UDC 331.101.262:658

HUMAN CAPITAL DEPRECIATION OF SKILLED WORKERS – CURRENT LABOR IMMIGRANTS IN HOST COUNTRIES: THE SCIENTIFIC VIEW

Ph.D. in economic sciences, associate professor O. KOSHULKO
(Polotsk State University)

The article presents the Model of Human Capital depreciation of labor immigrants abroad and the depreciation of the existing amount of Human Capital of labor immigrants in host countries. The study also shows an example of computation of the Human Capital depreciation of a skilled worker who works as a labor immigrant in a host country, and for this example uses the Human Capital depreciation rate by the Spanish scientists M. Arrazola and J. Hevia. This paper is the continuation of a series of publications concerning Labor, International, and Female migration abroad in recent years.

Keywords: Model of Human Capital depreciation, labor immigrants, host countries, skilled workers.

Introduction

The Human Capital of skilled workers is a most important wealth for countries seeking to develop. Therefore, it is very important that these countries accumulate and use the Human Capital of skilled workers effectively for future profit and development.

This subject is a very topical and numerous of scientists have studied Human Capital, Migration, and Education in the 20th century, such as: G. Becker [2], C. Dustmann [9], and those continuing to study in 21st century include M. Beinea, C. Defoortb, F. Docquier [3], I. Cieślak [4], S. Contreras [5], M. Dobija [6–8], B. Lowell [26], D. McFadden [27], L. Salmonsson, O. Mella [28], and S. Weber [29].

This paper is the continuation of a series of publications concerning Labor, International, and Female migration abroad in recent years, and among these publications are the papers: "Human capital depreciation of female immigrants and ways to restore lost human capital"; "Children of female immigrants in Turkey: numerical analysis of data"; "Research into the dilemmas concerning the employment of immigrants in their professions abroad and the depreciation or restoration of their human capital"; "Slavic women in Turkey: from past to present"; Challenges of Ukrainian female immigrants and their children in host countries"; Women from North move to South: Contemporary migration from the Former Soviet Union countries to Turkey; Discourse about Women-Immigrants from Former Soviet Union Countries as a Special Social Group in Turkey"; "The role of Ukrainians in the economic growth of Poland"; "Gender inequality as one of the largest problems of Slavic women in Islamic world"; "Reflections on the features of accumulation of the Human Capital of representatives of female and male genders"; "Ukrainians in the Light of Migration Crisis in Europe"; "Exploring of the Human Capital Depreciation of Ukrainian Labor Migrants Abroad: Results of a Survey"; "Issues in countries of the former Soviet Union as the driving force for female migration to Turkey"; "The "Value of Life and Labor" of Ukrainian Migrants Abroad"; "The positive and negative aspects of Ukrainian labor migration for Ukraine and Receiving Countries" [11–25].

Sometimes skilled workers move abroad for specific reasons and if these workers cannot work abroad in their own professions, their Human Capital depreciates very quickly. In this case these skilled professional workers, who worked professionally in their home countries, but cannot continue their careers abroad, will have Brain Waste, which is very negative not only for the host countries and their countries of origin, but primarily it is bad for them.

So, my research is about the Human Capital depreciation of skilled workers – current labor immigrants in host countries. Therefore, I created the Model of the Human Capital depreciation of labor immigrants abroad with the Human Capital depreciation rate 1.2% per year.

The Model of the Human Capital depreciation of labor immigrants abroad

Skilled workers who come to host countries to work as labor immigrants have a certain amount of Human Capital at their moment of arrival, but if these skilled workers do not have opportunities to work as professionals abroad over time, their Human Capital depreciates. I have created the Model of Human Capital depreciation of labor immigrants abroad and I have denoted this Human Capital of labor immigrants in host countries as HC^h.

At the moment, when these skilled workers arrive in their host countries, the process of their Human Capital depreciation has not started and this amount of the Human Capital may be denoted as 100% (1):

$$HC^h = 100\%, \tag{1}$$

where HC^h is denoted the Human Capital of the labor immigrants is at the moment of arrival in host countries;
100% is the specific amount of their Human Capital.

If labor immigrants do not work professionally in host countries, their Human Capital can depreciate.

I also can denote the Human Capital of labor immigrants at the moment of their arrival in host countries as 1 (2):

$$HC^h = 100\% = 1, \tag{2}$$

where HC^h is the denoted Human Capital of labor immigrants at the moment of their arrival in host countries;

100% or 1 is the specific amount of the Human Capital of labor immigrants at the moment of their arrival.

According to the research by M. Arrazola and J. Hevia [1], the depreciation rates of Human Capital is around 1–1.5% per year. In my model I have estimated a Human Capital depreciation rate of around 1.2% per year and 0.1% per month.

Using these rates, I assume that labor immigrants, who do not have opportunities to work in their own professions in host countries, lose 0.1% from their existing amount of their Human Capital per month.

Therefore, the formula for depreciation of the Human Capital (HC^d) of labor immigrants in host countries per month will be (3):

$$HC^d = 1 - (1 \cdot 0,001), \tag{3}$$

where HC^d is the depreciation of the Human Capital of the immigrants in host countries per month;

0.1% is the depreciation rate of existing amount of the Human Capital of labor immigrants per month.

In this case the formula for depreciation of Human Capital ($HC^{d\,(year)}$) of labor immigrants in host countries per year will be (4):

$$HC^{d(year)} = 1 - 1 \cdot (12 \cdot 0,001) = 1 - 1 \cdot 0,012, \tag{4}$$

where $HC^{d(year)}$ is the depreciation of the Human Capital of labor immigrants in host countries per year;

0.1% is the depreciation rate the existing amount of their Human Capital per month.

Therefore, over every 12 month period labor immigrants will lose around 1.2% of their existing Human Capital.

The residence time of labor immigrants in host countries is different, and in the formula of depreciation of the Human Capital ($HC^{d\,(n)}$) of labor immigrants in a host country it will be (5):

$$HC^{d(n)} = 1 - 1 \cdot (N \cdot 0,001), \tag{5}$$

where $HC^{d(n)}$ is the depreciation of the Human Capital of labor immigrants in host countries per undefined time;

N is number of months of residence of the labor immigrants in host countries.

An example of using the Model of depreciation of the Human Capital of labor immigrants

With the help of the Model of depreciation of Human Capital of labor immigrants in host countries, the amount of the Human Capital depreciation per month (HC^d) and per year ($HC^{d(year)}$) of a skilled worker who is a current labor immigrant will be computed.

For this computation, it is necessary to know the amount of the Human Capital (HC^h) of this skilled worker who is a current labor immigrant at the moment of arrival in a host country. How is it possible to compute this (HC^h)?

In my opinion via two methods:

The first method is the Human Capital Theory by Mieczyslaw Dobija, based on computation of the human capital according to minimum wages, monthly cost of living, the human capital capitalized at the rate of 8% etc. [4; 6–8]. This theory gives the human capital model by Mieczyslaw Dobija as (6):

$$H(T, p) = K(p), \tag{6}$$

where $H(T, p)$ denotes human capital of a skilled worker with $T = 0$ years of professional work;

$p = 0.08$ is the economic constant which serves as the capitalization rate;

$K(p)$ denotes the capitalized cost of living (future value) throughout the period, ending at the moment mandatory education is completed.

The second method is my method, the Human Capital Theory by Oksana Koshulko [10] based on computation of the sum of all investments in human capital of a skilled worker during a period of study and a professional career (7):

$$HC = \sum_{i=1}^{n} I_i, \tag{7}$$

where HC denotes Human Capital of a skilled worker;

I_i is the sum of all investments in human capital of a skilled worker, in the education of this skilled worker, professional training, health care, raising the cultural and information level and the amount of wages as investments in the production of the human capital of this skilled worker for a certain period (n) of time.

For the Model depreciation of the Human Capital of labor immigrants in host countries, I will use the amount of the Human Capital (HC^h) of the skilled worker that I computed before [11] with the help of the Human Capital Theory by Mieczyslaw Dobija [4; 6; 7; 8], and this computed amount of the Human Capital (HC^h) in money equivalent is 448 054.7 UAH [11] (8):

$$HC^h = 448054,7 = 100\% = 1. \tag{8}$$

According to the research of M. Arrazola and J. Hevia [1], depreciation rates of human capital are of around 1–1.5% per year. In this model I will use a depreciation rate of human capital of around 1.2% per year and 0.1% per month.

Therefore, suppose that labor immigrants, if they do not have the opportunity to work in their own professions in host countries, can lose 0.1% from their existing amount of Human Capital per month, in this case the formula of depreciation of the Human Capital (HC^d) of labor immigrants in host countries per month will be (9):

$$HC^d = 448054,7 - (448054,7 \cdot 0,001) = 448054,7 - 448,0547 = 447606,6, \tag{9}$$

where HC^d is the depreciation of the Human Capital of a skilled worker, who is a current labor immigrant in a host country, per month;

0.1% or 0,001 is the depreciation rate of the existing amount of the Human Capital of a skilled worker, who is a current labor immigrant, per month.

So, depreciation of the Human Capital a skilled worker – current labor immigrant is 448,0547 UAH per month.

In this case the formula of depreciation of the Human Capital ($HC^{d\,(year)}$) of a skilled worker – current labor immigrant in a host country per year will be (10):

$$HC^{d(year)} = 448054,7 - (448054,7 \cdot (12 \cdot 0,001) = 448054,7 - 5376,6564 = 442678,0436, \tag{10}$$

where $HC^{d(year)}$ is the depreciation of the Human Capital of a skilled worker, who is a current labor immigrant in a host country, per year;

0.1% or 0,001 is the depreciation rate of the Human Capital of a skilled worker, who is a current labor immigrant, per month.

So, depreciation level of the Human Capital of a skilled worker, who is a current labor immigrant, is 5376,6564 UAH per year, and every 12 months this skilled worker, a current labor immigrant, may lose around 1.2% of existing amount of the Human Capital or in money equivalent this is 5376,6564 UAH. Over eight years (for example) depreciation of the existing amount of the Human Capital of a current labor immigrant may be around 9,6% or 43013,2512 UAH in money equivalent (11):

$$HC^{d(year)} = 448054,7 - (448054,7 \cdot 0,096) = 448054,7 - 43013,2512 = 405041,45. \tag{11}$$

Therefore, if skilled professional workers, who worked as professionals in their countries of origin, but cannot continue their careers abroad, work as labor immigrants in host countries, there will be Brain Waste for them, for their host countries and their countries of origin.

Very often, these skilled workers, professionals in the past, even when they return to their countries of origin, cannot work in their previous professions, which is an even worse situation for them.

Of course, during a period of labor immigration abroad, labor immigrants, professionals in the past, may develop new skills and knowledge, but, unfortunately, labor immigrants often perform unskilled work abroad.

In my opinion, the biggest problems for skilled workers seeking work as professionals in host countries are language barriers, problems with confirmation of diplomas in host countries, lack of competitive knowledge and skills on international labor markets.

Conclusions

Currently the movement of immigrants from one country to other is a normal process as immigrants try to find better opportunities for life and work.

However, when skilled workers, for whatever reasons, are forced to move abroad and to work as unskilled workers, there is a very big problem of Brain Waste for all sides, for skilled workers, who were professionals in the past, for their country of origin and for their host countries too.

Very often these skilled workers, professionals in the past, when they return to their country of origin, find that they cannot work in their previous professions, which is a worse situation for them. Of course, during a period of labor immigration abroad, labor immigrants, professionals in the past, can develop new skills and knowledge, but, unfortunately, labor immigrants often perform unskilled work abroad.

In my opinion, the biggest problems for skilled workers seeking work as professionals in host countries are language barriers, problems with confirmation of diplomas in host countries, lack of competitive knowledge and skills on international labor markets.

REFERENCES

1. Arrazola, M. More on the estimation of the human capital depreciation rate / M. Arrazola, J. Hevia // Applied Economics Letters. – 2004. – Vol. 11 (3). – P. 145–148.
2. Becker, G.S. Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education / G.S. Becker // National Bureau of Economic Research, 1964.
3. Beinea, M. Skilled migration, human capital inequality and convergence [Electronic resource] / M. Beinea, C. Defoortb, F. Docquier // Center for Research and Analysis of Migration (CReAM). – Mode of access: http://www.cream-migration.org/publicationsdiscussionpapers.php?year=2005.
4. Cieślak, I. Teoretyczne podstawy rachunkowości kapitału ludzkiego / I. Cieślak, M. Dobija // Zeszyty Naukowe, Uniwersytet Ekonomiczny w Krakowie. – 2007. – Tom. 735. – S. 5–24.
5. Contreras, S. The Influence of Migration on Human Capital / S. Contreras // Development International Economic Journal. – 2013. – Vol. 27 (3). – P. 1–20.
6. Dobija, M. Teoria pomiaru kapitału i zysku / M. Dobija. – Kraków : Wydawnictwo Uniwersytetu Ekonomicznego w Krakowie, 2010. – 200 S.
7. Dobija, M. Labor Productivity vs. Minimum Wage Level [Electronic resource] / M. Dobija // Modern Economy. – 2011. – Vol. 2. – P. 780–787. – Mode of access: http://dx.doi.org/10.4236/me.2011.25086.
8. Dobija, M. Political Reforms Based on a Human Capital Research Programme / M. Dobija // Argumenta Oeconomica Cracoviensia. – 2012. – Vol. 8. – P. 9–29.
9. Dustmann, C. Temporary Migration, Human Capital, and Language Fluency of Migrants / C. Dustmann // The Scandinavian Journal of Economics. – 1999. – Vol. 101 (2). – P. 297–314.
10. Koshulko, O. Human Resources Management at Food Retail Industry. – Manuscript : The dissertation on gaining the Economic Sciences Candidate degree on the speciality : 08.00.04 – economics and management of enterprises / O. Koshulko ; National University of Food Technologies. – Kyiv, 2008.
11. Koshulko, O. Human capital depreciation of female immigrants and ways to restore lost human capital / O. Koshulko // MEST Journal. – Belgrade, Serbia, 2018. – 15 Jan. – Vol. 6 (1). – P. 27–33.
12. Koshulko, O. Children of female immigrants in Turkey: numerical analysis of data / O. Koshulko // International Scientific Journal World Scientific News. – Katowice, Poland, 2017. – Vol. 90. – P. 88–100.
13. Koshulko, O. Research into the dilemmas concerning the employment of immigrants in their professions abroad and the depreciation or restoration of their human capital / O. Koshulko // Dilemmas of scientific research in various fields of science: natural sciences, science and technology, economic and social sciences, humanistic sciences : Proceedings of the 3rd International Scientific Conference ; Katowice Institute of Information Technologies // World Scientific News : International Scientific Journal. – Vol. 89, November, 24, 2017. – Katowice, Poland, 2017. – P. 8–15.
14. Koshulko, O. Slavic women in Turkey: from past to present / O. Koshulko // Gecmisten Gunumuze Goc – Migration from Past to Present Proceedings of the 7th International Symposium, February 17–19, 2017 ; organized by Canik Municipality together with History Studies Journal ; Canik, Samsun, Turkey. – 2017. – P. 2117–2124.
15. Koshulko, O. Challenges of Ukrainian female immigrants and their children in host countries / O. Koshulko // European and national dimension in research. Humanities: Electronic collected materials of IX Junior Researchers' Conference, Novopolotsk, April 26–27, 2017. – P. 110–113 / Polotsk State University ; ed. D. Lazouski [et al.]. – Novopolotsk, 2017. – 1 CD-ROM.
16. Koshulko, O. Women from North move to South: Contemporary migration from the Former Soviet Union countries to Turkey [Electronic resource] / O. Koshulko // Transnational Press London Ltd., UK, 2017. – 126 p. – Mode of access: http://http://www.tplondon.com/books/koshulko.
17. Koshulko, O. Discourse about Women-Immigrants from Former Soviet Union Countries as a Special Social Group in Turkey / O. Koshulko, V. Kobets // Gender in Transnational Societies: Feminist Scholarship and Personal Narratives by Rujuta Chincholkar-Mandelia and Moiyattu Banya ; Cognella Academic Publishing, San Diego, USA, 2016. – P. 165–167.

18. Koshulko, O. The role of Ukrainians in the economic growth of Poland / O. Koshulko, V. Koshulko // An International Research On-line Journal World Scientific News (Poland). – 2016. – Vol. 42, Feb. – P. 256–266.
19. Koshulko, O. Gender inequality as one of the largest problems of Slavic women in Islamic world / O. Koshulko // Gender and communicative behavior Proceedings of the 6th International Conference, Polotsk State University, Polotsk, Republic of Belarus, October 27–28, 2016.
20. Koshulko, O. Reflections on the features of accumulation of the Human Capital of representatives of female and male genders / O. Koshulko // Economic Theory of the XXI century: Search for Effective Mechanisms of Economic Management : Proceedings of the II International Scientific Conference, Polotsk State University, Polotsk, Republic of Belarus, October 20–21, 2016. – P. 78–81.
21. Koshulko, O. Ukrainians in the Light of Migration Crisis in Europe / O. Koshulko // Human rights – contemporary threats and challenges / O. Koshulko : Proceedings of the International Workshop ; Faculty of Law, Administration and Economics, University of Wroclaw, Wroclaw, Poland, May 30–31, 2016.
22. Koshulko, O. Exploring of the Human Capital Depreciation of Ukrainian Labor Migrants Abroad: of a Survey / O. Koshulko // International Letters of Social and Humanistic Sciences. – 2015. – Vol. 64, Nov. – P. 66–72.
23. Koshulko, O. Issues in countries of the former Soviet Union as the driving force for female migration to Turkey / O. Koshulko, G. Onkal // International Letters of Social and Humanistic Sciences. – 2015. – Vol. 56. – P. 120–126.
24. Koshulko, O. The "Value of Life and Labor" of Ukrainian Migrants Abroad [Electronic resource] / O. Koshulko, G. Onkal // International Letters of Social and Humanistic Sciences. – 2015. – Vol. 59, Sep. – P. 1–8. SciPress Ltd., Switzerland. – Mode of access: http://www.scipress.com/ILSHS.59.1.
25. Koshulko, O. The positive and negative aspects of Ukrainian labor migration for Ukraine and Receiving Countries / O. Koshulko // How the International Migration is shaping the Contemporary Society? : Proceedings of the 10th International Conference of the Albanian Institute of Sociology (AIS) ; Ed. by Elda Sokoli Kutrolli, Naile Demiri. AAB College. Prishtina, Kosovo, November 20–21. – 2015. – P. 17–18.
26. Lowell, B.L. Skilled Migration Abroad or Human Capital Flight? [Electronic resource] / B.L. Lowell // Migration Policy.org. – Mode of access: http://www.migrationpolicy.org/article/skilled-migration-abroad-or-human-capital-flight.
27. McFadden, D. Human Capital Accumulation and Depreciation / D. McFadden // Applied Economic Perspectives and Policy. – 2008. – Vol. 30 (3). – P. 379–385.
28. Salmonsson, L. Cultural demands on skilled immigrants, a devaluation of human capital. The case of immigrant physicians in Sweden / L. Salmonsson, O. Mella // Nordic Journal of Migration Research. – 2013. – Vol. 3 (1). – P. 3–9.
29. Weber, S. Human capital depreciation and education level / S. Weber // International Journal of Manpower. – 2014. – Vol. 35 (5). – P. 613–642.

ПОТЕРЯ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА КВАЛИФИЦИРОВАННЫМИ СПЕЦИАЛИСТАМИ, РАБОТАЮЩИМИ КАК ТРУДОВЫЕ МИГРАНТЫ ЗА РУБЕЖОМ: НАУЧНЫЙ ВЗГЛЯД

канд. экон. наук, доц. О.П. КОШУЛЬКО
(Полоцкий государственный университет)

Представлена модель потери человеческого капитала трудовыми мигрантами за рубежом. Исследование также представляет пример расчета объема потерянного человеческого капитала квалифицированным специалистом, который работает трудовым мигрантом в принимающей стране. Для расчета этого примера был использован коэффициент потери человеческого капитала, предложенный испанскими учеными А. Арразола и Дж. Хевия. Данная статья является продолжением серии публикаций о трудовой, международной и женской миграции за границей за последние годы.

Ключевые слова: модель потери человеческого капитала, трудовые мигранты, принимающие страны, квалифицированные специалисты.