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WHAT MAKES YOUTH BECOME NEET? THE EVIDENCE FROM RUSSIAN LFS

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WHAT MAKES YOUTH BECOME NEET? THE EVIDENCE FROM RUSSIAN LFS[23]

This article addresses the issue of socio-demographic factors of becoming NEET, i.e. dropping out of employment, education or training for individuals aged 15-24. Empirical analysis was based on the micro-data of Russian Labour Force Survey (LFS) by Federal State Statistics Service for 1995-2015. The paper introduces the results of the analysis of the impact of education on NEET status, which were conducted for Russia on the basis of regression estimations for the first time. Contrary to previous studies, higher education doesn't provide a universal "safety net" from NEET status for all young people. NEET-unemployed youth in Russia mainly have tertiary education of one level or another, while NEET inactivity is concentrated among those who have only primary education and the size of the effect becomes even more pronounced for rural residents and females.

Keywords: youth labour market, NEET, LFS, youth unemployment, Russia
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1. Introduction

The smooth transition of young people from study to work is one of the hot policy issues in all developed and transition countries. Youth unemployment rates exceeding 2-3 times the overall average rates are worrisome [Youth unemployment rate, 2016; OECD Employment Outlook 2016]. However, the conventionally measured unemployment rate has the total labour force size as the denominator which usually is not numerous in these ages. This inflates unemployment estimates and ignores large non-participation. Meanwhile, many young people are engaged into full-time education or training and therefore are legitimately out of the labour force. In this context, the variable counting those young people who are not in employment, education or training – the so-called NEET group – becomes an alternative to the conventional definition of unemployment. The size of the group varies from 7% to 20% of those aged 15-24 in different countries.

NEET status may have a number of long-term consequences for life trajectories. Among them are poorer chances of finding permanent employment, a higher risk of poverty and lower levels of well-being, [Coles et al., 2002; Eurofound, 2012]. It can also lead to problems with physical and mental health, increase the propensity for criminal activities [OECD, 2010], substance abuse [Coles et al., 2002], and lower the level of trust in social institutions [Alfieri et al., 2015]. Half of young NEETs in the UK have never worked; they have a very high risk of remaining unemployed in the medium term and being low paid in the long term [Wadsworth, 2013]. In this respect the NEET category marks various forms of youth exclusion, i.e. "joblessness" [OECD, 2010], "youth left behind" [Scarpetta et al., 2010] and problems in the transition from school to work [OECD, 2013].

Studies in Europe and USA show that lack of human capital (education, qualifications and skills) is a major risk factor for becoming a NEET. Lower education levels increase the risk of becoming a NEET, and the NEET phenomenon is closely related to early school leaving [European Agency for Special Needs and Inclusive Education, 2016.]. For example, in Scotland around one third of early school leavers experience periods of being a NEET over the three post-school years [Croxford, Raffe, 2000].

Russia is not on the map of rigorous NEET studies, though the issue of school to work transition remains quite relevant. Higher education significantly increases employment rates of graduates and shortens the period of job search. The combination of study and work brings substantial additional benefits to graduates compared to those who don't have labour market experience during education [Varshavskaya, 2016a; Roshchin, Rudakov, 2014]. All these make the analysis of those who dropped out from of education and the labour market even more

important since the size of the group in 2015 was 12% of all young people aged 15-24 years [Zudina, 2017].

However existing studies of Russian NEET youth are mostly descriptive [Varshavskaya 2016; Blinova, Vyalshina, 2016; Zudina, 2017] and discuss only general trends in NEET dynamics and characteristics. As a result there are no available estimates of the impact of education on NEET enrolment ceteris paribus, which would contribute to the existing discussion on how human capital influences NEET youth using Russian data.

This paper fills this gap in our understanding of Russian NEET. It introduces the human capital point of view to the analysis of Russian NEET using the most comprehensive data set of the Russian LFS for the period of 1995-2015. The paper presents regression estimates of the impact of education on NEET status, conducted for Russia for the first time.

The results show that during 1995-2015 the share of NEET youth decreased constantly and dynamics of NEET rates didn't respond to any negative macroeconomic shocks of the 2000s. The NEET-unemployment rates fell from 9% in 1995 to 5% in 2015 and NEET-inactive rates decreased from 10% in 1995 to 7% in 2015. The decline of NEET rates came as a result of the intensive absorption of the Russian youth by the educational system from 40% in 1995 to 62% in 2015.

The inactive state remained the predominant type of the NEET youth. Major risks of NEET-inactivity are concentrated among those who have only primary education; and the size of the effect becomes even more pronounced for rural residents and females. In this respect university education significantly reduces the probability of becoming an out of labour force NEET.

In 2015 the NEET-unemployment rates for 15-19 year-olds were 14-19 times lower than the conventionally measured unemployment rates highlighting the benefits of the NEET approach to the analysis of the youth labour market. The corresponding gap between NEET and ILO unemployment rates for young people aged 20-24 was about 2-2,5 times. Subsequently, the rate of Russian youth unemployment is not as big a challenge for policymakers as it had previously been supposed. However, contrary to what was argued by previous NEET studies, university education does not provide a universal safety net from NEET status for all young people. Most of the NEET-unemployed in Russia have tertiary education, and among male university graduates the NEET-unemployment rate increased from 8% to 13% during 1995-2015. One of the possible explanations here could be the low-quality of some Russian universities [Androushchak, Prudnikova, 2011; Roshchin, Rudakov, 2016]. The further contraction of NEET youth and an efficient school-to-work transition should be mainly connected with the reduction of early school leaving rates and the improvement of the quality of

tertiary education, which would better translate educational achievements into labour market outcomes.

The rest of the paper is structured as follows. Section 2 reviews the relevant literature. Section 3 presents the data and empirical approach. Section 4 discusses the main empirical findings and Section 5 concludes.

2. How young people become NEET: a short literature review

Youth employment is often extremely vulnerable. Skills and competencies of young people may not meet the requirements of employers because of a lack of work experience and the sporadic past employment. The latter has multiple causes, among which are fluctuations in business cycles [Eurofound, 2012], job shopping strategies [Machin, Manning, 1999], and the combination of education and work.

NEETs are a very heterogeneous group. One part consists of the unemployed who want to find a job, while the other is those who are out of labour force for one reason or another [Eurofound, 2012]. The term NEET emphasizes what young people *are not*, and it does not reflect the diverse range of situations and challenges that they face [Rose et al., 2012]. Its inclusion into statistical practice led to a serious methodological critique of the NEET concept which highlights the risks of taking researchers attention away from the known vulnerabilities of the youth unemployment (see, for example, [Furlong, 2006; What does NEETs mean and why is the concept so easily misinterpreted, 2015]). Another important issue is the diversity of ages of NEET youth. NEETs at the age of 16 are high school drop-outs while NEETs at 24 can be those who have completed higher education and face serious problems trying to enter labour market. That is why NEET indicators are often calculated separately for the age groups 15-19 and 20-24[4].

Student ratios also usually complicate youth labour market statistics [Wadsworth, 2013] since not all conventionally measured unemployed young people are NEET. In the UK, for example, about 42% of unemployed young people were in some form of education or training [Mirza-Davies, 2015]. Inactive NEETs also are very heterogeneous because individuals have different reasons for non-participation in education and the labour market. Some of them have children or other family members that they need to care for, while others can have some physical disabilities or could not find a job and became desperate. Those who decided to take a short

[4] Age group of 26-29olds is often included in the NEET as well.

break from education and work are also NEETs, but this latter group of NEET youth is usually small [Eurofound, 2012].

Immediately after the 2008 economic crisis both the 15-19 and 20-24 age groups experienced an increase in NEET rate in the majority of OECD countries[5]. In 2013 in Ireland, Spain, Italy, Brazil, Mexico, Chile, Colombia and Turkey the ratio of NEETs among 15-19 year-olds was over 10%. The NEET ratio among 20-24 year-olds was the largest in Chile, Mexico, Colombia, Hungary, Spain, Greece, Italy and Turkey,[6] surpassing the level of 25% [Mirza-Davies, 2015].

Empirical studies usually reveal that individual characteristics such as low levels of education or its poor quality, exclusion or suspension from school, migrant status, poor physical or mental health, substance abuse, teenage pregnancy, early marriage and early childbirth are associated with higher probability of becoming a NEET [Coles et al., 2002; Eurofound, 2012; Carcillo et al. 2015; Mirza-Davies, 2015; Cornaglia et al., 2012; Baggio et al., 2015; Kelly, McGuinness, 2013]. Some personality traits such as low self-esteem and an external locus of control also matter. [Mendolia, Walker, 2014]. At the same time various family-related characteristics (unemployed parents or parents with low levels of education, large or single parent families, low household incomes, poor housing, living in small, rural or remote settlements) also contribute to becoming a NEET [Bynner, Parsons, 2002; Eurofound, 2012; Britton et al.,2011; Dixon, 2013; Berloffa et al., 2016].

The theoretical economic model of intergenerational transmissions of socio-economic status from parents to children was introduced in Becker and Tomes [1986]. Heckman and Carneiro argue that the dynamic process of human capital accumulation starts long before formal schooling and depends on family background [Heckman, Carneiro, 2003]. Solon [2004] describes the intergenerational inheritance of worklessness and asserts that human capital is the principle transmitter of incomes across generations. It predicts that sons with workless fathers are likely to have lower educational attainment and poorer cognitive skills, lower potential returns to schooling and are less capable of turning investments into outputs[7]. Applying this theoretical approach, entry into the NEET group can occur because of the initial inequality of opportunities for families to invest into the human capital of their children. This concerns the development of both cognitive and non-cognitive skills. These human capital components further

[5] The two notable exceptions are Turkey and Israel, where the NEET rates have dropped dramatically since the middle of 2000s. Nevertheless, Turkey still remained the OECD country with the highest NEET rate among 15-19 and 20-24 age groups.

[6] The OECD averages of NEET rates for 15-19 and 20-24 age groups in 2013 were 7% and 18% respectively.

[7] Caspi et al. [1998] showed on empirical data that early personal and family characteristics may affect labour market outcomes since they restrict the accumulation of human capital and directly affect one's ability to enter and remain in employment.

determine a child's achievements in learning and success in the transition from education to work. Thus, initial socio-economic inequality among families is translated into the NEET status of their children and then will be later reproduced in the socio-economic position of the adults who previously were NEETs. NEETs who are "pre-disposed" to this state by their family background, are sometimes referred to as Core NEETs [Youths NEET Census Report, 2015].

Studies on the relationship between family characteristics, the formation of various skills and becoming a NEET emerged only recently. For example, Macmillan [2013] uses the British Cohort Study to investigate intergenerational transmission of disadvantage and reveals that non-cognitive skills (particularly extroversion, hyperactivity and conscientiousness, measured at age 5 and 10) are important factors that predict future unemployment spells. Gladwell et al. [2016] find that cognitive ability is one of the key predictors of NEET status and explains the persistence in the NEET group. They also find evidence of significant indirect effects of the aspirations of young individuals and their parents in the prevention of NEET status. Alfieri et al. [2015a] show that parental educational level and support reduce the risk of becoming a NEET.

The concept of NEET was introduced into Russian economic studies only two years ago. Existing studies on the subject provide general descriptive analysis of NEET youth [Varshavskaya 2016; Blinova, Vyalshina, 2016; Zudina, 2017]. They show that the structure of the Russian NEET group is constantly dominated by those whose connection to the labour market is the weakest – individuals out of the labour force. NEET status is largely associated with low levels of education[8], rural settlements and the absence of labour market experience. However no estimates of the association of particular socio-demographic characteristics with the probability of becoming NEET ceteris paribus are provided in these studies.

3. Data issues and empirical approach

3.1 Data and variables

Most existing NEET studies use various types of universal household survey data. Other potential data sources are more targeted surveys which include longitudinal surveys of adolescents, drop-outs or school graduates. They may track life trajectories of the same individuals over time[9] and may include indicators of personality traits and measures of cognitive

[8] According to LFS data for 1995-2015 socio-demographic portrait of unemployed NEETs and out of labour force NEETs is characterized by the dominance of secondary education and technical college education [Zudina, 2017].

[9] Prominent examples of this type of surveys are The Longitudinal Study of Young People in England (LSYPE) and National Longitudinal Survey of Youth (NLSY) in USA.

and non-cognitive abilities. These additional variables are very useful for explaining the formation of the NEET category.

This study uses micro-data from the Russian Labour Force Survey (LFS) for 1995-2015. The LFS is a household survey conducted by the Federal State Statistical Service, Rosstat, quarterly, and since September 2009 – monthly, using large nationally and regionally representative samples (about 270,000 people per year for the quarterly data collection and about 800,000 people per year since monthly data collection began). The questionnaire is constructed according to ILO guidelines. In this respect this paper follows the international tradition of NEETs analysis since LFS is the basic source of labour force statistics in Russia.

Though the Russian LFS has multiple advantages for studying labour market issues, a few serious caveats apply. It is not a panel study and does not include any indicators of cognitive and non-cognitive skills. However, LFS data allows for the investigation of NEET engagement along with educational achievements measured by completed educational level. The corresponding variable in the LFS data set has six values varying from tertiary to primary level: university, technical college, vocational education, upper secondary education, lower secondary education, primary education[10]. According to previous studies it can be assumed that risks of NEET participation will be strongly associated with lower educational levels.

Another important feature of LFS data is that they enable researchers to include the variable of settlement type of young respondents as a proxy for their family's socioeconomic status[11]. In LFS data the settlement type variable has two values – urban and rural. According to empirical studies household characteristics are important factors of becoming NEET and settlement type is evidence of family socioeconomic opportunities. Rural households have less resources and capabilities to invest in the cognitive and non-cognitive skills of their children. Thus rural youth should be more prone to becoming NEET than urban one ceteris paribus. All these enable the present paper to contribute to the discussion about the socio-demographic components of NEET status and to the human capital formation of NEET youth.

[10] Completed educational level variable relates to the educational level received by respondent by the time of interview in a particular year. He or she may still continue education. However, it is important to stress that NEET youth by definition are not studying at the moment of the survey.

[11] LFS data doesn't allow for the analysis of young individuals' mobility (for example, from village to town for a job search or education) and so I consider type of residence of young individual as an indicator of his/her family socioeconomic background.

As shown by previous studies, NEET youth consist of two different groups – unemployed NEETs and inactive (out of the labour force) NEETs. Following [Bilgen Susanli, 2016], I group individuals aged 15-24 years as following[12] based on their labour market behaviour:

1. Education: students who are not employed.
2. Employment: employed individuals, excluding the students.
3. Unemployed NEETs: non-students who did not have a job, were searching for one and were ready to start working once they find one.
4. Inactive NEETs: individuals, who are not attending school or university at the time of the survey, did not have a job and were not searching for one.

Table A1 (in the Appendix) presents the summary statistics for the sample of individuals aged 15-24 in 1995, 2000, 2005, 2010 and 2015.

3.2 The model

The present paper investigates the socio-demographic characteristics of Russian NEET youth. In particular, I address which characteristics of youth change the probabilities of becoming a NEET. The labour market behaviour variable whose values include employment, full time education and two separate types of NEETs (NEET-unemployed and NEET-inactive) is a nominal dependent variable which suggests the estimation of multinomial choice models. Choice models are derived from the hypothesis about the maximization of utility which assumes that an individual's choice is the result of the preferences and the alternative chosen has the highest utility[13].

The multinomial logit model dependent variable, y ,denotes a random variable taking on the values {0; 1; . . . ; j} and x denotes a set of conditioning variables [Wooldridge, 2002]. In present study y is labour market behaviour type and has four different values (the base category was employment), while x contains gender, age, educational level, marital status, settlement type and federal district.

[12] According to Russian LFS data the ratio of those youth who were studying and working at the same time was very small – it didn't exceed 2% of all young people aged 15-24 years in the period analyzed. So these young individuals were filtered out from the sample.

[13] According to the model's assumption the individual has all the freedom of choice when he takes a decision about particular type of labour market state. In this respect it doesn't analyse the situations of individual's "involuntary" choice when some alternatives are simply unavailable, for example, due to various institutional borders or lack of jobs on the labour market. However I turn to this type of analysis in order to receive more precise understanding of NEET membership that can be provided only by controlling for observable features of individuals in a regression analysis.

The relationship of interest is described as the ceteris paribus changes in *x* that affect the response probabilities of *y*.

$$P(y = j|x), j = 0,1,2, \dots j. \quad (1)$$

If *x* is a 1 x K vector, then the multinomial logit model has response probabilities

$$P(y = j|x) = \frac{\exp(x\beta_j)}{\left[1+\sum_{h=1}^{j} \exp(x\beta_h)\right]}, \quad (2)$$

where β_j is K x 1 vector of coefficients, j=1,…,j [ibid].

The parameters of the model are estimated using the maximum likelihood function.

The model was estimated for five different years (1995, 2000, 2005, 2010 and 2015) in order to examine the dynamics of the relative influence of the characteristics. The magnitudes and signs of the coefficients are not directly informative because they are relative to the base outcome, so the average marginal effects of changing their values on the probability of observing an outcome were estimated[14].

After the estimation of the general model described above, four alternative models were also estimated. They described the factors of NEET status separately for men, women and urban and rural settlement types in order to examine differences in NEET status across genders and across urban and rural areas.

4. NEETs and the Russian labour market

4.1 Dynamics of youth labour market in 1995-2015

Figure 1 presents the key trends in the Russian youth labour market in 1995-2015.

During the period the share of employed individuals aged 15-24 years declined from 41% to 26%. The decline was in both age groups: the employment rates of 15-19 year-olds decreased from 17% to 6% and of 20-24 year-olds from 65% to 50% [Labour and Employment in Russia 2003; Labour and Employment in Russia 2015].

The ratio of both NEET categories also decreased. NEET-unemployment rates fell from 9% of 15-24 year-olds in 1995 to 5% in 2015. The proportion of NEET-inactive also fell from 10% in 1995 to 7% in 2015. The decline of NEETs and employed youth is explained by the significant increase in the share of individuals in education: from 40% in 1995 to 62% in 2015. This corresponds with Rosstat data about the dynamics of the coverage of youth by educational programs of primary, secondary and tertiary education [Russian Statistical Yearbook 2016].

[14] The Stata command 'Margins' based on delta method was employed for the calculation of average marginal effects.

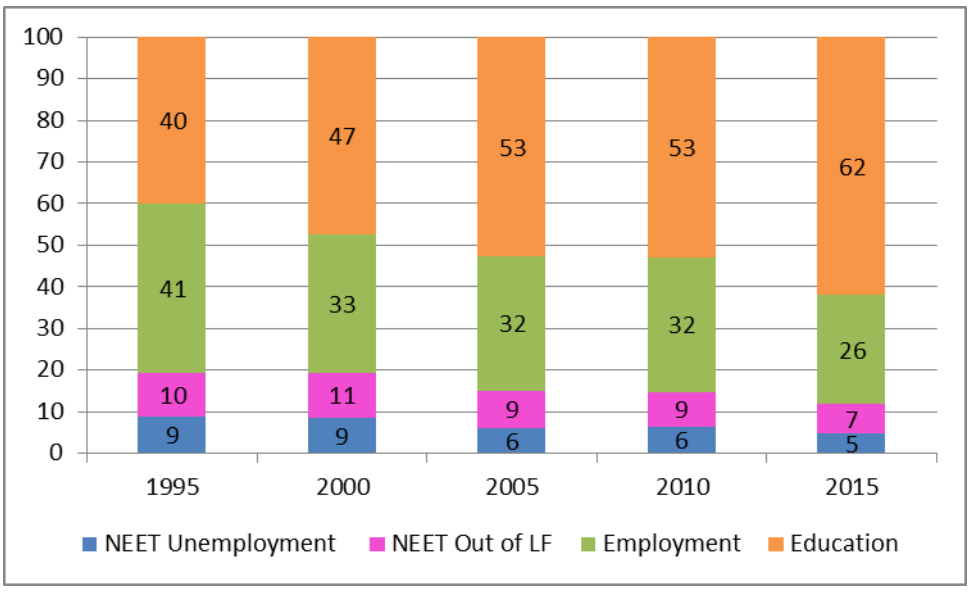

Fig.1 Dynamics of NEET rates and labour market states (% of total population aged 15-24), 1995-2015, LFS

Table 1 presents the dynamics of key labour market indicators of Russian youth in 1995-2015 by gender in two separate age groups. Youth ILO unemployment levels among 15-19 year-olds were very high and continued increasing during the period. The female youth unemployment level (34-38%) exceeded the corresponding indicators for males (24-28%). Employment rates are constantly falling in both gender groups of 15-19 year-olds and again the decrease is more prominent for females. Females also experience a much more pronounced increase in inactivity rates during the 1995-2015. In 1995 almost 77% females and around 72% males were out of the labour force. This inequality of inactivity rates persisted with a male inactivity rate of 90% and a female inactivity rate of 93% in 2015. The levels of labour force participation rates for 15-19 year-olds in 2015 reached their minimum.

The dynamics of education rates among 15-19 year-olds demonstrates a reverse trend. It increases remarkably for females from 70% in 1995 to 92% in 2015 and for males from 66% in 1995 to 89% in 2015.

In 1995 the ratio of NEET youth among Russian 15-19 year-olds was the highest – 13% for males and 16% for females. In subsequent years it fell to 5% for both gender groups with females demonstrating a more prominent relative decline of NEET participation rate by 2015.

Table 1. Key labour market statuses of Russian youth in 1995-2015, by gender and age group, LFS.

Labour market status of youth	15-19 years									
	Males					Females				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Unemployment (1)	23,9%	27,0%	21,3%	28,5%	28,6%	34,0%	35,1%	32,3%	37,0%	38,2%
Employment (2)	21,4%	16,1%	14,1%	10,0%	7,3%	14,8%	11,7%	9,4%	5,8%	4,4%
Out of Labour Force (2)	71,8%	77,9%	82,1%	86,1%	89,8%	77,6%	82,0%	86,1%	90,8%	92,9%
NEET rate (3)	13,3%	12,1%	8,1%	6,4%	5,4%	16,0%	12,6%	9,4%	6,5%	5,4%
NEET-unemployment rate (3)	5,9%	4,7%	2,6%	2,4%	1,9%	7,0%	5,1%	3,4%	2,1%	1,9%
NEET-inactivity rate (3)	7,4%	7,4%	5,5%	4,0%	3,5%	9,0%	7,5%	6,0%	4,4%	3,6%
Education (4)	66,1%	74,7%	80,3%	85,2%	89,1%	70,0%	78,3%	83,3%	88,9%	91,7%
Size of the group (ths)	5431	6107	6240	4505	3613	5279	5906	6038	4393	3445
Labour market status of youth	20-24 years									
	Males					Females				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Unemployment (1)	15,6%	17,0%	12,7%	14,9%	13,8%	15,3%	18,2%	13,5%	15,0%	14,9%
Employment (2)	69,7%	62,9%	58,9%	58,2%	55,2%	60,4%	52,0%	49,8%	48,1%	44,5%
Out of Labour Force (2)	17,5%	24,2%	32,5%	31,7%	36,0%	28,7%	36,4%	42,4%	43,5%	47,7%
NEET rate (3)	19,1%	19,6%	14,7%	15,4%	12,7%	28,5%	29,5%	22,4%	23,0%	20,8%
NEET-unemployment rate (3)	12,1%	12,2%	7,9%	9,3%	7,8%	10,6%	10,8%	7,2%	7,6%	6,7%
NEET-inactivity rate (3)	7,0%	7,5%	6,8%	6,1%	4,9%	17,9%	18,7%	15,2%	15,4%	14,1%
Education (4)	12,0%	18,1%	27,3%	27,2%	33,9%	11,7%	19,0%	28,5%	29,6%	36,3%
Size of the group (ths)	5174	5462	6059	6239	5158	4934	5368	5934	6080	4962

Note:

1 – the indicator is calculated according to the ILO methodology as a % from labour force of age and sex group.

2 - the indicator is calculated according to the ILO methodology as a % from the population of age and sex group.

3 - the indicator is calculated according to the Eurostat methodology as a % from the population of age and sex group.

4 - the indicator is calculated as a % from the population of age and sex group.

The structure of NEETs was constantly dominated by inactive individuals whose connection to the labour market is usually the weakest. They are not actively searching for the job and in this respect normally are excluded from the channels of information about vacancies

and employer requirements. However levels of NEET inactivity also steadily declined among 15-19 year-olds during 1995-2015. Females showed more a prominent decrease of the indicator falling from 9% in 1995 to 3,6% in 2015 while the male NEET-inactivity rate fell from 7,4% to 3,5%. The levels of NEET-unemployment rates were smaller than NEET-inactivity rates in both gender groups. In 1995 the ratio of female unemployed NEETs (7%) was relatively higher than that for males. In later years NEET-unemployment rates for both gender groups decreased substantially to 1,9% in 2015. An analysis of the main characteristics of labour market status of youth 20-24 years-old shows similar trends.

In 1995-2015 ILO unemployment rates were quite stable in both gender groups ranging from 14% to 18%. The employment rates of 20-24 year-olds steadily declined. The highest ratio of employed males was in 1995 when about 70% of all men aged 20-24 were employed. This ratio fell to 55% in 2015. Female employment rates decreased from 60% in 1995 to 44,5% in 2015.

In contrast to this, education rates and inactivity rates increased substantially. The former changed from 12% in 1995 to 34-36% in 2015. The latter demonstrated gender differences; among males the ratio of those who inactive increased from 17% to 36% during 1995-2015 while for females it increased from 28,7% to 47,7%. There was a decline in the economic activity and employment in the group of 20-24 year-olds throughout 1995-2015 and the increase of education rates was the result of several processes. First, 20-24 year-olds were probably the ones who suffered the most from the tough transition of 1990s. In this situation, education became an alternative to employment as a mechanism of delayed labour supply [Roshchin, 2006]. Secondly, since the mid-1990s, expectations for economic returns from professional education of various levels have increased, and consequently, the demand for such education has also risen [ibid].

NEET rates among 20-24 year-olds in 1995-2015 were higher than for 15-19 year-olds. For instance, in 1995 almost 20% of males aged 20-24 were NEETs and the corresponding indicator for females of the same age was around 29%. In the subsequent years the ratio of NEETs among males and females decreased. However the number of NEETs remained high. In 2015 the ratio of NEETs among females was around 21% and among males around 13%. Nevertheless, these figures are far from the maximum NEET rates among 20-24 year-olds around the world [Mirza-Davies, 2015]. Both NEET-unemployment rates and NEET-inactivity rates declined during the period analysed. However males and females have different structures of NEET status. Unemployed NEETs dominate among males while inactive NEETs are overrepresented in females. These differences can be explained by the male breadwinner model which prevails in Russian society. Marriage is one of the reasons for becoming a NEET. Women

can exit the labour market after they get married while men remain an active part of the labour force becoming main breadwinner. If they lose their job, they are also more likely to become unemployed, i.e. remain part of the labour market searching for the new job.

The general trends described above point to the differences in NEET participation rates in different socio-economic groups of Russian society. They will be discussed in more detail in the next section of the paper.

4.2 NEET participation rates

Table 2 presents general NEET participation rates and NEET-types participation rates for specific ages by gender. NEET participation rates decline during 1995-2015 across all ages although they normally increase with age – at the age of 15 the general NEET rates, and both NEET-types participation rates are the lowest. Among males highest NEET rates are demonstrated by youth of 20-22 years old but not by 24 year-olds. Contrary to this, female NEET rates are increasing with age – the lowest NEET rates were among 15 year-olds and the highest among 24 year-olds.

In 1995 and 2000 the risks of NEET-unemployment were highest among 20 year-old males, while later they became concentrated among 22-23 year-old males. Among females there is no such distinctive participation peak. By the end of the period the highest rates were for 22-23 year-old females. After the age of 20 NEET-unemployment participation rates among males start to exceed those of females. Unemployed NEETs 20-24 years old are represented more by men than by women in Russia.

In contrast, participation rates of inactive NEETs are higher among females than among males starting from the age of 19. NEET-inactivity rates among males have an inverse U-shape with a peak around 18-20 years old. The corresponding indicators among females demonstrate increasing participation rates of NEET-inactive which reach their highest values for 22-24 year-olds.

Table 2. NEET participation rates by age and gender in 1995-2015, LFS.

Age	General NEET participation rate									
	Males					Females				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
15	4,5%	4,1%	2,7%	2,3%	1,5%	3,0%	3,0%	2,2%	1,8%	1,3%
16	9,0%	5,6%	4,6%	2,5%	2,2%	7,9%	6,0%	5,1%	2,2%	2,3%
17	17,2%	13,9%	8,1%	4,6%	4,7%	18,2%	10,9%	9,5%	4,8%	4,4%
18	15,8%	18,7%	12,1%	9,9%	8,7%	24,1%	20,1%	12,2%	9,4%	8,8%
19	20,4%	19,3%	12,2%	12,3%	11,0%	27,3%	23,9%	16,8%	13,9%	11,9%
20	23,5%	23,9%	15,0%	14,6%	11,3%	26,8%	26,5%	17,9%	16,7%	13,4%
21	19,9%	19,8%	14,3%	15,2%	12,7%	27,5%	28,2%	20,2%	20,1%	17,6%
22	16,4%	19,8%	15,3%	17,0%	14,1%	29,7%	31,1%	24,1%	25,1%	23,3%
23	17,7%	18,2%	14,5%	15,4%	13,7%	28,6%	30,4%	25,8%	26,3%	25,8%
24	18,0%	16,4%	14,4%	14,6%	11,7%	29,7%	31,3%	24,4%	26,9%	24,5%
Age	NEET-unemployment rate									
	Males					Females				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
15	1,1%	0,4%	0,4%	0,0%	0,1%	0,5%	0,3%	0,2%	0,1%	0,2%
16	2,9%	1,3%	0,9%	0,5%	0,5%	1,8%	1,5%	1,0%	0,2%	0,6%
17	7,3%	5,6%	2,5%	1,3%	1,4%	8,0%	3,8%	2,5%	1,5%	1,3%
18	7,1%	7,8%	3,9%	4,2%	2,7%	12,0%	9,1%	5,3%	3,3%	3,1%
19	11,3%	8,7%	5,1%	6,1%	5,2%	12,8%	11,5%	7,4%	5,3%	4,9%
20	15,7%	13,5%	7,3%	8,2%	6,0%	10,6%	11,0%	6,1%	5,9%	4,8%
21	12,8%	11,9%	7,9%	8,8%	7,5%	10,7%	10,6%	6,9%	7,0%	6,4%
22	10,2%	12,7%	8,3%	10,6%	9,2%	11,0%	11,2%	8,5%	8,6%	7,7%
23	11,3%	12,3%	8,3%	9,7%	9,0%	9,8%	10,5%	7,8%	8,6%	8,5%
24	10,7%	10,6%	7,7%	9,0%	7,6%	10,7%	10,7%	6,8%	7,9%	6,5%
Age	NEET-out of labour force rate									
	Males					Females				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
15	3,4%	3,7%	2,3%	2,3%	1,4%	2,5%	2,6%	2,1%	1,7%	1,1%
16	6,1%	4,2%	3,7%	2,1%	1,7%	6,1%	4,5%	4,0%	2,0%	1,7%
17	9,9%	8,3%	5,6%	3,3%	3,3%	10,2%	7,1%	7,0%	3,3%	3,1%
18	8,7%	10,8%	8,3%	5,8%	6,0%	12,1%	11,0%	7,0%	6,2%	5,7%
19	9,1%	10,5%	7,1%	6,2%	5,8%	14,5%	12,5%	9,4%	8,6%	7,0%
20	7,8%	10,4%	7,6%	6,4%	5,3%	16,2%	15,5%	11,8%	10,9%	8,6%
21	7,1%	7,9%	6,4%	6,4%	5,2%	16,8%	17,5%	13,3%	13,1%	11,3%
22	6,2%	7,2%	7,0%	6,3%	4,9%	18,7%	19,9%	15,7%	16,5%	15,6%
23	6,4%	5,9%	6,2%	5,8%	4,8%	18,8%	19,9%	17,9%	17,7%	17,2%
24	7,3%	5,8%	6,7%	5,6%	4,1%	19,0%	20,6%	17,7%	19,0%	18,0%

Figure 2 demonstrates differences and changes in general NEET participation rates in urbal and rural areas in 1995-2015 according to LFS data.

a) b)

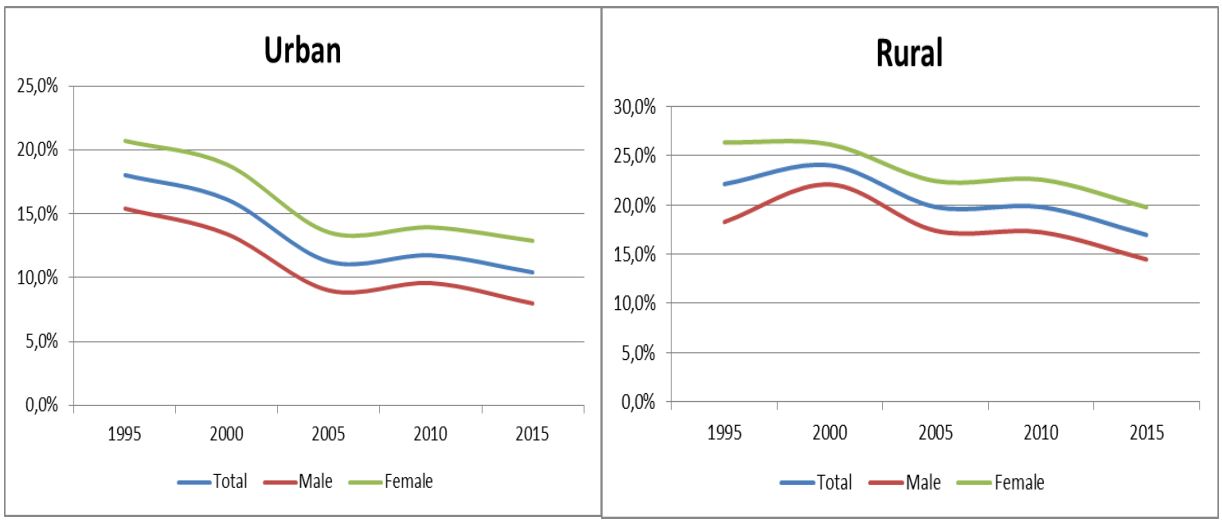

Fig. 2. General NEET participation rates by gender in urban-rural areas in 1995-2015, LFS

General NEET rates in rural areas always exceed NEET rates in urban areas, and they are higher for women than for men in both areas. In urban areas total NEET rates for both males and females show a downward trend with a slight increase in 2010 of about 0,3-0,6 p.p. In rural areas an increase in the general NEET participation rate for males in 2000 later turns downward, which corresponds with the dynamics of NEET rates for females in rural areas. So the decrease in the NEET participation rate appears to be the basic trend of the youth labour market despite all the differences between urban and rural households.

The disaggregation of general NEET participation rates by specific types of NEET shows that NEET-unemployment rates for males and females are higher in rural areas. NEET-unemployment rates in urban areas demonstrate a slight increase in 2010 for males which could be an "echo" of the financial crisis of 2008-2009. NEET-unemployment rates for males in rural areas are more volatile showing increases in 2000 and 2010. Urban female NEET-unemployment rates show a linear decline that halved the values of indicators during 1995-2015, however changes between 2005 and 2015 are very small (0,3 p.p.). The dynamics of female NEET-unemployment rates in rural areas is less distinctive, yet it also demonstrates a general declining trend (from 8,8% to 6,6%).

Table 3. NEET-types rates by gender in urban-rural areas in 1995-2015, LFS

Rate	NEET-unemployment rate									
	Urban					Rural				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	9,0%	7,5%	4,4%	5,0%	4,5%	8,3%	9,7%	7,5%	8,2%	6,8%
Male	9,2%	7,6%	4,4%	5,5%	4,8%	7,9%	10,1%	7,4%	8,8%	7,0%
Female	8,7%	7,4%	4,5%	4,5%	4,2%	8,8%	9,3%	7,6%	7,6%	6,6%
	NEET-out of labour force rate									
	Urban					Rural				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	9,1%	8,7%	6,8%	6,7%	6,0%	13,8%	14,3%	12,3%	11,6%	10,1%
Male	6,2%	5,9%	4,6%	4,1%	3,2%	10,4%	12,0%	10,1%	8,4%	7,4%
Female	12,1%	11,5%	9,1%	9,4%	8,7%	17,5%	16,9%	14,9%	15,0%	13,2%

NEET-inactivity rates in urban areas are much lower than in rural ones and show a linear decline for both gender groups. Female inactive NEETs appear to be more stable than males since the latter decreased by almost half while the former declined from 12% to 8,7%. There is a slight increase in NEET-inactivity rates in rural areas for males in 2000 which later turned into a decline into subsequent years (from 10% in 1995 to 7% in 2015). NEET-inactivity participation rates for females residing in rural areas are constantly declining during the period (from 17,5% in 1995 to 13,2% in 2015).

The decline of general NEET rates characterizes all educational levels during 1995-2015 (see Table A2 in Appendix). The clearest example is provided by the dynamics of NEET rates of young people with primary education. In 1995 almost 73% of them belonged to the NEET category and by 2015 the rate was only about 15%. The most remarkable decline of the general NEET rate for youth with primary education happened between 1995 and 2000, however in 2000-2010 the corresponding values remained higher than 20%. Young people with technical college education, vocational education and university education also demonstrated high levels of general NEET rates for most of the period. In 2015 general NEET participation rates among young people with technical college education, vocational education and university education were 18%, 16% and 14% respectively.

University education is not associated with the lowest levels of NEET participation rates in Russia. General NEET participation rates for youth with university education dropped from about 20% in 1995 to 14% in 2015, however the corresponding values of NEET rates were much smaller for young people with lower secondary education. In 2015 only about 10% from all young people with lower secondary education were NEETs which marks the lowest possible level of general NEET participation rate across all educational groups. The majority of this educational group continue their education and moves on to upper secondary level.

Disaggregation of general NEET rates by educational levels according to NEET types demonstrates that the rate of NEET-unemployment increases with educational level. So young people with university education, technical college education and vocational education have higher levels of NEET-unemployment than youth with lower educational levels. This can be explained by the fact that the latter groups continue to study rather than move to the labour market.

Rates of NEET-unemployment for youth with university education and technical college education also exceed the rates of NEET-inactivity. Thus young people with tertiary education are unemployed NEETs rather than inactive NEETs. This comes as a result of two separate processes happening to NEET-unemployment rates. First, the levels of NEET-unemployment among males with university degrees increased during 1995-2015 from 8% to 13% while their rate of NEET-inactivity remained generally the same. Second, levels of NEET-unemployment among young males with technical college education remained almost twice as high as NEET-inactivity during the period analysed. NEET-inactivity rates among females with tertiary education, however, were higher than NEET-unemployment rates throughout the period. NEET males who graduated from university experience problems with finding a job while NEET females with the same levels of education decide to quit the labour market. Levels of NEET-unemployment and NEET-inactivity among males and females with vocational education demonstrate similar trends.

Young people with upper secondary education, lower secondary education and primary education have higher levels of NEET-inactivity rates than NEET-unemployment rates so they prefer to exit the labour market than to keep searching for the job. This happens mainly due to the larger NEET-inactivity rates among females with low educational levels. NEET-inactivity rates among males with lower secondary education and primary education also exceed those of NEET-unemployment rates.

A source of the high levels of general NEET rates in various educational groups, described above, is the high NEET-inactivity rates. For instance, the values of NEET-inactivity rates are the highest among young people with vocational education, technical college graduates and university graduates, as well as young people with primary education. So the NEET-inactivity rates can be described by a U-shape, where young people with low and high educational levels demonstrate most prominent rates of NEET-inactivity.

Summing up these results it can be stated that age, level of education and type of residence appear to be important characteristics of NEET status in Russia. In the next section of the paper these parameters will be analysed ceteris paribus.

4.3 What drives NEET participation rates the most?

Multinomial logit regressions were estimated to analyse the factors of particular NEET-type contrasting it to employment. Firstly, I examine the models estimated for all young people aged 15-24. Table A3 in Appendix shows average marginal effects and levels of significance of the results. Young people at the age of 15 are least likely to become unemployed NEETs. During 1995-2015 the probabilities of becoming unemployed NEETs for them were 6-15% lower than for those who were 24 years old (the base category), and the age of 24 increases the probability of being NEET-unemployed was the highest. Holding all other variables constant, the size and significance of the negative effects decrease across the ages compared to 24 year-olds meaning that the relative risks of NEET-unemployment increase with age. It corresponds with the results of NEET-unemployment rates by age presented in the previous section.

At the beginning of the period males and females had the same probabilities of becoming NEET-unemployed. However, in 2010 and 2015 males were significantly more likely to become unemployed NEETs than females although the size of the effect was very small (less than 1%). This also corresponds to the analysis of NEET-unemployment rates by gender described above.

Marital status also has no consistent effect on NEET-unemployment. During 1995-2015 the significance and direction of the effect changes all the time. For example, in 1995 unmarried young people were more likely to become unemployed NEETs, in 2000 the effect was insignificant and in 2010 and 2015 unmarried youth again became more likely to become NEET-unemployed.

Rural residents have higher probabilities of becoming NEET-unemployed than urban youth for the most of the period. This is consistent with previous results that demonstrate higher NEET-unemployment rates in urban areas. However, the size of the significant effects is small (1-2%).

In 1995 young people with university education and primary education were most likely to become unemployed NEETs than youth with other educational levels keeping other features constant. However the situation later changed. In 2000 the highest risks for NEET-unemployment were for young people with technical college education, vocational education, lower secondary and primary education. In 2010 and 2015 risks of being NEET-unemployed became stronger for university graduates, young people with vocational education and primary education while young people with upper secondary education were least likely to become unemployed NEETs.

The process of becoming NEET-inactive appears to be more transparent. Females experience the majority of NEET-inactivity risks for the most of the period. In 1995-2015 the probability of becoming NEET-inactive for them was 4-6% higher than for males. Similarly to

NEET-unemployed, the probability of becoming NEET-inactive also increases with age and reaches its maximum at 24 years old. Married youth are significantly more prone to becoming NEET-inactive (7%-11%). A rural settlement type also increases the probability of being NEET-inactive by 4%. University education provides some kind of a safety net from becoming NEET-inactive for Russian youth. Primary education, lower secondary education, vocational education and technical college education significantly increase the probability of being NEET-inactive. The risk of NEET-inactivity is highest among those with primary education – it increases by 12%-16% compared to those who graduated from university.

The multidirectionality of the effects described above marks the principal heterogeneity of the NEET category. That is why I examined the factors of NEET-unemployment and NEET-inactivity in more detail, estimating multinomial regression estimations for males and females, and for urban and rural residents.

Table A4 in the Appendix presents the results conducted separately for males and females. The findings indicate that among males age and settlement type are the most important socio-demographic features of NEET-unemployment and NEET-inactivity. For the majority of the period, risks of being NEET-unemployed increase with age and are significantly higher for those who are 20-24 years old. Risks of being NEET-inactive also increase with age and peak at 24 years old. Marital status of males is not a significant factor for being NEET-unemployed at all, while NEET-inactive males are mostly unmarried.

In 1995 young males with different educational levels experienced the same risks of being NEET-unemployed which can be attributed to the turbulent character of the transitional economy. In 2005 and 2010 only young people with upper secondary education had significantly lower probabilities of being NEET-unemployed while all other levels of education were associated with approximately the same probabilities. In 2015 university graduates and young people with vocational education were more prone to NEET-unemployment than young males with other educational levels. For NEET-inactivity rates, young males with primary education, lower secondary education and vocational education are on the whole much more likely to become inactive NEETs than those with university degree.

For females, risks of NEET-unemployment are inconsistently distributed across different ages. For example, in 1995 they were highest for 22-24 year-olds, in 2000 only for 24 year-olds and in 2010 for 23-24 year-olds. By 2015 relative risks of NEET-unemployment became more evenly distributed and included those who are 18-21. Females who live in rural areas are significantly more prone to being NEET-unemployed, however the size of the effect declined during the period of analysis. Marital status for most of the period was not a significant factor of being NEET-unemployed for females. NEET-unemployment risks are unevenly distributed

across different educational levels. By 2015 young females with vocational education and university education are significantly more prone to NEET-unemployment. However the direction and the significance of average marginal effects of other educational levels varied during the period.

NEET-inactive females are mostly driven by their marriage status and type of settlement. Married females are significantly more likely to become inactive NEETs (13-16%). A rural settlement type also contributes (2-4%) to being NEET-inactive. The effect of age on NEET-inactivity 1995-2005 can be described as inverse U-shaped since 15 year-olds and 24 year-old females had the same probabilities of NEET-inactivity while females in between are significantly much less prone to this state. Nevertheless in 2010 and 2015 the risks of NEET-inactivity became concentrated among those females who are 24. For most of the period the probabilities of NEET-inactivity are higher for females with technical college education, vocational education, lower secondary and primary education rather than for females who graduated from university. Major risks are attributed to females with primary education whose probabilities of NEET-inactivity are 16-28% higher than that of females with university education.

Given the persistently higher NEET rates among rural residents, it can be suggested that the effect of characteristics may vary across these groups. Table A5 in the Appendix depicts average marginal effects after multinomial regression estimations conducted on LFS data for urban and rural residents separately.

Urban males and females had similar risks of being NEET-unemployed for most of the period. However by 2015 males became slightly more prone to this state than females (the size of the significant average marginal effects is less than 1% in 2010 and 2015). Unmarried urban residents are more likely to become unemployed NEETs than married ones. The risks of becoming NEET-unemployed associated with age become more evenly distributed over time. The direction and size of the effects of educational levels also changes significantly 1995-2015. Nevertheless, despite all these differences, the risks of NEET-unemployment are connected to higher education and vocational education. NEET-inactivity among urban youth is influenced by gender, age and marital status. Females are 4%-6% more likely to become inactive NEETs. In urban areas, risks of NEET-inactivity in most cases are concentrated among 15-17 year-olds. Young urban residents who are older than that are less likely to become inactive NEETs. Marriage status appears to be one of the important factors of NEET-inactivity as well. Married urban residents are 7%-9% more likely to become inactive NEETs. Risks of NEET-inactivity are also concentrated among those urban residents who have only primary education (9%-14%). Urban residents with upper secondary education are least likely to become inactive NEETs.

Among rural residents males are slightly more prone to becoming NEET-unemployed by the end of period; however the size of the effect is less than 1%. The effect of marriage on NEET-unemployment in rural areas is mostly insignificant. Age has no consistent effect on being NEET-employed in rural areas. In 1995, 2000 and 2015 the risks of being NEET-unemployed were concentrated among those who are older than 18-19 while in the middle of the period it was those 23-24. Young people with vocational education are significantly more likely to become unemployed NEETs in rural areas than those with higher education. By 2015 all other educational levels have negative average marginal effects compared to the level of university education.

NEET-inactivity among young rural residents has a significant connection to age, gender, marital status and education. The probability of NEET-inactivity significantly increases for females by 4%-8%. In 2005-2015 risks of NEET-inactivity become concentrated among rural residents of 24 while previously they were distributed evenly across young individuals of all ages. Marriage increases the probability of NEET-inactivity for rural residents by 8%-14%. Education is one of the most prominent factors of NEET-inactivity in rural areas. Higher education significantly reduces the probability of NEET-inactivity. Most of the risks are attributed to those young rural residents who have only primary education. The corresponding probabilities are 17%-25% higher compared to university graduates.

5. Conclusion

This paper examines socio-demographic characteristics of NEETs in Russia during 1995-2015 and investigates the effect of education ceteris paribus.

The results demonstrate that the story behind NEET category formation in Russia has two parts, both related to human capital formation. The first is devoted to the peculiarities of NEET-unemployment which describes job searches for those who completed professional education of one level or another. These are mostly young people in their 20s who received university education or vocational education. After graduation they entered labour market and experienced difficulties finding a job. Unfortunately, one cannot divide this category according to non-cognitive skills or the quality of education due to the limitations of the data. Nevertheless, regression estimations show that university education does not bring any prominent decrease of NEET-unemployment risks even for rural residents which signifies the poor quality of education that was completed by unemployed NEETs. One can assume that most unemployed NEETs are disadvantaged youth who received education of low quality or who do not have enough skills or opportunities to become employed even after their education. However, the ratio of unemployed

NEETs is constantly decreasing which is why further NEET studies need to analyse whether young unemployed NEETs manage to find a job after all, or whether they exit the labour market.

The other part of the story about Russian NEETs is inactive NEETs. This type of NEET constantly dominates the structure of Russian youth who are outside the labour market and educational system and the rates of its reduction are slower. According to LFS data inactive NEETs leave the educational system and the labour market mainly due to the changes in their marital status. Participation rates of inactive NEETs are higher and appear to be more stable among females and marriage is one of the most significant factors of NEET-inactivity in all the specifications estimated. Nevertheless NEET-inactivity participation rates in urban areas are much lower than in rural areas. One of the important factors in NEET-inactivity is educational level. Higher education provides some kind of a safety net from NEET-inactivity for Russian youth. Risks of NEET-inactivity are concentrated among those who have only primary education; the corresponding probabilities are 12%-17% higher compared to university graduates, and the size of the effect becomes even more pronounced for rural residents and females. NEET-inactivity, in this respect, accumulates those who do not have enough education to compete for a job in the labour market and thus choose to devote their time to family.

The study also points to the stratified character of Russian higher educational system. It does not provide universal protection from becoming a NEET for Russian youth. This contradicts previous studies which highlighted that university education is not normally associated with NEETs [Eurofound, 2012]. On the other hand, labour market problems of graduate NEET-unemployed once again highlight the existing discrepancy between the educational system and labour market requirements in Russia for those who receive education of poor quality [Androushchak, Prudnikova, 2011; Roshchin, Rudakov, 2016]. In this respect the educational system in general is not the best solution to the problems of NEETs since increasing education rates only postpones the transition to NEET status after graduation for some Russian youth. Social policy and labour market policy should be aimed at the improvement of the quality of tertiary education and at an efficient school-to-work transition which would help translating the educational achievements of youth into successful labour market outcomes.

References

Alfieri S. et al. (2015) Who are Italian Neets? Trust in institutions, political engagement, willingness to be activated and attitudes toward the future in a group at risk for social exclusion. Rivista Internazionale di Scienze Sociali. Vita e Pensiero. Pubblicazioni dell 'Universita' Cattolica del Sacro Cuore. Vol. 130. No 3. P. 285-306.

Alfieri, S., et al. (2015a). Young Italian NEETs (Not in Employment, Education, or Training) and the influence of their family background. Europe's Journal of Psychology. Vol. 11. No 2. P. 311-322.

Androushchak G., Prudnikova A. (2011). Dynamics of return to professional education and differentiation of Russian universities graduates' earnings. Working paper WP10/2011/02. Higher School of Economics. – Moscow: Publishing House of the Higher School of Economics. [in Russian]

Baggio S. et al. (2015). Not in Education, Employment, or Training Status Among Young Swiss Men. Longitudinal Associations With Mental Health and Substance Use. Journal of Adolescent Health. Vol. 56. PP. 238-243.

Becker G., Tomes N. (1986). Human Capital and the Rise and Fall of Families. Journal of Labor Economics. Vol. 4. No 3. PP. S1-39.

Berloffa G. et al. (2016). Family background and youth labour market outcomes across Europe. ECINEQ. WP 2016 – 393

Bilgen Susanli Z. (2016). Understanding the NEET in Turkey. Eurasian Journal of Economics and Finance. Vol. 4. No 2, PP. 42-57

Blinova T., Vyalshina A. (2016) Youth out of education and employment: an estimation of rural-urban differences. Sociologicheskie issledovaniya, No 9. PP.40-49. [in Russian]

Britton J. et al. (2011). The Early Bird… Preventing Young People from becoming a NEET statistic. Department of Economics and CMPO, University of Bristol. Report commissioned by Praxis. URL:<http://www.bris.ac.uk/media-library/sites/cmpo/migrated/documents/earlybirdcmpo.pdf>

Bynner J., Parsons S. (2002). Social Exclusion and the Transition from School to Work: The Case of Young People Not in Education, Employment, or Training (NEET). Journal of Vocational Behavior. Vol. 60. PP. 289–309.

Caspi et al. (1998). Early failure in the labor market: Childhood and adolescent predictors of unemployment in the transition to adulthood. American Sociological Review. Vol. 63. PP. 424-451.

Carcillo S. et al. NEET Youth in the Aftermath of the Crisis: Challenges and Policies. OECD Social, Employment and Migration Working Papers. 2015. No. 164. OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/5js6363503f6-en

Coles B. et al. (2002) Literature review of the costs of being 'not in education, employment or training' at age 16-18. Department of Education and Skills, Nottingham. Research Report no 347.

Cornaglia F. et al. (2012) Mental Health and Education Decisions. London School of Economics. Centre for the Economics of Education. DP 136.

Crawford C. et al. (2010) Young People's Education and Labour Market Choices Aged 16/17 to 18/19. Department of Education. Research Report. DFE-RR182. URL:< https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/183355/DFE-RR182.pdf>

Croxford, L., Raffe, D. (2000) Young People Not in Education, Employment or Training: An Analysis of the Scottish School Leavers Survey. Report to Scottish Executive, Edinburgh: CES, University of Edinburgh.

Dixon S. (2013). Not in Employment, Education or Training: the long-term NEET spells of young people in New Zealand. Report of Ministry of Business, Innovation and Employment. MB 12658. NOV 2013.

European Agency for Special Needs and Inclusive Education (2016). Early School Leaving and Learners with Disabilities and/or Special Educational Needs: A Review of the Research Evidence Focusing on Europe. (A. Dyson and G. Squires, eds.).Odense, Denmark

Eurofound (2012). NEETs – Young people not in employment, education or training: Characteristics, costs and policy responses in Europe. Publications Office of the European Union, Luxembourg, URL:<https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1254en.pdf>

Furlong A. (2006). Not a very NEET solution: representing problematic labour market transitions among early school-leavers. Work, employment and society. Vol 20. No 3. PP. 553–569

Gladwell D. et al.(2016). A Dynamic Analysis of Skill Formation and NEET status. Sheffield Economic Research Paper Series. SERPS No. 2015016. The University of Sheffield. 2016. URL:<http://www.sheffield.ac.uk/polopoly_fs/1.471636!/file/serps_2015016.pdf>

Heckman J., Carneiro P. Human Capital Policy. NBER Working Paper Series. 2003. No. 9495. URL:< http://www.nber.org/papers/w9495.pdf>

Kelly E., McGuinness S. (2013). The Impact of the Recession on the Structure and Labour Market Success of Young NEET Individuals in Ireland. ESRI working papers. Working Paper No. 465.

Labour and Employment in Russia 2003. Rosstat. URL:<http://www.gks.ru/bgd/regl/B03_36/Main.htm> [in Russian]

Labour and Employment in Russia 2015. Rosstat. URL:<http://www.gks.ru/bgd/regl/b15_36/Main.htm> [in Russian]

Machin S., Manning A. (1999), The causes and consequences of long-term unemployment in Europe. Handbook of Labor Economics. Vol. 3. Part 3. PP. 3085-3139.

Macmillan L. (2013). The role of non-cognitive and cognitive skills, behavioural and educational outcomes in accounting for the intergenerational transmission of worklessness. Institute of Education. University of London. Department of Quantitative Social Science. Working Paper 13-01.

Mendolia S., Walker I. (2014). Do NEETs Need Grit?. Institute for the Study of Labor (IZA). IZA Discussion Papers No 8740. URL:<https://ideas.repec.org/p/iza/izadps/dp8740.html>

Mirza-Davies J. (2015) NEET: Young People Not in Education, Employment or Training. BRIEFING PAPER. No 06705.

OECD (2010). Off to a Good Start? Jobs for Youth, OECD Publishing. DOI: http://dx.doi.org/10.1787/9789264096127-en

OECD (2013) Education Indicators in Focus. How Difficult is it to Move from School to Work? 2013. No 13. OECD Publishing. URL:<http://www.oecd-ilibrary.org/education/education-indicators-in-focus_22267077>

OECD Employment Outlook 2016. OECD Publishing. Paris. 2016. DOI: http://dx.doi.org/10.1787/empl_outlook-2016-en

Rose H. et al. (2012). Meaning of Social Inclusion to Young People Not in Employment, Education or Training. Journal of Community & Applied Social Psychology. No. 22. PP. 256–268 DOI: http://dx.doi.org/10.1002/casp.1118

Roshchin S.Y. (2006). The school-to-work-transition: a slough or a ford? Working Paper WP3/2006/10. Moscow: State University — Higher School of Economics. [in Russian]

Roschin S.Y., Rudakov V.N. (2014) Combining Work and Study by Russian Higher Education Institution Students. Voprosi obrazovaniya [Educational Studies Moscow]. No 2. P.152-179. [in Russian]

Roschin S.Y., Rudakov V.N. (2016) The impact of university quality on wages of Russian university graduates. Voprosy Ekonomiki. No. 8. PP. 74—95. [in Russian]

Russian Statistical Yearbook 2016. Main indicators of education. Rosstat. URL:<http://www.gks.ru/bgd/regl/b16_13/Main.htm> [in Russian]

Scarpetta S. et al. (2010). Rising Youth Unemployment During the Crisis: How to Prevent Negative Long-term Consequences on a Generation?, OECD Social, Employment and Migration Working Papers. No 6.

Solon G. (2004). A model of intergenerational mobility variation over time and place. In: (ed.) Miles Corak, Generational Income Mobility in Europe and North America, Cambridge University Press. PP. 38-47.

Youths NEET Census Report (2015). CENSUS ON YOUTHS NEET: REPORT ON FINDINGS. European social fund. YOUTH GUARANTEE ESF-3.231.

Youth unemployment rate (indicator). OECD. 2016 DOI: http://dx.doi.org/10.1787/c3634df7-en.

Varshavskaya E.Ya. (2016). Russian NEET-youth: its characteristics and typology. Sociologicheskie issledovaniya [Sociological Studies], No 9. PP. 31-39 [in Russian].

Varshavskaya E.Ya. (2016a) The school-to-work transition success: for whom is the way easier?. Sotsiologicheskie issledovaniya [Sociological Studies]. No 2. P. 39-46 [in Russian].

Wadsworth J. (2013). Youth and The UK Labour Market. Growing up in Recession Britain – a MISOC event presenting new research. Presentation materials.

What does NEETs mean and why is the concept so easily misinterpreted? (2015) ILO Employment Policy Department. Youth Employment Programme. 2015. Technical Brief No.1. URL:<http://www.ilo.org/wcmsp5/groups/public/%40dgreports/%40dcomm/documents/publication/wcms_343153.pdf>

Wooldridge J. M. (2002). Econometric Analysis of Cross Section and Panel Data. Cambridge, MA; London. UK: The MIT Press.

Zudina A.A. (2017). “They don’t work and don’t study”: NEET youth on the Russian labour market. NRU HSE Working paper series WP3 “Labour market issues”. WP3/2017/02 [in Russian].

Appendix

Table A1. Descriptive statistics of the sample

Variables	1995	2000	2005	2010	2015
% of females	51,6	50,4	50,4	49,9	50,2
Age (years)					
15	11,0	11,9	9,8	8,9	12,5
16	10,4	11,2	9,7	9,1	9,8
17	10,2	10,7	9,8	8,9	10,9
18	9,5	9,7	11,0	9,1	9,3
19	8,5	9,2	10,6	9,5	9,3
20	10,0	9,9	10,1	11,0	10,1
21	10,3	9,5	10,2	10,6	9,0
22	10,3	9,6	10,2	11,0	9,3
23	10,3	9,2	9,6	11,3	9,6
24	9,6	9,2	9,1	10,6	10,3
% of married	25,8	15,8	12,0	13,2	12,0
Education					
University	3,0	4,1	5,2	8,1	7,8
Technical college	20,3	13,0	9,6	11,3	9,5
Vocational	-	8,4	9,5	9,9	7,2
Upper secondary	37,7	32,3	37,9	41,9	39,5
Lower secondary	32,7	29,0	27,6	24,2	29,0
Primary	0,7	5,6	3,2	4,6	7,0
% of urban	76,1	65,5	62,4	63,2	64,5
Labour market status of the youth					
NEET Unemployment	8,8	8,5	6,0	6,2	4,8
NEET Out of LF	10,4	10,9	9,1	8,6	7,0
Employment	40,6	33,1	32,2	32,2	26,3
Education	40,1	47,5	52,7	53,0	62,0
N of observations	27 033	50 947	57 219	156 717	130 765

Table A2. Total NEET rates and NEET-type rates by education in 1995-2015, LFS

Rate	Total NEET participation																			
	University					Technical college					Vocational					Upper secondary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	19,8%	18,0%	16,9%	14,9%	14,4%	22,5%	23,5%	20,4%	17,7%	16,0%	-	25,8%	20,3%	19,9%	17,7%	22,5%	19,5%	12,3%	14,5%	13,1%
Male	11,4%	11,6%	13,9%	8,7%	7,9%	17,7%	16,7%	13,9%	12,2%	9,6%	-	20,6%	15,0%	14,6%	11,4%	18,2%	16,9%	10,1%	11,4%	9,2%
Female	25,8%	23,0%	18,8%	19,4%	24,5%	26,2%	28,8%	25,3%	22,4%	24,3%	-	32,6%	29,4%	28,7%	33,3%	27,3%	22,2%	14,5%	17,8%	11,6%
Rate	NEET-unemployment ratio																			
	University					Technical college					Vocational					Upper secondary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	10,0%	9,6%	8,8%	9,8%	12,2%	11,9%	11,9%	9,6%	9,9%	9,4%	-	14,6%	9,2%	11,5%	10,4%	10,8%	8,7%	4,7%	4,6%	3,6%
Male	7,9%	8,1%	9,5%	10,2%	13,1%	12,2%	11,3%	8,7%	10,8%	10,1%	-	13,8%	9,0%	11,8%	10,4%	10,7%	9,0%	4,7%	5,1%	3,8%
Female	11,5%	10,7%	8,4%	9,6%	11,6%	11,7%	12,3%	10,3%	9,1%	8,8%	-	15,7%	9,5%	10,8%	10,6%	11,0%	8,3%	4,8%	4,0%	3,3%
	NEET-out of labour force ratio																			
	University					Technical college					Vocational					Upper secondary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	9,8%	8,4%	8,0%	9,4%	9,3%	10,6%	11,6%	10,9%	10,3%	10,0%	-	11,2%	11,1%	11,4%	11,4%	11,7%	10,8%	7,6%	6,9%	6,1%
Male	3,6%	3,4%	4,4%	4,6%	4,3%	5,5%	5,4%	5,2%	5,0%	4,3%	-	6,8%	6,0%	5,6%	5,3%	7,6%	7,9%	5,5%	4,4%	3,9%
Female	14,3%	12,3%	10,3%	12,6%	12,9%	14,5%	16,4%	15,0%	14,9%	15,5%	-	16,9%	19,9%	21,4%	22,7%	16,4%	13,9%	9,7%	9,3%	8,3%

Table A2. Continued.

Rate	Total NEET participation									
	Lower secondary					Primary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	14,1%	14,3%	10,7%	12,4%	9,9%	72,8%	21,3%	27,6%	20,8%	14,5%
Male	14,1%	14,3%	10,2%	11,5%	9,0%	65,7%	23,3%	29,0%	22,8%	14,9%
Female	14,0%	14,2%	11,3%	13,5%	6,9%	87,8%	18,9%	25,9%	18,5%	9,0%
Rate	NEET-unemployment ratio									
	Lower secondary					Primary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	5,7%	5,4%	3,4%	2,9%	1,9%	8,3%	4,6%	3,5%	1,4%	0,9%
Male	6,6%	6,2%	3,8%	3,5%	2,4%	9,2%	6,3%	3,7%	1,7%	0,9%
Female	4,6%	4,5%	3,0%	2,2%	1,5%	6,5%	2,4%	3,2%	1,0%	0,8%
	NEET-out of labour force ratio									
	Lower secondary					Primary				
	1995	2000	2005	2010	2015	1995	2000	2005	2010	2015
Total	8,4%	8,8%	7,3%	6,0%	4,6%	64,5%	16,7%	24,2%	13,3%	8,2%
Male	7,5%	8,1%	6,4%	5,1%	3,8%	56,5%	16,9%	25,3%	14,7%	8,2%
Female	9,4%	9,7%	8,3%	7,0%	5,5%	81,4%	16,4%	22,6%	11,6%	8,2%

Table A3. Determinants of NEET status. Multinomial logit regression estimations results. LFS, 1995-2015.

Controls	1995				2000				2005				2010				2015			
	y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"	
	AME	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**
Gender (1-females)	0,00566	0,003	0,0627***	0,004	0,00252	0,002	0,0446***	0,003	0,00475**	0,002	0,0389***	0,002	-0,00812***	0,001	0,0456***	0,001	-0,00504***	0,001	0,0372***	0,001
Age																				
15	-0,0958***	0,019	-0,007	0,015	-0,153***	0,017	-0,0370***	0,010	-0,108***	0,016	-0,0530***	0,010	-0,151***	0,017	-0,0502***	0,007	-0,0657***	0,015	-0,0397***	0,009
16	-0,0839***	0,012	-0,0188*	0,011	-0,0904***	0,009	-0,0481***	0,008	-0,0676***	0,008	-0,0437***	0,007	-0,0783***	0,008	-0,0399***	0,006	-0,0321***	0,008	-0,0260***	0,007
17	-0,0430**	0,008	-0,0186**	0,009	-0,0446***	0,006	-0,0283***	0,007	-0,0280***	0,005	-0,0192***	0,006	-0,0408***	0,005	-0,0308***	0,004	-0,0116**	0,005	-0,00948**	0,004
18	-0,0491***	0,008	-0,0450***	0,008	-0,0368***	0,005	-0,0284***	0,006	-0,0219***	0,004	-0,0291***	0,005	-0,0275***	0,003	-0,0210***	0,003	-0,00557*	0,003	-0,00950***	0,003
19	-0,0345***	0,008	-0,0418***	0,008	-0,0316***	0,005	-0,0339***	0,006	-0,0157***	0,004	-0,0383***	0,005	-0,0186***	0,003	-0,0236***	0,003	-0,00125	0,002	-0,0180***	0,003
20	-0,0236***	0,007	-0,0356***	0,008	-0,0179***	0,005	-0,0263***	0,006	-0,0107***	0,004	-0,0262***	0,005	-0,0118***	0,002	-0,0248***	0,003	0,000894	0,002	-0,0257***	0,003
21	-0,0208***	0,007	-0,0256***	0,008	-0,0138***	0,005	-0,0254***	0,006	-0,00599	0,004	-0,0303***	0,005	-0,0113***	0,002	-0,0249***	0,003	0,00162	0,002	-0,0283***	0,003
22	-0,0206***	0,007	-0,0189**	0,008	-0,00856*	0,005	-0,0202***	0,006	-0,00317	0,004	-0,0196***	0,005	-0,00505**	0,002	-0,0198***	0,003	0,000135	0,002	-0,0229***	0,003
23	-0,0136*	0,008	-0,0129	0,008	-0,00534	0,005	-0,0147**	0,006	-0,000974	0,004	-0,0107**	0,005	-0,00374*	0,002	-0,0127***	0,003	0,0015	0,002	-0,0145***	0,003
24	base																			
Marital status (1-married)	-0,0283***	0,004	0,0719***	0,004	-0,00131	0,003	0,110***	0,003	0,00926***	0,003	0,109***	0,003	-0,00407**	0,002	0,101***	0,002	-0,00314**	0,002	0,0875***	0,002
Education																				
University	base																			
Technical college	-0,291***	0,014	-0,358***	0,015	0,0177***	0,006	0,0302***	0,009	-0,00508	0,005	0,0167**	0,007	-0,00186	0,002	0,00779**	0,003	-0,00905***	0,002	0,0154***	0,003
Vocational	-		-		0,0367***	0,007	0,0353***	0,009	0,00326	0,005	0,0443***	0,007	0,0143***	0,002	0,0391***	0,003	0,00283	0,002	0,0417***	0,003
Upper secondary	-0,305***	0,014	-0,348***	0,015	0,00687	0,006	0,0404***	0,008	-0,0369***	0,004	-0,00447	0,006	-0,0361***	0,002	-0,0110***	0,003	-0,0534***	0,002	-0,0258***	0,003
Lower secondary	-0,288***	0,014	-0,304***	0,016	0,0244***	0,007	0,0814***	0,008	-0,0118**	0,005	0,0506***	0,007	-0,00812***	0,003	0,0471***	0,003	-0,0340***	0,003	0,0108***	0,003
Primary	0,176	284,10	0,424	339,7	0,0257***	0,009	0,164***	0,010	0,00205	0,008	0,158***	0,008	-0,0187***	0,006	0,142***	0,004	-0,0336***	0,006	0,115***	0,005
Settlement type (1-rural)	-0,00904**	0,004	0,0220***	0,004	0,0144***	0,003	0,0391***	0,003	0,0255***	0,002	0,0381***	0,002	0,0198***	0,001	0,0357***	0,001	0,0131***	0,001	0,0336***	0,001
Federal districts	controlled																			
Number of obs	26 853				50 947				57 219				156 717				130,765			
Prob > chi2	0,0000				0,0000				0,0000				0,0000				0,0000			

Controls	1995	2000	2005	2010	2015
Pseudo R2	0,3382	0,3238	0,3443	0,3769	0,4360
Log likelihood	-21007,233	-40335,888	-40866,614	-105917,85	-72234,355

Note: *** p<0.01, ** p<0.05, * p<0.1

Table A4. Determinants of NEET status, by gender. Multinomial logit regression estimations results. LFS, 1995-2015.

1) Males

Controls	1995				2000				2005				2010				2015			
	y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"	
	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE
Age																				
15	-0,0808***	0,023	-0,0555***	0,014	-0,161***	0,023	-0,0688***	0,011	-0,0881***	0,019	-0,0777***	0,011	-0,192***	0,031	-0,0526***	0,007	-0,0776***	0,021	-0,0491***	0,008
16	-0,0792***	0,015	-0,0561***	0,011	-0,0923***	0,012	-0,0722***	0,009	-0,0687***	0,011	-0,0611***	0,008	-0,0759***	0,012	-0,0488***	0,006	-0,0341***	0,012	-0,0353***	0,006
17	-0,0511***	0,011	-0,0458***	0,010	-0,0384***	0,008	-0,0471***	0,008	-0,0260***	0,007	-0,0398***	0,007	-0,0508***	0,007	-0,0382***	0,005	-0,0107*	0,006	-0,0166***	0,004
18	-0,0811***	0,012	-0,0619***	0,010	-0,0451***	0,008	-0,0344***	0,008	-0,0348***	0,006	-0,0313***	0,006	-0,0372***	0,004	-0,0217***	0,004	-0,0211***	0,004	-0,00713*	0,004
19	-0,0421***	0,011	-0,0513***	0,011	-0,0441***	0,008	-0,0283***	0,009	-0,0336***	0,006	-0,0415***	0,007	-0,0247***	0,004	-0,0229***	0,004	-0,00968***	0,004	-0,00831**	0,004
20	-0,00928	0,010	-0,0507***	0,010	-0,0104	0,007	-0,0211**	0,009	-0,00867	0,005	-0,0269***	0,007	-0,0100***	0,003	-0,0200***	0,003	-0,00379	0,003	-0,0140***	0,004
21	-0,0143	0,010	-0,0384***	0,011	-0,00955	0,007	-0,0272***	0,009	-0,00614	0,005	-0,0350***	0,007	-0,0103***	0,003	-0,0200***	0,003	-0,00324	0,003	-0,0167***	0,004
22	-0,0263**	0,010	-0,0342***	0,011	-0,00281	0,007	-0,0246***	0,009	-0,00505	0,005	-0,0237***	0,007	-0,0024	0,003	-0,0172***	0,003	-0,00352	0,003	-0,0191***	0,004
23	-0,0102	0,010	-0,0241**	0,011	0,00361	0,007	-0,0191**	0,010	-0,00397	0,005	-0,0165**	0,007	-0,00643**	0,003	-0,0105***	0,004	-0,00377	0,003	-0,00816**	0,004
24	base																			
Marital status (1-married)	-0,0248***	0,007	-0,0232***	0,007	0,000501	0,006	-0,0269***	0,004	0,00373	0,005	-0,0106	0,007	-0,00467	0,003	-0,0126***	0,004	-0,00484*	0,003	-0,00752*	0,004
Education																				
University	base																			
Technical college	-0,219	9,88	-0,264	11,09	0,0296***	0,011	0,0291**	0,015	-0,00805	0,007	0,00287	0,012	0,00142	0,004	-0,00124	0,005	-0,00531*	0,003	0,00419	0,005
Vocational	-		-		0,0527***	0,011	0,0416***	0,015	0,00347	0,007	0,0306***	0,011	0,0197***	0,004	0,0204***	0,005	0,00541	0,003	0,0223***	0,005
Upper secondary	-0,23	9,88	-0,262	11,09	0,0268***	0,010	0,0404***	0,014	-0,0330***	0,007	-0,01	0,011	-0,0330***	0,003	-0,0209***	0,004	-0,0527***	0,003	-0,0360***	0,004
Lower secondary	-0,202	9,88	-0,226	11,09	0,0522***	0,010	0,0869***	0,014	-0,00689	0,007	0,0385***	0,011	7,58E-05	0,004	0,0248***	0,004	-0,0281***	0,004	-0,0102**	0,004
Primary	0,368	15,50	0,527	17,40	0,0682***	0,013	0,150***	0,015	0,0019	0,010	0,137***	0,012	-0,00322	0,008	0,103***	0,005	-0,0305***	0,009	0,0672***	0,005
Settlement type (1-rural)	-0,0243***	0,006	0,0170***	0,005	0,0116***	0,004	0,0420***	0,008	0,0244***	0,003	0,0347***	0,003	0,0205***	0,002	0,0283***	0,002	0,0136***	0,002	0,0288***	0,002

Controls	**1995**	**2000**	**2005**	**2010**	**2015**
Federal districts	controlled				
Number of obs	13 001	25 265	28 376	78 586	65 128
Prob > chi2	0,0000	0,0000	0,0000	0,0000	0,0000
Pseudo R2	0,3467	0,328	0,3425	0,3638	0,4242
Log likelihood	-9592,6997	-19447,332	-19878,757	-53129,58	-36109,115

Note: *** p<0.01, ** p<0.05, * p<0.1

2) Females

Controls	1995				2000				2005				2010				2015			
	y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"	
	AME	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**
Age																				
15	-0,110***	0,035	0,0489	0,033	-0,134***	0,025	-0,00372	0,020	-0,145***	0,033	-0,0183	0,020	-0,116***	0,020	-0,0643***	0,014	-0,0528***	0,020	-0,0453**	0,019
16	-0,0824***	0,020	0,0228	0,020	-0,0843***	0,013	-0,0309**	0,014	-0,0666***	0,012	-0,0360***	0,012	-0,0827***	0,012	-0,0461***	0,011	-0,0310**	0,012	-0,0370***	0,013
17	-0,0322***	0,012	-0,00759	0,014	-0,0503***	0,009	-0,0261**	0,010	-0,0306***	0,008	-0,00875	0,009	-0,0301***	0,006	-0,0393***	0,008	-0,0145**	0,007	-0,0196**	0,008
18	-0,0253**	0,010	-0,0384***	0,013	-0,0289***	0,007	-0,0359***	0,009	-0,00764	0,006	-0,0376***	0,008	-0,0154***	0,004	-0,0299***	0,005	0,0127***	0,004	-0,0212***	0,005
19	-0,0286***	0,010	-0,0434***	0,012	-0,0206***	0,007	-0,0522***	0,009	0,000436	0,006	-0,0418***	0,008	-0,0109***	0,003	-0,0311***	0,005	0,00819**	0,003	-0,0378***	0,005
20	-0,0374***	0,011	-0,0372***	0,012	-0,0263***	0,007	-0,0444***	0,009	-0,0135**	0,006	-0,0330***	0,007	-0,0135***	0,003	-0,0383***	0,004	0,00537*	0,003	-0,0428***	0,004
21	-0,0262**	0,011	-0,0267**	0,012	-0,0194***	0,007	-0,0347***	0,009	-0,00648	0,006	-0,0347***	0,007	-0,0125***	0,003	-0,0350***	0,004	0,00607**	0,003	-0,0416***	0,004
22	-0,0129	0,011	-0,0113	0,012	-0,0156**	0,007	-0,0245***	0,009	-0,00124	0,005	-0,0205***	0,007	-0,00782***	0,003	-0,0268***	0,004	0,00334	0,003	-0,0292***	0,004
23	-0,0156	0,011	-0,00507	0,012	-0,0152**	0,007	-0,0156*	0,009	0,00227	0,006	-0,00923	0,007	-0,00119	0,003	-0,0164***	0,004	0,00621**	0,003	-0,0196***	0,004
24	base																			
Marital status (1-married)	-0,0276***	0,005	0,131***	0,006	0,00125	0,004	0,164***	0,004	0,0140***	0,003	0,156***	0,004	-0,00211	0,002	0,153***	0,002	-0,00149	0,002	0,129***	0,002
Education																				
University	base																			
Technical college	-0,301	9,245	-0,366	11,32	0,00591	0,008	0,0310***	0,011	-0,00388	0,006	0,0275***	0,009	-0,00402	0,003	0,0152***	0,004	-0,0115***	0,003	0,0239***	0,004
Vocational					0,0217**	0,009	0,0344***	0,012	0,000581	0,007	0,0573***	0,010	0,0104***	0,003	0,0579***	0,005	0,00284	0,003	0,0633***	0,005
Upper secondary	-0,32	9,245	-0,347	11,32	-0,0126	0,008	0,0462***	0,011	-0,0432***	0,006	0,00209	0,009	-0,0373***	0,003	-0,00119	0,004	-0,0521***	0,002	-0,0157***	0,004
Lower secondary	-0,313	9,245	-0,299	11,32	-0,00474	0,009	0,0781***	0,012	-0,0184***	0,006	0,0615***	0,009	-0,0135***	0,004	0,0704***	0,005	-0,0387***	0,004	0,0354***	0,005
Primary	0,129	129,6	0,481	158,8	-0,0318**	0,016	0,180***	0,015	0,00708	0,011	0,165***	0,013	-0,0326***	0,009	0,170***	0,008	-0,0297***	0,010	0,163***	0,009
Settlement type (1-rural)	0,00597	0,006	0,0237***	0,006	0,0171***	0,004	0,0349***	0,004	0,0269***	0,003	0,0400***	0,004	0,0192***	0,002	0,0425***	0,002	0,0128***	0,002	0,0380***	0,002
Federal districts	controlled																			
Number of obs	13 852				25 682				28 843				78 131				65 637			

Controls	1995	2000	2005	2010	2015
Prob > chi2	0,0000	0,0000	0,0000	0,0000	0,0000
Pseudo R2	0,3375	0,3298	0,3535	0,3945	0,4524
Log likelihood	-11181,71	-20406,322	-20569,842	-51688,198	-35332,842

Note: *** p<0.01, ** p<0.05, * p<0.1

Table A5. Determinants of NEET status, by urban-rural residence. Multinomial logit regression estimations results. LFS, 1995-2015.

1) Urban

Controls	1995				2000				2005				2010				2015			
	y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"	
	AME	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**
Gender (1-females)	0,00102	0,004	0,0581***	0,004	0,00216	0,003	0,0466***	0,003	0,00394*	0,002	0,0370***	0,003	-0,00770***	0,001	0,0411***	0,002	-0,00534***	0,001	0,0356***	0,002
Age																				
15	-0,0987***	0,023	0,0042	0,018	-0,125***	0,022	-0,0111	0,014	-0,0922***	0,023	-0,0287**	0,012	-0,102***	0,022	-0,00221	0,010	-0,0583***	0,020	-0,0107	0,011
16	-0,0884***	0,014	-0,0272**	0,013	-0,0870***	0,013	-0,0190*	0,010	-0,0366***	0,011	-0,00546	0,009	-0,0578***	0,011	-0,0139*	0,007	-0,0216*	0,011	-0,00352	0,009
17	-0,0423***	0,009	-0,015	0,009	-0,0343***	0,007	-0,0131*	0,008	-0,0103	0,007	0,00198	0,007	-0,0265***	0,006	-0,00787	0,005	-0,00476	0,006	0,00934*	0,005
18	-0,0524***	0,009	-0,0482***	0,009	-0,0350***	0,006	-0,0310***	0,007	-0,0121**	0,005	-0,0163***	0,006	-0,0153***	0,004	-0,0161***	0,004	-0,0047	0,004	-0,00276	0,004
19	-0,0414***	0,009	-0,0370***	0,009	-0,0307***	0,006	-0,0321***	0,007	-0,00518	0,005	-0,0215***	0,006	-0,00805***	0,003	-0,0155***	0,003	0,0031	0,003	-0,0122***	0,003
20	-0,0269***	0,008	-0,0416***	0,009	-0,0185***	0,006	-0,0234***	0,006	-0,00818*	0,005	-0,0198***	0,006	-0,00544**	0,003	-0,0203***	0,003	0,00164	0,003	-0,0213***	0,003
21	-0,0264***	0,008	-0,0277***	0,008	-0,0221***	0,006	-0,0231***	0,006	-0,00137	0,004	-0,0215***	0,005	-0,00534**	0,003	-0,0189***	0,003	0,00022	0,002	-0,0247***	0,003
22	-0,0208**	0,009	-0,0220***	0,008	-0,0116**	0,006	-0,0163***	0,006	0,000771	0,004	-0,00689	0,005	-0,0027	0,002	-0,0152***	0,003	0,000686	0,002	-0,0167***	0,003
23	-0,0169**	0,009	-0,0182**	0,008	-0,00752	0,006	-0,0156**	0,006	0,0000852	0,004	-0,00438	0,005	-0,00189	0,002	-0,0101***	0,003	0,00187	0,002	-0,0137***	0,003
24	base																			
Marital status (1-married)	-0,0273***	0,005	0,0700***	0,005	-0,00192	0,004	0,0996***	0,004	0,00465	0,003	0,0925***	0,003	-0,00356**	0,002	0,0894***	0,002	-0,00362**	0,002	0,0728***	0,002
Education																				
University	base																			
Technical college	-0,322	14,49	-0,323	14,39	0,0166**	0,007	0,0216***	0,008	-0,00433	0,005	0,0074	0,007	-0,00299	0,002	0,00699**	0,003	-0,00712***	0,002	0,0130***	0,003
Vocational	-		-		0,0354***	0,007	0,0317***	0,008	0,00468	0,005	0,0327***	0,007	0,0111***	0,003	0,0299***	0,003	0,00112	0,002	0,0339***	0,004
Upper secondary	-0,341	14,49	-0,323	14,39	-0,00271	0,006	0,0293***	0,007	-0,0373***	0,004	-0,0138**	0,006	-0,0394***	0,002	-0,0161***	0,003	-0,0473***	0,002	-0,0240***	0,003
Lower secondary	-0,313	14,49	-0,279	14,39	0,0266***	0,007	0,0620***	0,008	-0,00935*	0,005	0,0328***	0,007	-0,00860***	0,003	0,0367***	0,004	-0,0313***	0,003	0,00409	0,004
Primary	0,24	1,07	0,439	1,063	0,0230*	0,013	0,138***	0,011	-0,0298*	0,016	0,142***	0,010	-0,0216**	0,010	0,135***	0,006	-0,0220**	0,009	0,0908***	0,006

Controls	**1995**	**2000**	**2005**	**2010**	**2015**
Federal districts	controlled				
Number of obs	20 430	33 351	35 708	98 984	84 325
Prob > chi2	0,0000	0,0000	0,0000	0,0000	0,0000
Pseudo R2	0,337	0,3406	0,3732	0,4057	0,4643
Log likelihood	-15815,795	-24595,455	-22773,69	-60198,02	-41274,55

Note: *** p<0.01, ** p<0.05, * p<0.1

2) Rural

Controls	1995				2000				2005				2010				2015			
	y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"		y="NEET-unemployment"		y="NEET-out of labour force"	
	AME	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**	**AME**	**SE**
Gender (1-females)	0,0197***	0,007	0,0799***	0,009	0,00308	0,004	0,0426***	0,005	0,00619*	0,004	0,0434***	0,004	-0,00830***	0,002	0,0547***	0,003	-0,00446**	0,002	0,0415***	0,003
Age																				
15	-0,0812**	0,037	-0,010	0,033	-0,176***	0,028	-0,0478***	0,018	-0,137***	0,026	-0,0870***	0,018	-0,210***	0,029	-0,110***	0,013	-0,0824***	0,023	-0,0801***	0,016
16	-0,0651***	0,022	0,011	0,023	-0,0854***	0,014	-0,0698***	0,015	-0,106***	0,014	-0,0885***	0,013	-0,108***	0,014	-0,0747***	0,011	-0,0475***	0,014	-0,0538***	0,011
17	-0,0338**	0,016	-0,013	0,021	-0,0486***	0,011	-0,0379***	0,013	-0,0511***	0,010	-0,0464***	0,011	-0,0605***	0,008	-0,0611***	0,008	-0,0203***	0,007	-0,0315***	0,007
18	-0,0349**	0,016	-0,028	0,022	-0,0348***	0,010	-0,0165	0,013	-0,0359***	0,008	-0,0512***	0,010	-0,0448***	0,005	-0,0306***	0,006	-0,00651	0,005	-0,0183***	0,006
19	-0,0107	0,015	-0,0517**	0,023	-0,0294***	0,010	-0,0264*	0,014	-0,0318***	0,008	-0,0656***	0,010	-0,0342***	0,005	-0,0389***	0,005	-0,00677	0,005	-0,0268***	0,006
20	-0,00771	0,015	-0,004	0,021	-0,0132	0,010	-0,0233*	0,013	-0,0153**	0,007	-0,0380***	0,010	-0,0215***	0,004	-0,0343***	0,005	0,000612	0,004	-0,0328***	0,005
21	0,00248	0,015	-0,006	0,022	0,00745	0,010	-0,0126	0,014	-0,0133*	0,008	-0,0435***	0,010	-0,0205***	0,004	-0,0359***	0,005	0,00494	0,004	-0,0336***	0,005
22	-0,019	0,016	0,000	0,022	0,00133	0,010	-0,015	0,014	-0,0108	0,007	-0,0424***	0,010	-0,00849**	0,004	-0,0284***	0,005	0,000131	0,004	-0,0328***	0,005
23	0,00449	0,016	0,030	0,024	0,00302	0,010	-0,000992	0,015	-0,00337	0,008	-0,0219**	0,011	-0,00726*	0,004	-0,0185***	0,005	0,00153	0,004	-0,0134**	0,005
24	base																			
Marital status (1-married)	-0,0315***	0,009	0,0808***	0,011	0,00441	0,006	0,131***	0,008	0,0193***	0,005	0,136***	0,007	-0,00368	0,003	0,121***	0,003	-0,00107	0,003	0,115***	0,003
Education																				
University	base																			
Technical college	-0,113	8,16	-0,273	16,95	0,0238	0,019	0,0741**	0,029	-0,00532	0,011	0,0534***	0,018	0,00632	0,005	0,0162**	0,007	-0,00934**	0,004	0,0249***	0,007
Vocational					0,0431**	0,019	0,0701**	0,03	0,0014	0,011	0,0850***	0,018	0,0269***	0,005	0,0636***	0,007	0,0103**	0,005	0,0620***	0,007
Upper secondary	-0,113	8,16	-0,206	16,95	0,0316*	0,018	0,101***	0,028	-0,0322***	0,010	0,0392**	0,018	-0,0200***	0,005	0,0124**	0,006	-0,0583***	0,004	-0,0177***	0,006
Lower secondary	-0,123	8,16	-0,167	16,95	0,0343*	0,018	0,152***	0,028	-0,00792	0,010	0,106***	0,018	0,00568	0,005	0,0791***	0,007	-0,0342***	0,005	0,0305***	0,006
Primary	0,162	49,71	0,619	103,3	0,0400**	0,020	0,252***	0,029	0,0188	0,013	0,239***	0,018	-0,00598	0,009	0,191***	0,008	-0,0431***	0,011	0,167***	0,008
Federal districts	controlled																			
Number of obs	6 423				17 596				21 511				57 733				46 440			

Controls	**1995**	**2000**	**2005**	**2010**	**2015**
Prob > chi2	0	0	0	0	0
Pseudo R2	0,3443	0,2916	0,2981	0,3304	0,3868
Log likelihood	-5112,52	-15558,768	-17907,934	-45320,274	-30804,381

Note: *** p<0.01, ** p<0.05, * p<0.1

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