

Migrants' motivations and intentions to work virtually for their country of origin

Abstract

Purpose – We investigate empirically emigrants' intentions and motivations to work virtually for their country of origin. The study focuses on a country with substantial, persistent emigration and explores theories of diaspora investment motivation and virtual work characteristics.

Design/methodology/approach – An exploratory questionnaire survey on migrants' intentions and motivations to work virtually for their country of origin was conducted in late 2016 on 3,022 respondents, all emigrants from Lithuania.

Findings – Migrants are more likely to engage in virtual work for their country of origin when they experience negative career satisfaction, perceive the country of origin as their home country, belong to a recent wave of migration, and possess occupational skills commonly employed in virtual work.

Originality/Value – Our research is a starting point for studies connecting diaspora motivation and their linkage to virtual work as a mean of human capital gain for the country of origin. The findings inform the conceptual model of virtual workplaces of Kumpikaitė-Valiūnienė *et al.* (2014) in relation to migrants, and support Nielsen and Riddle's (2010) migrant diaspora investment motivation theory. We have identified some of the main factors which have theoretical and empirical import for future study. This research topic and new related studies on diasporas have the potential to contribute to the fields of migration, human resource management (HRM), and work and career studies.

Keywords: Migrants' motivations, migrants' diaspora motivations, migrants' country of origin, virtual work, human capital, brain drain.

Paper type – research paper

Introduction

Processes of globalisation and the internationalisation of labour have greatly increased the size and diversity of migrant populations working abroad. The mobility of people between different regions affects human capital accumulation and the economic development of the respective regions and locations (Gruenhagen, 2019; Pais *et al.*, 2018). A vibrant stream of literature from different national perspectives has emerged on human capital. Studies within this school of thought typically refer to human capital in terms of 'brain drain and brain gain' (Ndiangui, 2020; Gruenhagen, 2019; Al Ariss and Syed, 2011; Carr *et al.*, 2005). Whenever skilled citizens move to another country, the countries of origin that invested in the education of their emigrants lose human capital, with few benefits accruing to their national economies (Panagiotakopoulos, 2020; Beine *et al.*, 2011). By contrast, when migrants return to their country of origin, potentially it instigates a positive change for the economy, transforming it from 'brain drain' to 'brain gain' (Yanbin *et al.*, 2020; Gruenhagen, 2019; Teney, 2019; Stark, 2004). However, in practice, these human capital gains are relatively rare. Only a small proportion of the total number of migrants actually return permanently to their countries of origin (Teney, 2019; Kumpikaitė-Valiūnienė and Žičkutė, 2017; Galgóczi *et al.*, 2009). Ease of mobility has led to increasing shortages of skilled labour for countries of origin, especially in the EU, where an internal market for the free movement of people is applied (Boc, 2020;

Teney, 2019). The Schengen Area facilitates travelling without visas and makes it possible to be employed in any member country of the EU). This labour market flexibility has led to increased internal migration; for example, 1.9 million people previously residing in one EU member state migrated to another EU member state in 2017 (Eurostat, 2019). Whereas some countries maintain high levels of immigration, such as the US, Canada and Australia, the EU is characterised by considerable, persistent heterogeneity in national levels of internal migration (Bell *et al.*, 2015). Within the EU, older members with relatively strong economies, such as Germany and the United Kingdom (UK), usually receive the largest numbers of immigrants and brain gain. Newer EU state countries, often with weaker economies – typically in eastern and southern Europe (e.g. Latvia, Lithuania, Poland and Romania) – suffer from high levels of emigration and brain drain.

Therefore, given these matters of brain drain and brain gain, the question arises as to how countries of origin can benefit from their migrant citizens while they are residing and working in host countries. Carr *et al.* (2005) declared that any country of origin potentially might gain from migrants' knowledge, not only after their return, but during their residency abroad. They proposed that knowledge can be transferred from the host country to the country of origin by engaging offshore diasporas in work facilitated by information and communication technologies.

The increasing prevalence of the Internet and information and communication technologies has expanded the potential for virtual work. Implementation of technology tools has become more commonplace in many workplaces. A study by Citrix Systems (2012) found that 90% of employers in the US, 85% in China, 77% in India, 72% in the UK and 71% in France and Germany provide virtual work alternatives for some of their employees. Several studies (e.g.

Zuhair *et al.*, 2015; Harvey, 2012; Janta, 2011) have asserted that virtual work by migrants for organisations in their countries of origin has positive social and economic benefits. These countries can gain from migrants' knowledge and experience through virtual work arrangements. On the topic of deriving returns from human capital, Kumpikaitė-Valiūnienė *et al.* (2014) proposed a conceptual model of the role of virtual workplaces in relation to expatriates' mobility. This is based on the idea of organisations acting entrepreneurially and seeking person-organisation fit to achieve mutual gains through technology-facilitated virtual work. Therefore, in this research study, we aim to examine how countries of origin can benefit from emigrants' residing in host countries and participating in virtual work for organisations in their home countries.

However, the question still arises as to whether groups of emigrants are willing and motivated to work virtually for their country of origin. Hudson (2005) noted that it is common for some groups of migrants to express a socialised sense of 'homeland duty'; some even consider it a moral responsibility to contribute to their country of origin. According to Macpherson (1994), the commitment of emigrants varies according to their willingness to invest in physical, intellectual, social and cultural capital in their home communities. Saxenian (2006) contended that migrants can function as transnational knowledge linkages between their countries of origin and the host countries. Building on these ideas, Nielsen and Riddle (2010) proposed a theory of diaspora investment motivation. However, currently there is a gap in the literature on migrants' motivations and intentions to transfer their knowledge to the country of origin through working virtually for organisations (Kumpikaitė-Valiūnienė *et al.*, 2017). We acknowledge that of the groups of migrants who espouse a sense of 'homeland duty', some still might not have the ability or motivation to contribute. Thus, we explore this

phenomenon in more detail in our research. Consequently, the purpose of this paper is to investigate empirically citizens' intentions and motivations to work virtually for their country of origin when it faces substantial emigration and 'brain drain'.

We argue that virtual work by migrants for their countries of origin could be a means of human capital gain for these countries' economies, achieved primarily through knowledge transfer using information technologies (Carr *et al.*, 2005). Using the conceptual model of virtual work by migrants of Kumpikaitė-Valiūnienė *et al.* (2014) and migrant diaspora investment motivation theory (Nielsen and Riddle, 2010), our study offers a point of departure for future research. There is a need for more knowledge on diasporas' motivations to work virtually for organisations in their countries of origin, particularly migrants' potential for making human capital gains. Researching this problem and related studies on diaspora can contribute to the literature on migration, work and careers.

Different approaches to migrants and self-initiated expatriates are adopted in the academic literature (see Hajro *et al.*, 2019; McNulty and Brewster, 2016; Pinnington *et al.*, 2015; Andresen *et al.*, 2014; Cerdin and Selmer, 2014; Andresen *et al.*, 2012; Al Ariss, 2012, 2010). In our research sample, we include groups of people who are not active participants in the labour markets of their countries of origin primarily because they are residing and working abroad. We adopt an approach similar to Andresen *et al.* (2012; 2014), considering all survey respondents living outside of the country of origin as migrants, whether they are full-time or part-time employed, students, retired, unemployed or people caring for dependents and, therefore, not participating in the labour market. Given that this study concentrates mainly on a sample of migrants who are legally employed, living temporarily abroad and not possessing citizenship of the host country, they can be defined as expatriates (McNulty and Brewster,

2016; Andresen et al., 2014). Therefore, we review the relevant literature on migration and expatriation.

The structure of this paper consists of a literature review of migrants' motivations and intentions to contribute to their countries of origin. Then we present the research model and hypotheses, followed by the research methodology and the empirical research. Finally, we discuss the results and provide a conclusion on migrants' career motivations and intentions to work virtually, highlighting the theoretical implications for researchers and the issues important to policymakers, organisations and migrants.

Literature Review – theoretical background and hypotheses

Virtual work and migration

The increasing use of information and communication technologies (ICT) has opened up new horizons for organisations in creating and gaining access to new markets (Wasko *et al.*, 2011), as well as offering new ways of running businesses through virtual ventures (Wasko *et al.*, 2011; Pihkala *et al.*, 1999), virtual teams (Breuer *et al.*, 2020; Matlay and Westhead, 2005; Townsend *et al.*, 1998), virtual employees (Merriman *et al.*, 2007) and virtual work (Koslowski *et al.*, 2017). A recent study by Howtington (2019) found that accountants, engineers, teacher/researchers, writers and consultants are the most sought after occupations for virtual work employment.

Nearly 20 years ago, Wiesenfeld *et al.* (2001: 213) stated: 'virtual work, whereby individuals work from home, "on the road," or otherwise outside of traditional centralized offices, is an important and growing phenomenon'. Due to ICT's capacity to support variability in geographical locations, time schedules and patterns of use, virtual work offers

employees greater work flexibility and job autonomy, both of which are fundamental to the emergence and growth of competitive, entrepreneurial organisations (Koslowski *et al.*, 2017; Johl *et al.*, 2010; O'Neil *et al.*, 2009). Based on a model of person and organisation fit and the virtual work characteristics developed by Kumpikaitė-Valiūnienė *et al.* (2014), and consistent with Williams' (2007) argument that virtual work enables migrants to transfer distinctive knowledge across borders, it is feasible to postulate that organisations in migrants' countries of origin can benefit from migrants' knowledge. Therefore, for all of the above reasons, it is important to explore migrants' motivations and intentions to work virtually for their country of origin.

Motivation and willingness of migrants to contribute to their country of origin

Nielsen and Riddle (2007: 4) found some evidence that psychological altruistic feelings or personal moral convictions influence a number of individuals to invest in socially responsible companies where 'profit maximization is not the foremost concern'. The theory of diaspora investment motivation claims that migrants can be significantly motivated and show interest in investing in the country of origin not just financially but socially and emotionally (Nielsen and Riddle, 2010, p. 437): 'Some diasporans may be interested in investing in their countries of origin because they expect a financial return; others may be motivated by the potential emotional satisfaction they might receive; and still others may be driven by the possibility of social-status recognition from within their diaspora communities and organizations.' In addition, these authors note that diasporans can be simultaneously motivated by more than one type of investment. The majority of studies on financial benefits in the investment literature do not attend to the emotional and social aspects of investment (Van de Laar and de

Neubourg, 2006). Several studies confirm though that migrants can be motivated by economic and social factors. The explicit rewards of higher wages and standards of living and implicit rewards such as increased opportunities for self-development and recognition can all be significant (see Kumpikaitė-Valiūnienė and Žičkutė, 2017; Kumpikaitė-Valiūnienė *et al.*, 2017; Mihi-Ramírez *et al.*, 2017; Creehan 2001).

The conceptual model of virtual work in relation to expatriates' mobility of Kumpikaitė-Valiūnienė *et al.* (2014) incorporates a range of economic, social and personal considerations. The different combinations of these factors which might influence employees' willingness to work virtually can be explored empirically. As indicated earlier, the diaspora investment motivation theory proposed by Nielsen and Riddle (2010) is one possible way forward for researchers. Indeed, many migrants who periodically express some degree of nostalgia for their countries of origin might be willing to contribute some of their human capital resources (Vamuri, 2014) through virtual work. These issues are evaluated in more depth in the next section.

Types of contribution by migrants to their countries of origin

Highly skilled migrants contribute to their countries of origin by sending remittances, making investments, facilitating trade relations, creating new knowledge, inspiring more innovation, and communicating value-creating attitudes, technical and business ideas (De Has, 2010). The most common form of migrant contribution is remittances (Vaaler, 2011; Mirabaud, 2009). These generate flows of economic resources, usually gifts and income sent by migrants to their countries of origin. Adger *et al.* (2002: 2) contended: 'Within the complex effect of migration on economies and societies, it is clear that remittance income has offsetting impacts on social stability and economic well-being.' The main benefits of

remittances for countries of origin are extra income and growth in the GDP of the recipient country. In addition to remittances, countries of origin benefit from migrants when they return for their holidays. Money spent by migrant tourists during their holidays in the country of origin constitutes an important source of revenue, contributing to the country's development (Riddle, 2016; Scheyvens, 2007). Whereas the majority of scholars debate the economic and social benefits of remittances by migrants to their countries of origin, other kinds of investments are also important. Over the last two decades, there has been growing interest in human mobility and knowledge transfer (Argote and Ingram, 2000). Recent studies are concentrating less on remittances and more on knowledge transfer and 'brain circulation' (Öhlander *et al.*, 2020; Gruenhagen, 2019; Park, 2019; Xiang 2016). Carr *et al.* (2005, p. 388) categorised migrants' transfer of knowledge and 'brain gain' into three groups:

1. Formation of new knowledge capital arising from migrants' transferring their knowledge and skills gained from working abroad after returning to their countries of origin. For example, after periods of working abroad, some migrants start up new business ventures in their countries of origin (Riddle *et al.*, 2008). Many migrants acquire new knowledge, skills and valuable work experience which can be utilised in their countries of origin (Williams and Baláž, 2008). Some returning migrants have played important roles in reforming domestic policies in their countries of origin (Boc, 2020, Massey *et al.*, 1998). Adger *et al.* (2002) concluded that remittances and investments contribute to developing improved family, work and societal wellbeing in countries of origin and thus have an important socio-political dimension.

2. The term 'brain circulation' was recently devised (White, 2016) to draw attention to dynamic and creative interactions between immigrants and their hosts (Marsella, 1998; Xiang, 2016).
3. Knowledge transfer is frequently mediated by electronic communications. Wenger (1998) and Amin (2002) have both emphasised the importance of technology infrastructures and tools. This type of knowledge, according to Cervantes and Guellec (2002), creates and connects diasporas using modern technology, sharing their career capital between the receiving country and the country of origin. This is consistent with our proposition that migrants can contribute their knowledge to their country of origin by working virtually.

Migrants' career satisfaction and their intentions to return

A career has been defined as the set of an individual's life and work movements through social structures over time (Mayhofer *et al.*, 2007) and career success as 'the positive psychological or work-related outcomes or achievements one accumulates as a result of work experiences' (Seibert *et al.*, 1999: 417). Success can be measured according to objective or subjective success. Subjective success includes a person's evaluation of his/her career. In career studies, it is known as 'career satisfaction' (Cao *et al.*, 2012).

Comparing traditional with modern careers, the modern career is marked by high mobility and multi directionality (Baruch and Ries, 2016; Lyons *et al.*, 2012; Ramboarison-Lalao *et al.*, 2012; Al Ariss and Syed, 2011). Individuals who understand these career dynamics strive to maximise the career benefits to be derived from international work for advancing their career prospects (Cao *et al.*, 2012). Consequently, some migrants seek to develop their careers

by increasing their career capital when they are abroad and after they return to their countries of origin (Ramboarison-Lalao *et al.*, 2012).

However, corresponding with modern multidirectional career trajectories, Baruch (2004) notes that migrants face career changes not only upwards, but also laterally and even experience downwards career moves, quite often not having the opportunities to apply their high skills. At the same time, many migrants are familiar with virtual technologies at work and in the home, using them for maintaining relationships with relatives and social networks in different countries and regions. Therefore, virtual workplaces are potentially productive environments for fostering cooperation between migrants and organisations, offering benefits to both parties (Kumpikaitė-Valiūnienė *et al.*, 2017 and Kumpikaitė-Valiūnienė *et al.*, 2014).

Some of the reasons for making lateral or downward career moves might be to facilitate career advancement in the future and better personal or family welfare and individual development. The modern career model predicts positive migrant expectations for the short and long term. This developmental aspect to careers led McHugh, Hogan and Happel (1995) and Bite, Szombathelyi and Vasa (2020) to propose the possibility of cyclical migration, where individuals move to new destinations or return to the country of origin and later move again to yet another destination. Specifically downward career moves might be connected to discrimination or lack of equivalency and poor understanding based on differing evaluations of professional and educational qualifications, country-specific processes of qualification accreditation as well as varied processes of personnel selection by the employing organisations of receiving countries (Carr *et al.*, 2005). These and other factors contribute to skilled migrants' underemployment (Al Ariss, 2010), creating job dissatisfaction, low self-esteem and reduced levels of job performance (Bergbom *et al.*, 2015; Lee, 2005). Thus,

according to Borjas (1989), return migration is more likely to occur in groups of migrants not satisfied with their work abroad. Exploring the case of Lithuania, Kumpikaitė-Valiūnienė (2019) and Kumpikaitė-Valiūnienė et al. (2017) noted that migrants' preferences for specific countries depend on multiple factors which sometimes are for financial reasons and in other cases are associated with career, family and social considerations. The time spent in various countries varies too.

Intention to return is of considerable social and economic importance to migrants' home countries since it is known that those intending to return are more likely to invest their resources in their countries of origin (Ahlburg and Brown, 1998). However, Portes *et al.* (2002) observed that many diaspora investors do not return home for permanent repatriation, more often becoming transnational migrants. When examining studies on migrants' intention to return home, it is evident that a substantial proportion of migrants do not possess any strong intentions to go back to their countries of origin (Al Ariss, 2010; Gustafson, 2008). Only a small proportion expresses return intentions (Arguillas and Williams, 2010). These differences in intention and mobility are influenced by what encourages migrants to emigrate and their relative levels of satisfaction with circumstances in their host countries. The group of migrants with comparatively high human capital and valuable skills on global labour markets rarely intend to return home during their migrant careers (Kumpikaitė-Valiūnienė and Žičkutė, 2017; Ahlburg and Brown, 1998). A recent study on Polish migrants in Germany conducted by Teney (2019) reveals that 37% of respondents intend to stay abroad indefinitely while a further 4.6% plan to remain for 11-50 years and 23.6% for up to 10 years, with 34.8% replying that they do not know yet. The existence of large groups of migrants with low

intentions to return is likely to exacerbate long-term problems related to loss of human capital and ‘brain drain’ in their countries of origin unless other significant factors intervene.

Gustafson (2008) observed that migrants hold differing levels of emotional attachment to their home and host countries, often perceiving the host country as another home country for significant periods of their lives. Emotional attachment is an important factor to consider when assessing migrants’ responses to opportunities to work virtually for their countries of origin. Kumpikaitė-Valiūnienė and Žičkutė (2017) found that people who had recently moved abroad were more emotionally connected with their country of origin and demonstrated a higher willingness to return. However, some older survey respondents also indicate stronger intentions to return, seeking to reside in their countries of origin after retirement.

Based on the above literature review, one can identify a group of factors that can be included in future research studies. Downwards or lateral career change, level of career satisfaction, migrants’ emotional attachment to host, home or both countries, their intention and plans to re-emigrate and the attractiveness of their host country of residence all might affect migrants’ motivations and intentions to work virtually for their countries of origin. Consequently, we formulate the following hypotheses:

H1a: Lateral and downward (‘non-upwards’) career moves in migration are positively associated with the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

H1b: Positive career satisfaction is negatively associated with the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

H2a: Country of origin perceived as the home country is positively associated with the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

H2b: Intention to re-emigrate is positively associated with the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

H3: Migrants from later waves of migration have a higher probability of motivation to work virtually for the country of origin and a higher probability of intention to work virtually for the country of origin.

H4: The host country plays a role in the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

H5: Skill in a possible occupational field of virtual work contributes to the probability of motivation to work virtually for the country of origin and the probability of intention to work virtually for the country of origin.

Research methodology

Context of the empirical research

This questionnaire survey research was conducted on a sample of migrants from Lithuania. Lithuania is a member of the EU, where the free movement of people, goods and services is applied and where large numbers of workers from eastern countries in the union migrate to the western states (Teney, 2019). Located in the Baltic region of north-eastern Europe, Lithuania has less than 2.8 million inhabitants. Over the last 27 years, it has undergone one of

the highest rates of emigration in the EU. Lithuania has a demographically aging population as well as a history of ‘brain drain’, having lost many of its highly qualified workers as emigrants to other countries. It lost 707,000 citizens to emigration during the period 1990-2017 (Migration in numbers, 2018). Based on information provided by Statistics Lithuania (2019), around 47% of citizens in Lithuania are males and the gender distribution of emigrants has remained almost equal. The lowest proportion of female emigrants was 45.43%, in 2015, and the highest amount was 52.90%, in 2005 (Statistics Lithuania, 2019).

According to Kumpikaitė-Valiūnienė (2019), migration from Lithuania since 1990 has undergone four main waves (see Figure 1): post-independence (1990-2003); economic prosperity after joining the EU (May 2004-2008); economic crisis (2009-2014) and difficult economic conditions since joining the Eurozone (2015-present date). According to Statistics Lithuania (2019), presented in Figure 1, in times of relative economic prosperity in Lithuania, for example, between 2004 and 2009, the annual number of migrants was approximately 16,000. However, in periods of high unemployment and economic downturn, the number of migrants is often much higher with 83,000 Lithuanians leaving their country in 2010 and 54,000 in 2011. Comparatively high rates of migration have continued in recent years (36,621 citizens left Lithuania in 2014 and 44,533 in 2015).

Migrants from the most recent waves actively maintain relationships with people and organisations in Lithuania (Kumpikaitė-Valiūnienė, 2019). Hence, virtual work could be an option for supporting relationships, with Lithuanian migrants living in host countries simultaneously promoting the potential of future career possibilities in their country of origin.

Place Figure 1 here

The UK, Ireland, Germany, Norway, the US and Spain have been the main destination countries of Lithuanian migrants. The popularity of the UK increased dramatically when Lithuania joined the EU while the relative popularity of the US decreased (see Kumpikaitė-Valiūnienė, 2019). Later on, the popularity of Norway began to grow during the 2008 world economic crisis. It is evident that Lithuanian migrants select destination countries of similar or higher living standards and a similar cultural environment, but country settings vary and can influence the relationship with the country of origin as well as migrants' motivations and intentions to work virtually. Furthermore, the occupational field of virtual work can influence the probability of participating in atypical forms of work.

Lithuania has one of the highest quality Internet communications technologies in the world (Speedtest Global Index, 2020; Shaffer, 2017) and provides excellent connections for emigrants with any western country and many other locations worldwide. While the development of the Internet increased access to work and provides the means to complete many work tasks, the organisational culture and work environment can influence the extent of uptake of virtual working. For example, the degree of virtuality in organisations and different fields in Estonia is described as medium to high (see Mihhailova *et al.*, 2011). In comparison, Lithuanian organisations report lower usage of virtual workplaces (Duobiene *et al.*, 2015), so a lower degree of virtuality is present than it is in organisations in at least one of the other Baltic states.

Overall, Lithuania is a classic case of a country experiencing a constant loss of skilled migrants and a shortage of employees due to many young and well-qualified citizens emigrating to other, often more prosperous, larger national economies. Thus, our research question about the willingness and capacity of migrants to work virtually for their country of origin is particularly relevant to this country context.

Based on the literature and the formulated hypotheses, the research model is presented in Figure 2.

Place Figure 2 here

Measures

Our survey research is an exploratory study on migrants' motivations and intentions to work virtually for their countries of origin. This issue has not been addressed before; however, a review of the related literature enables us to formulate hypotheses, which we test and then report on. A set of single-item multiple choice response questions was developed. We acknowledge this limitation in our initial research design and also that in many studies, group item scales have been found to be valid and reliable. In a number of empirical studies, single-question item measures also have been employed. These too have been found to be valid and reliable and, at the same time, provided simplicity (Bowling, 2005). In addition, because of the exploratory nature of our research and situational constraints, such as measuring solely respondents' overall situations as well as considering time and cost matters,

our team agreed to implement single question items for several key concepts and their constructs (McKenzie and Marks, 1999; Wanous *et al.*, 1997).

Willingness to return (i.e. return migration to the country of origin) and intention to work virtually were measured separately by nominal questions that were recoded as dichotomous variables. Willingness to return to the country of origin was measured on the basis of research published by Teney (2019), Al Ariss (2010) and Arquillas and Williams (2010). We asked respondents about their willingness to return. Answers were dichotomous and coded 0 as 'I would not be interested', and 1 as 'I would be interested'. The question about intention to work virtually was based on Nielsen and Riddle's (2010) theory of motivation and William's (2007) theoretical insight about knowledge transfer in the case of migrants. We asked respondents about their motives for virtual work. Answers were reported on a nominal scale with several possibilities which were transformed into a dichotomous variable (0 = no benefits, 1 = various benefits) and used as a variable for measuring intention to work virtually.

The independent variables included career satisfaction, career change, perceived home country and willingness to return to the country of origin. The concept of career satisfaction was measured by a single-item question, identifying the overall career satisfaction of the respondents based on 'perceived achievements individuals have accumulated as a result of their work experiences' (Judge *et al.*, 1999: 621). The answers were coded as a dichotomous variable (0 = not satisfied, 1 = satisfied). Similarly, plans to return to the country of origin were summarised as the variables of two categories (see Table II for categories). Career change was based on upward, lateral and downward career moves for migrants (Baruch, 2004;

Al Ariss, 2010). The variables on career change were calculated by the difference between the reported previous position in country of origin and the current position in the host country, coded as a three-rank scale (upwards, lateral and downwards). Lists of professions were used based on the Lithuanian classification of occupations used in the study by Kumpikaitė-Valiūnienė and Žičkutė (2017). Perceived home country was reported in four categories (according to Kumpikaitė-Valiūnienė and Žičkutė, 2017), which were merged into two new ones (0 = foreign country or none, that is, not Lithuania, 1 = country of origin or both, that includes Lithuania).

Contextual independent variables were created for the waves of Lithuanian migration (according to Kumpikaitė-Valiūnienė, 2019), country of residence as a host country and the possible field of virtual work (according to Howington, 2019). A variable for measuring the waves of Lithuanian migration included four migration waves after 1990 and another one before that. Answers were coded on a 5 -rank scale, with the last wave ranked 5. Country of residence was measured by nominal answers, selecting the country name from the list. The possible field of virtual work was calculated into two categories (0 = no possible virtual work field, 1 = possible virtual work field is known) from the nominal answers from the list of the most common work fields. Respondents were able to mark more than one possible field and could also select an open-ended option for providing further explanation. Age, gender and education were included as control variables.

Sample and procedure

Based on the population size of emigrants from Lithuania, which is 707,000 (Statistics Lithuania, 2016), the sample size should be 666 respondents, with a confidence level of 99%

and a margin of error of 5% or 1,854 respondents with a confidence level of 99% and a margin of error of 3%.

The data were collected through a survey study conducted online for six weeks, from October 23 until December 5, 2016. The link for the questionnaire was delivered through social media and web pages used by migrants and expatriates. In total, 3,022 respondents completed the questionnaire during the data collection period. The respondents were migrants who are resident in a large number of different countries; however, they are mainly from Europe and North America, with Asia, Africa and South America under-represented, as shown in Table I.

Even though the majority of the respondents were females (76.7%), it should be noted that there were 703 male respondents who participated in the survey. This constitutes a sufficient and representative sample, with a confidence level of 99% and margin of error of 5%. 76% of the sample was in the commonly employable age range of 20-39 years. Their countries of current residency reflect the principal target destinations of recent emigration flows from Lithuania. The UK and Ireland have been the most popular destinations over the last 20 years and this popularity is correspondingly represented in the sample. The rising attractiveness of Norway and other Nordic country destinations (Denmark, Sweden and other northern countries) is the theme of increased Lithuanian emigration over the last few years. Respondents from these countries represented 16% and 12% of the sample, respectively. Germany and the US are now less popular target destinations than they were during the previous two decades. The sample includes 8% of respondents living in Germany and 6% in the US. The remaining respondents are spread across the world and cover 3% of the sample. The UK, Ireland, Germany, Norway, the US and Spain are the main destination countries,

according to the Statistical Office of Lithuania. However, there are changes in the relative popularity of destination countries. As mentioned above, the rate of migration to Norway is increasing (starting in 2009) and the US was a more popular destination prior to Lithuania becoming a member of the EU in 2004. After Lithuania joined the EU, the rate of migration to the UK increased dramatically.

Place Table I here

Results

51.9% of migrant respondents stated that they would be interested in virtual working, 17.5% were not interested and 6.8% of respondents indicated they would not be able to work virtually. In addition, 20.7% were undecided. So, half of the sample was interested. Consulting (36.2%) was found to be the main area of work which the highest number of respondents answered could be delivered virtually. Translation (14.2%) came second and accounting (8.3%) third. In terms of motivation, 50.5% of respondents would work virtually for 'Extra money', 13.8% 'To be in touch with homeland', and 14.9% because 'It would help to get a job easier if I decide to return to Lithuania'. In addition, some migrants indicated that they would work in order to help their homeland or for reasons of self-development.

52.7% of respondents emigrated from Lithuania after the economic crisis (2009-2014), 18.8% after 2015, and 17.6% between 2004 (when Lithuania joined the EU) and 2008, and the remainder of respondents left before 2004. The top five destination countries for the

participants are: UK (32.1%), Norway (17.3%), Germany (8.8%), Ireland (6.8%) and Denmark (5.4%). This distribution represents patterns of migration mainly for the last 10 years. 10% of respondents had plans to return to Lithuania if they could still earn money and 11.3% only after retirement. 17.1% of respondents perceived their home country as Lithuania, 35.1% responded that both countries were now their home and 45.5% described their country of residence as now their home country. 20% of those who perceived Lithuania as their home country had plans for remigration home. In addition, 65.6% of respondents were satisfied with their career abroad and only 11.9% had plans to return home. 12.2% of the respondents who were not happy with their career had plans for remigration.

Place Table II here

Cross-tabulation of the control variables gender, age and education found no significant differences in perceptions of the home country and career satisfaction among the respondents of different education levels. However, a greater proportion of women reported satisfaction with their careers ($\chi^2=24.1, p < 0.01$) and were willing to work virtually for their country of origin ($\chi^2=7.2, p < 0.05$). Males and females perceived their country of origin similarly (the differences were non-significant); however, females had significantly fewer plans to re-emigrate ($\chi^2=15.8, p < 0.01$) and a higher motivation to work virtually ($\chi^2=25.7, p < 0.01$). Thus, there is some evidence that females are more interested in virtual work for their country of origin. Progressively fewer numbers of respondents have plans to re-emigrate the older

their age category; in addition, they are more willing to work virtually and are more satisfied with their careers.

Cross-tabulation of intention to work virtually and motivation to work virtually for most of the tested variables revealed positive and significant differences (see Table III). Although career change, plans to re-emigrate and country of residence have differences in the case of intention to work virtually, these only had a p value 0.1 significance level while their differences in case of motivation were significant, with a p value of 0.05 or 0.01.

Place Table III here

A bivariate probit model was created on motivation to work virtually and intention to work virtually for the country of origin with career satisfaction, career change, plans to re-emigrate, perceived home country and possible field of virtual work as independent variables (models 1 and 2; see Table IV) plus wave of migration, country of residence as independent contextual variables (models 3 and 4, see Table IV), and level of education, age and gender as control variables (models 5 and 6, see Table IV). The bivariate probit model is based on a system of simultaneous probit equations. In our case, we have two probit equations, one for motivation to work virtually and one for intention to work virtually. The choice between a univariate and a bivariate probit model depends on the correlation between the error terms of the two equations. If there is a statistically significant correlation, it means that there are unobserved

factors which affect both equations, and, in this case, the bivariate probit model is the preferable model to use. However, if there was no statistically significant correlation between the two equations, a univariate probit model would be the right model to use. Our results show that in all bivariate models, the hypothesis is rejected that the correlation ρ is equal to zero. This means that the correlation ρ between the two equations is statistically significant at 1%, which strongly supports the use of the bivariate probit model.

Place Table IV here

In all six models, one of the main independent variables, that is, perceived home country, is significantly and positively related to both probability of motivation to work virtually and probability of intention to work virtually. This result can be explained by probability of motivation to work virtually and probability of intention to work virtually being higher for Lithuania or both countries compared to abroad or ‘nowhere’. Therefore, H2a is confirmed.

Planning to re-emigrate is negative and significant in models 3 and 5, suggesting that the probability of intention to work virtually is lower for those who have a plan to re-emigrate relative to those who do not have a plan to re-emigrate. It is not significant in model 1, and model 1 is not as good a fit as model 3 and 5 since they have lower AIC and BIC than model 1. Therefore, we can conclude that the plan to re-emigrate is significantly and negatively

related to probability of intention to work virtually. Therefore, H2b is not confirmed (i.e. intention to work virtually).

Career satisfaction is negative and significant in all models, suggesting that both the probability of motivation to work virtually and the probability of intention to work virtually are lower for those who are satisfied relative to those who are not. Therefore, H1b is confirmed for career satisfaction but H1a for career change is not confirmed since lateral and downward career moves were not statistically significant in all models.

Wave of immigration is positive and significant in model 4, suggesting that the probability of motivation to work virtually is higher for the third wave of immigrants compared to the first wave of immigrants. H3 is partly confirmed.

Country of residence was significant and positive in model 3 and 5 for 'Other countries', suggesting that probability of intention to work virtually is higher for those who indicated 'Other countries' as country of residence compared to those who indicated Ireland as country of residence. Country of residence was significant and positive in models 4 and 6 for Norway and Germany, suggesting that the probability of motivation to work virtually is higher for those who indicated Norway and Germany as countries of residence compared to those who indicated Ireland as the country of residence. H4 is confirmed for the category ('Other countries') for intention to work virtually but confirmed for two countries (Norway and Germany) for motivation to work virtually.

The possible field of virtual work is positive and highly significant in all models, suggesting that both the probability of motivation to work virtually and the probability of

intention to work virtually are higher for those who indicated the possibility to work virtually for their home country compared to those who did not. Therefore, H5 is confirmed. Gender is positive and significant in model 6, suggesting that the probability of motivation to work virtually is higher for females compared to males.

Marginal effect for intention to work virtually

Table V shows the marginal effects for intention to work virtually and motivation to work virtually. The marginal effect results show that probability of intention to work virtually is 0.092 lower in model 1, 0.056 lower in model 3 and 0.051 lower in model 5 for those who are satisfied compared to those who are not. For perceived home country, the results show that the probability of intention to work virtually is 0.11 higher in model 1, 0.12 higher in model 3 and 0.12 higher in model 5 for Lithuania or both countries compared to abroad or 'nowhere'. For country of residence, the probability of intention to work virtually is 0.098 higher in model 3 and 0.092 higher in model 5 for 'Other countries' relative to Ireland. For possible field of virtual work, the probability of intention to work virtually is 0.63 higher in model 3 and model 5 for those who indicated the possibility to work virtually for home country compared to those who do not. We can conclude that possible field of virtual work has the highest effect on probability of intention to work virtually.

Marginal effect for motivation to work virtually

The marginal effect results show that the probability of motivation to work virtually is 0.085 lower in model 2, 0.038 lower in model 4 and 0.033 lower in model 6 for those who are satisfied compared to those who are not. For perceived home country, the results show that

the probability of motivation to work virtually is 0.087 higher in model 2, 0.071 higher in model 4 and 0.074 higher in model 6 for Lithuania or both countries compared to abroad or nowhere. For country of residence, the probability of motivation to work virtually is 0.033 lower for the UK and 0.055 lower for Norway in model 4, and 0.048 lower in model 6 for ‘Other countries’ relative to Ireland. For possible field of virtual work, the results show that the probability of motivation to work virtually is 0.53 higher in model 4 and 0.51 higher in model 6 for those who indicated the possibility to work virtually for home country compared to those who do not. We can conclude that possible field of virtual work has the highest effect on probability of motivation to work virtually. Moreover, we conclude also that marginal effects are higher for probability of intention to work virtually relative to probability of motivation to work virtually.

Place Table V here

Joint marginal effect for intention and motivation to work virtually

Table VI shows the joint marginal effects for both intention and motivation to work virtually. The results show that the joint probability of intention and motivation to work virtually is 0.097 lower in models 1 and 2 jointly, 0.061 lower in models 3 and 4 jointly and 0.55 lower in models 5 and 6 jointly for those who are satisfied compared to those who are not. For perceived home country, the results show that the joint probability of intention and motivation to work virtually is 0.11 higher in models 1 and 2 jointly, 0.13 higher in models 3 and 4 jointly and 0.13 higher in models 5 and 6 for Lithuania or both countries compared to abroad or

nowhere. For country of residence, the joint probability of intention and motivation to work virtually is 0.086 higher for ‘Other countries’ in models 3 and 4 jointly relative to Ireland. For possible field of virtual work, the results show that the joint probability of intention and motivation to work virtually is 0.63 higher in models 3 and 4, and 0.63 higher in models 5 and 6 for those who indicated the possibility to work virtually for their home country compared to those who did not. We conclude again that possible field of virtual work has the highest effect on the joint probability of intention and motivation to work virtually.

Place Table VI here

Discussion

The main findings reveal evidence in favour of organisations implementing more virtual work arrangements to seize valuable migrant human capital, which we interpret could initiate ‘brain gain’ for Lithuania. Except for H1a (non-upwards career change) and H2b (intention to re-emigrate), the proposed hypotheses were fully or partly confirmed, which is empirical evidence that virtual work is one potentially productive way of utilising some migrants’ human capital for the benefit of the country of origin. The study reveals that 51.9% of the respondents demonstrated the intention to work virtually for their country of origin.

Consulting, editing and translation were highlighted as the most possible types of virtual work, which corresponds with the recently published list of most popular virtual work occupations employers seek to attract (Howtington, 2019). This indicates in one respect

migrants' relative potential for employment in the virtual work. However, there are no published empirical studies on companies' willingness and financial capacities to attract and recruit migrants to their countries of origin. This could be a fruitful direction for future research.

The group of migrants who are comparatively less satisfied with their career express higher intention and motivation to work virtually for their country of origin. However, lateral or downward career moves are not associated with motivation and intention to work virtually. Therefore, the links between career satisfaction and career change require more theoretical examination in relation to virtual work and employers' and migrants' proactive involvement in knowledge transfer and human capital development (Ramboarison-Lalao *et al.*, 2012).

In relation to hypothesis H2a, which was confirmed, emotional attachment to the country of origin positively influences migrants' intentions and motivations to work virtually. It is plausible that a group of these respondents feel more nostalgia (Vamuri, 2014) and 'homeland duty' (Hudson, 2005) to contribute their human capital. Based on the literature review, we argued that migrants with an intention to re-emigrate would have a higher motivation to work virtually for their country of origin so as to remain in contact with their homeland and its organisations, which might assist them in the event of a return to the country of origin. However, the analysis shows, conversely, that respondents who do not have plans to re-emigrate are more (rather than less) motivated to work virtually. These results are surprising on one level and show that migrants do not consider virtual work as a means of maintaining network ties which could support their social relationships with organisations in the country of origin and facilitate their return in the future. However, the country of origin could benefit from the human capital and knowledge transfer from those migrants who do not have plans to

emigrate (Suseno and Pinnington, 2018). Virtual working, furthermore, might be a means of encouraging more migrants to formulate plans for their future return, although recent empirical studies show that the number of migrants without plans for returning is high (Teney, 2019; Kumpikaitė-Valiūnienė and Žičkutė, 2017). It is worthwhile conducting longitudinal research exploring the issues related to changes in migrants' motivations and intentions to work for the country of origin and even return.

Some more interesting insights in relation to destination can be noted from our results. The probability of motivation to work virtually is higher for respondents living in Norway and Germany compared with those who reside and work in Ireland. Moreover, the probability of intention to work virtually is higher for those who indicated other countries of residence besides the most attractive destination countries. According to cross-tabulation, 11.7% of respondents work as specialists in Ireland (almost the lowest percentage among all countries; only the UK has a smaller one) in comparison to 24.6% in 'Other countries' (the highest percentage). The case is similar for younger specialists. For lower-skilled segments of the workforce, the results are consistent. So, while 25.4% of employees are employed in the service sector (waitress, sellers, etc.) in Ireland, it is less than half that number (10.8%) employed in 'Other countries'. Similarly, there are 11.2% unqualified workers employed in Ireland but only 4.6% in 'Other countries'.

In the case of Norway, Germany and Ireland, motivational differences possibly might be explained by more respondents working in the fields of office services and consulting in Ireland in comparison with the other two countries. These fields were noted as possible fields of virtual work. In addition, Germany and especially Norway became a country of destination during later migration waves in comparison to Ireland. It might be influenced by respondents

who spent more time in Ireland consequently being less motivated to support their country of origin. Moreover, based on information presented in the mass media, more migrants from Lithuania work for short periods in Norway and Germany in comparison with a long and permanent stay in Ireland. Ireland has the second-largest diaspora from Lithuania after the UK (Kumpikaitė-Valiūnienė, 2019). Therefore, these findings could be used to explore the attractiveness of virtual work in different countries and to promote virtual work in the countries having large diaspora populations combined with attributes indicating high motivation for virtual work.

Practical implications

This survey study and its main findings represent a first step in analysing diaspora motivation for virtual work in the country of origin. It has implications for practice at the policy, organisational and individual levels.

Lithuania publishes a list of occupations which are priority areas for employment, characterised by high employer demand for suitable employees, and underemployment in Lithuania. Besides construction employees and international drivers, who would not be able to work virtually, employees with digital competencies such as software programmers, multimedia and computer game application developers are in very high demand (Migration Law Center, 2019). Based on our results, virtual work could be considered a beneficial means of knowledge transfer, attracting scarce and needed labour skills and human capital development and, at least to some extent, encouraging human capital to return to the country of origin. The results of this study were presented in the national media and have received some positive feedback from organisations and government policymakers. Some initiatives for encouraging more returning emigrants have been initiated by Lithuanian policymakers but

they have not yet put a strong focus on promoting virtual work arrangements. Therefore, policymakers could attend to the issues of knowledge transfer and possibility of ‘brain gain’ and, wherever possible, promote a sense of ‘homeland duty’ and encourage greater emotional attachment of citizens to the country of origin, especially before their emigration. Moreover, the government could consider encouraging organisations to expand their use of virtual work for the temporary, part-time employment of migrants.

This would assist employers and organisations in the country of origin to establish and maintain contact with emigrants in order to benefit from their knowledge, skills and experience and increase the productive home contribution of the country’s national human capital. At the organisational level, when lacking specialists and talent, organisations could attract and recruit emigrants for virtual work activities. Some Lithuanian companies advertise their virtual jobs vacancies through the international remoters.net website (Remote jobs, 2019). However, there are no published studies estimating employers’ willingness to employ emigrants through virtual work arrangements. There is apparent demand for a detailed investigation of this phenomenon, specifically in the Lithuanian context, as some companies contacted the researchers after our research study results were presented in the local and national media.

Additionally, organisations in the country of origin can possibly benefit from employing migrants who are home country nationals in virtual work since they will experience fewer language communication problems and could also gain from working across different time zones. At the individual level, migrants might further develop and advance their careers by remaining in contact with their country of origin and organisations operating there. This could lead to benefits such as career development opportunities, higher satisfaction with their

career, earning additional income, maintaining contact with their country and its labour market opportunities, and possibly even eventually influencing the decision to re-emigrate.

Scientific contribution

This paper contributes to the migration and HRM literatures. First, we contribute directly to the diaspora investment motivation theory proposed by Nielsen and Riddle (2010). Our research explores and illuminates migrants' motives depicting the main factors encouraging migrants to contribute their knowledge by working virtually for their country of origin and creating opportunities for human capital gains. Second, we add to the knowledge of HRM and virtual work with insights into the relationships between migrants' career satisfaction and their motivations and intentions to transfer knowledge through ICT-facilitated outsourcing. It contributes new knowledge on the proposition by Carr *et al.* (2005) that any country of origin can still gain from migrants' knowledge during their periods of residency abroad.

Limitations

A major limitation of this study conducted on emigrants from one country is that it does not permit generalisation of the results to other countries and regions. It is limited, thus, to making general comparisons to what is known in the literature about migrants from other nations. However, we have identified some of the main factors which have theoretical and empirical import for future research and we have argued that the results of our study possess only a few inherent geographic limitations. Whereas it is acknowledged that contextual factors are specific to the context of Lithuania and might have less relevance to other country contexts, these factors might be found in future research to operate in similar ways elsewhere. Moreover, the results are based exclusively on those migrants who had access to the Internet

at the time of the research study, and the research question on virtual work is less relevant to the group of workers who do not use the Internet.

As the original instrument was used to explore a complex, multi-faceted problem, several limitations should be considered. Firstly, our data on migrants' intention to work virtually and career satisfaction were based on single-item questions. However, the exploratory nature of our study supported such a measurement. The current results enabled us to develop further measures for similar studies in the migration field and additional tests of validity and reliability of the measures employed will contribute to their ongoing development. Secondly, in many cases, single-item, multiple-choice questions were used and the answers were regrouped as dichotomous responses based on their similarity. This limited the analysis of the results, but at the same time, it assured their quality. Thirdly, the main findings of this quantitative study were limited to the reported questionnaire survey responses and to closed questions on the complex topics of motivation, intention to work virtually, career change, career satisfaction and plans for the future. Finally, our control variables were limited to gender, age and education. While there was not an equal distribution of gender from those who participated in the survey, the sample was sufficient to be statistically representative for both genders. Females were in the majority in this study possibly simply because females are frequently found to be more willing to complete questionnaires; however, gender was included as one of the control variables and is non-significant. Other control variables possibly could be significant, but we do not have the data to test other potential relationships. Considering individual differences such as personality traits, life and work experience in the country of origin and country of residence might provide new findings; thus, it would be worthwhile including them in future research designs.

Future research directions

Firstly, as we have consistently argued, the willingness of companies to employ national emigrants from host countries should be studied in more depth. Researchers need to know more about the conditions in which senior managers in organisations are prepared to work virtually with migrants from their countries of origin. Likewise, researchers should learn more about employers' business needs and cultural expectations for migrants' knowledge, skills and work experiences since these are necessary for determining more precisely the overall attractiveness and potential of virtual work for both parties in the relationship.

For future research during these early stages of exploring diaspora motivation for virtual work, we recommend implementing mixed methods research designs. Such study designs assist with gaining a deeper understanding of migrants' motivations and intentions to work for their country of origin. In particular, future research should examine in more detail what areas of human capital, commercial and cultural knowledge could be productively delivered by migrants working virtually for organisations in the country of origin. This future research agenda could contribute to a greater understanding of knowledge transfer and human capital issues ('brain gain') in the migration literature.

Moreover, our empirical study shows that females are more motivated to work virtually compared to males. However, gender issues and differences in work and career preferences have not been explored in this paper and constitute an important direction for future study. Further, future research in the area will benefit from addressing more than one country, as well as inclusion of more relevant demographic, environmental and individual variables on migrants' careers and relationships with their country of origin.

Finally, specific forms of virtual work could be studied empirically to the extent that they provide opportunities for self-development and for satisfaction in personal lives and work careers. In addition, the potential business and societal benefits for the country of origin should be investigated through examining the diverse dimensions of family, community, work and careers. These studies would expand knowledge of virtual work and related research phenomena and would contribute to gaps in the migrant, diaspora, careers and HRM literatures.

Conclusion

Not all individuals living and working abroad respond in the same ways to the employment opportunities available elsewhere. There are very different dynamics in various diasporas, and individuals and institutionalised diaspora actors have diverse intentions and motivation. The specific purposes and benefits of contributing to the country of origin significantly influence diasporic willingness and motivation. Moreover, the particular contractual aims of virtual work to be undertaken are influential on the current and future commitments that individual migrants decide to make to their country of origin. Based on our empirical research, we found that a proportion of Lithuanian migrants who want to be in contact with their country of origin and to contribute through various means includes a sizeable group prepared to work virtually.

In this study on Lithuania, we researched the idea that a country faced with substantial and long-term loss of human capital ('brain drain') might achieve additional human capital ('brain gain') via engaging some of its emigrants in virtual work. Therefore, we conclude that virtual

work potentially offers human capital benefits for employers, migrants and their countries of origin.

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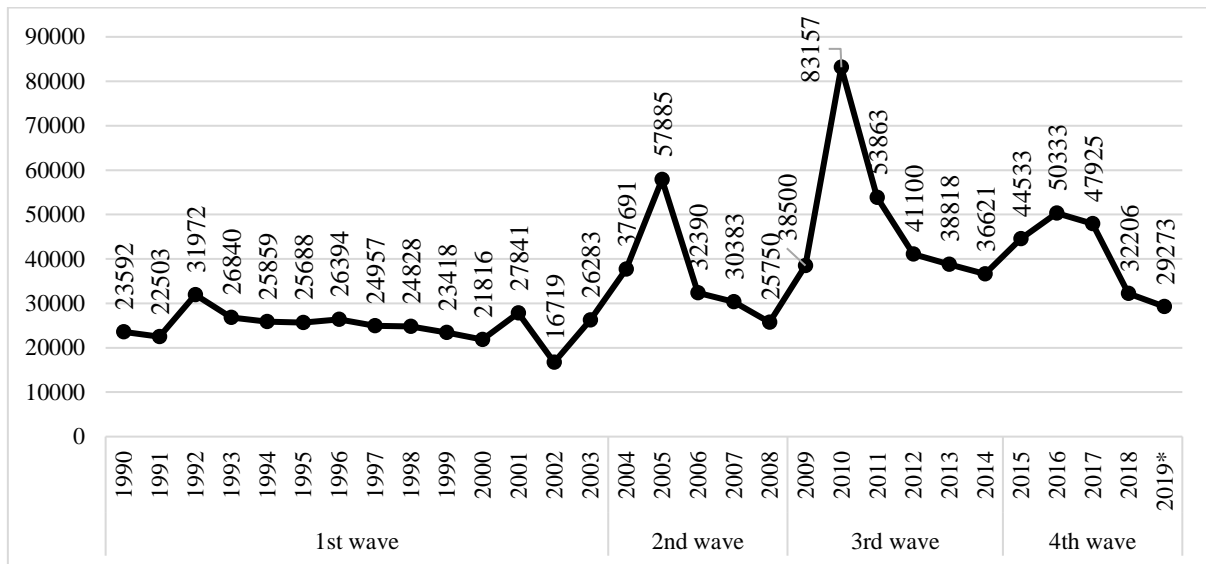
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*Primary data

Source: Statistics Lithuania (2019)

Figure 1. Four emigration waves in Lithuania during 1990-2019

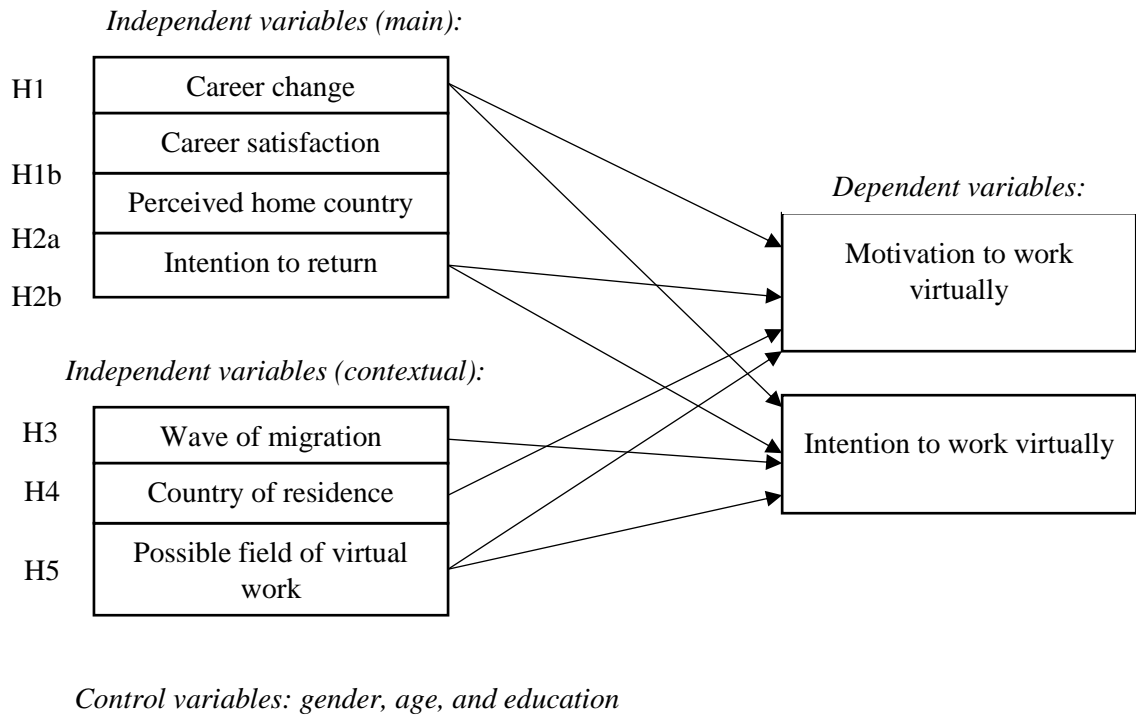


Figure 2. Research model

Table I. Sample of Survey Respondents

	Category	Frequency	Percentage
<i>Control variables</i>			
Gender	Male	703	23.3
	Female	2319	76.7
Age (years)	< 19	36	1.2
	20-24	418	13.8
	25-29	767	25.4
	30-34	650	21.5
	35-39	461	15.3
	40-44	294	9.7
	45-49	207	6.8
	50-55	111	3.7
	56-60	53	1.7
	> 60	25	.9
Education	Primary	14	.5
	The main	82	2.7
	Secondary	453	15.0
	Professional	495	16.4
	College	680	22.5
	Bachelor (<i>University</i>)	805	26.6
	Master (<i>University</i>)	417	13.8

Doctor (<i>University</i>)	34	1.1
Other (<i>like currently studying</i>)	42	1.4
<i>Total</i>	3022	100.0

Table II. Frequencies

Variables	Categories	Coding	Frequency	Percent
<i>Independent variables</i>				
Career satisfaction	Other	0	1041	34.4
	Satisfied	1	1981	65.6
Career change	Downward change	-1	784	25.9
	Lateral change	0	987	32.7
	Upward change	1	1002	33.2
	n/a	-	249	8.5
Plans for re-emigration	No	0	2345	77.6
	Yes	1	677	22.4
Perceived home country	Abroad or nowhere	0	1445	47.8
	Lithuania or both countries	1	1577	52.2
Wave of migration	Before 1990 (March 11th)	1	17	0.6
	1990 – 2004 (before May 1st)	2	309	10.2
	2004 - 2008	3	533	17.6
	2009 - 2014	4	1594	52.7
	2015 and later	5	569	18.8
Country of current residence	United Kingdom	1	970	32.1
	Norway	2	524	17.3
	Germany	3	265	8.8
	Ireland	4	205	6.8

	United States	5	167	5.5
	Denmark	6	164	5.4
	Sweden	7	141	4.7
	Lithuania (<i>temporary</i>)	8	116	3.9
	Spain	9	74	2.4
	Netherlands	10	63	2.1
	Belgium	11	45	1.5
	Other	12	288	9.5
Possible field of virtual work	None	0	791	26.2
	Consulting	1	1095	36.2
	Programing	1	82	2.7
	Editing	1	185	6.1
	Translation	1	428	14.2
	Accounting	1	251	8.3
	Other	1	190	6.3
	<i>Dependent variables</i>			
Intention to work virtually for the country of origin	Other	0	1453	48.1
	I would be interested in	1	1569	51.9
Motivation to work virtually for the country of origin	No benefits	0	541	17.9
	Different benefits	1	2481	82.1
Total			3022	100.0

Table III. Cross-tabulation results on differences of motivation and intention to work virtually in relation to other variables

Variables	Motivation to work virtually			Intention to work virtually		
	Pearson	df	Sig.	Pearson Chi	df	Sig.
	Chi Square			Square		
Career satisfaction	45.241	1	<0.01	38.060	1	<0.01
Career change	5.009	2	0.08	10.385	2	<0.01
Plans to re-emigrate	2.991	1	0.08	5.769	1	0.02
Perceived home country	44.613	1	<0.01	47.174	1	<0.01
Possible field of virtual work	1156.471	6	<0.01	972.248	6	<0.01
Wave of migration	25.939	4	<0.01	24.221	4	<0.01
Country of residence	10.344	11	0.50	22.891	11	0.02
Gender	25.709	1	<0.01	7.133	1	<0.01
Age	59.088	5	<0.01	51.732	5	<0.01
Education	92.989	6	<0.01	80.585	6	<0.01

Table IV. Results of Bivariate probit model

Predictor	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Intention	Motivation	Intention	Motivation	Intention	Motivation
Constant	0.109*	1.030***	-2.042***	-0.624	-1.381*	-0.540
Career satisfaction	-0.233***	-0.351***	-0.142**	-0.241***	-0.129**	-0.216***
Career change						
Career change (2)	-0.123**	-0.031	-0.072	0.116	-0.088	0.144
Career change (3)	-0.030	-0.010	-0.021	0.097	-0.069	0.041
Plans to re-emigrate	-0.006	-0.094	0.119*	-0.014	0.154**	0.048
Perceived home country	0.277***	0.338***	0.311***	0.417***	0.326***	0.449***
Wave of migration						
Wave of migration (2)			0.136	0.357	0.074	0.329
Wave of migration (3)			0.155	0.363	0.006	0.260
Wave of migration (4)			0.228	0.728*	-0.020	0.585

Wave of migration (5)	0.209	0.596	-0.075	0.441
Country of residence				
Country of residence (2)	0.215	-0.077	0.154	-0.181
Country of residence (3)	-0.113	-0.295	-0.174	-0.287
Country of residence (4)	0.234	-0.320	0.245	-0.310
Country of residence (5)	0.121	-0.241	0.102	-0.214
Country of residence (6)	0.085	-0.365**	0.069	-0.330**
Country of residence (7)	-0.021	-0.351	-0.074	-0.330
Country of residence (8)	0.001	-0.222	0.009	-0.195
Country of residence (9)	0.156	-0.341*	0.176	-0.300*
Country of residence (10)	0.037	-0.400	0.049	-0.306
Country of residence (11)	-0.141	-0.001	-0.218	-0.076
Country of residence (12)	0.249*	-0.265	0.234*	-0.224
Possible field of virtual work	2.144***	2.013***	2.123***	1.987***
Gender			0.020	0.211***

Education				
Education (2)			-0.513	-0.517
Education (3)			-0.610	-0.267
Education (4)			-0.623	-0.401
Education (5)			-0.645	-0.269
Education (6)			-0.518	-0.308
Education (7)			-0.303	-0.249
Age				
Age (2)			0.323	0.228
Age (3)			0.142	0.289
Age (4)			-0.051	-0.136
Age (5)			-0.254	-0.103
Age (6)			0.171	0.125
Log pseudolikelihood	-2132.24	-2875.10	-2101.44	
rho	0.78***	0.45***	0.45***	

AIC	5776.20	4354.49	4340.89
BIC	5853.26	4621.23	4749.88

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Models 1,3,5: dependent variable is intention for virtual work

Models 2,4,6: dependent variable is motivation for virtual work

Table V. Results of marginal effects of bivariate probit model

Predictor	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Intention	Motivation	Intention	Motivation	Intention	Motivation
Career satisfaction	-.093***	-.090***	-.056**	-.040***	-.051**	-.035***
Career change						
Career change (2)	-.049**	-.008	-.028	.019	-.035	.023
Career change (3)	-.012	-.002	.008	.016	-.027	.007
Plans to re-emigrate	-.002	-.024	.047*	-.002	.061**	.007
Perceived home country	.110***	.086***	.123***	.069***	.129***	.072***
Wave of migration						
Wave of migration (2)			.053	.094	.029	.077
Wave of migration (3)			.060	.096	.002	.063

Wave of migration (4)	.089	.161	-.008	.119
Wave of migration (5)	.081	.141	-.029	.097
Country of residence				
Country of residence (2)	.085	-.009	.061	-.024
Country of residence (3)	-.044	-.042	-.067	-.041
Country of residence (4)	.092	-.046	.097	-.045
Country of residence (5)	.048	-.033*	.040	-.029
Country of residence (6)	.033	-.055**	.027	-.048**
Country of residence (7)	-.008	-.052	-.028	-.048
Country of residence (8)	.0004	-.030	.003	-.026
Country of residence (9)	.061	-.050*	.069	-.043*
Country of residence (10)	.014	-.061	.019	-.044
Country of residence (11)	-.054	-.0002	-.083	-.009
Country of residence (12)	.098*	-.037	.092*	-.030

Possible field of virtual work	.852***	.336***	.844***	.322***
Gender			.008	.036**
Education				
Education (2)			-.197	-.078
Education (3)			-.235	-.033
Education (4)			-.241	-.056
Education (5)			-.249	-.034
Education (6)			-.199	-.040
Education (7)			-.113	-.031
Age				
Age (2)			.128	.039
Age (3)			.055	.048
Age (4)			-.019	-.029
Age (5)			-.094	-.021

Age (6)	.067	.023
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*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Models 1,3,5: dependent variable is intention for virtual work

Models 2,4,6: dependent variable is motivation for virtual work

dy/dx for factor levels is the discrete change from the base level

Table VI. Results of joint marginal effects of bivariate probit model

Predictor	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Joint (1&2)		Joint (3&4)		Joint (5&6)	
Career satisfaction	-.098***		-.061***		-.055**	
Career change						
Career change (2)	-.046*		-.022		-.027	
Career change (3)	-.011		.011		-.024	
Plans to re-emigrate	-.005		.043		.059**	
Perceived home country	.114***		.131***		.137***	
Wave of migration						
Wave of migration (2)			.068		.048	
Wave of migration (3)			.076		.020	

Wave of migration (4)	.117	.022
Wave of migration (5)	.106	-.002
Country of residence		
Country of residence (2)	.080	.054
Country of residence (3)	-.048	-.070
Country of residence (4)	.077	.082
Country of residence (5)	.039	.033
Country of residence (6)	.021	.016
Country of residence (7)	-.017	-.035
Country of residence (8)	-.004	-.0009
Country of residence (9)	.048	.057
Country of residence (10)	.002	.010
Country of residence (11)	-.053	-.082
Country of residence (12)	.086*	.082

Possible field of virtual work	.872***	.863***
Gender		.015
Education		
Education (2)		-.207
Education (3)		-.232
Education (4)		-.242
Education (5)		-.245
Education (6)		-.199
Education (7)		-.117
Age		
Age (2)		.128
Age (3)		.062
Age (4)		-.023
Age (5)		-.091

Age (6)

.067

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Models 1,3,5: dependent variable is intention for virtual work

Models 2,4,6: dependent variable is motivation for virtual work

dy/dx for factor levels is the discrete change from the base level