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

Tho Pham^a, Oleksandr Talavera^{*a}, Mao Zhang^b

Abstract

This study investigates the association between financial development and entrepreneurs' well-being in China, Ukraine, and Russia. We find that Chinese and Russian entrepreneurs have a higher level of well-being, while Ukrainian self-employed individuals have more dissatisfaction. The link between financial development and the utility of entrepreneurs varies as well. The utility differences between the self-employed and paid workers in Russia reduce with financial development and the effect is stronger for job satisfaction. However, financial development barely correlates with Ukrainian entrepreneurs' happiness while having no correlation with life satisfaction of Chinese self-employed. Further investigation suggests that the financial development – entrepreneurial utility association works through both monetary and non-monetary channels.

JEL classification: J24; J28; O16

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

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

Abstract

This study investigates the association between financial development and entrepreneurs' well-being in China, Ukraine, and Russia. We find that Chinese and Russian entrepreneurs have a higher level of well-being, while Ukrainian self-employed individuals have more dissatisfaction. The link between financial development and the utility of entrepreneurs varies as well. The utility differences between the self-employed and paid workers in Russia reduce with financial development and the effect is stronger for job satisfaction. However, financial development barely correlates with Ukrainian entrepreneurs' happiness while having no correlation with life satisfaction of Chinese self-employed. Further investigation suggests that the financial development – entrepreneurial utility association works through both monetary and non-monetary channels.

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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.
- Overall, financial development reduces utility gained from self-employment.
- Both monetary and non-monetary mechanisms exist.

1. Introduction

Entrepreneurs are typically recognized as successful and iconic figures that are romanticized by the public (The Economist, 2014). They receive support from governments and politicians, and school textbooks praise them. This results in a growing number of start-ups each year (Bergmann et al., 2016). However, in reality, being an entrepreneur is difficult work because of the high rate of failure. Even successful entrepreneurs 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 often neglect their well-being (Louie, 2016). Given the fact that entrepreneurs' well-being is closely related to their business performance and the development of the economy, a large number of studies have examined the factors that affect the satisfaction of entrepreneurs.

Some studies that report the positive relationship between self-employment and well-being discuss it through a number of socio-demographic factors. More specifically, the big-five personality traits that are common among entrepreneurs have a positive influence on their job satisfaction (Heller et al., 2002; Berglund et al., 2016).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 job expectations experienced 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), which results in a lower level of depression and a higher level of satisfaction (Bradley and Roberts, 2003).

Nonetheless, self-employed individuals are not always happier than wage employees because 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 that experience long periods of unemployment before starting their own businesses. Similarly, Indonesian self-employed individuals are less happy with their jobs than paid employees because of involuntary self-employment (Kwon and Sohn, 2017). In addition, Cassar (2010) argues that the self-employed in Chile experience higher levels of job satisfaction compared to wage earners only after job protection and occupational hazards are taken into account.

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.

However, characteristics that affect entrepreneurial satisfaction may include factors that are in addition to psychological aspects and work environment. As suggested by Thai and Turkina (2014), entrepreneurship is also closely related to institutional setups and economic conditions, such as economic opportunities and the quality of governance. Thus, one would expect the change in entrepreneurial utility in response to a change in the business environment, such as a growing number of competitors or the increase in growth opportunities. Given that these changes may be induced by financial development (Bonaccorsi di Patti and Dell'Araccia, 2004; Beck and Demirguc-Kunt, 2006) and access to finance (Ayyagari et al., 2008), we aim to examine the relationship between local financial development and entrepreneurs' well-being.

This study builds upon the work of Bianchi (2012), which first finds that financial development increases the satisfaction of entrepreneurs through a higher level of job independence. However, our study is different in a number of ways. First, Bianchi (2012) notes the positive effect of financial development on entrepreneurial utility via non-monetary benefits, such as job independence. In this study, we argue that financial development may affect the satisfaction of the self-employed through monetary channels, like economic growth, and non-monetary channels, such as easing 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 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 economies. In this study, we investigate entrepreneurial utility in the context of emerging economies that have lower levels of living standard and economic development. Fourth, Bianchi (2012) measures financial development at the country-level that may not 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 have experienced a significant change in entrepreneurship and in financial system following economic reforms in the 1990s. However, different reform paths were adopted, which results in differences in levels of financial and entrepreneurship development. This provides a unique setting to compare 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 the 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.² 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 that include the 2013 China Household Income Project, the 2012 wave of Ukrainian Longitudinal Monitoring Survey and the 2013 wave of Russian Longitudinal Monitoring Survey. The self-reported level of satisfaction in the surveys allows us to assess individuals' life satisfaction and job satisfaction.³ These datasets also provide comprehensive information regarding participant demographic factors and information relating to jobs that might affect individuals' utility. Our estimation sample consists of 3,540 individuals in Ukraine, 9,712 individuals in China, and 9,274 individuals in Russia.

We find that entrepreneurs in China and Russia are generally happier compared to the paid employees, while the opposite is observed in Ukraine. Furthermore, the correlation between financial development and entrepreneurial utility is found to be variable across countries. In China, where entrepreneurs tend to rely on informal finance to fund their businesses, the development of a formal financial sector is not associated with entrepreneurial satisfaction. Similarly, there is little evidence for the correlation between financial development and life satisfaction in Ukraine and Russia. However, the utility benefit at work gained from being entrepreneurs in Russia decreases with financial development despite the increase in income. In contrast, higher income brought by financial development is positively correlated to job satisfaction of Ukrainian entrepreneurs living in rural areas.

Our results suggest that the link between financial development and entrepreneurial happiness at work in Ukraine and Russia is driven by both monetary and non-monetary aspects. The higher level of financial development correlates with improved economic conditions such as higher income which can be regarded as monetary channels. At the same time, greater credit availability and credit supply can relax financial constraints, thus, encouraging individuals to enter self-employment. Consequently,

² See Online Appendix A.

³ Job satisfaction is reported in the Ukrainian and Russian surveys. Life satisfaction is reported in surveys in all three countries.

the level of competition in the market will become fiercer and result in more difficulties in running businesses. These changes in the business environment can be referred to as non-monetary channels.

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. 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 economic research that can be divided into three strands. The first strand has assessed utility maximization as a key driver of self-employed motivation (Eisenhauer, 1995; Douglas and Shepherd, 2002). 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 attitudes to employment attributes to explain the changes in a person's job status over time. More specifically, a person beginning the career as a salaried employee might get the most utility from shifting to self-employment due to differences in income. However, the marginal utility of self-employment reduces with ages. Hence, this person might shift back to salaried employment at the final stage of the career to derive the most utility.

The second strand focuses on "*pull*" or "*push*" factors that affect occupational choice (Earle and Sakova, 2000; Van Stel et al., 2007; Block and Koellinger, 2009). 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 (Evans and Leighton, 1989b; Carrasco, 1999). 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 (Shane, 2000; Liu and Huang, 2016) or the desire for 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. A conventional argument is that financial constraints are binding on the self-employment entry and stay. Consequently, easing financial constraints could raise the rate of entry. For example, it is suggested that family or personal wealth increases the probability of being self-employed (Evans and Leighton, 1989a; 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 are positively related to the likelihood of entering 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 the wealth of parents. 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 body of literature has compared the level of satisfaction or happiness between the wage employees and the self-employed. Most these studies find that entrepreneurs report a higher level of total utility or job satisfaction compared to regular employees (e.g., Blanchflower and Oswald, 1998; Bianchi, 2012). 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, which results in a higher level of happiness. Although the big-five personality traits have positive effects on job satisfaction of both the self-employed and the paid workers (Heller et al., 2002; Berglund et al., 2016), some traits like emotional stability matter more for entrepreneurial utility. Berglund et al. (2016) indicate that self-employment implies a high demand for social contracts, meaning that the high degree of extraversion and agreeableness are important for job satisfaction. In addition, entrepreneurs are connected by 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; 2008a) suggests that people do not only value the outcomes of the job, but also the process leading to the outcomes. Using data from Germany, United Kingdom, and Sweden, Benz and Frey (2008a) 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 that is 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 also be explained by the discrepancy theory, which documents 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 lower expectations, thus it is easier for entrepreneurs to be satisfied compared to the paid workers. However, the higher initial expectation might lead to higher levels of entrepreneurs' satisfaction later. This relationship is possibly driven by the positive attitudes toward 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 of job security due to the belief of survival ability (Hundley, 2001). If this positive expectation is not met in practice, entrepreneurs should be less happy compared to wage employees (Millán et al., 2013). Additionally, the self-employed often report less work-related stress (Hessels et al., 2017), which results in lower levels of depression and higher levels of satisfaction (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 increases the job satisfaction of individuals, but the level of satisfaction is likely to decline over time. This finding is in line with the literature that examines the relationship between job change and job satisfaction (e.g., Boswell et al., 2005; 2009). The short-term effect of self-employment on job satisfaction is then explained by the set-point theory, which suggests 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 the capacity to adapt to the changes, their happiness tends to return to predetermined levels over time (Cummins, 2000).

3. Entrepreneurship in China, Ukraine and Russia

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

Private ownership in China was introduced in the 1980s and 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 to the urban class. Given this fact, rural residents are motivated to be self-employed because earning money is the only way to overcome the disadvantages they face. Different from rural individuals, 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 a shadow, or illegal economy. Entrepreneurship in these countries was legitimized following the collapse of Soviet Union and economic reforms, which resulted in a significant growth of entrepreneurship. However, the self-employed often report that the business environment is unfavourable. For example, Russian entrepreneurs face the issues relating to cultural values and practices like tax avoidance or bureaucratic problems, such as political network reliance (Puffer et al., 2010). Similarly, most Ukrainian entrepreneurs have to pay unofficial payments related to enterprise registration with the government (Johnson et al., 2000). Additionally, the different paces of reform process within these countries have led to differences between rural and urban entrepreneurs (Kalantaridis and Labrianidis, 2004; Kalantaridis et al., 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 traditional norms and behaviours.

These facts offer insights into self-employment participation in China, Russia, and Ukraine. More specifically, there are differences in the motivation for becoming entrepreneurs across and within the three countries examined. Although Chinese entrepreneurs are typically “pulled” entrepreneurs, rural

entrepreneurs are more likely to be motivated by monetary factors, such as higher incomes, while their urban peers are motivated by opportunities to run their businesses. In Ukraine and Russia, there is a rural – urban division among entrepreneurs and entrepreneurship that rely largely on the business environment.

Previous studies have shown similarities among entrepreneurs in China, Russia, and Ukraine. For instance, entrepreneurs in these countries are more likely to be male, married, and well-educated (Hisrich and Grachev, 1995; Smallbone and Welter, 2001; Ahlstrom and Ding, 2014). Also, the self-employed in these countries often report limited external finance as one of the major obstacles that hinder their venture development (Johnson et al., 2010; Smallbone et al., 2010; Ahlstrom and Ding, 2014). However, entrepreneurship in each country is also homogeneous. 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, 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 increasing numbers of dismissed workers that worked for military goods producers. Thus, highly educated people were pushed into running their own businesses (Roberts and Tholen, 1998; Williams et al., 2009; Solesvik et al., 2012). In addition, the improvement in income also motivates Ukrainian individuals to enter self-employment (Smallbone and Welter, 2001; Aidis et al., 2007).

4. Empirical strategy and data description

4.1. Empirical strategy

The main empirical model employed in this study is as follows:

$$Satisfaction_i = \beta_0 + \beta_1 Self - employed_i + \beta_2 FinDev_r + \beta_3 Self - employed_i \times FinDev_r + X_i\beta_4 + \varepsilon_i \quad (1)$$

where i refers to an individual and r refers to a region. We document two types of satisfaction that include *Life satisfaction* and *Job satisfaction*. These variables range from one to five. One indicates “very dissatisfied” and five indicates “very satisfied”. Since we are only interested in the satisfaction difference between the self-employed and wage-employed individuals, *Self-employed* equals one if the person is self-employed, zero if the person is a paid employee. This approach is widely used in the previous studies on entrepreneurs’ well-being (e.g., Benz and Frey, 2008a; Millán et al., 2013).

FinDev is the index of financial development of the region where the respondent lives. Adopting the World Bank's Global Financial Development Framework (2017), we employ two financial development indices. The first index is the relative loan to GDP ratio (*Loans/GDP*), calculated as the difference between the natural logarithm of *Loans/GDP* in a region and the natural logarithm of the country average *Loans/GDP*. The second index is the relative deposit to GDP ratio (*Deposits/GDP*), calculated as the difference between the natural logarithm of *Deposits/GDP* in a region and the natural logarithm of the country average *Deposits/GDP*. The former index indicates the level of credit supply and the latter indicates the level of credit availability. Note that our measures of financial development are in the relative terms, which shows financial development in a region compared to the country average. The index of zero means the regional financial development equals to the average.

Our main variable of interest is the interaction term between *FinDev* and *Self-employed*, which shows the variation in the effect of self-employment on satisfaction with different levels of financial development. Since we use the relative (instead of absolute) term, we interpret the positive coefficient in the following way: the happiness advantage of an entrepreneur living in a region in which financial development level is above average is greater than that of a peer living in a region in which financial development level is average.⁴ In addition, we also estimate the overall impact of *Self-employed* on well-being for different levels of financial development relative to the country average.

Vector *X* includes other variables that control for different individual, job, and regional characteristics.⁵ The U-shaped relationship between age and well-being that is reported in previous studies (Clark et al., 1996; Blanchflower and Oswald, 2008) is illustrated by *Age* (the natural logarithm of an individual's age in the interviewing year) and *Age squared*. Following the 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 1 if the individual is female and 0 if not; *Married* equals 1 if the individual is married or cohabited and 0 otherwise; *Health* is a vector of dummy variables indicating the individual's health condition with the bad condition as the reference group. *Education* is a vector of dummy variables indicating the

⁴ Our results are consistent if we compare the financial development in a region with the country median. Estimated results are available upon request.

⁵ Our results are consistent if we include working hours as another control variable. Estimated results are available upon request.

individuals' highest educational level, with secondary school or lower as the reference group. *Urban* is a dummy variable that equals 1 if the respondents live in urban areas, 0 if the respondents live in rural areas. Finally, ε_i is the error term.

We estimate model (1) using ordered logit estimator with standard errors clustered at the regional level.⁶ We first exclude *FinDev* and its interaction with *Self-employed* to test the difference in the level of satisfaction between the self-employed and the paid employees.⁷ Next, model (1) is estimated with *FinDev* and its interaction with *Self-employed* to examine the role of financial development in facilitating entrepreneurial satisfaction.

4.2. Data and sample

We employ data from three sources that include the 2013 wave of the China Household Income Project, the 2012 wave of the Ukrainian Longitudinal Monitoring Survey, and the 2013 wave of the Russian Longitudinal Monitoring Survey. These datasets provide comprehensive information regarding individuals' demographics, as well as information relating to individuals' jobs that might affect well-being of the participants. Information on the levels of loans, deposits, and GDP in each region is obtained from State Statistics Office of Ukraine, National Bureau of Statistics of China, and Russian Federal State Statistics Service. Samples from each country are constructed using the following process. First, we categorize respondents according to their labour market status, which is (1) wage employed, (2) self-employed, and (3) unpaid employed. We restrict the sample to include only the first and second categories. Second, we only keep observations if the respondent is within working age. After screening, our final sample consists of 3,540 individuals in Ukraine, 9,712 individuals in China, and 9,274 individuals in Russia.

Table 1 presents descriptive statistics for our estimation samples.⁸ In general, the level of life satisfaction and job satisfaction among individuals in China, Russia, and Ukraine is just above average,

⁶ Estimations using robust standard errors yield similar results.

⁷ We exclude China from regressions with *Job satisfaction* as the dependent variable as this variable is not reported in the survey.

⁸ There is a difference in the number of observations for life and job satisfaction variables due to the missing values of the reported satisfaction. We also estimate our regressions on the samples of individuals who report both two types of satisfaction and get quantitatively consistent results to the results reported here. Tables of results based on these samples are available upon request.

equalling 3.4 – 3.7. In all three countries, entrepreneurs account for less than 20 percent of total employed individuals. The average age of an employed individual in Ukraine, China, and Russia is in the range of 37-45 years old. In addition, the number of female workers in China is lower than the number of female peers in Ukraine or Russia. More specifically, only 13 percent of Chinese workers are female, and in Ukraine and Russia 50 percent of workers are female. In the Chinese sample, 90 percent were married. In Ukraine and Russia, 70 and 59 percent of the samples were married, respectively. Many of the employed individuals in these countries do not have college level education. Only 8.2 percent of Chinese individuals have a Bachelor degree, whereas 17.7 and 30.9 percent of those in the Ukrainian and Russian samples have Bachelor degrees, respectively. The negative *Loans/GDP* and *Deposits/GDP* ratios in China suggest that most individuals in the sample living in regions that have lower levels of financial development, relative to the average. The opposite is observed in the sample of Russian individuals. On average, individuals in our sample live in the regions of which the level of financial development is about 2.5-6 percent above the country average. The situation in Ukraine, however, is mixed. Individuals in the Ukrainian sample live in the regions which have the higher level of credit availability compared to the average. However, greater credit availability does not come with better access to finance as the Loan/GDP ratio is negative in the sample of Ukraine.

(Table 1 here)

Table 2 presents summary statistics for self-employment and wage employment sub-samples from each country. We find that self-employment increases satisfaction in China and Russia, while decreasing the level of satisfaction in Ukraine. Moreover, females in Ukraine and Russia tend to work as paid employees, while most entrepreneurs in these countries are males. In contrast, the proportion of Chinese women taking part in the labour market is lower than male counterparts, regardless of labour types. Individuals with higher educational levels are less likely to become entrepreneurs. This may stem from higher levels of education resulting in a greater probability of being promoted as wage employees, which encourages them to enter paid-employment. These characteristics are in line with previous reports that document entrepreneurship in China, Russia, and Ukraine (e.g., Hisrich and Grachev, 1995; Smallbone et al., 2010; Ahlstrom and Ding, 2014). Further, individuals in rural China are discouraged from becoming self-employed, which could be caused by the geographic isolation and the lack of opportunities or human and economic resources (North and Smallbone, 2000; Sorenson and Audia, 2000). In terms of access to credit and credit availability, there is no difference between Ukrainian entrepreneurs and wage workers, although Russian entrepreneurs are more likely to be located in regions with higher levels of credit supply. Conversely, most Chinese entrepreneurs are

located 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 levels of financial development or poor economic conditions.

(Table 2 here)

Table 3 shows the distribution of different levels of life and job satisfaction by job status and living areas. In Ukraine, 15 percent 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 dissatisfaction makeup 16-18 percent of 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 twice that of the urban group. The dissatisfaction among Ukrainian individuals is not surprising. 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 between 2006-2014, less than 40 percent of Ukrainian individuals are happy in life. In contrast, the individuals in China and Russia seem to be happier with around 50 percent of the sample reporting that they are “satisfied” with life. There is also only a small difference in 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), which also observe that very few individuals in rural and urban China exhibit the lowest levels of life satisfaction. In terms of job satisfaction, most Russian individuals report that they are happy with work regardless of job status. In contrast, job dissatisfaction among Ukrainian self-employed is notable. About 30 percent of rural Ukrainian entrepreneurs are not satisfied with work, while this number is 17 percent among urban entrepreneurs.

(Table 3 here)

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, which is reported through 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 (Table 5 and Table 6).

We find the job dissatisfaction among Ukrainian self-employed who are most likely to be “pushed” into self-employment⁹, which is consistent with findings from previous studies such as Abbott and Sapsford (2006) and Schneck (2014). This result supports the argument that the self-employed might not necessarily be happier than the paid workers if the individuals enter self-employment to avoid unemployment, or the individuals fail to find a paid job. On the contrary, entrepreneurs in China and Russia are happier in life compared to the paid employees. Our result is largely in line with previous studies that also find the positive effect of self-employment on well-being (e.g., Blanchflower, 2000; Bianchi, 2012).

(Table 4 here)

The coefficients of the interaction term between *Self-employed* and relative *FinDev* are significant and negative in the estimations of the sample of Russian individuals. This finding suggests that greater financial development can weaken the utility advantage of being self-employed and the effects are stronger for job satisfaction. Conversely, we do not observe significant relationship between financial development and happiness of Ukrainian and Chinese self-employed individuals. The relationship is visualised in Figure 1 which shows the marginal effects of *Self-employed* on the probability of being very satisfied for different levels of financial development with the confidence level of 95 percent. If the level of financial development is 50 percent below the country average, Russian entrepreneurs experience about four to five percentage points higher probability of being “very happy” compared to their paid peers. In contrast, if the self-employed are in a Russian region of which the level of financial development is 30 percent above the country average, there is almost no difference between happiness of entrepreneurs and that of paid workers. In other words, moving from a less financially developed region like Tomsk oblast (where the *Deposits/GDP* ratio is about 25 percent below the country average) to a more financially developed one such as Nizhny Novgorod oblast (where the *Deposits/GDP* ratio is about 25 percent above the country average) can indeed reduce the utility advantage gained from self-employment.

(Tables 5 and 6 here)

(Figure 1 here)

⁹ In our sample, only about 19 percent of Ukrainian entrepreneurs entered self-employment because they “wanted to start own business or own economic activity”.

Our results reveal important difference between life and job satisfaction. In particular, job satisfaction indicates an individual's happiness at workplace, while life satisfaction is a "total utility" indicator. Any factors that affect one individual's happiness at work certainly can affect the person's life happiness. However, life satisfaction is not only related to work, but also other domains in life such as social life e.g. family and friends (Binder and Coad, 2011). Thus, entrepreneurs' life satisfaction might not necessarily be as high as job satisfaction if the utility gained from work is offset by the disutility that arises from other life domains (Benz and Frey, 2008b; Binder and Coad, 2013). In contrast, an entrepreneur who is not happy at work may not necessarily be unhappy in life if job dissatisfaction is crowded out by happiness brought on by other factors. In a similar vein, one would expect the stronger link between financial development and entrepreneurs' job satisfaction compared to the link with life happiness. It is because any links between financial development and entrepreneurs' work life could be counterbalanced by the links between financial development and social life.

To some extent, our results suggest that the financial development – job satisfaction correlation could work through both monetary and non-monetary channels. Given that the *Deposits/GDP* ratio indicates resources available for lending (Beck et al., 2010), the higher *Deposits/GDP* ratio implies a higher level of regional economic growth and greater credit availability (Beck and Levine, 2004; Beck et al., 2007). In other words, the development of financial sector could reflect the better economic conditions of individuals, suggesting financial development, through monetary channels, positively affects well-being. Additionally, greater funding availability could provide signals regarding the banks' willingness to lend to start-ups and businesses, which encourages individuals to become entrepreneurs. As a result, the level of competition among businesses will increase with financial development (Guiso et al., 2004; Bianchi, 2012). Changes in the business environment i.e. competitiveness, can be viewed as the non-monetary consequences brought on by financial development. If the association between financial development and entrepreneurial satisfaction only works through the monetary channels, one would expect the significant and positive coefficients on the interaction between *FinDev* and *Self-employed*, which is not what we observe. Instead, our results suggest the dominance of the (negative) non-monetary effects over the (positive) monetary counterparts, leading to the negative link between financial development and entrepreneurs' job satisfaction in Russia. Moreover, the weak link between financial development and entrepreneurs' life satisfaction confirms our previous argument about the interplay among utilities gained from different life domains on determining the overall well-being.

The difference in the relationship between financial development and well-being across countries could be caused by each country's entrepreneurial characteristics. As Russian entrepreneurs are more

competitive (Puffer and McCarthy, 2001) and they tend to use available information to form their expectation (Senik, 2008), the competition from new entrants might make existing entrepreneurs less happy at work as they expect to face more difficulties in running business and earn less. Moreover, as posited earlier, Ukrainian entrepreneurs are more likely to enter self-employment because of necessity. Thus, greater business opportunities brought about by financial development may not necessarily be linked with Ukrainian entrepreneurs' satisfaction. In the case of China, compared to other developing countries, Chinese firms, especially small enterprises, tend to borrow from the informal sector and the underground lending channels (Allen et al., 2005; Hussain et al., 2006; Ayyagari et al., 2010; Beck et al., 2015). 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 a formal credit sector in China might not be related to entrepreneurial utility.

Regarding other factors, we find that females in Russia seem to be happier at work and are less likely to be happy in life, compared to males. Married individuals tend to report a higher level of both life and job satisfaction. Individuals with higher educational levels and better health conditions also experience higher levels of happiness in both life and work. Furthermore, we acknowledge a U-shaped relationship between age and well-being, which is consistent with previous work (e.g., Millán et al., 2013). Interestingly, while the coefficients on *Urban* variable are positive in all estimations, they are significant only in the sample of Chinese entrepreneurs.

5.2. *Monetary versus non-monetary channels*¹⁰

In this section, we perform additional tests to reinforce our arguments about the monetary and non-monetary channels. Our analysis follows the approach by Bianchi (2012). We first test the correlation between financial development and entrepreneurs' income. Since the individuals might have incentives to misreport their income due to the fear of being taxed (Okulicz-Kozaryn, 2012; Becchetti and Conzo, 2017), we use the dummy variable *Income* which equals one if an individual's income is above the sample median and zero if the reported income is below the sample median to overcome the potential bias related to misreporting. Results from Table 7 show that entrepreneurs in the more financially developed regions in Ukraine and Russia (compared to the country average) experience

¹⁰ In this section we only report tables with main variables of interest. Full tables of results are reported in Online Appendix B.

higher probability of having high income. Thus, we observe some evidence for the monetary mechanisms for Ukraine and Russia.

(Table 7 here)

Given these above findings, we add in model (1) the variable *Income* and its interaction with *Self-employed* to capture the monetary channels through which financial development is linked with entrepreneurial satisfaction. In general, individuals with higher levels of income is happier both in life and at work (Table 8). However, despite the significant relationship between higher income and entrepreneurs' job satisfaction, we still observe the significant and negative links between financial development and job satisfaction of Russian entrepreneurs. Although Russian entrepreneurs enjoy the monetary benefits i.e. higher income brought by financial development, there are also negative non-monetary effects that can dominate the income effects, resulting in the overall reduction in self-employment's satisfactory gain. As mentioned earlier, greater *credit availability*, indicated by higher *Deposits/GDP* ratio, *signals greater business opportunities*. Additionally, the improvement in *credit supply*, indicated by higher *Loans/GDP* ratio, may ease the financial constraints, thus facilitating firm growth and providing *actual business opportunities* (Burgess and Pande, 2005). Taken together, financial development could incentivize individuals to start their own businesses or expand the current ones, which results in a higher level of competition (Guiso et al., 2004; Bianchi, 2012). The increasing competition then leads to more difficulties in running businesses for existing entrepreneurs, thus reducing their utility gained from self-employment.

(Table 8 here)

Next, we re-estimate our model for the rural-urban sub-samples to check the robustness of our results (Appendix B Tables B3 and B4). In rural Ukraine, the financial development – job satisfaction association tends to be driven by the monetary channels as higher income is positively correlated with job satisfaction of the self-employed. There are several reasons that can explain this result. First, Table 7 suggests that individuals living in rural areas experience lower probability of having high income. Second, as mentioned earlier, most Ukrainian entrepreneurs enter and stay self-employed due to necessity, making them less sensitive to the changes in business environment. Third, Ukrainian individuals also enter self-employment to achieve higher income (Smallbone and Welter, 2001; Aidis et al., 2007). Taken together, one would expect the “push” entrepreneurs with lower income to enjoy the monetary benefits brought by financial development more.

Higher level of competition among businesses in urban areas (Behrens and Robert-Nicoud, 2014) and opportunism (Ageev et al., 1995; Puffer and McCarthy, 2001) make entrepreneurs in urban Russia more sensitive to the changes in the business environment (e.g. the increase in competition) compared to their rural peers. As a result, we observe the co-existence of (positive) monetary and (negative) non-monetary channels for urban Russia whereas the non-monetary mechanisms seem to be stronger. Moreover, we find the positive correlation between financial development and life satisfaction of Russian entrepreneurs in rural areas. This result confirms previous arguments about the core difference between life and job satisfaction.

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 reports on entrepreneurial utility (e.g., Blanchflower and Oswald, 1998; Blanchflower, 2000). In contrast, Ukrainian entrepreneurs are less happy at work compared to their paid counterparts. The dissatisfaction of Ukrainian self-employed has also been reported by Bianchi (2012) and Schneck (2014), although the coefficients in these studies are not statistically significant. In terms of the relationship between financial development and entrepreneurial satisfaction, we find little evidence for the link between financial development and entrepreneurs' life satisfaction. However, the utility advantage at work brought by being self-employed in Russia tends to decline with greater financial development. The effects are stronger in urban Russia. Oppositely, higher income brought by financial development is correlated with higher job satisfaction of entrepreneurs in rural Ukraine.

These findings suggest that the relationship between financial development and entrepreneurs' well-being works through both monetary and non-monetary mechanisms. Particularly, greater financial development can help the self-employed to improve income. At the same time, financial development can ease the financial constraints and create entrepreneurial incentives, thus, boosting entry into self-employment. This may lead to more difficulties in running business like increasing competition. These effects e.g. entrepreneurial motivations, start-up opportunities, or enhancing competition can be viewed as the non-monetary consequences of financial development. The counteraction between monetary and non-monetary channels then determines entrepreneurial utility.

The difference in the results with job and life satisfaction can be explained by the core difference between two types of utility. Job satisfaction indicates one individual's utility at workplace, whereas life satisfaction indicates the overall utility that are combined from utilities arising from different life domains that include work, social life, or family. Given this difference, entrepreneurs' job satisfaction tends to be strongly affected by the business-related factors brought on by financial development. As a result, the high level of utility at work gained from self-employment could decline with greater financial development because the negative impacts (i.e. increasing competition) can be significant enough to crowd out the positive impacts (i.e. increasing income).

In addition, countries' entrepreneurial characteristics could be the reasons for the variation in the correlation between financial development and entrepreneurial satisfaction across China, Ukraine, and Russia. In China, financial development of the formal sector has no link with entrepreneurs' life satisfaction as Chinese entrepreneurs rely more on informal finance. In Ukraine, individuals are more likely to enter self-employment due to necessity. Hence, they tend to resist to the non-monetary aspects such as more opportunities or severe competition while being sensitive to the changes in income. By contrast, given most Russian entrepreneurs are opportunity, their utility at work would be sensitive to the changes in the business environment, such as enhancing competition caused by greater financial development.

Our results suggest that the development of the financial sector can be used to boost entrepreneurial well-being through increasing income. However, policies should not be isolated from the negative impacts of the increase in competition. To reduce pressure from fiercer competition, the government could consider helping businesses, especially the start-ups and small businesses, to find customers for their products. In addition, banks could consider providing credit to businesses/start-ups to develop new products and services only. These policies, if implemented successfully, could encourage more opportunity entrepreneurs who contribute to local economic growth and job creation. Consequently, more paid jobs will be available to local citizens, thus reducing the number of "pushed" (and unhappy) self-employed.

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Table 1. Descriptive statistics

	Ukraine			China			Russia		
	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.
Life satisfaction	3.524	1.265	3,514	3.687	0.804	9,538	3.445	0.998	9,225
Job satisfaction	3.838	1.032	3,459				3.689	0.921	9,217
Self-employed	0.117	0.321	3,540	0.184	0.388	9,712	0.151	0.358	9,274
Female	0.494	0.500	3,540	0.132	0.339	9,712	0.509	0.500	9,274
Age	3.637	0.316	3,540	3.791	0.199	9,712	3.639	0.303	9,274
Married	0.694	0.461	3,540	0.932	0.252	9,712	0.585	0.493	9,274
Education									
High school or college	0.640	0.480	3,540	0.763	0.425	9,712	0.646	0.478	9,274
Bachelor or higher	0.177	0.381	3,540	0.082	0.275	9,712	0.309	0.462	9,274
Health									
Average	0.469	0.499	3,540	0.170	0.375	9,712	0.527	0.499	9,274
Good	0.480	0.500	3,540	0.800	0.400	9,712	0.429	0.495	9,274
Urban	0.538	0.499	3,540	0.405	0.491	9,712	0.717	0.450	9,274
Deposits/GDP	0.039	0.321	3,540	-0.068	0.347	9,712	0.060	0.354	9,274
Loans/GDP	-0.024	0.623	3,540	-0.105	0.278	9,712	0.025	0.485	9,274

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. *Education* reports dummies for the individual's 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 country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country average. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise.

Table 2. Descriptive statistics by job status

	Paid employees			Self-employed			Difference	
	Mean	SD	Obs.	Mean	SD	Obs.		
	(1)	(2)	(3)	(4)	(5)	(6)		
Panel A. Ukraine								
Life satisfaction	3.542	1.257	3,103	3.387	1.314	411	0.156	**
Job satisfaction	3.901	0.991	3,054	3.368	1.200	405	0.533	***
Female	0.515	0.500	3,126	0.336	0.473	414	0.179	***
Age	3.631	0.318	3,126	3.678	0.294	414	-0.047	***
Married	0.690	0.463	3,126	0.729	0.445	414	-0.040	*
Education								
High school or college	0.636	0.481	3,126	0.671	0.470	414	-0.036	
Bachelor or higher	0.189	0.391	3,126	0.085	0.279	414	0.104	***
Health								
Average	0.469	0.499	3,126	0.466	0.499	414	0.003	
Good	0.482	0.500	3,126	0.469	0.500	414	0.013	
Urban	0.542	0.498	3,126	0.505	0.501	414	0.037	
Deposits/GDP	0.040	0.323	3,126	0.032	0.300	414	0.008	
Loans/GDP	-0.027	0.628	3,126	0.002	0.581	414	-0.030	
Panel B. China								
Life satisfaction	3.673	0.805	7,770	3.747	0.796	1,768	-0.074	***
Female	0.141	0.348	7,921	0.091	0.288	1,791	0.050	***
Age	3.788	0.203	7,921	3.803	0.181	1,791	-0.015	***
Married	0.925	0.263	7,921	0.963	0.190	1,791	-0.037	***
Education								
High school or college	0.753	0.432	7,921	0.810	0.392	1,791	-0.058	***
Bachelor or higher	0.098	0.297	7,921	0.013	0.113	1,791	0.085	***
Health								
Average	0.175	0.380	7,921	0.147	0.355	1,791	0.027	***
Good	0.795	0.404	7,921	0.824	0.381	1,791	-0.029	***
Urban	0.430	0.495	7,921	0.293	0.455	1,791	0.137	***
Deposits/GDP	-0.059	0.357	7,921	-0.107	0.292	1,791	0.048	***
Loans/GDP	-0.100	0.283	7,921	-0.128	0.252	1,791	0.029	***
Panel C. Russia								
Life satisfaction	3.437	0.996	7,825	3.491	1.010	1,400	-0.054	*
Job satisfaction	3.684	0.918	7,831	3.718	0.942	1,386	-0.034	
Female	0.526	0.499	7,870	0.415	0.493	1,404	0.112	***
Age	3.645	0.304	7,870	3.601	0.291	1,404	0.044	***
Married	0.589	0.492	7,870	0.562	0.496	1,404	0.027	*
Education								
High school or college	0.637	0.481	7,870	0.696	0.460	1,404	-0.059	***
Bachelor or higher	0.320	0.466	7,870	0.248	0.432	1,404	0.072	***
Health								
Average	0.540	0.498	7,870	0.456	0.498	1,404	0.084	***
Good	0.418	0.493	7,870	0.496	0.500	1,404	-0.079	***
Urban	0.720	0.449	7,870	0.699	0.459	1,404	0.021	
Deposits/GDP	0.061	0.356	7,870	0.054	0.343	1,404	0.007	
Loans/GDP	0.020	0.490	7,870	0.055	0.456	1,404	-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. *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 country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country average. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *, **, 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	8.2%	14.6%	1.0%	0.8%	4.1%	4.5%
Dissatisfied	16.1%	17.6%	5.0%	4.0%	15.4%	15.1%
Neutral	20.8%	22.9%	38.8%	29.6%	24.1%	18.1%
Satisfied	27.9%	20.0%	42.7%	50.0%	47.2%	54.9%
Fully satisfied	27.0%	24.9%	12.5%	15.6%	9.2%	7.4%
Panel B. Urban area						
Very dissatisfied	6.9%	5.8%	0.7%	0.8%	4.1%	4.3%
Dissatisfied	15.5%	16.0%	3.4%	4.9%	14.7%	14.1%
Neutral	19.1%	24.8%	31.4%	27.3%	24.3%	21.1%
Satisfied	29.1%	24.8%	47.5%	51.6%	46.6%	47.9%
Fully satisfied	29.4%	28.6%	17.0%	15.4%	10.3%	12.6%
Job satisfaction						
Panel A. Rural area						
Very dissatisfied	3.2%	14.5%			2.9%	4.3%
Dissatisfied	6.9%	15.5%			9.4%	14.1%
Neutral	17.5%	23.5%			24.0%	21.1%
Satisfied	41.6%	31.5%			51.4%	47.9%
Fully satisfied	30.8%	15.0%			12.3%	12.6%
Panel B. Urban area						
Very dissatisfied	2.2%	5.9%			2.1%	1.8%
Dissatisfied	7.0%	10.7%			8.5%	8.8%
Neutral	17.6%	23.4%			22.4%	22.6%
Satisfied	44.5%	41.5%			50.1%	44.9%
Fully satisfied	28.7%	18.5%			16.9%	21.9%

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)	(5)	(4)
Self-employed	-0.838*** (0.172)	0.116 (0.072)	-0.109 (0.159)	0.232*** (0.069)	0.130* (0.078)
Female	0.137 (0.103)	0.169*** (0.044)	-0.011 (0.076)	0.096 (0.088)	-0.081** (0.041)
Age	0.051 (2.048)	-9.065*** (1.531)	-16.592*** (1.741)	-6.928** (3.279)	-11.594*** (1.639)
Age squared	0.050 (0.289)	1.289*** (0.212)	2.278*** (0.245)	0.946** (0.436)	1.563*** (0.228)
Married	0.229*** (0.079)	0.177*** (0.050)	0.591*** (0.102)	1.148*** (0.119)	0.650*** (0.056)
Education					
High school or college	0.273*** (0.063)	0.159 (0.103)	0.229** (0.098)	0.177*** (0.061)	0.308*** (0.095)
Bachelor or higher	0.477*** (0.099)	0.514*** (0.119)	0.799*** (0.127)	0.646*** (0.099)	0.683*** (0.105)
Health					
Average	0.579*** (0.175)	0.465*** (0.130)	0.773*** (0.122)	0.243 (0.162)	0.505*** (0.099)
Good	0.930*** (0.178)	1.004*** (0.136)	1.216*** (0.167)	1.008*** (0.149)	1.248*** (0.108)
Urban	0.034 (0.126)	0.215 (0.131)	0.145 (0.109)	0.243*** (0.084)	0.051 (0.130)
Obs.	3,459	9,217	3,514	9,538	9,225

This table reports the ordered logit regression of self-employment and satisfaction in China, Ukraine and Russia. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for job satisfaction in Ukraine and Russia, respectively. 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. *Education* reports dummies for the individual's 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. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

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

	Ukraine		Russia	
	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)
Self-employed	-0.838*** (0.176)	-0.831*** (0.171)	0.144** (0.062)	0.129* (0.069)
FinDev	-0.156 (0.156)	-0.134*** (0.049)	0.226* (0.129)	-0.015 (0.148)
Self-employed×FinDev	0.036 (0.518)	-0.063 (0.269)	-0.524*** (0.190)	-0.220* (0.117)
Female	0.137 (0.104)	0.136 (0.104)	0.172*** (0.047)	0.168*** (0.045)
Age	-0.085 (2.042)	-0.174 (2.026)	-9.037*** (1.519)	-9.071*** (1.504)
Age squared	0.069 (0.290)	0.083 (0.287)	1.285*** (0.210)	1.290*** (0.208)
Married	0.228*** (0.078)	0.221*** (0.078)	0.180*** (0.049)	0.176*** (0.050)
Education				
High school or college	0.275*** (0.064)	0.271*** (0.065)	0.167* (0.101)	0.160 (0.102)
Bachelor or higher	0.488*** (0.103)	0.489*** (0.102)	0.520*** (0.119)	0.518*** (0.119)
Health				
Average	0.584*** (0.175)	0.584*** (0.173)	0.469*** (0.133)	0.466*** (0.127)
Good	0.931*** (0.179)	0.935*** (0.178)	1.008*** (0.138)	1.010*** (0.128)
Urban	0.050 (0.128)	0.062 (0.129)	0.199 (0.132)	0.212 (0.133)
Obs.	3,459	3,459	9,217	9,217

This table reports the ordered logit regressions with *Job satisfaction* as the dependent variable. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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. *Education* reports dummies for the individual's 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 country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country average. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

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

	Ukraine		China		Russia	
	Deposits	Loans	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)	(5)	(6)
Self-employed	-0.120 (0.142)	-0.110 (0.153)	0.209*** (0.069)	0.214*** (0.076)	0.146* (0.077)	0.142* (0.081)
FinDev	0.262 (0.267)	0.059 (0.106)	-0.027 (0.216)	-0.035 (0.264)	-0.175 (0.230)	-0.397 (0.249)
Self-employed×FinDev	0.506 (0.563)	0.226 (0.316)	-0.205 (0.176)	-0.136 (0.246)	-0.291** (0.142)	0.046 (0.200)
Female	-0.002 (0.079)	-0.007 (0.078)	0.098 (0.090)	0.098 (0.091)	-0.088** (0.041)	-0.093** (0.040)
Age	-16.554*** (1.836)	-16.559*** (1.800)	-6.945** (3.350)	-6.920** (3.288)	-11.696*** (1.614)	-11.984*** (1.527)
Age squared	2.273*** (0.259)	2.273*** (0.254)	0.948** (0.446)	0.944** (0.437)	1.578*** (0.224)	1.619*** (0.211)
Married	0.598*** (0.103)	0.598*** (0.101)	1.148*** (0.118)	1.147*** (0.117)	0.649*** (0.056)	0.653*** (0.058)
Education						
High school or college	0.217** (0.097)	0.230** (0.096)	0.176*** (0.061)	0.174*** (0.057)	0.307*** (0.095)	0.323*** (0.103)
Bachelor or higher	0.775*** (0.131)	0.794*** (0.127)	0.648*** (0.106)	0.646*** (0.102)	0.695*** (0.107)	0.715*** (0.115)
Health						
Average	0.767*** (0.124)	0.775*** (0.124)	0.244 (0.162)	0.244 (0.162)	0.500*** (0.102)	0.510*** (0.103)
Good	1.218*** (0.169)	1.220*** (0.169)	1.008*** (0.149)	1.008*** (0.150)	1.247*** (0.108)	1.270*** (0.100)
Urban	0.109 (0.109)	0.128 (0.108)	0.246*** (0.081)	0.246*** (0.081)	0.082 (0.140)	0.039 (0.140)
Obs.	3,514	3,514	9,538	9,538	9,225	9,225

This table reports the ordered logit regressions with *Life satisfaction* as the dependent variable. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Chinese individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (5) - (6) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table 7. Effect of financial development on income of the self-employed

	Ukraine		China		Russia	
	Deposits	Loans	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)	(5)	(6)
Self-employed	0.168 (0.142)	0.194 (0.140)	0.276*** (0.060)	0.270*** (0.076)	0.011 (0.094)	0.032 (0.078)
Self-employed×FinDev	0.771** (0.323)	0.427*** (0.156)	0.052 (0.185)	-0.001 (0.281)	0.519* (0.289)	0.060 (0.241)
Female	-0.685*** (0.082)	-0.686*** (0.083)	-0.413*** (0.055)	-0.413*** (0.056)	-0.734*** (0.048)	-0.736*** (0.048)
Age	10.845*** (1.933)	10.942*** (1.926)	9.753*** (2.437)	9.752*** (2.432)	12.295*** (1.424)	12.214*** (1.473)
Age squared	-1.518*** (0.268)	-1.532*** (0.267)	-1.439*** (0.334)	-1.439*** (0.334)	-1.748*** (0.198)	-1.736*** (0.205)
Married	0.044 (0.074)	0.045 (0.074)	0.163*** (0.062)	0.163*** (0.062)	0.046 (0.038)	0.045 (0.038)
Education						
High school or college	0.343*** (0.060)	0.346*** (0.060)	0.397*** (0.049)	0.397*** (0.048)	0.164** (0.080)	0.166** (0.079)
Bachelor or higher	0.576*** (0.077)	0.580*** (0.078)	1.382*** (0.088)	1.381*** (0.087)	0.736*** (0.091)	0.744*** (0.089)
Health						
Average	0.056 (0.109)	0.062 (0.110)	0.435*** (0.085)	0.435*** (0.084)	0.147** (0.073)	0.147** (0.074)
Good	0.202* (0.107)	0.208* (0.108)	0.678*** (0.096)	0.678*** (0.095)	0.200*** (0.073)	0.202*** (0.072)
Urban	0.641*** (0.077)	0.645*** (0.077)	0.614*** (0.062)	0.615*** (0.062)	0.556*** (0.184)	0.567*** (0.189)
Obs.	2,863	2,863	8,784	8,784	8,707	8,707

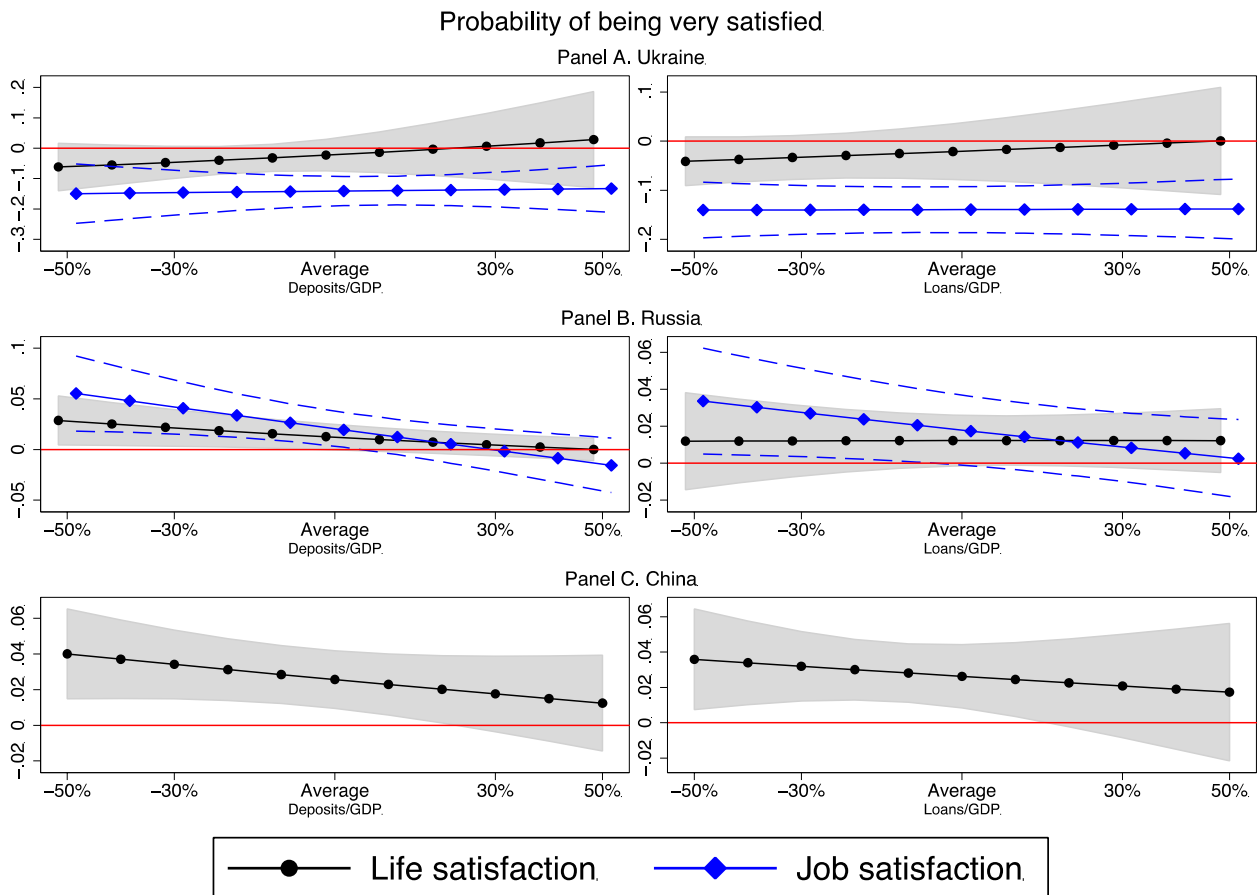
This table reports the probit regressions with *Income* as the dependent variable. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Chinese individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (5) - (6) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table 8. Financial development and well-being: controlling for income effects

	Ukraine		China		Russia	
	Deposits	Loans	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Job satisfaction						
Self-employed	-1.288*** (0.381)	-1.304*** (0.377)			-0.075 (0.106)	-0.061 (0.116)
FinDev	-0.388** (0.161)	-0.220*** (0.060)			0.151 (0.109)	-0.006 (0.100)
Self-employed×FinDev	-0.022 (0.556)	-0.167 (0.353)			-0.553*** (0.190)	-0.191* (0.112)
Income	1.027*** (0.102)	1.021*** (0.105)			0.599*** (0.072)	0.615*** (0.067)
Self-employed×Income	0.615 (0.397)	0.646 (0.398)			0.310** (0.147)	0.245 (0.156)
Obs.	2,803	2,803			8,656	8,656
Panel B. Life satisfaction						
Self-employed	-0.187 (0.193)	-0.194 (0.201)	0.082 (0.093)	0.089 (0.096)	0.046 (0.141)	0.060 (0.148)
FinDev	0.212 (0.282)	0.051 (0.115)	-0.042 (0.203)	-0.063 (0.247)	-0.258 (0.208)	-0.403* (0.219)
Self-employed×FinDev	0.281 (0.526)	0.086 (0.346)	-0.203 (0.180)	-0.127 (0.255)	-0.158 (0.180)	0.144 (0.216)
Income	0.649*** (0.105)	0.662*** (0.104)	0.412*** (0.054)	0.413*** (0.055)	0.527*** (0.103)	0.520*** (0.093)
Self-employed×Income	0.217 (0.207)	0.235 (0.219)	0.141 (0.099)	0.139 (0.100)	0.083 (0.176)	0.057 (0.180)
Obs.	2,848	2,848	8,635	8,635	8,666	8,666

This table reports the ordered logit regressions controlling for income effects. Standard errors clustered at regional level are reported in parentheses. Panels A and B show results with *Job satisfaction* and *Life satisfaction* as the dependent variable, respectively. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Chinese individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (5) - (6) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. *Life (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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country average. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. Control variables as specified in model (1) are included but not reported. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

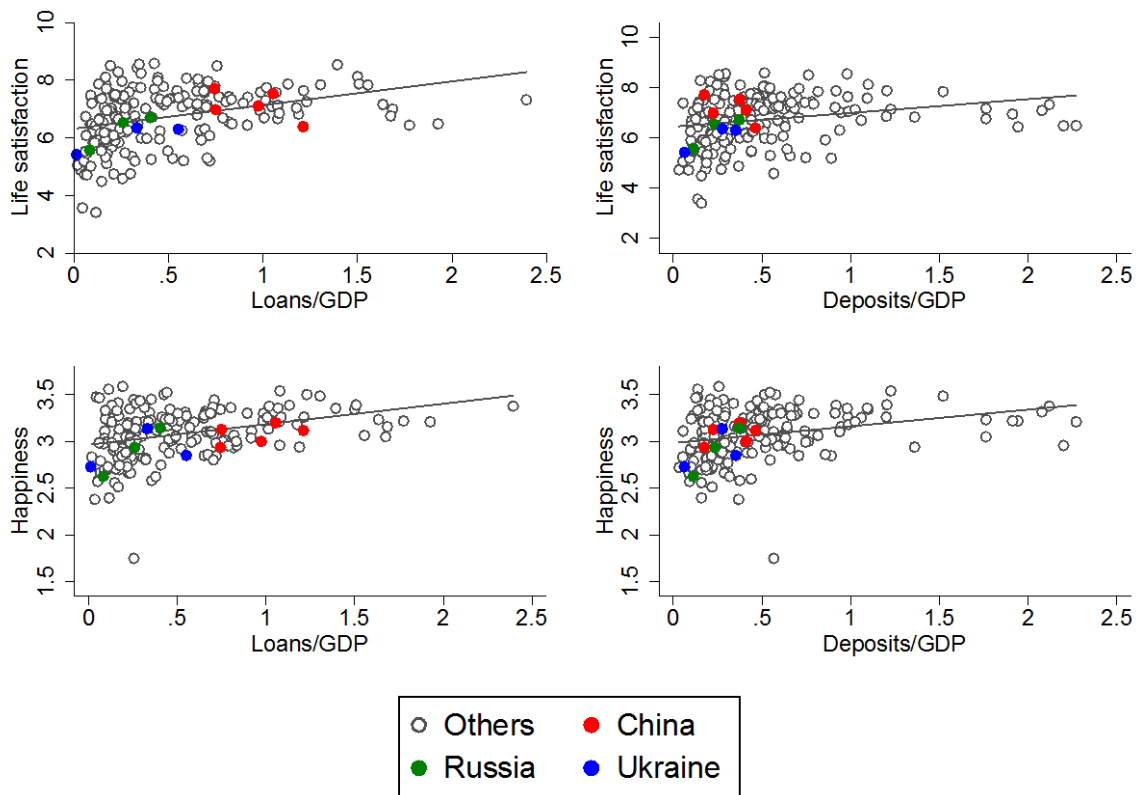
Figure 1. Marginal effects of *Self-employed* for different levels of financial development



This figure shows the marginal effects of *Self-employed* on the probability of being very happy for different levels of relative financial development holding other variables at mean. The grey shaded area and the dashed blue lines indicate 95 percent confidence intervals for *Life satisfaction* and *Job satisfaction*, respectively.

Online Appendix A.

Figure A1. 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.

Online Appendix B.

Table B1. Financial development, self-employment, and job satisfaction, controlling for income effects

	Ukraine		Russia	
	Deposits (1)	Loans (2)	Deposits (3)	Loans (4)
Self-employed	-1.288*** (0.381)	-1.304*** (0.377)	-0.075 (0.106)	-0.061 (0.116)
FinDev	-0.388** (0.161)	-0.220*** (0.060)	0.151 (0.109)	-0.006 (0.100)
Self-employed×FinDev	-0.022 (0.556)	-0.167 (0.353)	-0.553*** (0.190)	-0.191* (0.112)
Income	1.027*** (0.102)	1.021*** (0.105)	0.599*** (0.072)	0.615*** (0.067)
Self-employed×Income	0.615 (0.397)	0.646 (0.398)	0.310** (0.147)	0.245 (0.156)
Female	0.379*** (0.103)	0.374*** (0.104)	0.369*** (0.038)	0.370*** (0.039)
Age	-4.900* (2.682)	-4.955* (2.648)	-12.340*** (1.690)	-12.380*** (1.703)
Age squared	0.750** (0.371)	0.759** (0.365)	1.744*** (0.235)	1.750*** (0.237)
Married	0.119 (0.090)	0.107 (0.089)	0.177*** (0.048)	0.174*** (0.048)
<i>Education</i>				
High school or college	0.148* (0.078)	0.138* (0.077)	0.098 (0.094)	0.089 (0.095)
Bachelor or higher	0.236* (0.121)	0.227* (0.118)	0.308*** (0.113)	0.300*** (0.113)
<i>Health</i>				
Average	0.722*** (0.175)	0.724*** (0.173)	0.422*** (0.133)	0.420*** (0.129)
Good	0.996*** (0.166)	1.004*** (0.166)	0.950*** (0.140)	0.950*** (0.134)
Urban	-0.230 (0.150)	-0.227 (0.148)	0.069 (0.120)	0.072 (0.122)
Obs.	2,803	2,803	8,656	8,656

This table reports the ordered logit regressions with *Job satisfaction* as the dependent variable controlling for income effects. Standard errors clustered at regional level are reported in parentheses. Panels A and B show results with *Job satisfaction* and *Life satisfaction* as the dependent variable, respectively. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table B2. Financial development, self-employment, and life satisfaction, controlling for income effects

	Ukraine		China		Russia	
	Deposits	Loans	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)	(5)	(6)
Self-employed	-0.187 (0.193)	-0.194 (0.201)	0.082 (0.093)	0.089 (0.096)	0.046 (0.141)	0.060 (0.148)
FinDev	0.212 (0.282)	0.051 (0.115)	-0.042 (0.203)	-0.063 (0.247)	-0.258 (0.208)	-0.403* (0.219)
Self-employed×FinDev	0.281 (0.526)	0.086 (0.346)	-0.203 (0.180)	-0.127 (0.255)	-0.158 (0.180)	0.144 (0.216)
Income	0.649*** (0.105)	0.662*** (0.104)	0.412*** (0.054)	0.413*** (0.055)	0.527*** (0.103)	0.520*** (0.093)
Self-employed×Income	0.217 (0.207)	0.235 (0.219)	0.141 (0.099)	0.139 (0.100)	0.083 (0.176)	0.057 (0.180)
Female	0.056 (0.061)	0.057 (0.061)	0.137 (0.089)	0.137 (0.089)	0.047 (0.051)	0.042 (0.047)
Age	-18.319*** (2.538)	-18.420*** (2.499)	-7.692** (3.647)	-7.656** (3.587)	-15.025*** (1.719)	-15.292*** (1.733)
Age squared	2.518*** (0.356)	2.532*** (0.350)	1.066** (0.487)	1.062** (0.479)	2.044*** (0.236)	2.082*** (0.238)
Married	0.518*** (0.116)	0.519*** (0.114)	1.120*** (0.111)	1.119*** (0.110)	0.656*** (0.057)	0.661*** (0.059)
<i>Education</i>						
High school or college	0.077 (0.089)	0.085 (0.087)	0.149** (0.069)	0.147** (0.067)	0.269*** (0.094)	0.287*** (0.102)
Bachelor or higher	0.619*** (0.134)	0.633*** (0.131)	0.501*** (0.098)	0.499*** (0.095)	0.541*** (0.100)	0.561*** (0.108)
<i>Health</i>						
Average	0.821*** (0.179)	0.824*** (0.180)	0.207 (0.180)	0.207 (0.180)	0.459*** (0.107)	0.470*** (0.107)
Good	1.226*** (0.189)	1.225*** (0.190)	0.960*** (0.171)	0.960*** (0.171)	1.198*** (0.115)	1.220*** (0.111)
Urban	-0.091 (0.133)	-0.081 (0.133)	0.155* (0.086)	0.156* (0.086)	-0.029 (0.137)	-0.078 (0.137)
Obs.	2,848	2,848	8,635	8,635	8,666	8,666

This table reports the ordered logit regressions for with *Life satisfaction* as the dependent variable controlling for income effects. Standard errors clustered at regional level are reported in parentheses. Panels A and B show results with *Job satisfaction* and *Life satisfaction* as the dependent variable, respectively. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Chinese individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (5) - (6) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Urban* is a dummy variable that equals one if the individual lives in urban area, zero otherwise. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table B3. Financial development, self-employment, and job satisfaction – Rural-urban sub-samples

	Ukraine		Russia	
	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)
Panel A. Rural areas				
Self-employed	-1.770*** (0.409)	-1.795*** (0.418)	-0.070 (0.174)	-0.091 (0.184)
FinDev	-0.023 (0.355)	-0.047 (0.170)	0.630* (0.355)	0.350 (0.269)
Self-employed×FinDev	-0.199 (0.913)	-0.347 (0.557)	-1.143 (0.947)	0.405 (0.650)
Income	1.119*** (0.140)	1.122*** (0.147)	0.604*** (0.139)	0.572*** (0.136)
Self-employed×Income	0.987** (0.451)	1.033** (0.445)	0.231 (0.243)	0.280 (0.240)
Female	0.454*** (0.123)	0.449*** (0.125)	0.349*** (0.071)	0.335*** (0.063)
Age	-4.791 (4.376)	-4.977 (4.461)	-4.754 (3.824)	-4.239 (3.872)
Age squared	0.727 (0.608)	0.753 (0.619)	0.680 (0.524)	0.604 (0.528)
Married	0.221 (0.165)	0.220 (0.164)	0.184** (0.086)	0.191** (0.084)
<i>Education</i>				
High school or college	0.093 (0.135)	0.094 (0.135)	0.144 (0.111)	0.128 (0.105)
Bachelor or higher	0.383* (0.213)	0.385* (0.213)	0.329** (0.158)	0.309** (0.150)
<i>Health</i>				
Average	0.488** (0.244)	0.475* (0.244)	0.503** (0.223)	0.479** (0.226)
Good	0.817*** (0.249)	0.801*** (0.251)	0.980*** (0.221)	0.941*** (0.222)
Obs.	1,330	1,330	2,471	2,471
Panel B. Urban areas				
Self-employed	-0.447 (0.407)	-0.456 (0.391)	-0.097 (0.096)	-0.108 (0.094)
FinDev	-0.683*** (0.197)	-0.332*** (0.071)	0.083 (0.123)	-0.049 (0.097)
Self-employed×FinDev	0.028 (0.416)	0.050 (0.308)	-0.486*** (0.170)	-0.262** (0.130)
Income	0.995*** (0.123)	0.971*** (0.123)	0.621*** (0.092)	0.632*** (0.080)
Self-employed×Income	-0.194 (0.464)	-0.193 (0.443)	0.332** (0.165)	0.290* (0.155)
Female	0.318** (0.156)	0.310** (0.155)	0.375*** (0.049)	0.374*** (0.050)
Age	-5.055 (3.571)	-4.730 (3.406)	-15.096*** (1.552)	-15.143*** (1.577)
Age squared	0.783 (0.501)	0.738 (0.479)	2.133*** (0.218)	2.140*** (0.221)
Married	0.068	0.046	0.176***	0.175***

	(0.114)	(0.113)	(0.060)	(0.061)
<i>Education</i>				
High school or college	0.210*	0.192	0.075	0.070
	(0.123)	(0.124)	(0.131)	(0.133)
Bachelor or higher	0.163	0.147	0.292*	0.289*
	(0.157)	(0.160)	(0.153)	(0.154)
<i>Health</i>				
Average	0.935***	0.957***	0.393***	0.394***
	(0.242)	(0.247)	(0.152)	(0.146)
Good	1.208***	1.233***	0.941***	0.949***
	(0.228)	(0.231)	(0.164)	(0.155)
Obs.	1,473	1,473	6,185	6,185

This table reports the ordered logit regressions with *Job satisfaction* as the dependent variable for rural-urban sub-samples (Panels A and B, respectively), controlling for income effects. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.

Table B4. Financial development, self-employment, and life satisfaction – Rural-urban sub-samples

	Ukraine		China		Russia	
	Deposits	Loans	Deposits	Loans	Deposits	Loans
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Rural areas						
Self-employed	-0.419 (0.275)	-0.428 (0.295)	0.131 (0.118)	0.142 (0.123)	0.067 (0.203)	-0.078 (0.186)
FinDev	0.172 (0.358)	-0.000 (0.207)	0.006 (0.355)	-0.007 (0.384)	0.036 (0.403)	0.098 (0.293)
Self-employed×FinDev	0.401 (0.885)	0.121 (0.563)	-0.286 (0.252)	-0.166 (0.330)	-0.337 (0.656)	1.378*** (0.527)
Income	0.709*** (0.162)	0.725*** (0.159)	0.392*** (0.068)	0.391*** (0.069)	0.454*** (0.151)	0.455*** (0.140)
Self-employed×Income	0.481 (0.354)	0.501 (0.365)	0.186 (0.138)	0.186 (0.141)	0.071 (0.292)	0.110 (0.268)
Female	-0.002 (0.085)	-0.002 (0.086)	0.040 (0.136)	0.038 (0.140)	-0.158** (0.074)	-0.164** (0.075)
Age	-18.494*** (4.747)	-18.641*** (4.646)	-6.087* (3.579)	-6.069* (3.485)	-13.481*** (4.983)	-13.713*** (4.896)
Age squared	2.561*** (0.656)	2.582*** (0.641)	0.880* (0.481)	0.877* (0.468)	1.855*** (0.680)	1.885*** (0.666)
Married	0.592*** (0.156)	0.593*** (0.155)	1.053*** (0.140)	1.050*** (0.140)	0.580*** (0.135)	0.590*** (0.130)
<i>Education</i>						
High school or college	0.085 (0.141)	0.097 (0.137)	0.175** (0.069)	0.174*** (0.067)	0.245* (0.149)	0.240 (0.164)
Bachelor or higher	0.519** (0.214)	0.541*** (0.210)	0.314* (0.180)	0.309* (0.172)	0.538*** (0.163)	0.527*** (0.174)
<i>Health</i>						
Average	0.623*** (0.209)	0.627*** (0.214)	0.636*** (0.179)	0.634*** (0.180)	0.723*** (0.196)	0.692*** (0.196)
Good	1.000*** (0.293)	0.993*** (0.301)	1.228*** (0.173)	1.226*** (0.174)	1.359*** (0.223)	1.312*** (0.215)
Obs.	1,356	1,356	5,096	5,096	2,477	2,477
Panel B. Urban areas						
Self-employed	0.137 (0.315)	0.146 (0.304)	-0.118 (0.144)	-0.121 (0.151)	0.032 (0.167)	0.033 (0.164)
FinDev	0.243 (0.252)	0.079 (0.096)	-0.083 (0.109)	-0.125 (0.146)	-0.304 (0.238)	-0.471* (0.247)
Self-employed×FinDev	0.107 (0.446)	0.074 (0.282)	-0.043 (0.439)	-0.048 (0.467)	-0.127 (0.190)	-0.027 (0.201)
Income	0.592*** (0.117)	0.607*** (0.116)	0.462*** (0.109)	0.461*** (0.109)	0.574*** (0.141)	0.553*** (0.121)
Self-employed×Income	-0.143 (0.303)	-0.150 (0.301)	0.186 (0.140)	0.188 (0.140)	0.089 (0.222)	0.097 (0.211)
Female	0.105 (0.074)	0.109 (0.074)	0.189 (0.127)	0.190 (0.127)	0.135** (0.067)	0.120** (0.060)
Age	-18.314*** (3.045)	-18.451*** (3.028)	-11.776 (7.167)	-11.750* (7.095)	-15.598*** (1.640)	-15.837*** (1.671)
Age squared	2.500*** (0.426)	2.520*** (0.423)	1.574 (0.961)	1.571* (0.951)	2.115*** (0.230)	2.148*** (0.234)
Married	0.472***	0.476***	1.197***	1.197***	0.683***	0.695***

	(0.129)	(0.126)	(0.127)	(0.126)	(0.066)	(0.070)
<i>Education</i>						
High school or college	0.081 (0.106)	0.086 (0.105)	0.085 (0.221)	0.081 (0.220)	0.278** (0.124)	0.293** (0.130)
Bachelor or higher	0.688*** (0.162)	0.697*** (0.160)	0.396* (0.237)	0.392* (0.236)	0.537*** (0.131)	0.560*** (0.138)
<i>Health</i>						
Average	0.984*** (0.305)	0.983*** (0.304)	-0.624*** (0.228)	-0.623*** (0.229)	0.369*** (0.120)	0.381*** (0.120)
Good	1.422*** (0.298)	1.421*** (0.294)	0.368* (0.217)	0.370* (0.218)	1.148*** (0.137)	1.182*** (0.126)
Obs.	1,492	1,492	3,539	3,539	6,189	6,189

This table reports the ordered logit regressions with *Life satisfaction* as the dependent variable for rural-urban sub-samples (Panels A and B, respectively), controlling for income effects. Standard errors clustered at regional level are reported in parentheses. Columns (1) - (2) show results for sample of Ukrainian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (3) - (4) show results for sample of Chinese individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, respectively. Columns (5) - (6) show results for sample of Russian individuals with *Deposits/GDP* and *Loans/GDP* as the measure of financial development, 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). *FinDev* is the financial development indicator measured by either *Deposits/GDP* or *Loans/GDP*. *Deposits/GDP* is the relative Deposits/GDP ratio compared to the country average. *Loans/GDP* is the relative Loans/GDP ratio compared to the country 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. *Education* reports dummies for the individual's 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. *Income* is a dummy variable that equals one if an individual's income is higher than the sample median, zero if the income is lower than the median. *, **, and *** denote 10%, 5%, and 1% significance level, respectively.