 (2004) 1359–1386.

[6] A. E. Clark, Unemployment as a social norm: Psychological evidence from panel data, Journal of Labor Economics 21 (2) (2003) 323–351.

[7] R. D. Tella, R. J. MacCulloch, A. J. Oswald, Preferences over inflation and unemployment: Evidence from surveys of happiness, American Economic Review 91 (1) (2001) 335–341.

[8] A. Clark, M. Maurel, Well-being and wage arrears in russian panel data, HSE Economic Journal 5 (2) (2001) 179–193.

[9] C. Namazie, P. Sanfey, Happiness and transition: The case of kyrgyzstan, Review of Development Economics 5 (3) (2001) 392–405.

[10] L. Winkelmann, R. Winkelmann, Why are the unemployed so unhappy? evidence from panel data, Economica 65 (257) (1998) 1–15.

[11] A. Clark, A. J. Oswald, Unhappiness and unemployment, The economic Journal 104 (1994) 648–659.

[12] A. E. Clark, P. Frijters, M. Shields, Relative income, happiness, and utility: An explanatin for the easterlin paradox and other puzzles, Journal of Economic Literature 46 (1) (2008) 95–144.

[13] M. Kimball, R. Willis, Utility and happiness, unpublished (2006).

[14] A. E. Clark, Y. Georgrllis, P. Sanfey, Scarring: The psycological impact of past unemployment, Economica 68 (270) (2001) 221–241.

[15] A. E. Clark, E. Diener, Y. Georgellis, R. E. Lucas, Lags and leads in life satisfaction: A test of the baseline hypothesis, The Economic Journal 118 (2008) F222–F243.

[16] A. Knabe, S. Ratzel, Scarring or scarring? the psycological impact of past unemploymenting on future unemployment risk, Economica 78 (2011) 283–293.

[17] A. H. Stevens, Persistent effects of job displacement: The importance of multiple lob losses, Journal of Labor Economics 15 (1) (1997) 165–188.

[18] M. Nordenmark, M. Strandh, Towards a sociological understanding of mental well-being among the unemployed: The role of economic and psychosocial factors, Sociology 33 (3) (1999) 577–597.

[19] H. Lehmann, A. Muravyev, K. Zimmermann, The ukrainian longitudinal monitoring survey: Towards a better understanding of labor markets in transition, iZA Journal of Labor and Development, 1, Article 9 (2012).

[20] World bank. 2005. ukraine job study: Fostering productivity and job creation, volume 2, technical chapters., `https://openknowledge.worldbank.org/handle/10986/8464`, accessed 28-December-2017.

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Figure 1: **The Distribution of the Life Satisfaction Index**
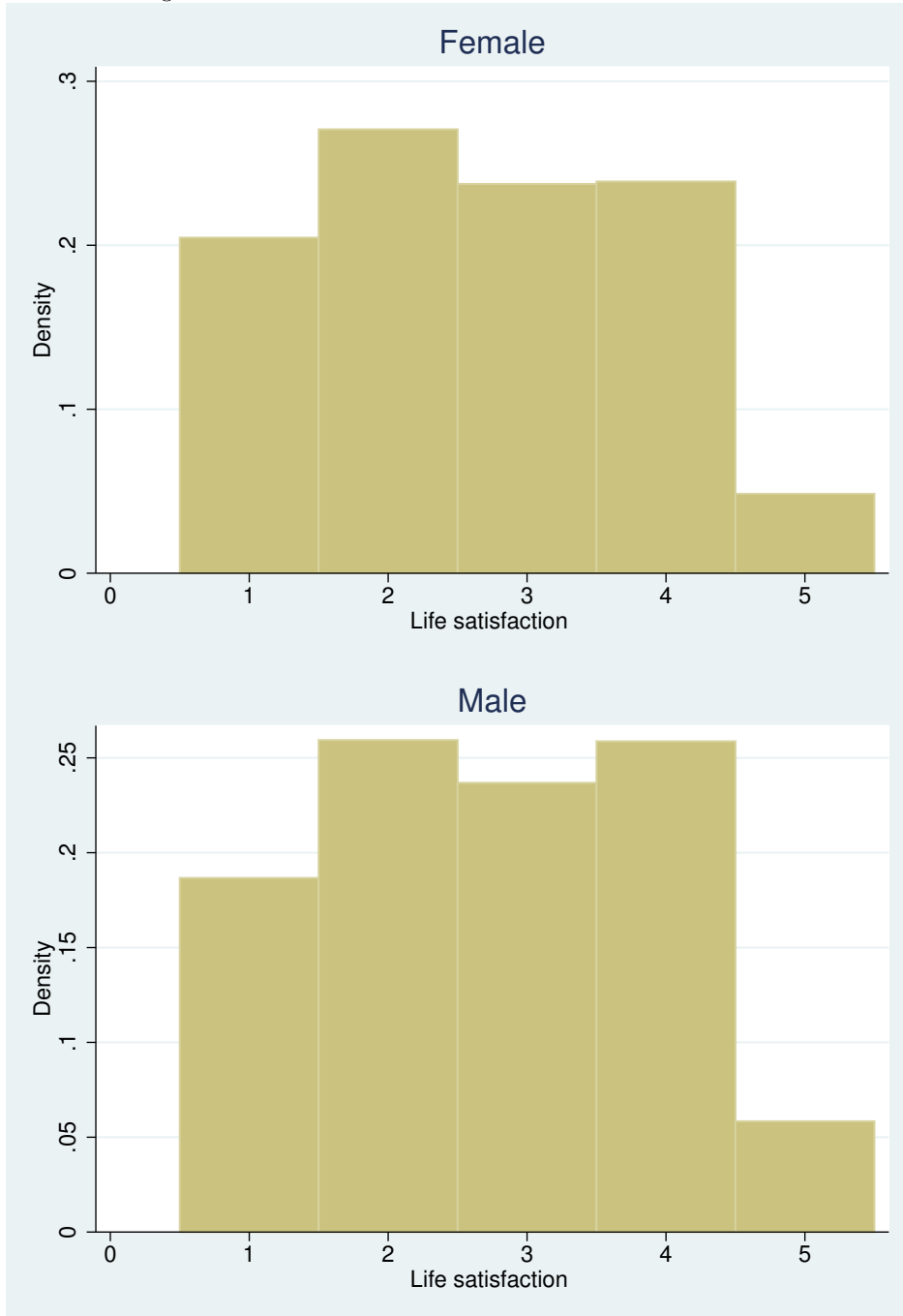
Figure 2: **Unemployed in at Least One Month**

Female
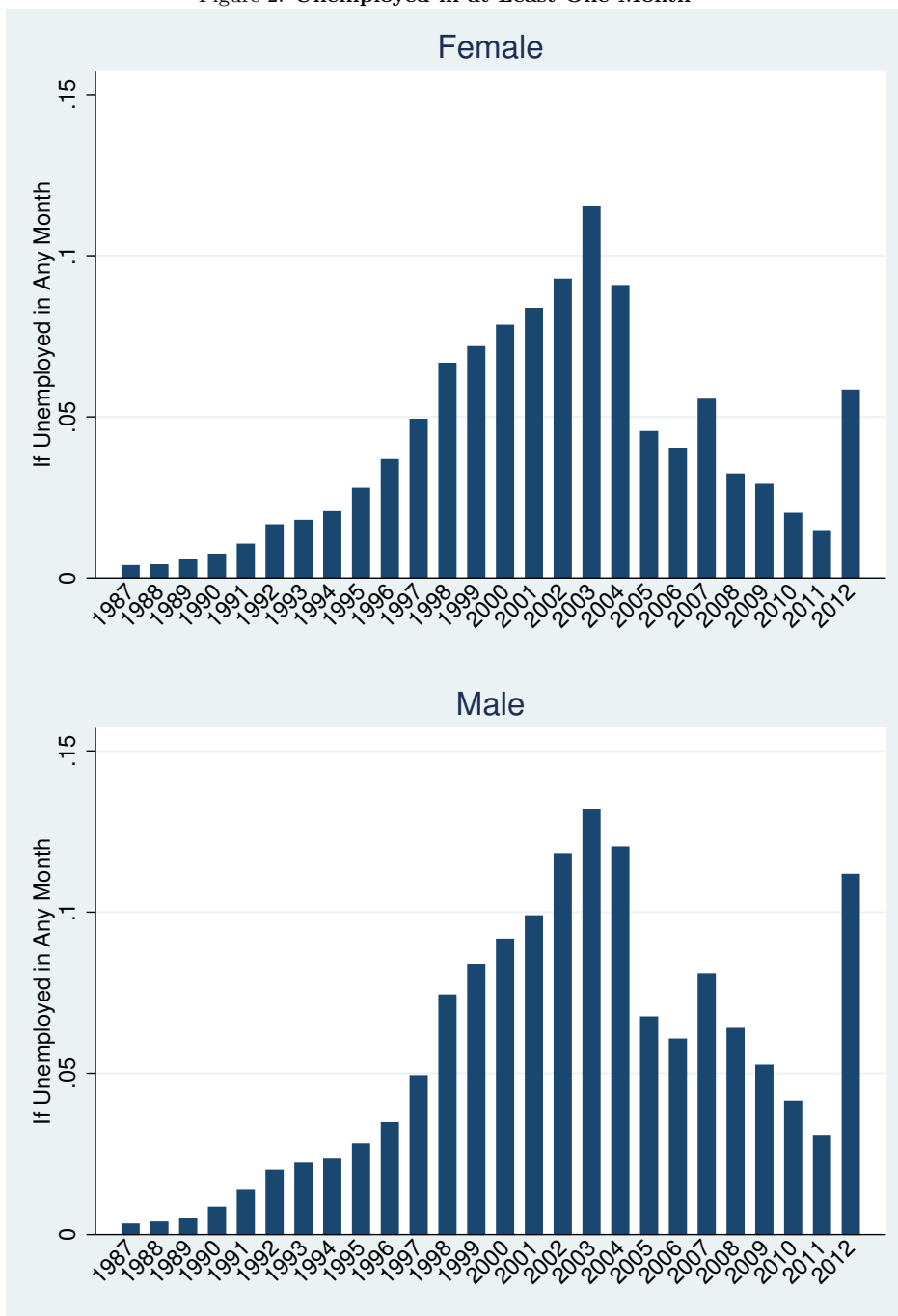

Male

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Figure 3: **Exogenous Labor Market Shock**
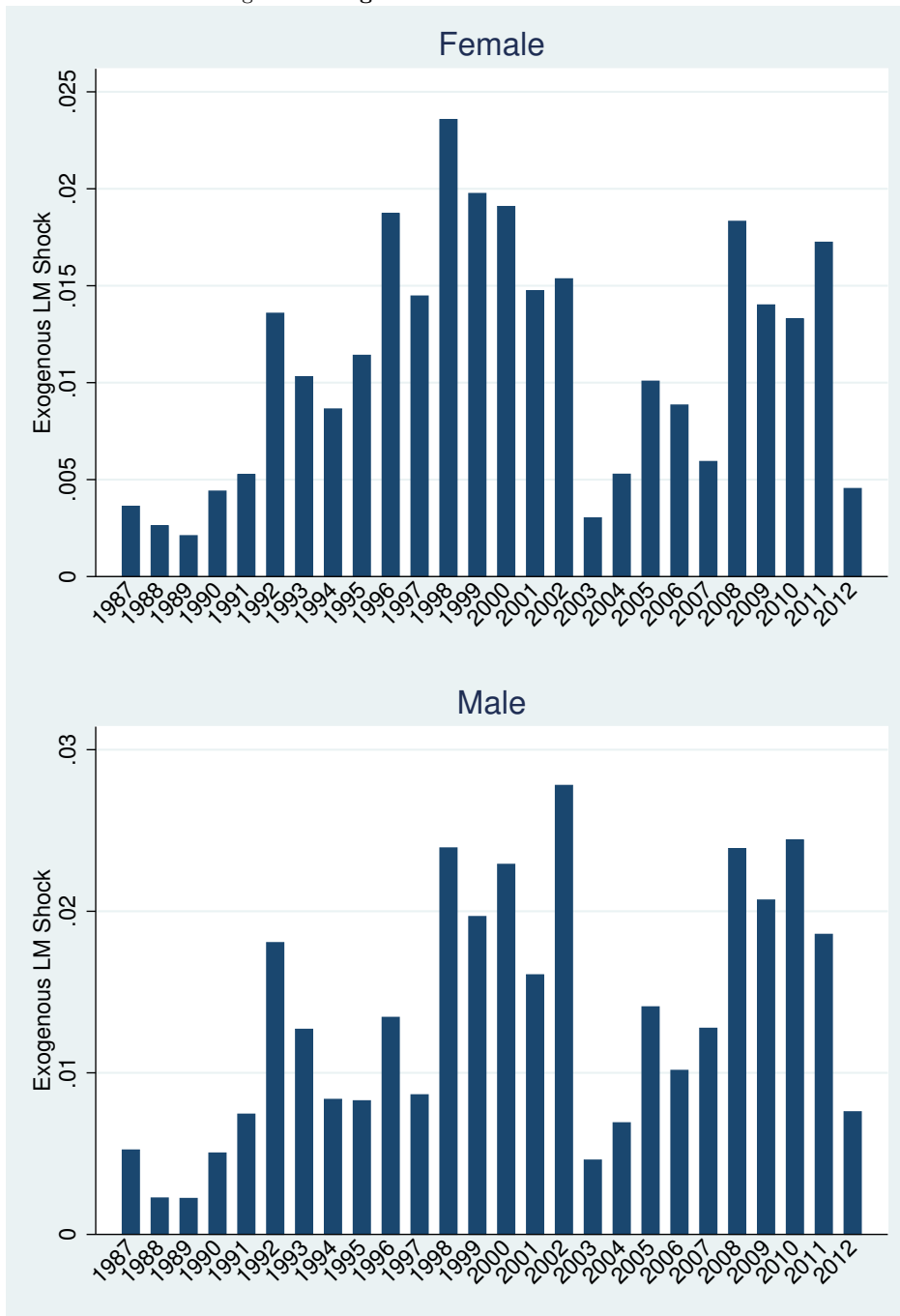
Female

Male

Figure 4: **Life Satisfaction Age Trajectories by Unemployment Experience**
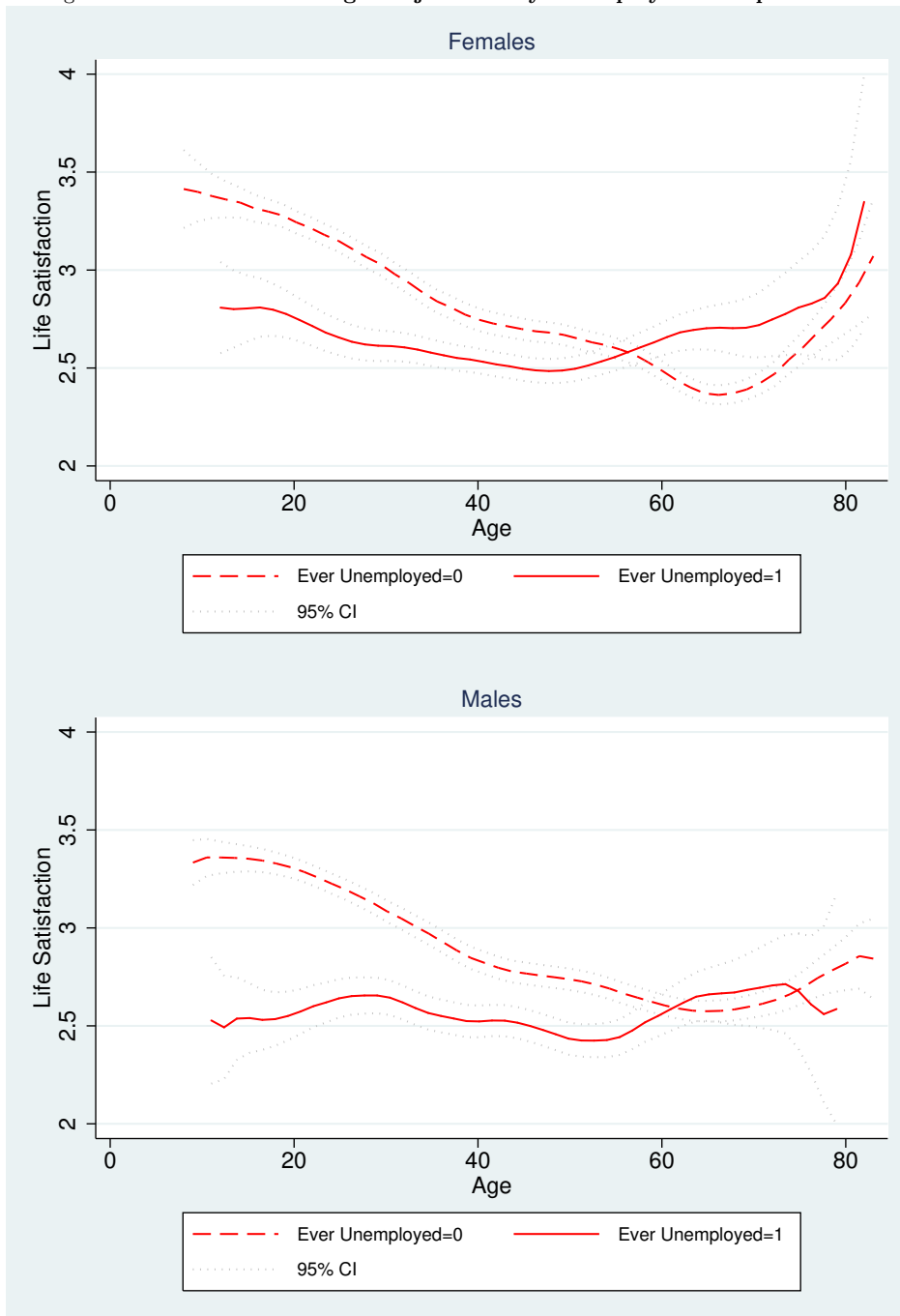
Figure 5: **Life Satisfaction Age Trajectories by Exogenous Labor Market Shock**
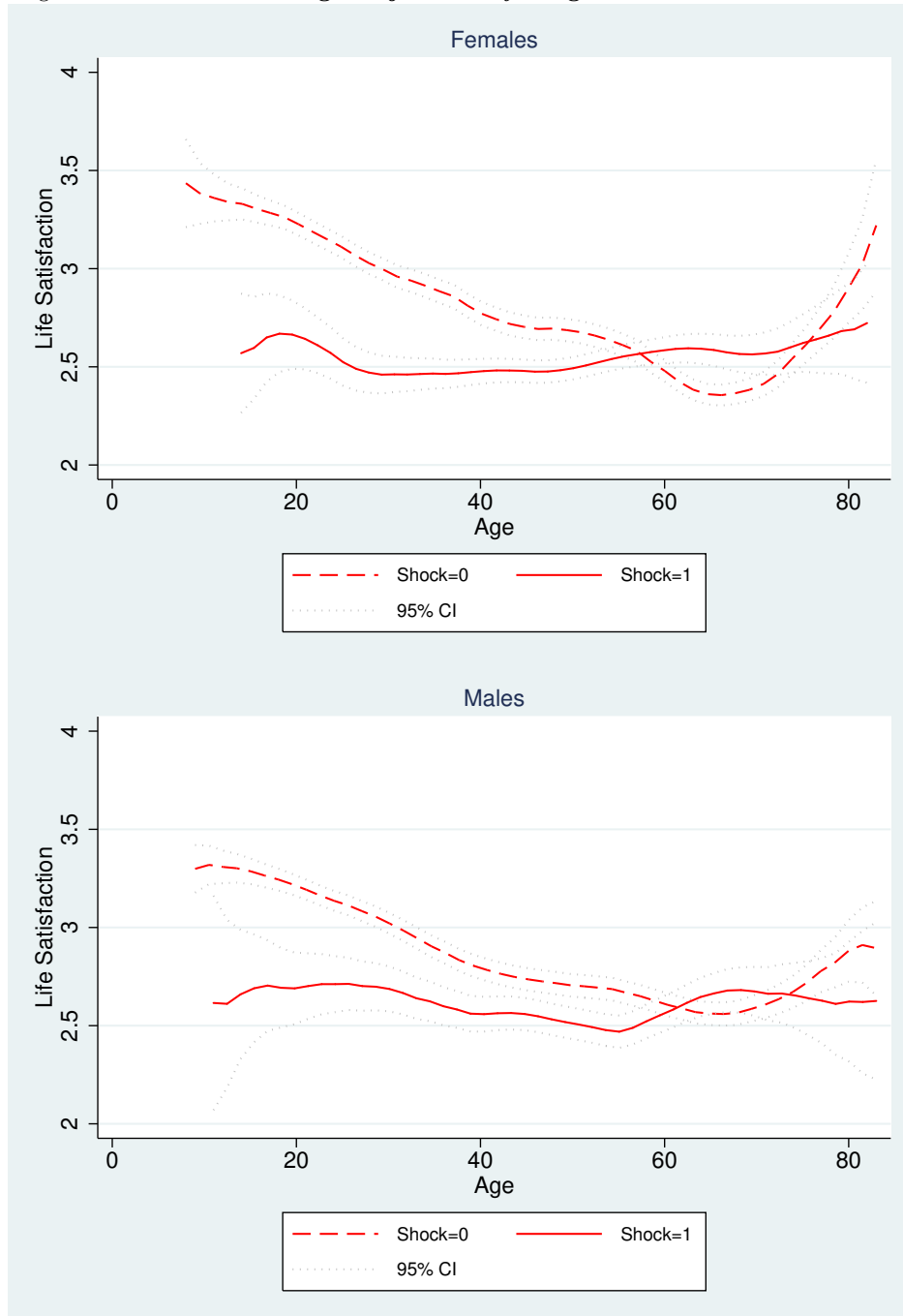
Table 1: **Descriptive Statistics**

	Women			Men		
	If ever unemployed			If ever unemployed		
	No	Yes	α	No	Yes	α
Level of life satisfaction	2.67	2.62	*	2.77	2.60	***
	(1.18)	(1.15)		(1.19)	(1.18)	
Whether satisfied with life	0.29	0.27		0.33	0.27	***
	(0.45)	(0.44)		(0.47)	(0.44)	
Past cumulative unemployment (in months)		44.05			37.17	
		(42.47)			(39.12)	
Past unemployment share		0.22			0.17	
		(0.22)			(0.19)	
If unemployed (in current year)		0.15			0.15	
		(0.36)			(0.36)	
If currently unemployed	0.02	0.10	***	0.02	0.13	***
	(0.14)	(0.30)		(0.14)	(0.34)	
Regional unemployment rate	3.08	3.21	*	3.14	3.34	**
	(2.40)	(2.48)		(2.38)	(2.42)	
If employed part-time	0.08	0.08		0.05	0.04	
	(0.27)	(0.27)		(0.21)	(0.20)	
If self-employed	0.04	0.07	***	0.07	0.13	***
	(0.19)	(0.25)		(0.25)	(0.33)	
If a carer	0.09	0.10		0.01	0.02	***
	(0.29)	(0.30)		(0.07)	(0.13)	
If not in the labor market	0.29	0.23	***	0.22	0.17	***
	(0.45)	(0.42)		(0.42)	(0.37)	
If native	0.87	0.85	**	0.88	0.89	
	(0.33)	(0.35)		(0.32)	(0.31)	
If married	0.71	0.72		0.88	0.86	
	(0.45)	(0.45)		(0.33)	(0.35)	
Number of children	1.76	1.79	*	1.69	1.72	
	(0.85)	(0.86)		(0.89)	(0.93)	
If in good health	0.19	0.22	***	0.31	0.34	**
	(0.39)	(0.41)		(0.46)	(0.47)	
If a Bachelor's degree or higher	0.20	0.14	***	0.16	0.12	***
	(0.40)	(0.35)		(0.37)	(0.33)	
Household income per capita (in thsnd UAH)	0.75	0.72	**	0.77	0.69	***
	(0.71)	(0.60)		(0.73)	(0.62)	
Ln(Household income per capita)	6.17	6.08	***	6.19	5.99	***
	(1.34)	(1.51)		(1.38)	(1.55)	
Age (in years)	46.74	44.67	***	46.35	44.61	***
	(12.40)	(10.58)		(12.55)	(11.19)	
Observations	7,337	1,999		4,558	1,675	

Notes: The sample is based on the 2003, 2004, 2007 and 2012 waves of the Ukrainian Longitudinal Monitoring Survey (ULMS). The columns titled α report the significance levels for the two-sample t-tests for the mean differences between those who were never unemployed and to those were unemployed (separately for women and men). [*** $p-$value$< 1\%$, ** $p-$value$< 5\%$, * $p-$value$< 10\%$].

Table 2: **Single Mechanism of Unemployment: Scarring Mechanism**

	Women		Men	
	Pooled	FE	Pooled	FE
	(1)	(2)	(3)	(4)
Past cumulative unemployment	-0.002***	-0.002	-0.002**	0.002
	(0.000)	(0.002)	(0.001)	(0.003)
If currently unemployed	-0.432***	-0.271***	-0.666***	-0.348***
	(0.059)	(0.073)	(0.063)	(0.084)
If employed part-time	-0.043	-0.120**	-0.134*	-0.008
	(0.044)	(0.053)	(0.069)	(0.082)
If self-employed	-0.004	-0.065	0.072	0.004
	(0.064)	(0.081)	(0.060)	(0.087)
If a carer	-0.151***	-0.117**	-0.812***	-0.712***
	(0.043)	(0.058)	(0.143)	(0.176)
If not in the labor market	-0.213***	-0.190***	-0.398***	-0.272***
	(0.035)	(0.050)	(0.043)	(0.072)
If native	-0.061	0.000	-0.038	0.000
	(0.040)	(.)	(0.050)	(.)
If married	0.204***	0.196***	0.213***	0.147*
	(0.028)	(0.051)	(0.048)	(0.082)
Number of children	-0.044**	-0.099**	0.009	-0.020
	(0.018)	(0.050)	(0.020)	(0.053)
If in good health	0.435***	0.293***	0.373***	0.193***
	(0.032)	(0.040)	(0.035)	(0.045)
Ln(Household income per capita)	0.074***	0.025**	0.040***	0.005
	(0.011)	(0.011)	(0.013)	(0.014)
If a Bachelor's degree or higher	0.352***	-0.103	0.284***	0.156
	(0.035)	(0.104)	(0.045)	(0.163)
Age < 20	-0.074	-0.058	-0.105*	-0.045
	(0.049)	(0.072)	(0.061)	(0.103)
20 ≤ Age < 30	-0.028***	-0.035**	-0.013	0.014
	(0.009)	(0.014)	(0.011)	(0.021)
30 ≤ Age < 40	-0.009	0.004	-0.016**	-0.005
	(0.006)	(0.010)	(0.007)	(0.013)
40 ≤ Age < 50	-0.003	0.004	-0.002	0.005
	(0.005)	(0.009)	(0.006)	(0.012)
50 ≤ Age < 60	0.004	0.008	0.004	0.013
	(0.005)	(0.009)	(0.006)	(0.012)
Age ≥ 60	-0.041***	-0.027*	0.012	0.018
	(0.012)	(0.016)	(0.016)	(0.023)
Observations	9,336	9,336	6,233	6,233
R^2	0.21	0.13	0.20	0.11

Notes: The dependent variable is life satisfaction. The age variables are constructed using the *mkspline* command in Stata. All the regressions contain regional and wave dummies. The R^2 reported for the FE regressions are the within R^2. The entire results for the reported regressions are available upon request. The analytic sample has repeated observations on 3,709 women and 2,716 men. Fully robust standard errors are shown in parentheses [*** $p-$value$< 1\%$, ** $p-$value$< 5\%$, * $p-$value$< 10\%$].

Table 3: **Single Mechanism of Unemployment: Scarring and Adaptation**

	Scarring				Adaptation			
	Women		Men		Women		Men	
	Pooled	FE	Pooled	FE	Pooled	FE	Pooled	FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
If currently unemployed$_t$	-0.396***	-0.277***	-0.610***	-0.289***	-0.405***	-0.242***	-0.685***	-0.361***
	(0.073)	(0.086)	(0.081)	(0.104)	(0.072)	(0.083)	(0.078)	(0.100)
If unemployed$_t$	-0.073	-0.040	-0.091	-0.027				
	(0.071)	(0.083)	(0.090)	(0.110)				
If unemployed$_{t-1}$	-0.166**	-0.099	-0.108	-0.019				
	(0.077)	(0.087)	(0.088)	(0.107)				
If unemployed$_{t-2}$	0.102	0.069	-0.102	0.011				
	(0.090)	(0.097)	(0.095)	(0.108)				
If unemployed$_{t-3}$	-0.076	-0.079	0.062	0.069				
	(0.076)	(0.082)	(0.083)	(0.096)				
If unemployed$_t - 4$	0.030	0.080	-0.115	-0.091				
	(0.079)	(0.087)	(0.086)	(0.103)				
If unemployed$_{t-5}$	-0.096	-0.043	0.047	0.097				
	(0.066)	(0.080)	(0.076)	(0.099)				
If unemployed consecutively$_t$					-0.062	-0.157	0.033	0.138
					(0.132)	(0.147)	(0.133)	(0.166)
If unemployed consecutively$_{t-1}$					-0.270	-0.035	-0.236	-0.390
					(0.198)	(0.262)	(0.244)	(0.248)
If unemployed consecutively$_{t-2}$					0.103	0.042	-0.258	0.070
					(0.239)	(0.328)	(0.237)	(0.249)
If unemployed consecutively$_{t-3}$					0.083	0.218	0.287	0.233
					(0.250)	(0.297)	(0.216)	(0.268)
If unemployed consecutively$_{t-4}$					-0.088	-0.020	0.014	-0.266
					(0.245)	(0.234)	(0.331)	(0.354)
If unemployed consecutively$_{t-5}$					-0.043	-0.171	-0.048	0.242
					(0.203)	(0.212)	(0.317)	(0.351)
Observations	8,427	8,427	5,419	5,419	9,235	9,235	6,135	6,135
R^2	0.21	0.14	0.21	0.11	0.21	0.13	0.20	0.11

Notes: The dependent variable is life satisfaction. The R^2 reported for the FE regressions are the within R^2. All the regressions contain regional and wave dummies. The entire results for the reported regressions are available upon request. Fully robust standard errors are shown in parentheses [*** $p-$value$< 1\%$, ** $p-$value$< 5\%$, * $p-$value$< 10\%$].

Table 4: **Single Mechanism of Unemployment: Social Comparisons**

	Women		Men	
	Pooled	FE	Pooled	FE
	(1)	(2)	(3)	(4)
If currently unemployed	-0.446***	-0.248**	-0.665***	-0.105
	(0.075)	(0.101)	(0.079)	(0.122)
Regional unemployment rate	-0.007	0.004	-0.019**	-0.025
	(0.007)	(0.012)	(0.009)	(0.017)
If currently unemployed×Regional unemployment rate	-0.019	-0.060*	0.021	0.006
	(0.025)	(0.036)	(0.026)	(0.038)
Observations	6,870	6,870	4,688	4,688
R^2	0.19	0.10	0.18	0.09

Notes: The dependent variable is life satisfaction. All the regressions contain regional and wave dummies. All the regressions are based on the 2003, 2004, and 2007 waves only since regional unemployment rates are not available for 2012. The regional unemployment rate is demeaned. The R^2 reported for the FE regressions are the within R^2. The entire results for the reported regressions are available upon request. Fully robust standard errors are shown in parentheses [*** $p-$value$< 1\%$, ** $p-$value$< 5\%$, * $p-$value$< 10\%$].

Table 5: **Multiple Mechanisms of Unemployment**

	Women				Men			
	Pooled (1)	FE (2)	Pooled (3)	FE (4)	Pooled (5)	FE (6)	Pooled (7)	FE (8)
Panel A:	Scaring and Adaptation Mechanisms							
If currently unemployed	-0.518***	-0.363***	-0.463***	-0.344***	-0.713***	-0.348***	-0.773***	-0.180
	(0.067)	(0.082)	(0.084)	(0.106)	(0.074)	(0.100)	(0.109)	(0.149)
Past unemployment share	-0.377***	-0.627			-0.397***	-0.071		
	(0.098)	(0.413)			(0.150)	(0.392)		
If currently unemployed× Past unemployment share	0.670***	0.760**			0.353	-0.035		
	(0.251)	(0.320)			(0.336)	(0.462)		
If ever unemployed			-0.130***	-0.188			-0.196***	0.003
			(0.032)	(0.115)			(0.038)	(0.108)
If currently unemployed× If ever unemployed			0.080	0.154			0.215	-0.247
			(0.113)	(0.139)			(0.131)	(0.175)
Observations	9,336	9,336	9,336	9,336	6,233	6,233	6,233	6,233
R^2	0.21	0.13	0.21	0.13	0.20	0.11	0.20	0.11
Panel B:	Social Comparisons, Scaring, and Adaptation Mechanisms							
If currently unemployed	-0.559***	-0.338***	-0.515***	-0.338**	-0.679***	-0.138	-0.698***	0.074
	(0.085)	(0.112)	(0.109)	(0.143)	(0.090)	(0.141)	(0.127)	(0.198)
Regional unemployment rate	-0.006	0.004	-0.006	0.004	-0.019**	-0.025	-0.019**	-0.025
	(0.007)	(0.012)	(0.007)	(0.012)	(0.009)	(0.017)	(0.009)	(0.017)
If currently unemployed×Regional unemployment rate	-0.021	-0.062*	-0.018	-0.058	0.020	0.007	0.021	0.006
	(0.024)	(0.036)	(0.025)	(0.036)	(0.026)	(0.038)	(0.026)	(0.037)
Past unemployment share	-0.331***	0.156			-0.414**	-0.452		
	(0.126)	(0.516)			(0.183)	(0.577)		
If currently unemployed× Past unemployment share	1.057***	0.714			0.402	0.344		
	(0.326)	(0.463)			(0.423)	(0.719)		
If ever unemployed			-0.140***	-0.176			-0.172***	0.091
			(0.039)	(0.143)			(0.045)	(0.147)
If currently unemployed× If ever unemployed			0.201	0.185			0.156	-0.271
			(0.140)	(0.184)			(0.154)	(0.235)
Observations	6,870	6,870	6,870	6,870	4,688	4,688	4,688	4,688
R^2	0.19	0.10	0.19	0.10	0.18	0.09	0.18	0.09

Notes: The dependent variable is life satisfaction. All the regressions contain regional and wave dummies. All the regressions in Panel B are based on the 2003, 2004, and 2007 waves only since regional unemployment rates are not available for 2012. The regional unemployment rate is demeaned. The R^2 reported for the FE regressions are the within R^2. The entire results for the reported regressions are available upon request. Fully robust standard errors are shown in parentheses [*** $p-$value< 1%, ** $p-$value< 5%, * $p-$value< 10%].

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