Self-employment, financial development and well-being: Evidence from China, Russia and Ukraine

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This paper investigates the impact of financial development on entrepreneurs' well-being. Using longitudinal data from China, Russia and Ukraine, we find that Chinese and Russian entrepreneurs experience a higher level of well-being while the Ukrainian self-employed are prone to dissatisfaction. We also observe that the extent to which financial development can improve entrepreneurs' utility differs across countries. First, the development of formal financial sector does not affect Chinese entrepreneurs' happiness. Second, greater financial development increases life satisfaction of Ukrainian self-employed but decreases Russian entrepreneurs' job satisfaction. The results suggest that financial development could affect well-being through both monetary and nonmonetary channels.

JEL classification: J24; J28; O16

Keywords: Entrepreneurship, self-employment, satisfaction, financial development

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Highlights

- The self-employed in Ukraine are less happy compared to the paid employees.
- Chinese and Russian entrepreneurs experience a higher level of satisfaction.
- Chinese entrepreneurs' satisfaction is not affected by financial development.
- Financial development increases life satisfaction of Ukrainian's self-employed.
- Job satisfaction of Russian's entrepreneurs reduces with financial development.

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1 Introduction

Entrepreneurs are generally recognized as successful and iconic figures and they are romanticized by the public (The Economist, 2014). They get great support from the government, politicians and school textbooks praise them, resulting in a growing number of start-ups every year (Bergmann et al., 2016). However, in reality, being entrepreneurs is a difficult work because of the high failure rate. Even successful entrepreneurs have to face different challenges at various stages of their venture development. Further, it has been observed that entrepreneurs do not have work-life balance and they neglect their own well-being (Louie, 2016). Thus, the reasons why people choose to be self-employed have attracted attention of numerous scholars.

It has been shown that entrepreneurial utility is an important factor that drives people to enter self-employment in developed countries (e.g., Blanchflower, 2000; Bradley and Roberts, 2004). The positive relationship between self-employment and well-being has been explained by a number of socio-demographic factors. More specifically, entrepreneurs' big-five personality traits have positive influence on their job satisfaction (Berglund et al., 2016; Heller et al., 2002).[1] Entrepreneurial satisfaction is also related to job independence, including flexibility and autonomy in creating and shaping jobs, as well as job self-efficacy (Lange, 2012; Schneck, 2014). Another reason is the lower expectation about jobs exhibited by entrepreneurs, which makes the self-employed easier to be satisfied compared to the paid workers (Millán et al., 2013). Self-employed individuals also report less work-related stress (Hessels et al., 2017), resulting in the lower level of depression and higher satisfaction level (Bradley and Roberts, 2003).

[1] Big-five personality traits include extraversion (involves going out with friends and being energetic), agreeableness, conscientiousness (planning rather than being spontaneous), emotional stability, and openness to experience.

Nonetheless, self-employed individuals are not always happier than the wage employees as the level of satisfaction is determined not only by employment types but also by employment motivation. For example, Block and Koellinger (2009) find dissatisfaction among necessity entrepreneurs who experienced a long period of unemployment before starting their own businesses. Similarly, Indonesian self-employed are less happy with their jobs compared to the paid employees because of involuntary self-employment (Kwon and Sohn, 2017). In addition, Cassar (2010) argues that the self-employed in Chile experience the higher level of job satisfaction compared to the wage earners only when job protection and occupational hazard are taken into account.

The existing studies mainly focus on psychological factors and work environment to explain occupational choice and entrepreneurial utility. In fact, entrepreneurship is also related closely to institutional setup and economic conditions such as economic opportunities and the quality of governance (Thai and Turkina, 2014). A growing literature has documented that financial development encourages self-employment by increasing the credit availability to entrepreneurs (e.g., Black and Strahan, 2002; Bruhn and Love, 2014). Hence, it raises the question of to what extent the development of financial sector could improve entrepreneurs' well-being. This question has been addressed by Bianchi (2012) who finds that greater financial development allows entrepreneurs to enjoy the higher level of job independence, thus making entrepreneurs happier.

Building upon Bianchi's work (2012), this paper also investigates the effect of financial development on utility differences between the self-employed and the paid employees. Yet, our study is different in a number of ways. First, Bianchi (2012) explains the positive effect of financial development on entrepreneurial utility through the non-monetary benefits such as job independence. However, we argue that financial development could affect satisfaction of the self-employed through both monetary channels like economic growth and nonmonetary channels such as easing the credit constraints. Second, Bianchi (2012) employs job satisfaction as an indicator of entrepreneurial utility. Given that job satisfaction and life satisfaction are two separate conceptual entities (Schjoedt and Shaver, 2007),

we document both two types of satisfaction to provide a broader picture of entrepreneurs' well-being. Third, results from Bianchi's study might be driven by the predominance of individuals in developed countries that have high quality of life and strong economy. In this study, we investigate entrepreneurial utility in the context of emerging economies with lower levels of living standard and economic development. Fourth, Bianchi (2012) measures financial development at country-level that might not necessarily reflect the development at regional levels. Instead, we focus on local financial development within a single country to control for (1) country-specific characteristics and (2) the variation in the effect of financial development across regions within a country.

We examine the level of entrepreneurs' satisfaction in three emerging economies including China, Ukraine and Russia. We choose these countries for several reasons. First, all three countries experience a significant change in entrepreneurship and in financial system following economic reforms in 1990s. However, different reform paths were adopted, resulting in the differences in levels of financial and entrepreneurship development. This provides a unique setting for comparing the effect of financial development on entrepreneurial satisfaction. Second, the fast-economic changes in these countries offer an ideal case to test the hypothesis that financial development could affect satisfaction by relaxing financial constraints. It is because the individuals in these countries are less likely to have significant personal wealth for their business (Earle and Sakova, 2000). Hence, in most cases, they have to rely on external finance during the venture development. Third, data from World Values Survey suggest that the relationship between financial development and entrepreneurs' well-being in these countries is in line with the trend in other countries (see Appendix B). Thus, results from our study are not country-specific but can be generalized to other emerging economies.

Data in this study are collected from three sources including the 2013 China Household Income Project, the 2007 and 2012 waves of Ukrainian Longitudinal Monitoring Survey and the 2007-2013 waves of Russian Longitudinal Monitoring Survey. The self-reported level of satisfaction in the

surveys allows us to assess individuals' life satisfaction and job satisfaction.[2] These datasets also provide comprehensive information about individuals' demographic factors as well as information relating to individuals' jobs that might affect individuals' utility. Our estimation sample consists of 3,399 individuals in Ukraine, 9,722 individuals in China and 9,437 individuals in Russia.

Our findings suggest that entrepreneurs in China and Russia are happier compared to the paid employees while the opposite is observed in Ukraine. Further examination shows that the impact of financial development on entrepreneurial utility varies across countries and satisfaction indicators. While financial development does not affect Chinese entrepreneurs' satisfaction, it improves life satisfaction of Ukrainian self-employed and reduces job satisfaction among Russian entrepreneurs. These results are interpreted in the following ways. First, Chinese entrepreneurs are more likely to rely on external finance from informal sector. Thus, the development of formal financial sector is not associated with entrepreneurial well-being. Second, financial development could affect well-being through both monetary and nonmonetary factors, resulting in different effects on life and job satisfaction. On the one side, the higher level of financial development could boost economic growth, making all individuals better off. On the other side, greater financial development could result in more credit availability and better credit allocation that might relax the financial constraints and encourage individuals to enter self-employment. As a result, the level of competition in the market increases, making existing entrepreneurs less satisfied at work.

The rest of this paper is organized as follows. Section 2 reviews the literature on occupational choice and entrepreneurs' satisfaction. Section 3 gives an overview about entrepreneurship in Ukraine, China and Russia. Section 4 illustrates the empirical strategy and data summary. Section 5 discusses empirical results. Section 6 concludes and provides implications.

[2] Job satisfaction is reported in the Ukrainian and Russian surveys. Life satisfaction is reported in surveys in all three countries.

2 Literature review

2.1 What makes an entrepreneur?

What factors drive individuals' choice of entering self-employment? This question has been well documented in previous economics research that can be divided into three main strands. The first strand has assessed utility maximization as a key driver of self-employed motivation (Douglas and Shepherd, 2002; Eisenhauer, 1995). It is argued that an individual chooses to be self-employed if the utility from self-employment is higher than the utility from paid employment. In Eisenhauer's model (1995), entrepreneurial utility depends on both wealth and working conditions. Consequently, individuals choose to be entrepreneurs if self-employment can help them improve wealth and provide better working conditions compared to paid employment. Using a job utility function of income, risk, required work effort and independence, Douglas and Shepherd (2000) argue that an individual decides to be self-employed if the expected total utility derived from self-employment is higher than that derived from the best employment option. Lévesque et al. (2002) extend this entrepreneurial intention model with a variation in individuals' attitudes to employment attributes to explain the changes in a person's job status over time. More specifically, a person starting career as a salaried employee might get most utility from shifting to self-employment due to the income difference. However, the marginal utility of self-employment reduces with ages. Hence, this person might shift back to salaried employment at the final stage of career to derive most utility.

The second strand focuses on "*pull*" or "*push*" factors that affect occupational choice (Block and Koellinger, 2009; Earle and Sakova, 2000; Van Stel et al., 2007). Studies on "*push*" factors suggest that individuals are pushed into self-employment due to negative external forces such as the lack of paid job opportunities (Earle and Sakova, 2000) or the failure in looking for a paid job (Carrasco, 1999; Evans and Leighton, 1989). This type of self-employment is referred to as necessity entrepreneurship. In contrast, some individuals become entrepreneurs because of "*pull*" factors such as market

opportunities (Liu and Huang, 2015; Shane, 2000) or the desire of creativity and independence at work (Block and Koellinger, 2009). These entrepreneurs are referred to as opportunity entrepreneurs.

The third strand of literature suggests that access to finance is another important determinant of entrepreneurship. Conventional argument is that financial constraints are binding on the self-employment entry and stay. As a consequence, easing financial constraints could rise the rate of entry. For example, it is suggested that family or personal wealth increases the probability of being self-employed (Evans and Leighton, 1989; Johansson, 2000). Additional evidence for the liquidity constraints on potential entrepreneurs is found in later studies when personal finance is documented by inheritance or gift (Blanchflower and Oswald, 1998) or windfall gains (Lindh and Ohlsson, 1996). More specifically, windfall gains increase the probability of entering into self-employment and the value of the gains is significantly related to this probability (Schäfer et al., 2011). Furthermore, distinguishing the effects of individual wealth and family financial resources on transition into self-employment from paid employment, Dunn and Holtz-Eakin (2000) find a greater influence of parents' wealth. This is explained by the impartation of entrepreneurial skills from parents to offspring.

2.2 Entrepreneurial satisfaction

Given that self-employment motivation might be driven by the expected utility, a growing literature has compared the level of satisfaction or happiness between the wage employees and the self-employed. Most studies find that entrepreneurs report a higher level of total utility or job satisfaction compared to regular employees (e.g., Bianchi, 2012; Blanchflower and Oswald, 1998). This entrepreneurial utility might be explained by a number of socio-demographic factors. Blanchflower and Oswald (1998) show that self-employed individuals might be more optimistic and cheerful, resulting in a higher level of happiness. Although big-five personality traits have positive effects on job satisfaction of both the self-employed and the paid workers (Berglund et al., 2016; Heller et al., 2002), some traits like emotional stability matter more for entrepreneurial utility. Berglund et al. (2016) indicate that self-employment implies high demands for social contracts, meaning that the high degrees

of extraversion and agreeableness are important for job satisfaction. In addition, entrepreneurs are connected with needs for achievement and goal orientation, indicating that a high level of conscientiousness is the key factor to achieve a higher degree of job satisfaction.

Entrepreneurial satisfaction is also related to job independence, including flexibility and autonomy in creating and shaping jobs as well as job self-efficacy. More specifically, procedural utility theory (Benz and Frey, 2004, 2008) suggests that people do not only value the outcomes of the job but also the process leading to the outcomes. Using data from Germany, UK and Sweden, Benz and Frey (2008) find a higher level of job satisfaction among the self-employed after controlling for job characteristics such as income or working hours. This utility is explained by the independence role at work enjoyed by the self-employed. The positive impact of procedural freedom and autonomy on entrepreneurs' satisfaction is also documented by Lange (2012) and Schneck (2014). In particular, Lange (2012) observes that personality traits and values do not drive the utility difference between self-employment and paid-employment. In contrast, the ability to perform freedom, creativity and autonomy at work leads to a higher level of entrepreneurial utility.

The satisfaction of entrepreneurs could be also explained by the discrepancy theory documenting the gap between actual outcomes and individuals' goals or expectations (e.g., Locke, 1976). Millán et al. (2013) suggest that the self-employed tend to have a lower expectation, thus it is easier for entrepreneurs to be satisfied compared to the paid workers. However, the higher initial expectation might lead to higher entrepreneurs' satisfaction later. This relationship is possibly driven by the positive attitudes towards businesses regardless of performance (Cooper and Artz, 1995). Furthermore, entrepreneurs' well-being might be related to job security. The self-employed could have a higher expectation on job security due to the belief of survival ability (Hundley, 2001). If this positive expectation is not met in practice, entrepreneurs would be less happy compared to the wage employees (Millán et al., 2013). Additionally, the self-employed often report less work-related stress (Hessels et

al., 2017), resulting in the lower level of depression and the higher satisfaction level (Bradley and Roberts, 2003).

Recent studies by Hanglberger and Merz (2015) or Georgellis and Yusuf (2016) show that the positive impact of self-employment on satisfaction is only temporary. More specifically, entering self-employment does increase individuals' job satisfaction but the level of satisfaction is likely to decline over time. This finding is in line with the literature about the relationship between job change and job satisfaction (e.g., Boswell et al., 2005; Boswell et al., 2009). The short-term effect of self-employment on job satisfaction is then explained by the set-point theory suggesting that each individual has a set-point level of well-being and this set point could be influenced by life events (Headey and Wearing, 1989). However, since individuals have capacity to adapt the changes, their happiness tends to return to the predetermined level over time (Cummins, 2000).

3 Entrepreneurship in China, Ukraine and Russia

The labor markets in Ukraine, China and Russia share some comparable features as they all experience the shift from centralized economies to market-oriented economies in 1990s. Before the economic reforms, the large and inefficient state-owned enterprises dominated these economies and full employment was an ideological goal (Lo, 2000). In contrast, the social norms relating to the Communist ascendancy prevented people from entrepreneurial works. In 1990s, these countries adopted economic reforms which results in the growth of entrepreneurship.

Private ownership in China was introduced in 1980s then fully legitimized after 1992. The development of self-employment in China is different from Ukraine and Russia in the way that it is partially mediated by the household registration system. The system in which each citizen has a registration status, classified as either urban or rural, is used to prevent the rural-to-urban migratory flows. Under this social structure, non-urban residents are not eligible for social welfare and other rights that are available for the urban class. Given this fact, rural residents are motivated to be self-employed as earning money is the only way to overcome the disadvantages they face. Different from

them, urban residents have opportunities to enter self-employment due to the economic and political advancement (Wu, 2006).

Although entrepreneurial activities did exist in Russia and Ukraine during the Soviet Union era, they were considered as shadow, or illegal economy. Entrepreneurship in these two countries was legitimated following the collapse of Soviet Union and economic reforms, resulting in a significant growth of entrepreneurship. However, the self-employed often report that the business environment is unfavorable. For example, Russian entrepreneurs face the issues relating to cultural values and practices like tax avoidance or bureaucratic problems like political network reliance (Puffer et al., 2010). Similarly, most Ukrainian entrepreneurs have to pay the unofficial payment related to enterprise registration to the government (Johnson et al., 2000). Additionally, the different paces of reform process within countries have led to differences between rural and urban entrepreneurs (Kalantaridis et al., 2004; 2007). More specifically, individuals in rural areas are discouraged to become self-employed due to local resistance. Hence, entrepreneurial activities in rural areas are less diverse and are more influenced by the traditional norms and behaviors.

In general, there are some similarities among entrepreneurs in China, Russia and Ukraine. For example, entrepreneurs in these countries are more likely to be male, married and well-educated (Ahlstrom and Ding, 2014; Hisrich and Grachev, 1995; Smallbone and Welter, 2001). Also, the self-employed in three countries often report limited external finance as one of the major obstacles impeding their venture development (Ahlstrom and Ding, 2014; Johnson et al., 2010; Smallbone et al., 2010). However, entrepreneurship in each country also has its homogeneity. Chinese entrepreneurs tend to be innovative, greedy, risk-taking and overly optimistic (Tan, 2001; Djankov et al., 2006). As most Russian entrepreneurs are opportunity entrepreneurs (Ageev et al., 1995), they are confident, energetic, more opportunistic and competitive (Puffer and McCarthy, 2001). In Ukraine, the collapse of state socialism resulted in the decline in military good demand that led to the increasing number of dismissed workers working for military good producers. Thus, highly educated people were pushed

into running their own businesses (Roberts and Tholen, 1998; Solesvik et al., 2012; Williams et al., 2009). Besides, the improvement in income also motivates Ukrainian individuals to enter self-employment (Aidis et al., 2007; Smallbone and Welter, 2001).

4 Empirical strategy and data description

4.1 Empirical strategy

Our empirical specification is motivated by the theoretical model on individuals' occupational choice. Following previous studies (e.g., Evans and Jovanovic, 1989; Holtz-Eakin et al., 1994), we consider a representative agent that has to decide between being a paid worker and starting her own business. The utility function of a paid worker is $U^W = w + rA$ where A is the individual' personal assets, r is the deposit interest rate and w is the potential earned wage. The utility function of an entrepreneur is $U^S = \theta(A+b)^\alpha - Rb$ where θ is entrepreneurial ability, α is the return on investment, b is the loan borrowed from banks and R is interest rate charged. Here we assume a decreasing marginal return on investment ($0<\alpha<1$) and $r = R$. The individual wants to maximize U^S with respect to b, subject to $b \leq \bar{b}$ which implies the borrowing constraints:

$$b^* = (\alpha\theta)^{\frac{1}{1-\alpha}}(r+\lambda)^{\frac{1}{\alpha-1}} - A$$

where λ is the Lagrange multiplier associated with a borrowing constraint which can be interpreted as the shadow cost relating to extra borrowing.

Now the occupational choice depends on the utility difference reflected as follows.

$$D = U^S - U^W = \theta(A+b)^\alpha - rb - w - r$$

If the financial constraint is not binding ($\lambda=0$), we have the utility difference function:

$$D = \frac{1-\alpha}{\alpha}(\alpha\theta)^{\frac{1}{1-\alpha}} r^{\frac{\alpha}{\alpha-1}} - w$$

where D increases with higher entrepreneurial ability or lower interest rates. When the increase is high enough to make the entrepreneurial utility exceed wage, the individual would enter self-employment.

If financial constraint is binding, we have the utility difference function:

$$D = \frac{1}{\alpha}(\theta\alpha)^{\frac{1}{1-\alpha}}(r+\lambda)^{\frac{1}{\alpha-1}}[\lambda + r(1-\alpha)] - w$$

Here we have 2 scenarios. (1) If *w* is very low, then *D*>0 regardless of *r* and λ. As a result, there are entrepreneurs who are forced to enter self-employment due to too low wage earnings. These entrepreneurs are referred to as necessity entrepreneurs. (2) If the financial system is more developed, costs of borrowing (*r* and λ) could be lower, resulting in higher entrepreneurial utility. When the impact of financial development is great enough, *D*>0 which encourages individuals to enter self-employment.

Thus, results from our model suggest that the decision of becoming entrepreneurs is driven by either (1) "*pull*" factors like entrepreneurial ability and financial development or (2) "*push*" factors like low utility from wage employment.[3]

We employ the empirical model as follows (see Bianchi, 2012):

$$Satisfaction_i = \beta_0 + \beta_1 Self - employed_i + \beta_2 Financial\ development_r + \beta_3 Self - employed_i * Financial\ development_r + X_i\beta_4 + u_r + \varepsilon_i \quad (1)$$

where *i* refers to an individual and *r* refers to a region. We document two types of satisfaction including *Life satisfaction* and *Job satisfaction*. These variables are ranging from one to five. One indicates individuals who are "very dissatisfied" while five indicates the "very satisfied" status of individuals. *Self-employed* is a dummy which equals one if the person is self-employed, zero if the person is a paid employee. *Financial development* is the index of financial development of the region where the respondent lives. Adopting the World Bank's Global Financial Development Framework (2017a), we employ two different financial development indices. The first index is the relative loans to GDP ratio (*Loans/GDP*), calculated as the natural logarithm of *Loans/GDP* in a region minus the natural logarithm of the sample average *Loans/GDP*. The second index is the relative deposits to GDP ratio (*Deposits/GDP*), calculated as the natural logarithm of *Deposits/GDP* in a region minus the natural logarithm of the sample average *Deposits/GDP*. We use the relative instead of absolute term to

[3] The full model can be found in Appendix A.

examine whether an entrepreneur locating in a region where financial development level is below average is less happy than the peer locating in a region where financial development level is average. Using relative term also makes it easier to interpret the results.

We include a set of variables *X* to control for different individual and job characteristics. The U-shaped relationship between age and well-being suggested in previous studies (Blanchflower and Oswald, 2008; Clark et al., 1996) is captured by *Age* (the natural logarithm of an individual's age in the interviewing year) and *Age squared*. Following existing literature (e.g., Millán et al., 2013), we also control for gender (*Female*), educational attainment (*Education*), cohabiting status (*Married*) and health status (*Health*). More specifically, *Female* equals one if the individual is female, zero otherwise; *Married* equals one if the individual is married or cohabited, zero otherwise; *Health* is a vector of dummy variables indicating the individual's health condition with bad condition as the reference group. *Education* is a vector of dummy variables indicating the individual' highest educational level with secondary school or lower as the reference group. As working time is directly related to worker's health and well-being (Wooden et al., 2009), we include the natural logarithm of the average working hour per day (*Working hours*). Finally, u_r and ε_i are regional-specific effects and the error term, respectively.[4]

We estimate model (1) using ordered logit estimator. We first exclude *Financial development* and its interaction with *Self-employed* to test the difference in the level of satisfaction between the self-employed and the paid employees.[5] Next, model (1) is estimated with *Financial development* and its interaction with *Self-employed* to examine the role of financial development in facilitating entrepreneurial satisfaction.

[4] u_r includes (1) a dummy variable *Urban* that equals one if the respondent lives in urban areas, zero otherwise and (2) dummy variables *Region*.
[5] We exclude China from regressions with *Job satisfaction* as the dependent variable as this variable is not reported in the survey.

4.2 Data and sample

In the first part of study, we employ data from three sources including the 2013 wave of the China Household Income Project, the 2012 wave of the Ukrainian Longitudinal Monitoring Survey and the 2013 wave of Russian Longitudinal Monitoring Survey. These datasets provide comprehensive information about individuals' demographic factors as well as information relating to individuals' jobs that might affect individuals' well-being. Sample for each country is constructed using the following process. First, we categorize respondents according to their labor market status which is (1) wage employed, (2) self-employed and (3) unpaid employed and restrict the sample to include only the first and second categories. Second, we only keep observations that the respondent is in working age. After screening, our final sample consists of 3,399 individuals in Ukraine, 9,722 individuals in China and 9,437 individuals in Russia.

To investigate the impact of financial development on changes in occupation, we restrict our data as follows. For the sample of Ukrainian individuals, due to the gap in interview waves, we can only observe an individual's job status in 2007 and in 2012. We restrict the data to only the cases in which working-age individuals took part in both two waves and were employed in 2012. Data on Russian individuals are drawn from a pooled sample of observations from 2007 to 2013 (7 waves). We then keep only cases in which working-age individuals took part in at least two waves. As the individual identity numbers are not identical among different waves, we exclude China from this panel examination. Since we are interested in the transition into self-employment, we categorize respondents according to their labor market status which is (1) wage employed, (2) self-employed and (3) unemployed. After the filtering procedure, our panel estimation sample includes 4,072 observations in Ukraine and 32,713 observations in Russia.

Table 1 presents descriptive statistics for the 2013 wave of the China Household Income Project, the 2012 wave of the Ukrainian Longitudinal Monitoring Survey and the 2013 wave of Russian Longitudinal Monitoring Survey. In general, the level of life satisfaction and job satisfaction among

individuals in China, Russia and Ukraine is just above average at about 3.4 – 3.8. In all three countries, entrepreneurs account for less than 20 per cent of total employed individuals. On average, Ukrainian and Russian workers' age is about 40 years old while the average age of Chinese workers is slightly higher at about 45 years old. In addition, the number of female workers in China is significantly lower than the number of female counterparts in Ukraine and Russia. More specifically, only about 13 per cent of Chinese workers are females while this number in Ukraine and Russia is about 50 per cent. The number of married individuals in China accounts for about 90 per cent of Chinese individuals in the sample while the numbers of married Ukrainian and married Russian are about 70 per cent and 58 per cent, respectively. Most employed individuals in these countries do not have university education. To be precise, only 8.2 per cent of Chinese individuals have bachelor degree whereas the figures in Ukraine and Russia are 7.7 per cent and 30.8 per cent, respectively. The negative relative *Loans/GDP* ratio suggests that most regions in our samples have a lower level of access to credit relatively to the average. Notably, on average, the levels of access to finance in Ukraine, China and Russia are about 2.5 per cent, 4.8 per cent and 6.9 per cent lower than the relative sample mean, respectively. Most Ukrainian regions have larger financial institutions than the sample average as the relative *Deposits/GDP* ratio is positive. The opposite is observed in China and Russia given the negative *Deposits/GDP* ratios in these countries.

Table 2 presents summary statistics for sub-samples of self-employment and wage employment in each country. We observe that self-employment increases satisfaction in China and Russia while decreases the level of satisfaction in Ukraine. There are some similarities in entrepreneurship characteristics among three countries. For example, females tend to work as paid employees while most entrepreneurs are males. Further, individuals with higher educational level are less likely to become entrepreneurs. It might be because better-educated people have higher chance to be promoted as the wage employees, which encourages them to enter paid-employment. These characteristics are in line with previous studies which document entrepreneurship in China, Russia and Ukraine (e.g.,

Ahlstrom and Ding, 2014; Hisrich and Grachev, 1995; Smallbone et al., 2010). Further, individuals in rural China are discouraged from becoming self-employed, which could be caused by the geographic isolation as well as the lack of opportunities, human and economic resources (North and Smallbone, 2000; Sorenson and Audia, 2000). Meanwhile, we do not observe the significant difference in the level of entrepreneurship in rural and urban Ukraine. Moreover, Ukrainian entrepreneurs spend more time at work which is similar to the pattern in other countries (e.g., Berglund et al., 2016). Unlike this conventional pattern, Russian self-employed in our sample tend to spend less time at work compared to the wage counterparts which is consistent with findings from Blanchflower (2004). In terms of access to credit and size of financial intermediaries, there is no difference between Ukrainian entrepreneurs and wage workers while Russian entrepreneurs are more likely to be located in regions with higher level of financial development. Conversely, most Chinese entrepreneurs locate in less financially developed regions. This could be explained by the fact that rural Chinese individuals are motivated to be self-employed to overcome local disadvantages such as low level of financial development or poor economic conditions.

Table 3 shows the distribution of different levels of life and job satisfaction by job status and living areas. In Ukraine, about 15 per cent of the self-employed report that they are "very dissatisfied" in life while only about 8 per cent of the paid employees are "very dissatisfied". The proportions of individuals reporting "dissatisfied" are around 16 per cent for both self-employed and paid-employed groups. The dissatisfaction seems to be more severe in rural Ukraine as the percentage of "very dissatisfied" rural entrepreneurs are as twice as that of urban peers. The dissatisfaction among Ukrainian individuals is not surprising as it is acknowledged in other studies which employ data from the European Social Survey (Schneck, 2014) or the Living Conditions, Lifestyles and Health Project (Abbott and Sapsford, 2006). A recent study by Djankov et al. (2016) also shows that over the 2006-2014 period, less than 40 per cent of Ukrainian individuals are happy in life. In contrast, the individuals in China and Russia seem to be happier with around 50 per cent of individuals reporting that they are

"satisfied" with life. There is also not much difference in terms of satisfaction between rural and urban individuals in both China and Russia. This is in line with previous studies such as Appleton and Song (2008) or Knight et al. (2009) who also observe that very few individuals in both rural and urban China exhibit the lowest level of life satisfaction. In terms of job satisfaction, the majority of Russian individuals report that they are happy with work regardless of job status. By contrast, the job dissatisfaction among Ukrainian self-employed is observed. In particular, about 30 per cent of rural Ukrainian entrepreneurs are not satisfied with work while this number is about 17 per cent among urban entrepreneurs.

5 Result discussion

5.1 Self-employment, financial development and well-being

In the first part of our analysis, we examine the relationship between self-employment and individuals' well-being, documented by job and life satisfactions, by estimating the reduced-form of model (1) (Table 4). Next, we estimate model (1) with all variables to investigate the impact of financial development on entrepreneurial utility (Tables 5 and 6). Marginal effects of *Self-employed* on probability of being "very satisfied" and "satisfied" at different levels of financial development, holding all other variables at their means, are presented in Figures 1 and 2, respectively.

We find the dissatisfaction at work among Ukrainian self-employed, which is consistent with findings from previous studies such as Abbott and Sapsford (2006) and Schneck (2014). Further, this result confirms the outcomes from our theoretical framework that the self-employed might not necessarily be happier than the paid workers if the individuals enter self-employment just to avoid unemployment. On the contrary, Russian and Chinese entrepreneurs are happier in life compared to the employees. This result is largely in line with the other studies that also find the positive effect of self-employment on well-being (e.g., Bianchi, 2012; Blanchflower, 2000).

(Table 4 here)

The effect of financial development on well-being varies across countries and across satisfaction indicators. Greater financial development could improve credit allocation and access to financial services as well as reduce income inequality (Beck et al., 2007a; Burgess and Pande, 2005; Clarke et al., 2006), which could raise the level of happiness among Chinese individuals. Given that the *Deposits/GDP* ratio indicates resources available for lending (Beck et al., 2010), Russian individuals are happier in life with greater *Deposits/GDP* ratio. However, it has been documented that credit availability and allocation might be skewed to urban areas or to some individuals of the population (Beck et al., 2007b), leading to dissatisfaction among individuals in Ukraine.

(Tables 5 and 6 here)

With regard to the role of financial development in mediating the self-employment – satisfaction relationship, we again acknowledge the variation across countries and well-being measurements. We find that financial development does not play a significant role in improving Chinese entrepreneurs' well-being, which could be explained by the reliance on informal loans. In comparison with other developing countries, Chinese firms, especially small enterprises, tend to borrow from informal sector and the underground lending channels (Allen et al., 2005; Ayyagari et al., 2010; Hussain et al., 2006). Further, Tsai (2004) acknowledges that Chinese business owners often rely on interpersonal lending such as borrowing from family or friends and trade credit, to meet their short-term liquidity shortage. Therefore, the development of formal credit sector in China might not be related to entrepreneurial utility.

Moreover, the increase in the financial development indicators is negatively related to Russian entrepreneurs' job satisfaction. Meanwhile, the coefficient on the interaction between *Self-employed* and *Loans/GDP* is negative but not statistically significant for the sample of Ukrainian individuals. The negative impact of financial development on job satisfaction could be explained through entrepreneurs' liquidity constraints. It has been widely documented that the self-employed often face difficulties in raising external finance (e.g., Evans and Jovanovic, 1989; Dunn and Holtz-Eakin, 2000).

The financial constraints, however, could be relaxed with greater local financial development (Beck et al., 2007a; Burgess and Pande, 2005). Since the constraints are no longer binding, individuals have incentives to become entrepreneurs, enhancing competition among businesses (Bianchi, 2012; Guiso et al., 2004). As Russian entrepreneurs are more competitive (Puffer and McCarthy, 2001), the competition from new entrants might make existing entrepreneurs less happy at work as they will face more difficulties in running business and earn less.

Panel A in Figures 1 and 2 shows that being self-employed in Russia increases the probability of being "very satisfied" or "satisfied" with work by two percentage points if the *Loans*/*GDP* ratio equals to sample average. Similarly, if the *Deposits/GDP* ratio is 50 per cent below average, self-employment could lead to a growth of about three or five percentage points in the probability of being "very happy" or "happy", respectively. Conversely, if the self-employed locate in a region where the *Loans*/*GDP* ratio or the *Deposits/GDP* ratio is 50 per cent above sample average, the likelihood of being either "very happy" of "happy" at work is zero.

(Figures 1 and 2 here)

Nevertheless, greater financial development, indicated by higher relative *Loans/GDP* ratio, is positively related to Ukrainian entrepreneurs' life satisfaction. It is because greater financial development could boost the economic growth (Beck and Levine, 2004) that is beneficial to all individuals. Additionally, as argued earlier, better credit allocation could ease the financial constraints faced by entrepreneurs, and thus, facilitate firm growth (e.g., Burgess and Pande, 2005). Consequently, the self-employed in Ukraine are more likely to be happier in life with financial development. As can be seen from Figure 1, if the *Loans*/*GDP* ratio is 50 per cent below the sample average, being self-employed decreases the likelihood of exhibiting the highest level of life satisfaction by nearly one percentage point. By contrast, if the *Loans*/*GDP* ratio is 50 per cent above the sample average, the probability of being "very happy" in life increases by more than two percentage points.

Regarding other factors, we find that longer working time makes individuals less happy with both life and work. Females in Ukraine and Russia seem to be happier at work while are less likely to be happy in life compared to males. In contrast, Chinese women are happier in life than men. Married individuals report a higher level of job satisfaction but lower level of life satisfaction. Individuals with higher educational levels and good health also experience higher level of happiness in both life and work. Furthermore, we acknowledge a U-shaped relationship between age and well-being, which is consistent with previous studies (e.g., Millán et al., 2013).

5.2 Robustness checks

5.2.1 Sub-samples of rural and urban areas

Research on well-being has identified the satisfaction difference between rural and urban individuals (e.g. Han, 2015; Shucksmith et al., 2009; Sørensen, 2014). Notably, individuals living in urban areas usually experience a higher level of living standard and income as well as better access to social services such as education and health care. As a result, urban individuals tend to be happier than those in rural area (Knight and Gunatilaka, 2010; Wang et al., 2015). To address this difference in well-being among rural – urban individuals, we re-estimate model (1) on the sub-samples of rural and urban areas.

We find that Ukrainian entrepreneurs in both rural and urban areas are less satisfied with their jobs (Table 7). The results for Russian individuals, however, differ between these two areas. On the one hand, we acknowledge the negative but insignificant coefficients on *Self-employed* in rural Russia. On the other hand, being entrepreneurs in Russian urban centers could boost both life satisfaction and job satisfaction (Table 8). In contrast, being self-employed in rural China results in a higher level of life satisfaction while there is no evidence for higher satisfaction exhibited by urban entrepreneurs.

(Tables 7 and 8 here)

Furthermore, the effects of financial development on Ukrainian and Russian entrepreneurs' well-being are different between rural and urban areas. To be precise, the increase in the relative *Loans/GDP* ratio

leads to the improvement in life satisfaction of rural Russian entrepreneurs. Being self-employed in a region where the *Loans/GDP* ratio is 50 per cent below average does not make individuals happier. However, being self-employed in a region where the *Loans/GDP* ratio is only 20 per cent below average could increase the probability of being "very satisfied" by four percentage points. By contrast, greater financial development is negatively related to job satisfaction of urban Russian entrepreneurs. For instance, if the *Deposits/GDP* ratio is 50 per cent below average, being self-employed increases the likelihood of being "very happy" by about five percentage points. However, if the *Deposits/GDP* ratio is 50 per cent above average, self-employment leads to a drop of two percentage points in the probability of being "very satisfied".

These results support our previous argument about the relationship among financial development, credit constraints and self-employment entry. Particularly, greater financial development provides individuals with more opportunities to start their own business. Consequently, the level of competition in urban Russia, where the competition among entrepreneurs is already high, will be enhanced, leading to lower profits and more difficulties in running business. Therefore, urban entrepreneurs in Russia experience a lower level of satisfaction.

5.2.2 Financial development and occupational choice

To this point, we find evidence that financial development can facilitate entrepreneurs' life satisfaction while reduce their job satisfaction. We argue that the negative relationship between financial development and job satisfaction might be caused by the increase in self-employment entry induced by greater credit access. To address the concern of to what extend financial development could encourage entrepreneurial activities and keep individuals staying in self-employment, we estimate the following models using probit estimator. [6]

$$Enter_{it} = \beta_0 + \beta_1 \Delta Loans/GDP_{rt} + X_{it-1}\beta_2 + u_r + \varepsilon_{it} \quad (2)$$

[6] One would argue that individuals might move to more financially developed regions to start the business. However, it is not the case in our study as we do not observe the change in locations of individuals in our samples.

$$Exit_{it} = \beta_0 + \beta_1 \Delta Loans/GDP_{rt} + X_{it-1}\beta_2 + u_r + \varepsilon_{it} \quad (3)$$

where *Enter* equals one if the individual enters self-employment at time *t* from paid-employment or unemployment at time *t-1*, zero if the individual does not change job status or changes from self-employment at time *t-1* to paid-employment at time *t*. *Exit* equals one if the individual changes to paid-employment at time *t* from self-employment at time *t-1*, zero if the individual does not change job status at time *t*. Since we are interested in the effect of the change in credit access on entering self-employment, we employ *ΔLoans/GDP* as the indicator for the change in financial development.[7] We use the same set of control variables as in model (1) but with one lag.

We expect to observe that the increase in the relative *Loans/GDP* ratio is positively related to the probability of entering into self-employment while negatively related to the exit rate. However, it might be the case that the level of financial development in a region is driven by the demand for financial development generated by the self-employed. Following Guiso et al. (2004), we use the Ukraine's bank networks in 1992, one year after the economic reform, as a determinant of the recent level of financial development to address the potential endogeneity.[8]

Table 9 reports the results of the dynamics of self-employment. In particular, we find that the improvement of financial development has a positive impact on the self-employment entry in Russia. More specifically, one percentage point improvement in the relative *Loans/GDP* ratio rises the probability of entering the self-employment by 1.6 percentage points. In Ukraine, greater financial development does not encourage entrepreneurial activities but decreases the likelihood of moving out from self-employment. In particular, one percentage point increase in access to credit reduces the probability of exit self-employment by 2.6 percentage points.

(Table 9 here)

[7] Results with *Deposits/GDP* as financial development index are quantitatively similar.
[8] We are only able to estimate the models with the instrumental variable for the sample of Ukrainian individuals due to data availability.

These findings are consistent with literature on the relationship between liquidity constraints and the dynamics of self-employment (e.g., Blanchflower and Oswald, 1998; Dunn and Holtz-Eakin, 2000). More specifically, the increase in the relative *Loans/GDP* ratio implies the increase in credit access, resulting in higher chance to obtain bank loans and reduced borrowing constraints. In other words, the improvement in financial development could encourage entrepreneurial activities in Russia where the motivation to become self-employed is more likely to be driven by opportunities (Ageev et al., 1995). Different from this, greater financial development might not necessarily increase the probability of entering self-employment in Ukraine but keep current entrepreneurs staying in self-employment. It is because the decision of entering self-employment in Ukraine might not be driven by greater opportunities brought by relaxed financial constraints but "*push*" factors such as unemployment duration or low earnings from paid jobs (see Appendix A). However, once the individuals become entrepreneurs, better access to credit could keep them staying longer.

5.2.3 Big city effect

One would argue that individuals living in big cities or more financially developed regions might have more favorable conditions to set up their own business, resulting in the domination of the self-employed in these cities/regions. Hence, our main results might be driven by the relationship between self-employment and satisfaction in big or more financially developed cities and regions. To check this possibility, we first show the level of financial development in the cities/regions where self-employed individuals in our samples locate. As can be seen from Figure 3, entrepreneurs in our samples are located in both more and less financially developed cities/regions.

(Figure 3 here)

Next, to empirically address the above concern, we re-estimate model (1) by excluding Kyiv from the Ukrainian sample, Moscow and St Petersburg from the Russian sample and Beijing from the Chinese

sample.[9] These cities are also excluded from our financial development measures. Consistent with previous results, we observe the job and life dissatisfaction among Ukrainian entrepreneurs (Table 10). On the contrary, entrepreneurs in Russia and China experience a higher level of satisfaction than the paid-employees.

(Table 10 here)

Regarding the interaction between *Self-employed* and financial development, we observe the negative impact of financial development on entrepreneurs' job satisfaction in both Russia and Ukraine. In particular, greater access to credit results in the decline in job satisfaction among Ukrainian entrepreneurs. Similarly, higher relative *Deposits/GDP* ratio leads to job dissatisfaction among Russian self-employed. Moreover, this negative effect likely exists in rural Ukraine as coefficients on the interaction between *Self-employed* and financial development indicators are negative and statistically significant (Table 11). The effect on life satisfaction, however, is only significant when we divide our samples in to rural and urban areas (Table 12). Again, we acknowledge job dissatisfaction among rural Ukrainian entrepreneurs with greater financial development. In addition, if the big cities are excluded from the samples, then life satisfaction among rural Russian individuals could increase with better access to finance, indicated by the relative *Loans/GDP* ratio.

(Tables 11 and 12 here)

5.2.4 Income effect

Previous studies have suggested that income could be an important indicator of individuals' well-being (e.g., Easterlin, 2001; Ferrer-i-Carbonell, 2005; Stevenson and Wolfers, 2013). Income could also serve as a channel through which financial development affects well-being as the positive link between financial development and economic growth has been widely documented (e.g., Beck et al., 2000; Calderón and Liu, 2003). However, it has been showed that the individuals might have incentives to

[9] Shanghai is not included in CHIP survey.

misreport their income due to the fear of being taxed (e.g., Becchetti and Conzo, 2017; Okulicz-Kozaryn, 2012), which might result in biased results (Cao et al., 2014). To account for the income effect and overcome the limitation, we incorporate the individuals' income into our model in the following way.

$$Satisfaction_i = \beta_0 + \beta_1 Self - employed_i + \beta_2 Financial\ development_r + \beta_3 Self - employed_i * High\ income_i * Financial\ development_r + \beta_4 Self - employed_i * Low\ income_i * Financial\ development_r + \beta_5 High\ income_i + \beta_6 Low\ income_i + X_i\beta_7 + u_r + \varepsilon_i \quad (4)$$

where *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. All other variables are the same as in model (1). Estimating model (4) will allow us to observe any possible different impacts of financial development on entrepreneurs with different income levels.

Tables 13 reports results for the full samples. Panels A and B present estimates with *Life satisfaction* and *Job satisfaction* as the dependent variable, respectively. Figures 4 and 5 show the marginal effects of *Self-employed* interacted with *High* (*Low*) *income* on the likelihood of being "very satisfied" and "satisfied" at different levels of financial development, holding all other predictors at their means, respectively. We do not find any significant coefficients on the interaction among *Self-employed*, financial development and income in Panel A. However, in Panel B, we observe that high-income Russian entrepreneurs are less satisfied at work with greater credit availability and bigger financial institutions.

Estimating model (4) on rural and urban sub-samples, we find different results between two groups. For instance, controlling for income effect, financial development does not affect Ukrainian entrepreneurs' well-being regardless of living areas (Tables 14 and 15). Nevertheless, job satisfaction of urban Russian entrepreneurs with high income will be lower with financial development. Particularly, being self-employed with high income in a region where the *Deposits*/*GDP* ratio is 20

per cent below average could increase the probability of experiencing the highest level of satisfaction by about 15 percentage points (Figure 4). Yet, this marginal effect decreases with greater *Deposits/GDP* ratio. Similarly, rural Chinese entrepreneurs with high income also experience the lower level of life satisfaction with higher relative *Deposits/GDP* ratio. In particular, if the *Deposits/GDP* ratio is 50 per cent below average, self-employment improves the likelihood of being "happy" by about 2 percentage points. By contrast, if the *Deposits/GDP* ratio is 50 per cent above average, the probability of being "happy" is lowered by around 4 percentage points. Different from this, financial development is indeed beneficial to the life satisfaction of rural Russian self-employed with low income. For instance, the probability of being "happy" in life for a rural entrepreneur with low income is zero if the entrepreneur lives in a region where the *Loans/GDP* ratio is 50 per cent below average. Nonetheless, if the entrepreneur lives in a region where the *Loans/GDP* is 10 per cent above average, this probability increases by nearly 30 percentage points (Figure 5).

(Tables 13, 14 and 15 here)

(Figures 4 and 5 here)

Overall, our results suggest that financial development works through both monetary and nonmonetary aspects of satisfaction. More specifically, the level of life satisfaction is more likely to be driven by monetary factors like higher economic growth brought by greater financial development. This relationship is stronger in the Ukrainian sample as the main reasons to become self-employed in Ukraine include (1) the individuals were pushed out from paid-employment (Williams et al., 2009) and (2) the individuals want to increase personal wealth (Smallbone and Welter, 2001). The positive impact of financial development on life satisfaction is also pronounced among low-income entrepreneurs or rural entrepreneurs whose income is much lower compared to urban counterparts' due to the huge inter-regional income disparity (Remington, 2011; 2015). The effect of financial development on job satisfaction, however, tends to be moderated by the nonmonetary factors related to the business environment such as direct competition among businesses (Bianchi, 2012). This is

especially true for urban entrepreneurs because the competition among businesses in urban areas is more intensive than that in rural areas (Renski, 2008; Rijkers et al., 2010). As greater financial development might ease the financial constraints, thus, boost entry into self-employment, the level of competition in urban areas will be even higher. This might lead to (1) lower potential profits of existing entrepreneurs and (2) more difficulties in running business such as lack of customers. Consequently, urban entrepreneurs are more likely to be negatively affected by greater financial development.

6 Conclusions and implications

In this study, we employ data from household surveys in Ukraine, China and Russia to distinguish the well-being differences between the self-employed and the wage workers. We find that on average, the self-employed in China and Russia are happier in life compared to the salaried employees. Russian entrepreneurs also experience a higher degree of job satisfaction. These results are in line with previous literature on entrepreneurial utility (e.g., Blanchflower, 2000; Blanchflower and Oswald, 1998). In contrast, Ukrainian entrepreneurs are less happy than the paid counterparts. Furthermore, the job dissatisfaction is more pronounced than the life dissatisfaction. The dissatisfaction of Ukrainian self-employed is also found by Bianchi (2012) and Schneck (2014) although the coefficients in these studies are not statistically significant.

In the next part of the analysis, we investigate the relationship between financial development and entrepreneurial satisfaction. We find that financial development of formal sector does not affect entrepreneurs' life satisfaction in China where entrepreneurs rely more on informal finance. However, greater access to credit and credit availability could raise life satisfaction among Ukrainian entrepreneurs but reduce job satisfaction of Russian self-employed. We interpret these findings by arguing that financial development could affect both monetary and nonmonetary aspects of entrepreneurs' well-being. First, financial development is positively related to economic growth, which makes individuals better off and makes them happier in life. This could also explain why the positive link between financial development and life satisfaction is most pronounced among low-

income entrepreneurs and rural entrepreneurs. Second, the increase in credit availability and better access to finance make it easier to obtain bank loans. In other words, financial constraints faced by startups are no longer binding, creating incentives for individuals to start their own businesses and increasing competition in the market. For this reason, existing entrepreneurs, especially those in urban areas where the competition is already fierce, might be less satisfied at work.

Our results provide some implications concerning entrepreneurship and entrepreneurial well-being. First, formal credit sector should be improved to be more attractive. As a result, individuals would use formal credit more and could benefit from the development of formal credit sector. Second, policy makers could also think about reforming banking sector like branch expansion so that individuals could have better access to banking services as well as better access to credit. Third, government authorities should provide rural entrepreneurs, especially "pushed" entrepreneurs, necessary assistance. For example, government could facilitate rural entrepreneurs' entry into projects with high expected growth rate through favorable financing or administrative supports. In addition, advanced training and education could be also provided to strengthen entrepreneurial ability of the self-employed in rural areas, thus improving their success rate.

Appendix A.

To underpin our empirical specification, we adopt the theoretical models examining the drivers of occupational choices that widely used in previous studies (e.g., Evans and Jovanovic, 1989; Holtz-Eakin et al., 1994). We extend these models by focusing on the borrowing constraints. We start with a simple occupational choice model. An individual has two choices, either being a paid worker or becoming an entrepreneur.

If we denote the potential earned wage by *w*, the utility function of a paid worker is $U^W = w + rA$ where *A* is the individual' personal assets and *r* is the deposit interest rate.

If the individual chooses to enter self-employment, the utility function is $U^S = \theta(A+b)^\alpha - Rb$ where θ is entrepreneurial ability, α is the return on investment. Here we assume a decreasing marginal return on investment (0<α<1). To start the business, this entrepreneur needs to borrow a loan *b* at interest rate *R* from banks. For simplicity, we assume *r* = *R*.

The individual wants to maximize U^S, subject to b ≤ $\bar{b}$ which implies the borrowing constraints.

We have:

$$L = \theta(A+b)^\alpha - rb + \lambda(\bar{b} - b)$$
$$\frac{\partial L}{\partial b} = \alpha\theta(A+b)^{\alpha-1} - r - \lambda = 0$$
$$b^* = (\alpha\theta)^{\frac{1}{1-\alpha}}(r+\lambda)^{\frac{1}{\alpha-1}} - A$$

where λ is the Lagrange multiplier associated with a borrowing constraint which can be interpreted as the shadow cost relating to extra borrowing.

Now the occupational choice depends on the utility difference reflected as follows.

$$D = U^S - U^W = \theta(A+b)^\alpha - rb - w - rA \quad (1)$$

We have two possibilities. The first possibility is that financial constraint is not binding, thus, $\lambda = 0$. We have the utility difference function:

$$D = \theta\,(\alpha\theta)^{\frac{\alpha}{1-\alpha}} r^{\frac{\alpha}{\alpha-1}} - r\,(\alpha\theta)^{\frac{1}{1-\alpha}} r^{\frac{1}{\alpha-1}} - w$$
$$D = \frac{1-\alpha}{\alpha}\,(\alpha\theta)^{\frac{1}{1-\alpha}} r^{\frac{\alpha}{\alpha-1}} - w \quad (2)$$

D increases with higher entrepreneurial ability or lower interest rates. When the increase is high enough to make the entrepreneurial utility exceed wage, the individual would enter self-employment.

In the second possibility, financial constraint is binding. We have the utility difference function:

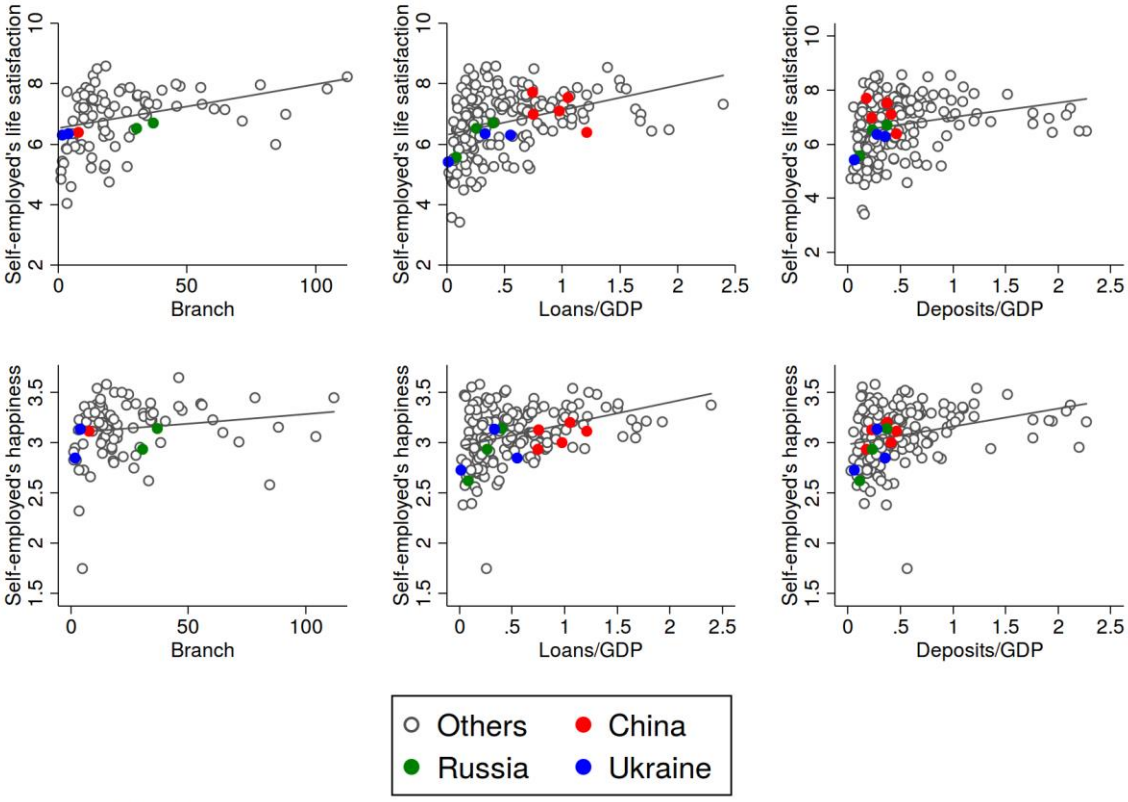
$$D = \theta(\alpha\theta)^{\frac{\alpha}{1-\alpha}}(r+\lambda)^{\frac{\alpha}{\alpha-1}} - r(\alpha\theta)^{\frac{1}{1-\alpha}}(r+\lambda)^{\frac{1}{\alpha-1}} - w$$

$$D = \frac{1}{\alpha}(\theta\alpha)^{\frac{1}{1-\alpha}}(r+\lambda)^{\frac{1}{\alpha-1}}[\lambda + r(1-\alpha)] - w \quad (3)$$

Here we have 2 scenarios. (1) If *w* is very low, then *D*>0 regardless of *r* and λ. As a result, there are entrepreneurs who are forced to enter self-employment due to too low wage earnings. These entrepreneurs are referred to as necessity entrepreneurs. (2) If financial system is more developed, costs of borrowing (*r* and λ) could be lower resulting in higher entrepreneurial utility. When the impact of financial development is great enough, *D*>0 which encourages individuals to enter self-employment.

Appendix B.

Figure B1. Correlation between self-employed' satisfaction and financial development



Data source: World Value Surveys

This figure shows the correlation between entrepreneurs' satisfaction and financial development in Ukraine, China, Russia and other countries. Data are taken from World Values Survey 1981-2014 Longitudinal Data.

Appendix C.

Appendix C1. Self-employment, financial development and job satisfaction, rural and urban sub-samples

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Panel A. Rural areas				
Self-employed	-0.873***	-0.887***	-0.144	-0.045
	(0.162)	(0.162)	(0.126)	(0.106)
Loans/GDP	-0.848**		1.494***	
	(0.332)		(0.278)	
Self-employed*Loans/GDP	-0.125		-0.841	
	(0.475)		(0.585)	
Branches		-0.445**		-11.233***
		(0.183)		(2.183)
Self-employed*Branches		-0.290		0.072
		(0.245)		(0.334)
Female	0.214**	0.208**	0.186**	0.187**
	(0.100)	(0.100)	(0.081)	(0.081)
Age	-0.073	0.140	-2.669	-2.638
	(3.712)	(3.715)	(3.113)	(3.113)
Age squared	0.070	0.039	0.384	0.380
	(0.516)	(0.517)	(0.432)	(0.432)
Married	0.231**	0.233**	0.239***	0.233***
	(0.118)	(0.117)	(0.086)	(0.085)
Education				
High school or college	0.183	0.187	0.106	0.092
	(0.128)	(0.128)	(0.164)	(0.163)
Bachelor or higher	0.585***	0.584***	0.351*	0.333*
	(0.182)	(0.182)	(0.180)	(0.179)
Health				
Average	0.385*	0.375	0.498**	0.494**
	(0.229)	(0.229)	(0.230)	(0.230)
Good	0.671***	0.658***	0.917***	0.908***
	(0.235)	(0.235)	(0.238)	(0.238)
Working hours	-0.152	-0.155	-0.100	-0.094
	(0.158)	(0.159)	(0.117)	(0.116)
Cut-off point 1	-2.593	-2.166	-8.032	-8.007
	(6.587)	(6.584)	(5.579)	(5.581)
Cut-off point 2	-1.428	-1.001	-6.548	-6.523
	(6.589)	(6.587)	(5.583)	(5.585)
Cut-off point 3	-0.198	0.230	-5.112	-5.088
	(6.585)	(6.583)	(5.582)	(5.584)
Cut-off point 4	1.715	2.144	-2.335	-2.312
	(6.585)	(6.582)	(5.580)	(5.582)
Observations	1,538	1,538	2,481	2,481
Panel B. Urban areas				
Self-employed	-0.523***	-0.525***	0.146**	0.118
	(0.160)	(0.153)	(0.072)	(0.073)
Loans/GDP	-0.147		0.874	
	(0.251)		(1.094)	
Self-employed*Loans/GDP	-0.062		-0.496***	
	(0.451)		(0.186)	

Branches		-0.081		-1.210
		(0.140)		(1.737)
Self-employed*Branches		-0.047		-0.230**
		(0.259)		(0.117)
Female	0.098	0.098	0.110**	0.111**
	(0.093)	(0.093)	(0.049)	(0.049)
Age	-1.092	-1.101	-10.872***	-10.808***
	(3.401)	(3.402)	(1.935)	(1.935)
Age squared	0.228	0.229	1.548***	1.539***
	(0.475)	(0.475)	(0.269)	(0.269)
Married	0.193*	0.193*	0.179***	0.179***
	(0.108)	(0.108)	(0.051)	(0.051)
Education				
High school or college	0.140	0.140	0.163	0.163
	(0.127)	(0.127)	(0.122)	(0.122)
Bachelor or higher	0.279*	0.278*	0.525***	0.521***
	(0.160)	(0.159)	(0.127)	(0.127)
Health				
Average	0.648**	0.648**	0.429***	0.430***
	(0.273)	(0.273)	(0.118)	(0.118)
Good	1.076***	1.076***	0.976***	0.977***
	(0.278)	(0.278)	(0.123)	(0.124)
Working hours	-0.181	-0.182	-0.272***	-0.276***
	(0.136)	(0.136)	(0.082)	(0.082)
Cut-off point 1	-3.907	-3.910	-22.767***	-22.749***
	(5.967)	(5.968)	(3.453)	(3.461)
Cut-off point 2	-2.440	-2.442	-21.022***	-21.004***
	(5.971)	(5.972)	(3.447)	(3.455)
Cut-off point 3	-1.147	-1.149	-19.528***	-19.510***
	(5.969)	(5.970)	(3.444)	(3.453)
Cut-off point 4	0.880	0.878	-17.128***	-17.111***
	(5.968)	(5.969)	(3.441)	(3.449)
Observations	1,756	1,756	6,410	6,410

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable for rural and urban sub-samples. In all regression, regional effects are included but not reported. Columns (1) - (2) show results for Ukraine. Columns (3) - (4) show results for Russia. Panels A- B present results for rural area and urban area, respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Appendix C2. Self-employment, financial development and life satisfaction, rural and urban sub-samples

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.268	-0.254	0.346***	0.369***	-0.002	0.012
	(0.175)	(0.182)	(0.072)	(0.070)	(0.136)	(0.111)
Deposits/GDP	-1.349***		0.541**		2.252***	
	(0.484)		(0.216)		(0.471)	
Self-employed* Deposits /GDP	0.315		-0.214		-0.089	
	(0.673)		(0.221)		(0.573)	
Loans/GDP		-0.757***		1.011**		-18.220***
		(0.270)		(0.421)		(3.778)
Self-employed*Loans/GDP		0.220		-0.073		1.052**
		(0.338)		(0.257)		(0.448)
Female	-0.036	-0.036	0.093	0.095	-0.272***	-0.278***
	(0.097)	(0.097)	(0.126)	(0.126)	(0.079)	(0.080)
Age	-19.746***	-19.753***	-4.321	-4.282	-11.209***	-11.391***
	(3.731)	(3.731)	(4.463)	(4.462)	(3.142)	(3.142)
Age squared	2.745***	2.747***	0.615	0.609	1.521***	1.546***
	(0.521)	(0.521)	(0.595)	(0.595)	(0.435)	(0.435)
Married	0.624***	0.624***	1.300***	1.298***	0.603***	0.608***
	(0.112)	(0.112)	(0.150)	(0.150)	(0.083)	(0.083)
Education						
High school or college	0.281**	0.282**	0.113*	0.114*	0.234	0.246
	(0.123)	(0.123)	(0.067)	(0.067)	(0.173)	(0.173)
Bachelor or higher	0.651***	0.654***	0.940**	0.943**	0.584***	0.596***
	(0.178)	(0.178)	(0.366)	(0.366)	(0.191)	(0.190)
Health						
Average	0.494**	0.500**	0.612***	0.612***	0.706***	0.688***
	(0.230)	(0.230)	(0.179)	(0.179)	(0.214)	(0.215)
Good	0.952***	0.959***	1.264***	1.263***	1.228***	1.202***
	(0.238)	(0.238)	(0.172)	(0.172)	(0.223)	(0.224)
Working hours	-0.280*	-0.278*	-0.125	-0.127	-0.176	-0.174
	(0.146)	(0.146)	(0.133)	(0.133)	(0.109)	(0.108)
Cut-off point 1	-38.069***	-37.943***	-10.097	-9.876	-24.192***	-24.588***
	(6.649)	(6.649)	(8.340)	(8.342)	(5.635)	(5.636)
Cut-off point 2	-36.753***	-36.626***	-8.229	-8.009	-22.376***	-22.769***
	(6.648)	(6.648)	(8.342)	(8.343)	(5.636)	(5.636)
Cut-off point 3	-35.687***	-35.560***	-5.586	-5.365	-21.147***	-21.538***
	(6.644)	(6.644)	(8.342)	(8.343)	(5.634)	(5.634)
Cut-off point 4	-34.363***	-34.236***	-3.279	-3.059	-18.319***	-18.706***
	(6.640)	(6.640)	(8.342)	(8.343)	(5.626)	(5.627)
Observations	1,564	1,564	5,092	5,092	2,490	2,490
Panel B. Urban areas						
Self-employed	0.016	0.043	0.116	0.114	0.183**	0.173**
	(0.151)	(0.147)	(0.097)	(0.094)	(0.071)	(0.071)
Deposits/GDP	-0.418		0.339		0.224	
	(0.286)		(0.213)		(0.847)	

Self-employed* Deposits /GDP	0.585		-0.014		-0.281	
	(0.453)		(0.315)		(0.201)	
Loans/GDP		-0.228		0.669		-0.267
		(0.159)		(0.419)		(1.346)
Self-employed*Loans/GDP		0.281		-0.061		-0.041
		(0.232)		(0.373)		(0.172)
Female	0.060	0.058	0.142*	0.142*	-0.056	-0.056
	(0.091)	(0.091)	(0.077)	(0.077)	(0.050)	(0.050)
Age	-15.983***	-15.918***	-8.247*	-8.249*	-11.055***	-11.049***
	(3.276)	(3.274)	(4.901)	(4.902)	(1.984)	(1.985)
Age squared	2.178***	2.169***	1.098*	1.099*	1.490***	1.489***
	(0.457)	(0.457)	(0.660)	(0.660)	(0.275)	(0.275)
Married	0.588***	0.589***	1.158***	1.159***	0.697***	0.698***
	(0.099)	(0.099)	(0.133)	(0.133)	(0.051)	(0.051)
Education						
High school or college	0.183	0.186	0.238	0.237	0.318**	0.318**
	(0.137)	(0.137)	(0.167)	(0.167)	(0.132)	(0.132)
Bachelor or higher	0.847***	0.851***	0.712***	0.712***	0.692***	0.690***
	(0.161)	(0.161)	(0.183)	(0.183)	(0.135)	(0.135)
Health						
Average	0.988***	0.987***	-0.524*	-0.525*	0.502***	0.504***
	(0.225)	(0.225)	(0.273)	(0.273)	(0.123)	(0.123)
Good	1.513***	1.512***	0.468*	0.468*	1.335***	1.335***
	(0.234)	(0.234)	(0.266)	(0.266)	(0.128)	(0.128)
Working hours	-0.032	-0.030	-0.461**	-0.461**	-0.143*	-0.144*
	(0.134)	(0.135)	(0.205)	(0.205)	(0.076)	(0.076)
Cut-off point 1	-30.461***	-30.303***	-19.498**	-19.404**	-21.981***	-21.998***
	(5.812)	(5.807)	(9.041)	(9.049)	(3.551)	(3.556)
Cut-off point 2	-28.952***	-28.794***	-17.652*	-17.558*	-20.218***	-20.234***
	(5.807)	(5.802)	(9.038)	(9.046)	(3.551)	(3.556)
Cut-off point 3	-27.917***	-27.758***	-15.006*	-14.912*	-18.946***	-18.963***
	(5.803)	(5.799)	(9.040)	(9.048)	(3.550)	(3.555)
Cut-off point 4	-26.546***	-26.388***	-12.640	-12.546	-16.208***	-16.225***
	(5.800)	(5.796)	(9.039)	(9.047)	(3.549)	(3.555)
Observations	1,778	1,778	3,844	3,844	6,413	6,413

This table reports the ordered logit regressions for model (1) with *Life satisfaction* as the dependent variable for rural and urban sub-samples. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Column (3) shows results for China. Columns (4) – (5) show results for Russia. Panels A- B present results for rural area and urban area, respectively. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C3. Self-employment, financial development and job satisfaction, sample without big cities

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Self-employed	-0.746***	-0.758***	0.115*	0.129*
	(0.116)	(0.115)	(0.067)	(0.067)
Deposits/GDP	-23.257*		1.029***	
	(12.805)		(0.291)	
Self-employed* Deposits /GDP	-0.890		-0.642**	
	(0.569)		(0.308)	
Loans/GDP		-8.896*		-7.678***
		(4.776)		(2.321)
Self-employed*Loans/GDP		-0.531**		-0.120
		(0.253)		(0.123)
Female	0.140**	0.141**	0.111**	0.113**
	(0.071)	(0.071)	(0.046)	(0.046)
Age	-0.124	-0.137	-8.299***	-8.316***
	(2.652)	(2.649)	(1.794)	(1.794)
Age squared	0.072	0.073	1.187***	1.189***
	(0.370)	(0.369)	(0.249)	(0.249)
Married	0.220***	0.217***	0.223***	0.221***
	(0.082)	(0.082)	(0.048)	(0.048)
Education				
High school or college	0.176*	0.173*	0.131	0.122
	(0.094)	(0.094)	(0.110)	(0.109)
Bachelor or higher	0.406***	0.398***	0.509***	0.499***
	(0.124)	(0.124)	(0.116)	(0.115)
Health				
Average	0.485***	0.476***	0.344***	0.344***
	(0.183)	(0.183)	(0.116)	(0.115)
Good	0.814***	0.805***	0.842***	0.841***
	(0.188)	(0.188)	(0.121)	(0.121)
Working hours	-0.166	-0.174*	-0.238***	-0.239***
	(0.105)	(0.105)	(0.073)	(0.073)
Cut-off point 1	2.266	2.028	-18.004***	-18.628***
	(5.196)	(5.119)	(3.205)	(3.224)
Cut-off point 2	3.519	3.284	-16.342***	-16.965***
	(5.198)	(5.122)	(3.204)	(3.223)
Cut-off point 3	4.730	4.497	-14.848***	-15.471***
	(5.197)	(5.120)	(3.202)	(3.221)
Cut-off point 4	6.641	6.408	-12.322***	-12.947***
	(5.197)	(5.120)	(3.200)	(3.218)
Observations	3,012	3,012	7,467	7,467

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable for the samples without big cities. We exclude Kiev from the sample of Ukraine and Moscow and St Petersburg from the sample of Russia. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C4. Self-employment, financial development and life satisfaction, samples without big cities

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Self-employed	-0.195*	-0.210*	0.265***	0.276***	0.201***	0.206***
	(0.110)	(0.110)	(0.054)	(0.053)	(0.064)	(0.063)
Deposits/GDP	-41.491***		0.321**		0.176	
	(14.308)		(0.141)		(0.305)	
Self-employed*Deposits /GDP	-0.745		-0.106		0.247	
	(0.577)		(0.162)		(0.294)	
Loans/GDP		-15.299***		0.612**		-1.654
		(5.366)		(0.276)		(2.440)
Self-employed*Loans/GDP		-0.079		-0.015		0.268
		(0.239)		(0.192)		(0.196)
Female	-0.049	-0.047	0.108*	0.108*	-0.122***	-0.123***
	(0.069)	(0.069)	(0.062)	(0.062)	(0.046)	(0.046)
Age	-16.644***	-16.647***	-6.028**	-6.036**	-10.751***	-10.804***
	(2.535)	(2.539)	(2.980)	(2.979)	(1.827)	(1.828)
Age squared	2.284***	2.284***	0.822**	0.823**	1.449***	1.457***
	(0.354)	(0.354)	(0.400)	(0.400)	(0.253)	(0.253)
Married	0.610***	0.607***	1.140***	1.139***	0.677***	0.678***
	(0.076)	(0.076)	(0.092)	(0.092)	(0.047)	(0.047)
Education						
High school or college	0.195**	0.192**	0.129**	0.129**	0.340***	0.342***
	(0.092)	(0.092)	(0.060)	(0.060)	(0.113)	(0.113)
Bachelor or higher	0.742***	0.740***	0.610***	0.612***	0.740***	0.742***
	(0.120)	(0.120)	(0.094)	(0.094)	(0.118)	(0.118)
Health						
Average	0.683***	0.693***	0.220	0.220	0.563***	0.562***
	(0.168)	(0.168)	(0.147)	(0.147)	(0.118)	(0.118)
Good	1.137***	1.144***	1.006***	1.006***	1.304***	1.302***
	(0.174)	(0.174)	(0.142)	(0.142)	(0.123)	(0.123)
Working hours	-0.158	-0.163*	-0.260**	-0.262**	-0.144**	-0.141**
	(0.099)	(0.099)	(0.107)	(0.107)	(0.067)	(0.067)
Cut-off point 1	-23.838***	-24.466***	-14.115**	-14.040**	-21.739***	-21.948***
	(5.192)	(5.120)	(5.520)	(5.521)	(3.273)	(3.283)
Cut-off point 2	-22.488***	-23.117***	-12.269**	-12.194**	-19.952***	-20.160***
	(5.190)	(5.118)	(5.519)	(5.520)	(3.273)	(3.284)
Cut-off point 3	-21.418***	-22.047***	-9.643*	-9.568*	-18.711***	-18.919***
	(5.189)	(5.117)	(5.519)	(5.520)	(3.272)	(3.283)
Cut-off point 4	-20.106***	-20.736***	-7.331	-7.256	-16.010***	-16.218***
	(5.188)	(5.115)	(5.519)	(5.521)	(3.271)	(3.281)
Observations	3,057	3,057	9,524	9,524	7,481	7,481

This table reports the ordered logit regressions for model (1) with *Life satisfaction* as the dependent variable for the samples without big cities. We exclude Kiev from the sample of Ukraine, Moscow and St Petersburg from the sample of Russia and Beijing from the sample of China. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Column (3) – (4) show results for China. Columns (5) – (6) show results for Russia. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C5. Self-employment, financial development and job satisfaction for rural and urban sub-sample without big cities

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Panel A: Rural areas				
Self-employed	-0.956***	-0.942***	-0.063	-0.023
	(0.168)	(0.167)	(0.117)	(0.114)
Deposits/GDP	-41.493**		1.499***	
	(17.133)		(0.289)	
Self-employed* Deposits /GDP	-1.602**		-0.878	
	(0.685)		(0.620)	
Loans/GDP		-15.706**		-11.235***
		(6.355)		(2.264)
Self-employed*Loans/GDP		-0.859***		0.116
		(0.286)		(0.346)
Female	0.227**	0.226**	0.180**	0.182**
	(0.103)	(0.103)	(0.088)	(0.088)
Age	-1.128	-0.851	-0.985	-0.899
	(3.840)	(3.848)	(3.269)	(3.264)
Age squared	0.210	0.170	0.168	0.157
	(0.535)	(0.536)	(0.454)	(0.454)
Married	0.246**	0.241**	0.252***	0.247***
	(0.121)	(0.121)	(0.091)	(0.091)
Education				
High school or college	0.189	0.186	0.092	0.078
	(0.134)	(0.134)	(0.176)	(0.175)
Bachelor or higher	0.612***	0.599***	0.430**	0.412**
	(0.190)	(0.190)	(0.193)	(0.193)
Health				
Average	0.413*	0.393*	0.371	0.367
	(0.235)	(0.235)	(0.236)	(0.236)
Good	0.658***	0.639***	0.889***	0.882***
	(0.241)	(0.241)	(0.246)	(0.246)
Working hours	-0.130	-0.146	-0.097	-0.090
	(0.164)	(0.166)	(0.125)	(0.125)
Cut-off point 1	3.837	3.857	-4.765	-5.448
	(7.397)	(7.327)	(5.849)	(5.851)
Cut-off point 2	4.983	5.004	-3.273	-3.956
	(7.399)	(7.329)	(5.854)	(5.856)
Cut-off point 3	6.208	6.231	-1.808	-2.492
	(7.396)	(7.327)	(5.853)	(5.855)
Cut-off point 4	8.105	8.129	1.057	0.372
	(7.397)	(7.327)	(5.851)	(5.852)
Observations	1,456	1,456	2,194	2,194
Panel B. Urban areas				
Self-employed	-0.492***	-0.533***	0.190**	0.193**
	(0.169)	(0.160)	(0.081)	(0.084)
Deposits/GDP	-19.383		0.894	
	(24.956)		(1.105)	
Self-employed* Deposits /GDP	-0.818		-0.525	
	(1.123)		(0.353)	
Loans/GDP		-7.174		-1.305
		(9.288)		(1.753)

Self-employed*Loans/GDP		-0.210		-0.088
		(0.483)		(0.135)
Female	0.105	0.105	0.080	0.080
	(0.099)	(0.099)	(0.054)	(0.054)
Age	-0.314	-0.356	-10.815***	-10.841***
	(3.682)	(3.688)	(2.127)	(2.128)
Age squared	0.108	0.114	1.538***	1.541***
	(0.514)	(0.515)	(0.295)	(0.295)
Married	0.147	0.147	0.208***	0.207***
	(0.114)	(0.114)	(0.057)	(0.057)
Education				
High school or college	0.131	0.130	0.150	0.146
	(0.132)	(0.132)	(0.141)	(0.141)
Bachelor or higher	0.243	0.242	0.536***	0.531***
	(0.169)	(0.169)	(0.147)	(0.147)
Health				
Average	0.615**	0.620**	0.323**	0.323**
	(0.276)	(0.276)	(0.132)	(0.132)
Good	1.052***	1.055***	0.815***	0.813***
	(0.283)	(0.283)	(0.138)	(0.138)
Working hours	-0.127	-0.133	-0.313***	-0.317***
	(0.141)	(0.141)	(0.091)	(0.091)
Cut-off point 1	1.376	1.016	-22.898***	-23.188***
	(7.911)	(7.740)	(3.782)	(3.811)
Cut-off point 2	2.821	2.461	-21.134***	-21.423***
	(7.917)	(7.745)	(3.777)	(3.806)
Cut-off point 3	4.068	3.709	-19.619***	-19.908***
	(7.915)	(7.744)	(3.774)	(3.803)
Cut-off point 4	6.082	5.721	-17.197***	-17.488***
	(7.915)	(7.743)	(3.771)	(3.799)
Observations	1,556	1,556	5,273	5,273

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable for rural and urban sub-samples without big cities. We exclude Kiev from the sample of Ukraine and Moscow and St Petersburg from the sample of Russia. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C6. Self-employment, financial development and life satisfaction for rural and urban sub-samples without big cities

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.433**	-0.426**	0.346***	0.369***	0.068	0.007
	(0.170)	(0.177)	(0.072)	(0.070)	(0.127)	(0.121)
Deposits/GDP	-67.043***		0.541**		2.162***	
	(22.874)		(0.216)		(0.468)	
Self-employed* Deposits /GDP	-1.409*		-0.214		0.116	
	(0.766)		(0.221)		(0.598)	
Loans/GDP		-24.988***		1.011**		-17.701***
		(8.583)		(0.421)		(3.759)
Self-employed*Loans/GDP		-0.387		-0.073		1.161**
		(0.414)		(0.257)		(0.456)
Female	-0.058	-0.053	0.093	0.095	-0.242***	-0.251***
	(0.099)	(0.099)	(0.126)	(0.126)	(0.085)	(0.085)
Age	-20.259***	-20.113***	-4.321	-4.282	-7.752**	-7.921**
	(3.826)	(3.839)	(4.463)	(4.462)	(3.318)	(3.317)
Age squared	2.809***	2.788***	0.615	0.609	1.059**	1.083**
	(0.534)	(0.536)	(0.595)	(0.595)	(0.460)	(0.460)
Married	0.662***	0.655***	1.300***	1.298***	0.601***	0.610***
	(0.115)	(0.116)	(0.150)	(0.150)	(0.089)	(0.088)
Education						
High school or college	0.236*	0.228*	0.113*	0.114*	0.246	0.266
	(0.125)	(0.125)	(0.067)	(0.067)	(0.178)	(0.178)
Bachelor or higher	0.671***	0.661***	0.940**	0.943**	0.576***	0.599***
	(0.184)	(0.184)	(0.366)	(0.366)	(0.198)	(0.198)
Health						
Average	0.413*	0.418*	0.612***	0.612***	0.618***	0.598***
	(0.234)	(0.234)	(0.179)	(0.179)	(0.214)	(0.216)
Good	0.833***	0.836***	1.264***	1.263***	1.253***	1.227***
	(0.241)	(0.241)	(0.172)	(0.172)	(0.226)	(0.228)
Working hours	-0.218	-0.230	-0.125	-0.127	-0.144	-0.143
	(0.147)	(0.148)	(0.133)	(0.133)	(0.117)	(0.116)
Cut-off point 1	-25.747***	-26.373***	-10.097	-9.876	-17.487***	-19.123***
	(7.893)	(7.787)	(8.340)	(8.342)	(5.925)	(5.948)
Cut-off point 2	-24.419***	-25.048***	-8.229	-8.009	-15.647***	-17.281***
	(7.893)	(7.786)	(8.342)	(8.343)	(5.926)	(5.949)
Cut-off point 3	-23.312***	-23.942***	-5.586	-5.365	-14.432**	-16.062***
	(7.892)	(7.786)	(8.342)	(8.343)	(5.925)	(5.948)
Cut-off point 4	-21.958***	-22.589***	-3.279	-3.059	-11.616**	-13.241**
	(7.893)	(7.787)	(8.342)	(8.343)	(5.918)	(5.940)
Observations	1,482	1,482	5,092	5,092	2,205	2,205
Panel B. Urban areas						
Self-employed	-0.001	-0.015	0.116	0.114	0.249***	0.264***
	(0.168)	(0.157)	(0.097)	(0.094)	(0.076)	(0.077)
Deposits/GDP	-31.722		0.339		0.150	
	(21.467)		(0.213)		(0.842)	
Self-employed* Deposits /GDP	-0.071		-0.014		0.287	

	(1.013)		(0.315)		(0.344)	
Loans/GDP		-11.815		0.669		-0.359
		(8.012)		(0.419)		(1.335)
Self-employed*Loans/GDP		0.094		-0.061		0.222
		(0.335)		(0.373)		(0.208)
Female	0.003	0.002	0.142*	0.142*	-0.078	-0.079
	(0.097)	(0.097)	(0.077)	(0.077)	(0.055)	(0.055)
Age	-15.036***	-15.026***	-8.247*	-8.249*	-11.785***	-11.823***
	(3.469)	(3.471)	(4.901)	(4.902)	(2.194)	(2.194)
Age squared	2.038***	2.037***	1.098*	1.099*	1.582***	1.587***
	(0.484)	(0.484)	(0.660)	(0.660)	(0.304)	(0.304)
Married	0.574***	0.574***	1.158***	1.159***	0.712***	0.713***
	(0.105)	(0.105)	(0.133)	(0.133)	(0.056)	(0.056)
Education						
High school or college	0.167	0.168	0.238	0.237	0.379**	0.375**
	(0.142)	(0.142)	(0.167)	(0.167)	(0.148)	(0.148)
Bachelor or higher	0.758***	0.761***	0.712***	0.712***	0.786***	0.782***
	(0.168)	(0.168)	(0.183)	(0.183)	(0.152)	(0.152)
Health						
Average	1.019***	1.021***	-0.524*	-0.525*	0.536***	0.537***
	(0.235)	(0.235)	(0.273)	(0.273)	(0.140)	(0.140)
Good	1.526***	1.527***	0.468*	0.468*	1.306***	1.305***
	(0.244)	(0.245)	(0.266)	(0.266)	(0.146)	(0.146)
Working hours	-0.095	-0.096	-0.461**	-0.461**	-0.134	-0.130
	(0.142)	(0.141)	(0.205)	(0.205)	(0.083)	(0.083)
Cut-off point 1	-22.594***	-22.986***	-19.498**	-19.404**	-23.288***	-23.404***
	(7.566)	(7.413)	(9.041)	(9.049)	(3.927)	(3.939)
Cut-off point 2	-21.172***	-21.564***	-17.652*	-17.558*	-21.521***	-21.637***
	(7.561)	(7.409)	(9.038)	(9.046)	(3.928)	(3.939)
Cut-off point 3	-20.101***	-20.493***	-15.006*	-14.912*	-20.264***	-20.379***
	(7.559)	(7.407)	(9.040)	(9.048)	(3.926)	(3.938)
Cut-off point 4	-18.772**	-19.163***	-12.640	-12.546	-17.573***	-17.688***
	(7.558)	(7.406)	(9.039)	(9.047)	(3.925)	(3.937)
Observations	1,575	1,575	3,844	3,844	6,413	6,413

This table reports the ordered logit regressions for model (1) with *Life satisfaction* as the dependent variable for rural and urban sub-samples without big cities. We exclude Kiev from the sample of Ukraine, Moscow and St Petersburg from the sample of Russia and Beijing from the sample of China. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) shows results for China. Columns (5) – (6) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C7. Self-employment, financial development and job satisfaction, controlling for income effect

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Self-employed	-0.826***	-0.820***	0.016	0.006
	(0.139)	(0.138)	(0.063)	(0.062)
Deposits/GDP	-0.721***		1.411***	
	(0.214)		(0.285)	
Self-employed*High Income* Deposits /GDP	0.469		-0.480**	
	(0.417)		(0.216)	
Self-employed*Low Income* Deposits /GDP	-0.115		-0.264	
	(0.587)		(0.302)	
Loans/GDP		-0.378***		-10.964***
		(0.118)		(2.283)
Self-employed*High Income*Loans /GDP		0.027		-0.216
		(0.246)		(0.133)
Self-employed*Low Income*Loans /GDP		-0.361		-0.206
		(0.370)		(0.211)
Female	0.394***	0.389***	0.330***	0.331***
	(0.078)	(0.078)	(0.045)	(0.045)
Age	-5.745*	-5.675*	-12.630***	-12.579***
	(2.948)	(2.947)	(1.705)	(1.705)
Age squared	0.876**	0.866**	1.787***	1.780***
	(0.410)	(0.410)	(0.237)	(0.237)
Married	0.133	0.135	0.202***	0.201***
	(0.087)	(0.087)	(0.045)	(0.045)
Low Income	-0.523**	-0.525**	-0.365***	-0.366***
	(0.204)	(0.204)	(0.132)	(0.132)
High Income	0.649***	0.648***	0.268**	0.270**
	(0.204)	(0.205)	(0.133)	(0.133)
Education				
High school or college	0.058	0.060	0.082	0.079
	(0.100)	(0.100)	(0.100)	(0.100)
Bachelor or higher	0.160	0.160	0.279***	0.272***
	(0.131)	(0.131)	(0.106)	(0.106)
Health				
Average	0.591***	0.589***	0.413***	0.415***
	(0.194)	(0.194)	(0.106)	(0.106)
Good	0.904***	0.904***	0.910***	0.912***
	(0.199)	(0.199)	(0.111)	(0.111)
Working hours	-0.319***	-0.320***	-0.238***	-0.240***
	(0.120)	(0.120)	(0.069)	(0.069)
Cut-off point 1	-12.684**	-12.501**	-25.983***	-25.933***
	(5.255)	(5.252)	(3.060)	(3.060)
Cut-off point 2	-11.327**	-11.144**	-24.308***	-24.258***
	(5.257)	(5.254)	(3.058)	(3.058)
Cut-off point 3	-9.999*	-9.817*	-22.816***	-22.766***
	(5.253)	(5.251)	(3.056)	(3.056)
Cut-off point 4	-7.917	-7.735	-20.285***	-20.235***
	(5.251)	(5.249)	(3.053)	(3.053)
Observations	2,764	2,764	8,543	8,543

This table reports the ordered logit regressions for model (4) with *Job satisfaction* as the dependent variable. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-

unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. $*$, $**$, and $***$ denote 10%, 5%, and 1% significance level, respectively.

Appendix C8. Self-employment, financial development and life satisfaction, controlling for income effect

	Ukraine		China		Russia	
	(1)	(2)	(3)		(4)	(5)
Self-employed	-0.131	-0.118	0.249***	0.251***	0.083	0.081
	(0.141)	(0.141)	(0.054)	(0.053)	(0.065)	(0.062)
Deposits/GDP	-0.878***		0.207		0.513*	
	(0.274)		(0.142)		(0.302)	
Self-employed*High Income*Deposits /GDP	0.756		-0.301		-0.117	
	(0.529)		(0.210)		(0.228)	
Self-employed*Low Income*Deposits /GDP	-0.336		0.280		-0.072	
	(1.119)		(0.255)		(0.371)	
Loans/GDP		-0.484***		0.391		-4.034*
		(0.152)		(0.279)		(2.427)
Self-employed*High Income*Loans /GDP		0.357		-0.172		0.184
		(0.280)		(0.266)		(0.210)
Self-employed*Low Income*Loans /GDP		-0.186		0.209		-0.092
		(0.488)		(0.284)		(0.316)
Female	0.105	0.103	0.163***	0.163***	0.019	0.018
	(0.073)	(0.073)	(0.062)	(0.062)	(0.045)	(0.045)
Age	-19.341***	-19.275***	-8.192***	-8.143***	-14.557***	-14.603***
	(2.751)	(2.748)	(2.989)	(2.988)	(1.743)	(1.743)
Age squared	2.670***	2.660***	1.132***	1.126***	1.983***	1.989***
	(0.383)	(0.382)	(0.402)	(0.402)	(0.241)	(0.241)
Married	0.546***	0.547***	1.135***	1.134***	0.659***	0.659***
	(0.080)	(0.080)	(0.092)	(0.092)	(0.044)	(0.044)
Low Income	-0.536***	-0.536***	-0.105	-0.108	-0.491***	-0.492***
	(0.202)	(0.202)	(0.074)	(0.074)	(0.147)	(0.147)
High Income	0.243	0.244	0.317***	0.322***	0.037	0.039
	(0.201)	(0.201)	(0.074)	(0.074)	(0.147)	(0.147)
Education						
High school or college	0.084	0.084	0.062	0.063	0.274***	0.277***
	(0.098)	(0.098)	(0.060)	(0.060)	(0.106)	(0.106)
Bachelor or higher	0.624***	0.624***	0.442***	0.442***	0.532***	0.532***
	(0.129)	(0.129)	(0.096)	(0.096)	(0.111)	(0.111)
Health						
Average	0.733***	0.736***	0.173	0.171	0.496***	0.498***
	(0.168)	(0.168)	(0.147)	(0.147)	(0.107)	(0.107)
Good	1.168***	1.171***	0.947***	0.946***	1.241***	1.240***
	(0.174)	(0.174)	(0.142)	(0.142)	(0.111)	(0.111)
Working hours	-0.168	-0.166	-0.322***	-0.321***	-0.181***	-0.180***
	(0.111)	(0.111)	(0.108)	(0.108)	(0.063)	(0.063)
Cut-off point 1	-37.102***	-36.900***	-18.115***	-17.963***	-29.041***	-29.134***
	(4.945)	(4.939)	(5.535)	(5.535)	(3.132)	(3.132)
Cut-off point 2	-35.718***	-35.516***	-16.274***	-16.122***	-27.253***	-27.346***
	(4.941)	(4.935)	(5.534)	(5.533)	(3.132)	(3.132)

Cut-off point 3	-34.661***	-34.459***	-13.632**	-13.479**	-25.990***	-26.084***
	(4.938)	(4.932)	(5.534)	(5.534)	(3.131)	(3.131)
Cut-off point 4	-33.282***	-33.080***	-11.303**	-11.151**	-23.223***	-23.316***
	(4.935)	(4.929)	(5.534)	(5.534)	(3.129)	(3.129)
Observations	2,805	2,805	9,467		8,556	8,556

This table reports the ordered logit regressions for model (4) with *Life satisfaction* as the dependent variable. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Column (3) – (4) shows results for China. Columns (5) – (6) show results for Russia. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C9. Self-employment, financial development and job satisfaction for different income level in rural and urban sub-samples

	Ukraine		Russia	
	(1)	(2)	(4)	(5)
Panel A: Rural areas				
Self-employed	-1.140***	-1.119***	-0.143	-0.089
	(0.205)	(0.204)	(0.131)	(0.108)
Deposits/GDP	-0.839**		1.600***	
	(0.330)		(0.279)	
Self-employed*High Income* Deposits /GDP	0.440		-1.067	
	(0.600)		(0.840)	
Self-employed*Low Income* Deposits /GDP	0.329		-0.142	
	(0.523)		(0.673)	
Loans/GDP		-0.414**		-12.229***
		(0.181)		(2.180)
Self-employed*High Income*Loans /GDP		-0.255		-0.028
		(0.421)		(0.389)
Self-employed*Low Income*Loans /GDP		0.091		0.756
		(0.273)		(0.640)
Female	0.504***	0.492***	0.329***	0.326***
	(0.114)	(0.114)	(0.086)	(0.086)
Age	-4.690	-4.672	-4.351	-4.177
	(4.151)	(4.148)	(3.303)	(3.290)
Age squared	0.705	0.702	0.617	0.593
	(0.577)	(0.577)	(0.458)	(0.457)
Married	0.196	0.199	0.249***	0.250***
	(0.129)	(0.128)	(0.087)	(0.087)
Low Income	-0.799***	-0.797***	-0.599**	-0.597**
	(0.293)	(0.294)	(0.279)	(0.280)
High Income	0.490	0.490	-0.094	-0.079
	(0.300)	(0.300)	(0.281)	(0.281)
Education				
High school or college	0.022	0.030	0.059	0.051
	(0.143)	(0.143)	(0.170)	(0.170)
Bachelor or higher	0.361*	0.365*	0.218	0.209
	(0.205)	(0.205)	(0.187)	(0.187)
Health				
Average	0.387	0.383	0.407*	0.391
	(0.256)	(0.255)	(0.239)	(0.241)
Good	0.716***	0.706***	0.841***	0.817***
	(0.262)	(0.262)	(0.246)	(0.249)
Working hours	-0.195	-0.201	-0.119	-0.116
	(0.190)	(0.191)	(0.119)	(0.119)
Cut-off point 1	-11.367	-11.274	-11.525*	-11.263*
	(7.401)	(7.397)	(5.957)	(5.931)
Cut-off point 2	-10.057	-9.965	-10.008*	-9.745
	(7.405)	(7.400)	(5.961)	(5.936)
Cut-off point 3	-8.702	-8.611	-8.551	-8.288
	(7.400)	(7.395)	(5.960)	(5.935)
Cut-off point 4	-6.657	-6.566	-5.730	-5.467
	(7.397)	(7.393)	(5.957)	(5.932)
Observations	1,325	1,325	2,407	2,407

Panel B: Urban areas				
Self-employed	-0.528***	-0.569***	0.060	0.024
	(0.195)	(0.194)	(0.076)	(0.075)
Deposits/GDP	-0.521*		0.696	
	(0.294)		(1.098)	
Self-employed*High Income* Deposits /GDP	0.308		-0.468**	
	(0.650)		(0.224)	
Self-employed*Low Income* Deposits /GDP	-5.113		-0.335	
	(3.539)		(0.338)	
Loans/GDP		-0.299*		-0.918
		(0.163)		(1.744)
Self-employed*High Income*Loans /GDP		0.255		-0.220
		(0.345)		(0.139)
Self-employed*Low Income*Loans /GDP		-1.781		-0.379
		(1.143)		(0.230)
Female	0.331***	0.331***	0.325***	0.326***
	(0.109)	(0.109)	(0.053)	(0.053)
Age	-6.902*	-6.876*	-15.161***	-15.115***
	(4.158)	(4.166)	(1.999)	(1.999)
Age squared	1.060*	1.057*	2.147***	2.140***
	(0.579)	(0.580)	(0.278)	(0.278)
Married	0.052	0.050	0.183***	0.184***
	(0.122)	(0.122)	(0.052)	(0.052)
Low Income	-0.404	-0.415	-0.278*	-0.282*
	(0.286)	(0.286)	(0.152)	(0.151)
High Income	0.703**	0.707**	0.391**	0.393***
	(0.283)	(0.283)	(0.152)	(0.152)
Education				
High school or college	0.077	0.086	0.086	0.092
	(0.143)	(0.143)	(0.125)	(0.125)
Bachelor or higher	0.055	0.058	0.296**	0.300**
	(0.175)	(0.175)	(0.131)	(0.131)
Health				
Average	0.803***	0.807***	0.389***	0.390***
	(0.287)	(0.286)	(0.118)	(0.118)
Good	1.106***	1.116***	0.917***	0.918***
	(0.294)	(0.294)	(0.123)	(0.124)
Working hours	-0.356**	-0.353**	-0.300***	-0.304***
	(0.161)	(0.159)	(0.085)	(0.085)
Cut-off point 1	-14.256*	-14.145*	-30.502***	-30.493***
	(7.394)	(7.405)	(3.573)	(3.580)
Cut-off point 2	-12.789*	-12.679*	-28.743***	-28.735***
	(7.396)	(7.406)	(3.567)	(3.574)
Cut-off point 3	-11.438	-11.328	-27.227***	-27.218***
	(7.392)	(7.402)	(3.564)	(3.571)
Cut-off point 4	-9.235	-9.123	-24.773***	-24.764***
	(7.387)	(7.398)	(3.560)	(3.567)
Observations	1,439	1,439	6,136	6,136

This table reports the ordered logit regressions for model (4) with *Job satisfaction* as the dependent variable on rural-urban sub-samples. In all regression, regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Female* is a dummy variable

that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. $*$, $**$, and $***$ denote 10%, 5%, and 1% significance level, respectively.

Appendix C10. Self-employment, financial development and life satisfaction for different income levels in rural and urban sub-samples

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.214	-0.193	0.319***	0.334***	0.031	-0.028
	(0.209)	(0.211)	(0.072)	(0.069)	(0.140)	(0.111)
Deposits/GDP	-1.280**		0.457**		2.363***	
	(0.506)		(0.218)		(0.466)	
Self-employed*High Income* Deposits /GDP	1.054		-0.493*		-0.259	
	(0.841)		(0.286)		(0.740)	
Self-employed*Low Income* Deposits /GDP	0.559		0.101		0.835	
	(1.358)		(0.317)		(0.754)	
Loans/GDP		-0.698**		0.862**		-19.225***
		(0.282)		(0.425)		(3.725)
Self-employed*High Income*Loans /GDP		0.427		-0.308		1.251
		(0.475)		(0.362)		(0.896)
Self-employed*Low Income*Loans /GDP		0.428		0.106		1.174***
		(0.601)		(0.346)		(0.432)
Female	0.098	0.093	0.163	0.165	-0.172**	-0.178**
	(0.106)	(0.105)	(0.128)	(0.128)	(0.084)	(0.084)
Age	-19.089***	-19.072***	-6.981	-6.900	-12.901***	-13.025***
	(4.104)	(4.098)	(4.450)	(4.447)	(3.263)	(3.258)
Age squared	2.652***	2.650***	0.995*	0.985*	1.769***	1.785***
	(0.572)	(0.571)	(0.594)	(0.594)	(0.452)	(0.451)
Married	0.572***	0.573***	1.275***	1.273***	0.598***	0.608***
	(0.121)	(0.121)	(0.149)	(0.149)	(0.085)	(0.085)
Low Income	-0.396	-0.388	-0.143	-0.142	-0.834**	-0.841**
	(0.268)	(0.267)	(0.096)	(0.096)	(0.344)	(0.343)
High Income	0.407	0.408	0.257**	0.268***	-0.331	-0.318
	(0.274)	(0.273)	(0.101)	(0.101)	(0.344)	(0.343)
Education						
High school or college	0.143	0.147	0.071	0.073	0.175	0.191
	(0.132)	(0.132)	(0.068)	(0.068)	(0.178)	(0.177)
Bachelor or higher	0.514***	0.521***	0.769**	0.766**	0.393**	0.412**
	(0.199)	(0.198)	(0.377)	(0.377)	(0.197)	(0.196)
Health						
Average	0.661***	0.669***	0.595***	0.593***	0.649***	0.627***
	(0.255)	(0.255)	(0.179)	(0.179)	(0.215)	(0.218)
Good	1.123***	1.130***	1.234***	1.234***	1.190***	1.159***
	(0.261)	(0.262)	(0.172)	(0.172)	(0.224)	(0.227)
Working hours	-0.252	-0.252	-0.191	-0.190	-0.190*	-0.190*
	(0.170)	(0.170)	(0.134)	(0.134)	(0.111)	(0.111)
Cut-off point 1	-36.703***	-36.540***	-15.001*	-14.714*	-27.744***	-28.049***
	(7.362)	(7.350)	(8.311)	(8.309)	(5.870)	(5.863)
Cut-off point 2	-35.363***	-35.200***	-13.134	-12.848	-25.918***	-26.219***
	(7.359)	(7.347)	(8.311)	(8.309)	(5.871)	(5.864)

Cut-off point 3	-34.246***	-34.083***	-10.480	-10.193	-24.675***	-24.973***
	(7.356)	(7.344)	(8.311)	(8.310)	(5.869)	(5.862)
Cut-off point 4	-32.859***	-32.697***	-8.158	-7.873	-21.803***	-22.098***
	(7.353)	(7.341)	(8.311)	(8.310)	(5.859)	(5.853)
Observations	1,348	1,348	5,066		2,417	2,417
Panel B: Urban areas						
Self-employed	0.021	0.037	0.093	0.086	0.113	0.101
	(0.214)	(0.203)	(0.097)	(0.095)	(0.077)	(0.075)
Deposits/GDP	-0.592*		0.201		0.094	
	(0.325)		(0.215)		(0.870)	
Self-employed*High Income* Deposits /GDP	0.456		-0.023		-0.122	
	(0.692)		(0.406)		(0.246)	
Self-employed*Low Income* Deposits /GDP	-3.375		0.144		-0.350	
	(3.083)		(0.520)		(0.428)	
Loans/GDP		-0.334*		0.387		-0.078
		(0.180)		(0.422)		(1.383)
Self-employed*High Income*Loans /GDP		0.263		0.123		0.138
		(0.365)		(0.513)		(0.215)
Self-employed*Low Income*Loans /GDP		-0.849		-0.286		-0.337
		(0.940)		(0.592)		(0.337)
Female	0.157	0.156	0.206***	0.207***	0.090*	0.088*
	(0.104)	(0.104)	(0.079)	(0.078)	(0.053)	(0.053)
Age	-20.719***	-20.659***	-10.556**	-10.569**	-15.012***	-15.065***
	(3.836)	(3.830)	(4.948)	(4.953)	(2.069)	(2.068)
Age squared	2.843***	2.835***	1.417**	1.419**	2.040***	2.046***
	(0.532)	(0.531)	(0.666)	(0.667)	(0.286)	(0.286)
Married	0.538***	0.536***	1.146***	1.145***	0.687***	0.688***
	(0.111)	(0.110)	(0.134)	(0.134)	(0.052)	(0.052)
Low Income	-0.599*	-0.599*	-0.152	-0.158	-0.387**	-0.389**
	(0.321)	(0.321)	(0.135)	(0.135)	(0.163)	(0.163)
High Income	0.155	0.157	0.362***	0.362***	0.149	0.151
	(0.314)	(0.314)	(0.128)	(0.128)	(0.164)	(0.164)
Education						
High school or college	0.016	0.018	0.089	0.085	0.292**	0.302**
	(0.150)	(0.151)	(0.167)	(0.166)	(0.134)	(0.134)
Bachelor or higher	0.662***	0.661***	0.440**	0.435**	0.551***	0.558***
	(0.181)	(0.181)	(0.185)	(0.185)	(0.138)	(0.138)
Health						
Average	0.860***	0.866***	-0.645**	-0.657**	0.434***	0.435***
	(0.222)	(0.223)	(0.275)	(0.276)	(0.122)	(0.122)
Good	1.304***	1.312***	0.329	0.319	1.252***	1.252***
	(0.233)	(0.234)	(0.268)	(0.268)	(0.127)	(0.127)
Working hours	-0.094	-0.096	-0.458**	-0.458**	-0.167**	-0.169**
	(0.163)	(0.162)	(0.201)	(0.200)	(0.077)	(0.078)
Cut-off point 1	-39.455***	-39.295***	-23.859***	-23.840***	-29.283***	-29.388***
	(6.905)	(6.893)	(9.131)	(9.145)	(3.714)	(3.715)
Cut-off point 2	-37.988***	-37.828***	-22.017**	-21.998**	-27.507***	-27.612***
	(6.897)	(6.885)	(9.128)	(9.142)	(3.714)	(3.716)

Cut-off point 3	-36.954***	-36.794***	-19.355**	-19.335**	-26.229***	-26.334***
	(6.891)	(6.880)	(9.130)	(9.144)	(3.713)	(3.715)
Cut-off point 4	-35.523***	-35.363***	-16.967*	-16.948*	-23.462***	-23.567***
	(6.887)	(6.875)	(9.128)	(9.142)	(3.711)	(3.712)
Observations	1,457	1,457	3,819	3,819	6,139	6,139

This table reports the ordered logit regressions for model (4) with *Life satisfaction* as the dependent variable on rural-urban sub-samples. In all regression, regional effects are included but not reported. Columns (1) - (2) show results for Ukraine, respectively. Column (3) – (4) show results for China. Columns (5) - (6) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Appendix C11. Financial development and entry/exit self-employment

	Ukraine		Russia
	Probit	IV	Probit
	(1)	(2)	(3)
	Panel A. Enter self-employment		
ΔLoans/GDP	0.015	0.010	0.016*
	(0.036)	(0.016)	(0.009)
Female	-0.037***	-0.034***	-0.016***
	(0.011)	(0.010)	(0.002)
Age	0.062	0.237	0.399***
	(0.422)	(0.564)	(0.086)
Age squared	-0.013	-0.035	-0.060***
	(0.059)	(0.076)	(0.012)
Married	-0.006	-0.028**	-0.009***
	(0.014)	(0.013)	(0.002)
Working hours	0.026	-0.018	-0.010*
	(0.021)	(0.015)	(0.006)
Education			
High school or college	-0.006	-0.036*	-0.018***
	(0.016)	(0.020)	(0.006)
Bachelor or higher	-0.031*	0.022	0.001
	(0.017)	(0.015)	(0.006)
Health			
Average	0.022	0.019	0.002
	(0.016)	(0.016)	(0.006)
Good	0.029*	0.073***	0.003
	(0.017)	(0.023)	(0.003)
Observations	1296	1699	31902
	Panel B. Exit self-employment		
ΔLoans/GDP	0.033	-0.026*	-0.005
	(0.022)	(0.014)	(0.010)
Female	0.017**	0.012	-0.011***
	(0.007)	(0.009)	(0.002)
Age	-0.314	-0.457	0.196**
	(0.321)	(0.558)	(0.090)
Age squared	0.042	0.059	-0.032**
	(0.045)	(0.075)	(0.013)
Married	0.005	0.015	-0.009***
	(0.009)	(0.010)	(0.002)
Working hours	0.016	-0.040***	-0.002
	(0.019)	(0.015)	(0.006)
Education			
High school or college	-0.040**	-0.059***	-0.011*
	(0.017)	(0.018)	(0.007)
Bachelor or higher	-0.054***	0.019	-0.000
	(0.017)	(0.011)	(0.006)
Health			
Average	0.011	0.039***	-0.002
	(0.009)	(0.014)	(0.006)
Good	0.027**	-0.006	0.003
	(0.011)	(0.012)	(0.003)
Observations	1347	1620	30594

This table reports the regressions for models (2) and (3). In all regression, control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine in which column (2) shows results for the regression with

Δ*Branches in 1992* as an instrument for Δ*Loans/GDP*. Column (3) shows results for Russia. Panel A shows results for the probability of entering into self-employment while Panel B reports results for the probability of exit from self-employment. *Enter* is a dummy variable which equals one if the individual moves from paid employment or unemployment into self-employment, 0 if the individual does not change job status or exits self-employment. *Exit* is a dummy variable which equals one if the individual exits self-employment to paid employment, 0 if the individual does not change job status. Δ*Loans/GDP* is the first difference of the relative Loans/GDP ratio compared to the sample average. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. Marginal effects at means are presented in the table. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

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Table 1. Descriptive statistics

	Ukraine			China			Russia		
	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.
Life satisfaction	3.503	1.261	3,371	3.687	0.804	9,544	3.443	0.999	9,386
Job satisfaction	3.837	1.031	3,320				3.689	0.921	9,379
Self-employed	0.116	0.320	3,399	0.184	0.388	9,722	0.152	0.359	9,417
Female	0.495	0.500	3,399	0.132	0.338	9,722	0.509	0.500	9,437
Age	3.637	0.316	3,399	3.791	0.199	9,722	3.639	0.303	9,437
Married	0.695	0.460	3,399	0.932	0.251	9,721	0.584	0.493	9,405
Education									
High school or college	0.637	0.481	3,399	0.763	0.425	9,722	0.645	0.479	9,437
Bachelor or higher	0.177	0.382	3,399	0.082	0.275	9,722	0.308	0.462	9,437
Health									
Average	0.465	0.499	3,399	0.170	0.375	9,722	0.522	0.500	9,437
Good	0.477	0.500	3,399	0.799	0.400	9,722	0.425	0.494	9,437
Working hour	2.129	0.363	3,399	2.120	0.199	9,708	2.188	0.347	9,096
Urban	0.535	0.499	3,399	0.405	0.491	9,722	0.716	0.451	9,437
Deposits/GDP	0.041	0.318	3,399	-0.074	0.347	9,722	-0.015	0.355	9,437
Loans/GDP	-0.025	0.636	3,399	-0.048	0.278	9,722	-0.069	0.488	9,437

This table presents descriptive statistics for data taken from the 2013 wave of the China Household Income Project, the 2012 wave of the Ukrainian Longitudinal Monitoring Survey and the 2013 Russian Longitudinal Monitoring Survey. *Job satisfaction* and *Life satisfaction* are categorical variables that take values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average.

Table 2. Descriptive statistics by job status

	Paid employees			Self-employed			Difference
	Mean	SD	Obs.	Mean	SD	Obs.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Panel A. Ukraine			
Life satisfaction	3.524	1.253	2,980	3.348	1.306	391	0.176***
Job satisfaction	3.898	0.991	2,935	3.374	1.201	385	0.524***
Female	0.516	0.500	3,005	0.338	0.473	394	0.178***
Age	3.632	0.318	3,005	3.678	0.295	394	-0.046***
Married	0.690	0.463	3,005	0.741	0.439	394	-0.052***
Education							
High school or college	0.633	0.482	3,005	0.668	0.472	394	-0.034
Bachelor or higher	0.189	0.391	3,005	0.086	0.281	394	0.102***
Health							
Average	0.466	0.499	3,005	0.457	0.499	394	0.009
Good	0.478	0.500	3,005	0.470	0.500	394	0.008
Working hour	2.114	0.310	3,005	2.247	0.624	394	-0.133***
Urban	0.538	0.499	3,005	0.513	0.500	394	0.026
Deposits/GDP	0.042	0.321	3,005	0.031	0.295	394	0.012
Loans/GDP	-0.029	0.642	3,005	0.002	0.595	394	-0.031
				Panel B. China			
Life satisfaction	3.673	0.805	7,775	3.747	0.796	1,769	-0.073***
Female	0.141	0.348	7,930	0.091	0.288	1,792	0.050***
Age	3.788	0.203	7,930	3.803	0.181	1,792	-0.015***
Married	0.925	0.263	7,929	0.963	0.190	1,792	-0.037***
Education							
High school or college	0.752	0.432	7,930	0.810	0.392	1,792	-0.058***
Bachelor or higher	0.098	0.297	7,930	0.013	0.113	1,792	0.085***
Health							
Average	0.175	0.380	7,930	0.147	0.355	1,792	0.027***
Good	0.794	0.404	7,930	0.823	0.382	1,792	-0.029***
Working hour	0.175	0.380	7,930	0.147	0.355	1,792	0.027
Urban	0.794	0.404	7,930	0.823	0.382	1,792	-0.029***
Deposits/GDP	-0.065	0.358	7,930	-0.113	0.292	1,792	0.048***
Loans/GDP	-0.043	0.283	7,930	-0.072	0.252	1,792	0.029***
				Panel C. Russia			
Life satisfaction	3.436	0.996	7,938	3.489	1.010	1,428	-0.053*
Job satisfaction	3.684	0.917	7,945	3.719	0.941	1,414	-0.034
Female	0.526	0.499	7,985	0.416	0.493	1,432	0.110***
Age	3.645	0.305	7,985	3.599	0.292	1,432	0.046***
Married	0.589	0.492	7,960	0.561	0.496	1,426	0.028***
Education							
High school or college	0.636	0.481	7,985	0.693	0.462	1,432	-0.057***
Bachelor or higher	0.319	0.466	7,985	0.248	0.432	1,432	0.071***
Health							
Average	0.535	0.499	7,985	0.452	0.498	1,432	0.083***
Good	0.413	0.492	7,985	0.489	0.500	1,432	-0.076***
Working hour	2.190	0.351	7,770	2.173	0.308	1,306	0.018*
Urban	0.719	0.450	7,985	0.697	0.460	1,432	0.022*
Deposits/GDP	-0.014	0.357	7,985	-0.022	0.341	1,432	0.008
Loans/GDP	-0.074	0.492	7,985	-0.040	0.457	1,432	-0.035***

This table presents descriptive statistics by job status for data taken from the 2013 wave of the China Household Income Project, the 2012 wave of the Ukrainian Longitudinal Monitoring Survey and the 2013 Russian Longitudinal Monitoring Survey. Columns (1) – (3) show mean, standard deviation and number of observations for the paid employees, respectively.

Columns (4) – (6) show mean, standard deviation and number of observations for the self-employed, respectively. Column (7) shows mean difference between two groups. *Job satisfaction* and *Life satisfaction* are categorical variables that take values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. $*$, $**$, and $***$ denote 10%, 5%, and 1% significance level, respectively.

Table 3. Level of satisfaction

	Ukraine		China		Russia	
	Paid-employees	Self-employed	Paid-employees	Self-employed	Paid-employees	Self-employed
	(1)	(2)	(3)	(4)	(5)	(6)
			Life satisfaction			
			Panel A. Rural area			
Very dissatisfied	8.1%	15.1%	1.0%	0.9%	4.0%	4.4%
Dissatisfied	16.1%	18.2%	5.0%	4.0%	15.6%	15.3%
Neither dissatisfied nor satisfied	21.3%	24.0%	38.7%	29.6%	24.0%	18.6%
Satisfied	28.1%	20.3%	42.8%	50.0%	47.1%	54.0%
Very satisfied	26.4%	22.4%	12.5%	15.5%	9.3%	7.7%
			Panel B. Urban area			
Very dissatisfied	7.1%	6.1%	0.7%	0.8%	4.2%	4.2%
Dissatisfied	15.9%	16.1%	3.4%	4.9%	14.8%	14.2%
Neither dissatisfied nor satisfied	19.5%	25.1%	31.3%	27.3%	24.3%	21.2%
Satisfied	29.3%	25.1%	47.6%	51.6%	46.4%	47.8%
Very satisfied	28.2%	27.6%	17.0%	15.4%	10.3%	12.6%
			Job satisfaction			
			Panel A. Rural area			
Very dissatisfied	3.2%	14.9%			2.9%	3.6%
Dissatisfied	6.9%	14.9%			9.4%	7.9%
Neither dissatisfied nor satisfied	17.5%	22.9%			24.0%	22.0%
Satisfied	42.3%	32.4%			51.3%	56.0%
Very satisfied	30.0%	14.9%			12.4%	10.5%
			Panel B. Urban area			
Very dissatisfied	2.2%	5.6%			2.0%	1.8%
Dissatisfied	7.2%	11.2%			8.6%	8.9%
Neither dissatisfied nor satisfied	17.3%	23.4%			22.4%	22.5%
Satisfied	44.6%	41.1%			50.1%	45.0%
Very satisfied	28.8%	18.8%			16.9%	21.8%

This table presents distribution of the level of life and job satisfaction of paid-employees and self-employed in Ukraine, China and Russia in our sample. Panel A reports the summary statistics for rural sub-sample, while Panel B shows the summary statistics for urban sub-sample.

Table 4. Self-employment and satisfaction

	Job satisfaction		Life satisfaction		
	Ukraine	Russia	Ukraine	China	Russia
	(1)	(2)	(3)	(4)	(5)
Self-employed	-0.727***	0.095	-0.113	0.277***	0.138**
	(0.110)	(0.060)	(0.106)	(0.050)	(0.060)
Female	0.133**	0.135***	-0.012	0.108*	-0.113***
	(0.067)	(0.042)	(0.066)	(0.062)	(0.042)
Age	-0.209	-9.054***	-16.973***	-6.036**	-11.239***
	(2.501)	(1.646)	(2.424)	(2.979)	(1.673)
Age squared	0.093	1.288***	2.336***	0.823**	1.519***
	(0.349)	(0.229)	(0.338)	(0.400)	(0.231)
Married	0.234***	0.194***	0.603***	1.139***	0.665***
	(0.078)	(0.044)	(0.073)	(0.092)	(0.043)
Education					
High school or college	0.177**	0.154	0.229**	0.129**	0.312***
	(0.090)	(0.097)	(0.090)	(0.060)	(0.104)
Bachelor or higher	0.410***	0.484***	0.796***	0.612***	0.688***
	(0.118)	(0.102)	(0.115)	(0.094)	(0.108)
Health					
Average	0.485***	0.465***	0.708***	0.220	0.563***
	(0.180)	(0.106)	(0.162)	(0.147)	(0.107)
Good	0.831***	0.970***	1.187***	1.006***	1.313***
	(0.184)	(0.110)	(0.168)	(0.142)	(0.111)
Working hour	-0.198**	-0.213***	-0.150	-0.262**	-0.158**
	(0.101)	(0.067)	(0.097)	(0.107)	(0.062)
Cut-off point 1	-2.085	-18.617***	-31.902***	-14.431***	-22.542***
	(4.400)	(2.937)	(4.300)	(5.514)	(2.996)
Cut-off point 2	-0.806	-16.963***	-30.513***	-12.586**	-20.766***
	(4.403)	(2.934)	(4.298)	(5.513)	(2.996)
Cut-off point 3	0.434	-15.493***	-29.480***	-9.959*	-19.511***
	(4.401)	(2.933)	(4.295)	(5.514)	(2.995)
Cut-off point 4	2.368	-13.016***	-28.158***	-7.647	-16.774***
	(4.401)	(2.930)	(4.293)	(5.514)	(2.993)
Observations	3,342	8,891	3,342	9,524	8,903

This table reports the ordered logit regression of self-employment and satisfaction in China, Ukraine and Russia for reduced-form of model (1). In all regression, regional effects are included but not reported. Columns (1) - (2) show results for job satisfaction in Ukraine and Russia, respectively, while columns (3) - (5) show results for life satisfaction in Ukraine, China and Russia, respectively. *Job satisfaction* and *Life satisfaction* are categorical variables that take values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table 5. Self-employment, financial development and job satisfaction

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Self-employed	-0.733***	-0.726***	0.087	0.084
	(0.112)	(0.110)	(0.060)	(0.060)
Deposits/GDP	-0.516**		1.224***	
	(0.205)		(0.285)	
Self-employed* Deposits /GDP	0.126		-0.484***	
	(0.315)		(0.176)	
Loans/GDP		-0.269**		-9.366***
		(0.114)		(2.285)
Self-employed*Loans/GDP		-0.102		-0.221**
		(0.172)		(0.111)
Female	0.134**	0.131*	0.134***	0.135***
	(0.068)	(0.068)	(0.042)	(0.042)
Age	-0.242	-0.166	-9.034***	-9.003***
	(2.501)	(2.500)	(1.647)	(1.647)
Age squared	0.098	0.087	1.286***	1.281***
	(0.349)	(0.348)	(0.229)	(0.229)
Married	0.234***	0.235***	0.194***	0.193***
	(0.079)	(0.079)	(0.044)	(0.044)
Education				
High school or college	0.177*	0.178**	0.161*	0.155
	(0.090)	(0.090)	(0.097)	(0.097)
Bachelor or higher	0.409***	0.409***	0.496***	0.487***
	(0.118)	(0.118)	(0.102)	(0.102)
Health				
Average	0.486***	0.481***	0.465***	0.466***
	(0.180)	(0.180)	(0.105)	(0.106)
Good	0.832***	0.828***	0.972***	0.973***
	(0.184)	(0.184)	(0.110)	(0.110)
Working hours	-0.199**	-0.199**	-0.213***	-0.216***
	(0.101)	(0.101)	(0.067)	(0.067)
Cut-off point 1	-2.571	-2.395	-19.361***	-19.347***
	(4.411)	(4.407)	(2.949)	(2.949)
Cut-off point 2	-1.292	-1.115	-17.706***	-17.693***
	(4.414)	(4.409)	(2.947)	(2.946)
Cut-off point 3	-0.052	0.125	-16.236***	-16.223***
	(4.412)	(4.407)	(2.945)	(2.944)
Cut-off point 4	1.882	2.059	-13.757***	-13.745***
	(4.412)	(4.407)	(2.942)	(2.942)
Observations	3,294	3,294	8,891	8,891

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable. In all regression, regional effects are included but not reported. Columns (1) - (2) show results for Ukraine. Columns (3) - (4) show results for Russia. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 6. Self-employment, financial development and life satisfaction

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Self-employed	-0.129	-0.113	0.265***	0.276***	0.135**	0.139**
	(0.106)	(0.106)	(0.054)	(0.053)	(0.060)	(0.059)
Deposits/GDP	-0.807***		0.321**		0.389	
	(0.263)		(0.141)		(0.301)	
Self-employed*Deposits/GDP	0.547		-0.106		-0.216	
	(0.355)		(0.162)		(0.183)	
Loans/GDP		-0.448***		0.612**		-2.918
		(0.146)		(0.276)		(2.412)
Self-employed*Loans/GDP		0.295*		-0.015		0.032
		(0.177)		(0.192)		(0.166)
Female	-0.006	-0.008	0.108*	0.108*	-0.113***	-0.113***
	(0.066)	(0.066)	(0.062)	(0.062)	(0.042)	(0.042)
Age	-17.101***	-17.076***	-6.028**	-6.036**	-11.228***	-11.246***
	(2.430)	(2.430)	(2.980)	(2.979)	(1.673)	(1.674)
Age squared	2.354***	2.351***	0.822**	0.823**	1.517***	1.520***
	(0.339)	(0.339)	(0.400)	(0.400)	(0.232)	(0.232)
Married	0.602***	0.603***	1.140***	1.139***	0.665***	0.665***
	(0.073)	(0.073)	(0.092)	(0.092)	(0.043)	(0.043)
Education						
High school or college	0.227**	0.230**	0.129**	0.129**	0.315***	0.312***
	(0.090)	(0.090)	(0.060)	(0.060)	(0.104)	(0.104)
Bachelor or higher	0.794***	0.799***	0.610***	0.612***	0.693***	0.688***
	(0.115)	(0.115)	(0.094)	(0.094)	(0.108)	(0.108)
Health						
Average	0.713***	0.716***	0.220	0.220	0.561***	0.563***
	(0.162)	(0.162)	(0.147)	(0.147)	(0.107)	(0.107)
Good	1.190***	1.193***	1.006***	1.006***	1.313***	1.313***
	(0.168)	(0.168)	(0.142)	(0.142)	(0.111)	(0.111)
Working hours	-0.152	-0.150	-0.260**	-0.262**	-0.158**	-0.158**
	(0.097)	(0.097)	(0.107)	(0.107)	(0.062)	(0.062)
Cut-off point 1	-32.776***	-32.644***	-14.115**	-14.040**	-22.763***	-22.811***
	(4.321)	(4.319)	(5.520)	(5.521)	(2.996)	(2.998)
Cut-off point 2	-31.386***	-31.253***	-12.269**	-12.194**	-20.987***	-21.035***
	(4.318)	(4.317)	(5.519)	(5.520)	(2.996)	(2.998)
Cut-off point 3	-30.353***	-30.220***	-9.643*	-9.568*	-19.732***	-19.780***
	(4.316)	(4.314)	(5.519)	(5.520)	(2.995)	(2.997)
Cut-off point 4	-29.031***	-28.898***	-7.331	-7.256	-16.994***	-17.043***
	(4.313)	(4.312)	(5.519)	(5.521)	(2.994)	(2.996)
Observations	3,342	3,342	9,524	9,524	8,903	8,903

This table reports the ordered logit regressions for model (1) with *Life satisfaction* as the dependent variable. In all regression, regional effects are included but not reported. Columns (1) - (2) show results for Ukraine. Columns (3) – (4) show results for China. Columns (5) - (6) show results for Russia. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Female* is a dummy variable that equals one if the individual is female, zero otherwise. *Age* is the natural logarithm of an individual's age in the interviewing year. *Working hours* is the natural logarithm of the average working hour per day. *Education* reports dummies for the individual' highest educational level with secondary school or lower as the reference group. *Married* is a dummy variable that equals one if the individual is married or cohabited, zero otherwise. *Health* reports dummies for the individual's health condition with bad condition as the reference group. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 7. Self-employment, financial development and job satisfaction, rural and urban sub-samples

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Panel A. Rural areas				
Self-employed	-0.873***	-0.887***	-0.144	-0.045
	(0.162)	(0.162)	(0.126)	(0.106)
Deposits/GDP	-0.848**		1.494***	
	(0.332)		(0.278)	
Self-employed*Deposits /GDP	-0.125		-0.841	
	(0.475)		(0.585)	
Loans/GDP		-0.445**		-11.233***
		(0.183)		(2.183)
Self-employed*Loans/GDP		-0.290		0.072
		(0.245)		(0.334)
Cut-off point 1	-2.593	-2.166	-8.032	-8.007
	(6.587)	(6.584)	(5.579)	(5.581)
Cut-off point 2	-1.428	-1.001	-6.548	-6.523
	(6.589)	(6.587)	(5.583)	(5.585)
Cut-off point 3	-0.198	0.230	-5.112	-5.088
	(6.585)	(6.583)	(5.582)	(5.584)
Cut-off point 4	1.715	2.144	-2.335	-2.312
	(6.585)	(6.582)	(5.580)	(5.582)
Observations	1,538	1,538	2,481	2,481
Panel B. Urban areas				
Self-employed	-0.523***	-0.525***	0.146**	0.118
	(0.160)	(0.153)	(0.072)	(0.073)
Deposits/GDP	-0.147		0.874	
	(0.251)		(1.094)	
Self-employed*Deposits /GDP	-0.062		-0.496***	
	(0.451)		(0.186)	
Loans/GDP		-0.081		-1.210
		(0.140)		(1.737)
Self-employed*Loans/GDP		-0.047		-0.230**
		(0.259)		(0.117)
Cut-off point 1	-3.907	-3.910	-22.767***	-22.749***
	(5.967)	(5.968)	(3.453)	(3.461)
Cut-off point 2	-2.440	-2.442	-21.022***	-21.004***
	(5.971)	(5.972)	(3.447)	(3.455)
Cut-off point 3	-1.147	-1.149	-19.528***	-19.510***
	(5.969)	(5.970)	(3.444)	(3.453)
Cut-off point 4	0.880	0.878	-17.128***	-17.111***
	(5.968)	(5.969)	(3.441)	(3.449)
Observations	1,756	1,756	6,410	6,410

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable for rural and urban sub-samples. In all regression, all control variables and regional effects are included but not reported. Columns (1) - (2) show results for Ukraine. Columns (3) - (4) show results for Russia. Panels A- B present results for rural area and urban area, respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 8. Self-employment, financial development and life satisfaction, rural and urban sub-samples

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.268	-0.254	0.346***	0.369***	-0.002	0.012
	(0.175)	(0.182)	(0.072)	(0.070)	(0.136)	(0.111)
Deposits/GDP	-1.349***		0.541**		2.252***	
	(0.484)		(0.216)		(0.471)	
Self-employed*Deposits /GDP	0.315		-0.214		-0.089	
	(0.673)		(0.221)		(0.573)	
Loans/GDP		-0.757***		1.011**		-18.220***
		(0.270)		(0.421)		(3.778)
Self-employed*Loans/GDP		0.220		-0.073		1.052**
		(0.338)		(0.257)		(0.448)
Cut-off point 1	-38.069***	-37.943***	-10.097	-9.876	-24.192***	-24.588***
	(6.649)	(6.649)	(8.340)	(8.342)	(5.635)	(5.636)
Cut-off point 2	-36.753***	-36.626***	-8.229	-8.009	-22.376***	-22.769***
	(6.648)	(6.648)	(8.342)	(8.343)	(5.636)	(5.636)
Cut-off point 3	-35.687***	-35.560***	-5.586	-5.365	-21.147***	-21.538***
	(6.644)	(6.644)	(8.342)	(8.343)	(5.634)	(5.634)
Cut-off point 4	-34.363***	-34.236***	-3.279	-3.059	-18.319***	-18.706***
	(6.640)	(6.640)	(8.342)	(8.343)	(5.626)	(5.627)
Observations	1,564	1,564	5,092	5,092	2,490	2,490
Panel B. Urban areas						
Self-employed	0.016	0.043	0.116	0.114	0.183**	0.173**
	(0.151)	(0.147)	(0.097)	(0.094)	(0.071)	(0.071)
Deposits/GDP	-0.418		0.339		0.224	
	(0.286)		(0.213)		(0.847)	
Self-employed* Deposits /GDP	0.585		-0.014		-0.281	
	(0.453)		(0.315)		(0.201)	
Loans/GDP		-0.228		0.669		-0.267
		(0.159)		(0.419)		(1.346)
Self-employed*Loans/GDP		0.281		-0.061		-0.041
		(0.232)		(0.373)		(0.172)
Cut-off point 1	-30.461***	-30.303***	-19.498**	-19.404**	-21.981***	-21.998***
	(5.812)	(5.807)	(9.041)	(9.049)	(3.551)	(3.556)
Cut-off point 2	-28.952***	-28.794***	-17.652*	-17.558*	-20.218***	-20.234***
	(5.807)	(5.802)	(9.038)	(9.046)	(3.551)	(3.556)
Cut-off point 3	-27.917***	-27.758***	-15.006*	-14.912*	-18.946***	-18.963***
	(5.803)	(5.799)	(9.040)	(9.048)	(3.550)	(3.555)
Cut-off point 4	-26.546***	-26.388***	-12.640	-12.546	-16.208***	-16.225***
	(5.800)	(5.796)	(9.039)	(9.047)	(3.549)	(3.555)
Observations	1,778	1,778	3,844	3,844	6,413	6,413

This table reports the ordered logit regressions for model (1) with Life satisfaction as the dependent variable for rural and urban sub-samples. In all regression, all control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Column (3) shows results for China. Columns (4) – (5) show results for Russia. Panels A-B present results for rural area and urban area, respectively. Life satisfaction is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). Deposits/GDP is the relative Deposits/GDP ratio compared to the sample average. Loans/GDP is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 9. Enter/exit self-employment

	Ukraine		Russia
	Probit	IV	Probit
	(1)	(2)	(3)
	Panel A. Enter self-employment		
ΔLoans/GDP	0.015	0.010	0.016*
	(0.036)	(0.016)	(0.009)
Observations	1,296	1,699	31,902
	Panel B. Exit self-employment		
ΔLoans/GDP	0.033	-0.026*	-0.005
	(0.022)	(0.014)	(0.010)
Observations	1,347	1,620	30,594

This table reports the regressions for models (2) and (3). In all regression, control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine in which column (2) shows results for the regression with Δ*Branches in 1992* as an instrument for Δ*Loans/GDP*. Column (3) shows results for Russia. Panel A shows results for the probability of entering into self-employment while Panel B reports results for the probability of exit from self-employment. *Enter* is a dummy variable which equals one if the individual moves from paid employment or unemployment into self-employment, 0 if the individual does not change job status or exits self-employment. *Exit* is a dummy variable which equals one if the individual exits self-employment to paid employment, 0 if the individual does not change job status. Δ*Loans/GDP* is the first difference of the relative Loans/GDP ratio compared to the sample average. Marginal effects at means are presented in the table. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table 10. Self-employment, financial development and satisfaction, sample without big cities

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: Life satisfaction			
Self-employed	-0.195*	-0.210*	0.265***	0.276***	0.201***	0.206***
	(0.110)	(0.110)	(0.054)	(0.053)	(0.064)	(0.063)
Deposits/GDP	-41.491***		0.321**		0.176	
	(14.308)		(0.141)		(0.305)	
Self-employed* Deposits /GDP	-0.745		-0.106		0.247	
	(0.577)		(0.162)		(0.294)	
Loans/GDP		-15.299***		0.612**		-1.654
		(5.366)		(0.276)		(2.440)
Self-employed*Loans/GDP		-0.079		-0.015		0.268
		(0.239)		(0.192)		(0.196)
Cut-off point 1	-23.838***	-24.466***	-14.115**	-14.040**	-21.739***	-21.948***
	(5.192)	(5.120)	(5.520)	(5.521)	(3.273)	(3.283)
Cut-off point 2	-22.488***	-23.117***	-12.269**	-12.194**	-19.952***	-20.160***
	(5.190)	(5.118)	(5.519)	(5.520)	(3.273)	(3.284)
Cut-off point 3	-21.418***	-22.047***	-9.643*	-9.568*	-18.711***	-18.919***
	(5.189)	(5.117)	(5.519)	(5.520)	(3.272)	(3.283)
Cut-off point 4	-20.106***	-20.736***	-7.331	-7.256	-16.010***	-16.218***
	(5.188)	(5.115)	(5.519)	(5.521)	(3.271)	(3.281)
Observations	3,057	3,057	9,524	9,524	7,481	7,481
			Panel B: Job Satisfaction			
Self-employed	-0.746***	-0.758***			0.115*	0.129*
	(0.116)	(0.115)			(0.067)	(0.067)
Deposits/GDP	-23.257*				1.029***	
	(12.805)				(0.291)	
Self-employed* Deposits /GDP	-0.890				-0.642**	
	(0.569)				(0.308)	
Loans/GDP		-8.896*				-7.678***
		(4.776)				(2.321)
Self-employed*Loans/GDP		-0.531**				-0.120
		(0.253)				(0.123)
Cut-off point 1	2.266	2.028			-18.004***	-18.628***
	(5.196)	(5.119)			(3.205)	(3.224)
Cut-off point 2	3.519	3.284			-16.342***	-16.965***
	(5.198)	(5.122)			(3.204)	(3.223)
Cut-off point 3	4.730	4.497			-14.848***	-15.471***
	(5.197)	(5.120)			(3.202)	(3.221)
Cut-off point 4	6.641	6.408			-12.322***	-12.947***
	(5.197)	(5.120)			(3.200)	(3.218)
Observations	3,012	3,012			7,467	7,467

This table reports the ordered logit regressions for model (1) with *Job satisfaction* and *Life satisfaction* as the dependent variable for the samples without big cities. We exclude Kiev from the sample of Ukraine and Moscow and St Petersburg from the sample of Russia. In all regression, all control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for China. Columns (5) – (6) show results for Russia. Panel A is for life satisfaction. Panel B is for job satisfaction. *Life satisfaction* and *Job satisfaction* are categorical variables that take values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 11. Self-employment, financial development and job satisfaction for rural and urban sub-sample without big cities

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Panel A: Rural areas				
Self-employed	-0.956***	-0.942***	-0.063	-0.023
	(0.168)	(0.167)	(0.117)	(0.114)
Deposits/GDP	-41.493**		1.499***	
	(17.133)		(0.289)	
Self-employed* Deposits /GDP	-1.602**		-0.878	
	(0.685)		(0.620)	
Loans/GDP		-15.706**		-11.235***
		(6.355)		(2.264)
Self-employed*Loans/GDP		-0.859***		0.116
		(0.286)		(0.346)
Cut-off point 1	3.837	3.857	-4.765	-5.448
	(7.397)	(7.327)	(5.849)	(5.851)
Cut-off point 2	4.983	5.004	-3.273	-3.956
	(7.399)	(7.329)	(5.854)	(5.856)
Cut-off point 3	6.208	6.231	-1.808	-2.492
	(7.396)	(7.327)	(5.853)	(5.855)
Cut-off point 4	8.105	8.129	1.057	0.372
	(7.397)	(7.327)	(5.851)	(5.852)
Observations	1,456	1,456	2,194	2,194
Panel B. Urban areas				
Self-employed	-0.492***	-0.533***	0.190**	0.193**
	(0.169)	(0.160)	(0.081)	(0.084)
Deposits/GDP	-19.383		0.894	
	(24.956)		(1.105)	
Self-employed* Deposits /GDP	-0.818		-0.525	
	(1.123)		(0.353)	
Loans/GDP		-7.174		-1.305
		(9.288)		(1.753)
Self-employed*Loans/GDP		-0.210		-0.088
		(0.483)		(0.135)
Cut-off point 1	1.376	1.016	-22.898***	-23.188***
	(7.911)	(7.740)	(3.782)	(3.811)
Cut-off point 2	2.821	2.461	-21.134***	-21.423***
	(7.917)	(7.745)	(3.777)	(3.806)
Cut-off point 3	4.068	3.709	-19.619***	-19.908***
	(7.915)	(7.744)	(3.774)	(3.803)
Cut-off point 4	6.082	5.721	-17.197***	-17.488***
	(7.915)	(7.743)	(3.771)	(3.799)
Observations	1,556	1,556	5,273	5,273

This table reports the ordered logit regressions for model (1) with *Job satisfaction* as the dependent variable for rural and urban sub-samples without big cities. We exclude Kiev from the sample of Ukraine and Moscow and St Petersburg from the sample of Russia. In all regression, all control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 12. Self-employment, financial development and life satisfaction for rural and urban sub-samples without big cities

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.433**	-0.426**	0.346***	0.369***	0.068	0.007
	(0.170)	(0.177)	(0.072)	(0.070)	(0.127)	(0.121)
Deposits/GDP	-67.043***		0.541**		2.162***	
	(22.874)		(0.216)		(0.468)	
Self-employed* Deposits /GDP	-1.409*		-0.214		0.116	
	(0.766)		(0.221)		(0.598)	
Loans/GDP		-24.988***		1.011**		-17.701***
		(8.583)		(0.421)		(3.759)
Self-employed*Loans/GDP		-0.387		-0.073		1.161**
		(0.414)		(0.257)		(0.456)
Cut-off point 1	-25.747***	-26.373***	-10.097	-9.876	-17.487***	-19.123***
	(7.893)	(7.787)	(8.340)	(8.342)	(5.925)	(5.948)
Cut-off point 2	-24.419***	-25.048***	-8.229	-8.009	-15.647***	-17.281***
	(7.893)	(7.786)	(8.342)	(8.343)	(5.926)	(5.949)
Cut-off point 3	-23.312***	-23.942***	-5.586	-5.365	-14.432**	-16.062***
	(7.892)	(7.786)	(8.342)	(8.343)	(5.925)	(5.948)
Cut-off point 4	-21.958***	-22.589***	-3.279	-3.059	-11.616**	-13.241**
	(7.893)	(7.787)	(8.342)	(8.343)	(5.918)	(5.940)
Observations	1,482	1,482	5,092	5,092	2,205	2,205
Panel B. Urban areas						
Self-employed	-0.001	-0.015	0.116	0.114	0.249***	0.264***
	(0.168)	(0.157)	(0.097)	(0.094)	(0.076)	(0.077)
Deposits/GDP	-31.722		0.339		0.150	
	(21.467)		(0.213)		(0.842)	
Self-employed* Deposits /GDP	-0.071		-0.014		0.287	
	(1.013)		(0.315)		(0.344)	
Loans/GDP		-11.815		0.669		-0.359
		(8.012)		(0.419)		(1.335)
Self-employed*Loans/GDP		0.094		-0.061		0.222
		(0.335)		(0.373)		(0.208)
Cut-off point 1	-22.594***	-22.986***	-19.498**	-19.404**	-23.288***	-23.404***
	(7.566)	(7.413)	(9.041)	(9.049)	(3.927)	(3.939)
Cut-off point 2	-21.172***	-21.564***	-17.652*	-17.558*	-21.521***	-21.637***
	(7.561)	(7.409)	(9.038)	(9.046)	(3.928)	(3.939)
Cut-off point 3	-20.101***	-20.493***	-15.006*	-14.912*	-20.264***	-20.379***
	(7.559)	(7.407)	(9.040)	(9.048)	(3.926)	(3.938)
Cut-off point 4	-18.772**	-19.163***	-12.640	-12.546	-17.573***	-17.688***
	(7.558)	(7.406)	(9.039)	(9.047)	(3.925)	(3.937)
Observations	1,575	1,575	3,844	3,844	6,413	6,413

This table reports the ordered logit regressions for model (1) with *Life satisfaction* as the dependent variable for rural and urban sub-samples without big cities. We exclude Kiev from the sample of Ukraine, Moscow and St Petersburg from the sample of Russia and Beijing from the sample of China. In all regression, all control variables and regional effects are included but not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) shows results for China. Columns (5) – (6) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 13. Self-employment, financial development and satisfaction, controlling for income effect

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Life satisfaction						
Self-employed	-0.131	-0.118	0.249***	0.251***	0.083	0.081
	(0.141)	(0.141)	(0.054)	(0.053)	(0.065)	(0.062)
Deposits/GDP	-0.878***		0.207		0.513*	
	(0.274)		(0.142)		(0.302)	
Self-employed*High Income*Deposits /GDP	0.756		-0.301		-0.117	
	(0.529)		(0.210)		(0.228)	
Self-employed*Low Income*Deposits /GDP	-0.336		0.280		-0.072	
	(1.119)		(0.255)		(0.371)	
Loans/GDP		-0.484***		0.391		-4.034*
		(0.152)		(0.279)		(2.427)
Self-employed*High Income*Loans /GDP		0.357		-0.172		0.184
		(0.280)		(0.266)		(0.210)
Self-employed*Low Income*Loans /GDP		-0.186		0.209		-0.092
		(0.488)		(0.284)		(0.316)
Observations	2,805	2,805	9,467	9,467	8,556	8,556
Panel B: Job satisfaction						
Self-employed	-0.826***	-0.820***			0.016	0.006
	(0.139)	(0.138)			(0.063)	(0.062)
Deposits/GDP	-0.721***				1.411***	
	(0.214)				(0.285)	
Self-employed*High Income*Deposits /GDP	0.469				-0.480**	
	(0.417)				(0.216)	
Self-employed*Low Income*Deposits /GDP	-0.115				-0.264	
	(0.587)				(0.302)	
Loans/GDP		-0.378***				-10.964***
		(0.118)				(2.283)
Self-employed*High Income*Loans /GDP		0.027				-0.216
		(0.246)				(0.133)
Self-employed*Low Income*Loans /GDP		-0.361				-0.206
		(0.370)				(0.211)
Observations	2,764	2,764			8,543	8,543

This table reports the ordered logit regressions for model (4) with *Life satisfaction* and *Job satisfaction* as the dependent variable. In all regression, all control variables and regional effects are included but not reported. For the sake of space, cut-off points are not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for China. Columns (5) – (6) show results for Russia. Panel A is for life satisfaction. Panel B is for job satisfaction. *Life satisfaction* and *Job satisfaction* are categorical variables that take values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 14. Self-employment, financial development and job satisfaction for different income level in rural and urban sub-samples

	Ukraine		Russia	
	(1)	(2)	(3)	(4)
Panel A: Rural areas				
Self-employed	-1.140***	-1.119***	-0.143	-0.089
	(0.205)	(0.204)	(0.131)	(0.108)
Deposits/GDP	-0.839**		1.600***	
	(0.330)		(0.279)	
Self-employed*High Income*Deposits /GDP	0.440		-1.067	
	(0.600)		(0.840)	
Self-employed*Low Income*Deposits /GDP	0.329		-0.142	
	(0.523)		(0.673)	
Loans/GDP		-0.414**		-12.229***
		(0.181)		(2.180)
Self-employed*High Income*Loans /GDP		-0.255		-0.028
		(0.421)		(0.389)
Self-employed*Low Income*Loans /GDP		0.091		0.756
		(0.273)		(0.640)
Observations	1,325	1,325	2,407	2,407
Panel B: Urban areas				
Self-employed	-0.528***	-0.569***	0.060	0.024
	(0.195)	(0.194)	(0.076)	(0.075)
Deposits/GDP	-0.521*		0.696	
	(0.294)		(1.098)	
Self-employed*High Income*Deposits /GDP	0.308		-0.468**	
	(0.650)		(0.224)	
Self-employed*Low Income*Deposits /GDP	-5.113		-0.335	
	(3.539)		(0.338)	
Loans/GDP		-0.299*		-0.918
		(0.163)		(1.744)
Self-employed*High Income*Loans /GDP		0.255		-0.220
		(0.345)		(0.139)
Self-employed*Low Income*Loans /GDP		-1.781		-0.379
		(1.143)		(0.230)
Observations	1,439	1,439	6,136	6,136

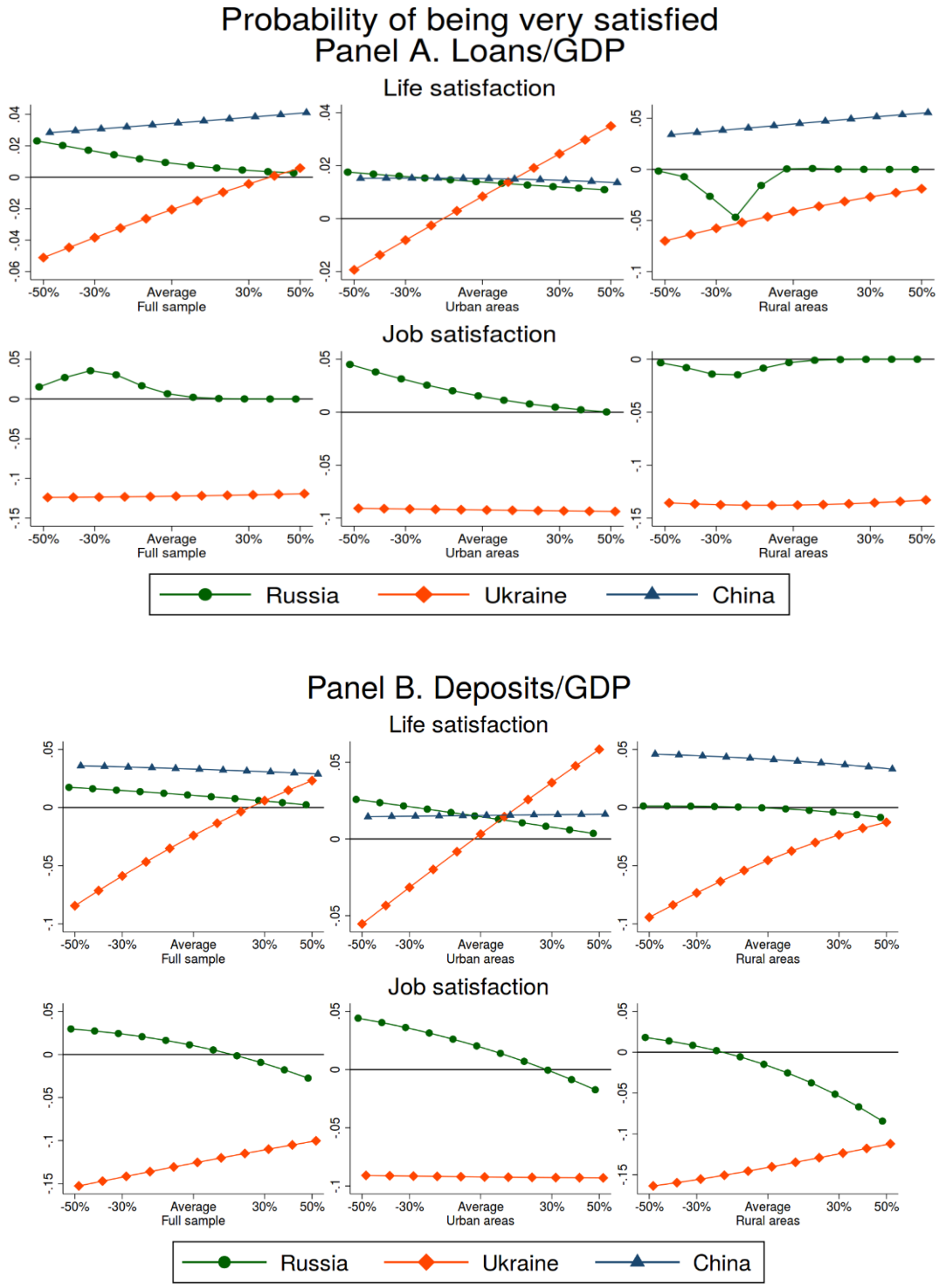
This table reports the ordered logit regressions for model (4) with *Job satisfaction* as the dependent variable on rural-urban sub-samples. In all regression, all control variables and regional effects are included but not reported. For the sake of space, cut-off points are not reported. Columns (1) – (2) show results for Ukraine. Columns (3) – (4) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Job satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Table 15. Self-employment, financial development and life satisfaction for different income levels in rural and urban sub-samples

	Ukraine		China		Russia	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Rural areas						
Self-employed	-0.214	-0.193	0.319***	0.334***	0.031	-0.028
	(0.209)	(0.211)	(0.072)	(0.069)	(0.140)	(0.111)
Deposits/GDP	-1.280**		0.457**		2.363***	
	(0.506)		(0.218)		(0.466)	
Self-employed*High Income*Deposits /GDP	1.054		-0.493*		-0.259	
	(0.841)		(0.286)		(0.740)	
Self-employed*Low Income*Deposits /GDP	0.559		0.101		0.835	
	(1.358)		(0.317)		(0.754)	
Loans/GDP		-0.698**		0.862**		-19.225***
		(0.282)		(0.425)		(3.725)
Self-employed*High Income*Loans /GDP		0.427		-0.308		1.251
		(0.475)		(0.362)		(0.896)
Self-employed*Low Income*Loans /GDP		0.428		0.106		1.174***
		(0.601)		(0.346)		(0.432)
Observations	1,348	1,348	5,066		2,417	2,417
Panel B: Urban areas						
Self-employed	0.021	0.037	0.093	0.086	0.113	0.101
	(0.214)	(0.203)	(0.097)	(0.095)	(0.077)	(0.075)
Deposits/GDP	-0.592*		0.201		0.094	
	(0.325)		(0.215)		(0.870)	
Self-employed*High Income* Deposits /GDP	0.456		-0.023		-0.122	
	(0.692)		(0.406)		(0.246)	
Self-employed*Low Income* Deposits /GDP	-3.375		0.144		-0.350	
	(3.083)		(0.520)		(0.428)	
Loans/GDP		-0.334*		0.387		-0.078
		(0.180)		(0.422)		(1.383)
Self-employed*High Income*Loans /GDP		0.263		0.123		0.138
		(0.365)		(0.513)		(0.215)
Self-employed*Low Income*Loans /GDP		-0.849		-0.286		-0.337
		(0.940)		(0.592)		(0.337)
Observations	1,457	1,457	3,819	3,819	6,139	6,139

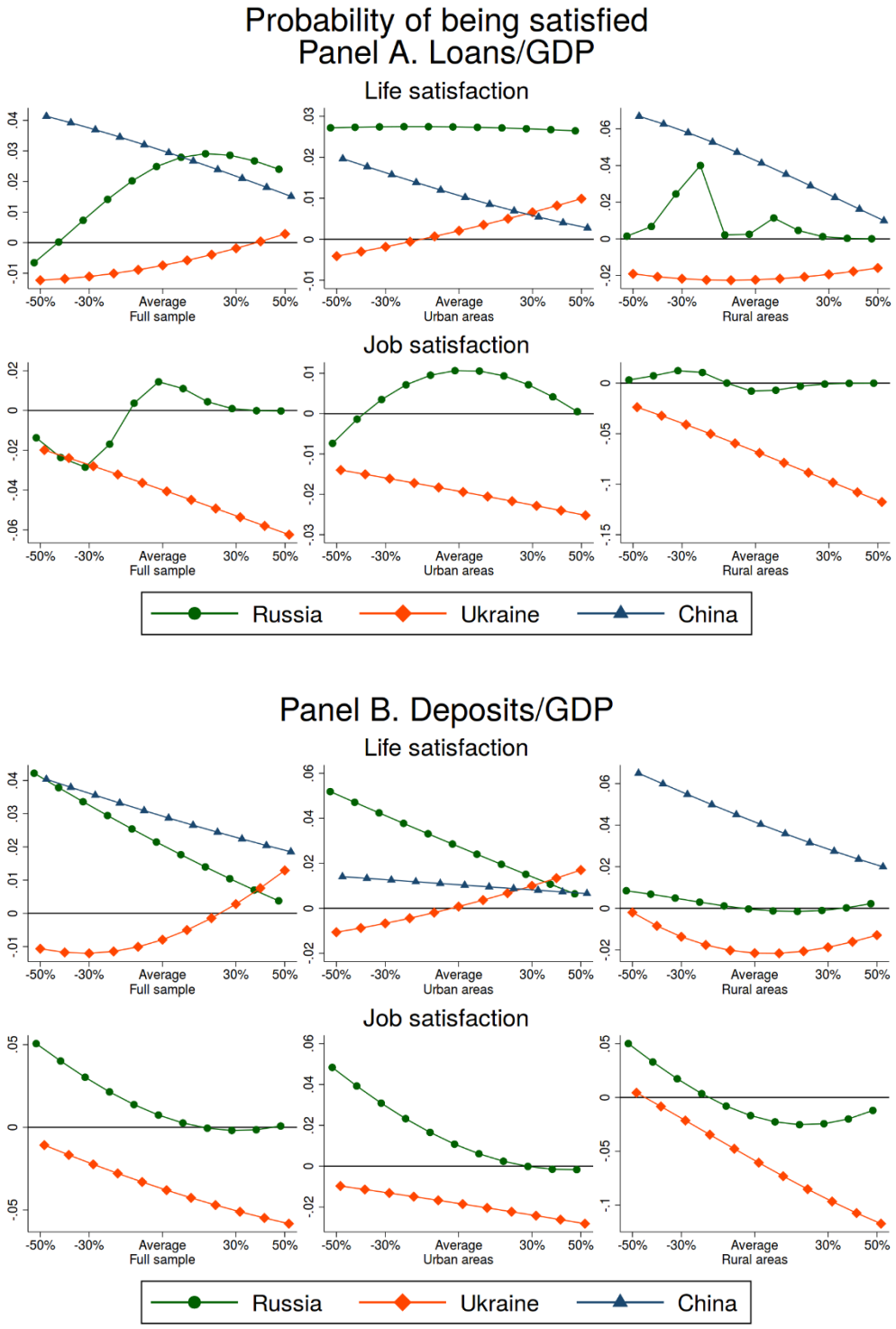
This table reports the ordered logit regressions for model (4) with *Life satisfaction* as the dependent variable on rural-urban sub-samples. In all regression, all control variables and regional effects are included but not reported. For the sake of space, cut-off points are not reported Columns (1) - (2) show results for Ukraine, respectively. Column (3) – (4) show results for China. Columns (5) - (6) show results for Russia. Panels A-B present results for rural area and urban area respectively. *Life satisfaction* is a categorical variable that takes values from one to five (1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-quite satisfied, 5-fully satisfied). *High income* equals one if the individual's income is higher than the median, zero otherwise. *Low income* equals one if the individual's income is lower than the median, zero otherwise. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the sample average. *Loans/GDP* is the relative Loans/GDP ratio compared to the sample average. ∗, ∗∗, and ∗∗∗ denote 10%, 5%, and 1% significance level, respectively.

Figure 1. Marginal effects of self-employment on satisfaction at different levels financial development (Outcome: Probability of being very satisfied)



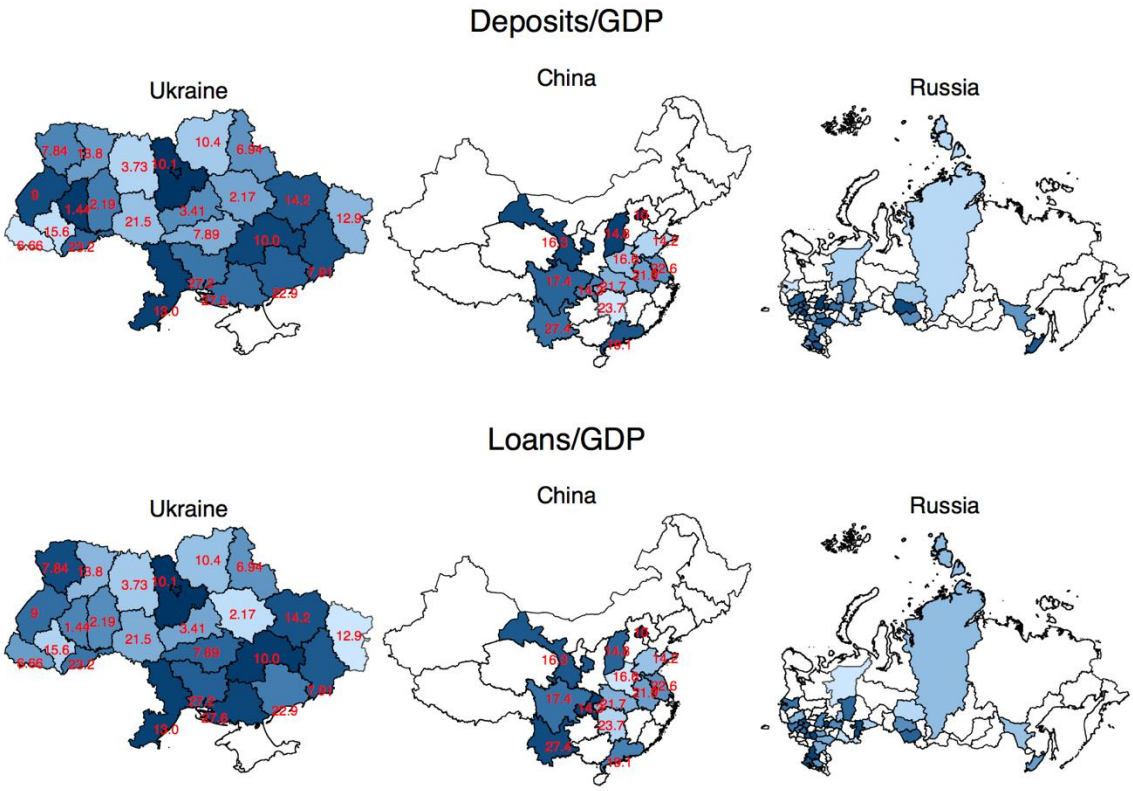
This figure shows the marginal effects of *Self-employed* on satisfaction in China, Russia and Ukraine at different levels of financial development, holding other variables at their means. Panels A and B show marginal effects with *Loans/GDP* and *Deposits/GDP* as financial development indicator, respectively. The outcome is probability of being very satisfied.

Figure 2. Marginal effects of self-employment on satisfaction at different levels financial development (Outcome: Probability of being satisfied)



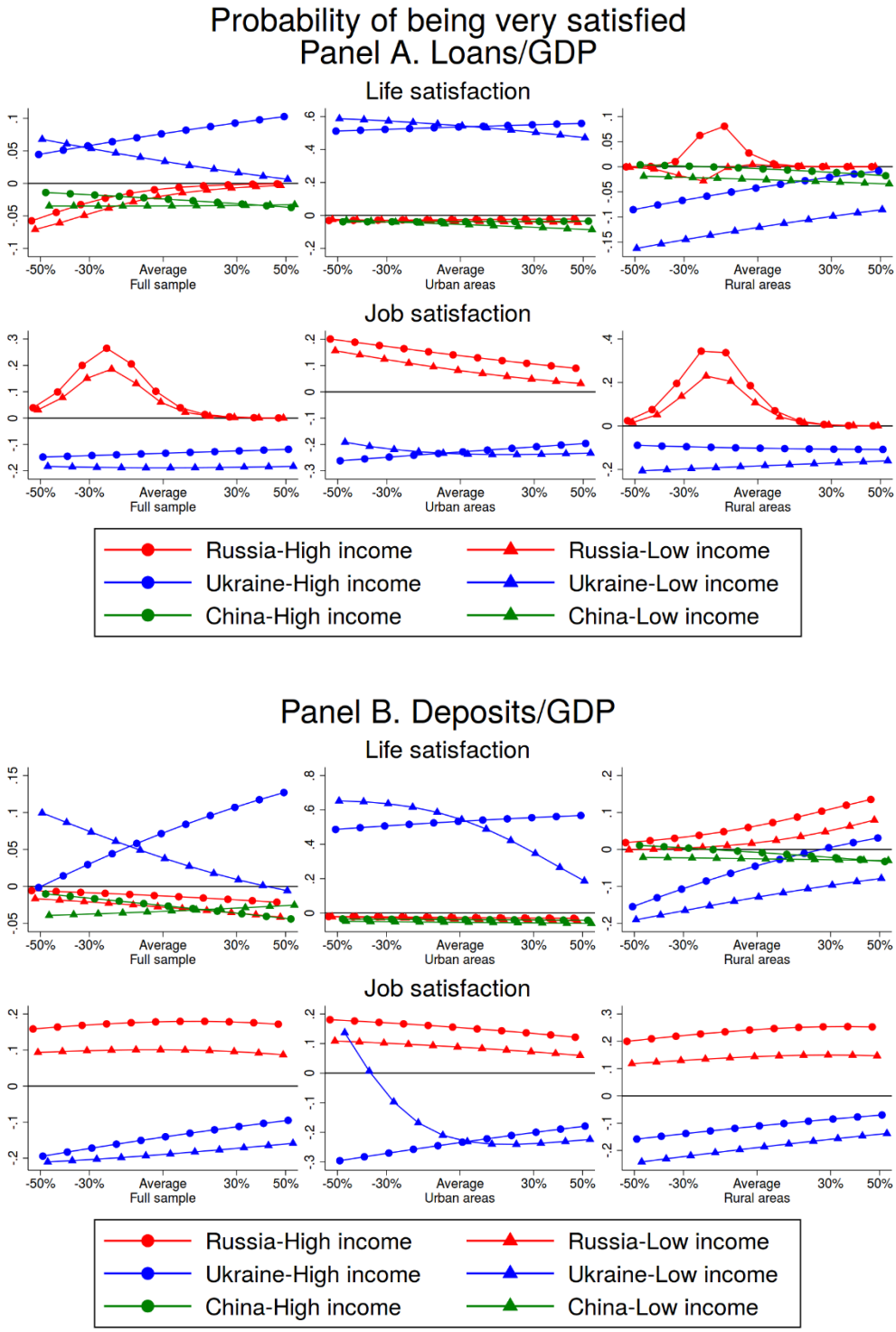
This figure shows the marginal effects of *Self-employed* on satisfaction in China, Russia and Ukraine at different levels of financial development, holding other variables at their means. Panels A and B show marginal effects with *Loans/GDP* and *Deposits/GDP* as financial development indicator, respectively. The outcome is probability of being satisfied.

Figure 3. Level of financial development of regions represented in the samples



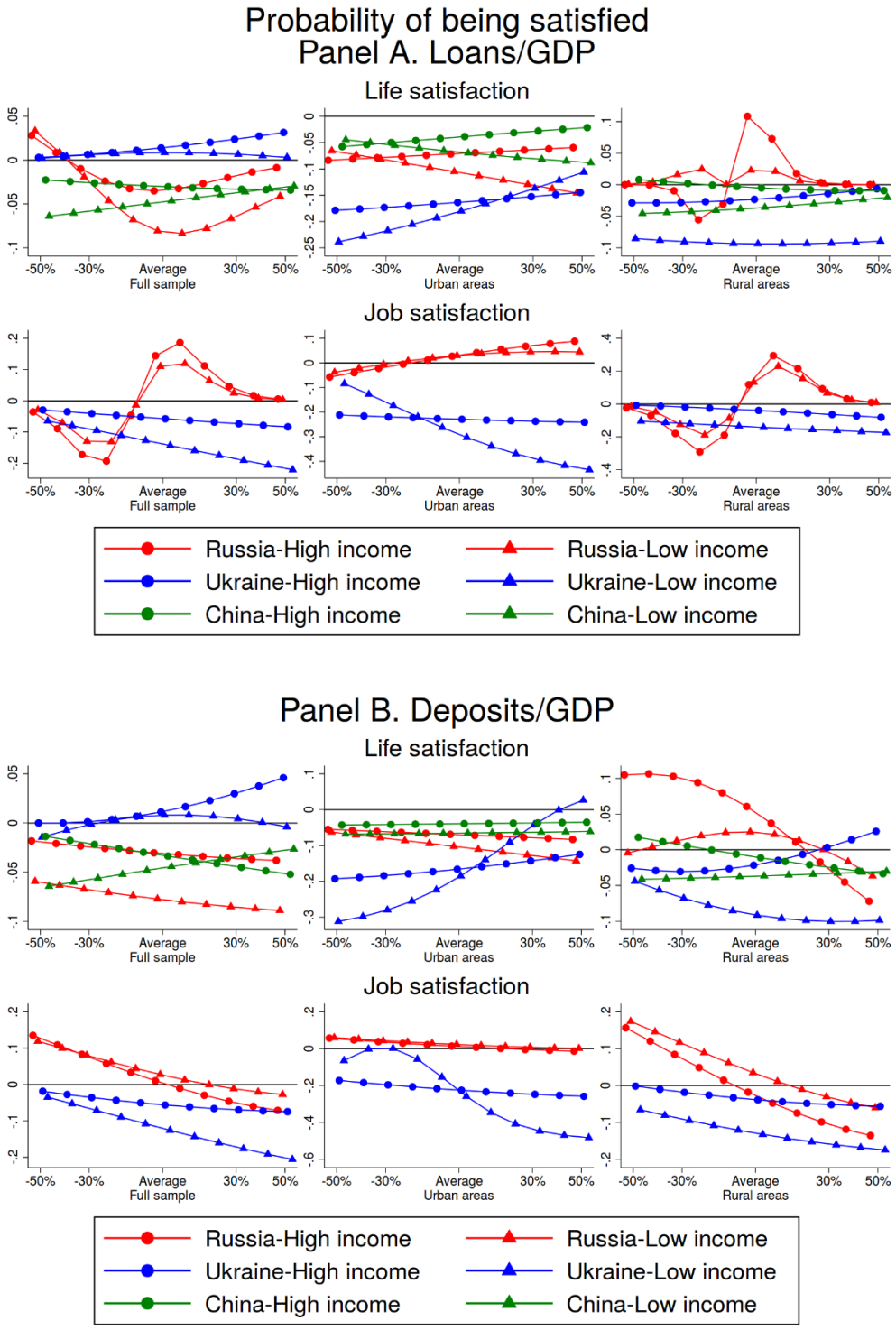
This figure shows the level of financial development of all regions represented in our samples. Darker shade means the region is more financially developed than others.

Figure 4. Marginal effects of Self-employed with high-income and low-income on satisfaction at different levels of financial development (Outcome: Probability of being very satisfied)



This figure shows the marginal effects of *Self-employed* interacted with *High income* and *Low income* on satisfaction in China, Russia and Ukraine at different levels of financial development, holding other variables at their means. Panels A and B show marginal effects with *Loans/GDP* and *Deposits/GDP* as financial development indicator, respectively. The outcome is probability of being very satisfied.

Figure 5. Marginal effects of Self-employed with high-income and low-income on satisfaction at different levels of financial development (Outcome: Probability of being satisfied)



This figure shows the marginal effects of *Self-employed* interacted with *High income* and *Low income* on satisfaction in China, Russia and Ukraine at different levels of financial development, holding other variables at their means. Panels A and B show marginal effects with *Loans/GDP* and *Deposits/GDP* as financial development indicator, respectively. The predicted outcome is probability of being satisfied.