A Realist Evaluation of a Doctoral Mobility Programme in Estonia

Katrin Kiisler

July 2020

This thesis is submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

Department of Educational Research,

Lancaster University, UK.

This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

I confirm that the word-length of this thesis conforms to the permitted maximum for the programme.

Signature ....

Abstract

The study aims to gain a better understanding of a doctoral mobility programme "Kristjan Jaak" initiated by the Estonian government. Doctoral candidates are an increasingly international group, indispensable for both sending and receiving countries. Their mobility is essential for raising the quality of higher education in sending countries but entails a risk of brain-drain. Following the premises of a realist evaluation approach, the overarching research question of this study was "what is it in the Kristjan Jaak programme that works, for which participants, in what circumstances and why?" The data was collected using the documentary analysis, realist interviews and observation. A thematic analysis, in combination with statistical analysis, was conducted iteratively throughout the data accumulation process. The findings emphasise the importance of understanding the contextual circumstances that by activating different emotional and behavioural mechanisms lead to expected and unexpected outcomes. Five themes emerge from the analysis. First, strong professional contacts with colleagues at home before and during the studies abroad nourish the feelings of belonging and acceptance, making it the most reliable instrument to secure graduates' return and integration. Second, lack of flexibility and consistency in requirements undermines students' satisfaction with grant provisions and their gravitation towards home. Third, the long-term mobility programmes should aim to equip participants with knowledge, relations and skills necessary for the impact at home. Fourth, start-up and post-doc grants are weak return facilitators, although central for independence and career progress of returnees. Fifth, like-minded colleagues and resources are required to achieve professional fulfilment and impact after the return. Causal patterns behind various programme outcomes disclose more nuanced knowledge of return mobility determinants.

Contents

Acknowledgements

List of Figures and Tables

Figures

Tables

Chapter 1. Introduction

Globalisation is generally perceived as the driver of transformations that have taken place in the university sector in the last decades (Knight, 2004; Marginson & van der Wende, 2007). This process has revamped the organisation and values of institutions across the globe, reinforced international hierarchies and taken universities to the increasingly competitive market for students, researchers, funding and prestige.

In every competition, however, there are bound to be winners and losers. Hence, also in higher education, specific values, systems, regions and languages have become dominant. Marginson & Rhoades (2002, p. 303) refer to the winners in this race as the *core countries* and losers as *the periphery*. For a long time, the movement of people, as well as resources, has been mostly unidirectional from the periphery to the core countries, generating a rise of know-how and skills for the host and their shortage for the sending countries. Wealthier governments have reinforced targeted research and migration policies to strengthen their ability to attract the scientific community on the move. In contrast, the countries at the other end of the spectrum have found themselves trapped in the departure of their best and brightest.

While Europe, in general, has been seen as the gaining party in the migration of the highly skilled, there are significant disparities within the region, and the Eastern-European countries, especially those from the former Soviet Union, are known to have carried significant losses (Baruffaldi & Landoni, 2012; Salt, 1997; Van Bouwel, 2010). Lower-middle and middle-income countries could be even more exposed to losing their talent than the poorest countries of the world since their people can afford to take more risks and carry the cost involved in the long-distance movement (De Haas, 2006). As the majority of leavers from Eastern Europe have been young researchers, the loss of bright minds has accentuated the issues of the ageing population.

Furthermore, smaller countries are recognised to be more vulnerable to these developments (Beine et al., 2014; Docquier & Marfouk, 2005; Gribble, 2008; Salt, 1997). Internal academic mobility is often unmanageable in a small country due to the lack of alternative institutions teaching in the same field. Hence, small countries are more dependent on outsourcing higher education in certain areas or levels and can lose a share

of their talent for this reason (Beine et al. 2008). Even a small-scale exodus of educated people from a specific field may have shattering consequences for the capacity of a small state. Small countries with less widely taught languages can be even more exposed since possible replacements from abroad would be without necessary language skills, and hence, could not promptly substitute the ones who have left. This way, the substantial exodus of educated people can even become an existential threat to small languages and cultures. Working with expatriate scientists and diaspora is also less attainable for smaller states as the expatriates are too few in numbers and rarely cluster together in groups (Ackers & Gill, 2008).

Global patterns of academic mobility have been changing, however, and movements of academics have become multidirectional, more temporary, more frequent and growingly circular between the home and multiple host countries (Ackers, 2005; Beine, Docquier, & Schiff, 2008; Fontes, 2007). These developments are encouraging for the sending countries, where the returning academics have the potential to become a powerful transformational resource (Thorn & Holm-Nielsen, 2006). The movement of bright minds could now become a *bona fide* solution to the problems of education and research capacity for the emerging and smaller economies (Marginson & van der Wende, 2007; Saxenian, 2002).

Nevertheless, to develop policies with the power to influence the decision-making of mobile academics, we would need to know the mechanisms that make them act upon arising return mobility opportunities. What it is that awakens academics' agency and makes them return home after years away? What are the mechanisms that make them "choose mobility, its timing and direction" (Coey, 2013, p. 178)? Our understanding of the return academic mobility remains superficial until we understand all the steps in this process.

1.1 Rationale and scope of the study

This doctoral study evaluates how a specific scholarship programme, Kristjan Jaak, initiated by the government of Estonia, a small non-English-speaking country in the periphery of Europe, has worked to ensure the return of its doctoral graduates from the core countries. Research is a product of its time and place, and researchers are people with multiple reasons to carry out particular research (Emmel, 2013; Maxwell,

2

2013). My own long-term experience in the policy-making and implementation of higher education initiatives, in the field of internationalisation and academic mobility, in particular, frames the undertaking.

Before I started to think of these problems in scientific terms, my interest to understand how the Kristjan Jaak programme works was professional and practical (Maxwell, 2013). I wanted to understand what it would take to increase its impact, help more of its participants to start a gratifying research career at home, and subsequently to serve better the Estonian higher education and society. Existing literature did not provide satisfying explanations or guidance in that regard.

Ahead of scientific curiosity came also the objectives related to my personal development that stimulated me to undertake doctoral studies in the first place. I felt that after 20 years of practical work in the field, I needed to see it from another angle. I was eager to broaden my understanding of how higher education programmes work.

In scientific terms, I set out to understand the programme in its specific context on the level of mechanisms and outcome patterns in the hope of finding potential explanations to the broader phenomenon out there. In realist terms, I wanted to know what changes take place in the minds of internationally mobile doctoral candidates throughout different phases of their studies and career. What it is that makes doctoral graduates return home when professional, and often also economic considerations are so clearly against it?

In the study, the return is understood in a traditional sense as used in Kristjan Jaak programme documents. Namely, participants are expected to apply for a vacancy at an Estonian institution within three years from graduation and remain in employment for at least three years if elected. I acknowledge that this description simplifies our present-day understanding of complex, multidirectional and sequential nature of academic mobility flows. This is not done underestimating the value of other types of mobility or the possibility of knowledge exchange without physical moves between countries (Ackers & Gill, 2008). Physical, time-bound return mobility remains, however, critically important for the development of small peripheral education systems, even more so in countries using languages rarely taught elsewhere. Physical

return for three years has been expected of Kristjan Jaak beneficiaries. Hence, the same definition is used to evaluate the programme's performance.

In formulating research questions, I took into account practical limitations that inevitably affect any doctoral research project as well as personal circumstances arising from my duties as an administrator and mother of three pre-schoolers (Maxwell, 2013). In those circumstances, it felt reasonable to renounce the idea of comparative multiple-country case studies and confine the scope of research to the one programme and country I had access to while creating a link to the findings from other countries and programmes through literature review.

Based on these considerations and premises of realist evaluation approach, the overarching research question of the study is "what is it in the Kristjan Jaak programme that works, for which participants, in what circumstances and why?".

Although the research of return academic mobility has grown over the last decades, compared to the outward academic mobility, its scope has remained limited. Data gaps and difficulties in following the return mobility flows could be one of the main reasons for this (Bartram et al., 2014). Data difficulties have sometimes resulted in the use of mixed definitions, unconvincing approaches and questionably collected data sets. Moreover, with its fascination with the outcomes and contextual factors, the literature sometimes provides a streamlined linear picture of return decision-making of academics. Human agency and private reasoning that trigger the actual movement of academics have not received similar attention as the external influences. One of the causes of this might be the prevalence of constructivist and positivist approaches that both investigate the apparent aspects of the world and not the undisclosed motivations behind people's visible actions and claims. Our understanding of behavioural mechanisms instigating the physical return of academics is, therefore, somewhat limited.

These gaps in the literature led me to consider realist evaluation as a methodological framework for the study. Realist evaluation provides simple methodological tools to describe what happens to real people who are in these situations, recognise how interventions and settings affect their distinctive circumstances and private reasoning,

and how their agency is triggered to engage with the return opportunities made available by governments and universities (Pawson, 2006; Pawson & Tilley, 1997).

The seemingly straightforward process of awarding scholarships for doctoral studies abroad is embedded in largely multifaceted context as the recipients take up their studies in different subject fields in different institutions in different countries. Their experiences are influenced further by their distinct academic abilities, ambitions and individual circumstances. All these factors, combined with the demands attached to the scholarship, have an impact on the reasoning and decision-making of programme participants throughout many years. Realist evaluation offers a framework for investigating complex interventions in open systems that implicate real people and situations (Byng, 2005; Pedersen & Rieper, 2008). Furthermore, by taking account and explaining the local and individual circumstances and mechanisms generating results, it allows us to strive for a broader understanding of social processes. Realist evaluation does that by revealing the behavioural and emotional mechanisms behind the act of return, hitherto not always acknowledged by researchers of academic mobility.

1.2 Research context

Estonia, situated in Northeast Europe, is the northernmost of the three Baltic states. With a population of 1.3 million, it is the fourth-smallest country in the European Union, overcoming in size Malta, Luxembourg and Cyprus only. The official language of the country, Estonian, has no relation with the Indo-European languages spoken widely in Europe being instead the third most spoken Uralic language after Hungarian and Finnish.

According to the classification of the World Bank (2020), Estonia belongs to the group of high-income economies. Yet, with per capita GDP around USD 36 022 (based on purchasing power parity) in 2018 (OECD, 2020b), it is clearly among the poorer countries in the OECD as well as European Union. The average net income in Estonia, while reaching only 60% of the European Union average, is still the highest amid the Eastern-European countries (Eurostat, 2020).

Regardless of the country's location on the outskirts of Europe, Estonia possesses one of the oldest universities in the region. In 1632, the king of Sweden established

Academia Gustaviana, the present-day University of Tartu, only as the second university founded in the Swedish Empire (Darmody, 2013). Later, under the Russian rule, the university reopened with the legal status of a Russian state university becoming an endorsed training site for new professors of Russian universities (University of Tartu, 2019). However, only in 1918, when Estonia emerged from the turmoil of the 1st World War as an independent country, Estonian was established as a language of tuition (University of Tartu, 2019). During the period of independence, other higher education institutions focussing on specific disciplines were opened in Estonia (Darmody, 2013).

Maintaining Estonian as the primary language of higher education despite the invasion of the Russian language in many other spheres of life played a vital role in the survival of Estonian culture throughout 50 years of Soviet occupation. The Soviet Union left other traces on Estonian higher education though. Among its legacies were ideologisation of disciplines, history and social sciences, in particular, isolation from the intellectual debates of the West and elimination of economic and political sciences (Ruus, 2012). Throughout the years of occupation, the bright minds often found refuge in sciences that were less prone to ideological control, yet being relevant for the military industry were well staffed and received significant funding directly from Moscow. R&D investments were as high as 4.5 per cent of GDP in the last decade of the Soviet Union, allowing the relative proliferation of science sector (Salt, 1997). The collapse of the Soviet Union, therefore, left the overgrown sector without its customary funding streams resulting in the institutional shake-up of the field (Saar & Mõttus, 2013; Salt, 1997).

The last three decades since the restoration of independence in 1991, have seen a dramatic expansion as well as the shrinking of Estonia's higher education sector. The liberal higher education policies endorsed the growth of higher education institutions from 6 in 1990 to 49 in 2002, increasing the number of students 2.7 times (Saar & Mõttus, 2013). Most of the small privately established institutions chose to focus on subjects that had been dormant in Soviet times, such as social sciences, business and law. Having lost their privileged funding and association with Soviet industry outside Estonia, the engineering and manufacturing, and to the lesser effect also the sciences,

experienced decline in academic employment as well as enrolments (Saar & Mõttus, 2013; Salt, 1997; Tõnisson, 2011).

Almost 70 thousand (69 113) students were studying in Estonian higher education institutions in 2010, the year before this number started to decline. With only nine years, the number of students dropped to 46 thousand (45 815), indicating a rapid 34 per cent cutback (EHIS, 2020). Shrinking of the system can be explained by the sharp decline of secondary school graduates in the aftermath of reduced birth rates and emigration during the 1990ies (Tõnisson, 2011). The decrease would have been even sharper without the concerted long-term activities towards the increase of students from abroad. Five thousand five hundred (5500) international students studying in the Estonian universities in autumn 2019 form 12 per cent of all students in higher education (de Wit et al., 2019; EHIS, 2019). A large majority of incoming students choose the English taught graduate programmes, whereas the universities are obliged by law to ensure undergraduate teaching in the Estonian language. Fifty-one per cent of 2018 international graduates had found employment in Estonia within a year from completion of their studies (Statistikaamet, 2019), indicating the internationalisation of the Estonian labour force.

As a small country, Estonia has limited opportunities for internal academic mobility. Disciplines like medicine, engineering or music are taught in one university only, which is why the country has placed higher than usual emphasis on internationalisation. With the higher education and research strategies launched in 2007, Estonia introduced a wide range of activities supporting the international competitiveness and openness of its universities. Some of the measures included grants for short-term mobility of young academics, medium-term grants for incoming and outgoing doctoral students, grants for sabbaticals abroad, post-doc and return grants and top-up salaries for the recruitment of experienced academics from abroad. These activities, combined with the strategic increase of investment into universities' infrastructure, have contributed significantly towards the attractiveness of Estonia as a place for studying and research. The increased competitiveness of Estonian R&D environment is demonstrated by the country's move from the group of moderate innovators in 2015 to the group of strong

innovators in 2019 in the benchmark exercise of European Commission (European Innovation Scoreboard, 2015, 2019).

According to the Organisation for Economic Cooperation and Development (OECD) data, 8 per cent of the entire Estonian student population studied abroad in 2017. While the share of students studying abroad has grown over the years to become one of the highest among OECD and European Union countries, it has been on the low side compared to other small countries like Luxembourg (75%), Slovak Republic (18%) or Iceland (14%) (OECD, 2020a). Also, the ratio between Estonian students abroad and international students in Estonia has been remarkably well balanced throughout the last decade.

In 2019, higher education level enrolment was open in 19 Estonian institutions, including six public universities (hosting 77% of students), one private university (3%), eight public (15%) and four private applied higher education institutions (5%). More than half of all students study in two largest universities, the University of Tartu (12 902 students) and Tallinn University of Technology (10 660) (EHIS, 2020). The University of Tartu has been estimated the highest-ranking of institutions belonging to the best 3-400 universities in the world according to all leading rankings in 2019 (THE 301-350, QS 301, ARWU 301-400). In 2018, remarkably for a country so small, the University of Tartu reached the 1st standing in the Times Higher Education ranking of the best research universities in new European Union member states (THE, 2018).

The public investment into higher education was 1% of GDP in 2017, amounting to 239 million euros. Having been 1.5% of GDP in 2011 (253 million euros), government investment has decreased in proportion as well as the amount in recent years (EHIS, 2020). Public higher education institutions have been unable to charge fees from full-time students in programmes taught in the Estonian language since 2013. Their efforts in raising additional funding have, therefore, increased the share of in-service training and programmes taught in English. The decline in student enrolment numbers and available funding have emphasised further the need to reduce overlapping and fragmentation between the public institutions, strengthen the existing competencies and optimise the use of scarce resources. The consolidation, however, renders the

internal mobility between institutions increasingly unattainable, highlighting the necessity to live and work abroad at least at some point in the academic career.

Kristjan Jaak programme was initiated by the Estonian Ministry of Education and Research in 2002 to educate the new generation of academic staff for the Estonian universities. At first, it aimed to provide funding for doctoral studies abroad in the areas where, according to the research evaluation reports, the local expertise was lacking. The funding agency recognised the broader need for alternative routes towards the research degrees and removed the subject-related restrictions after the first years of implementation. The beneficiaries have had access to short and medium-term mobility grants on an equal basis with doctoral students studying at home. These additional grants have allowed them to carry out field-work, attend conferences and summer-schools, work in labs and archives at home or in other countries when studying abroad.

With minor changes, the Kristjan Jaak programme has provided scholarships for doctoral studies abroad continuously for 17 years contributing to the academic preparation of more than 200 grant recipients. By 2020, Kristjan Jaak programme alumni have become professors, senior research fellows, heads of research institutes and even vice-rectors of Estonian universities. Nevertheless, only three-quarters of all grant recipients have returned to Estonia after the studies.

1.3 Positionality and validity

The validity of realist research findings does not arise from a privileged objective perspective, but from the fact that alternative explanations have been considered, tried and set aside consistently (Emmel, 2013). Nor can the validity of realist research findings be achieved with the selection of specific designs, methods or techniques, because the validity arises more from the researcher's attitude, integrity and awareness throughout the process (Maxwell, 2017).

This study is, by any definition, insider research. I have had an instrumental role in the design of the programme I am investigating. Moreover, after five years of absence, I have returned to work for its implementing agency, although in a more managerial capacity. Being a representative of the funding agency is, therefore, another role I

carry, which affects the way people see me when asked about their experiences in the programme. Also, I am a doctoral candidate studying abroad. Part-time, unlike the participants, yet it is the role that allows taking their position in more than one sense. Lastly, I am the researcher evaluating the impact of the programme. These four roles, together with my other roles and commitments in life, entail certain expectations and experiences that make me who I am and how I conduct this study. These roles are multiple and in some regard conflicting, yet they allow seeing the programme as well as research results through the eyes of not one, but several participant groups.

Insider research has values and advantages. Most importantly, it provides an in-depth understanding of complex subjects and access to resources unattainable to the researchers otherwise (Maxwell, 2013). Notwithstanding the benefits, there is also the threat of subjectivity, vested interests or established beliefs that can affect the credibility and validity of findings (Costley, 2010).

To respond to these threats, I adopted a reflexive approach to positionality advocated by Maxwell (2013). I made regular reflection part of everyday research, thinking and writing routinely about positionality, insider bias and prior associations. How can I reduce my footprint in the data collection and analysis was the question I tried to answer. I made it routine to make amendments to interview questions and interpretations of data based on those reflections.

Researchers' rapport with respondents was another validity risk to be addressed. All respondents had some prior perceptions about my person and position, what I might seek to know and could do with my findings. To avoid any misconceptions, I chose to report and acknowledge all my roles and interests upfront. I felt that my multiple roles made my relationship with respondents easier and more open than any single one could have done. While representative of the funding agency could have been met with suspicion, the representative who was a doctoral candidate aiming to understand and improve their experience was seen differently. At all times, I emphasised steps taken to protect the confidentiality of information trusted with me and anonymity of participants involved. I was open about my goals and was taken as one of "them" on multiple occasions by participants, designers, practitioners and selection committee

members alike. My relationships and roles granted me access to valuable evidence and secured participants' willingness to trust me with their individual experiences.

All researchers interpret their data to some extent and are, therefore, inevitably implicated in the outcomes of their research. The realist paradigm is even more accommodating in this regard. Researchers' insights and understanding of the programme is part of the sense-making process during which the researchers gain insight into programme workings and make assumptions based on their knowledge. It is valuable and acceptable part of realist research planted in epistemological understanding that all research is inevitably partial and partisan.

I fully acknowledge limitations arising from methods, data and my position for the objectivity and generalisability of findings of this study. I have approached these limitations consciously, taken steps to increase accuracy and inclusiveness of observations and assumptions, reflected upon potential risks to minimise their effect, and triangulated methods and data to validate findings. The results of this research remain partial and imperfect, nonetheless, reflecting my own experience in the programme and as a researcher, and yet can have value in both academic as well as practical terms.

Chapter 2. Literature review

The international mobility of academics has become the rule rather than the exception and gathered momentum and relevance. Literature in the field has increased together with the numbers of mobile academics affecting education and innovation systems worldwide (Baruffaldi & Landoni, 2012). The purpose of the following review is to place the study in the context of the extant literature on return academic mobility and higher education internationalisation at large.

The review is organised in thematic sections of different scope and depth. I first review the theoretical literature about the impact of globalisation on higher education and counterbalancing evolution of higher education internationalisation. These processes frame our understanding of academic mobility and its determinants. Secondly, I outline the main trends of global academic mobility and investigate the discourse of academic brain-drain and brain-circulation, which provide the conceptual context to the return academic mobility. At last, I examine in more depth the determinants of return academic mobility according to the findings of available empirical research. I have embedded my observations on gaps and limitations of the existing return mobility literature into the narrative, trying to avoid the repetition at the later stage.

2.1 Era of global higher education

The concept of *globalisation* encompasses multiple dimensions and features that in their complexity, dynamism and interdependence cannot be described here fairly. David Held et al. (2003, p. 67) has defined the phenomenon as "a stretching of social, political and economic activities across frontiers such that events, decisions and activities in one region of the world can come to have significance for individuals and communities in distant regions of the globe". Similarly, Knight and de Wit (1997, p. 6) determined globalisation as "the flow of technology, economy, knowledge, people, values, and ideas [...] across borders". In essence, globalisation has shaken the traditional idea and boundaries of nation-states bypassing their historical prerogative to determine the freedom and privileges for their people and institutions (Knight, 2004; Marginson & Rhoades, 2002).

Regardless of its impact on every single aspect of modern life, the globalisation is touching every person, organisation and country in a somewhat different way (Knight, 2004). Higher education institutions are no exception there. Knight (2008) enlists the emergence of the knowledge society and liberal market economy, rapid development of information and communication technologies and revised structures of governance as the aspects of globalisation that have affected the higher education sector the most. As scientific knowledge is universal in its interconnectedness through publications, public intellectual discourses and databases, universities are naturally more international than most organisations (Altbach et al., 2009).

Universities are not only affected by the global forces but are global actors themselves and hence, have the power to influence and change those forces (Marginson & Rhoades, 2002). Something that would be a herculean task for a single institution or even country can be accomplished in the collective effort of like-minded partners. Indeed, the regional or specialised alliances and movements with various mandates established to advance and protect the membership interests is another typical feature of globalisation, well-illustrated with the examples of European Union, OECD, EUA or the Bologna Process (Marginson & Rhoades, 2002).

In the literature, the growing mobility of people has often been seen as an essential consequence of globalisation. However, while having immense significance for the transformation of higher education, in relative terms, the movement of people was higher before the 1st World War, and thus, is not a unique feature of globalisation (Held & McGrew, 2003; Hirst & Thompson, 2003). It is the global mobility of highly skilled, the students and academics among them, that has escalated and become an inherent part of labour markets around the globe (Gribble, 2008; Kapur & McHale, 2005). In this competition for the highly skilled, the success of the Anglo-American system, and the U.S. in particular, has been based on linguistic, economic and cultural domination (Altbach et al., 2009; Marginson, 2007).

Fundamental debates in the research of highly skilled have revolved around the concepts of *brain-drain*, *brain-gain* and *brain-circulation*. The existence of these debates reveals one of the major contradictions of globalisation. As the contemporary governments operate and negotiate their public policies at increasingly multiple and

interconnected levels, and the people have more motives and means than ever before to experience life across the borders, yet our self-images and identities are still very much related to the traditional culture and nation-state (Held & McGrew, 2003).

For a long time, educational researchers have seen globalisation as an inescapable evil the higher education sector needs to contest. Brandenburg and de Wit (2011) claim that globalisation has been often represented as the supremacy of economic interests over the traditional humanistic ideals of universities. Liberal market approaches enforced by the governments around the globe have triggered the processes of marketisation and commodification of higher education. For many academics, the increasingly competitive and consumerist stance towards the value of students as well as research has been in dire contrast with traditional academic values of collaboration, partnership and knowledge exchange (Knight, 2013; Marginson, 2007). In contrast, the responses to the global challenges taken by the universities and countries have often been pedestalled as a righteous fight from the higher ethical ground for the equity, justice and intercultural understanding. The study of these reactions, frequently described as the *internationalisation* of higher education, has become one of the central themes in contemporary higher education literature.

Regardless of the widespread belief that universities have always been international by their nature and definition, the concept of higher education internationalisation has not been around for more than 25 years (de Wit, 2011; Knight, 2013). Over this period, the internationalisation has developed from a marginal interest of enthusiasts into one of the most prominent issues in the higher education policy-making and research (de Wit, 2011), the goal that is at the centre of every strategy and mission statement, "the white knight of higher education" as Brandenburg and de Wit so playfully suggest (2011, p. 16), a phenomenal cure to all the difficulties of all the institutions and countries around the globe.

With such a wide application, the concept is bound to be understood in multiple ways as is often also suggested (Coey, 2013; de Wit, 2011; Knight, 2004). Surprisingly, the majority of authors rely almost in a canonised way on Jane Knight (2004, p. 11) who defines the higher education internationalisation as "the process of integrating an

international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education".

Regardless of uniform definition, internationalisation is not necessarily an exclusive term to describe these processes. The term *internationalisation* seems to be deeply rooted in European educational debates but is used less often by academics and policy-makers elsewhere. Disparate vocabulary may reflect the difference between higher education debates taking place in different regions, and sometimes be a conscious choice to avoid the term due to the associations it carries. For example, Marginson & Rhoades (2002) seek to evade the traditional notion of nation-states embedded in the word *internationalisation* and reject a comparative approach to the analysis of these processes (Knight, 2004). Instead, they strive to overcome the division between the local, national and global in order to facilitate the understanding that individual universities and countries not only respond to the global challenges and forces but can also influence and transform them. Thus, they prefer the terms *higher education globalisation* or *globalisation processes in higher education* instead.

2.2 Academic mobility

While academic mobility has been one of the most widely explored issues in higher education internationalisation research (Teichler, 2004), it has benefited from the diffusion of interdisciplinary approaches and become a field in its own right in the era of globalised education (Dervin, 2011; Gill, 2005). Research into student mobility has dominated the literature, be it the changes in student mobility flows (for example Didelon & Yann, 2012; OECD, 2015), factors influencing the destination of their studies (Li & Bray, 2007; Mazzarol & Soutar, 2002) or their experiences when studying abroad (Cantwell et al., 2009; Evans & Stevenson, 2010; Sawir et al., 2009). In comparison, the mobility patterns of academics, including those of postdoctoral researchers, have received less attention (Cantwell, 2009; Maadad & Tight, 2014). Lack of research is somewhat unexpected in the light of declarations of the importance of research for the knowledge-based economies, innovation potential and overall competitiveness of countries and regions.

Nevertheless, some comprehensive studies examine the dynamics of migration and address the motivations of mobile academics (Ackers & Gill, 2008; Ackers et al. 2015; Gill, 2005; Guth & Gill, 2008). These have also been most relevant for this thesis. Programmes funding the mobility of academics (Erasmus, Marie Curie, Humboldt, Fulbright and others) have also contributed to the research in the area (Jöns, 2009; Kahn & MacGarvie, 2016; Teichler, 2011; van der Sande et al., 2005). Moreover, a number of studies aim to describe the educational and career trajectories of international academics in the United States to estimate their migratory behaviour in the future. Most of the latter rely upon existing databases, tax reports and surveys of international academics in the country (for example Chang & Milan, 2012; Finn, 2010, 2012, 2014; D. Kim et al., 2011; Roh, 2015).

The global scope of modern research and greater freedom of movement have lifted traditional obstacles to scientific mobility and shaped researchers' profession in a way that the mobility has become a natural choice at more than one point in the academic career. While some consider this view overly optimistic (Dervin, 2011; Welch, 2008), the majority agree that transnational mobility has become expected of researchers, almost a prerequisite for the advancement in the career in some parts of the world and that the researchers themselves have embraced this expectation (Franzoni et al., 2012; Guth & Gill, 2008; Jonkers & Tijssen, 2008). The number of doctoral and postdoctoral positions filled through global competition has increased considerably in the last decades (Cantwell & Taylor, 2013; Docquier & Rapoport, 2004). Institutions and countries make efforts to recruit the brightest of researchers and a large part of the world's top scientists already work outside their country of birth (Hunter et al., 2009).

Researchers, once mobile, continue to move across the borders, often between their home and host countries throughout professional lives. Guth and Gill (2008) investigated the motivations of Bulgarian and Polish doctoral candidates studying sciences in the UK and Germany and observed the pattern of their frequent cross-border moves. Guth and Gill were confident that commuting would become a habit for these academics. Also, Metcalf et al. (2005) seeking to establish the motivations of incoming academics, determined that the majority of foreign researchers in the UK

were, in fact, younger than 40 and considered their studies and work at British universities as a stepping-stone to the career somewhere else. For these academics, the return home in the meantime could be just a stopover before the journey continues (Baláž & Williams, 2004; Gill, 2005).

These examples epitomise the fact that national borders have lost traditional meaning in higher education and research, and the people cannot be bound to one place any more. Instead, the global research environment is increasingly interconnected, and the entire world has become the researcher's workplace (Fahey & Kenway, 2010; Marginson & van der Wende, 2007). The shift involves both positive and negative implications. It widens opportunities for cooperation and informal networking as well as researchers' self-gratification and development, but at the same time, opens up avenues for the increased outflow of bright minds from less developed economies (Ackers, 2005; Musumba et al., 2011). Relationships and networks are central to the development of academic careers as a means for building mutual trust and facilitating access to information and resources (Jöns, 2009). These networks can be maintained by fast-developing forms of virtual mobility and communication, yet establishing them benefits from more intimate interaction and co-presence at the beginning of research careers (Ackers et al., 2015, Knight, 2013).

The researchers' movements in the quest of knowledge and continuous interaction with different perspectives allow them to apprehend, nurture and generate new knowledge (Ackers, 2005; Guth & Gill, 2008). Jöns (2009) has claimed that Humboldt research fellows have produced almost 90 per cent of their research output in the aftermath of academic mobility. It is an incredible outcome that, if accurate, could justify the less favourable aspects of global scientific mobility. Jöns, however, does not refer to the researchers who have moved their homes and families on a more or less permanent basis to another country. Instead, she is talking of temporary stays undertaken for a pre-agreed purpose and period, where the return to the previous position at home is facilitated and at times even required. Therefore, we must recognise the importance of definitions in this field.

At first, there seem to be as many definitions of academic mobility as there are papers in the field. King (2002) provides an overview of traditional classifications, such as

voluntary vs *forced* and *temporary* vs *permanent* mobility, while observing the difficulty of capturing contemporary migratory trajectories into the narrow historical concepts. Both King (2002) and Ackers (2005) question the worth of terms *permanent* and *voluntary* in the world where the mobility is expected rather than the exception, and first moves are often followed by the second and third.

Recent literature favours the term *academic mobility* over *academic migration*. Teichler (2015) associates migration with the permanent and mobility with the non-permanent moves, which seems to be a common understanding among the authors. One can also notice the widespread usage of the term *academic mobility* in Europe, where the academics are much more accustomed to the idea of multiple cross-border mobilities throughout their professional lives. On the other hand, the moves of academics and students to the U.S. (and sometimes also to the UK and Australia) seem to have higher potential for permanence and are often referred to as *the academic migration*. Ackers (2005) argues that, eventually, these divisions may have little value in the world, where the initial mobility motivations are often undermined, and visits become permanent residencies over the years.

Besides the apparent benefits, there are also economic, social and ethical pitfalls to the recent upsurge in academic mobility. As already indicated, the flows of scholars are highly imbalanced between the core and periphery countries. While the lack of reciprocity in mobility is ongoing and hard to contest, there are substantial economic and competitive advantages for the host countries that affect their willingness to reinforce change. Researchers (Ackers, 2005; Fontes, 2007; van der Sande et al., 2005) have pointed to the controversy between different goals and principles of the European Union, such as the free movement of people, equal treatment of scientists, balanced development of regions and overall competitiveness of European Union. In practice, equal and merit-based treatment of scientists reinforces the strength and attraction of existing centres of excellence. At the same time, the potential of periphery areas and research groups continues to decline due to the lack of competitive funding and loss of people leaving for better opportunities and prestige (Marginson & van der Wende, 2007; van der Sande et al., 2005).

Jöns (2009) claims that improved opportunities for the movement of academics have provoked wars for talent between countries and regions, and reduced scientific collaboration based on a more balanced exchange of people and ideas. Jöns' sentiment is, of course, related to the growing concern over the German scientists opting for more permanent stays abroad, usually in the US and the UK, and not necessarily on his interest towards the more balanced development of the regions within the EU or in the world in general. It is symptomatic though that the concern for the loss of highly skilled people becomes alarming and tangible only when looking from the position of the sending countries.

In the literature, the concern for the loss of the highly educated people is represented by the illustrative metaphor of a *brain-drain*. Although the term brain-drain was first applied to the outflow of UK scientists to the North-America (Constant & D'Agosto, 2008; Morano Foadi, 2006), it is more appropriate today to apply it to the movement of educated people from less developed countries to countries such as the UK. Beine (2008, p. 631) defines the term brain-drain as "the international transfer of resources in the form of human capital" clarifying that the concept is used for the movement of highly skilled people from developing to developed countries. Ackers (2005) and Salt (1997) underline the relevance of unilaterality, permanence and lack of reverse flows of knowledge in this process. Accordingly, we can identify brain-drain if a considerable number of highly educated people leaves the country permanently, cutting off apparent financial and professional contacts, and there is no parallel inflow of similar quality and scope into the country.

Loss of the highly skilled sets limits to the economic and innovation capacity of the sending countries. Kim et al. (2011, p. 145) and Psacharopoulos (2006, p. 129) refer in this context to the *critical threshold of knowledge* that is essential for the low-income country to extricate itself from the vicious circle of brain-drain, to maintain the growth and start to regain its talents. The brain-drain has a direct negative impact on the countries' tax revenue and benefits from public education also inhibiting the opportunities for invaluable knowledge spillovers (Gribble, 2008; Roh, 2015; Van Bouwel, 2010). Thorn and Holm-Nielssen (2006) point out that the numbers of highly educated people are already much lower in developing countries. In 2018, the tertiary

education enrollment ratio remained as low as 9% in the low-income countries, showing very little change over the last decade, while it reached 75% in high-income countries (World Bank, 2019). Therefore, the loss of an educated individual has a much higher consequence for the low-income countries, many of which are helpless in the trap of continuing loss of talent.

Regardless of growing literature on the impact of brain-drain on sending and receiving countries, the extent of the phenomenon is still little known due to the limited availability of data on cross-border movements (Szelényi, 2006). It is, however, evident that it impacts some types of countries and disciplines more than others. Small countries seem to be more exposed to the migration, and hence, more vulnerable to the brain-drain (Beine, Docquier, & Rapoport, 2008).

There are also regional and economic differences. China and India have been seen as the primary source countries for the international students and academics for decades and therefore dominate the brain-drain literature in education. The sheer scope of the outflow of people from these countries, especially from China, has brought them to the centre of almost every study in the field. In relative terms, however, the countries from the Caribbean and Pacific islands and Sub-Saharan Africa have been most substantially affected by the brain-drain (Docquier & Marfouk, 2005). Eastern-European countries have suffered as well as gained from the vicinity of wealthy Western-European countries. However, their failure to reverse the outflow of academics and students may result in their increased marginalisation.

Migration from Eastern-Europe increased with the breakdown of communism and got a new boost with the enlargement of the European Union (Guth & Gill, 2008). The European Union's basic principle of free movement, as well as the high-level research agenda, endorse and facilitate researcher mobility. One of the reasons behind the mobility initiatives has been the need to adjust different levels of economic and social development. However, the balance of mobility between the countries has remained distorted (van der Sande et al., 2005). There are indications that lack of income or opportunities is not always the reason why the highly skilled people continue to leave the middle-income countries. The attraction of a high-quality research environment

may be as irresistible for the researchers who have worked in the conditions of enduring lack of funding (Kazlauskienė & Rinkevičius, 2006; Musumba et al., 2011).

The winning party in the global race for talents has indisputably been the US, where the newcomers are responsible for the disproportionate share of research and innovation output, especially in the fields of science and technology (Gaulé & Piacentini, 2015; NSF, 2007). In the US, the share of foreign-born doctoral graduates has persistently grown over the last fifty years together with the likelihood of their staying in the US (Chang & Milan, 2012; Dreher & Poutvaara, 2011; Finn, 2014; D. Kim et al., 2011).

The attraction of the US, described figuratively as the "world's largest skills magnet" (Lowell, 2003, p. 1) or "giant funnel of scientific talent" (Hunter et al., 2009, p. 9), contrasts with that of other pull centres, as the positions there are equally pursued by people from the developing and developed world. Highly developed countries continue to lose their highly skilled to the better opportunities in the US, and the wealthy European Union has launched successive strategies to regain and retain its researchers and attract the new (Ackers, 2005; Constant & D'Agosto, 2008; Gill, 2005).

The direction of the flows of academics and students has been frequently linked to the dominance of the Anglo-American higher education system and the English language (Chen, 2015; Jöns, 2009; Marginson, 2007). It is characteristic that these countries have recognised higher education as a significant source of exports (Deloitte, 2016; D. Kim et al., 2011; Pásztor, 2015). Epping and Vossensteyn (2012) searched for the policy instruments encouraging foreign doctoral graduates to return to their home countries and found that the problem of brain-drain was hardly recognised by the universities and governments leading the global race for talents. Disregard of policies is often justified with the impending brain-gain for the sending countries when the highly educated people return. However, no efforts are made to encourage them to make that move (Epping & Vossensteyn, 2012; Gaulé, 2011).

Some researchers have contested the concept of brain-drain seeing the fascination with comparative migration flows and emphasis on the winners and losers as too simplistic and obsolete (Ackers, 2005). The brain-drain literature has also been

criticised for its axiomatic assumptions, for instance, that the transfer of knowledge happens when people physically move or that the gain of one country necessarily involves a loss for the other (Lee & Kim, 2010; Saxenian, 2002).

As an alternative, Saxenian (2002, 2006) proposed the concept of *brain-circulation,* allowing a broader perspective and challenging the new-classical understanding of migration processes and benefits. The concept of brain-circulation refers to the international knowledge networks and globally attractive, yet regionally situated research clusters as forces affecting the nature and duration of academic mobility today (Saxenian, 2006). Positive global and individual benefits, such as improved transfer of knowledge between the core and periphery countries and better career opportunities for individual academics, are only some of the benefits of phenomenon (Baruffaldi & Landoni, 2012; Chen, 2015; Saxenian, 2006).

Brain-circulation literature strongly emphasises the rewards of return academic mobility, yet arguing at the same time that even the permanent emigration of people would not designate loss of knowledge or capacity for the home country. Migrant scientists tend to maintain cultural, professional and financial contacts with their home, and their activities abroad keep affecting their home countries (Ackers, 2005; Gribble, 2008). They may return for the short periods as guest lecturers or researchers, mediate the transfer of technology and knowledge, contribute to the research projects at home or involve the former colleagues to their projects abroad (Lowell & Findlay, 2001). Their leaving, therefore, entails positive aspects as well.

2.3 Return migration of academics

The brain-circulation concept entails that mobile academics continue to move and are likely to return with better education and professional preparation than they would have received at home. The latter is also a tacit expectation of various scholarship schemes, including the one evaluated here, where the return is anticipated to a greater or lesser degree. The growing literature on return academic mobility allows testing the idea of continuously mobile academics.

The quality of empirical research has improved visibly over the last decade, although compared to the attention given by the researchers to outward mobility, its scope has

remained limited. Bartram et al. (2014) explain this with the data constraints specific to return mobility. They suggest that countries' failure to register the entries and departures of their citizens account for the gaps in understanding the return academic mobility. Indeed, researchers complain about data that is incomplete, unsystematic and not collected on a comparable basis (Constant & D'Agosto, 2008; Franzoni et al., 2012; Gill, 2005; Morano Foadi, 2006; Thorn & Holm-Nielsen, 2006).

Some studies have analysed various forms of mobility together as if the factors affecting the different types of mobility were the same beyond doubt. It has happened more often in Europe, where short exchanges are of greater relevance; hence the incentives for short visits and permanent migration have sometimes left undifferentiated. The data sets in these studies have, thus, been based on convenience and availability of data, rather than conceptual reasoning.

Some researchers have opted to investigate the return intentions of on-campus students and academics to overcome the data problem. A significant share of return mobility research investigates return intentions instead of the real movement of people, assuming that people's intentions could adequately represent their actions years later. There are studies, however, that reveal the changing nature of initial return intentions and demonstrate that the decision to return is not a one-time resolution, but constantly shifting idea that is affected by the circumstances and opportunities as they present themselves (Coey, 2013; Finn, 2012, 2014; Netz & Jaksztat, 2014). Studies of intentions and perceptions have their worth as long as the alleged intent is not understood as a reliable proxy for the real action. Such studies tend to overpredict actual mobility and should not, therefore, be used to shed light on the motives behind real return mobility (Zeithammer & Kellogg, 2013).

On the whole, there are three types of studies of academic return migration. First, large-scale quantitative surveys that reflect the interests of host counties, most often the US. Secondly, the studies based on openly available data, such as the publications, citations, employment data, that investigate the movement of individual academics in time, often involving multiple home or host countries. Finally, in-depth qualitative studies aiming at understanding the determinants of return decisions of individual academics. The interests of home countries often drive the latter. The first and second

type of studies tend to focus on general trends of return mobility and its external determinants without an ambition to understand the complex, shifting and situated nature of actual decision-making of academics (Cantwell, 2009; Chen, 2015). Qualitative studies shed more light on the personal and emotional reasons behind the return mobility as well as its complex and changing context, yet are often confined to merely describing the contextual circumstances that make the return more likely. Inquiries that try to understand, at least partly, the mechanisms that activate the human agency and make academics return, are still lacking.

The majority of studies tackle the issue of return mobility from the perspective of the host countries. Here, research is dominated by the US-centric discourse. These large-scale quantitative studies investigate the preferences of academics from major source countries, most of them in Asia. Smaller countries are typically represented under the heading "other countries" and in the form of aggregated data. Studies encompassing mobile researchers in multiple host countries are few and far between.

The changing nature of academic mobility makes defining return mobility difficult. Ackers (2005, p. 115) was one of the first to ask "when can we say someone has left or returned and for how long will they remain?". Is a year abroad enough to be considered a returnee? Are ten years? There are indications that many returnees have, in fact, after a few years left again (Tharenou & Seet, 2014). Some returnees keep commuting between the home and host countries trying to ensure the benefits of both being at home and staying abroad (Guth & Gill, 2008). Because of these data and definition difficulties, the seemingly similar empirical studies often reveal inconsistent results and our knowledge is, therefore, still rudimentary.

There are several lines of inquiry to return academic mobility, not all of them equally relevant to this study. An increasingly popular topic is the experience of returning academics that seem to be determined by the socio-economic and cultural environment of both the home and host countries. These analyses show that the return to home, while easy on the face of it, is rarely a straightforward business (Bartram et al., 2014; Chen, 2015; Guth & Gill, 2008). The contributions of returnees to the home country and general benefits of return mobility is another recurring theme in the literature. After a period of adjustment, returning academics seem to be

more productive than their local colleagues, publish more often with peers abroad, have more citations, are more likely to participate in international projects, more competitive in organising and conducting research, faster promoted and, hence, more likely to acquire leading positions in the local research establishment (Velema, 2012; Veugelers & Van Bouwel, 2015).

While there is general agreement about the positive influence of academic return mobility upon local research environment and its power to facilitate the transfer of knowledge and technology, there are also warnings that not all return is beneficial and necessarily desirable (van der Sande et al., 2005; Velema, 2012). The return may not lead to the transfer of knowledge and broader benefits if the returning academics are required to work in the environment that is stagnant, unsupportive and technically out-of-date (Ackers, 2005; Fontes, 2007). The return is, therefore, useful only if the environment is capable of accommodating the returning academics by offering them opportunities to continue their work productively (Ackers, 2005; Velema, 2012). This includes openness to the people and ideas from outside the system recognised as an obstacle to the return in some countries (Chen, 2015; Delicado, 2011; Morano Foadi, 2006). The benefits may also be limited if academics return because of their failure to succeed elsewhere. The inability to integrate with the host institution and society and lack of opportunities abroad are recurrent causes of return. The benefits of return remain, however, modest if the returning academics are only too happy to leave their experience from abroad behind.

The determinants of return are the most frequent topic in the literature on academic return mobility being of interest to the authors from home and host countries equally. These studies often hinge upon the *push-pull model* representing the neo-classical approach to migration (Baruch et al., 2007; Morano Foadi, 2006; Thorn & Holm-Nielsen, 2006). Results of these studies relying on push-pull model typically describe the external factors, some less tangible than others, that influence the return decision-making processes of academics and thereby prompt their movement. They do not, however, seek to understand why the specific academics return, what are the mechanisms that make them act, and why the seemingly similar contextual circumstances activate the return of some academics and not the others. These

external factors outline the contextual circumstances that *potentialise* the return, make it feasible, a viable alternative to staying (Cantwell, 2009). These push-pull factors do not capture individual agency effectively. The existing literature tells us very little about the mechanisms that *actualise* the return, i.e. turn the idea and possibility of return into an action (Cantwell, 2009). Even so, the push-pull model is the most widely used migration theory in the academic return mobility research, and its outcomes are very relevant to this study as well.

We should acknowledge that a majority of research in this area is carried out from the perspective of major host countries, mainly the US, but also the UK and Australia. The main reason for this is again the lack of necessary data. It is also characteristic that the majority of investigated researchers come from Asia, and circumstances of only larger sending countries, such as China, India, and South Korea, have been scrutinised individually, owing to the share volume of academic mobility from these countries. The literature makes it very clear, however, that the motivations and preferences of academics from different regions and countries are far from being identical.

Hence, at first, it seemed sensible to exclude the studies focusing on large Asian sending countries from the scope of this review, as being less relevant for understanding the academic mobility from a small Eastern-European country. The opportunities at home will always be more extensive for the returning academics from China compared to those from the countries accommodating a handful of research-based universities only. On the other hand, the review aimed to register the contextual factors proven to affect the decision-making of returning academics. The return behaviour of academics seems to be country-specific, rather than region-specific for reasons not determined in the existing literature. The research does not suggest that the return of academics from large Asian countries is influenced by circumstances unique to those countries only. Large countries offer wider opportunities for the return, but behavioural mechanisms activating the return may well be the same. Furthermore, the research reveals that return behaviour is dependent on the changing political and economic circumstances, and low-return countries can become high-return countries over time. For these reasons, I have not excluded any studies based on the size or location of the sending country.

The relevance of US-centric studies representing a majority of research was another point to consider. The US has an exclusively unique position as the pull-centre of the academic world. There are no other countries where the stay-rate of incoming academics could be compared to the US. Thus, studies reflecting the return behaviour of academics in the US could be excluded as a deviation from the norm. For the current study, the level of return is, however, less relevant than the factors affecting movement. The factors affecting the return migration of academics working in the US are no different from those influencing the return elsewhere. The uniqueness of the US seems to be in the strength of those influences rather than in their nature. Factors attracting mobile academics the most are preeminently present in the US. Therefore, the all-inclusive approach seemed appropriate for the review conducted to map the potential factors for programme theories.

The following is an attempt to map the factors affecting the return behaviour of mobile students and academics based on existent empirical literature in various fields, including human geography, management studies, sociology and educational research. Factors are divided broadly into professional, private and miscellaneous. Literature gives no preference for any of them as the return decision is rarely motivated by a single factor or even type of factors. Instead, it is always a highly multi-layered process, where many simultaneous, interwoven, sometimes conflicting and subconscious rationales push and pull the individual to a specific direction.

It is an inventory of factors that have contributed to the contextual circumstances making the return academic mobility more feasible. The relevance of certain factors would be contingent upon the economic, political and cultural setting of both the host and home countries, but also the career ambitions and life-style preferences of individual academics (Gill, 2005). Some factors signify both the push and pull forces, sometimes even simultaneously. For example, while the weak R&D environment at home country pushes the academics away, the stable environment abroad pulls them to a specific direction at the same time. The same factors seem to affect the outward and return mobility of academics. The academics that have left because of lack of job opportunities would be pulled back by the same force if the employment situation improves or the qualification obtained abroad allows contending for the existing jobs.

2.3.1 Professional factors

In their quest for a productive work environment rather than financial benefits, the academics seem to constitute an exceptional group among the highly skilled (Mahroum, 2000). I herewith describe professional factors that have been identified by the researchers as relevant to the return decision-making of academics. These are aspects associated with the job opportunities, openness and competitiveness of research environment, academic freedom, fair system for promotions and funding, stability and prestige of the job, level of bureaucracy, maintaining contacts with colleagues at home, and among others the adequacy of financial provisions.

It is common-sense to assume that *job openings* both at home and host countries influence the return of academics, which is also confirmed by the existing research (Coey, 2013; Esen, 2014; Franzoni et al., 2012; Gill, 2005; Guth & Gill, 2008; Jonkers & Tijssen, 2008; D. Kim et al., 2011; Musumba et al., 2011; Soon, 2012). Attractive employment opportunities at either end are recognised to establish the pull force driving the decision-making of highly skilled. On the other hand, the lack of or limited access to high-quality jobs, may it be due to the country's economic difficulties, organisational reasons or unfavourable immigration regulations, acts as a push factor. The employment opportunities are known as the factor affecting the outward and return migration of academics equally. People who have left home due to the lack of attractive job opportunities may return if the tides turn. Revision of R&D structure and investments may increase or reduce the availability and attractiveness of the jobs in any country (Chen, 2015; Fontes, 2007; D. Kim et al., 2011), and the international experience may open the door to the existing jobs at its own accord.

Many authors suggest that the *field of study* has a bearing on staying and return. For example, there are indications that academics in the field of science and technology may be less inclined to return home (Ackers & Gill, 2005; Chang & Milan, 2012; de Grip et al., 2010; Fontes, 2007; Gupta et al., 2003; D. Kim et al., 2011; Lee & Kim, 2010; Soon, 2010, 2012; Van Bouwel, 2010). I, however, tend to agree with researchers who refer to the job opportunities in those fields as the underlying determinant (D. Kim et al., 2011; Lee & Kim, 2010). The difference between disciplines in return rates may be

noticeable, its' roots are, however, not in the peculiarities of the field, but the availability of attractive job opportunities and research grants in these disciplines.

Fascinatingly, Franzoni and his colleagues (2012) who compared the return decision-making of foreign-born academics in 16 OECD countries, found that job prospects at home did not have equal relevance to academics in all countries. Availability of jobs at home had less relevance than other factors for mobile academics from Sweden, Brazil and India. Authors do not explain why this might be so, it, however, confirms the idea that factors affecting the return decision-making are highly country-specific. Lee and Kim (2010) propose that as attractive employment opportunities are assured for the mobile academics returning to South Korea, the cultural and social factors seem to gain a more significant role in decision-making. Although, at least in the case of South Korea, the job opportunities are, in fact, still a tacit expectation *sine qua non*.

In contrast, *international experience* can become *a hindrance to the return*, to lock the mobile academics out of their own home countries (Ackers, 2005; Delicado, 2011). The issue frequently emerges in Italian academic return studies from a decade ago. Researchers have described the Italian higher education system as closed and over-regulated, lacking meritocratic recruitment and promotion procedures, harbouring rigid hierarchies, bureaucratic and intrinsically feudal (Ackers, 2005; Constant & D'Agosto, 2008; Delicado, 2011; Fontes, 2007; Gill, 2005, p. 828; Morano Foadi, 2006). These predicaments made entrance to the system difficult to any outsider, including the returning academics. Similar obstacles to the return have been encountered in China (Chen, 2015), Turkey (Esen, 2014; Tansel & Güngör, 2003) and Eastern-European countries (Guth & Gill, 2008) as well.

Esen (2014) identifies the *lack of academic freedom* and political interfering to the research as another critical push factor common to the closed systems. These barriers have a robust negative implication for academics who have adapted with the transparent and merit-based career systems abroad (Ackers, 2005; Thorn & Holm-Nielsen, 2006; van der Sande et al., 2005). Eventually, it does not necessarily require high wages to potentialise the return. The environment can be salutary by just being accessible, supportive and rewarding the merit rather than seniority or prior associations (Cheung & Xu, 2014; Guth & Gill, 2008; Jałowiecki & Gorzelak, 2004).

Maintaining *professional contacts with researchers at home* is another crucial factor that allows transcending at least some of the barriers to return mobility. Professional networks play a crucial part in academic recruitment (Guth & Gill, 2008; van der Sande et al., 2005). Their significance has been documented in the return mobility as well. Close professional contacts are found to expedite the access to information about job openings at home, build familiarity with career and funding opportunities, provide a safety-net through the red tape and help to overcome the resistance to outsiders (Ackers, 2005; Baruffaldi & Landoni, 2012; Gill, 2005; Morano Foadi, 2006). Academics, who have not maintained professional contacts with the colleagues at home, are least likely to return (Avveduto, 2001; Baruffaldi & Landoni, 2012; Gill, 2005; Musumba et al., 2011). The existence of contacts can also be an indication of initial intention to return, as was appropriately suggested by Baruffaldi and Landoni (2012). Initial motives play a significant role in the return decision making, as further discussed later.

There seems to be general agreement that *income differences* instigate skilled migration (Cassarino, 2004; Mahroum, 2000). Significant salary disparities between the home and host countries seem to function as pull and push factors for academics as well, but only as long as the gap is large enough (Borjas & Bratsberg, 1996; Mahroum, 2000; Thorn & Holm-Nielsen, 2006; Zeithammer & Kellogg, 2013). Studies show that income is hardly the crucial aspect in return decision-making of academics (Chen, 2015; Gibson & McKenzie, 2009; Soon, 2010, 2012). It would be interesting to explore at what point the salary difference becomes less relevant than other factors and whether academics with different socio-cultural backgrounds respond to these changes similarly. As it is, most authors agree that in the eyes of academics financial aspects are often outbalanced by other professional reasons, such as the competitiveness of environment, availability of research funding, relationship with the colleagues, professional gratification, job stability or similar (Chen, 2015; Constant & D'Agosto, 2008; Fontes, 2007; Thorn & Holm-Nielsen, 2006). It would be an overstatement, however, to say that academics do not move for economic reasons, because other factors become relevant only if adequate financial provisions secure a reasonable standard of living (Ackers, 2005; Mahroum, 2000). Financial considerations are, therefore, broader than just the salary, including other benefits, such as

healthcare, childcare and provisions for pensions (Ackers, 2005). Nevertheless, salaries that allow comfortable living continue to operate as a pull factor for academics from low-income countries.

Researchers are not in agreement concerning the impact of *governments' return incentives* on academics' decision-making. Governments introduce these policies to make the return more attractive to academics. Their instruments often involve higher salaries, secured funding for research, tax concessions and resettlement grants (Mahroum, 2000; Thorn & Holm-Nielsen, 2006). Many middle-income countries have introduced this kind of incentives in the last 20 years (Jonkers & Tijssen, 2008), among them Argentina (Jonkers & Cruz-Castro, 2013; Pellegrino, 2002), China (Chen, 2015), Malaysia (Lowell, 2002), Mexico (Lowell, 2002; Lowell et al., 2004), South Korea (Lee & Kim, 2010), Portugal (Fontes, 2007), Taiwan (Luo & Wang, 2002), Turkey (Esen, 2014; Tansel & Güngör, 2003) and Estonia.

These incentives are sometimes criticised as having little additional value. Being politically motivated, they are implemented hastily, and without prior understanding of whom and how they would affect (Fontes, 2007; Thorn & Holm-Nielsen, 2006). Some authors complain that the wrong incentives have been introduced (Esen, 2014; Franzoni et al., 2012; Gibson & McKenzie, 2009). Others that they mainly attract unsuccessful or mediocre academics, as the return is an appealing option to people who have failed to succeed abroad and have no alternative job offers there (Baruffaldi & Landoni, 2012; Gill, 2005). There are also suggestions that repatriation schemes help to return people who would have returned regardless. Hence, the return benefits are seen unfair by local colleagues or even encourage them to leave in turn (Baruffaldi & Landoni, 2012; Thorn & Holm-Nielsen, 2006). In short-term, at least some of the repatriation initiatives seem to have considerable impact, and the most visible success story in the return academic mobility is, of course, China (Chen, 2015).

Critics of repatriation schemes suggest, however, that the impact of policies aimed at returning academics would remain limited unless accompanied by the policies targeting the *competitiveness and openness of R&D environment* (Esen, 2014; Fontes, 2007; Gill, 2005; Thorn & Holm-Nielsen, 2006). The research environment is an essential factor affecting the decision-making of returning academics (Baruffaldi &

Landoni, 2012; Thorn & Holm-Nielsen, 2006). Some authors consider the level of R&D investments as the primary indicator of attractiveness of the research environment signalling the quality of facilities, equipment and overall research, the prestige of institutions, openness and international collaboration and the like (Constant & D'Agosto, 2008; Gribble, 2008; Guth & Gill, 2008; Hunter et al., 2009; Morano Foadi, 2006; Tansel & Güngör, 2003). In the case of China, academics have returned mainly because the research environment there has become more competitive and international (Chen, 2015; Jonkers & Tijssen, 2008). Hence, there is an apparent justification why academics tend to return most likely to the countries with high-level R&D environment (Thorn & Holm-Nielsen, 2006; Van Bouwel, 2010), and repatriation of academics may, therefore, not be attainable in low-income countries.

Prestige and success are appealing to academics (Constant & D'Agosto, 2008; Guth & Gill, 2008). Some institutions offer better connectivity with the academic elite, reputation, visibility, even generate the prestige for and contribute to the productivity of their affiliated academics (Coey, 2013; Velema, 2012). Institutions that can do that are few and far between and seem to cluster financial resources as well as greatest minds from around the globe (Ackers, 2005; Mahroum, 2000; van der Sande et al., 2005). Professional prestige and success seem to be factors that reduce the likelihood of return, or matter-of-factly, the best do not return. There is evidence that the graduates of most prestigious institutions and programmes return less likely (Gaulé & Piacentini, 2015; Roh, 2015; Van Bouwel, 2010; van der Sande et al., 2005), the graduates with the highest grades return less likely (de Grip et al., 2010), the doctoral graduates return less likely than graduates from lower levels (Gibson & McKenzie, 2009; Soon, 2010), the most productive and highest cited academics again return less likely (Gaulé, 2011; Gupta et al., 2003; D. Kim et al., 2011; Veugelers & Van Bouwel, 2015; Weinberg, 2011). The elite is attracted to the elite. The best can work at the best facilities and with best people, and thus have more to lose when returning to the less than exceptional environment (Fontes, 2007; Gibson & McKenzie, 2014). These findings reveal that the much-proclaimed brain-circulation happens with an obvious limitation that the best do not return.

Job stability has become another factor affecting the location choices of academics. The globalisation of higher education has reduced the security and social benefits attached to the academic work, most significantly for young academics who are increasingly working under short-term contracts with low social guarantees (Ackers, 2005; Cantwell, 2009; T. Kim, 2010; Morano Foadi, 2006). Shortness of contracts makes the postdocs the most mobile academic group today. Fahey and Kenway (2010) warn that forced consecutive mobilities of young academics nurture superficial research culture, where mobility as an act is romanticised and fetishised. However, the temporality of positions leaves insufficient time for critical reflection.

Although less evidently, job security is sought by more experienced academics as well. Increasingly fragmented, competition-based and short-termed funding of research has brought the constant pressures of applying, reporting and cost accounting to the everyday lives of academics. There seems to be a growing divide between the requirements of accountability and researchers' creativity and productiveness (Constant & D'Agosto, 2008; Thorn & Holm-Nielsen, 2006). In these circumstances, the stability of the job has become a factor in its own right affecting the return decisions of academics (Chen, 2015; Coey, 2013). Paradoxically, most repatriation schemes offer temporary positions, and what happens after the initial funding period has seldom received attention.

2.3.2 Private factors

While authors agree that work-related aspects are powerful mobilisers for academics, there are views that academic migration, and the return migration, in particular, is rarely a consequence of rational deliberation upon the pros and cons of professional career only (Coey, 2013; Findlay, 2011; Pásztor, 2015). Findlay (2011) argues that by limiting the analysis to the professional factors, we would disregard the social, cultural and financial setting of decision-making that is unique each time. There are claims that mobile academics maintain a strong national identity and social connection with the home even years after leaving. Having "thus, a natural gravitation towards the home country", they keep the return option on hold until the contextual circumstances make it feasible (Thorn & Holm-Nielsen, 2006, p. 2). It would mean that academics do not

return because of rational benefits, but rather their sense of identity and belonging (Chen, 2015; Thorn & Holm-Nielsen, 2006).

The following paragraphs describe the most significant private factors that influence the return mobility of academics. These include the personal constraints based on gender or well-being of the family, but also emotional, cultural and lifestyle preferences reflected in customs and habits, feelings like homesickness, identity and patriotism, political ideas, civil liberties and the like. Private factors are usually less rational, which does not mean that external incentives or programmes could not shape them.

Male and female academics ascribe importance to different factors when contemplating the return. The disparity arises from their different roles in the family, values and priorities based on their culture, traditions, upbringing and women's rights in the host and home countries. When compared to their male colleagues, the decision-making of female academics is more affected by family-related issues (Ackers, 2005; Lee & Kim, 2010). Women are also more often the tied movers and tied stayers as they tend to prioritise the needs of their children and partners over the wishes and preferences of themselves (Ackers, 2005; Ackers & Gill, 2008; Chen, 2015; Coey, 2013; Jöns, 2011; Leung, 2013). Indeed, the very traditional view of roles in the family and society still very much affects the career choices of female academics.

Literature reveals that female mobile academics are less likely to return to their home countries after graduation (Gaulé, 2014; D. Kim et al., 2011; Musumba et al., 2011; Roh, 2015; Zeithammer & Kellogg, 2013). Kim (2011) suggests that this may be due to *better civil rights and work prospects for women* in host countries compared to the opportunities at home. If that were true, we should assume that it is relevant to female academics from countries where girls and women do not have equal access to education and the labour market. Gender differences should be less evident in the return academic mobility from one Western country to the other. I have found no such comparative analysis, but the main groups of academics examined in studies mentioned above had indeed come from Asia and Middle-East. In a way, the notion is supported by the findings of Baruffaldi and Landoni (2012). They investigated the

return intentions of predominantly European and South-American academics in Italy and Portugal, finding little evidence of constraints based on gender.

Family-related factors, however, outweigh the issues of individual liberties for both male and female academics. Some studies even determine the family-related factors as the most relevant in the return decision-making (Coey, 2013; Franzoni et al., 2012; Gibson & McKenzie, 2014). Partners are the key players in this decision-making and, therefore, can restrain the mobility, especially in double-career relationships (Ackers & Gill, 2008; Jöns, 2011). Having a partner from the host country increases the likelihood of staying there and having strong family ties at home makes the return more likely (Baruch et al., 2007; Chen, 2015; Coey, 2013; Gibson & McKenzie, 2014; Gill, 2005; Lee & Kim, 2010). The opportunities for partners at home are central to the return decision-making, even more so when the partners are male (Ackers, 2005; Ackers & Gill, 2008; van der Sande et al., 2005).

Existence of children creates another set of expectations to the environment. The availability of childcare and quality of education are essential influencers of the return of academics with families (Ackers & Gill, 2005; Chen, 2015; Gibson & McKenzie, 2014; Gill, 2005; Zeithammer & Kellogg, 2013). Timing of the return is often resolved in the way that the child would have the best opportunity to adapt to the new environment. The return is, therefore, expedited to take place before the start of the school or postponed until after leaving school (Ackers & Gill, 2008; Chen, 2015). Ultimately, the caring responsibilities are still disproportionately shared even in societies with more equitable partnership roles. For this reason, female students, while increasingly mobile at a younger age, seem to have less flexibility for relocation beyond the age of 35 (Ackers & Gill, 2008; Jöns, 2011).

Families at home affect the return (Baruch et al., 2007; Gibson & McKenzie, 2009; Gill, 2005; Lee & Kim, 2010; Soon, 2012). The need to take care of ageing parents is a compelling argument in countries with a strong bond between the generations (Gill, 2005) and also when leaver is the only child in the family (Chen, 2015). *Parents' expectations* seem to be relevant here. Academics that are expected to return by their parents are more likely to return (Zeithammer & Kellogg, 2013), and vice versa, parents' support to the idea of permanently staying abroad makes the return less likely

(Soon, 2010). Unfortunately, these studies do not weigh the parents' expectations against the initial intentions to migrate. These academics may well have left home with the explicit intention not to return at the first place.

Social responsibility may also extend to the country level. In some cases, more often in less developed countries, the academics felt a *moral responsibility*, even an obligation to return home and contribute to the development of their country. Szelényi (2006) investigated the return mobility intentions of US graduate students from Brazil, China and Italy. She identified that Brazilian and Chinese students sensed great loyalty towards their countries, even to the point of belonging to their homeland and seeing experience abroad as a means to serve it. Remarkably, the sense of responsibility towards one's country was less prominent in graduate students from Italy. Szelényi did not associate loyalty to the return, but to the conviction to contribute to the development of their countries from a distance, yet she did suggest that such feelings would facilitate actual return as well.

Emotional factors like *patriotism and loyalty* affect the return decision-making, most obviously in case of academics from Asia (Chen, 2015; Dimmock & Leong, 2010; Lee & Kim, 2010; Tharenou & Seet, 2014). In their study aiming to establish the factors affecting the return of elite high school graduates in small Pacific islands, Gibson and McKenzie (2009) discovered that also graduates from Tonga and Papua New Guinea felt a responsibility to contribute to the development of their countries, while the graduates from New Zealand did not. I have found no studies helping to understand the reasons behind these differences. The reasons may lie in the culture (collectivistic vs individualistic) or level of development of the country. The latter could, in turn, indicate that individual sacrifice becomes less valued at a certain level of prosperity.

Cultural preferences may, of course, manifest in less obvious ways as well. These sometimes invisible aspects establish "natural gravitation" towards home (Thorn & Holm-Nielsen, 2006, p. 6). People tend to prefer familiar lifestyle, climate and natural environment, friends and colleagues with a certain temperament and cultural affinity; they want to offer their children growing environment similar to that of their own (Ackers, 2005; Chen, 2015; Fontes, 2007; Gibson & McKenzie, 2009; Gupta et al., 2003;

Soon, 2010). These aspects may not be the primary reasons for return, yet become prominent if other requirements are fulfilled.

There are indications in the literature that *social background* can affect the mobility behaviour of academics. Mobile students and academics are more often from middle and upper classes and better-educated families (Netz & Jaksztat, 2014; Pásztor, 2015; Szelényi, 2006). Grogger and Hanson (2015) found that foreign doctoral graduates with better-educated parents were less likely to return home from the US. In all fairness, the difference was not vast but was there. The authors were confident that children from highly educated families were academically more able, professionally more successful and earned higher wages later in life. Thus, they saw their finding as an example of positive selection based on ability that can be related to my earlier finding that the best do not return.

Satisfaction with the experience abroad can become a strong determinant of return. It is related to the ability to succeed, cope with and eventually become accustomed to the new culture and society. Academics who fail to integrate to the host institution and society are more likely to return (Baruch et al., 2007; Musumba et al., 2011; Tharenou & Seet, 2014). Quality of the experience abroad can be, of course, improved with relevant support structures at the host institutions. On the face of it, the risk of failure to integrate should be higher for academics from countries with substantial social and cultural differences from the host. I have, however, not found validation to this in the framework of this study.

2.3.3 Miscellaneous factors

Few factors emerge that are difficult to classify as professional or private as they pervade multiple aspects of life. These factors, however, greatly influence the sense of belonging and identity of mobile academics.

First, as widely acknowledged, *the initial aim of mobility* is a crucial determinant of return. Studies reveal that academics, who migrate intending to stay abroad for a limited time or purpose, are more likely to return when they have met their objective (Gribble, 2008; Gupta et al., 2003; Soon, 2010; Tansel & Güngör, 2003; Tremblay, 2008). Academics often undertake mobility to advance their careers at home. For

them, studying and working abroad is simply a means to accumulate credentials necessary for the desired benefits back at home (Ackers, 2005; Cantwell et al., 2009; Guth & Gill, 2008; Jonkers & Tijssen, 2008; Lee & Kim, 2010; Morano Foadi, 2006; Pásztor, 2015). Such specific and temporal purpose has a vital bearing to the subsequent behaviour of academics, making their resolve to assimilate less resolute, their appreciation of colleagues at home more profound, both contributing to the return. Predetermination to return is not related to the career advancement only, but similarly cultural, social and lifestyle choices, family solidarity, emotional belonging and patriotism mentioned above. Initial intentions change obviously (Baruch et al., 2007; Chen, 2015; Gill, 2005), yet remain one of the most potent determinants of eventual return.

Another widely accepted cause of return seems to be *the time spent abroad*. Natural gravitation towards home becomes weaker with increasing familiarity and integration to the host society (Cassarino, 2004; Jonkers & Cruz-Castro, 2013). The longer the academics live in the host country, the better they are adjusted with its social and cultural peculiarities. They develop a sense of belonging towards the host country, and home becomes increasingly inaccessible, even estranging. Empirical literature strongly confirms the tenet (Baruffaldi & Landoni, 2012; Coey, 2013; Gill, 2005; Musumba et al., 2011; Soon, 2010, 2012; Tansel & Güngör, 2003; Van Bouwel, 2010).

Academics, who have studied and lived abroad longer are less likely to return home (Baláž & Williams, 2004; Coey, 2013; de Grip et al., 2010; Gill, 2005; Mazzarol & Soutar, 2002). Netz and Jaksztat (2014) explain this with better adjustment and awareness that help to cope with cultural differences and reduce the desire to return. Chen (2015), who investigated the return experiences of Chinese academics, saw how the initially strong intentions to return transformed in time as the act of return was delayed. At first, the return was merely postponed until after a particular event or achievement, yet something else to accomplish or experience always emerged. With the time, however, links to the home weakened, and integration to the host country became firmer till the definite intention became indetermination and doubt.

Interestingly, based on the survey carried out to investigate the initial return intentions of international students in New Zealand, Soon (2010, 2012) discovered no

association between initial intention to return and prior mobility experience. It is, however, essential to remember that Soon analysed initial return intentions only and actual return behaviour of these students remains unknown. She established that students who had reached the doctoral level were less inclined to return. This may be related to the limited work opportunities for doctoral graduates at home or even the fact that the best do not return, but may also indicate their better familiarity with the host society.

Sometimes, the phenomenon has been related to the specific *stages in the career*. Literature suggests that the return becomes less likely as the career develops (Fontes, 2007; Gaulé, 2011, 2014) and that it is more likely immediately after the doctoral graduation (Finn, 2014; Van Bouwel, 2010). In these cases, the more fundamental time factor could equally well explain the result. Professional advancement is relevant but maybe from another angle. The employment after the doctoral graduation seems to increase the likelihood of non-return (Finn, 2014; Gaulé, 2011; D. Kim et al., 2011), and academics in permanent positions seem to be less likely to return compared to their colleagues working on temporary contracts (Baruffaldi & Landoni, 2012; Coey, 2013). These examples demonstrate the importance of job stability as a factor, but more importantly, reflect the significance of integration into the local environment. People are less likely to escape the system that is embracing them instead of pushing away. The time factor has a vital part in it, touching every sphere of lives of mobile academics, disturbing what and how they perceive as home.

The source of funding is another significant factor affecting the return decision-making of academics. Many scholarships and research grants involve a requirement to return home after the period abroad, which is sort of a *carrot and stick approach* to prevent the brain-drain (Pásztor, 2015, p. 839). Such requirements are connected to the initial intention of migration. They are sometimes accompanied by definite job prospects at home, increasing the attractiveness of the return even further. This is why some authors have excluded academics with the return clause in funding from their sample (Soon, 2010, 2012); hence we do not know how many students and academics manage to circumvent those requirements. Others have noticed that these requirements are not always absolute and sometimes can be avoided (Szelényi, 2006; Tansel & Güngör,

2003; Van Bouwel, 2010). This can be the case if the non-return results in the request to reimburse the received funding, sometimes in part or over the time, either making it easier to comply with, especially when having an attractive job at the top university balancing it out.

Regardless of few deviations from the rule, the literature endorses the idea of funding as a significant influencer of mobile students and academics, even if it comes without the return requirement (Gibson & McKenzie, 2009; D. Kim et al., 2011; Musumba et al., 2011; Pásztor, 2015; Szelényi, 2006; Van Bouwel, 2010). Grogger and Hanson (2013) analysed the mobility choices of doctoral graduates in sciences and engineering from US universities and established the correlation between funding and their intent to leave the country. The results indicate that doctoral candidates who have received their primary funding from abroad are less likely to stay in the US after their graduation. Same was confirmed by Musumba (2011), who found that students were more likely to return to the country that had sponsored their studies. Previously, Odenyo (1979) had realised based on his research on earlier brain-drain from Kenya that it is precisely the public funding of the home country that affects the return migration, not private resources coming from the family or personal savings. Furthermore, Grogger and Hanson (2013) demonstrated that scholarships from local institutions increased the beneficiary's likelihood of staying in the US, unless the funding came with restrictions, as has been the case with the scholarships from Fulbright, Ford and Mellon Foundations.

Van Bouwel (2010) examined the return mobility of European doctoral graduates in economics from Canada and the US and established that the return requirement influences the return significantly. She suggested, however, that the return requirements benefit the countries with lower R&D investments for whom the other means to attract their expatriates remain inaccessible.

These findings reveal that funding from the home country influences positively return mobility, even if it does not involve direct requirements. The reviewed papers do not state any specific reasons for the phenomenon. I can therefore only speculate that the financial reward could contribute to the sense of loyalty and generate a desire to return the favour, which in turn strengthens the initial intention to return.

The described factors should be regarded with understanding that their relevance is contingent on the academics' country of origin. There is evidence from multiple studies that mobile academics with different national and cultural backgrounds have different likelihood as well as incentives for returning home. Research has not provided straightforward explanations for this phenomenon. Some scholars have found that academics from high-income economies were more likely to return home than those from the middle or low-income countries (Grogger & Hanson, 2013; Roh, 2015), whereas the census surveys of US foreign doctoral graduates (Finn, 2010, 2012, 2014) have revealed a much more multifaceted picture. For example, academics from India, Iran and Romania are more likely to stay in the US, while their colleagues from Thailand, Jordan or Chile tend to return home (D. Kim et al., 2011). One explanation to the divergent preferences has been that the capacity of universities to attract the best academics is contingent not so much on the overall wealth or growth of the country as on its R&D expenditure and innovation potential (Cantwell & Taylor, 2013; Gaulé, 2011; Grogger & Hanson, 2013; Guth & Gill, 2008; Mazzarol & Soutar, 2002). The differences are, however, conspicuous also between the various middle-income countries, some of which seem to be very attractive for their returning academics, while others are not. There is no established explanation for these dissimilarities. Researchers seem to agree though that mobile academics from different countries have different incentives for both leaving and returning. Therefore the awareness of decision-making processes of people from one group of countries does not necessarily explain the mobility determinants for the academics from elsewhere. The return patterns can, however, change in time, and there is evidence suggesting that academic return mobility has become more dominant in countries with recent brain-drain history (Chen, 2015; Jonkers & Cruz-Castro, 2013; Lee & Kim, 2010).

2.4 Summary

The aim of this review about the determinants of return academic mobility and the broader context of higher education internationalisation was to understand the contextual circumstances affecting the decision making processes of mobile academics. It revealed the process that is highly complex, shifting and situated in individual life trajectories of academics (Ackers, 2005; Baláž & Williams, 2004; Gill,

2005). Return is determined by a combination of factors rising from macro-level developments in home and host countries, meso-level conditions and opportunities for the productive professional career, and micro-level preferences arising from the character, relationship status, political and liberal views of particular academic. The relevance of initial factors changes over the lives of academics, and the increasing or decreasing force of any single factor has an impact upon the strength of others (Ackers, 2005; Netz & Jaksztat, 2014). Constant and D'Agosto (2008) suggest that factors pushing academics away from their present position have more significance for their decision to become mobile than the allure of opportunities elsewhere. Matier (1990, p. 42) has explained this with the operating force of *inertia,* suggesting that it is hard to move academics, who are satisfied with their situation and prospects for the future.

A single factor, however, never determines the return. The reversal of the process of brain-drain, therefore, requires complex and comprehensive, rather than simple solutions (Chen, 2015; Musumba et al., 2011). In the end, the individual circumstances of each academic shape the likelihood of their returning home or staying abroad. This review has been only an attempt to outline and organise the most visible of those determinants. Not all of the identified factors are equally relevant to the return decision-making processes of academics from Estonia. However, they allow a better understanding of contextual circumstances and divergencies, providing a sound basis for defining the initial programme theories.

Regrettably, extant research has discovered the factors that potentialise the return and not the mechanisms that actualise the move (Cantwell, 2009). Contextual factors described above are similar for many mobile academics, yet not all of them return. What is it that awakens the human agency and makes some people act? What are the mechanisms that make them return home? Our understanding of return academic mobility remains insufficient until we understand all the steps in this process.

Chapter 3. Methodology

The analysis of extant literature has demonstrated that the decision-making process of returning academics is intricate, continually changing and affected by a combination of factors that are unique to each person. It also revealed shortcomings of current return mobility literature, particularly its fascination with mobility outcomes and circumstances affecting the likelihood of those outcomes. The human agency behind those impact factors, i.e. hidden reasoning and behavioural mechanisms that trigger the actual movement has not received equal attention. This study aims to evaluate the processes of academic mobility as a whole, understand what contextual circumstances prompt changes in the very private argumentation of academics, and how this change in the emotional reasoning leads to visible return mobility outcomes. Furthermore, it seeks to understand how the particular Estonian programme, Kristjan Jaak, that is similar to initiatives in other countries, alters the existing circumstances for participating doctoral candidates, and what the consequences are of that change.

3.1 Realism

Realists assume that "the world is the way it is", yet there is more than one correct course of interpretation of that reality (Lakoff, 1987, p. 265). Unlike other philosophical perspectives, the goal of realist research is not to determine what the social phenomena are, but to explain their causality and underlying mechanisms (Layder, 1993).

There are several versions of realism, of which the critical realism represented in the writings of Bhaskar, Archer and Sayer is the most widely known and used (Maxwell, 2012). In this study, I practice realism described by Pawson and Tilley (1997). I refer to it as scientific realism to ensure clear differentiation from other approaches (Dalkin, 2014; Hedström & Swedberg, 1998). Ontological and epistemological premises of scientific realism differ from those of the well-known critical realism (Pawson, 2006).

3.1.1 Ontology and epistemology

According to ontological realism, reality exists independently of us as social actors. The real world is out there, regardless of our perceptions and experiences. It affects and shapes us, and we can shape it in return, yet it exists extrinsically from us (Iosifides, 2011). There are a few ontological principles essential to the understanding of realist evaluation.

First, the real world consists not only of the apparent (events, observables) but also the hidden (thoughts, intentions) (Pawson, 2000). Hidden thoughts, meanings and intentions, regardless of their ambiguity, influence our actions (Emmel, 2013).

Second, social reality is stratified and emergent. Reality is an inherently open system that is in a constant process of change shaped by the infinite number of forces (Pawson, 2006). All actions make sense, and hidden intentions manifest in visible events only because of the existence of social rules and structures (Pawson, 2000). Our prior experiences and circumstances always constrain us as social agents, yet we are capable of changing the conditions in which we operate (Pawson, 2006). There can be no universal laws in open social systems because the behaviour and choices of human agents are only partly predictable (Maxwell, 2012). Nevertheless, certain patterns, tendencies or demi-regularities always occur, amongst other things because of similar contextual circumstances (Wong et al., 2013). Generative mechanisms behind phenomena can be identified regardless of only partial regularities since the cause and frequency of things exist independently of each other (Pawson, 2006).

Third, underlying mechanisms generate the events we observe, and disclosure of these mechanisms is a central goal of realist research (Pawson & Manzano-Santaella, 2012). Realists do not see regularity in events that can be observed, but in the underlying generative mechanisms (Pawson, 2006). Prior circumstances are significant for these processes, but in their complexity and interdependence cannot be fairly described by dismantled variables (Astbury & Leeuw, 2010). These ontological notions present undeniable difficulties for realist researchers because the web of hidden layers and potential determinants seems infinite (Pawson, 2000).

Epistemologically, scientific realists agree with constructivists that people and society, who are affected by prior perspectives, attitudes and knowledge, create our understanding of reality (Maxwell, 2012). Some theorists claim that epistemologically realism is, in fact, constructivist (Maxwell, 2012). The previous discussion of ontology would be irrelevant if this were the case, as we would not know or understand the objective reality in any way (Westhorp, 2016).

The fact that there cannot be one and only one, complete and objective understanding of reality does not, however, mean that we cannot know reality. Just that we cannot have an external and privileged "God's eye view" of it (Lakoff, 1987, p. 260). Our understanding of it is always relative and determined by our context, resources and line of reasoning (Dalkin et al., 2015). Also, as there are underlying, often hidden mechanisms that generate observable events, we should go beyond people's interpretations of their actions to identify actual mechanisms and explain events (Westhorp, 2016). Neither of these positions complies with epistemological constructivism.

This kind of epistemological relativism entails that regardless of limitations, we can know the reality to the extent that is useful in practical terms. Our knowledge is never absolute and perfect, yet being aware of our limitations and acknowledging that there can be other legitimate interpretations, enables us to know reality as we see it (Lakoff, 1987). This epistemological stance entails that researchers cannot be external either, nor privileged to a better or more objective understanding of reality. Our bias is just different from that of our respondents.

As any observable event is a result of complicated and long causal history and open to the continuous manipulation by social agents during (and also through) the act of research, there is always an infinite number of explanatory possibilities (Emmel, 2013; Pawson, 2006). The task of the critical realist researcher is to be critical of those explanations to exclude the false ones (Hedström & Swedberg, 1998). Scientific realists are sceptical of such intransigent epistemological views because they anticipate that researcher can have the privileged "moral high ground" (Pawson, 2006, p. 19) that allows full objectivity, which in practical methodological terms is impossible to achieve (Emmel, 2013).

Scientific realists contend that while our knowledge of real phenomena and processes remains partial and imperfect, we should continue to search for new data to support, refute and refine it, consider and test alternative ideas for explanations as our knowledge of reality accumulates (Maxwell, 2012; Wong et al., 2013). In practical terms, this means that the cumulative aspect of research becomes paramount. Research should always build on the findings of previous research to gain validity and improve its explanatory power, and scientific realist research more so than ever (Pawson, 2006).

What were the methodological implications of these philosophical premises? Here I followed the guidance of Maxwell (2013) and Danermark et al. (2005). First, they suggest that realist researcher should always claim generalisations. Not in the sense that the realist research results can be extended to the broader populations or be equally applicable in different conditions, but in the sense of unfolding the essential nature of human behaviour. Hence, my objective as a researcher was not to disclose all the complex and stratified circumstances surrounding participants. This would have been impossible to achieve. Instead, I set out to define the specific mechanisms behind the outcome patterns that explain human reactions and behaviour not only in academic mobility programmes but similarly in other settings (Hedström & Swedberg, 1998b; Punton et al., 2016). I aimed to formulate the programme theories in general and not programme-specific terms.

As an example, theory 3.9 suggests that people feel burdened and distrusted if programme demands are unflexible, which triggers annoyance and anger towards funding agency. Distrust here is the universal mechanism that is generalisable since it should trigger the same unsolicited outcome in any public or private situation, not only in Kristjan Jaak programme. Different contextual circumstances can lead to distrust, but it generally leads to anger and annoyance whenever triggered.

Secondly, as a realist researcher, I set out to explain observable phenomena. Any event we can observe is evidence of multiple mutually dependent mechanisms actualised by specific conditions (Danermark et al., 2005). It required depth ontology that leads to the discovery of hidden reasons why the events take place, as opposed to the flat

ontology, where the goal of research would have been to describe the observable events (Greener, 2011).

Thirdly, I combined inductive, deductive and retroductive reasoning to develop my understanding of programme mechanisms (Danermark et al., 2005). Inductively, throughout all the phases of research, I looked at the previous research results, empirical data, documents, observation notes and interview transcripts to find regularities that explain programme outcomes. Retroductively, I combined the data with my educated, creative insights to develop the programme theories further. Deductively, I reexamined those emerging ideas against prior research findings, theoretical arguments and data from new cases. Unlike deduction and induction, retroduction allowed including new ideas, some of which did turn out to be true after testing.

For example, when investigating mechanisms of return, programme documents and statistical analysis revealed that participants studying in Finland returned home with the greater probability after graduation compared with another neighbouring country Sweden. The data, however, did not reveal why this might be so. Retroductively, based on my experience and prior readings, I proposed alternative explanations for this finding. First, perhaps Finland has a similar academic system, and for this reason, it was easier to return and adapt. Secondly, perhaps travelling was more straightforward and social relationships in Estonia remained strong. Thirdly, perhaps for the same reason, the working contacts with colleagues at home remained strong. The list of likely explanations was longer initially. I used my imagination and prior knowledge to propose what might be the causal link there. I then selected participants for the interviews with the first-hand experience of the phenomenon to test my guesswork. Some of those alternative explanations were confirmed by actual evidence. In other times, the respondent told me what the actual causal link was. However, there were rare times when I had to return to the desk for more guesswork. In this specific case, most students studying in Finland had kept part-time jobs in Estonia throughout their studies. Hence, the confirmed mechanism was maintaining a strong working relationship with colleagues at home. The finding was then further tested with participants studying in other countries.

3.2 Realist evaluation

The conceptual framework of realist evaluation as represented in the works of Pawson and Tilley (1997) is applied in this thesis. Pawson and Tilley designed it for practical application of realism to the evaluation of policy initiatives and programmes. According to them, all policy initiatives are developed because a prevailing pattern of social regularities has been established that is undesirable for some reason. Initiatives aim to replace that pattern with a more favourable one. Successful programmes open up new opportunities and change the attitudes and behaviour behind undesirable outcomes (Astbury & Leeuw, 2010).

All initiatives are always built on specific, although often tacit theoretical assumptions on how the change should occur and can, therefore, be manifested in the form of theories (Pawson, 2006). Those theories are always imperfect and excessively general to start with, and bound to be changed in the implementation chain. This is because policy initiatives are sometimes borrowed from other contexts without a deeper understanding of what it is about them that works, and planted in conditions that render different outcomes. Moreover, social interventions are often designed centrally to achieve specific political or strategic objectives but implemented locally in diverse cultural, social and economic contexts, where understandings, experiences and preferences of its many stakeholders disturb their application (Manzano-Santaella, 2011). In reality, programmes are rarely "the blunt instruments" that generate routinely and indiscriminately the effects they were initially designed for (Timmins & Miller, 2007, p. 9).

Realist evaluation aims to test those initial theories, but also to examine the integrity of the actual implementation chain in order to understand what should be changed to achieve desired outcomes (Pawson, 2006). Because inevitably, there are intended and unintended outcomes as well as winners and losers in every programme. Each of those deviations adds intricacy to the initially straightforward theories behind initiatives (Pawson & Tilley, 1997). Realist evaluation offers methodological tools to identify the intricate patterns of outcomes, to explain what it is about the programme that makes it work, i.e. what it changes in the reasoning and attitudes of participants making them act differently (Pawson, 2006).

3.2.1 Core concepts of realist evaluation

Programme theory is an essential concept of realist evaluation. The investigation begins by formulating the initial programme theories, continues by testing, expanding and refining those initial theories and concludes by proposing the final programme theories attested in a specific setting (Westhorp, 2014). Other core concepts used in realist evaluation to construct the programme theories are context (C), mechanism (M) and outcome (O). Pawson and Tilley (1997) use these concepts in configuration to explain programme pathways. Dalkin et al. (2015) add a fourth feature to the pattern in the form of programme resources (R). Realist evaluation employs these concepts as building blocks of programme theories that describe in easily understandable terms, what resources (R) are required to trigger the behavioural mechanisms (M) in participants of specific circumstances and characteristics (C) to generate respective outcomes (O) (Dalkin, 2014; Pawson, 2006). The realist ingredients of social programmes are displayed diagrammatically in Figure 2.1. Theories are then put to the test in order to identify desirable and undesirable outcomes, underlying mechanisms and individual and organisational circumstances that trigger particular mechanisms.

Pawson and Tilley were one of the first to offer a comprehensive account of the widely, yet diversely used concept of *social mechanism* (Astbury & Leeuw, 2010). They situated mechanism at the cognitive level claiming that mechanisms capture the change in participants' reasoning; their mental response to opportunities presented by the programme (Pawson & Manzano-Santaella, 2012). The mechanism is the dominant concept of realist evaluation as it reveals a hidden link between the observable variables, resources, contexts and outcomes, explaining how the programme works.

Astbury and Leeuw (2010) define the key features of mechanisms: they are usually hidden, susceptible to changes in conditions and responsible for generating outcomes. Human agency activates the mechanisms that generate programme outcomes (Pawson & Tilley, 1997). It is the kind of human agency that is hard to detect based on visible events. However, one can perceive them with the help of informed insights into participants' preferences, intentions and private sentiments.

All programme participants operate in pre-existing *social contexts* that affect their actions. The past we carry with us encompasses culture, societal norms, relationships, our capabilities and personal circumstances that, separately and in conjunction, constrain our choices in life (Pawson, 2000, 2006). The programmes work by changing the initial context, by providing to the participants a new choice, an alternative route, yet, people, who are constrained by their past, are never entirely free to take up the offer. The challenge for the realist evaluator is to identify those contextual circumstances that are indeed relevant for programme outcomes (Marchal, 2011).

Outcomes are poor predictors of causality, yet significant for acknowledging regularities (Pawson, 2000). Programme outcomes are, however, valuable only as part of a pattern, as part of understanding the mechanisms and contexts that sustain them (Pawson, 2000). The approach that looks at patterns rather than disconnected outcomes allows understanding the nature and causality of programmes, which in turn allows better evidence-based policymaking. The programmes can and should be copied, but not indiscriminately and without understanding what made them work in the first place. Understanding the causality and outcome patterns of earlier programmes is a prerequisite of successful repetition somewhere else.

The concept of *resources* is the most recent addition to the realist evaluation building blocks. Dalkin (2015) argued that introducing a separate concept of programme resources makes it easier to differentiate between resources offered and participants' reactions to those resources. Adding a new ingredient to the formula reduces the strain of identifying pre-existing context from programme mechanisms.
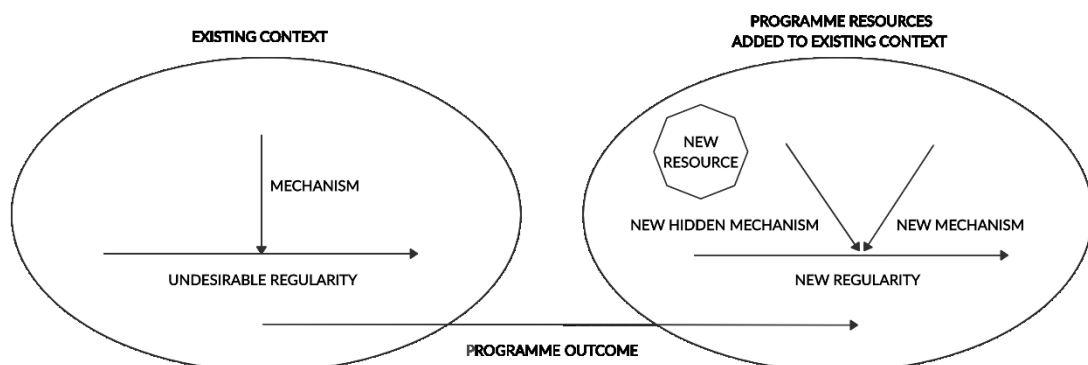
Figure 2.1. Ingredients of social programmes based on Pawson and Tilley (1997, p. 74)

Implementation of any programme is rarely a straightforward and linear process. There is a myriad of active contextual circumstances, mechanisms and outcomes surrounding every initiative. Any of the pre-existing circumstances may become enhanced or changed during the programme triggering different mechanisms and rendering different outcomes. Moreover, programmes do not work as a switch. Instead, they activate a string of observable and hidden events that can be described with the help of multiple interwoven theories (Dalkin et al., 2015). From all the conditions and characteristics surrounding an event, theories should describe only those that trigger a mechanism that generates an outcome, preferably with some regularity. All other surrounding circumstances should be deemed irrelevant. One should, however, resist the temptation of tight-knit explanatory models in order to reflect fairly the inconsistent outcome patterns of programmes that are inherently complex and situated (Astbury & Leeuw, 2010).

3.3 Data collection and sampling strategy

I used a mixed methods approach to guide my decisions on the sample, data collection and analysis. Realist evaluation theorists (Pawson & Manzano-Santaella, 2012; Pawson & Tilley, 1997) advocate the use of mixed methods designs emphasising that neither qualitative nor quantitive approach alone can provide credible results in all aspects of programme implementation. The data required to approve, challenge or refine the programme theories shall lead the choice of approach (Pawson & Tilley, 1997). Programme outcomes should be measurable and not based on respondents' accounts only, thus are best evaluated in a quantifiable way, albeit not necessarily using advanced quantitative techniques (Pawson & Manzano-Santaella, 2012; Pawson & Tilley, 1997). Behavioural and emotional mechanisms, however, are usually hidden, traceable in participants' reasoning, and reactions, and thus can be best brought to light by qualitative research. In contrast, open and complex nature of context benefits from historical and comparative approaches (Pawson & Manzano-Santaella, 2012). These are by no means absolute rules, yet I have decided to follow them to ensure greater credibility of my findings.

In realist research, selection of cases and sample are naturally purposive. Findings do not have to be generalisable to the broader population but explain how the

programme is working in the specific context and for specific participants. The unit of analysis in such research is not an individual participant, but programme theory, i.e. the circumstances and processes surrounding participants (Manzano, 2016).

Different roles and experiences provide different perspectives and access to different information (Pawson & Manzano-Santaella, 2012). Early graduates have no first-hand experience with extensions or interruptions of studies, hence could not disclose contexts and mechanisms prompting those outcomes. Experienced practitioners may realise better the circumstances that tend to lead to specific outcomes, yet can rarely put their finger to behavioural mechanisms that generate them. It was, therefore, critical to involve the perspectives of different stakeholder groups and identify within these groups individuals who would be most knowledgeable about the various elements of interest (Manzano, 2016). Sometimes, these elements stood out prominently in the participant's experience, and at other times they stood out as an exception against broader outcome patterns (Emmel, 2013).

3.4 Research phases

By and large, realist evaluation begins with the development of programme theories, followed by testing and refining of those theories. It is a repetitive process during which the researchers' understanding of the real world clarifies and evolves (Manzano, 2016; Punton et al., 2016). That is why realist evaluation research is usually carried out as a sequence of phases.

Before defining the theories underlying the Kristjan Jaak programme, I conducted a literature review. The exercise aimed to map the evidence base available, more specifically, the main drivers of academic return mobility in the world. A realist synthesis of the extant literature is a valuable tool in the realist evaluation approach. Pawson (2006) endorses it as the sole method to be used. The literature review conducted for this study did not, however, follow the routine of realist synthesis. My main objective was to conduct the primary evaluation of the existing programme, and a realist synthesis would have left very little time for anything else. I conducted the literature review that entailed elements of realist review, contributed to the conceptual framework of study by informing the process of theory building and

thereby contributed to the explanatory power and generalisability of results. However, I did not follow the rigour of realist synthesis in full. Therefore, I regard the literature review as part of the preparation process and not one of the phases of research.

Mechanisms (M)
Contexts (C)
Outcomes (O)

THEORY

What works for
whom in what
circumstances

PROGRAMME
SPECIFICATION

INFORMED
ASSUMPTION

What might
work for whom
in what
circumstances

OBSERVATIONS

Multi-method
data collection
and analysis on
M, C, O
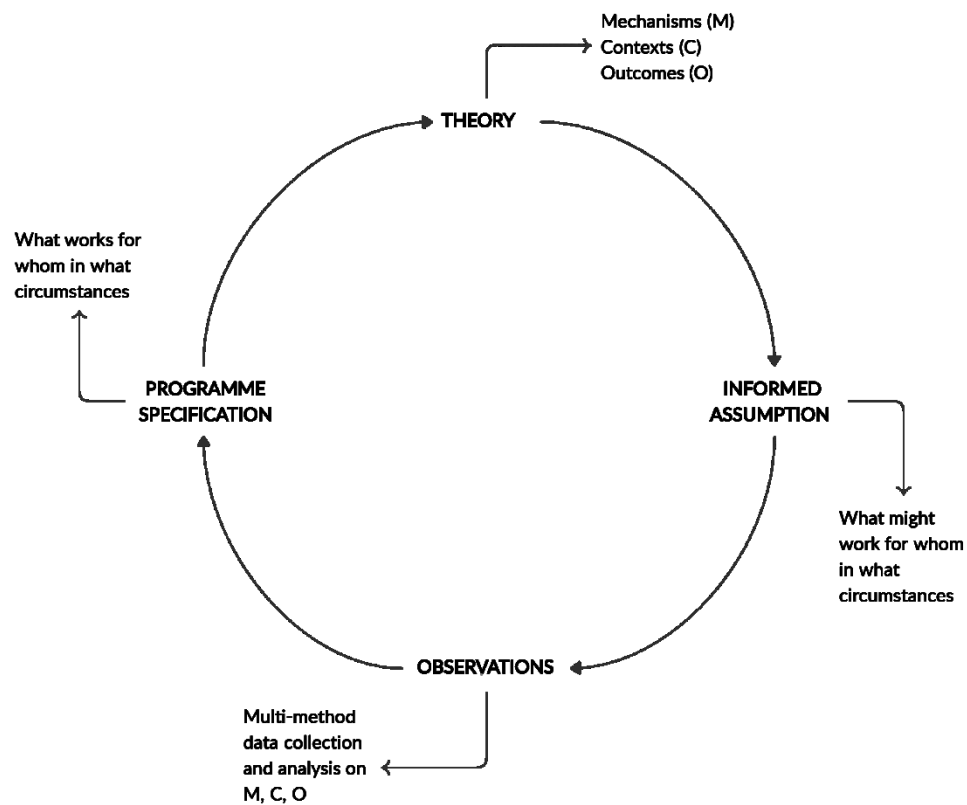
Figure 2.2. Realist evaluation cycle (Pawson & Tilley, 1997, p. 85)

The theory-building phase of research aimed to describe the initial programme theories and rationale behind the initiative; to find out why and how the programme designers had thought the outbound mobility programme with specific resources and requirements would contribute towards resolving the undesirable developments in the Estonian society. These theories were a starting point for the analysis of actual practices and implementational deviations. Data for this exercise was derived from the literature review, documentary analysis and interviews with the programme designers.

The programme had been established with a certain understanding of how it should work and what it should change, it was my task to articulate those "folk theories" in

realist terms (Pawson & Tilley, 1997, p. 88). Particularly, I aimed to describe how the programme resources (scholarships and attached conditions) should change the context surrounding the participants (potential students) and trigger the change in their behaviour (take up studies abroad and return after graduation) that would lead to the different outcome (more competitive research environment at Estonian universities).

In this phase, I collected, organised and analysed various programme documents from the time of its launch to identify initial arguments, discourses and objectives expressed in order to justify the design and resources of the programme. I compared results with findings of the literature review to recognise the overlap between the two. I wanted to understand why policymakers had thought that funding doctoral studies abroad would have a positive impact on research culture at home, and what they believed should take place on the level of human reasoning in reaction to the new resources, and why.

Having tested and refined the interview guide using a pilot interview with a colleague, I carried out interviews with two programme designers. Based on data from interviews, programme documents and literature review, I formulated initial programme theories describing how and for whom the programme should have worked in ideal circumstances linking resources provided to expected outcomes. To accommodate the task to the scope of doctoral research, I selected and outlined in more detail the five most relevant theories to be tested in the next phase of research. I finished the phase by developing the data framework, i.e. made a list of data required to support, refine or rebut different aspects of outcome patterns described in theories. In the result of these steps, I had conceptualised the initial programme theories in realist terms. These theories were instrumental in providing focus to the rest of the study.

The theory-testing phase entailed the analysis of programme records, notes from observation of selection committee meeting, and realist interviews with administrators and participants. It was plausibility check of initial theories during which I developed an in-depth description of cases and outlined outcome patterns of implementation to corroborate initial programme theories with actual practice

(Pawson & Manzano-Santaella, 2012). Moreover, I sought to identify hidden aspects of student experiences and understand their reasoning and emotions behind visible events registered in the records, but also to triangulate the data collected through different methods. In this phase, the diverse experiences of participants started to blur the initially straightforward picture of the programme. Programme theories helped to find focus in the intricate evolving mixture of reasons, factors and behavioural patterns.

In this phase, I reviewed documents in programme archives and evaluation reports seeking data potentially related to initial theories. I incorporated findings into a spreadsheet database and Evernote research diary unfolding the experiences of participants. I conducted two interviews with programme practitioners and observed a full day of interviews with short-listed candidates. With these activities, I aimed to identify implementational deviations from initial idealistic theories, refine theories and set up a preliminary sampling outline for interviews with participants.

The sample size for interviews with participants was hard to predict at the beginning, yet I assumed it would remain in the neighbourhood of 20 interviews. In realist evaluation, the decision to continue does not depend upon the saturation of data collected by interviews, but explanatory power of developed programme theories based on a combination of methods used (Emmel, 2013; Manzano, 2016). I started by contacting 10 participants based on their expertise on critical aspects of programme theories and made further choices step-by-step as my understanding of programme patterns developed. I scrutinised data from different sources before and after each interview aiming to challenge, confirm or refine the programme theories based on actual practice, identify data yet to be collected and sub-groups yet to be involved. In the end, I interviewed 24 participants.

3.4.1 Realist interviews

A qualitative semi-structured interview is the most common data collection instrument in primary realist evaluation research (Manzano, 2016). It is a method emblematic of realist evaluation as it provides the basis to investigate hidden mechanisms behind visible events, i.e. participants' feelings, emotions, thoughts,

intentions and reactions to the opportunities of the programme. Interviews and observations are the best tools for identifying hidden aspects of programme theories (Patton, 2014). In the Kristjan Jaak programme, the participants study in different universities and countries, their journeys in the programme last at least three years, usually more, and some of them graduated quite some time ago. These aspects made it impossible to observe the experience in practical terms. Therefore, the interview remained the only viable method for collecting evidence of participants' perspectives and understanding their experience of many years.

In different stages of research, the interview was used for different purposes that affected the way questions were constructed and asked. In the theory-building phase, the interviews were exploratory and involved more open-ended questions. The focus of the study was yet to be determined. I chose to interview two programme designers whose opinions stood out in the initial programme documentation. One of the participants represented the decision-making level of the Ministry of Education and Research at the time, the other practical policy-making level.

In the theory-testing phase, the interviews were more focused following the explanatory approach and principles of teacher-learner relationship. In those interviews, I was actively involved in the sense-making process, not only as an observer and learner who follows the predetermined list of topics but as partner, teacher, learner and facilitator at the same time (Manzano, 2016). Figure 2.3 visualises teacher-learner relationship of realist interview. Pawson and Tilley have characterised the spirit of such an exchange of ideas as "I'll show you my theory if you show me yours" (Pawson & Tilley, 1997, p. 169). These interviews were a means to understand the outcome patterns better, to find evidence of mechanisms and contextual differences between participants. In practice, this entailed presenting the existing theories in simple, non-technical and easily understandable language for reflection. Participants were not so much invited to confirm or contradict these theories as to explain them, offer an alternative understanding of events, recall their own feelings and reactions at the time, and describe individual circumstances involved.
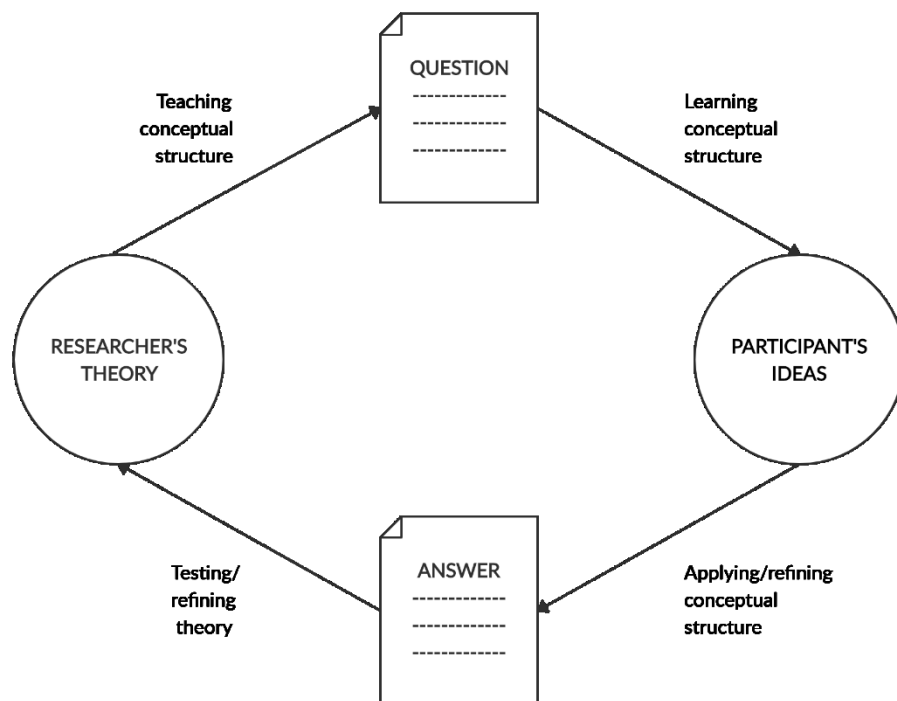
Figure 2.3. Teacher-learner relationship in realist interview (Pawson & Tilley, 1997, p. 165)

At the centre of these interviews were programme theories as well as specific individual experiences. The dual focus demanded an interview guide that was adjustable for each interview. Different people know different things, they have different experiences in the programme, and therefore there was no worth in asking all respondents the same questions. My own knowledge of programme workings was continuously evolving as well. Therefore, the programme theories matured and expanded with each interview indicating new questions to be asked and new respondent groups to be involved.

The following is an example of a realist interview questioning from an actual interview guide regarding the effect of intermediate reports as programme resource:

Q: I understand that intermediate reports are supposed to secure regular academic progress of students, but I notice that students who have submitted excellent reports can still take years and years to graduate. Why do you think this could be the case? /wait for response / follow-up / seek examples/

Q: I am asking this because one of my theories in progress about the reports is that to avoid penalties, people sometimes hide their difficulties instead of

writing about them. They could fear losing funding if they tell the truth. Would that sound something that could happen? /wait for response / follow-up / seek examples/

Q: But then, maybe they are simply ashamed of their lack of progress? After all, nobody wants to appear a loser. What do you think? /wait for response / follow-up / seek examples/

There were apparent validity threats that needed to be recognised and addressed regarding the interviews. Realist interviews can easily create confirmation bias if carried out carelessly (Punton et al., 2016). I did not merely seek to have my arguments and theories confirmed. Therefore, I was explicitly wary of quick approval of proposed patterns, tried to engage respondents into more meaningful dialogue and kept probes and why-questions at hand to invite them to elaborate upon their responses.

All interviews lasted 45-75 minutes and took place at the location chosen by the respondent. Three interviews with participants, who had not returned after graduation, took place over Skype. All interviews were recorded and transcribed. I utilised Taltech speech transcription system for the initial raw transcriptions (Alumäe et al., 2019). All transcripts were sent to the respondents for approval before coding. I took handwritten notes during interviews and copied them to the Evernote research diary together with post-interview reflections. Based on data collected through different means, I created a separate file for every respondent describing their experiences in the programme.

3.4.2 Participant observation

Observation works well with realist perspective as it grants researchers firsthand access to activities and increases their independence from interpretations and awareness of others (Patton, 2014). I found it useful for collecting data in a specific area, namely how the participants were selected, what were the characteristics considered, and why.

Criteria of inclusion play an essential part in the success and failure of any policy. Full day selection committee meeting that encompassed interviews with candidates, debates, and consensual decision-making seemed, therefore, an event to observe

firsthand. I aimed to capture the rationale behind the decisions, rhetorics used in questioning the candidates, and how objectives set in the documents were followed in practice. Selection committee involved representatives from Estonian universities, funding agency, employers and the Estonian Ministry of Education and Research.

Meetings of the Kristjan Jaak selection committee were no new territory for me since I had actively taken part of its meetings before as a representative of the funding agency. This prior experience gave good insight into the overall process and outcomes but left me unaware of aspects relevant to research. I had to participate in the meeting as a bystander to notice details and relationships meaningful for the study (Patton, 2014). I fully acknowledge, however, that while I observed the meeting as an outsider, I have a solid insider perspective to the process based on experience too.

I used programme documents (applications, minutes) and handwritten notes to collect data during observation. I transferred notes and reflections to the Evernote research diary.

3.4.3 Document analysis

Document analysis was used in combination with other data collection methods throughout all stages of research. Programme documentation was a valuable source of information for multiple reasons. First, it was a more neutral source that balanced recollections of programme designers, practitioners, participants and myself displaying past events hard to validate otherwise. It was indispensable in this regard in the theory-building phase when I mapped the data from the early days of the programme by scrutinising the correspondence between programme initiators, commented draft versions of guidelines and minutes of different meetings. Bias from the researcher's personal experience may also become a validity threat. I was, therefore, determined to review the programme documents thoroughly, and was compelled to admit the fallacy and selectivity of my recollections on more than one occasion.

Second, documents offered in-depth data about the context surrounding the launch and implementation of the programme, among others about the social phenomena aimed to be changed with the programme. Other documents portrayed the individual

journeys of participants; these included their applications, motivation letters, progress reports, correspondence with funding agency and entries to the programme database. I used these documents to construct the detailed narratives of participants' journeys, which later became central to the sampling decisions and analysis. During interviews, these narratives allowed to probe participants' life events that they had often forgotten themselves.

The third reason for using document analysis was to triangulate data collected through other methods and add credibility and explanatory power to findings. For example, I cross-checked the archive documents of each participant with the programme database to assess the completeness and accuracy of data from different sources.

3.5 Interpretation of data

Realist data analysis is a process that takes place throughout all the phases, before and during the data collection as well as subsequently with the benefit of hindsight. It is based on knowledge collected and constructed with the help of different means and sources (Manzano, 2016). It is also a repetitive process during which the researcher is swinging between different types and sources of data to discover "nuggets of information" useful for proving, refining or rebutting various aspects of theories (Pawson, 2006, p. 13). Hence, realist analysis, just like the collection of data, is led by researchers' propositions made in the form of programme theories, yet flexible enough to accommodate new explanations and findings.

3.5.1 Descriptive statistics

The usefulness of quantitative data for realist analysis is well recognised (Pawson & Manzano-Santaella, 2012; Westhorp, 2014). Whatever the method used for measuring the outcomes, it should allow impartial identification of inconsistencies between and within the sub-groups of participants. I collected and constructed quantitative data using different means, mainly the document analysis (programme database, archive documents), to a lesser extent, the interviews (personal life, relationships) and public databases (professional career). I compiled data into a flat database that included demographic data (sex, age, relationship, children, prior education, jobs, application year), study-specific data (host university and country,

field of study, enrolment year, academic progress, duration of studies, contacts at home) and post-graduation data (return to Estonia, first position, career progress, present-day position) by programme participants.

Realist research does not require the use of advanced quantitative methods. Methods have to allow identifying the programme outcomes in objective terms, help to identify patterns in data and contribute towards qualitative data collection (Pawson & Manzano-Santaella, 2012). Descriptive statistics offered suitable tools for this purpose. I needed a basic analysis of specific aspects relevant to my initial theories. Furthermore, I aimed to determine the outcome patterns based on a relatively small database, identify the context and conditions of different outcomes, recognise potential impact factors and notice deviances from patterns. The descriptive analysis helped to find the winners and losers of the programme as well as variations across participants and settings, hence suggesting contexts leading to either outcome to be tested in the interviews. Descriptive methods could not confirm generative relationships, yet were valuable when considering and rejecting alternative explanations (Loeb et al., 2017).

3.5.2 Thematic analysis

Thematic analysis is an approach to data categorisation that helps to identify and understand relationships and patterns within data. Clarke and Braun (2017) advocate researchers' active and flexible role in thematic analysis, which suited well with the iterative process and retroductive reasoning used in realist evaluation. My analysis aimed to recognise patterns across various data sets and implications of emotional and behavioural mechanisms for the outcomes of the programme. In practice, initial themes were the contexts, resources, mechanisms and outcomes specified in initial programme theories. The analysis took place iteratively throughout the data accumulation process in the following steps.

I delved into related data each time I added new data, either in the form of the interview transcript, interview or observation notes or after a couple of days of work with archive documents. I familiarised myself with the experience of participants using thick descriptions constructed during data collection. Thematic analysis was ongoing

before and during each realist interview leaving immediate marks to the adapted interview guide, questions raised on-sight as well as everyday note-taking. The analysis continued with reflections during post-interview digitalisation of notes and transcription of recordings. I was looking for evidence of relevant contexts, mechanisms and outcomes, known and unknown, keeping track of my ideas using notes in parallel.

At the end of each phase, I had to decide which patterns and explanations to keep. The scope of research did not allow inclusion and reporting of all findings from all lines of inquiry. Therefore, I had to make a choice. In general, I kept those that had greater relevance for the explanation of outcomes. In the result of this process, I developed a grid table of programme theories in easily understandable terms.

3.5.3 Written reflections

I adopted the idea to use written reflections as a tool to analyse data from Maxwell (2012), who encourages the practice of research diaries to stimulate critical and analytical thinking, enable regular and rational reflection about ideas, clues, methods and pieces of evidence born and found during research. I made entries to the research diary in Evernote to document the decisions and rationale behind research choices. I entered handwritten notes to Evernote at the end of each day of research. It allowed organising partly developed ideas, seeing new connections and renewing reflections at a distance. Eventually, I had some of the most critical insights thanks to those diary reflections.

3.6 Ethical considerations

I have designed the study to ensure the physical, psychological and social well-being of participants and myself as a researcher. I have adhered to the British Educational Research Association's (BERA) Ethical Guidelines for Educational Research (2011, 2018), the Research Ethics and Research Governance at Lancaster: a code of practice (2009), the United Kingdom's Data Protection Acts (1998, 2018) and Estonian Personal Data Protection Acts (2011, 2018). Ethical approval for the project was sought and received from the Lancaster University Research Ethics Committee before beginning the research. The procedure covered the issues of inviting participants, information

and informed consent, minimising risks to participants, benefits to participants, data storage and sources of funding.

Ethical research requires active and careful consideration of researchers' dispositions and decisions throughout the study. The study at hand is interpretive, open-ended and entails intimate interactions with participants (Howe & Moses, 1999). Hence, there is a risk of disclosing information or reaching conclusions that could potentially harm the well-being of participants if not regarded with sensitivity and caution. Three aspects deserve further attention hereof: the informed consent, privacy of participants and inclusiveness of all experiences.

Informed approval of leaderships of the programme's administrating agency, my employer, and a steering committee was sought and received before the research began. I have aimed to avoid explicit naming of the agency throughout the thesis, although not to replace the name of the programme. The research results and their implications for practise have been presented to them before submission of the thesis.

Individual participants received an information sheet with the invitation to participate in the study. The document informed them of the purpose and methods of the study as well as their rights as participants, including the possibility to approve the interview transcript, remove fragments from it and withdraw from the study entirely within two weeks after initial approval of the transcript. I also informed them of my multiple roles, including my working relationship with the funding agency. One invitee opted not to participate because of this affiliation. Participants signed the consent form before the interview. Similarly, programme participants have permitted the confidential use of their documents for evaluation purposes following the existing data protection rules.

I made all necessary provisions to protect the privacy of participants. There was a higher risk of participant identification due to their small overall number in the programme. Hence, all participants received a pseudonym from the start to protect their identity. I removed all identifying references from the interview transcripts, memos and notes before analysis and storing. In the thesis, I have refrained from disclosing any information that could indicate participants' identity. For this reason, I

present no information concerning the subject area or similar about specific participants.

I took caution not to reveal the identity of interviewees to my colleagues at the funding agency by avoiding meetings at the premises, public appointments in my work calendar and any recognisable references to the information obtained during my research. Essential, yet identifiable data, such as the consent forms, recordings with participants' voices and files with their real names, have been encrypted. Physical documents have been shredded after transcription or scanning.

There was a dilemma of how to achieve the inclusion of programme deviations without exerting pressure on participants with specific experiences. Some participants had taken more than ten years to graduate, some had failed to graduate at all, and some had failed to return to Estonia. Unlike people with success stories, these participants were slow to react to my invitation. Patton advises that interviews have a potential of "reopening old wounds" and can, therefore, be perceived as invasive (Patton, 2014, p. 724). No one wants to discuss their failures, an interviewee agreed. For that reason, I had to respect the participants' right to decline the invitation. However, the study would have lost much of its value without a closer understanding of failed cases.

Patton (2014) also suggests that interviews can be healing and people appreciate the chance to have an attentive, non-judgmental listener. I believe that people, in general, also want to be useful to their peers in similar situations. Hence, in the single reminder to the non-respondents, I highlighted my intent to learn from their experience in order to propose better support and counselling for the future participants. I also tried to overcome their uneasiness during the interviews by adopting a neutral and sympathetic position, asking to exemplify their remarks and observations and seeking validation to my evolving understanding of outcome patterns and mechanisms involved.

Social programmes are initiated to transform undesirable social phenomena. They are launched with noble aims and built on existing understanding and belief in how and what works. These premises and beliefs are more often than not the hypothetical folk

theories which soundness depends on surrounding circumstances and particulars of implementation. Programme premises, as well as practice, may well stand on false beliefs leading to the outcomes different from those intended (Danermark et al., 2005). However, before discussing the deviations, I proceed to define the expectations set to the Kristjan Jaak programme.

Chapter 4. Findings of first phase

This chapter explores the findings from the first phase of the research. The research aimed to understand and describe the circumstances that led to the launch of the programme, its expected outcomes and rationale behind different resources and requirements. Pawson and Tilley (1997) refer to these visionary ideas as folk theories of programme creators. These theories were not explicitly articulated at the time, certainly not in realist terms. Nevertheless, assumptions and implicit reasoning were undoubtedly there to influence and guide the decisions during the preparation and launch of the programme. In the first phase of research, I set out to reconstruct those theories, both explicit and implicit, based on available programme documentation and recollections of its creators, also looking for links with the findings and arguments in the existing literature on return academic mobility.

4.1 Document review

I started the process with a thorough examination of documents from the time of the programme's launch. Documents assembled for this purpose included draft and approved versions of guidelines, application, assessment and reporting forms, minutes of meetings and e-mail correspondence.

Each document was examined clause-by-clause, to rationalise and code each rule and requirement. I asked why was the condition there, what was it meant to ensure or avoid, and for whom and in which circumstances would it become significant. I applied the thematic analysis approach using the concepts of context, resource, mechanism and outcome as building blocks for coding. Identified components and patterns were aggregated into the spreadsheet. These were my codes and themes in progress. Questions asked from data in this process are shown in table 4.1.

Theme	Context	Resource	Mechanism	Outcome
Theory label	What are the characteristics and context of participants relevant to the outcome? (C)	What is it in the programme that should make participants change their behaviour? (R)	What is the expected reaction to new resources that should trigger change? (M)	What is expected to change? (O)

Table 4.1. Questions asked from data when formulating initial theories

With these questions and evolving themes in mind, I reviewed the documents, repeating the entire process three times as my understanding of programme logic recovered and advanced. I aimed to find as many elements in each pattern as available documents allowed. Many of initial assumptions, especially concerning the context and mechanisms, were, however, too vague or even missing in the documents.

I then returned to explore the findings of the literature review again. At this time, I aimed to find the factors relevant to the emerging theories of the Kristjan Jaak programme. When detecting similar patterns, I went back to original publications to review the reasoning provided by the authors. I found more indications of mechanisms that might trigger outcomes than when reading the papers for the first time. By the end of this exercise, I had established 14 partially developed themes with numerous contexts, resources, mechanisms and outcomes to refine with the help of programme designers.

4.2 Interviews with programme designers

I prepared an interview guide with programme designers based on theories that had emerged in the document review. As these were partial and tentative, the questions were exploratory involving many open-ended issues to discuss. The interview guide included two lines of inquiry. First, questions about the overall logic of the programme. What undesirable social phenomena it was meant to change? What outcomes had they expected to achieve? The second block of themes stemmed from programme provisions and aimed to establish why the programme resources had been designed involving particular requirements and rules. Not all the questions and prompts in the guide were used the same way in interviews, yet the main themes were covered similarly. To be sure that the formulated questions were understandable the way intended, I carried out a pilot interview with a colleague and revised the guide based on issues raised.

Two interviewed programme designers had contributed actively to the programme launch, yet with a somewhat different perspective. Both had been influential policy-makers at the time, one at the level of strategic planning of higher education, the other

at a more practical level. I knew both of them well beforehand, yet had met neither in the last five years.

4.3 Situation to be changed

According to realist evaluation, policy instruments are developed to change undesirable social regularities. Programmes are launched to present participants new opportunities and adjust their usual behaviour transforming the broader social phenomena as a result. To evaluate the impact of the programme, one would have to understand its objectives.

Initial programme documents provide a frank account of the problem that was confirmed by interviews with programme designers. The quality, as well as the quantity of local research, was regarded as insufficient, and the system was incapable of overcoming the problems in some areas. The verdict was harsh, substantiated by the absence of peer-reviewed publications and international collaboration, limited understanding of research practices in other countries, stagnant working culture, academic inbreeding, and inability to attract and educate young researchers. These problems were the result of imposed reclusion during the Soviet period. Programme designers also referred to the parochialism, "the frog pond", "carriers of old culture" and tradition of immobility. These concerns were not associated with all research groups and fields, but they were not exceptional either. All universities were affected by them in one way or another. The findings of a national research evaluation exercise carried out by international teams had confirmed the claims.

The first approved guidelines were explicit about it, almost undiplomatically so:

> *„The state aims to send doctoral candidates to universities abroad predominantly in the areas, where (a) the research evaluation reports have indicated limited local expertise, (b) the age structure of researchers suggests sustainability problems over the next five years, (c) the number of doctoral graduates has been insufficient to secure the balanced development of the research field, or (d) fifty years of reclusion has not allowed free development of scientific thinking. "*
>
> *(Guidelines for applicants, 2004)*

The document explains the situation in no uncertain or flattering terms. The „frog pond" was overgrown and isolated. There were areas where local universities were not capable of educating internationally competitive scientists. The first guidelines included the list of those areas as having a priority. These included teacher training and educational science, social and behavioural science, law, computing, engineering and engineering trades, architecture and building, veterinary science, health and environmental protection. Applications in other fields were accepted, but areas with the most apparent sustainability concerns remained a priority.

4.4 Expectations for the programme

The next goal was to reconstruct, why educating doctoral candidates abroad was chosen as an instrument to improve the situation, and what were the assumptions related to this choice. Programme documentation did not provide a detailed account of goals, nothing beyond very general remarks like:

> *„To educate the next generation of academics for Estonian higher education institutions, the Ministry of Education and Research, the Rectors' Conference and the Foundation [the name of the agency is replaced in all direct quotes] announce an open call for doctoral scholarships at universities abroad."*
>
> *(Guidelines for applicants, 2004)*

The programme designers gave a better insight. The doctoral studies abroad had been seen as the fastest way to change the situation since the government could not interfere with the recruitment of staff at universities:

> *„Well, it was, so to say, the last kind of resort, the last opportunity to do it like fast. The alternative would have been like to allocate funds systematically for building up some chair, right? But the attitude was such that there are those carriers of old culture in there, right?"*
>
> *Signe, the policy-maker*

The other interviewee endorsed the reasoning, yet put the main emphasis on the smallness of Estonian education system:

„The other aspect is, and this is especially so in a small country or university, that if you enrol someone to doctoral studies, then the supervisor shapes the person to their own image. Evolution happens when a mutation happens, not when the same thing is reproduced. To avoid the frog pond effect, we had to leave that track".

Andres, the policy-maker

Hence, the programme creators saw doctoral mobility as the fastest way, or even the only opportunity to improve the situation considering the size of the country and lack of domestic competition. There was no desire to inhibit universities' autonomy in recruiting their staff and setting internal work practices. There was, therefore, an implicit expectation that in the result of the programme, there would be a pool of young academics with competitive qualifications, international experience and networks, who would then, in free and fair competition, compete for available jobs at home. Furthermore, it was assumed that these young academics would be able to prevail in competition against more experienced researchers and be capable and willing to change the system from within if elected.

These expectations involve both institutional as well as personal preconditions. First, they entail an assumption that Estonian universities would want to change, value international experience and welcome the returning graduates. Moreover, that academic positions would be filled in fair competition, rewarding merit rather than seniority or personal connections. Otherwise, as was demonstrated in the literature review in the case of Italy, the international experience could become a hindrance to the return (Ackers, 2005; Delicado, 2011). Should this happen, the programme could instead lead to a pool of well-qualified, yet frustrated young researchers who would choose to leave the country or sector after all.

At the personal level, it was assumed that the participants would be prepared to take on more than just being a novice researcher. Above all, that they would be willing to return and work at Estonian universities, that the option would be attractive for them. Moreover, they should have organisational skills and ambition in addition to research competence and be prepared to lead the change. In simple terms, that they would be capable of shaping the system having been elected.

70

No	Theme	Context	Resource	Mechanism	Outcome
	Theory label	What are the characteristics and context of participants relevant to the outcome? (C)	What is it in the programme that should make participants change their behaviour? (R)	What is the expected reaction to new resources that should trigger change? (M)	What is expected to change? (O)
1	Resolution to apply	People search for an opportunity to do a PhD abroad and want to return to Estonia after graduation	Holistic scholarship package: living, travel and family allowance and fees involving a requirement to return to Estonia	Convenience, satisfaction with conditions and requirements	Application submitted, studies abroad undertaken
2	Ensuring funding	Students are motivated to study abroad and have superior competence in their field	Assessment criteria: individual motivation, advanced ideas about research goals and methods, links with Estonian scientists, the prospect of the return	Articulation/visualisation of research and career objectives. Initial research decisions made early. Commitment to maintaining links with Estonia scientists. Choice of a research topic related to Estonia	Scholarship awarded, studies begin with a clear objective to return, links with Estonia maintained
3	Established milestones	Host universities have a strong PhD support system at the place	Biannual progress reports	The recognised need for steady progress to secure the next payment	Regular progress demonstrated
4	Time pressure		Scholarship awarded for a standard period of study	Recognition of time limitations, fear of losing funding, fear of not completing when funding is lost	Efforts to graduate within the standard period of studies
5	Sense of appreciation	Participants dispersed around the world are left alone to produce desired outcomes	Annual meetings with university vice-rectors and high ministry /research agency officials	Feeling valued and welcomed in Estonia, being aware of local developments and opportunities, possibility to express concerns	Confirmed commitment to return, return visualised
6	Overcoming obstacles	Students experiencing difficulties during PhD studies	Partial repayment of scholarship in case of non-completion	Desire to avoid repayment (perceived as the fine)	Determination to overcome difficulties

No	Theme	Context	Resource	Mechanism	Outcome
7	Initial intentions	PhD abroad pursued to improve career prospects at home, scholarship conditions acceptable	Partial repayment of scholarship in case of non-return	Desire to avoid repayment (perceived as the fine). Less eager to integrate into the host country. Motivation to maintain links with Estonian scientists	Natural gravitation towards home country maintained throughout studies
8	Immediate return	The environment at home is salutary and reasonably attractive	The requirement to apply for a position in Estonia in 3 years from graduation	No motivation to pursue permanent positions abroad, post-doc positions sought instead as they fit into period and benefit to a career at home	First permanent position sought in Estonia
9	Return made easy	Fair access to relevant jobs at home, temporary positions for post-docs and returning academics available		Temporary positions at home perceived as getting a foot in the door	Return to the temporary position after a post-doc abroad
10	Return linked to prestige	International experience perceived as valuable, PhD or post-doc from abroad indispensable for an academic career		Professional prestige appreciated, eager to find professional fulfilment and independence	Return with the idea to succeed faster in a career than it would happen abroad
11	Readjustment to home	Availability of attractive jobs in Estonia, open competition for positions, international experience valued	The requirement to work in Estonia at least for three years, if elected	Getting familiar with the system internally. Comfort from being at home. Staying becomes convenient	Returnees stay beyond the required time
12	Impact	Research institutes determined to improve; returnees welcomed and supported.	The pool of young academics with competitive qualifications and research contacts	Sense of achievement, ambition to advance in a career faster than it would happen abroad, ease of having an impact on system level	Returning academics help to change the system from within

Table 4.2: Early programme theories in progress

Having reconstructed social regularities to be replaced with the programme and tacit expectations, I advanced to interpret programme resources and requirements. I worked with multiple documents at the time, switching between interview transcripts, programme documents, existing literature, notes, reflections and my spreadsheet with evolving patterns. I aimed to articulate convincing theories using realist evaluation building blocks and organise these blocks in a way that would make them understandable to the outsider. The result in table 4.2 aims to represent how the participants should move through the programme according to the programme designers and documents and how the programme resources should affect their behaviour and choices along the way.

4.5 Initial programme theories

The scope of doctoral research would not allow following all the theories presented in Table 4.2. Hence, fewer theories had to be selected for testing in the next phase of research. For this purpose, I assessed the relevance of different theories for overall expectations for programme impact as well as for the research questions and broader academic mobility literature. At the end of this exercise, I ended with the five most significant theories for further testing and refinement. These theories represent five steps in the programme that constitute necessary prerequisites for the programme impact (see Figure 4.1). Participants should join with the intent to return, maintain professional contacts with home during their studies, demonstrate regular progress and graduate, return and find their place in the Estonian academia, and finally, progress to positions that allow initiating change.

In presenting the theories, I have followed an example from Dalkin (2014) that allows demonstrating the link between initial theories and questions asked from data in the next phases of work.
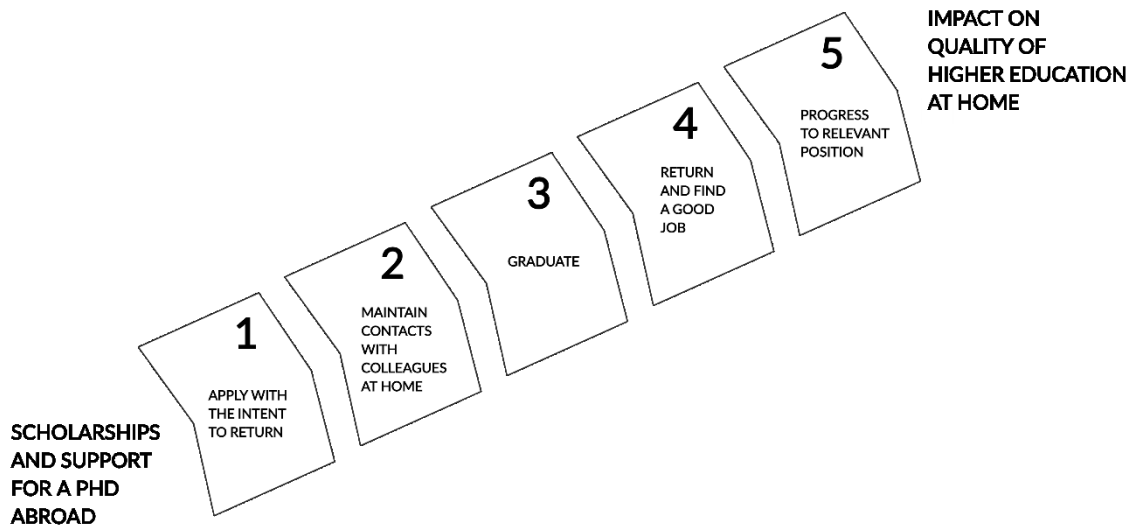
Figure 4.1. Steps required for programme impact

4.5.1 Theory 1. Initial intentions

It was apparent that the Kristjan Jaak programme had been initiated to send abroad doctoral candidates, who would be willing to return and work in Estonia after graduation. This expectation was made very clear in programme documents as well as during interviews. Earlier studies have revealed that initial intentions to migrate remain one of the most potent determinants of return for mobile academics (Gribble, 2008; Gupta et al., 2003; Tansel & Güngör, 2003; Tremblay, 2008). Researchers have established that academics, who go abroad to acquire better credentials for employment at home, are less determined to integrate into the host society and appreciate more contacts with colleagues at home. Eventually, these academics are more likely to return home because they have maintained natural gravitation towards home throughout their period abroad (Thorn & Holm-Nielsen, 2006).

I found similar underlying assumptions in the Kristjan Jaak programme. For example, it was assessed in the selection process how relevant the research topic was for Estonia or how the applicants saw their future in Estonia after graduation. The idea was central to the programme and evident in related literature, therefore also selected for further testing:

Theory 1: Doctoral candidates, who have undertaken studies abroad to advance their careers at home (context, C1), maintain their natural gravitation towards home country throughout studies (outcome, O1) because they are satisfied (mechanism, M1) with scholarship package as well as attached requirements (resource, R1), and are therefore less determined to assimilate to the host environment (M2).

4.5.2 Theory 2: Maintaining contacts

The second theory, closely linked to the previous one, was constructed by merging several early theories. The literature reveals that maintaining professional contacts with colleagues at home helps to transcend the barriers usually faced by returning academics. Maintaining such contacts and networks gives better access to information about job openings, offers safety net through requirements and bureaucracy related to the return and helps to ease the resistance to the newcomers (Ackers, 2005; Baruffaldi & Landoni, 2012; Gill, 2005; Morano Foadi, 2006). It also resonates with the idea of personal networks as a means to disseminate intelligence about opportunities and positions and facilitate boundary-spanning activities at home (Jöns, 2009; Ackers et al., 2015). The value of direct communication is well recognised in the Kristjan Jaak programme as well. It was only tacitly implied in the application assessment criteria at first. However, having co-supervisor or co-worker at Estonian university became endorsed practice later in the programme. The contacts were enhanced with high-level annual events, where university vice-rectors, ministry and research agency officials were invited to speak and hear the participants' concerns.

Theory 2: Doctoral candidates, who are dispersed around the world and left alone to produce results (C2), stay committed to return to their home country (O2) and perceive fewer barriers to return (O3) if they have regular professional contacts with academics and officials from home country (R2), which provide access to information about job opportunities and system peculiarities (M3) and generate a sense of being valued and welcome at home (M4).

4.5.3 Theory 3: Milestones of progress

The third theory has less in common with issues covered in academic mobility literature, yet it is essential for the programme impact. The host institution's support for the doctoral candidates cannot be shaped by programme designers or implementing agency.

Kristjan Jaak scholarships are awarded to students, who have been enrolled in the doctoral programmes of their choice in languages and countries of their choice. Support systems are different in different universities as are the customary completion times and rates as well as reporting requirements. The capacity of these institutions to provide quality education in respective fields is assessed during the selection only. The funding authority has established a common framework for measuring and maintaining the progress of participants. According to programme designers, these measures should uphold that students receiving scholarships move purposefully towards timely graduation wherever they study. The requirements are identical for all students regardless of the likelihood of timely graduation in their respective institutions or research fields. The study aims to establish how and for whom such standard requirements work:

> *Theory 3: Biannual progress reports (R3) and granting the scholarship for a standard period of study only (R4) work for doctoral candidates studying in universities with strong support structures (C3), who recognising the need for steady progress to secure the next payment (M5) and fearing that they would not complete studies when funding is lost (M6) demonstrate regular progress (O4) leading to timely completion of studies (O5).*

4.5.4 Theory 4: Immediate return

Kristjan Jaak programme requires that its participants apply for a vacancy in Estonia within three years of graduation. Otherwise, half of the scholarship paid over the years would become a loan. Programme designers justify the time frame as accommodating a short post-doc period in another institution, but no jobs of a more permanent nature.

The literature establishes both the time spent abroad and professional advancement as strong determinants of return. The longer academics live in the host country, the

76

stronger belonging to the host country they develop (Baruffaldi & Landoni, 2012; Chen, 2015; Coey, 2013; Gill, 2005; Van Bouwel, 2010). Having a job abroad after graduation increases the likelihood of non-return (Finn, 2014; Gaulé, 2011; D. Kim et al., 2011), and having first permanent position abroad even more so (Baruffaldi & Landoni, 2012; Coey, 2013).

At the same time with the Kristjan Jaak programme, temporary post-doc positions and grants for returning academics were made available to facilitate the return of participants. These aimed to give returnees time for adapting until more permanent positions are published. Thus, as was expressed by a programme designer, there was no excuse not to return. Literature supports programme designers' expectations. However, does it work for all students regardless of their study destination or subject area? Would a high paying job offered in some countries or research fields make temporary grant offer less attractive and looming loan repayment less threatening?

> *Theory 4: Requirement to apply for a position at home within three years from graduation (R5) secures that participants return home very soon after graduation (O6) and seek their first position there (O7), if temporary funding opportunities facilitate the return (C4), in this case, they have little motivation to pursue permanent position elsewhere (M7), and temporary grant offers at home are perceived as getting a foot in the door (M8).*

4.5.5 Theory 5: Change from within

Lastly, I need to return to two central tenets of the programme. First, there was the premise that universities would welcome these people back and in the fair and merit-based competition, they would be elected against local academics. That is an underlying assumption behind many similar programmes out there. In Kristjan Jaak, this tenet was so strong that the requirement to return stipulated merely that „the beneficiary is required to apply for a position relevant to obtained qualification and remain in employment there for at least three years if elected". Programme designers affirmed that unsuccessful participants would have been released from their obligation to return to Estonia. The rule respected the universities' autonomy to recruit their staff, also accepting the possibility that objectively there could be better candidates for the job. However, the programme impact, as well as validity of its

founding assumptions, would remain questionable, if too many returning graduates would be left aside in these competitions. The programme would trigger no change if universities did not embrace the potential of returnees.

The second tenet of programme designers involved expectation that returning very young participants would be prepared and have the ambition to move fast in the system to the positions, where they would be able to initiate and accomplish change. In the Estonian system, this could be achieved with leadership functions attached to a professorship or in managerial functions such as heads of departments or deans.

Theory 5: Young academics with competitive qualifications and international research contacts (R6), are elected and advance to relevant jobs (O8) and initiate change from within the system (O9) if the international experience is valued at the department level (C5), access to relevant jobs and career progression is fair and merit-based (C6), and the system is flexible and allowing change (C7) because participants appreciate the ease of making the difference at the system level (M9) and are encouraged by the ambition to advance in career faster than it would happen abroad (M10).

The questions asked from data with respective data sources are displayed in Table 4.3.

4.6 Summary

The purpose of this chapter was to formulate the initial theories for Kristjan Jaak programme and prepare the ground for the next phase of research. I carried out the work using data retrieved from programme documentation and interviews with programme designers and linking the programme rationale with findings from previous research on academic return mobility. Analytical tools from realist evaluation, such as outcome patterns and retroductive thinking were applied to accumulate and consolidate the knowledge from different sources. I ended up with five articulated theories that bring together the most critical aspects of programme success and impact. I aimed to articulate the theories in the framework of broader literature to give them relevance beyond one programme if proven and refined. My secondary objective was to find the connection between the programme and broader literature, but also between established initial theories and data to be searched and analysed in the next phase. These ideal theories shall now be tested and refined.

Initial questions asked from data	Sources of data
1. INITIAL INTENTIONS	
Did participants take up studies abroad to advance careers at home?	Applications, observation, interviews
How did participants feel about the scholarship package and attached requirements?	Correspondence, interviews
Did they consider staying abroad at any point? What motivated their decision?	Interviews
Did they make deliberate efforts to integrate to the host society? What did it entail?	Interviews
2. MAINTAINING CONTACTS	
What kind of links did participants have with colleagues at home before and during studies?	Applications, observation, research information system, interviews
Did having contacts facilitate the return? How?	Interviews
Are participants committed to returning? How does it manifest itself?	Progress reports, correspondence, interviews
Did they feel valued and welcome in Estonia? What made them feel this way?	Interviews
3. MILESTONES OF PROGRESS	
How long did it take from enrolment to the diploma?	Confirmation of acceptance, diploma
What are the characteristics of universities with strong/weak support structures?	Correspondence, interviews
What were their reasons for interruptions and extensions?	Progress reports, correspondence, interviews
What were the participants' reactions to requirements when facing difficulties?	Progress reports, correspondence, interviews
Are participants admitting their difficulties when submitting progress reports? Why?	Progress reports, interviews
4. IMMEDIATE RETURN	
Are participants returning within three years from graduation? How long did it take to return?	Correspondence, employer's confirmation, research information system
Did they consider job offers from abroad before returning? What was their reaction to them?	Correspondence, interviews
What was their first position at home? What was their motivation to get it?	Employer's confirmation, research information system, interviews
Is there evidence of barriers to the return?	Progress reports, correspondence, interviews
How grants support the return decision-making of participants?	Research information system, interviews
5. CHANGE FROM WITHIN	
Were the participants elected to relevant positions? What are the characteristics of those jobs?	Research information system, interviews
Was international experience valued at host departments? How did it manifest itself?	Interviews
Were access to jobs and career progression fair and open? What made it that?	Interviews
What motivated participants to initiate and accomplish change? Why?	Interviews
What research practices and outcomes have changed in host departments? How?	Research information system, interviews
Are there regularities/patterns in the data collected? What are they?	**All of the above**

Table 4.3: Data framework for the second phase of research

Chapter 5. Findings of second phase

The chapter presents the findings of the second phase of research that entailed the inquiry into actual practices of participants and outcomes of the programme. The analysis aimed to identify the implementational deviations from the initial theories. The data was collected using the review of individual case files of participants and existing databases, observation of selection-committee meeting and interviews with participants and programme managers.

5.1 Overview of programme participants

A total of 118 students started their doctoral studies abroad with the help of the Kristjan Jaak programme over a period of 12 years (2002–2013). Their demographic and study-related characteristics are summarised in table 5.1. Figure 5.1 presents some sample cases of the respondents to give more context to the findings.

More female than male students have benefited from the scholarship programme over the observed period. Based on the analysis, this seems to reflect unequal gender distribution in the most frequently supported study fields. The programme never had a preference for so-called "soft sciences". Participants' feedback allows suggesting that the prevalence of those study fields arises from the lower general availability of doctoral scholarships offered by the universities in these areas.

Interestingly, I found no consistent evidence of the negative impact of gender issues, partnering or parenting on the participants' mobility-related decisions as suggested in prior studies (Ackers & Gill, 2008; Jöns, 2011). This might be so because these mobility decisions were made at a younger age, as has been suggested by Jöns (2011). There were, of course, incidents of interrupted and delayed studies as well as non-return prompted by family obligations. However, I also found that in case of those participants, the studies had delayed and their sense of belonging had shifted from home to host country before these additional constraints arouse. Female participants' relationship and parenting choices did not diverge from those of their male peers. Both men and women found ways to accommodate their families with their studies abroad and consistently returned home after graduation, even with partners they had met abroad. Hence this finding, although fascinating considering the results of prior

research, carried less weight in the Kristjan Jaak programme evaluation. The phenomenon, however, deserves further investigation.

The share of female participants was 61%, showing that the programme did not discriminate against them, quite the opposite. Their reflections revealed that the fixed funding and support of the programme provided a kind of safety-net that had appeal when compared with the uncertainty of going out on their own. A somewhat more obvious gender difference appeared after the return, though, as 9.7% of female participants had managed to rise to the leadership positions at home compared to 14.9% of their male peers.

The median age of 27 years, as well as prior employment characteristics, indicate that the majority of participants have not started doctoral studies abroad immediately after graduating from the previous degree. A large proportion of participants (39,5%) had prior work experience at the Estonian universities. The latter suggests that a career in academia was often familiar to programme applicants. It also indicates the professional contacts or even agreements that make it easier to maintain a connection during the studies and return after graduation.

Characteristics	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total	%
Participants	9	9	15	14	15	8	8	9	9	11	6	5	118	100%
Interviewed participants	2	3	3	2	2	4		4	1	1	1	1	24	20.3%
Gender														
Male	2	3	3	8	7	3	3	4	4	7	1	1	46	39.0%
Female	7	6	12	6	8	5	5	5	5	4	5	4	72	61.0%
Destination country														
United Kingdom			3	3	5	1	6	3	6	4	4	2	37	31.4%
Finland	6	6	6	3	4	1		3		1		1	31	26.3%
Sweden	1		2	3	2					1		1	10	8.5%
Italy				2	1	1		1	2	1	1		9	7.6%
Germany	1	2	1	1			1			1		1	8	6.8%
The Netherlands			2	1						2	1		6	5.1%
France	1	1		1	2		1						6	5.1%
United States						4		1		1			6	5.1%
Other			1		1	1		1	1				5	4.2%
Field of study														
Humanities and Arts	5	1	2	2	4	1	4	2	4	5	3	2	35	29.7%
Social sciences, business and law		1	2	7	6	3	2	3	1	2	1	1	29	24.6%
Sciences			4		2	1	1	2	3	3	2	1	19	16.1%
Education		2	5	1	2			1					11	9.3%
Health and Welfare	1	1	2	3		2						1	10	8.5%
Agriculture	2	1			1	1	1	1					7	5.9%
Engineering and manufacturing	1	3		1						1	1		7	5.9%
Residence 3 years after graduation / interruption														
At home	8	9	12	13	12	6	6	6	4	7	3	5	91	77.1%
Abroad	1		3	1	3	2	2	3	5	4	3		27	22.9%

Table 5.1. Characteristics of programme participants

Annika worked in an administrative capacity at an Estonian university before starting her doctoral studies in Spain. She lost contact with her colleagues over the years abroad. During the studies, she carried out applied research projects for the local industry in Spain, giving her valuable experience yet also prolonging her studies. She graduated in six years. Annika met her partner, a fellow student and Spanish national during her studies. After her graduation, they moved to Estonia together. Annika's efforts to find a job at a university were unsuccessful, but due to her industrial experience, she found a job at a research-intensive enterprise without difficulty. She has acquired an apartment in Estonia together with her partner, indicating their intention to remain there for a while.

Evelin started doctoral studies in Germany at the same time as her Estonian partner. They got married, and their first child was born there. She struggled to keep up with studies due to lack of contact with the supervisor. Child-caring responsibilities and efforts to contribute to the professional debates at home slowed the progress even further. After four years, her husband graduated and received a job at home. Her own scholarship also ended making staying in Germany inconceivable. Hence, she returned, hoping to finish studies from a distance. She was employed as a university lecturer at home regardless and has taught for almost ten years. She gave up efforts to graduate after three years at home.

Jane, a single mother of one, had left to do a Masters' degree in the Netherlands. She continued her doctoral studies at another university there. She was approached by an Estonian university during her second year of doctoral studies and offered a remote research position at home. She also worked part-time in an administrative capacity at the host university to cover the high cost of childcare. She graduated in four years. Jane married a host country citizen when studying abroad. She was offered a full-time research fellow position at an Estonian university immediately after graduation and moved to Estonia together with her husband and child. She became a senior research fellow at another Estonian university two years later, director of the institute six years later and full professor eight years later. She has benefited from multiple research and mobility grants.

Liis worked at a European institution in Brussels before she received a scholarship for Masters' studies in the United States. During doctoral studies at the same institution, she spent multiple periods in different countries. Before returning, she conducted post-doctoral research in three continents. Liis met her husband, a third-country national, during one of those stays. Living apart, they have always practised visiting marriage. Their two children live with Liis. Her return was financed from multiple grants and welcomed by university leadership, yet she struggled to find support on the department level. She led the launch of a new English-taught programme but lost her role in it after maternity leave. She now works as a research fellow in another institute of the same Estonian university.

Mihkel received a prestigious national scholarship after the high school for studying in the United Kingdom. He continued to complete his Masters' and doctoral studies at the same institution, both with Estonian government scholarships. He met his wife, also Estonian while studying there. He had no professional contact with universities at home over the years but spent multiple periods in various labs and universities in other countries. He graduated well in time and had every intention to return, but failed in his attempts to receive post-doc grants or find relevant academic positions. Disappointed, he started his own research-intensive company instead. Today, it has offices in three continents and operates across borders. Their product testing sites are situated in Estonia.

Tõnis had been successfully practising professional in his field for five years when he was approached with the proposal of taking up doctoral studies in Finland. He had no prior mobility experience. The proposal included an agreement with the supervisor abroad and the promise of a job after graduation. He was frustrated with the technical preparation he had received and eager to make it better for future students. He was married but moved abroad alone and commuted between home and host countries throughout the studies. His two children were born in Estonia in this period. Tõnis graduated in six years and received a research fellow position at Estonian university a year before graduation. Four years after doctoral graduation, he attained full professorship, a position he still maintains.

Figure 5.1. Sample cases of respondents

5.2 Revised programme theories

The outcomes of the analysis are structured into sections using the following pattern:

- synopsis of relevant findings,
- revised programme theories,
- examples of evidence substantiating the revised theories.

The examples supporting the inferences made in this chapter, come mainly from the interviews with participants. The evidence from interviews was merely more figurative and inclusive than data from any other source. In the analysis, nuggets of information from many sources, as demonstrated in Table 4.3., were used to reach these conclusions. The agreed word limit of the thesis does not allow providing the elaborate tables with sorted details behind the inferences (Wong et al., 2016). These tables can, however, be translated and provided at request.

5.2.1 Theory 1. Initial intentions

Prior contacts at home explain intention to return as well as the actual return

The scholarship applicants are well aware of the return requirement attached to the grant, which is why they demonstrate their intention to return in their motivation letter as well as during interviews with the selection committee. The condition is further emphasised by the application and interview questions that guide applicants to present their motivation accordingly. The interviews indicated many participants' strong prior contacts with Estonian universities, either through doctoral studies in progress, part-time assistantships or secured position in the future. This is also why these participants found the idea of living and working at home satisfying and undertook their studies intending to return and apply the experience at home. They were satisfied with the scholarship package as well as the requirements attached to it. The source of that satisfaction was the recognition that living and working in Estonia would be pleasant and worthwhile, even attractive. At least, it was notably more attractive than the perspective of staying abroad. Beneficiaries who had had strong prior contacts with Estonian universities took up their first positions after graduation in Estonia. This was confirmed by their career records as well as interviews. We may accept that they maintained their gravitation towards home throughout studies.

Theory 1.1. Beneficiaries who have strong prior contacts with universities at home (C) undertake their studies abroad to advance careers at home (O) because they are attracted to the idea (M) of living and working at home.

Theory 1.2. Beneficiaries who undertake studies abroad to advance careers at home (C) are satisfied (M) with the scholarship package (R) and committed to the return (M), and hence do not seek opportunities elsewhere and return after graduation (O).

Examples of evidence

> *"I compared myself with other students in France, and anyway, I had this great advantage that I was an employed academic person already. They have so many smart people who are unemployed. Actually, for them, these studies often are just a continuation of the university in order to avoid unemployment. They are brilliant, yet they are somehow not competitive at the same time."*
>
> *"And I had like a sense of mission that I have to further this project that we would also have a postgraduate programme here."*
>
> *Example 1. Maria, France*
>
> *"I have to confess from the start that there has never been a thought, even during the studies, that I will now go somewhere else. Yes, that thought has never occurred to me."*
>
> *Example 2. Tõnis, Finland*

Accepting the grant does not indicate the intention of return

The need to return to Estonia is well acknowledged by the applicants, which does not mean that it is welcome and accepted perspective for all beneficiaries. The interviews revealed that the beneficiaries with no significant association with Estonian universities were less keen to comply with the requirement. Those who had no clear idea of what their future should entail just wanted to remain open for any opportunities that may arise. As anticipated, the beneficiaries who had obtained previous degrees abroad were among those who had fewer contacts with institutions at home.

This group was hesitant when applying and accepted the grant only because they had no alternative if they wanted to pursue their studies abroad. Their interviews revealed

that they were not happy with the programme terms, or were even somewhat irritated because it confined their freedom of choice. They also suggested that the return requirement should be abandoned as it affects unfavourably the participants' willingness to return. They felt cornered, because they did not want to return at the first place, but had no other option than to accept the grant. It was not a pleasant feeling. Many of them returned to Estonia after all, yet considered other options beside the return as well.

Revised programme theories

Theory 1.3. Beneficiaries, who are hesitant to comply with grant requirements (R) and accept the scholarship (R) only because they have no alternatives to pursue their studies (C), develop no special feelings towards home and do not rush back home (O) because the requirement makes them feel confined and barred from their free will (M).

Examples of evidence

> *"Well, I went there being very young and foolish. I didn't know what the purpose of my life or the work of my life was... I don't know that until now, in fact. I didn't have a feeling that, well, I will go out there and then return back to Estonia."*
>
> *"I took it. Gave up. Sold my soul for 16 thousand per year."*
>
> *"Well like… with the real decisions of my life, I was not going to consider the Foundation [name of the funding agency removed] in any way. The real decisions of my life were to be led by love in every sense… like love for the work or theme or domain or people or my family. The Foundation just felt like a nasty practical consideration that I had to live with."*
>
> *Example 3. Kärt, United States*

Ambition in research prompts motivation to remain mobile

The third group of beneficiaries was keen to have a career in their field, but not necessarily in Estonia. They were ambitious and aspired to take advantage of the best environments and opportunities. They pursued studies at the globally highest-ranking institutions in the field. During selection interviews that I observed as a bystander, they advocated that academics should remain mobile throughout their working lives if they

wanted to remain competitive. Fascinatingly, this group had no scruples when applying to and accepting the scholarship. This was because they either saw an escape route within the requirements or reckoned that three years in Estonia after graduation was bearable enough price for their improved prospects in the field. Observation notes reveal that their lack of gravitation towards home was overlooked during the selection interviews because they were brilliant and impressive candidates. They were inspiring in their enthusiasm and confidence. Their lack of contacts in Estonia, therefore, seemed less relevant, or at least less questioned by the committee. Beneficiaries belonging to the group had obtained their previous degrees abroad, the majority in the same country where they continued their postgraduate studies. They also considered other options besides Estonia after graduation.

Revised programme theories

Theory 1.4. Beneficiaries, who aspire to pursue best opportunities in their field wherever they arise and see a loophole in the requirements (C), apply for the scholarship (R) without hesitancy (O) because they are confident (M) to find the way around the return provision if needed.

Theory 1.5. Beneficiaries, who aspire to pursue best opportunities in their field wherever they arise and do not see the loophole in the requirements (C), apply for the scholarship (R) with the idea to return home for the required period only (O), because they feel that price for the opportunity is acceptable (M) in the long term.

Examples of evidence

"I don't remember if I had come up with it in my head only or discussed it with anyone, but in theory I could have outplayed the system, right? I think the contract required to apply for the position. Indeed, I could have applied then, and it would have been fulfilled, right? […] I cannot say I was worried in the least when I ran for it."

Example 4. Karl, United Kingdom

„Again, when you have no other options [...] then this is not the place where you can bitch around basically. It is the supplier's market. Supplier defines the terms, and it is your business what you do about them. You can actually do nothing, I'm afraid. It's not nice, of course, when you are told to return. Then, on the other hand, you think that it is not that much, it is like three years, isn't it? Period of studies. Well, three years is no big deal."

Example 5. Siim, United Kingdom

Excerpt from observation notes:

Raul looks confident.

H asks why he wants to do a PhD in the first place. Raul is a good speaker, engaging, an enthusiast. His decision is led by curiosity; he loves the challenge in research.

S asks to describe the practical value of his research project. No difficulty there, two practical applications are given.

P asks why Estonian government should fund him specifically. Raul: I am determined and efficient. This is a cutting-edge method, would be wise to support breakthrough research.

P continues: What exactly makes it more break-through than some other research? Raul: The novelty of the method and its potential value for future research. He describes the method in detail.

H asks which Estonian scientists he could collaborate with. Raul: No close research groups in Estonia, but prof K has done related research. Explains links to prof K's works.

Raul leaves the room.

P: Impressive understanding of the field for a MA graduate. Everyone in the room voices the agreement. S: This is the boy we are going to fund!

Example 6. Raul, United Kingdom

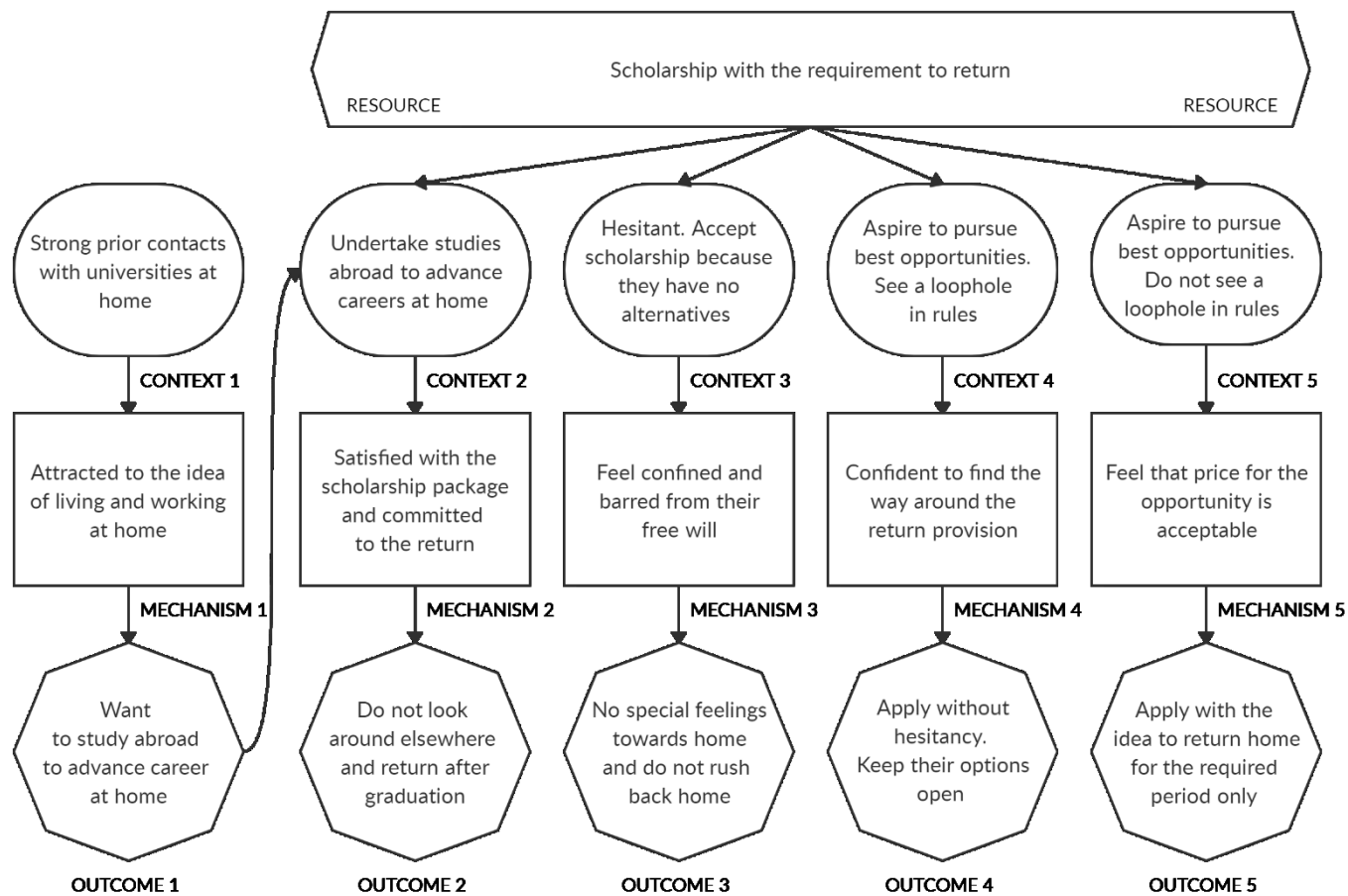Figure 5.2 visualises the theories explaining the initial intentions of participants.

Figure 5.2. Initial intentions of participants

5.2.2 Theory 2: Maintaining contacts

Remaining an outsider leads to not fitting in

Participants, who were uncommitted to returning, found no reason to seek or strengthen their contacts with colleagues at home. They were immersed in their new environment abroad and saw no added value in collaboration with colleagues at home. It did not mean that they were determined to remain abroad. They just did not think of return in any way at the time. Even if they had personal or social contacts with some individuals, they did not interact with and remained perfect strangers with the broader research community at home. Without friendly advice and insider information, they remained unprepared for the return and faced barriers on entry as well as later when trying to adapt to the system. Furthermore, being complete strangers, they were regarded with indifference by the locals. They had to wait for the open calls for the positions and compete with the locals who had inside support. No efforts were made to find ad hoc funding to secure their return.

Revised programme theories

Theory 2.1. Beneficiaries, who have no strong intention to return (C), make no effort to understand the system at home (O) and do not develop a working relationship with colleagues at home (O) because it does not feel important at the time (M).

Theory 2.2. Beneficiaries, who have no working relationship with colleagues at home (C), face their indifference (M), which is why no real effort is made to find funding for their return (O).

Examples of evidence

> *„I didn't, like, think about it. For one thing, because the work there demanded so much attention and effort. Whether I was valuable for the university at home [name of the university removed] or not, was entirely secondary. First of all, I wanted to see that I can handle the work I am doing there. I had to be valuable for those who are at US university [name of the university removed], not at home."*
>
> *Example 7. Liis, United States*

„And then… I guess I wasn't a priority enough to focus on at the time. Yes. They like wanted me, but then I guess what was missing was that I did not receive much support from M [first name removed] to figure out how the funding could work. How we could finance the position for me."

"And I found some programme myself… they had been aware of it, obviously, but had planned to bring another researcher with it or… to make use of another researcher with that funding. And I was put on hold, so to say. Something, like, come again next year."

Example 8. Mihkel, United Kingdom

Maintaining contacts during studies facilitates the return

Beneficiaries who had regular professional contacts with colleagues at home throughout their studies abroad returned home without exceptions. Most of them returned home even before defending their thesis, just because it was financially advantageous to live in Estonia in those final months of writing or waiting for the defence. Some had had regular light workload in Estonia throughout their studies; others had enjoyed more erratic teaching assignments upon invitation, worked on mutually interesting research projects or been actively involved in public and social circles. Some beneficiaries who did not have any professional contacts beforehand formed them during studies. Strong contacts triggered two different mechanisms. First, being out there in the world alone the beneficiaries valued the feeling of belonging somewhere, being wanted and welcome, but also having the confidence of a job in the largely unsure and competitive global realm of research. Secondly, the beneficiaries were accepted by local colleagues as part of their team. For this reason, they were tipped off with valuable inside information that helped them to be prepared for the return as well as for securing start-up grants for their postdoc periods. They were offered full positions in Estonia either by direct invitation or upon their request, meaning they were indeed seen as one of their own. These two mechanisms led to their immediate and smooth return.

<u>Revised programme theories</u>

Theory 2.3. Beneficiaries, who maintain regular professional contacts with colleagues at home (C), return and find a position at home easily (O) because they feel confident and valued (M).

Theory 2.4. Beneficiaries, who are committed to returning and reinforce their contacts with colleagues at home (C), are accepted by colleagues as one of their own (M) and therefore get advice that makes the return easier (O) and experience fewer barriers to return (O).

<u>Examples of evidence</u>

"When associating with colleagues in Estonia, it was increasingly echoed through that the main criteria for assessment here are the publications. [...] as I received signals from both sides that publishing is essential, then I thought that, okay, I would then publish as much as possible."

"[I came] before graduation, but because I had some… three publications, then it was somehow enough to show that I qualified for the research fellow position in the project."

„In that sense, it was the same system that had sent me. In that sense that my own... so to say, professors and my students were right here, those that I had taught during my studies. In the sense that it was the same, so to say... the community was the same that had sent me".

Example 9. Helen, Germany

A diagrammatic explanation of relationship with colleagues at home is provided in figure 5.3.
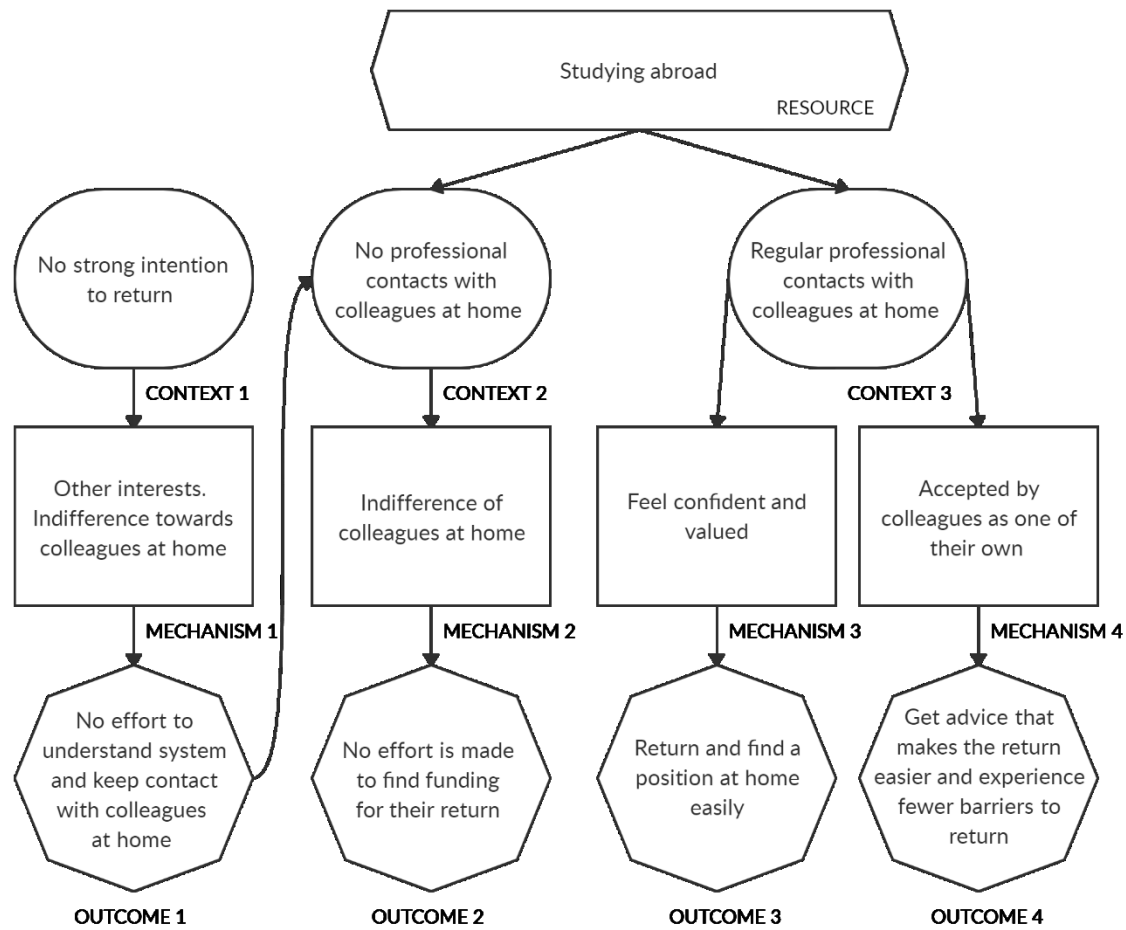
Figure 5.3. Maintaining contacts with colleagues at home

5.2.3 Theory 3. Milestones of progress

University support and student determination lead to timely graduation

There are features in the programme that were initiated with the idea that they should secure continuous progress and movement towards a timely graduation. Statistical analysis, however, indicates that beneficiaries do not graduate within the expected time, i.e. regular reports and strict grant periods do not lead to timely graduation. The average graduation time was, in fact, 6.0 years, based on the date on the diploma, depending on the country and time of studies. Another 15 beneficiaries (12.7%) interrupted their studies.

Based on the mixed-method analysis, it is fair to say that the programme does not influence graduation times of its participants. The beneficiaries who had graduated within normal time had two main things in common. First, they were purposeful and aware of their long-term goals. They knew exactly where they wanted to be, were well aware of what doctoral studies entailed, had done their homework and found the best universities for their purposes. Secondly, they studied in universities with basic support structures in place. This could mean several things, like the availability of administrative staff, well-designed control mechanisms, synergy with the supervisor, the existence of peer support or similar. Also, the beneficiaries who graduate within normal time tend to see the postgraduate studies as something that everyone is able to complete. This is a significant difference from others who sometimes see it as something supernatural, threatening or the most critical achievement of one's life.

Revised programme theories

Theory 3.1. Granting scholarship for a standard period of study (R) stimulates purposeful students, who study in the universities with basic quality and support structures (C) to stay committed to the progress and graduate within normal time (O) because they feel it is a feasible task (M) on their journey towards more important things.

> *"And in my institute, the pressure came from… well, since there were so many postgraduate students and research life was so active, then there were vivas all the time—practically every week. And when someone was defending, then you saw that people do not die from it. It is actually possible; everyone is doing it."*
>
> *"And of course, I cannot go around the fact that the supervisor was really good. Well, there are two things really that I can recommend to whoever is embarking upon it. First, you need to have a sense of direction yourself that you really want to fill a void in the knowledge. And then, find a good supervisor!"*
>
> *Example 10. Kristjan, United Kingdom*

Financial pressure does not lead to faster graduation

Some students feel slight pressure that they have to finish before the grant ends, as theorised initially. The primary pressure is usually related to the expectations of the university and not the pressure of the grant. The financial pressure grows stronger, however, when the grant ends considerable time before submission. As pointed out before, most students in the programme did not graduate within the grant period, i.e. the university's normal time. Occasionally, the universities paid their students salary for those few extra months. It usually came in the form of part-time teaching or research assistantships and was the way these universities usually dealt with students on extensions. More often, students returned to Estonia to live frugally at home with their families until they wrote and submitted their thesis and got their first paid jobs. These students who were at the time without any income experienced substantial financial pressure to graduate. They needed the degree to apply for a postdoc grant or get the job at university. They wrote frantically and graduated speedily if it was coupled with the deadline pressure from their universities. Being without basic income was disturbing, even undignified for some and they wanted to change that soon.

The most fortunate students received immediate full-time positions even before their defence. This seemingly privileged circumstance became detrimental for students from universities without internal deadlines and time limitations for graduation. The

beneficiaries in teaching or administrative positions become quickly absorbed in their jobs, and without external pressure, the studies became secondary. The frustration that came with it sometimes ended in longstanding stress, yet without substantial external incentives, the studies remained side-lined, and graduation was postponed for years. Thus, the students who were expected back the most and received immediate positions before graduation took the longest to reach the end of their studies.

Revised programme theories

Theory 3.2. Beneficiaries studying at the universities with weak support structures, who take up full-time positions when their grant ends before graduation (C), experience high workload (M) and frustration (M), which results in the stress (O), sidelining of studies (O) and severely delayed graduation (O).

Examples of evidence

> *"I had like empirical [part] and everything done and like half of the work or more drafted, but the teaching workload that was stabbed in my back here at university N [name of the university replaced], because that project did not come... And at the start, the only activity was teaching. I had all new courses, I had to start... like to develop them all from scratch and it was just... Well, you're unable to do anything alongside. And then I... the thing was that I could not finish..."*
>
> *Example 11. Karl, United Kingdom*

Fear and shame result in exaggerated reports

While students are expected to submit progress reports to the funding agency twice a year, and these have to be signed by the supervisor to confirm their accuracy, the interim reports seldom indicate any difficulties. Intermediate reports showed progress according to plan even in case of students whose actual graduation time was well over ten years. Interviews revealed that when students felt that their progress had not been sufficient to secure the next payment, they simply hid their difficulties and embellished the progress. Students who lagged in their studies were ashamed of not coping and feared that they would be deprived of further finances if they would acknowledge

struggles. Some of them felt powerless too since the expectations of the university for their progress diverged considerably from those of funding agency. Hence, they opted for pleasing both by exaggerating their progress to the latter.

Unlike universities, the funding agency has no means or competence to control or assess the amount of the work involved in reported results, and this was admitted by programme managers too. Funding agency expected that supervisor's confirmation was enough proof, while supervisors seem to have confirmed anything without censorship. Supervisors were not interviewed in the study. However, based on my impression of reports and beneficiaries' feedback they either genuinely believed that the progress had been satisfactory, did not even read the reports or would have signed anything to secure the continuation of their students' funding. As a result, the funding agency lacked understanding how well the studies of participants advanced, and requests for extensions usually came as a complete surprise. This confirms that not only have the progress reports to the funding agency in their present form no influence towards timely graduation, but they also have no incentivising effect on progress or graduation altogether.

Revised programme theories

Theory 3.3. Beneficiaries lagging in studies (C) fear to lose funding (M) and are ashamed of their lack of progress (M) and therefore embellish their progress and hide actual difficulties (O) in the reports to the funding agency (R).

Examples of evidence

> *"You don't want to show yourself from the bad side when you are in that situation. Even if everyone is reassuring that you would not be deprived of support, isn't it? I think that in order to start telling… at least in my case, in order to start telling your problems, it has to be really bad, and I would have to be sure that the telling has some kind of purpose or that I have like hope that it would really change something… that it would not make things worse. In the sense that a person should be… like, have some kind of protection of the disclosure."*
>
> *Example 12. Evelin, Germany*

"Well, I don't know, the fright is not the right word, but… if you know that the reporting is imminent and you have nothing done, right… then you have to find something to write in that report, don't you?"

Example 13. Hanna, Finland

Health problems remain unreported in due time

Review of participants' reports and correspondence with the funding agency revealed that students' health problems were rarely reported in time. Frequently, the reports describing the progress as planned without any mention of complications were followed by the medical records stating health problems that had lasted for years. The medical problems often emerged when explanations for the extension were given. The circumstances of their appearance did raise suspicion, and at least in some cases, they may have been exaggerated in order to justify delays. The interviews, however, exposed health problems also in students who never requested extensions. In effect, the health problems that interfere with studies in the long run often surface in the form of minor illnesses like cold, for example. They develop unnoticed until the inability to study is obvious. The scholarship covers health care expenses, of course, but involves no provisions for the periods of incapacity for studies. The scholarship is suspended in periods of intercalation and students have no substitute income for these periods, which would make healing even more problematic. Thus, in fear of losing income, students cannot afford to tell the funding agency of their illness in due time.

Revised programme theories

Theory 3.4. Beneficiaries, who experience health problems during their studies (C), do not disclose them in the report (R) to the funding agency in time (O) because they believe it is nothing serious at first (M) and fear to lose the scholarship if unable to study (M).

> *"I went to my supervisor when my health problems started to say that I need to tell the Foundation [name of the funding agency removed] that I don't know what will happen to me. And he advised me not to tell."*
>
> *Example 14. Kerli, Finland*

Funding agency is duplicating practices of universities

At first, it would seem that the bi-annual programme reports to the funding agency have their purpose for students at institutions with weak support arrangements without putting strain to the students studying in other universities. Students who are not actively encouraged to show progress by their universities acknowledge the pressure to write something to the reports. However, they recognise the need for progress only in their minds. As their home universities do not reassure them with the same message throughout the year and their own determination remains weak to compensate the lack of substantial external push factor, these moments of recognition and responsibility remain short-termed and crop up only during the periods of reporting. Beneficiaries described weak support as having no administrative support or effective progress reviews, a supervisor not engaged with the topic, having no peer support, unreasonable expectations for the thesis and acceptance of unlimited extensions. The last two were particularly noticeable in some Finnish universities where various beneficiaries had received signals that postgraduate degree completed in less than ten years was not of high enough quality.

On the other hand, students studying in universities with effective progress reviews see the reports to the funding agency as an inevitable chore that provides no additional ground for reflection. This is something that they have to do to secure the next payment. More critical of them ask why the simple confirmation from the university would not suffice. The reports were not difficult to execute, yet they remained a tick in the box, evaluated as simply done or not done, and no further review of their substance or accuracy was conducted. Additional milestones offered by the programme remained artificial and inept compared to the incentives provided by the universities because the funding agency had no capacity to assess them in a

meaningful way. Students maintained steady progress and graduated in time if their everyday environment gently pushed them towards it, not because of reports to the funding agency.

<u>Revised programme theories</u>

Theory 3.5. Students who have no efficient progress reviews at their universities (C) find the progress reports to the funding agency (R) helpful (O) because they feel responsible for their progress or lack of it (M) and are motivated by external incentives (M).

Theory 3.6. Students who have efficient progress reports at their universities (C) feel that reports to the funding agency (R) are an inconsequential but unavoidable chore (M); thus they complete and submit them without much reflection or reservation (O).

<u>Examples of evidence</u>

"Well, of course, it is good that the Foundation asks the report like that. Otherwise, you maybe would not move at all, right? It is an absolute must to have it. That you are accountable, that you tell what is going on."

"It wasn't a formality! It was the moment when you sat down seriously and like thought about your life… Like what happens now? What will I write down? What have I done actually? I have done nothing. How can it be that the year is gone and I have done nothing?"

Example 15. Hanna, Finland

"Some universities actually have an annual review too. I have passed it too. If you have to finish the theory chapter by the end of the year then, in all honesty, it motivates you nearly 32 times more than the intermediate report [to the Foundation]."

Example 16. Siim, United Kingdom

The first six theories in this group are displayed diagrammatically in figure 5.4.
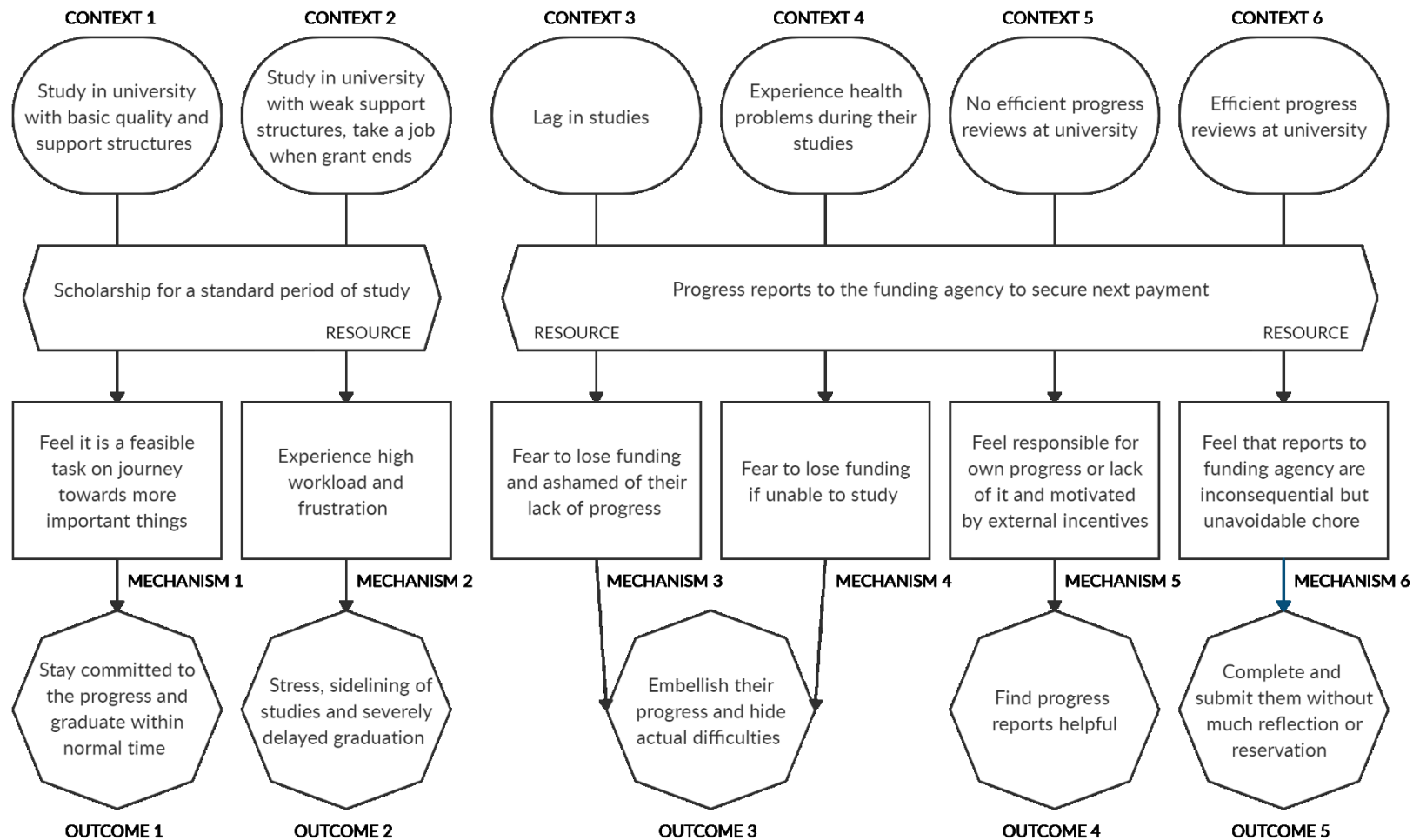
Figure 5.4. Funding and reports

Fear of financial penalties prevents quitting but does not speed graduation

The financial penalties that could follow if the beneficiary interrupts studies for no acceptable reason could be seen as the harshest requirement of the programme. The excuses that are considered acceptable are the health and family reasons and circumstances beyond students' control. Financial penalties grow with the total amount of scholarship paid over the years, meaning that dropping out in the first years of studies would result in considerably smaller penalties than in the late ones. This is clearly one of the reasons why beneficiaries do not interrupt their studies lightly, especially when regular study time is well passed. It worked as an incentive from the very first years for students at the universities with strict progress requirements. The interviews exposed genuine concern among the students who studied at the institutions that expelled slower-paced students at the end of every year. It was not always a positive feeling, but the fear of financial penalty certainly made those students push harder.

For students at the universities with more relaxed progress requirements, the fear of financial penalties emerged in later years, sometimes even only after the end of the grant period. These students struggled to progress, yet external financial pressure prevented prevailing ideas of quitting. For them, the financial pressure without basic institutional support and feasibility of graduation bred uncertainty and despair, even to the extent that incapacitated them. Paradoxically, they were genuinely anxious, some of them even consulted possible loan for the return payment with their banks. Nonetheless, they made no apparent moves towards a positive solution to the problem. It is stressful to live with the idea of looming debt and a feeling of helplessness. Therefore they often turned to self-deception and disregarding the whole problem in order to protect themselves.

<u>Revised programme theories</u>

Theory 3.7. The requirement to pay back half of the grant (R) in case of non-graduation (C) triggers fear for financial penalties (M) leading to continued efforts to graduate (O).

Theory 3.8. Beneficiaries, who lack individual purpose and take up studies in universities with weak support structures allowing unlimited extensions (C), feel demoralised (M) and insecure (M) against looming financial penalties (R) to the extent that the magnitude of the task ahead incapacitates them (O) and survival strategies like wishful thinking and ignoring the problem prevail (O).

Examples of evidence

> *"And I was so depressed all the time. As I said the fear and then the shame. [...] I didn't know how back then. I lacked like the ability to collaborate or had like a fear that I would get scolded for something... and the shame... It was like I didn't want to knock on that door too easily."*
>
> *Example 17. Hanna, Finland*
>
> *"Well it was, of course, very intense time and very stressful, but if you are in a situation like that, then you just have to go on. You don't have a choice. The choice „what if" simply does not exist. And if you are tied to a contract like that then you have to try to go on, it's the only way."*
>
> *"But maybe it is also some kind of a survival strategy that you try not to think about it too much."*
>
> *Example 18. Kerli, Finland*

Unflexible rules generate annoyance and scheming

Throughout its existence, the programme has used scholarship calculation based on the living standard in different countries. Most beneficiaries suggested that although the scholarship amounts had been not abundant, they had been adequate, except for students who had carried out study periods or fieldwork in multiple countries. In these instances, the grant had been calculated based on the cost of living and time spent in different host countries. While beneficiaries recognised the rationale for the practice, it was the strict implementation that appeared problematic. In effect, annual grants had been calculated and paid in advance based on time student planned to spend in different countries. The final grant was later recalculated and offset against initial grant following the final period spent in each country. Beneficiaries regarded the practice of reporting and evidencing their movement on day by day basis as needlessly controlling and impractical, which in turn made them angry with the funding agency.

This was the case because recalculations usually resulted in reduced grant amounts. Others chose to hide their actual movements from the funding agency. They remembered having thought that the funding agency would not have listened and that it damaged no one if they cheated the irrational system.

Revised programme theories

Theory 3.9. Beneficiaries, who study or carry out the fieldwork in more than one country (C), feel unnecessarily burdened (M) and distrusted (M) by the rigorous programme demands (R), which makes them annoyed and angry with the programme bureaucracy (O).

Theory 3.10. Beneficiaries, who find some programme requirement unsound (C), scheme and hide their actual activities (O) because they do not trust (M) that the funding agency would be willing to accommodate their needs and feel that they cause no harm to anyone when violating unreasonable rules (M).

Examples of evidence

> *"I can tell you honestly now that I signed everything that I have matched the dates with PowerPoint… well, not the PowerPoint but with the damn pdf-editor to make them correct. Or I had taken a flight to N [name of the city replaced] in August when I actually did not need to, but I had to show that everything was okay on paper."*
>
> *"It's a bit like the same thing that… how to say… that this annual report is not only report but also a signal. Signal of the fact that we do not trust you enough."*
>
> *Example 19. Siim, United Kingdom*
>
> *"It was something like… something I could get punished for… Like it may turn out that, well, I sort of had been somewhere longer, or I had flight tickets that could indicate something…"*
>
> *"I was left with the impression that the Foundation [name of the funding agency removed] does not trust that I, [a person] with the postgraduate degree… soon to be with postgraduate degree… like I am able to manage my life or something."*
>
> *Example 20. Kärt, United States*

Frequent staff exchanges lead to impersonal and distrustful relationship

The programme support team was experienced and reliable in the first ten years of the programme. Frequent reorganisations and staff exchanges undermined the relations between beneficiaries and funding agency during the later years. The correspondence with beneficiaries is well recorded and features new official's name in almost every communication between 2012 and 2017. In addition to the loss of personal contact and competence with each staff change, the correspondence and interviews unveiled that funding agency's practices and demands often changed together with people, which gave ground to frequent explanations and resentment. Participants did not understand why they were asked to explain or present something repeatedly or why something they had agreed upon was suddenly not accepted. As a result, the funding agency was treated with various cynical jokes regarding the government bureaucracy, which demonstrates the lost contact and understanding between the beneficiaries and agency.

Revised programme theories

Theory 3.11. When contact persons at the funding agency (R) are often replaced, and demands to the beneficiaries (R) change over the time (C), then it leads to the impersonal, untrusting and cynical relationship (O) because beneficiaries are confused (M) and find the change inconsiderate of their needs and expectations (M).

Examples of evidence

> *"And the other such example is from the bureaucracy. You have to defend the degree. You defend the degree and send the diploma. And you get the response that "No-no-no"! This is not a diploma recognised in the Estonian Republic! Please go to our other department and get the certificate that the diploma is recognised in the Estonian Republic. […] First, you get the money to make a postgraduate degree there, but when you've finished it, they are not certain any more whether it's worthy or not. Such a typical funny thing…"*
>
> *Example 21. Madis, Italy*

"It is really… it is fairly important who the contact person at the Foundation is. If she is replaced every year and every person is different and communicates differently, and usually very laconically, then, unfortunately, you're left with the impression that it reflects the attitude towards you."

Example 22. Kerli, Finland

Having small children leads to financial difficulties

The living allowance that is part of the scholarship is adequate to cover the living costs of the student in the country of their studies. Based on the feedback of first beneficiaries, a top-up child allowance was introduced from the fifth year of the programme. The travel costs of children have been reimbursed from about the same time. The standard rate of 130 euros per month per child is proportional to similar allowances in Estonia. However, it has remained insufficient to cover the costs of expensive childcare in some countries. Some beneficiaries move with partners too, even when the scholarship does not include the top-up allowance for partners. Sometimes, in countries with very high childcare costs, moving abroad with the partner could be the more affordable option. The higher cost of living abroad with children does not come from expensive childcare only. The parents of small children had considerably higher demands for the standard of their lodgings, for example, apartment's ventilation, carpeting, thermal insulation and heating. Sometimes, the students with children were not able to benefit from the most affordable lodgings offered by the universities. As a result, participants with small children experienced financial hardship despite top-up allowances and part-time employment.

<u>Revised programme theories</u>

Theory 3.12. Beneficiaries, who have small children living with them abroad (C), feel the need to provide them with better living conditions than they would accept alone (M) and hence suffer financial hardship and stress (O) since the scholarship is not sufficient (R) for supporting the family and childcare abroad.
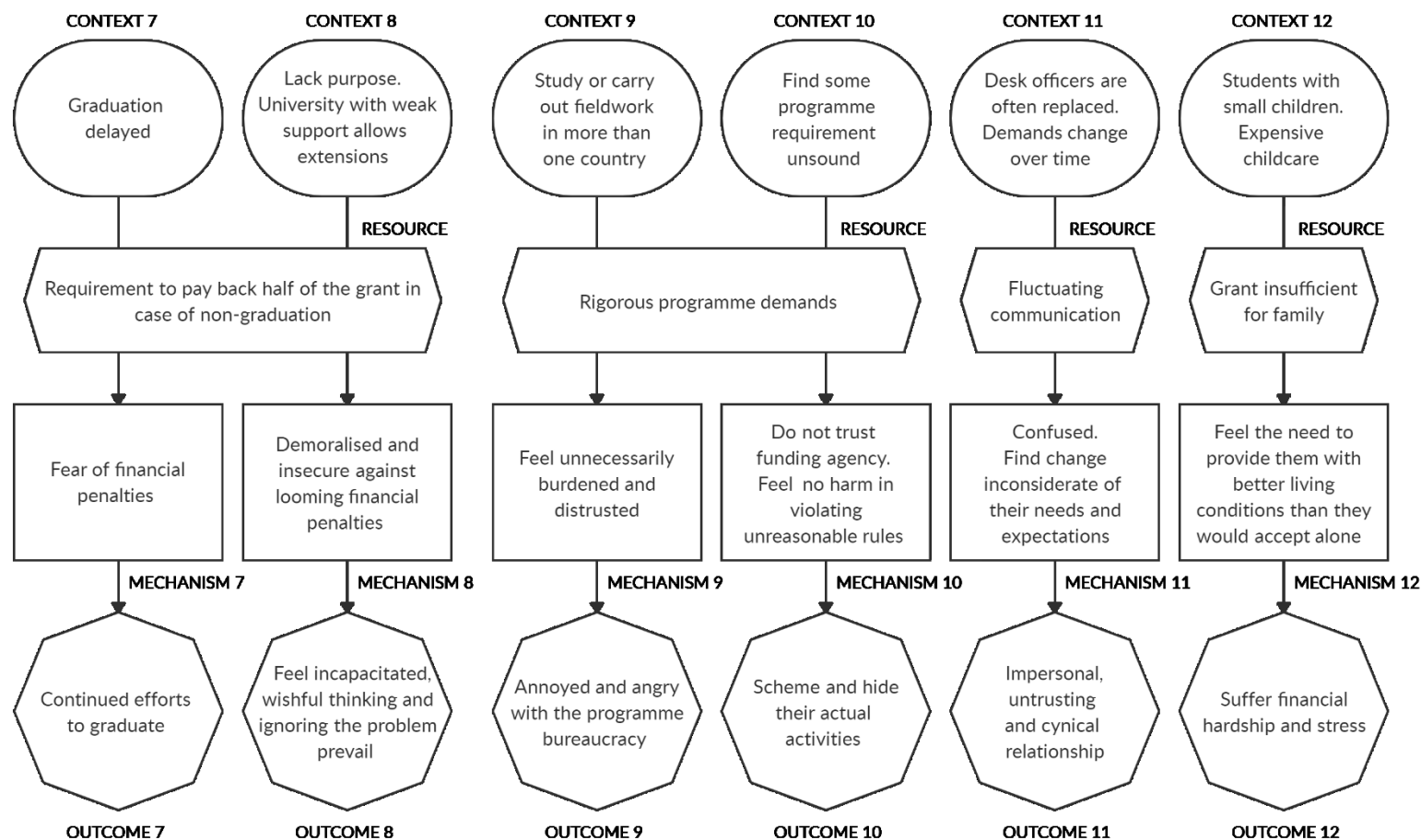
Figure 5.5. Unexpected experiences

<u>Examples of evidence</u>

> *"It was harsh because… the child was four years old and, of course, she went to school. School starts early there, but then after school, there was the daycare that I think cost as much as my scholarship… just the after school care. And nobody understood why I go to work altogether if I have to pay the entire amount to the childcare, right?"*
>
> *„In that sense, it was financially really hard. When you go with the child, you don't go to some... you don't want to go to some total dump, because it is your child's childhood, isn't it? Well, that was awful."*
>
> *Example 23. Jane, The Netherlands*

The last six theories in this group are depicted in figure 5.5.

5.2.4 Theory 4: Immediate return

Department's ambition prompts research grants and independence

The beneficiaries with a strong relationship with colleagues at home returned to the positions established or preserved for them specifically. However, some of them set to put together their own grant applications immediately, while others were content with their situation without it. Commonly, they combined teaching, research and administrative responsibilities and were not expected to generate income for their team just yet.

Others prepared to submit various grant applications almost instantly. They were told that this was something that was expected of them, an integral part of being a researcher. Based on participants' accounts, their departments could be described as open, ambitious and dynamic. Their openness, however, could not always be explained by the value given to international experience, as proposed in initial theory 5. The impression was that the openness derived from the ambition for world-class excellence and not settling for the mediocrity of provincial research. Earning your own postdoc or start-up grant on top of institutional salary was seen as a matter of principle. Hence, the newcomers were given an unambiguous mandate to conquer or die.

Another initial assumption reflected in theory 4 was that temporary grants would facilitate the return. In effect, the beneficiaries who received the grants were already well settled in Estonia. Instead of enabling the return, the grants allowed them to establish themselves as independent and significant players in their field. It allowed lowering teaching and administrative workload and dependence on the projects and revenues of others. With the grants, they were able to dedicate their energy and time to their own research topic, establish their team and apply for higher-level grants. In the long run, the beneficiaries who received the postdoc or start-up grants immediately after graduation advanced faster in their careers and attained leadership positions before soon.

Revised programme theories

Theory 4.1. Graduates who secure their first position in aspiring and dynamic research teams (C) submit successful applications to start-up grants (O) because they get much-needed encouragement and advice from their colleagues (M) and perceive it as the only possible step to take (M).

Theory 4.2. Graduates who receive postdoc or start-up grants in addition to the position in the ambitious team (C) establish themselves as independent players in research (O) because the grant enables them to devote their time and efforts towards their own research agenda (M) and gives them financial independence from teaching workload and institutional projects (M).

Examples of evidence

> *"It was like that I came, so to say, from the more conservative system to the more dynamic system. In many ways, it was the merit of our, so to say, visionaries."*
>
> *"So at first, I was in the government grant and then applied for it. And this gave me like immense resources and freedom to build my very own research agenda, actually. Otherwise, I would have been in someone else's project… would have had maybe… had not been able to do things I wanted. But this gave me the freedom to do exactly what I wanted to do."*
>
> *Example 24. Helen, Germany*

> *"He had no money to give me. I thought what the hell? What am I doing here? Is this what I returned for?"*
>
> *"And N [name replaced] told me that there are like basically two courses of action you could take. You can either choose whining and crying and complaining over the money that unfortunately most people do. Or you shut up and forget everything that you promised in your postdoc project. Forget it! Those deliverables don't matter. And you start writing the grants."*
>
> *"And then, it was 2012 when we wrote… 2012 to 13 we wrote with P [name replaced] I think something, like… we had a good ratio, I think we wrote 5 or 6 grant applications, and at the end of the first year, we had… maybe million and a half under management. […] And two and half million under management by the end of the second year. And then we were able to start our research group."*
>
> *Example 25. Rasmus, Italy*

The grant does not lead to success in unambitious departments

In contrast, the graduates who returned with the grant to the unambitious departments where they had no previous relations experienced resistance and opposition. Interviews with beneficiaries gave rise to my understanding that as a rule, the graduates of world-leading universities are more strong-minded and self-assured than an average young scientist. If now such people return with self-earned generous grants to the unambitious institutes at the periphery of Europe where they barely know anyone, then they seem to be bound to elicit confrontation. A beneficiary explained that one should be "very humble and respectful" to be accepted in such circumstances, and not to come with the attitude of know-it-all. Because the returnees need the internal support and acceptance of people to make a difference, or else they would be seen as the smug strangers that they are.

<u>Revised programme theories</u>

Theory 4.3. Graduates who return with their own funding to the unambitious departments, where they have no prominent internal support (C) receive no assistance and do not advance in their career (O) because they are perceived as strangers (M) or even as a threat (M).

> *"But I took no one's lot because everything… The money I was hired with came from outside. I was not hired with the faculty funding. The money I operated with was external and additional. No one was deprived of their share! But they came and told me as if… they told as if the faculty was dealing only with my programme [name of the programme removed]. They… they felt that it came with a swing that was too large for them… as if they were taken away by the wave. Whereas it was never meant to be like that."*
>
> *"The moment I took parental leave, I like disappeared for them. They put new people in charge of the programme [name of the programme removed], and now that I'm back from parental leave I am basically nobody."*
>
> *Example 26. Liis, United States*

Flexibility and ambiguity in communication gives way to non-return

An interim evaluation commissioned in 2011 by funding agency (RAKE, 2011) indicated that from Estonian students graduating on postgraduate level abroad only half returned home if they studied on their own without any return requirement. Regardless of prerequisites and contracts, a quarter of beneficiaries of Kristjan Jaak programme also did not return home within three years from graduation. The majority of them have suffered no financial penalties either. Thus, the return provision has some effect but also apparent inefficiencies. How can this be if both sides have signed the contract that involves fines for the non-return?

Among those who have not returned, some would have even liked to return after graduation but had lost the contact and had no place to come. Others had considered staying abroad throughout their studies. Neither wanted to return any share of the received scholarship though. As the first step, they asked for an extension for the return. They often justified the step with doing a postdoc or settling ongoing commitments abroad. The first extension has always been granted by the funding agency that seems to want to maintain an understanding stance. Completed postdocs are a prerequisite in applying for start-up research grants in Estonia, and it would be hard to find a reason to deny them.

The beneficiaries' desire to return, however, seems to weaken in time. Some of them just disappear and stop responding. Others try to convince the funding agency that their biannual visits to Estonia should be considered sufficient. The funding agency has shown great patience and flexibility, and in most cases, further extensions have been granted. Relevant correspondence seems, however, too accommodating and lacks definiteness. Hence the beneficiaries can understand it as an approval of their request, while the programme manager just has tried to be friendly. Furthermore, as the letters granting extensions are usually not followed up with regular reminders of anticipated return, the non-returners quickly adopt the belief that their solution was approved permanently. Instinctively, this could be a kind of psychological self-defence response because it is difficult to live long with the idea of disagreeable outstanding obligations.

Revised programme theories

Theory 4.4. Graduates, who do not want to return (R) but see no loopholes (C), bargain for extensions and special conditions (O) because they do not want to recover part of their grant (M).

Theory 4.5. Graduates, who have agreed on extension or special conditions for the return (C), start to believe that their contractual obligations are met after a while (O) if communication from the funding agency is not very clear and regular (C) because they want it so badly to be true that they start seeing it (M).

Examples of evidence

> *"What I proposed to the Foundation [name of the funding agency removed] was that… actually, our start-up does a lot of things in Estonia. By now our company has a subsidiary in Estonia to which we have now invested something like 150-200 thousand euros. We have created three jobs, and there are like different partners whom we work with. [...] I share my own time between America, United Kingdom and Estonia, I actually work in all three countries. What was my proposal to Foundation was that this job is like my return."*
>
> *Example 27. Mihkel, United Kingdom*

> *"I found this opportunity that I, so to say… have that kind of intermediate solution that I can contribute to Estonia part-time if I, for example, read in Estonia. […] and it has not been a problem really."*
>
> *Example 28. Sander, United Kingdom*

Loopholes in rules allow cheating the system

As demonstrated earlier, the programme requirements obliged to apply to vacant positions in Estonia and some beneficiaries saw it as a possible escape route already before studies. According to the funding agency, the rule has been formulated in order to respect the universities' autonomy to select the best available candidates at any given moment. The correspondence with the beneficiaries left the feeling that some beneficiaries still resented the return provision and pursued those jobs in Estonia perfunctorily. A beneficiary later reinforced the impression. The programme manager confirmed her awareness of such fabricated candidatures. She believed, however, that cheating should remain on the conscience of the cheater and not result in new restraints for the rest of the participants. In a small country like Estonia, deceitful conduct will not remain hidden, and this would be a punishment enough.

<u>Revised programme theories</u>

Theory 4.6. Students who do not want to return after graduation (R) and see the loophole in the rules (C) cheat the system (O) because they do not want to recover part of their grant (M).

<u>Examples of evidence</u>

> *"I know one person, who was also abroad and who did not have any special interest in returning to Estonia, and I know that s/he did this... that s/he applied for all those things s/he had to apply for according to the contract but implied to people through the back channels that s/he actually was not interested. I know someone who did like that."*
>
> *Example 29. Martin, United Kingdom*

Figure 5.6 visualises the theories explaining the return home and reintegration of participants.
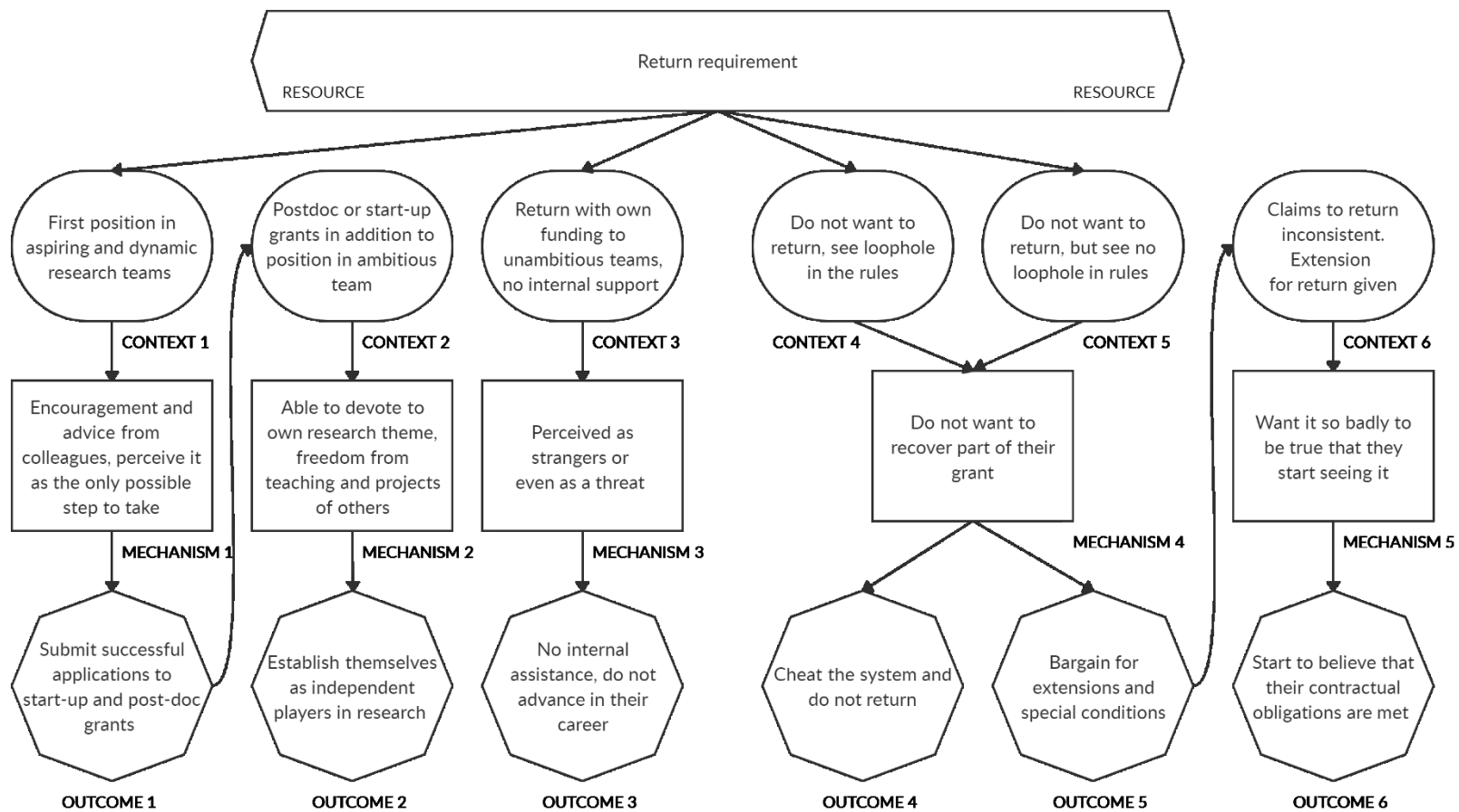
Figure 5.6. Return home and integration

5.2.5 Theory 5: Change from within

Ambition, resources and alliances allow advancement and change

A fifth of beneficiaries had advanced to leadership positions in Estonia by the time of evaluation. Among leadership positions, there were professors, directors of the institutes, a vice-rector of a university and a CEO of a large teaching hospital. Significantly more leaders came from the earlier cohorts, for the simple reason that those beneficiaries had had more time to establish themselves in their field. Sixty-two per cent of beneficiaries from the first cohort of 2002 had reached leadership positions, while none from the last four from 2010 to 2013 had done the same. What was common in the circumstances of those people who became leaders in academia, and what triggered the outcome?

First, they were unmistakably ambitious in their resolve to rise above the mediocrity often seen as unavoidable in universities of a small country at the periphery of Europe. Second, they managed to form alliances with at least some local key players, and hence, to have a task force that worked towards the same objectives. Thirdly, they were successful in their efforts to secure funding for their projects. Becoming a professor was the outcome they pursued, and it was a matter of pride to achieve that goal. It was their determination and pride that instigated their movement to the positions where they were able to initiate system-level changes.

Revised programme theories

Theory 5.1. Young academics with competitive qualifications and international research contacts (R) are elected and advance to relevant jobs (O) and initiate change from within the system (O) if they have academic ambition and manage to secure resources, as well as synergy with at least some colleagues at home (C) because they are determined to make a difference (M) and see it as a matter of pride (M).

"Well, I received the ETF grant, and that was like prestigious money… it was also little money, but let's say that no one in this building had received it. They hadn't even applied for it, right, but I received it. And the external grants […] We have had to live on the European grants because from Estonia, we did not get funding."

"I certainly didn't want to become director of the institute. I wanted to become a professor. And then I was told simply... I was a senior research fellow then, right, had been a while... that you can't become a professor if you don't have managerial experience... that you have to lead. They surely thought that you are going to lead your small team or something, but I said, well okay, I have to lead."

"All this talk about the county's league and that there is nothing we can do, I can't relate to that. My institute in the Netherlands was the very top institute in the world and I work with people from Helsinki a lot. They are like the top of the field, right? Well, you can! You can! It isn't that there is nothing to do, that we lack something. This approach ain't good for me that I'm in some county's league myself."

Example 30. Jane, The Netherlands

Jobs in strong teams enable changes in everyday practices even without ambition

A majority of beneficiaries have not reached leadership positions. Among them are those who have the ambition, but just need more time and experience. After all, there are agreed prerequisites for academic progress. Some beneficiaries are, however, content being the members of a well-established team and have no ambition for greater responsibility. While this did not allow them initiating system-level changes, their imprints on everyday practices of their teams and institutes were still well-identifiable if they had a mandate to act. The changes initiated by these beneficiaries, corroborated by their academic records, included newly launched and revised study programmes, restructured doctoral schools, using international contacts to recruit new colleagues, supervised postgraduate students and involvement in the execution of external grants and cooperation projects. The ambition did not drive these beneficiaries. They were satisfied being the valuable members of their teams, and

hence, happy to contribute to the success of their team without desire for higher authority.

<u>Revised programme theories</u>

Theory 5.2. Beneficiaries that enjoy being the researchers but have no ambition for leadership, who return to the secured positions in the well-established teams (C) feel valued (M) and satisfied working as members of the teams (M), initiate changes in everyday practices of universities (O) but make no effort to advance to leadership positions (O).

<u>Examples of evidence</u>

> *"I have no illusions about, let's say, the position of a professor, at least not now in Estonian academia. I think it is such an immense responsibility, liability and mission. Maybe for some, it is also, like, the title that comes with it that makes it, like, desirable. My main hope would be to engage in actual research, to have less like administrative tasks maybe…"*
>
> *"Well, at the moment, I am a half-time senior research fellow, and I have now that start-up grant that I execute, and then I am the half-time reader and responsible for the programme. When I returned, and also returned from parental leave, then this was what I ended up doing… like the development of the new Master level programme in English, and well, I have developed it basically."*
>
> *"In that sense, it is like… let's say that in Estonian demographic situation it is important for the institute since it brings in the students. Our English taught programme has the best attendance and like the highest competition in the admissions. "*
>
> *Example 31. Marta, United States*

Absence of like-minded colleagues and academic dialogue leads to ideas of leaving

Interviews revealed that there are also beneficiaries who are frustrated and reflect upon the possibility of leaving Estonia or the university when having fulfilled their obligations. First, there were the beneficiaries that were welcomed and valued in Estonia, but whose research topics had no affiliation with those of their local colleagues. While being successful and valued, they missed in-depth awareness and intellectual dialogue in the narrower field they had enjoyed in the university abroad.

They feared that without everyday encounters, they would lose their edge as researchers. Therefore they actively sought opportunities of becoming part of more like-minded research teams again. Given the flexibility of living here and there, these beneficiaries would be, however, glad to contribute to both teams and communities.

Also, some beneficiaries were not fortunate enough to find understanding and support from the local colleagues. These beneficiaries felt ostracised and alienated and thereupon too disillusioned to entertain the hope of having a gratifying career at home. This is why they looked around for alternatives either in other sectors, research teams or abroad.

<u>Revised programme theories</u>

Theory 5.3. Beneficiaries whose research topics are not affiliated with the research themes of colleagues at home (C) feel academically lonely (M) and fear that they are losing their competitiveness (M); thus they explore their options abroad (O).

Theory 5.4. Beneficiaries who experience opposition and isolation within their departments (C) feel ostracised and alienated (M) and consequently disillusioned about their future careers there (O) and hence explore options outside academia as well as abroad (O).

<u>Examples of evidence</u>

> *"And then I started to have feelings like… damn if I would stay here for another few years, then I would qualify to no funding any more. My CV is not like... I have achieved zero! And in these conditions, I would not publish a damn thing... that if I don't leave now, I will stay here, like, forever."*
>
> *"The first thing is that this field did not exist in Estonia. […] Thus, the first thing is total intellectual isolation. The other thing… What does your everyday work look like? It looks like… you're expected to teach a lot, but magically also find the time for research at the same time. And then a lot depends on your network. If you are with the topic that nobody cares about, then you don't have much chance to build that network either."*
>
> *Example 32. Siim, United Kingdom*

"Although, I have this idea once every month that I should maybe leave anyway. When you have like negative experiences or like… Then you think for a moment that it is time to go."

"On the one hand, I would like to become a professor, but I'm not sure that I would want to be a professor in this faculty where I am surrounded by people who... whom I struggle to cope with. Or like... well, I've difficulties finding a common language with them. I hope all the time that it is going to change! I figure that maybe not enough time has passed? No... I'm not sure at all that I would like to become a professor here. I indeed consider going somewhere else. But then, I acknowledge that I feel good in Estonia. I would like to be in Estonia. The decision to leave academia in order to stay in Estonia is much more difficult than a decision to stay in academia and work in a university somewhere else."

Example 33. Liis, United States

The impact of the returnees to the Estonian higher education is displayed diagrammatically in figure 5.7.

5.3 Summary

This chapter presented the findings of the second phase of research combining the data from interviews, observations, public databases and case files of participants. The findings were organised based on initial programme theories. Analytical tools from realist evaluation, such as context-mechanism-resource-outcome patterns and retroductive thinking were used to accumulate and consolidate the knowledge from different sources. In the result of refining, the initial five theories established in the first phase were replaced with 31 particularised minor theories. The implications of these findings are explored in the next chapter that aims to elaborate on how the design, requirements and implementation of such programmes could better take into account the contextual circumstances surrounding participants.

Young academics with competitive qualifications and international research contacts

RESOURCE   RESOURCE

| Academic ambition, resources and synergy with colleagues at home | Enjoy being researchers, no ambition to lead, positions in strong teams | Research topics not affiliated with themes of colleagues at home | Internal opposition and isolation |

CONTEXT 1 — CONTEXT 2 — CONTEXT 3 — CONTEXT 4

Determined to make a difference and see it as a matter of pride

Feel valued and satisfied working as members of the teams

Feel academically lonely and fear to lose competitiveness

Feel ostracised, alienated, and disillusioned about academic career at home

MECHANISM 1 — MECHANISM 2 — MECHANISM 3 — MECHANISM 4

Are elected and advance to relevant jobs and initiate changes from within the system

Initiate changes in everyday practices, but no effort to change the system

Actively explore options abroad

Explore options outside academia as well as abroad

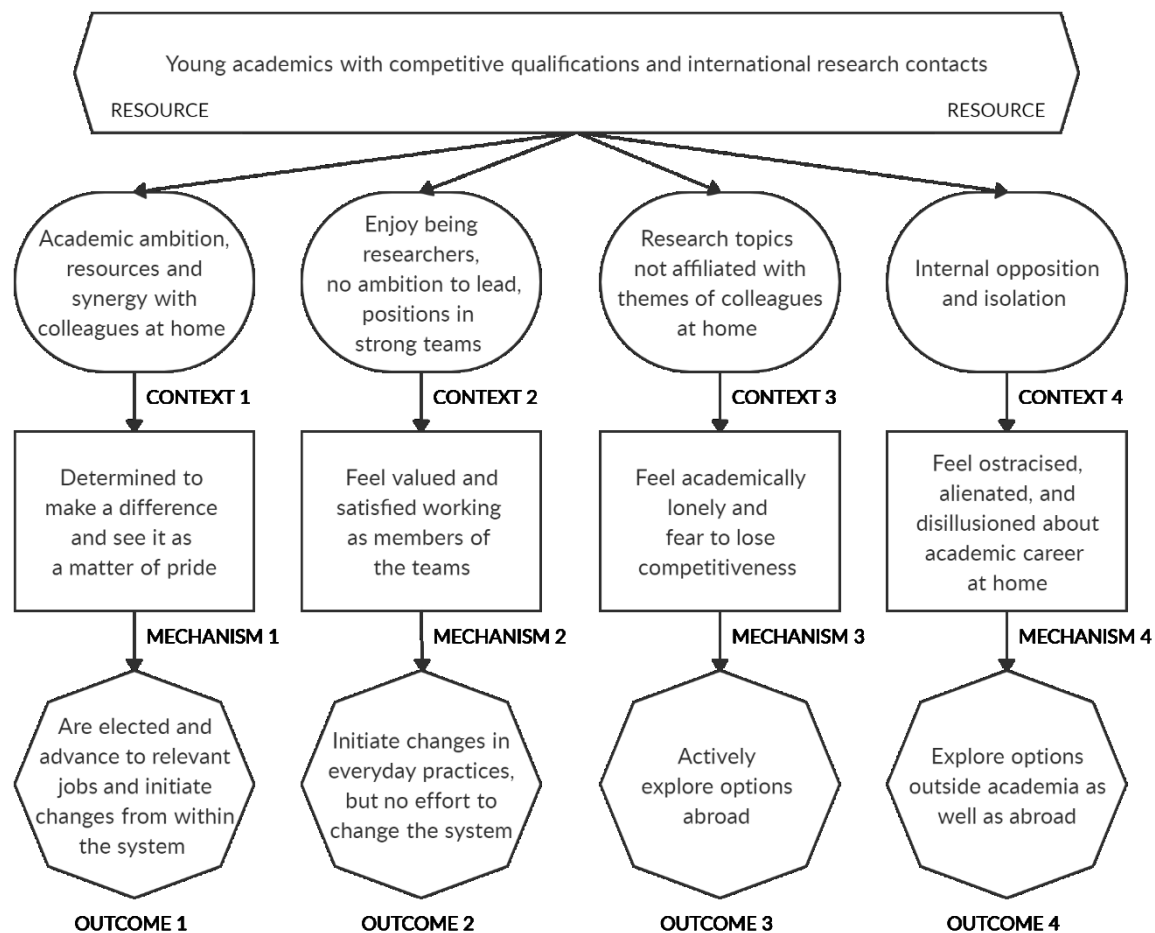OUTCOME 1 — OUTCOME 2 — OUTCOME 3 — OUTCOME 4

Figure 5.7. Impact on higher education in Estonia

Chapter 6. Discussion

The chapter aims to summarise and discuss the analysis of respective findings linking them further with the findings of previous research, and the research question formulated at the beginning of the study. I aim to explain, in particular, how the human agency of participants is activated to generate expected and unexpected outcomes. Implications for future research and implementational practices are also outlined together with the critical re-assessment of the validity of findings as well as the use of realist evaluation as an instrument for analysis of academic mobility and its underlying causal mechanisms.

The study set out to explain what it is in the Kristjan Jaak programme that works, for which participants, in what circumstances and why. In more general terms, I aimed to understand what are the mechanisms that make the scholarship programme work and how this knowledge could be used to improve the balance of academic mobility between the core and periphery countries (Marginson & Rhoades, 2002).

The analysis of extant literature demonstrated that the decision-making processes of returning academics are complex and influenced by a combination of external and internal factors. It disclosed extant research' obsession with outcomes and contextual circumstances bringing forth a functional list of factors that are found to affect the likelihood of return mobility, yet providing little explanation of the interaction of those factors with the human agency to activate the potential of return. It is, however, the human agency that triggers the change that takes place in the reasoning of people situated in the dynamic web of social relationships and structures (Pawson, 2006).

Hence, this research analysed Kristjan Jaak programme aiming to explain the interplay between the participants' context, programme resources and their reactions to them that leads to different outcomes. The realist evaluation as a methodological tool allowed to fill some of the gaps in knowledge, but also to test the pertinence of previously determined factors in the context of the specific programme as well as initial assumptions of its initiators.

6.1 Main findings of the study

Overall, five broad themes emerge in the result of the analysis:

- The overarching relevance of strong contacts with the higher education community at home before, during and after the return.
- The power of trust and thoughtful communication between programme participants and sending agency or country.
- The paralysing effect of fear, shame and guilt for participants in universities with weak support structures.
- The insignificance of start-up and post-doc grants as return facilitators, although their high relevance for academic independence and career progress.
- The critical role of internal alliances in competing for grants and initiating change after the return.

The literature review indicated that programmes similar to Kristjan Jaak are typically initiated in upper-middle-income and lower-high-income countries to compensate for inadequate diversity or quality of education offered at home. These are countries that have enough resources to secure the basic needs of their people, good education among them, and henceforth strive for the more competitive, knowledge-based economic model. They cannot compete with the wealthier core countries on salary levels or equipment base though. Brain-circulation in its real sense is what they pursue, the cause that is rarely supported or even recognised by the universities and governments immersed in the global race for talents (Epping & Vossensteyn, 2012; Gaulé, 2011). In order to justify the public investment, reasonable assurance of discernible social return is usually required, and return of funded people with improved skills and knowledge is one of the apparent expectations set to these initiatives.

Before delving into the discussion, it is essential to recognise that Kristjan Jaak was only one initiative among complex governmental measures aiming to increase the competitiveness, openness and attractiveness of Estonian universities. The return rate of programme participants has inevitably benefited from the extensive investments into higher education infrastructures as well as ample support for short and long-term, incoming and outgoing mobility of academics. As demonstrated in several studies

earlier (Chen, 2015; Fontes, 2007; Kim et al., 2011), the attractiveness of return often grows together with the investment into the R&D system of the country. The broader context should be, therefore, taken into account when considering the transferability of identified outcome patterns.

The first lesson of this study was understanding that contractual requirement to return does not necessarily ensure the return. The same was recognised by Szelényi (2006), Tansel and Güngör (2003) and Van Bouwel (2010) before me; hence it seems to be the rule rather than the exception. The participants' accounts revealed that regardless of legally binding obligations, declarations in motivation letters and scrutiny during the application interviews, 25% of participants were never genuinely committed to the return. This knowledge is opposite to the faith of programme managers and designers that only those would actually apply who were ready to embrace the idea of return. In an ideal world, it could even be so, but in life, the desire to pursue one's vision of studying abroad clashes with the reality of limited sources for funding. Hence, some critical pieces of information are softened or concealed, just enough to secure a positive response for funding.

6.2 Relevance of strong contacts at home

The findings indicate that trusting and mutually beneficial relationship with the higher education community or another employer at home is the most prominent determinant of beneficiaries' return and successful assimilation after graduation. The positive relationship makes applicants appreciative of return requirement since they feel that working at home would be a pleasant and worthwhile prospect. The interviews revealed the perception that they were dispatched or on a mission on behalf of their organisation, and the scholarship allowed them to enhance their credentials for the career after return, thereby contributing to their initial intention to return. This finding echoes well with the prior knowledge that the initial aim of mobility has a strong bearing to the return behaviour of academics (Gribble, 2008; Gupta et al., 2003; Tansel & Güngör, 2003; Tremblay, 2008). It advances the existing knowledge with the insight that close professional contacts at home set ground for such initial intentions.

Furthermore, there was evidence that prior relationships framed the reactions of participants to the return requirement attached to the grant, and consequently, much of their satisfaction with the grant provisions. The existence of close work contacts triggered approval and content, while their absence prompted hesitation, anxiety and sense of being deprived of one's free will. These feelings were not the definitive determinants of participants' return, yet they shaped with certainty their gravitation towards home and relationship with the funding agency throughout the studies. This inference illustrates perfectly how the existing social relationships affect the sense-making and reaction of participants to the programme resources, hence resulting in different outcomes for them.

While prior professional contacts were a strong indicator of initial intention to return, they were not a *conditio sine qua non* for the actual return and successful integration. The findings of current and prior research suggest that maintaining working contacts with colleagues at home during the studies is as essential as having initial intentions (Ackers, 2005; Baruffaldi & Landoni, 2012; Gill, 2005; Morano Foadi, 2006). Even more so, since the absence or weakness of prior contacts can be balanced out with conscientious network-building during the studies. Some participants had obtained all of their previous degrees from abroad and had little, or no prior contact with local universities or employers yet were actively seeking the dialogue and opportunities to contribute to either research, teaching or practice at home. These relationships activated parallel mental processes at opposite sides, sense of belonging and being needed for students and their acceptance and appreciation for colleagues at home, leading both to the straightforward return and integration.

The negative experiences were even more revealing in this regard since they exposed the status of the student without such affiliations as that of a perfect stranger. It would be fair to say that in those cases the international experience became a *de facto* hindrance to the return, as also observed by Ackers (2005), Delicado (2011) and others before me. Being the stranger is a two alley road. The strangers are unfit to operate in the unfamiliar arena; they know no tricks of the trade and have no internal alliances to guide them through the difficulties. The insiders, on the other hand, just do not care about strangers. Without earlier associations and obvious advantages, they are simply

too busy to bother or take steps for strangers' behalf. Kristjan Jaak returnees were not excluded, as there were examples from Italy in previous research, but they were not necessarily helped either. It seems likely, albeit not explored in this study, that the lack of available funding and positions would make the resistance to new entrants fiercer, while financially more comfortable times would tone down the opposition.

In the case of Kristjan Jaak programme, it was indeed the passive indifference rather than the active resistance that left participants without connections behind the doors. Unlike their counterparts with stronger affiliations, they received no special treatment and no extra effort was made to secure funding for their return. Having returned with their own funding, they were often seen as ignorant and arrogant know-it-alls who could not appreciate the nature and value of the experience of those at home. This antagonism went then further to influence not only the integration but also the career progress of participants. Hence, shaping the participants' readiness to return, locals' readiness to embrace them as well as their future careers at home, the reciprocal and trusting relationship with colleagues at home during the studies was confirmed to be the single most decisive determinant of return and its impact. Prior contacts and intentions were still relevant as providing a ground for that ensuing relationship during studies but not imperative for the return *per se*.

The main implication of this insight for both the future research as well as practice is that at least in the circumstances similar to Estonia the risk of brain-drain and loss of people could be significantly reduced by reinforcing the relationships between the participants and higher education community at home. In effect, the dual mechanism that leads to brain-circulation instead of brain-drain involves the readiness to return and readiness to accept the returnee. According to the realist paradigm, these are causal mechanisms of return mobility of young academics that explain why some of them return while others do not. Adopting another realist notion that the mechanisms are generic and can explain phenomena in multiple settings (Hedström & Swedberg, 1998; Punton et al., 2016), I can suggest that the same mechanisms operate in other countries and programmes as well. Different circumstances might trigger them, yet they lead to similar outcomes if activated.

Most of the brain-drain literature has painted a bleak picture of the world, where the brain-drain is inevitable for the lower-income countries. Epping and Vossensteyn (2012) and Gaulé (2011) pronounced that the universities and governments of wealthier countries make minimal effort to turn the brain-drain into the brain-circulation. My findings imply that more can be done by sending countries and universities than those in the west. The western funding authorities can indeed include the return requirement to their scholarships and terms of recruitment. However, as determined by this study as well as by others before (Szelényi, 2006; Tansel & Güngör, 2003; Van Bouwel, 2010), these requirements can be avoided. I have learned that the requirements do not make people more eager to return, doing even less for the openness of institutions at home. By contrast, maintaining a straightforward relationship with colleagues at home was proven to be exceptionally effective. Furthermore, while the international experience can indeed become a hindrance to the return for the mobile doctoral candidates, this can also be avoided with some personal resolve and appropriate communication.

6.3 Power of trust and thoughtful communication

In the postmodern world, where our knowledge claims are socially situated and often characterised by moral pluralism and irreverence towards rules and regulations (Atkinson, 2002), the trust and clarity of communication have become crucial in gaining people's approval and support. Also, in this research, the participants' concerns and experiences were often contradictory, leading to attitudes ranging from total satisfaction to cynical disapproval. Nevertheless, the expectation that was repeatedly voiced at both ends of the spectrum was that of a more consistent and trusting relationship with the funding agency. Some programme managers and designers, in particular, had understood the need for the greater community feeling in order to strengthen the gravitation of participants towards home. Their diligent efforts to provide opportunities to meet with local higher education leadership and each other, however, remained weak without recognition of the relevance of everyday communication and bureaucracy in that regard.

The lack of mutual trust was, after all, markedly evident in everyday red tape, whether it be untruthful and inconsequential reports, surprise effect of extension requests,

rigidly implemented rules or repeated requests for explanations sometimes measuring up to ridicule. I learned that lack of trust and consistency in communication with participants generated confusion, fear of punishment, sense of disregard for their needs and of being unnecessarily burdened and controlled. Herewith, it is important to stress that indicated feelings were in no way prevailing. However, it is sad enough that many participants experienced them in one way or another at some point in their studies.

The finding echoes well with the argument of Danermark et al. (2005) that trust and confidence are mechanisms generated by the sense of security and independence in one's life, influencing our general well-being. One does not have to be an expert to understand that feelings like these do not contribute to rapport with funding agency or stronger gravitation towards home. Vice versa, the evidence confirmed that they lead to the impersonal, uncaring and cynical relationship, the kind that discredits the participants' sentiment towards home instead of reinforcing it. There is no doubt that in times of growing accountability and reductions in public sector employment and expenditure, as also manifested in the findings of this study, the trust and cutting the red tape would equal to swimming against the current. In order to maintain or strengthen the participants' readiness to return throughout their studies, the element of trust and consistent communication, however, needs to be somehow ensured.

Described negative experiences suggest that developing greater trust would require clear, consistent and frequent communication that enforces regulations that are flexible and considerate of specific needs and circumstances of each participant. For Kristjan Jaak programme management, it would require the change of attitudes and practices based on the broader objective of building and sustaining mutual trust with participants. This understanding was enforced by the fact that participants seemed to genuinely appreciate the intense scrutiny and interest into their experiences, even habitually indicating that more of similar meetings in confidence or smaller groups would provide better opportunities for reflection and recognition of one's own difficulties and circumstances, but also a better awareness of their progress and problems for the funding agency.

The management culture of such programmes should not, therefore, be based on the rigid principles of public sector accountability, but rather on the understanding that both sides share the objective of timely completion, subsequent return and smooth integration of participants. This should then be the goal to pursue across all reporting, requirements, meetings and communications. There is little practical value in duplicating the practices of universities by introducing parallel progress reports. Based on the main objective of timely graduation and a smooth return, some participants may, however, be asked to manifest the advancement of their relationship with colleagues at home, offered an opportunity to receive mentoring support or change their host university abroad. Flexible funding formulas that permit and even reward meaningful cooperation with colleagues at home would be another step towards the broader goal.

I also learned that feeling of belonging to a group at home increased participants' readiness to return. Opportunities for fostering the belonging to home-related rather than abroad-related groups should, therefore, be diversified and increased. Extention and revamping of already existing, yet erratic community-building activities would enhance the home-related networks and positive experiences supporting the relationship of trust before and after the return.

While the entire *raison d'être* of programmes like Kristjan Jaak is to educate people for the benefit of the sending country, thereby stimulating the brain-circulation instead of brain-drain, many participants still perceive the return requirement as unduly restrictive. As demonstrated earlier, some participants did not intend to return from the very start. They hoped to find a way to discharge themselves of this obligation somehow.

They were not alone in this. The return requirement was a demand stipulated in the financial contract, yet regularly not followed through in practice. The correspondence with participants revealed undue flexibility and ambiguity of language from behalf of funding agency whenever the extension to the return was required. This lack of definiteness can be explained by the human aspiration not to be the carrier of bad messages. Nevertheless, it led to the understanding that the return can be avoided. Occasionally, the requirement to return was replaced with the obligation to give some

lectures at home. These concessions may seem flexible and accommodating, yet send confusing messages and obscure the entire purpose of funding. Relationship of trust involves mutual clarity of expectations, and therefore, the inconsistency and ambiguity of actual rules do not increase the trust towards the funding agency either.

6.4 Fear, shame and guilt are inefficient motivators

The principles of such scholarship programmes combine the carrot and stick approaches that have been well tried and tested as activators of change in human behaviour (Pásztor, 2015; Pawson & Tilley, 1997). The carrot being the scholarship that allows taking up studies abroad and stick the financial liability in case of non-return or unwarranted failure to graduate. As also anticipated in initial programme theories, this combination works well for students who are studying at universities with strong support structures and are genuinely motivated to return from the start. There was clear evidence that robust support and progress tracking at the university combined with the moderate financial pressure induced the feeling in participants that timely graduation was feasible and imminent, requiring specific practicable steps from their behalf. This regularity was defied by only a few exceptional cases where the lack of institutional progress culture was compensated by impressive personal determination leading to the same outcome. By and large, we can, therefore, endorse that the financial pressure as a programme resource does work in optimum conditions and cases of exceptional perseverance.

Regrettably, never are all participants lucky enough to enjoy the ideal environment. The graduation times of several Kristjan Jaak participants were well over ten years designating lack of reasonable advancement as well as institutional tolerance for unlimited extensions. The voices of those participants revealed that inserting financial pressure to students in institutions that customarily convey much lower expectations for progress breed feelings like helplessness, despair and fear of losing funding instead. These students could not understand how, in their particular circumstances, they could possibly graduate within regular time, which then prompted feelings of helplessness and anxiety.

It seems that the demands and financial pressure from the programme remain weak and distant if they diverge from daily messages and practices of people around us. We

learned that the financial pressure materialised only at times of reporting triggering then the panic over the impending loss of funding, which in turn inflicted temporary shame, guilt and exaggerated progress reports. As was explained by the participant, who dropped out after the final payment of the grant, "nobody wants to appear a failure". This is also the reason why the messages from the universities that extended studies lead to higher-quality thesis sounded so much more appealing. It was so because they encompassed the desirable sensation of achievement.

The accounts of participants in difficulties displayed the outcome pattern that is very consistent with the self-deception and wishful thinking as avoidance mechanisms recognised in psychotherapy. This phenomenon was particularly prominent with the participants whose studies had gone beyond any justifiable timeframe. This is in agreement with understanding of psychologists that wishful thinking is triggered in the result of failure to achieve one's goals allowing temporary delusion of forgetting and relief (Oettingen et al., 2016).

The findings indicate that by involving avoidance of confronting the issue that causes fear and insecurity, the wishful thinking is, however, inevitably counterproductive (Oettingen et al., 2016). Programme participants pronounced of having convinced themselves that somehow everything would work out for the best without taking any actual steps to improve the situation. In relation to doctoral studies, this kind of behaviour is usually branded as a form of procrastination. Overcoming such periods of hesitancy and inaction is commonly seen as a joint responsibility of the student and university. It is clear, however, that at least some universities do not provide the necessary impetus for triggering the change. Based on the overall aim of the programme to secure the timely graduation and return, it would be, hence, beneficial to assure additional mentoring from behalf of the funding agency to participants who lack their universities' support and personal perseverance otherwise.

6.5 Grants are facilitators of independence, not return

The literature review revealed no agreement among researchers regarding the usefulness of government incentives in return mobility decision making of academics (Baruffaldi & Landoni, 2012; Franzoni et al., 2012; Gibson & McKenzie, 2009; Thorn & Holm-Nielsen, 2006). Nevertheless, the initial programme theory entailed supposition

that the availability of post-doc, return and start-up grants would make the return easier for participants. The belief of grants being the prerequisite for the return and acceptance was shared by programme designers, practitioners and participants alike. Ostensibly, the initial findings confirmed the link as, indeed, many Kristjan Jaak graduates benefited from national post-doc and start-up grants upon their return.

On more in-depth scrutiny, I realised, however, that the recipients of national grants enjoyed the employment at Estonian universities before applying for those grants, which essentially means that they had returned already. The departmental environment at home seems to have determined the mechanisms that made them stand out in the competition for funding rather than their own excellence. In dynamic and ambitious teams, the applicants received daily assurances of their value and worth, but also practical internal advice and encouragement from colleagues. Hence, they were accepted as part of the team before those mechanisms could be activated.

Based on this consideration, the illusion that obtaining a post-doc grant would lead to the acceptance at home was demonstrated to be flawed. Internal acceptance and encouragement are preconditions for the successful grant application, indicating the vital relevance of close working relationships yet again. In a way, this finding agrees with the earlier judgment of some researchers in that repatriation schemes benefit the people who would have returned anyhow (Baruffaldi & Landoni, 2012; Thorn & Holm-Nielsen, 2006).

On the other hand, these outcomes give rise to the legitimate question as to what extent the significance of prior acceptance and internal support in grant competitions indicates the inaccessibility of the system. Continuing this line of reasoning, could the benefits of internal knowledge and everyday assistance be ever eliminated in higher education selection and career progress procedures? Or are they to a certain extent unavoidable or even justifiable, at least in small education systems that lack the diversity of employment opportunities in many areas and institutional loss of inspiring young researcher would, therefore, mean losing his or her expertise for the entire country? The countries using the least widely taught languages in higher education are further constrained by the lack of alternative candidates with essential language skills or even motivation to learn a language with minimal applicability. Substituting too

many academics with local language skills could, therefore, constitute a risk for the sustainability of small culture. Here, the goals of internationalisation and openness of academic competitions should be well balanced with the objectives of protecting the language and culture. Indeed, in small countries with rare languages, programmes like Kristjan Jaak should maybe embrace this knowledge and empower the participants to cultivate and exploit social networks at home in advance instead of dreading them.

While the post-doc and start-up grants did not directly facilitate the return, they were essential for participants' academic independence, relief from intensive teaching or administrative tasks, and establishing one's identity as a self-sufficient researcher. Obtaining independent grants early in career indicated participants' determination and taking responsibility for their success and was primarily stimulated by people surrounding them at the home institution. These grants signified the difference between the fast and moderate career progress of participants. They shall thereby be seen as the facilitators of their professional empowerment and greater academic as well as institutional impact.

6.6 Change at home requires alliances and resources

At this point, it is appropriate to recall that according to programme designers, the initial rationale of Kristjan Jaak programme was to advance the academic environment at home. Before moving to the specific circumstances and mechanisms, we have to emphasise the obvious that the programme activities can result in desired change only if the participants find a way to apply their acquired competencies with sufficient effect at home. The failure to graduate led to failure to change anything. The failure to return involved more gains in the form of visiting lectures or research collaboration yet had no significant effect on everyday institutional practices. The institutional influence of visiting academics was weaker than that of returning ones beyond compare. From the viewpoint of international knowledge networks, this may even look like a brain-circulation (Saxenian, 2006). However, for the specific programme, it was a distinct failure to achieve the desired goal. Graduation and ensuing return are indispensable for securing meaningful impact at home, and as requirements should, therefore, not be relinquished lightly.

Research has indicated that returning academics are generally more productive and faster promoted than their local counterparts because they bring along an intangible knowledge about a more competitive way to organise and conduct research (Velema, 2012; Veugelers & Van Bouwel, 2015). The aim of this study was not to compare the returning academics with their non-mobile colleagues but to understand what it is, if anything, that makes some of them progress faster.

First, there was unmistakable ambition and determination to make a difference in those participants' accounts that had reached the positions of leadership quickly. This ambition manifested in their frank admission of aspiration for professional recognition and status and refusal to tolerate professional convenience and mediocrity. Without this inner drive, the change still happened, just on a smaller scale by way of supervision of doctoral candidates, contributions to joint research projects or revised study programmes.

Second, there was always some kind of camaraderie or "going together" as one participant put it, a team, however small, sometimes just a few people who appreciated, inspired and supported each other and shared a vision for the future. This internal task force working with the same themes and towards same objectives was an imperative contextual circumstance to achieve personal satisfaction as well as academic or institutional impact. Returnees that had evident academic ambition, support of university top leadership as well as resources from multiple external grants, could still not find a common language with close colleagues at home. They, therefore, experienced rejection and exclusion despite their personal efficiency and ambition. In the result, they felt disfranchised, powerless and contemplated leaving. Their institutional impact remained short-lived.

Stories like these seem to boil down to the initial lack of mutual respect and acceptance that evolve into alienation and marginalisation over time. They signal that the relevance of social relations for our well-being has been underestimated at some point. A participant referred to these experiences suggesting *humble* and *diplomatic* attitude towards your own privileged education as well as experiences of those who are less *fortunate*. She suggested that one should not arrive with the attitude of the talent coming home to make the life there worthwhile finally. It is not incidental that

this kind of communication problems happened only to participants who had no rapport with local colleagues before returning, which should be another reason to foster relationships that contribute towards mutual trust and acceptance before the return.

The notion of isolation also echoes with the general theory of alienation relating the mechanism of estrangement causally to people's inability to act manifestly and creatively that, in turn, influences their sense of belonging, purpose and satisfaction (Danermark et al., 2005). One participant lost her entitlement to command over the study programme she had initiated because of nonacceptance by colleagues. Another participant was well accepted and valued by his colleagues, yet felt incapacitated and secluded because there was nobody to have an intellectual dialogue in his narrow research field. He too lost purpose and pleasure in working at home and had by the time of the interview already found a new position abroad.

This signals a significant implication for practice. The latter participant had initially chosen to study abroad because there was no one to supervise him at home in his field, which should have been a sign of warning for the selection committee. It implies that while strong relations are usually enough to secure the speedy return after graduation, they alone remain insufficient to ensure a rewarding career and impact at home. The latter requires a support system that involves both social acceptance as well as academic affiliation and fulfilment. The returnees remain home for the time enough to have an impact if they have like-minded colleagues for a mutually enriching dialogue. There was evidence that sometimes even a single one would suffice. Without a frequent opportunity to share and debate one's ideas, participants felt confined and unrecognised. This revelation, however, reminds the concepts of our identity and sociality. Danermark et al. (2005) argue that as people, we establish our identity by reflecting the image of ourselves in the eyes of others. This means that as human beings, we need people around us to establish our own status, integrity and growth. Without reassuring feedback and recognition, we start to doubt ourselves and feel less valuable.

6.7 Main actionable findings

These interpretations of findings suggest that programmes like Kristjan Jaak should encompass the periods beyond the return of participants. This does not necessarily involve services to participants after the return, but that their selection for the scholarship and support during the studies should be guided by the idea of their self-sufficiency and professional fulfilment at home after the return. In ideal, the entire process should be envisaged and implemented as one of empowerment instead of controlling the participants' lives. Empowerment is an iterative process that is essentially about giving power and influence to participants (Cattaneo & Chapman, 2010). If the programme aims to advance the research and higher education at home, then the resources should be aimed to equipping the participants with the knowledge, relations and skills necessary for it.

Also, the designers of long-duration initiatives like Kristjan Jaak should recognise that the pursued final effect could be achieved only if intermediate targets depicted in five initial theories have been successfully met (see figure 4.1, page 74). To have an impact at home, one should have a position and resources that enable initiating and enforcing change. To progress to such positions, one has to return and be accepted. To return to academic positions at home, one has to advance in studies abroad and graduate. To return to academic positions and secure professional fulfilment, one has to maintain professional contacts with colleagues at home throughout studies abroad. And lastly, to return one has to embark on the journey with the intent to finish it one day by returning. Failure in any of these intermediary steps undermines the attainability of pursued final impact at home enormously.

The study gave robust evidence that social relations before, during and after the studies determined the return, funding success, long-term impact and even general well-being of participants. Therefore, the reinforcement of such connections in various forms should be encouraged and rewarded throughout the participation.

It was also apparent that rigid control and implementation of rules damage the participants' self-reliance, satisfaction and gravitation towards home, and should, therefore, be replaced, if at all possible, with the mentoring and support system that

cultivates trust, independence and sense of belonging instead. This may be difficult in the public sphere but should be sought in the least.

When it comes to communication with the participants, the readiness to listen and support should be prevailing in all instances except concerning the matter of return. The expectation of return should not be shied away from as something shameful but conveyed clearly throughout all communications, oral or written. If the aim of the funding is that the participants achieve something after the return, then the return should not be negotiable. If there is, however, willingness to keep it flexible, then maybe the overall aim of the funding is not the impact at home after all.

The financial pressure to complete studies in time was confirmed to work as a mild additional impulse for students who were on track to graduate soon anyhow, yet had an almost paralysing effect on struggling students. These students seem to need positive and feasible plan instead of increased strain. They should alternatively be offered an additional mentoring, temporary change of environment, alerting inquiry to the supervisor or similar. In the long run, applicants should be advised against choosing the institutions that fail to provide basic support to their students.

Several findings implicate the necessity to introduce some kind of mentoring or community-building activities that would prepare participants for the return. Someone simply has to explain the participants, iteratively if needed, the relevance of close professional contacts for their return, career progress and satisfaction with their academic life after the return. The participants would also need to understand that returning with their grant would not necessarily secure their acceptance and career advancement. Things like these need to be told by someone they believe and can relate to, like a fellow student that has returned or mentor they can trust.

6.8 Validity and value of the research

Reality is a complex and inherently open system that is in a constant process of change shaped by many relations and forces (Pawson, 2006). It would be beyond human reach to determine all forever-changing relations and forces, enabling and contingent, that affect and have affected in the past the various outcomes of Kristjan Jaak programme. Therefore, it is appropriate to recognise that the outcome patterns and relationships

established in this study display only a simplified and partial picture of programme implementation.

Regardless of these limitations, the study has identified several mechanisms behind the unintentional programme outcomes as well as deviations of practices from initial intent. While partial and imperfect, these findings are useful for policymakers' and practitioners' decision-making, allowing a better understanding of the impact of intended and established practices, communications and requirements.

Epistemological relativism also entails that nobody, the researcher included, can see and present the reality objectively. I have no moral high ground to assess the initiative without the influence of my own prior experiences and limitations (Pawson, 2006). However, I have undertaken to make interpretive claims about the hidden meanings, feelings and relationships based on participants' opinions and my own retroductive thinking, both prone to misinterpretation (Maxwell, 2017). I have been aware of these threats to the validity of the findings and worked consistently to lessen their effect. I have taken steps to minimise my own footprints by practising reflective note-taking, involving multiple other perspectives, testing my understandings and concepts during the interviews, using probes and realist interview technique, asking participants to review the interview transcripts and my concepts, triangulating data from different sources, presenting verbatim quotes to confirm my claims and discussing the theories and relationships with programme decision-makers and everyday colleagues. I firmly believe that also my own multiple roles in the study have allowed adopting a broader and richer perspective on the inquiry.

Different sources can share light on different elements of the programme. No one source alone can validate the research or provide trustworthy information about all of its aspects. Throughout the study, I kept asking myself: "what source would you trust most in this aspect?". This question led my decision-making throughout the process of designing, sampling and analysis. Hence, I knew that existing databases are not the place to look for mechanisms since they have no reliable data about participants' feelings, reactions and attitudes. Also, the practitioners are not a reliable source for overall programme outcomes because determining outcomes requires a nonpartisan account of events (Pawson & Tilley, 1997). The value of realist evaluation as a method

is not in the consolidation of multiple perspectives, but in using the most trustworthy source and perspective for every single aspect of inquiry (Porter, 2007).

One could argue that participation in the study voluntarily would yield a potential selection bias and exclude the views of less inclined or more critical participants. As a researcher, I have to acknowledge that not all invited participants responded positively. In social sciences, this cannot be entirely avoided. However, we have to keep in mind that in purposive sampling, one does not only sample the specific people but more likely, the specific settings and events surrounding them (Emmel, 2013). I aimed to disclose specific experiences, failures and successes in different phases and aspects of the programme. Hence, I was consistent in my aim to find alternative participants who would have the first-hand experience in events and relationships relevant for a particular aspect of the study.

These decisions were guided by the intent to gain a better understanding of these experiences, test my evolving theories and reach theoretical saturation. I trust that I managed to develop an excellent rapport with most interviewees who were open about their failures, ambitions as well as criticism towards the funding agency and programme requirements. Nevertheless, some participants' perspectives I have assuredly missed.

On the whole, I made my best to set aside existing professional prejudices and beliefs to see new aspects of Kristjan Jaak programme delivery. The fact that in the course of the research, my own trust in accountability-based implementation was shifted in favour of empowerment-oriented delivery indicates the partial success of my efforts at least. Opportunely, I have a managerial position in the funding agency and am vice-president of European-level higher education internationalisation association. In these functions, I am well-positioned to disseminate this new awareness and bring about changes in design and delivery of future programmes in Estonia as well as elsewhere in Europe.

6.9 Concluding remarks

My initial rationale for selecting realist evaluation as an approach for the study was twofold. I failed to find sufficient evidence of human agency in the extant body of

research dealing with the return academic mobility. Describing primarily the factors that potentialise the return of mobile academics, the literature provided a streamlined picture of return decision-making of academics. I saw a sequence that was seemingly independent of academics' own will and aspirations. The concept of the mechanism was useful and apprehensible in that regard. Realist evaluation provided tools for describing how real people feel, think and react in these complex situations.

Looking back at these expectations at the end of the study, I can still subscribe to them. The application of realist evaluation in the probe of academic mobility has been a venture that could have gone either way. The approach has, however, proven to be a suitable framework for evaluating the complex and integral process of long-term academic mobility. It has allowed disclosing new knowledge in the form of hidden mechanisms and causal relationships seldom covered in previous academic mobility research. With its theory-driven approach, it has helped to stay on track throughout the process, but also to identify methods and sources most trustworthy for each data-need.

The findings of the study present the doctoral candidates who come with existing motivations, abilities and limitations indicating the importance of structure. Contextual circumstances on the individual as well as system level are central to the effectiveness of any policy or initiative. Pre-existing and emerging social relations destine how participants respond to the resources offered by any programme. This brings focus to the human perspective in policy initiatives, hopefully resulting in more inclusive and people-centred implementation.

Combining the findings of extant research with the new empirical analysis is another benefit of a realist evaluation approach. I relied upon the factors identified in earlier studies when mapping the expectations of programme designers, developing the initial theories or building my argument around the findings of this study. Hence, the results of this empirical study are, in certain regard, also cumulative, which adds to their transferability to other contexts.

The pursuit of describing the complexities of programme implementation is a valuable asset of realist evaluation that was, however, challenging to accomplish. The first rounds of coding produced a myriad of half-patterns and isolated pieces of information

that all had to be followed for relevance in order to remain open to new knowledge. It would be correct to acknowledge that the emerged contextual circumstances were frustratingly onerous to organise even within the limits of only five theories selected for testing. This was so because I aimed to test alternative explanations to increase the validity of findings.

Eventually, two resolutions helped me through this situation. First, I selected the intermediate outcomes that appeared to have more significance to the overall programme outcomes. Relying on Pawson and Tilley's (2004) endorsement to apply pragmatism in exploring the alternative explanations, I set out to examine only two to four more probable explanations per outcome. Secondly, I set to reassess and refine the evolving theories after each interview to reduce the number of open inquiry lines at one point in time.

The importance of accessible language was another critical aspect I realised early in the process. Porter (2007) stresses the relevance of describing the research results accurately and intelligibly for practitioners to give the confidence to apply them. It was even more important to describe my concepts and evolving theories in clear and accessible language to the participants of the study. This is no easy task for someone who aims to discuss specific mechanisms that trigger specific outcomes in specific contexts with total strangers to these concepts. I had experienced the problem in full when testing the realist evaluation as a method in my earlier research assignment that involved a survey as a data collection tool. I did not use the data of that survey in the end because the respondents had not understood the main concepts of context, mechanism and outcome. Based on this experience, I have discarded throughout the study but especially in all communication with participants, even the most emblematic realist evaluation jargon, like CMO (context-mechanism-outcome) configurations, for example. I have tried to articulate all tested and evolving theories in simple, accessible language leaving aside the realist jargon whenever possible to enhance mutual understanding and facilitate the equal exchange of ideas.

The results of this study open some avenues for future research. The study has confirmed the suitability of realist evaluation as an approach for evaluating academic mobility initiatives. More importantly, it provides tools to develop a better

understanding of structures, mechanisms and relationships that influence directly or indirectly the results of such programmes. Academic mobility can be an effective and efficient instrument in increasing the quality of local higher education in regions that have limited diversity or capacity for different reasons. Such initiatives, however, require considerate and empowering implementational practices to be successful. The theories articulated in the findings now call for testing in other environments to refine them further and increase their explanatory power.

Lastly, the study has contributed towards the large body of research that investigates the mobility of doctoral candidates and academic mobility in general. Doctoral candidates are an increasingly international group whose cross-border movement has become critically important for both sending and receiving countries. This movement is inevitable to raise the level of education in sending countries, but also entails the risks of brain-drain and loss of opportunity. This study hopefully gives optimism in that regard as well. It allows a better understanding of the consequences of our everyday communications and practices by showing how the context and mechanisms interact to trigger expected and unexpected outcomes. The refined theories demonstrate the issues that need more in-depth consideration if one wishes to apply initial intentions in everyday practices and produce desired effects.

References

Ackers, L. (2005). Moving People and Knowledge: Scientific Mobility in the European Union. *International Migration*, 43(5), 99–131.

Ackers, L. & Gill, B. (2005). Attracting and retaining "early career" researchers in English higher education institutions. *Innovation: The European Journal of Social Science Research*, *18*(3), 277–299.

Ackers, L., & Gill, B. (2008). Moving People and Knowledge: Scientific Mobility in the European Union. Edward Elgar Publishing.

Ackers, L., Coey, C., Millard, D., Kupiszewska, D., Kupiszewski, M., Perista, H., Perista, P., Vinck, D., Jöns, H., Inzelt, A., Csonka, L., Kiopa, A., Reale, E., Hansen, T., Bitusikova, A., Cañibano, C., & Aycan, Z. (2015). POCARIM FINAL REPORT. University of Salford. https://www.researchgate.net/publication/321075974_POCARIM_FINAL_REPORT/re lated

Altbach, P. G., Reisberg, L. & Rumbley, L. (2009). *Trends in Global Higher Education: Tracking an Academic Revolution*. United Nations Educational, Scientific and Cultural Organization. http://unesdoc.unesco.org/images/0018/001832/183219e.pdf

Alumäe, T., Tilk, O. & Asadullah. (2019). Advanced Rich Transcription System for Estonian Speech. *Baltic HLT 2018, Ebook Volume 307: Human Language Technologies. The Baltic Perspective, 2018*.

Astbury, B., & Leeuw, F. L. (2010). Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation. *American Journal of Evaluation*, *31*(3), 363–381.

Atkinson, E. (2002). The Responsible Anarchist: Postmodernism and Social Change. *British Journal of Sociology of Education*, *23*(1), 73–87. JSTOR.

Avveduto, S. (2001). International Mobility of PhDs. In *Innovative People. Mobility of Skilled Personnel in National Innovation Systems* (pp. 229–242). Organisation for Economic Co-operation and Development. https://www.oecd.org/sti/inno/2096794.pdf

Baláž, V. & Williams, A. M. (2004). 'Been there, done that': International student migration and human capital transfers from the UK to Slovakia. *Population, Space and Place*, *10*(3), 217–237.

Bartram, D., Poros, M. & Monforte, P. (2014). *Key Concepts in Migration* (1 edition). SAGE Publications Ltd.

Baruch, Y., Budhwar, P. S. & Khatri, N. (2007). Brain drain: Inclination to stay abroad after studies. *Journal of World Business*, *42*(1), 99–112.

Baruffaldi, S. & Landoni, P. (2012). Return mobility and scientific productivity of researchers working abroad: The role of home country linkages. *Research Policy*, *41*(9), 1655.

Beine, M., Docquier, F., & Rapoport, H. (2008). Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers*. *Economic Journal*, *118*(528), 631–652.

Beine, M., Docquier, F., & Schiff, M. (2008). *Brain Drain and its Determinants: A Major Issue for Small States* (IZA Discussion Paper No. 3398). Institute for the Study of Labor (IZA). http://econpapers.repec.org/paper/izaizadps/dp3398.htm

Beine, M., Noël, R., & Ragot, L. (2014). Determinants of the international mobility of students. *Economics of Education Review*, *41*, 40–54.

BERA. (2011). Ethical Guidelines for Educational Research, fourth edition (2011). British Educational Research Association (BERA).

BERA. (2018). *Ethical Guidelines for Educational Research, fourth edition (2018)*. British Educational Research Association (BERA). https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018

Bhaskar, R. (2008). A Realist Theory of Science [electronic resource]. Taylor and Francis.

Borjas, G. J. & Bratsberg, B. (1996). Who Leaves? The Outmigration of the Foreign-Born. *The Review of Economics and Statistics*, *78*(1), 165–176.

Brandenburg, U. & de Wit, H. (2011). The End of Internationalization. International Higher Education. The Boston College Center for International Higher Education, 62, 15–17.

Byng, R. (2005). Using Realistic Evaluation to Evaluate a Practice-level Intervention to Improve Primary Healthcare for Patients with Long-term Mental Illness. *Evaluation*, *11*(1), 69–93.

Cantwell, B. (2009). *International Postdocs: Educational Migration and Academic Production in a Global Market* [A PhD Dissertation Submitted to the Center for the study of Higher Education, University of Arizona]. http://arizona.openrepository.com/arizona/bitstream/10150/195383/1/azu_etd_10315_sip1_m.pdf

Cantwell, B., Luca, S. G. & Lee, J. J. (2009). Exploring the Orientations of International Students in Mexico: Differences by Region of Origin. *Higher Education: The International Journal of Higher Education and Educational Planning*, *57*(3).

Cantwell, B. & Taylor, B. (2013). Internationalization of the postdoctorate in the United States: Analyzing the demand for international postdoc labor. *Higher Education*, *66*(5), 551–567.

Cassarino, J.-P. (2004). Theorising Return Migration: The Conceptual Approach to Return Migrants Revisited. *International Journal on Multicultural Societies*, *6*(2), 253–279.

Cattaneo, L. B. & Chapman, A. R. (2010). The process of empowerment: A model for use in research and practice. *The American Psychologist*, *65*(7), 646–659.

Chang, W.-L. & Milan, M. L. (2012). *International Mobility and Employment Characteristics among Recent Recipients of U.S. Doctorates* (NSF 13-300; p. 8). National Science Foundation, http://www.nsf.gov/statistics/infbrief/nsf13300/

Chen, Q. (2015). *Globalization and transnational academic mobility: The experiences of Chinese academic returnees* [PhD Dissertation, State University of New York at Buffalo]. http://pqdtopen.proquest.com/doc/1658216251.html?FMT=ABS

Cheung, A. C. K. & Xu, L. (2014). To return or not to return: Examining the return intentions of mainland Chinese students studying at elite universities in the United States. *Studies in Higher Education*, 1–20.

Clarke, V. & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298.

Coey, C. (2013). International academics in English higher education: Practising and capturing mobile 2013 careers [Doctoral Thesis, University of Liverpool]. http://repository.liv.ac.uk/17813/

Constant, A. & D'Agosto, E. (2008). *Where Do the Brainy Italians Go?* (IZA Discussion Paper No. 3325). Institute for the Study of Labor (IZA). http://econpapers.repec.org/paper/izaizadps/dp3325.htm

Costley, C. (2010). Doing work based research [electronic resource]: Approaches to enquiry for insider-researchers. SAGE Publications Ltd.

Dalkin, S. M. (2014). The realist evaluation of a palliative integrated care pathway in primary care: What works, for whom and in what circumstances? [Ph.D., Northumbria University]. http://nrl.northumbria.ac.uk/18251/

Dalkin, S. M., Greenhalgh, J., Jones, D., Cunningham, B. & Lhussier, M. (2015). What's in a mechanism? Development of a key concept in realist evaluation. *Implementation Science : IS*, *10*, 49.

Danermark, B., Ekstrom, M., Jakobsen, L., Karlsson, J. & Bhaskar, R. (2005). *Explaining Society: An Introduction to Critical Realism in the Social Sciences* (1 edition). Routledge.

Darmody, M. (2013). Foreword. In *Higher Education at a Crossroad: The Case of Estonia* (pp. 9–11). Peter Lang GmbH, Internationaler Verlag der Wissenschaften.

de Grip, A., Fouarge, D. & Sauermann, J. (2010). What affects international migration of European science and engineering graduates? *Economics of Innovation and New Technology*, *19*(5), 407–421.

De Haas, H. (2006). *Turning the tide? Why 'development instead of migration' policies are bound to fail* (No. 2). International Migration Institute, University of Oxford. https://heindehaas.files.wordpress.com/2015/05/de-haas-2006-imi-wp2-development-instead-of-migration.pdf

de Wit, H. (2011). Internationalization Misconceptions. International Higher Education. The Boston College Center for International Higher Education, 64, 6–8.

de Wit, H., Rumblay, E. L., Craciun, D., Mihut, G. & Woldegiyorgis, A. A. (2019). *International Mapping of National Tertiary Education Internationalization Strategies and Plans (NTEISPs) CIHE Perspectives* (Analytical Report No. 12; Perspectives, p. 60). Center for International Higher Education, Boston College / World Bank Group. https://www.bc.edu/content/dam/bc1/schools/lsoe/sites/cihe/pdf/Perspectives%2012.pdf

Delicado, A. (2011). The consequences of mobility: Careers and work practices of Portuguese researchers with a foreign PhD degree. *ResearchGate*, 163–180.

Deloitte. (2016). *The value of international education to Australia* [Prepared by Deloitte Access Economics]. The Australian Government. https://internationaleducation.gov.au/research/research-papers/Documents/ValueInternationalEd.pdf

Dervin, F. (2011). *Analysing the consequences of academic mobility and migration [electronic resource]*. Cambridge Scholars.

Didelon, C. & Yann, R. (2012). The European Union in the flows of international students: Attractiveness and inconsistency. *International Review of Sociology*, 1–16.

Dimmock, C. & Leong, J. O. S. (2010). Studying Overseas: Mainland Chinese Students in Singapore. *Compare: A Journal of Comparative and International Education*, *40*(1), 25–42.

Docquier, F. & Marfouk, A. (2005). *International Migration by Educational Attainment (1990-2000)—Release 1.1*.

Docquier, F., & Rapoport, H. (2004). Skilled Migration: The Perspective of Developing Countries. Policy Research Working Paper no 3382. World Bank, Washington, DC.

Dreher, A., & Poutvaara, P. (2011). Foreign Students and Migration to the United States. *World Development*, *39*(8), 1294–1307.

EHIS. (2019). *International Student Enrollment Data* [Official Extract from Government Database]. Estonian Education Information System (EHIS).

EHIS. (2020). *HaridusSilm* [Official Data Overviews]. Estonian Education Information System (EHIS). https://www.haridussilm.ee/?leht=korg_0

Emmel, N. (2013). Sampling and choosing cases in qualitative research: A realist approach. SAGE Publications Ltd.

Epping, E. & Vossensteyn, J. J. (2012). *A post-graduation policy perspective on international student mobility n four countries—Shoud they stay or should they go?* TH&MA : Tijdschrift voor hoger onderwijs en management, 2012(1), 39-43.

Esen, E. E. (2014). *Going and Coming: Why U.S.-Educated Turkish PhD Holders Stay in the U.S. or Return to Turkey?* [Doctoral Thesis, University of Kansas]. https://kuscholarworks.ku.edu/handle/1808/18645

European innovation scoreboard. (2015). Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/b00c3803-a940-11e5-b528-01aa75ed71a1

European innovation scoreboard. (2019). Publications Office of the European Union. https://ec.europa.eu/docsroom/documents/42981

Eurostat. (2020). *Data Explorer*. Eurostat. European Commission. https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di04&lang=en

Evans, C. & Stevenson, K. (2010). The learning experiences of international doctoral students with particular reference to nursing students: A literature review. *International Journal of Nursing Studies*, *47*(2), 239–250.

Fahey, J. & Kenway, J. (2010). International academic mobility: Problematic and possible paradigms. *Discourse: Studies in the Cultural Politics of Education*, *31*(5), 563–575.

Findlay, A. (2011). An assessment of supply and demand-side theorizations of international student mobility. *International Migration*, *49*(2), 162–190.

Finn, M. G. (2010). *Stay Rates of Foreign Doctorate Recipients from U.S. Universities, 2007*. Oak Ridge Institute for Science and Education. https://orise.orau.gov/files/sep/stay-rates-foreign-doctorate-recipients-2007.pdf

Finn, M. G. (2012). *Stay Rates of Foreign Doctorate Recipients from U.S. Universities, 2009*. Oak Ridge Institute for Science and Education. https://orise.orau.gov/files/sep/stay-rates-foreign-doctorate-recipients-2009.pdf

Finn, M. G. (2014). *Stay Rates of Foreign Doctorate Recipients from U.S. Universities, 2011*. Oak Ridge Institute for Science and Education. https://orise.orau.gov/files/sep/stay-rates-foreign-doctorate-recipients-2011.pdf

Fontes, M. (2007). Scientific mobility policies: How Portuguese scientists envisage the return home. *Science and Public Policy*, *34*(4), 284–298.

Franzoni, C., Scellato, G. & Stephan, P. (2012). Foreign-born scientists: Mobility patterns for 16 countries. *Nature Biotechnology*, *30*(12), 1250.

Gaulé, P. (2011). *Return Migration: Evidence from Academic Scientists*. Working Paper. CERGE-EI. Prague. http://scholar.harvard.edu/files/patrickgaule/files/gaule_return_migration.pdf

Gaulé, P. (2014). Who comes back and when? Return migration decisions of academic scientists. *Economics Letters*, *124*(3), 461–464.

Gaulé, P. & Piacentini, M. (2015). *Immigration and Innovation: Chinese Graduate Students in U.S. Universities* (SSRN Scholarly Paper ID 2564667). Social Science Research Network. https://papers.ssrn.com/abstract=2564667

Gibson, J. & McKenzie, D. (2009). *The Microeconomic Determinants of Emigration and Return Migration of the Best and Brightest: Evidence from the Pacific* (Working Paper No. 173). Center for Global Development. https://ideas.repec.org/p/cgd/wpaper/173.html

Gibson, J. & McKenzie, D. (2014). Scientific mobility and knowledge networks in high emigration countries: Evidence from the Pacific. *Research Policy*, *43*(9), 1486–1495.

Gill, B. (2005). HOMEWARD BOUND?: The experience of return mobility for Italian scientists. *Innovation: The European Journal of Social Science Research*, *18*(3), 319–341.

Greener, I. (2011). *Designing Social Research: A Guide for the Bewildered* (1 edition). SAGE Publications Ltd.

Gribble, C. (2008). Policy options for managing international student migration: The sending country's perspective. *Journal of Higher Education Policy and Management*, *30*(1), 25–39.

Grogger, J. & Hanson, G. (2013). The Scale and Selectivity of Foreign-Born PhD Recipients in the US. *The American Economic Review*, *103*(3), 189–192.

Grogger, J. & Hanson, G. H. (2015). Attracting Talent: Location Choices of Foreign-Born PhDs in the United States. *Journal of Labor Economics*, *33*(S1), S5–S38.

Guidelines for applicants. (2004). Archimedes Foundation.

Gupta, D., Nerad, M. & Cerny, J. (2003). International PhDs: Exploring the Decision to Stay or Return. *International Higher Education*, *31*(8), 31–38.

Guth, J. & Gill, B. (2008). Motivations in East-West Doctoral Mobility: Revisiting the Question of Brain Drain. *Journal of Ethnic and Migration Studies*, *34*(5), 825–841.

Hedström, P. & Swedberg, R. (Eds.). (1998). *Social mechanisms: An analytical approach to social theory*. Cambridge University Press.

Held, D. & McGrew, A. (2003). The Great Globalization Debate: An Introduction. In *The Global Transformations Reader: An Introduction to the Globalization Debate* (2nd Revised edition, pp. 1–50). Polity Press.

Held, D., McGrew, A., Goldplatt, D. & Perraton, J. (2003). Rethinking Globalization. In *The Global Transformations Reader: An Introduction to the Globalization Debate* (2nd Revised edition, pp. 67–74). Polity Press.

Hirst, P. & Thompson, G. (2003). Globalization—A Necessary Myth? In *The Global Transformations Reader: An Introduction to the Globalization Debate* (2nd Revised edition, pp. 98–105). Polity Press.

Howe, K. R. & Moses, M. S. (1999). Ethics in Educational Research. *Review of Research in Education*, *24*, 21–59.

Hunter, R. S., Oswald, A. & Charlton, B. G. (2009). *The Elite Brain Drain* (IZA Discussion Paper No. 4005). Institute for the Study of Labor (IZA). http://econpapers.repec.org/paper/izaizadps/dp4005.htm

Iosifides, T. (2011). *A generic conceptual model for conducting realist qualitative research. Examples from migration studies* (Working Papers No. 43; The IMI Working Papers Series). International Migration Institute (IMI), University of Oxford.

Jałowiecki, B. & Gorzelak, G. J. (2004). Brain drain, brain gain, and mobility: Theories and prospective methods. *Higher Education in Europe*, *29*(3), 299–308.

Jonkers, K. & Cruz-Castro, L. (2013). Research upon return: The effect of international mobility on scientific ties, production and impact. *Research Policy*, *42*(8), 1366–1377.

Jonkers, K. & Tijssen, R. (2008). Chinese researchers returning home: Impacts of international mobility on research collaboration and scientific productivity. *Scientometrics*, *77*(2), 309–333.

Jöns, H. (2009). 'Brain circulation' and transnational knowledge networks: Studying long-term effects of academic mobility to Germany, 1954–2000. *Global Networks*, *9*(3), 315–338.

Jöns, H. (2011). Transnational academic mobility and gender. Globalisation, Societies and Education, 9(2), 183–209.

Kahn, S. & MacGarvie, M. (2016). Do return requirements increase international knowledge diffusion? Evidence from the Fulbright program. *Research Policy*, *45*(6), 1304–1322.

Kapur, D. & McHale, J. (2005). *Give Us Your Best and Brightest: The Global Hunt for Talent and Its Impact on the Developing World*. Center for Global Development. http://www.cgdev.org/publication/9781933286037-give-us-your-best-and-brightest-global-hunt-talent-and-its-impact-developing-world

Kazlauskienė, A. & Rinkevičius, L. (2006). Lithuanian "Brain Drain" Causes: Push and Pull Factors. *Engineering Economics*, *46*(1), 27–37.

Kim, D., Bankart, C. A. S. & Isdell, L. (2011). International Doctorates: Trends Analysis on Their Decision to Stay in US. *Higher Education: The International Journal of Higher Education and Educational Planning*, *62*(2), 141–161.

Kim, T. (2010). Transnational academic mobility, knowledge, and identity capital. *Discourse: Studies in the Cultural Politics of Education*, *31*(5), 577–591.

King, R. (2002). Towards a new map of European migration. *International Journal of Population Geography*, *8*(2), 89–106.

Knight, J. (2004). Internationalization Remodeled: Definition, Approaches, and Rationales. *Journal of Studies in International Education*, *8*(1), 5–31.

Knight, J. (2008). Internationalisation: Key concepts and elements. In *Internationalization of European Higher Education: An EUA/ACA Handbook* (pp. 1–24). Raabe Academic Publishers.

Knight, J. (2013). The changing landscape of higher education internationalisation – for better or worse? *Perspectives: Policy and Practice in Higher Education*, *17*(3), 84–90.

Knight, J. & de Wit, H. (Eds.). (1997). *Internationalisation of higher education in Asia Pacific Countries*. European Association for International Education.

Lakoff, G. (1987). Women, Fire and Dangerous Things: What Categories Reveal About the Mind. University Of Chicago Press.

Lancaster University. (2009). *Research Ethics and Research Governance at Lancaster: A code of practice*. https://www.lancaster.ac.uk/research/research-services/research-integrity-ethics--governance/research-integrity/

Layder, D. (1993). New strategies in social research: An introduction and guide. Polity Press ; Cambridge, MA, USA.

Lee, J. J. & Kim, D. (2010). Brain gain or brain circulation? U.S. doctoral recipients returning to South Korea. *Higher Education*, *59*(5), 627–643.

Leung, M. (2013). Unravelling the Skilled Mobility for Sustainable Development Mantra: An Analysis of China-EU Academic Mobility. *Sustainability*, *5*(6), 2644–2663.

Li, M., & Bray, M. (2007). Cross-Border Flows of Students for Higher Education: Push-Pull Factors and Motivations of Mainland Chinese Students in Hong Kong and Macau. *Higher Education: The International Journal of Higher Education and Educational Planning*, *53*(6), 791–818.

Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). *Descriptive Analysis in Education: A Guide for Researchers. NCEE 2017-4023*. National Center for Education Evaluation and Regional Assistance. https://eric.ed.gov/?id=ED573325

Lowell, L. B. (2002). *Policy Responses to the International Mobility of Skilled Labour.* (International Migration Papers, No. 45). International Labour Office. http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---migrant/documents/publication/wcms_201774.pdf

Lowell, L. B. (2003). *The need for policies that meet the needs of all* [Policy Brief]. SciDev.Net Policy Brief. http://www.scidev.net/index.cfm?originalUrl=global/policy-brief/the-need-for-policies-that-meet-the-needs-of-all.html

Lowell, L. B. & Findlay, A. (2001). *MIGRATION OF HIGHLY SKILLED PERSONS FROM DEVELOPING COUNTRIES: IMPACT AND POLICY RESPONSES* (International Migration Papers no. 44). International Labour Organization. http://ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---migrant/documents/publication/wcms_201706.pdf

Lowell, L. B., Findlay, A. & Stewart, E. (2004). *Brain Strain. Optimising highly skilled migration from developing countries* (Asylum and Migration Working Paper No. 3). Institute for Public Policy Research. http://www.ippr.org/files/images/media/files/publication/2011/05/brainstrain_1365 .pdf?noredirect=1

Luo, Y.-L. & Wang, W.-J. (2002). High skill migration and Chinese Taipei's industrial development. In *International Mobility of the Highly Skilled* (pp. 253–270). OECD.

Maadad, N. & Tight, M. (2014). Editorial Introduction. In *Academic Mobility* (Vol. 11). Emerald Group Publishing Limited.

Mahroum, S. (2000). Highly skilled globetrotters: Mapping the international migration of human capital. *R&D Management*, *30*(1), 23–32.

Manzano, A. (2016). The craft of interviewing in realist evaluation. *Evaluation*, *22*(3), 342–360.

Manzano-Santaella, A. (2011). A realistic evaluation of fines for hospital discharges: Incorporating the history of programme evaluations in the analysis. *Evaluation*, *17*(1),

Marchal, B. (2011). Why do some hospitals perform better than others? A realist evaluation of the role of health workforce management in well-performing health care organisations. PhD dissertation. Vrije Universiteit Brussel. Faculty of Medicine and Pharmacy. http://www.itg.be/itg/Uploads/Volksgezondheid/B%20Marchal%20PhD.pdf

Marginson, S. (2007). Have global academic flows created a global labour market? In *World Yearbook of Education 2008: Geographies of Knowledge, Geometries of Power: Framing the Future of Higher Education*. Routledge.

Marginson, S. & Rhoades, G. (2002). Beyond national states, markets, and systems of higher education: A glonacal agency heuristic. *Higher Education*, *43*(3), 281–309.

Marginson, S. & van der Wende, M. (2007). *Globalisation and Higher Education* [OECD Education Working Papers]. Organisation for Economic Co-operation and Development. http://www.oecd-ilibrary.org/content/workingpaper/173831738240

Matier, M. (1990). Retaining faculty: A tale of two campuses. *Research in Higher Education*, *31*(1), 39–60.

Maxwell, J. A. (2012). *A Realist Approach for Qualitative Research*. SAGE Publications Ltd.

Maxwell, J. A. (2013). Qualitative research design: An interactive approach (3rd ed.). SAGE Publications Ltd.

Maxwell, J. A. (2017). *Realism and Qualitative Research*. Master Class Webinar Series, International Institute for Qualitative Methodology, University of Alberta. https://www.ualberta.ca/international-institute-for-qualitative-methodology/webinars/master-class-webinar/archived-webinars

Mazzarol, T. & Soutar, G. N. (2002). "Push-pull" factors influencing international student destination choice. *International Journal of Educational Management*, *16*(2), 82–90.

Metcalf, H., Rolfe, H., Stevens, P. & Weale, M. (2005). Recruitment and Retention of Academic Staff in Higher Education (Research Report No. 658). National Institute of Economic and Social Research. http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/RR658.pdf

Morano Foadi, S. (2006). Key Issues and Causes of the Italian Brain Drain. *Innovation: The European Journal of Social Sciences*, *19*(2), 209–223.

Musumba, M., Jin, Y. H. & Mjelde, J. W. (2011). Factors influencing career location preferences of international graduate students in the United States. *Education Economics*, *19*(5), 501–517.

Netz, N. & Jaksztat, S. (2014). Mobilised by mobility? Determinants of international mobility plans among doctoral candidates in Germany. In *Academic Mobility* (Vol. 11, pp. 35–59). Emerald Group Publishing Limited.

NSF. (2007). *Asia's Rising Science and Technology Strength: Comparative Indicators for Asia, the European Union, and the United States* (NSF 07-319). National Science Foundation, Division of Science Resources Statistics. https://wayback.archive-it.org/5902/20150818040516/http://www.nsf.gov/statistics/nsf07319/pdf/nsf07319.pdf

Odenyo, A. O. (1979). An Assessment of the African Brain Drain, with Special Reference to the Kenyan Mid-Career Professional. *Issue: A Journal of Opinion*, *9*(4), 45–48.

OECD. (2015). *Education at a Glance 2015*. Organisation for Economic Co-operation and Development.

OECD. (2020a). *International student mobility*. The Organisation for Economic Co-Operation and Development (OECD). https://stats.oecd.org/Index.aspx?datasetcode=EAG_ENRL_MOBILES_ORIGIN

OECD. (2020b). *Level of GDP per capita and productivity*. The Organisation for Economic Co-Operation and Development (OECD). https://stats.oecd.org/index.aspx?DataSetCode=PDB_LV

Oettingen, G., Mayer, D. & Portnow, S. (2016). Pleasure Now, Pain Later: Positive Fantasies About the Future Predict Symptoms of Depression. *Psychological Science*, *27*(3), 345–353.

Pásztor, A. (2015). Careers on the Move: International Doctoral Students at an Elite British University. *Population, Space and Place*, *21*(8), 832–842.

Patton, M. Q. (2014). Qualitative Research & Evaluation Methods: Integrating Theory and Practice (4 edition). SAGE Publications Ltd.

Pawson, R. (2000). Middle-range realism. *European Journal of Sociology*, *41*(2), 283–325.

Pawson, R. (2006). *Evidence-Based Policy: A Realist Perspective* (1 edition). SAGE Publications Ltd.

Pawson, R. & Manzano-Santaella, A. (2012). A realist diagnostic workshop. *EVALUATION*, *18*(2).

Pawson, R. & Tilley, N. (1997). *Realistic Evaluation* (1 edition). SAGE Publications Ltd.

Pawson, R. & Tilley, N. (2004). *Realist Evaluation*. Community Matters. http://www.communitymatters.com.au/RE_chapter.pdf

Pedersen, L. H. & Rieper, O. (2008). Is Realist Evaluation a Realistic Approach for Complex Reforms? *Evaluation*, *14*(3), 271–293.

Pellegrino, A. (2002). *Skilled labour migration from developing countries: Study on Argentina and Uruguay* [Working paper]. http://www.ilo.org/global/topics/labour-migration/publications/WCMS_201785/lang--en/index.htm

Porter, S. (2007). Validity, trustworthiness and rigour: Reasserting realism in qualitative research. *Journal of Advanced Nursing*, *60*(1), 79–86.

Psacharopoulos, G. (2006). The Value of Investment in Education: Theory, Evidence, and Policy. *Journal of Education Finance*, *32*(2), 113–136.

Punton, M., Vogel, I. & Lloyd, R. (2016). *Reflections from a Realist Evaluation in Progress: Scaling Ladders and Stitching Theory* (No. 18; CDI Practice Paper, p. 11). Centre for Development Impact. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/11254/CDIPracticePaper_18.pdf;jsessionid=0546F14DE7E551B35435E89DB1337CB5?sequence=1

RAKE. (2011). *Riiklik koolitustellimus välisülikoolis: Stipendiumi mõju hindamine* [Evaluation report]. Center for applied research in social science (RAKE), University of Tartu. https://skytte.ut.ee/sites/default/files/ec_files/RKT%20hindamise%20l%c3%b5pparuanne_15.02.2011.pdf

Riigi Teataja. (2011). *Personal Data Protection Act 2011*. https://www.riigiteataja.ee/en/eli/512112013011/consolide

Riigi Teataja. (2018). *Personal Data Protection Act 2018*.
https://www.riigiteataja.ee/en/eli/523012019001/consolide

Roh, J.-Y. (2015). What predicts whether foreign doctorate recipients from U.S. institutions stay in the United States: Foreign doctorate recipients in science and engineering fields from 2000 to 2010. *Higher Education*, *70*(1), 105–126.

Ruus, V.-R. (2012). Collapse of the Soviet educational system and the birth of the new system. In *Estonica. Encyclopedia about Estonia*. Estonian Institute.

Saar, E. & Mõttus, R. (2013). Introduction: A brief overview of the Estonian higher education system and its challenges. In *Higher Education at a Crossroad: The Case of Estonia* (pp. 11–24). Peter Lang GmbH, Internationaler Verlag der Wissenschaften.

Salt, J. (1997). *International Movements of the Highly Skilled* (OECD Occasional Paper No. 3; pp. 1–44). OECD. INTERNATIONAL MIGRATION UNIT.
http://www.oecd.org/migration/mig/2383909.pdf

Sawir, E., Marginson, S., Deumert, A., Nyland, C. & Ramia, G. (2009). Loneliness and International Students: An Australian Study. *Journal of Studies in International Education*, *12*(2), 148–180.

Saxenian, A. (2002). Brain Circulation: How High-Skill Immigration Makes Everyone Better Off. *The Brookings Review*, *20*(1), 28–31.

Saxenian, A. (2006). *The New Argonauts: Regional Advantage in a Global Economy* (annotated edition). Harvard University Press.

Soon, J.-J. (2010). The determinants of students' return intentions: A partial proportional odds model. *Journal of Choice Modelling*, *3*(2), 89–112.

Soon, J.-J. (2012). Home is Where the Heart Is? Factors Determining International Students' Destination Country upon Completion of Studies Abroad. *Journal of Ethnic and Migration Studies*, *38*(1), 147–162.

Statistikaamet (2019). Välisüliõpilaste majanduslik mõju. Eesti tööturul osalemine (Participation of international students in the Estonian labour market and its impact on the economy) [Statistical Analysis]. Statistikaamet.
https://www.stat.ee/dokumendid/1961083

Szelényi, K. (2006). Students without borders? Migratory decision-making among international graduate students in the U.S. *Knowledge, Technology & Policy*, *19*(3), 64–86.

Tansel, A. & Güngör, N. D. (2003). "Brain drain" from Turkey: Survey evidence of student non-return. *Career Development International*, *8*(2), 52–69.

Teichler, U. (2004). The Changing Debate on Internationalisation of Higher Education. *Higher Education: The International Journal of Higher Education and Educational Planning*, *48*(1), 5–26.

Teichler, U. (2011). Chapter III: Academic staff mobility. In Mapping mobility in European higher education. Volume I: Overview and trends.

Teichler, U. (2015). *Academic Mobility and Migration: What We Know and What We Do Not Know*. European Review, 23(S1), S6-S37.

Tharenou, P. & Seet, P.-S. (2014). China's Reverse Brain Drain. *International Studies of Management and Organization*, *44*(2), 55–74.

THE. (2018). The best universities in New Europe. *Times Higher Education (THE) World University Rankings*. https://www.timeshighereducation.com/news/best-universities-new-europe-ranking-2018

The National Archives. (1998). *Data Protection Act 1998*.

The National Archives. (2018). *Data Protection Act 2018*. http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted

Thorn, K. & Holm-Nielsen, L. B. (2006). International Mobility of Researchers and Scientists: Policy Options for Turning a Drain into a Gain. *The International Mobility of Talent: Types, Causes, and Development Impact*.

Timmins, P. & Miller, C. (2007). Making Evaluations Realistic: The Challenge of Complexity. *Support for Learning*, *22*(1), 9–16.

Tõnisson, E. (2011). *Kõrghariduse valdkonna statistiline ülevaade - 2011*. Estonian Ministry of Education and Research. https://dspace.ut.ee/handle/10062/40767

Tremblay, K. (2008). Academic Mobility and Immigration. *Journal of Studies in International Education*, *9*(3), 196–228.

University of Tartu (2019). Facts about the History of the University of Tartu. *Estonia's National University 100*. https://100.ut.ee/history/

Van Bouwel, L. (2010). Return rates of European graduate students in the US: How many and who return, and when ? *Belgeo. Revue Belge de Géographie*, *4*, 395–405.

van der Sande, D., Ackers, H. L. & Gill, B. (2005). Impact assessment of the Marie Curie fellowships under the 4th and 5th Framework Programmes of Research and Technological Development of the EU (1994-2002). European Commission.

Velema, T. (2012). The contingent nature of brain gain and brain circulation: Their foreign context and the impact of return scientists on the scientific community in their country of origin. *Scientometrics*, *93*(3), 893–913.

Veugelers, R. & van Bouwel, L. (2015). The Effects of International Mobility on European Researchers: Comparing Intra-EU and U.S. Mobility. *Research in Higher Education*, *56*(4), 360–377.

Weinberg, B. A. (2011). Developing Science: Scientific Performance and Brain Drains in the Developing World. *Journal of Development Economics*, *95*(1), 95–104.

Welch, A. (2008). Myths and Modes of Mobility: The Changing Face of Academic Mobility in the Global Era. In *Students, Staff and Academic Mobility in Higher Education* (pp. 292–311). Cambridge Scholars Publishing.

Westhorp, G. (2014). *Realist impact evaluation. An introduction.* (A Methods Lab Publication). Overseas Development Institute. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9138.pdf

Westhorp, G. (2016). JISCMail - RAMESES Archives. *RAMESES Archives. RAMESES Realist and Meta-Narrative Evidence Synthesis: Evolving Standards*.

Wong, G., Westhorp, G., Pawson, R. & Greenhalgh, T. (2013). *Realist synthesis. RAMESES training materials.* Rameses Project. http://www.ramesesproject.org/media/Realist_reviews_training_materials.pdf

World Bank. (2019). *World Development Indicators*. The World Bank.

World Bank. (2020). *World Bank Data Help Desk*. https://datahelpdesk.worldbank.org/knowledgebase

Zeithammer, R. & Kellogg, R. P. (2013). The Hesitant Hai Gui: Return-Migration Preferences of U.S.-Educated Chinese Scientists and Engineers. *Journal of Marketing Research (JMR)*, *50*(5), 644–663.