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Перспективні напрями підвищення конкурентоспроможності кондитерських підприємств України

У статті визначено сутність конкурентоспроможності продовольчих товарів з точки зору як виробника, так і споживача, а також акцентовано увагу на основних чинниках, що впливають на конкурентоспроможність продукції. Проаналізовано рівні сприйняття споживачами конкурентоспроможності продовольчої продукції та виокремлено основні групи вітчизняної продукції за рівнем конкурентоспроможності – групу конкурентоспроможної продукції, групу продукції перспективної конкурентоспроможності і групу продукції з низькою перспективою створення конкурентоспроможності.

Досліджено вітчизняний ринок кондитерських виробів за обсягами виробництва та споживання та виявлено основні чинники зниження попиту. Розглянута структура експорту кондитерських виробів за товарними групами та визначено частки регіонів експорту.

Проаналізовано рейтинг і визначено позицію провідних українських кондитерських підприємств на світовому ринку, окреслено споживчі переваги та основні фактори впливу при прийнятті споживачами рішення про купівлю.

Визначено фактори зростання світового ринку кондитерських виробів, які досить тісно пов'язані між собою і обумовлюють один одного, та нові тренди світового ринку, які необхідно враховувати вітчизняним підприємствам.

Проаналізовано внутрішній ринок кондитерських виробів та чинники, що гальмують його розвиток.

Обґрунтовано, що підвищенню конкурентоспроможності вітчизняної продукції на внутрішньому ринку сприятиме ефективно організована система дистрибуції в аспекті освоєння нових форматів та розширення мережі фірмових магазинів.

Визначено напрями державної політики щодо захисту інтересів вітчизняних товаровиробників для підвищення конкурентоспроможності виробленої продукції.

Ключові слова: конкурентоспроможність продукції, кондитерські підприємства, конкурентний потенціал, ринок продуктів харчування, споживча цінність, рівень доходів населення, якість, ціна.

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MULTIDIMENSIONAL MEASURE OF HUMAN CAPITAL AND EARNINGS IN UKRAINE: IMPLICATIONS FOR NATIONAL POLICY ADVICE AND HUMAN RESOURCE MANAGEMENT

For increasing effectiveness of organizational human resource management as well as for the national policy advice, it is important to assess how human capital factors, other than school attainment, influence individual earning returns, and to compare return to such factors across countries. However, the research of this area is not complete due to lack of data. As a result, there is limited cross-country understanding about how different labor markets reward extended human capital capabilities. This

paper contributes to the existing research by studying the link between extended human capital factor and labor market return in Ukraine. It demonstrates the strong effect of development of emotional skills in childhood and the individual's income as an adult. It also demonstrates that External Locus of Control strongly negatively affects wages. Furthermore, evidence is provided that Undergraduate School quality and individual health also affect wages. The paper contributes to the growing literature on importance of non-cognitive skills in labor market return.

Keywords: *human capital, non-cognitive skills, labor market return, Ukraine, human resource management.*

Introduction

According to a number of authors (Hanushek and Woessmann, 2008; Heineck and Anger, 2008; Hanushek et al., 2015; Hanushek et al., 2017), although the skills of the labor force are generally viewed as one of the major factors in modern economies, existing evidence on the return to diverse skills in the labor market is limited. There is only extensive research on economic return to school attainment, mostly in the form of Mincer earning function (Krueger and Lindahl, 2001; Psacharopoulos and Patrinos, 2004; Pritchett, 2006; Cohen and Soto, 2007; Hanushek and Woessmann, 2012; Montenegro and Patrinos, 2014). In fact, until recently, most of research on relationship between human capital and economic development/labor market return utilized the measure of school attainment as the only measure of human capital. The reason for this choice was based on the availability of data and historical acceptance of that measure. During the past decade, however, many researchers noticed the shallowness of that measure and suggested additional factors be included in the human capital measure together with (or instead of) the school attainment measure (Flossmann, et al., 2007; Hanushek et al., 2015; Lundberg, 2017). According to Hanushek et al. (2017a, p. 451), “neglect of differences in the quality of schools, and in the strength of the family, health and other influences is probably the major drawback of...a quantitative measure of schooling.” As the authors suggest, “human capital combines both school attainment and its quality with the other relevant factors including education in the family, health, labor market experience and so forth.” (Hanushek et al., 2017a, p. 451).

Consequently, the following Human Capital production function better describes what human capital is (Hanushek and Woessmann, 2012; Hanushek et al., 2017a):

$$\text{Human Capital} = b_1 \text{ Schools} + b_2 \text{ Families} + b_3 \text{ Ability} + b_4 \text{ Health} + b_5 \text{ Other Factors} \quad (1)$$

This extended human capital formula includes factors additional to School Attainment which may be instrumental in creating market value.

Detailed discussion of the extended human capital factors

This Section discusses the factors included into the extended Human Capital formula (1) in more details. It provides suggestions on operationalization of these factors as well.

The Schools and Ability factors

What do the *Schools* and *Ability* factors include? How can they be operationalized? As it has been stated in the introduction, historically the School factor has included only the school attainment measure. Recently this approach has started to be challenged by suggestions of other measures of this factor. A number of authors (Hanushek and Woessmann, 2008; Hanushek et al., 2017a) developed a new human capital measure - a measure of variation in cognitive skills, showing that measure to be a better measure instead of school attainment one. The importance lies, not in the number of school years, but the students' cognitive skills produced in these years (Heckman et al., 2006; Anger and Heineck, 2010; Hanushek and Woessmann, 2012; Hanushek, 2017c). Cognitive skills measure is good index of important skill differences of workers. If such a measure is used in cross-country comparison, it explains poor economic performance of those countries, which have had adequate number of schooling years in their populations. The proxy of cognitive skills measure for macroeconomic analyses is the measure of educational achievement across countries, collected via international achievement tests. The value of this measure is that it incorporates skills from different sources – families, schools and abilities. In comparison with the school attainment measure, which does not have a significant relationship with

growth, the educational achievement measure is strongly correlated with growth in the world-wide analysis (Hanushek and Woessmann, 2012).

Consequently, in the Human Capital production function (1) the “*School*” factor may be presented as a combination of the factor of cognitive skills plus the school attainment measure, or just the factor of cognitive skills alone. This means that the formula (1) can be presented in the following form:

$$\text{Human Capital} = b_1\text{Cognitive Skills} + b_2\text{Families} + b_3\text{Ability} + b_4\text{Health} + b_5\text{Other} \quad (2)$$

In this approach the “*Ability*” factor may be operationalized by the grades received at school, for example final grades at the Grade school or final grades at the Undergraduate or Graduate levels.

Family and Health human capital factors

Other important Human Capital factors are *Family*, and *Health*. The effect of family background on economic return was investigated by a number of authors (Schultz, 1971; Mincer and Polachek, 1974; Heckman et al., 2006; Cunha and Heckman, 2007; Heckman and Masterov, 2007; Borghans et al., 2008; Cunha and Heckman, 2008; Cunha and Heckman, 2010; Kauthz et al., 2015). They suggest that the major function of the family as a social institution is the building of human capital of children. Heckman (2000) stated that the family’s role in achievement of children is twofold: a) a family is engaged in skills, character and abilities formation much earlier than educational institutions, and b) a family is a prime place where socially and economically valuable non-cognitive skills are formed. Supporting this view is the idea of the role of family in shaping a child’s social and academic readiness, evident in ability gaps between individuals and socio-economic groups become noticeable at an early age for cognitive and non-cognitive skills (Hanushek, 1997). A study by Hopkins and Bracht (1975) showed IQ scores become stable when the child is about 10 years old, while other studies reveal development of non-cognitive skills and emotional maturity continuing into the second decade of life (Dahl, 2004). It was Becker who said (1964, p. 33) “emotional health increasingly is considered an important determinant of earnings in all parts of the world. One way to invest in human capital is to improve emotional (and physical) health.”

Development of emotional skills is achieved via the channels of socio-psychological factors provided by the family (Buchmann, 2002). Families are significantly responsible for the level of cognitive and emotional development, as well as income, of their children in later life. Thus, the family’s role as an input into a child’s human capital formation may be measured via two variables: the level the family affects a child’s cognitive abilities, and the level it affects a child’s emotional skills.

The role of *Health* as one of the major components of human capital is well established (Rivera and Currais, 2004; Heckman et al., 2006; Black et al., 2007; Weil, 2007; Cutler and Leras-Muney, 2010; Bleakley, 2010; Goldin, 2016; Smith et al., 2016). Good health allows individuals to work more over their life time and to be more productive at work. Availability of increased resources is one of the major causes of health improvement. This includes such factors as improvement in nutrition and medical discoveries.

The “Other Factors” variable

What may “Other Factors” variable include? Extensive literature confirms that measures of cognitive ability are predictors of labor market success, yet these measures explain only a part of variance in earnings (Bowles et al., 2001). Consequently, together with cognitive skills, non-cognitive skills have been suggested as those which comprise human capital and directly affect economic returns (Bowles et al., 2001; Heckman, et al., 2006; Cunha and Heckman, 2007; Borghans et al., 2008; Almlund et al., 2011). Lindqvist and Vestman (2011, p. 103) suggest defining non-cognitive abilities as “a term for abilities which are distinct from the capacity to solve abstract problems and traditional measures of human capital such as training and experience.” Many authors (Heckman et al., 2006; Heineck and Anger, 2008) note that for labor market outcomes, a change in non-cognitive skills has an effect on behavior comparable or greater than a corresponding change in cognitive skills. According to Lundberg (2017, p. 5), “the case for treating non-cognitive skills as a type of human capital is that many dimensions...appear to be relatively stable, but augmentable traits that enhance task performance, increase labor productivity, and contribute to positive economic outcomes.” As a result, non-cognitive skills as productivity enhancing labor market skills are being added in economic analyses. For example,

Heckman and his colleagues suggest viewing human capabilities as a combination of cognitive skills, non-cognitive skills/personality and physical health. According to Cunha and Heckman (2010, p. 3), non-cognitive abilities have direct effects on wages (controlling for schooling). The research of Heckman et al. (2006) suggests that “latent noncognitive skills, corrected for schooling and family background effects, raise wages through their direct effects on productivity” (Heckman et al., 2006, p. 13).

If we replace “Other Factors” by non-cognitive skills in the equation (2) we will get:

$$\text{Human Capital} = b_1 \text{ Cognitive Skills} + b_2 \text{ Family} + b_3 \text{ Ability} + b_4 \text{ Health} + b_5 \text{ Non-Cognitive Skills} \quad (3)$$

Barth et al. (2016) suggest that the traditional Mincer cross sectional wage equation relates earnings of an individual to measures/indicators of personal skill and other characteristics that reflect productivity. Using this suggestion, as well as the definition of human capital, formula (3) can be presented in the following manner:

$$\text{Labor Market Return} = b_1 \text{ Cognitive Skills} + b_2 \text{ Family} + b_3 \text{ Ability} + b_4 \text{ Health} + b_5 \text{ Non-Cognitive Skills} \quad (4)$$

Available assessments of non-cognitive skills

A number of non-cognitive factors have already been assessed in terms of their affect on labor market return. Among the non-cognitive human capital factors which have been investigated in terms of their labor market return are as follows:

The Big Five Personality traits (John, 2000; Bowles et al., 2001; Hogan and Holland, 2003; Gottschalk, 2005; Nyhus and Pons, 2005; Mueller and Plug, 2006; Heineck, 2007; Roberts et al., 2007; Borghans et al., 2008; Braakmann, 2009; Vinikainen et al., 2010; Almlund et al., 2011; Fletcher, 2012; Heckman and Kautz, 2012).

According to the Big Factor model, all human personality traits are connected to one of the five basic characteristics (traits): emotional stability, agreeableness, extraversion, openness to experience, and conscientiousness.

Locus of control (Heineck and Anger, 2005; Osborne-Groves, 2005; Linz and Semykina, 2005; Heckman et al., 2006; Flossmann, et al., 2007; Judge and Hurst, 2007; Braakmann, 2009; Heineck and Anger, 2010; Cobb-Clark et al., 2015; Cobb-Clark, 2015). The construct of the Locus of Control has been found to be positively related to a variety of labor market outcomes. The concept of the Locus of Control was originally developed by Rotter (1966) who found the connection an individual perceives between their actions and consequences. Internal LOC means that an individual believes that his/her outcomes are determined by his/her actions. Consequently, internal LOC is related to high level of personal initiative.

Self-esteem (Murnane et al., 2000; Heckman, 2006; Judge and Hurst, 2007; Drago, 2008) Self-esteem reflects a person's subjective evaluation of his/her own worth.

Reciprocity (Fehr and Gächter, 2000; Heineck and Anger, 2005; Braakmann, 2009). Reciprocity is the way an individual chooses to behave toward others. “Reciprocity means that in response to friendly actions people are frequently much nicer and more cooperative than predicted by the self-interest model; conversely, in response to hostile actions they are frequently much more nasty” (Fehr and Gächter, 2000, p. 159).

Different personality traits more narrow than the Big Five: (Linz and Semykina, 2005; Osborne-Groves, 2005). Studied traits were the need for challenge, the need for affiliation, fatalism, withdrawal, aggression.

Discussion of the return to diverse human capital skills in selected countries

As it has been suggested in the previous Section, a number of authors have evaluated the level of labor market return to selected non-cognitive skills in several countries. Their major conclusion is that such skills are instrumental in salary increase. Following is a discussion of specific numbers which characterize relationship between salary earned and diverse human capital factors.

Braakmann (2009) studied the effect of non-cognitive skills on wages in Germany, using the variable of the external Locus of Control as the non-cognitive variable. He found that external Locus of Control negatively affected wages with a regression coefficient of -0.084 for males and -0.072 for females (p. 25), and negative reciprocity affected wages with a regression coefficient of -0.022 for males and -0.024 for females. Flossmann, Piatek and Wichert (2007) also studied the effect of the Locus of Control/self-esteem factor on wages, stating this factor as one of the key factors in labor market success. More specifically, one point increase in the level of Locus of Control/Self-esteem factor leads to 1.39% increase in the wages for males and 1.33% increase for females (p. 9). Heckman et al. (2006) studied the effect of the non-cognitive skills of Locus of Control and self-esteem in the US. Calculating the non-cognitive skills variable as an average of the Locus of Control and self-esteem factors, they reported that the regression coefficient of this factor for the log hourly wage (for people with a Bachelor degree) was 0.112 (Heckman et al., 2006, Table 4). Osborne-Groves (2005) utilized US data. Her research states that one SD increase in external locus of control lowers hourly wages by 6.7%. One SD increase in aggression statistically significantly decreases hourly wages by 7.6% and one SD increase in withdrawal behavior decreases hourly wages by 3.3% (Thiel, Thomsen, 2011, p. 44). Keller (2010) utilized data on Hungary to measure relationship between earnings and locus of control/self-confidence factor. The author found low but statistically significant relationship (the change of monthly earnings' regression coefficient of 0.012 (p. 415)). Heineck and Anger's research (2008) based on German data showed strong statistical relationships between Locus of Control, reciprocity and wages. More specifically, the regression coefficient of log of hourly wages regressed on external locus of control is significant and comprises -0.061 (for females) and -0.054 (for males). The coefficient of log hourly wages regressed on positive reciprocity is significant and comprises 0.034 (for females) and 0.014 (for males). At the same time, the coefficient for the negative reciprocity is not significant for females and significant for males with the coefficient of 0.022 (p. 37). Murnane et al. (2000) used US data and found that one SD increase in self-esteem (Rosenberg Scale) increased log hourly wage by 3.7%. Lindqvist and Vestman (2011) conducted research using Swedish data. They concluded that non-cognitive ability increased wages by 6.6% (pp. 102-113). The non-cognitive traits were measured with such traits as independence, persistence, emotional stability, intuitive, willingness to assume responsibility, ability to function in a group. Krassel and Sorensen (2015) used PISA and PIAAC test scores on Denmark to measure cognitive and non-cognitive skills (perseverance and enjoyment of learning) and their relations with earning and employment. Their research suggested that the return to cognitive skills had a regression coefficient of 0.108, and the return to non-cognitive skills had a coefficient of 0.105 (p. 12). A number of authors (cited above) conducted research on relationship between wages and the Big Five personality traits. They concluded that on average, the Agreeableness character trait factor lowered pay, while Conscientiousness and Openness to Experience traits raised it.

A number of authors have evaluated the level of labor market return to cognitive skills. Their major conclusion is that cognitive skills are instrumental in salary increase. For example, Fletcher (2012) conducted research utilizing US data and found that one SD increase in cognitive skills increased earnings by 12% (Fletcher, 2012, p. 9). According to Heckman's et al. (2006) research of the US' youth, the cognitive ability measure explains 9% of the variance of log wages (p. 7). Lindqvist and Vestman (2011) conducted research using Swedish data. They concluded that one SD increase in cognitive abilities increased wages by 8.9% (p. 102-113). As suggested by research of Hanushek et al. (2017b, p. 16), the regression coefficient of return to cognitive skills comprises 0.11 in Greece and 0.13 in Norway, Sweden and Czech Republic. The coefficient rises to 0.21 in UK, 0.23 in Germany, 0.26 in the US and 0.47 in Singapore (PIAAC, 2016).

Research question

As it has been stated in the introduction, the cross-country research of labor market return to diverse Human Capital factors is limited because of data unavailability (Heineck and Anger, 2008; Hanushek et al., 2017b). As evident from the previous section, most research utilizing other than school attainment human capital factors comes from the US and UK (Bowles et al., 2001; Chetty, 2011). There is limited research which evaluates labor-market return to non-cognitive skills in few other countries and regions such as Germany (Flossmann et al., 2007; Heineck and Anger, 2008), Latin America

(Hanushek and Woessmann, 2012), Russia (Linz and Semykina, 2005), Sweden (Lindovist and Vestman, 2011), Hungary (Keller, 2010), Denmark (Krassel and Sorensen, 2015), Netherland (Nyhus and Pons, 2005). As a result, exhaustive cross-country evaluation of how different labor markets reward extended human capital skills cannot be conducted.

This paper contributes to the existing research by studying how Ukraine's economy values skills. It examines whether the link between extended Human Capital factor and labor market return can be found in Ukraine. The research question in this paper is as follows:

What is the labor market return to the multidimensional Human Capital factor in Ukraine?

Conceptual framework

In this analysis, we use the framework of macroeconomics production function with human capital factors as the input factors. The basic specification of the model is to regress the output (wages) on different factors of multidimensional human capital, which includes both cognitive and non-cognitive skills measures.

Operationalization of cognitive skills/ability measure is generally straightforward, as the following factors are usually used as measures of cognitive skills: IQ tests, standardized achievement tests, grades (Heineck and Anger, 2008; OECD, 2015). As far as measuring the non-cognitive skills, some difficulties persist because of the absence of a consistent set of metrics that can be used across studies and across countries (Lundberg, 2017). Most studies in Psychology and Economics utilize measures of non-cognitive abilities and personality traits collected via self-reported surveys. Some authors assert that such measures compared to the IQ test or grades, are less reliable and less precise (Lindovist and Vestman, 2011). At the same time, other authors (OECD, 2015) view such measures as legitimate and reliable measures. Noncognitive skills (traits) can be defined as "the relatively enduring patterns of thoughts, feelings and behaviors that reflect the tendency to respond in certain ways under certain circumstances" (Roberts, 2009, p. 140). This definition as well as a number of similar definitions suggests that non-cognitive measurements can be tested by assessing behavior on different projects (for example, completing a job, graduating from school) (OECD, 2015). Therefore, self-reported surveys asking about performance on tasks or any observed behavior can be considered as valid measures of non-cognitive skills (Almlund et al., 2011). The survey utilized in the paper utilized this type of a survey.

Data

The data for this research was collected via an on-line survey. To avoid reference bias in self-reported answers, the survey was conducted in a distinct group of individuals of an average age 30-35, a generational group with certain standards and reference points on which to base their answers. The survey was conducted in February of 2018 among MBA students and graduates of Kyiv School of Economics located in Kyiv, Ukraine. Thirty-five responses were utilized for the final analysis (29% response rate). All respondents hold management positions in companies.

The Survey included questions to measure the following factors (please see Appendix for the Survey questions which dealt with these factors): Family's role in cognitive skills development in childhood; Family's role in emotional skills development in childhood; Non-cognitive factor: locus of control; School quality (Bachelor level education); Ability (measured as grades at the Bachelor level); Health; Professionalism level.

A part of the Survey was a 4-questions *Locus of control* questionnaire with self-reported psychological scale as developed by Kovaleva (2012). Other factors were assessed by questions asking about perceived performance on tasks.

Empirical results

For this paper a number of regression equations were run with the "monthly net wages" factor as the dependent variable. STATA 12 was used for the statistical analysis.

Equation 1

$$\text{Net Monthly Wages} = b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$$

where:

The X1 variable included the measure of how well the family supported *cognitive development* of the person during the childhood period.

The X2 variable included the measure of how well the family supported *emotional development* of the person during the childhood period.

The X3 variable was the perceived personal assessment of an individual's quality of *health*.

The X4 variable included the *External Locus of Control* measure.

The X5 variable included the measure of perceived *professional level* of an individual in terms of its correspondence with the market requirements.

The results are given in Table 1:

	<i>Family's role in cognitive development</i>	<i>Family's role in emotional development</i>	<i>Professional level</i>	<i>External LOC</i>	<i>Health</i>
<i>F-Stat</i>	6.54				
<i>P value for F- Stat</i>	0.0003				
<i>R-Squared</i>	0.5298				
<i>Adj R-Squared</i>	0.4487				
b-Coef	-0.054	0.139	0.120	-0.1598	-0.129
<i>Sig of b</i>	0.07	0.000	0.009	0.009	0.029
N	35				

Tab. 1. Regression results for net monthly wages as the dependent variable and human capital factors (family's role in cognitive development, family's role in emotional development, professionalism, external locus of control, health) as the independent variables

As we can see from this relationship, one SD increase in the factor of Family's role in the person's emotional development as a child leads to 0.139 SD increase in this person's wages as an adult with high statistical significance at 0.001 level. In comparison, statistical significance of the factor of Family's role in the person's cognitive development as a child toward this person's wages as an adult is only at 0.07 level, and comprises 0.054 (with negative sign). As far as the factor of the External Locus of Control, – it is negatively associated with wages. One SD increase in this factor leads to 0.16 SD decrease in the wages of the respected individual with statistical significance is at the 0.01 level. Furthermore, one SD increase in the factor of *professional level* of an individual in terms of its correspondence with the market requirements leads to 0.12 SD increase in wages level (with stat significance at 0.01 level). Statistically significant factor of Health (significance at 0.05 level) changes wages at 0.13 SD (although with the negative sign). Overall, in the model 52.98 percent of variation in the Net Monthly Wages variable is explained by the variation in the independent variables.

Equation 2

$$\text{Net Monthly Wages} = b_1X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4$$

where:

The X1 variable included the measure of how well the family supported emotional development of the person during the childhood period.

The X2 variable included the External Locus of Control measure.

The X3 variable included the quality of Undergraduate education in terms of providing valuable labor market skills as perceived by the respondents.

The X4 variable measured ability and included the average grade in Undergraduate school.

The results are given in Table 2.

As we can see from this relationship, family's role in development of emotional skills in the person during their childhood years is instrumental toward increase of this person's wages as an adult. More specifically, one SD increase in this factor leads to 0.11SD increase in wages. The factor is also highly statistically significant. External Locus of Control factor lowers wages. One SD increase in this

factor leads to 0.15 SD decrease in wages (with statistical significance at 0.01 level). Relationship between the quality of Undergraduate education and wages is 0.06 (with a negative sign). This factor is statistically significant at 0.03 level. The Ability factor measured as average grades in Undergraduate school is not statistically significant. Overall, 50.69 percent of variation in the factor of wages is explained by these independent variables.

	<i>Family's role in emotional development</i>	<i>External locus of control</i>	<i>Educational quality</i>	<i>Ability</i>
<i>F-Stat</i>	7.45			
<i>P value for F- Stat</i>	0.0003			
<i>R-Squared</i>	0.5069			
<i>Adj R-Squared</i>	0.4389			
b-Coef	0.107	-0.151	-0.0599	
<i>Sig of b</i>	0.000	0.01	0.03	Not sig
N	34			

Tab. 2. Regression results for net monthly wages as the dependent variable and human capital factors (family's role in emotional development, external locus of control, educational quality, ability) as the independent variables

Equation 3

$$\text{Net Monthly Wages} = b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4$$

where:

The X1 variable included the measure of how well the family supported emotional development of the person during the childhood period.

The X2 variable was the perceived personal assessment of an individual's quality of health.

The X3 variable included the quality of Undergraduate education in terms of providing labor market education and skills as perceived by the respondents.

The X4 variable included the External Locus of Control measure.

The results are given in Table 3.

	<i>Family's role in emotional development</i>	<i>Health</i>	<i>Educational quality</i>	<i>External Locus of control</i>
<i>F-Stat</i>	6.61			
<i>P value for F- Stat</i>	0.0007			
<i>R-Squared</i>	0.4768			
<i>Adj R-Squared</i>	0.4047			
b-Coef	0.113	-0.049	-0.057	-0.166
<i>Sig of b</i>	0.000	Not sig	0.059	0.008
N	34			

Tab. 3. Regression results for net monthly wages as the dependent variable and human capital factors (family's role in emotional development, health, educational quality, external locus of control) as the independent variables

As we can see from this relationship, the mentioned above independent factors are instrumental toward affecting the factor of Wages. More specifically, one SD increase in the factor of Family's role in Emotional development leads to 0.113 SD increase in this person's wages as an adult with high statistical significance. The factor of External Locus of Control is negatively associated with wages. One SD increase in this factor decreases wages by 0.17 SD (with statistical significance at 0.01 level). One SD increase in the factor of Quality of Undergraduate Education affects wages factor by 0.057 SD (with a negative sign). Statistical significance is 0.059. External Locus of Control lowers wages at the

level of 0.17 SD (significance at the 0.008 level). Overall, 47.68 percent of variation in the factor of Net Monthly Wages is explained by variation in the discussed above factors.

Discussion of results

These results on Ukraine are in line with the results from other countries. More specifically,

1. The paper demonstrates strong effect of the family development of emotional skills in childhood and the individual's income as an adult. The b-coefficient ranges from 0.107 to 0.139 and is statistically significant at 0.001 level. This evidence is in line with the previous research, which states that the development of emotional skills in childhood is strongly positively correlated with economic success in adulthood. A strong body of research suggests that when IQ of an individual is not changed, his/her well-developed non-cognitive (socio-emotional) skills lead to higher earnings and better life establishment (Cunha and Heckman, 2007; Cunha and Heckman, 2010). The widely cited Perry Preschool Program did not increase the IQ level of its participants, but raised their performance on a number of dimensions (Schweinhart et al., 2005). The same can be said about the Head Start program and other similar interventions. At the same time, the research described in the paper found that the effect of the family in development of cognitive skills was of a less importance. The b-coefficient is -0.05 (with statistical significance of 0.07).

2. The research described in the paper demonstrates that External Locus of Control negatively affects wages in all equations, and is statistically significant all the time. The level of this affect is quite high. The level of b-coefficient ranges from 0.151 to 0.166. With External Locus of Control an individual places responsibility for his life on others and does not exercise active initiative. This evidence is in line with the previous research in different countries.

3. The Quality of School (undergraduate level) also affects wages (although with the “-“ sign). The b-coefficient ranges from 0.057 to 0.06 (with significance of 0.03 and 0.059).

This evidence is in line with the described above research which demonstrates affect of school quality on future earnings via development of skills and qualities required by the labor market. At the same time, the “Ability” variable as measured by grades was not found to be significant, while the level of professionalism affects wages by 12% with statistical significance at 0.001.

4. The paper demonstrates affect of the Health factor on individual earnings. The b-coefficient ranges from 0.129 to 0.049 (although in the second equation it was not significant.)

Implication for national policy and Human Resource Management

Considering high importance of socio-emotional skills developed in childhood for labor market success of adults, it is advisable for national policy makers to raise this issue on the national level. Help should be provided to families via such resources as additional funding for counseling, family centers, parent education, lectures, conferences, family-building activities. All of these can help strengthen families and can increase parent awareness of practical steps toward development of emotional skills of their children. This also can be helped by increasing preschools and schools' funding to activities associated with this area. Special games, events which help develop emotional awareness may be especially helpful in preschools. Student counseling, communication classes, team-building activities may be instrumental in increasing socio-emotional skills of grade students.

This paper raises the importance of well-developed emotional skills for labor market success (wages). In terms of Human Resource Management, it may be suggested that specific trainings in this area, individual coaching will be instrumental in increasing employee performance and effectiveness. This will lead to increase in employee wages. Thus, both parties will win: organization will get more productive and effective employees and employees will be better financially rewarded based on their performance.

Furthermore, evidence is provided in the paper that External Locus of Control significantly lowers wages. Lowering wages is the consequence of lowering the quality of performance. Organizations waste valuable resources by allowing employees to continue having high level of external LOC. In such a case employees do not exercise personal initiative but rely on somebody else to make decisions. Consequently, human resource managers are advised to conduct company trainings or individual coaching to increase Internal LOC of employees. This also can be achieved by job enrichment and job rotation.

Conclusion

This paper makes several contributions to the literature. First, it places individual earnings in an extended human capital model and describes the pattern of returns to a variety of HC skills. Second, the paper describes how returns go together in specific environment of Ukraine which is characterized by reforms in the environment of high corruption level.

To sum up, the results of the analysis reveal that non-cognitive/emotional skills developed in childhood are important positive predictors of earnings. Another (negative) predictor of earnings is the non-cognitive factor of the External Locus of Control. In spite of distinguishing features of Ukraine, these factors influence earnings comparably to the effect of these factors in other countries. This paper contributes to the growing literature on importance of non-cognitive skills in labor market returns by introducing the set of factors, which, when utilized, are instrumental in affecting individual income.

Appendix

Selected Survey Questions

1. What grade would you give your Undergraduate College for preparing you for the labor market?
2. To what extent do you agree with the following statement:
“My childhood can be characterized by stable, loving and reliable environment where I received necessary support and encouragement to develop my cognitive abilities.”
3. To what extent do you agree with the following statement:
“My childhood can be characterized by stable, loving and reliable environment where I received necessary support and encouragement to develop my emotional skills.”
4. On a scale from 1 to 10, what was your average grade at the university/institute?
5. On a scale from 1 to 10, how would you rank your health?
6. To what extent do you agree with the following statement:
“I can say that in my circle of relationships (both – at work and outside of work) there are many good and successful people that I identify with.”
7. To what extent do you agree with the following statement:
“If I work hard, I will succeed.”
8. To what extent do you agree with the following statement:
“In my life, I am my own boss (how my life goes depends on me).”
9. To what extent do you agree with the following statement:
“Whether at work or in my private life: what I do is mainly determined by others.”
10. To what extent do you agree with the following statement:
“Fate often gets in the way of my plans.”
11. How would you rank yourself in terms of professional knowledge and skills required to succeed in your career?

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Верхогляд О. О.

Багатовимірний показник людського капіталу та заробітна плата в Україні: інформація для консультацій з питань національної політики з трудових ресурсів та організаційного управління персоналом

Для підвищення ефективності управління людськими ресурсами, а також для рекомендацій національної політики з трудових ресурсів, важливо оцінити, як впливають фактори людського капіталу, крім кількості навчальних років, які має людина, на заробітну плату, а також порівняти фінансову віддачу на такі фактори у різних країнах. Проте, дослідження цього питання не є повним через відсутність даних. Як наслідок, існує обмежене розуміння про те, як ринки трудових ресурсів в різних країнах оплачують розширені можливості людського капіталу. Ця стаття вносить вклад в скарбничку існуючих досліджень, вивчаючи зв'язок між багатовимірним показником людського капіталу та заробітною платою в Україні. Вона демонструє важливий ефект розвитку емоційних навичок у дитинстві та доходами вже дорослої людини. Стаття також показує, що зовнішня траєкторія контролю суттєво негативно впливає на заробітну плату. Крім того, надаються докази того, що якість освіти та індивідуальне здоров'я також впливають на заробітну плату. Це дослідження робить внесок до літератури щодо важливості некогнітивних навичок на ринку праці.

Ключові слова: людський капітал, некогнітивні навички, ринок праці, Україна, управління людськими ресурсами.