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EKONOMICKO-SPRÁVNÍ FAKULTA

International Student Mobility Flows and Patterns

Bakalářská práce

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Katedra regionální ekonomie

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Cíl práce, postup a použité metody:	**Problémová oblast:** Mezinárodní studentské mobility jako klíčový prvek moderního vysokoškolského vzdělávání a jeho internacionalizace. **Cíl práce:** Cílem práce je identifikovat a vizualizovat toky a vzorce mezinárodních studentských mobilit studentů ESF MU a zhodnotit faktory, které tyto mobilitní trendy ovlivňují. **Postup práce a použité metody:** Teoreticko-metodická východiska jsou založena na rešerši domácí a zahraniční odborné literatury, která se zaměřuje na problematiku studentských mobilit, její determinanty, migrační modely a charakteristické jevy. Na základě dosud známých poznatků o problematice jsou vytvořeny syntézy, které mohou sloužit jako rámec pro hodnocení a analýzu konkrétních vzorců zvoleného vzorku. Aplikační část práce představuje trendy a vzory výjezdů na mezinárodní akademické mobility studentů ESF MU, vč. hodnocení zohledňujícího geografické faktory a prestiž univerzity dle jejího světového rankingu. Dále se zabývá regionální diferenciací mezinárodních akademických mobilit mezi vyjíždějícími studenty ESF MU a přijíždějícími studenty spolupracujících univerzit. Dochází k interpretaci dat o studentských mobilitách a následné vizualizací mobilitních vzorců založených na těchto anonymizovaných datech. Využity jsou metody analýzy, syntézy a komparace.
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Anotace

Cílem práce je identifikovat a vizualizovat toky a vzorce mezinárodních mobilit studentů ECON MUNI a analyzovat faktory, které je ovlivňují. Teoretická část vychází z rešerše odborné literatury o migračních modelech a studentských mobilitách. Aplikační část zkoumá trendy výjezdů a příjezdů studentů včetně ovlivňujících faktorů. Na základě výsledků jsou formulovány závěry. Využity jsou metody analýzy, syntézy a komparace.

Annotation

The aim of the thesis is to identify and visualise international mobility flows and patterns of ECON MUNI students and assess the factors influencing them. The theoretical part is based on a review of academic literature on migration models and student mobility. The practical part analyses outbound and inbound trends, considering determining factors. A conclusion is formulated based on the results. Methods used include analysis, synthesis, and comparison.

Declaration of Authorship

I declare that I have written this bachelor's thesis on the topic of International Student Mobility Flows and Patterns independently, under the supervision of Ing. Markéta Novotná, Ph.D., and that I have cited all literary and other academic sources used in accordance with legal regulations, the internal rules of Masaryk University, and the internal governance documents of Masaryk University and the Faculty of Economics and Administration.

Brno, 21st April 2025

……
Daniel Fahian

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Introduction

In an increasingly interconnected world, international student mobility (ISM) has become an essential pillar of higher education. The phenomenon represents a wide range of academic, economic, social, and political dimensions, reflecting global trends. As European integration advances further and frameworks such as the Bologna Process and Erasmus+ evolve, the mobility of students within the European Higher Education Area experiences significant growth. This thesis investigates the specific case of outgoing international academic mobility among students of the Faculty of Economics and Administration at Masaryk University (ECON MUNI), with the aim of uncovering flows, patterns, and trends using data analysis.

An elaborate theoretical framework supports the study and guides the data interpretation. Three migration theories form the core of this framework: Push-pull theory - which distinguishes between factors that drive students to leave their home institutions (push factors) and those that attract them to specific destinations (pull factors); Human capital theory - viewing academic mobility as a form of investment, where individuals seek to enhance their skills and future earning potential; Social network theory - emphasises the role of social connections and existing networks in establishing and influencing the mobility decision-making process. Additionally, the thesis also examines the Erasmus+ programme as a major part of student mobility in Europe. Determinants of student mobility are critically examined: socio-economic background, professional aspirations, social ties, cultural capital, and academic opportunities. Lastly, a section on trends investigates the progression of ISM through the identification of three distinct waves.

The applied part of the thesis is based on anonymised student mobility data provided by ECON MUNI. Using methods of description, comparison, and synthesis, this section identifies mobility flows and patterns, visualises networks, and examines regional differences. Attention is paid to exchange relationships, geographic proximities, university rankings, and other potential determinants influencing student choices. This thesis aims to interpret the evolution of academic mobility through theories explored in the theoretical framework. Combining explored migration theories, alongside determinants and trends aids in the final interpretation of ECON MUNI data in the context of flows and patterns.

1 Theoretical Foundations of Migration

The world of international student mobility is changing, and it is essential for policymakers and educational institutions to understand the many factors that influence students' decisions (Beine et al., 2014). Past research has shown that students' motivations extend beyond the traditional academic goals of studying abroad (Mazzarol and Soutar, 2002). Today, social, economic, and cultural factors play a growing role in shaping their educational choices (Perkins and Neumayer, 2011). Students are now contemplating a broader spectrum of determinants, including the aspiration to broaden their social networks, the economic prospects and cultural experiences that align with their values (Bodycott, 2009).The shift of non-Western countries being on the rise as attractive destinations reflects the changing political state of the world and emphasises the need for universities to review and adapt their recruitment strategies to remain competitive (Mazzarol, 1998). To maintain their competitive advantage, institutions must introduce or adopt innovative strategies that resonate with the aspirations and expectations of students (Hemsley-Brown and Oplatka, 2015). These strategies should include adjusting programmes to meet the needs of students, improving support services to help international students integrate successfully, and create partnerships that go beyond traditional institutional limits (Perkins and Neumayer, 2011).

To understand international student mobility (ISM) flows and patterns, it is vital to establish a theoretical foundation on migration as a basis for further application onto student mobilities. ISM is migration, be it temporary or permanent, therefore, having a clear understanding of migration theories is fundamental for further comprehension.

1.1 Definition of International Student Mobility and Migration

Definitions of ISM and migration are many and change throughout the years within the academic sphere based new findings, research and discussion. Selected sources define key characteristics for both ISM and migration. Higher Education Funding Council for England (2004) describes ISM as any type of international movement occurring as part of a student's higher education programme, Teichler (2017) understands it as crossing borders to pursue education in a country of destination, while UNESCO's Institute for Statistic (2024) puts forward a definition which outlines who the participants in ISM are: "*Internationally mobile*

students are individuals who have physically crossed an international border between two countries with the objective to participate in educational activities in the country of destination, where the country of destination of a given student is different from their country of origin. The country of origin of a tertiary student is the country in which they gained their upper secondary qualifications. This can also be referred to as the country of prior education". This outline embodies key characteristic of ISM - physically crossing international borders and engaging in educational activities within educational institutions in a country different from the country of origin.

To understand the correlation between ISM and migration, definitions of migration should be presented as well: Ravenstein (1885) defines migration as displacement of people between their birthplace and the place they were counted in at a time of census. Scopilliti et al. (2023) define international migration as a movement of individuals across a national border, including both immigration and emigration or their combination, while the International Organisation for Migration (2024) lays down its interpretation of migration as a "*movement of persons away from their place of usual residence, either across an international border or within a State*". Castles and Miller (2003), on the other hand, speak of migration as a multi-layered phenomenon which is not only a movement of people between countries and across borders, but a process which is influenced by various factors. In any case, there is one prominent characteristic: the crossing of international borders. This assessment, therefore, suggests there is an association between ISM and migration, as they share the characteristic of crossing an international border for prolonged periods of time.

1.2 Migration Theories

Adam Smith was the first economist to link migration with market forces. He observed that urban wages were significantly higher than rural ones, despite similar commodity prices. This imbalance, he argued, created economic pressure for labour to move to cities, correcting wage disparities. Through this finding, he suggested that the movement of people was a response to an economic factor (Chiswick and Miller, 2015). Building on Smith's ideas, Ernst Georg Ravenstein formalised migration patterns through his seven migration laws. Interest in migration surged after the WWII, leading to major developments. In 1962, Larry Sjaastad introduced the Human capital theory, pointing to a cost-benefit analysis in individual migration

decisions. Everett S. Lee followed in 1966 with the push-pull model to explain economic and social drivers. In 1993, Douglas S. Massey's Social Network theory added a sociological layer, showing how social ties lower migration costs and sustain flows.

1.2.1 Push-pull Theory of Migration

Push-pull theory of migration is one of the most important theories in migration. Its idea was introduced in 1885 by an Anglo-German cartographer Ernst Georg Ravenstein. In his *Laws of Migration* papers, he argued that migration is not a phenomenon which happens chaotically but rather follows a pattern and happens for reasons which can be traced and categorized, pinpointing economic opportunities. Following in Ravenstein's steps was Everett Lee, who, in 1966, enhanced his ideas and formulated the basis of the push-pull theory. As the name suggests, the theory is divided into two categories of factors, push and pull. Push factors influence the decision to move away, while pull factors make moving into a country attractive. These categories work synergistically where an influence of one is simultaneously an influence of the other (Pan, 2019). The push-pull theory can be applied onto student mobility flows, since it is possible to categorize student preferences and analyse them based on such factors. A combination of push and pull factors influences students' decisions to study abroad.

Push factors are described as a force driving migrants away from their country of origin. For that reason, they are deemed as negative elements. Different authors define various categories of these motivations, although there are three interconnected prominent ones: economic, social and political (Urbański. 2022). These categories often overlap, with economic factors frequently serving as the foundation for the social and political. Economic factors include low agricultural income, unemployment, as well as economic instability or poverty (Krishnakumar and Indumathi, 2014). Additionally, this category also includes systemic barriers which trap people in cycles of poverty. People from underprivileged backgrounds often struggle with restricted access to education and healthcare, which can deepen financial hardships and makes it far more challenging to improve their situation. Studies show that difficult experiences during childhood, can lead to long-term health issues and financial problems, preventing people from escaping poverty (Smith et al., 2022). Economic factors usually intertwine with social ones in creating hardship. Social push factors which motivate migration are diverse. They include insecurity, desertification or poor healthcare and education. These factors encourage individuals and families to seek safer, more stable environments where they can access better

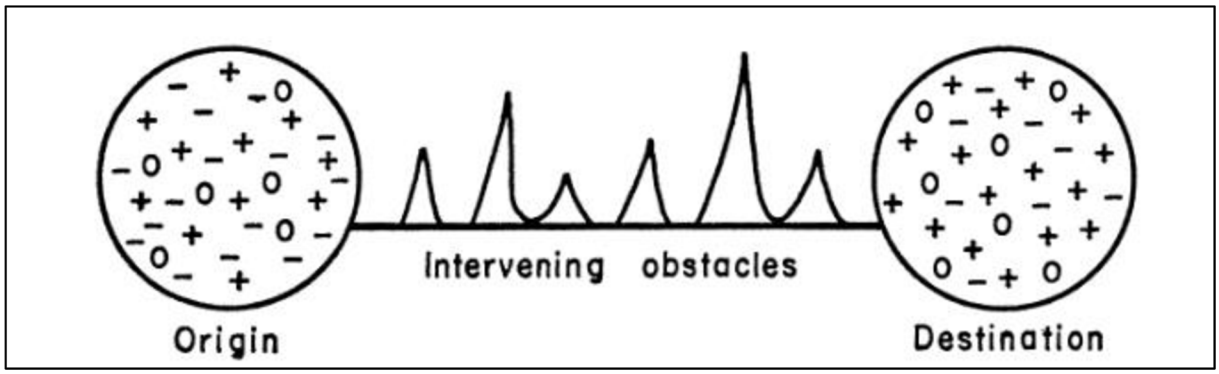
healthcare, education, and overall quality of life (Khalid and Urbański, 2021). When combined, economic and social factors intensify migration pressures. For example, in areas of economic instability, some also face intensified social challenges, such as conflicts based on ethnicity or violence within their communities. This dual pressure forces people to migrate and often leads to internal displacement, with many moving from rural to urban areas in search of safety (Castelli, 2018). Political factors go hand in hand with social and economic in contribution to migration. Political push factors are critical, as they create climates that prompt the seeking of safety, stability, and better opportunities elsewhere. These drivers are rooted deeply in the governance and political sphere of a country, and they significantly affect the lives of its citizens. War and conflict, unfair legal systems or lack of government tolerance are some of the many political motivations for migration (Doerschler, 2006). According to Zolberg (2006), one major issue is the widespread violation of human rights. He explains that repressive regimes often use violence, detention, and censorship to silence opposition, creating an environment where people feel unsafe and threatened. This kind of oppressive atmosphere not only limits freedom, but also further fuels greater social and economic instability, which pushes even more people to migrate.

As opposed to push factors, pull factors are often described positively. They are motivations that attract migrants to a region, and they play a vital role in the migration process. As mentioned above, they work synergistically with push factors. For instance, a push factor in the form of unemployment leads to a pull factor in the form of better job opportunities. Pull factors vary as individuals look for opportunities based on their preferences and needs. Job opportunities, more food, shelter, better income and higher standard of living are some of the economic factors pulling migrants into a country (Zoelle, 2011, as cited in Urbański, 2022). Urbański (2022) further states social factors, like increased religious tolerance, superior educational opportunities, less discrimination and more accessible healthcare to be the drivers appealing to potential movers. He also addresses the topic of political drivers, where among the mentioned are: the right to vote, legal protection, safety from political persecution and safety in general. For instance, in her work, Kline (2003) finds that nurses migrate from Australia, Canada, Philippines, South Africa, and the United Kingdom to Australia, Canada, Ireland, UK, and the United States because of economic and social factors, namely better income and better working conditions. In another instance, Sahatcija and Ferhataj (2020) note that possible advancement in careers, improvement in the standard of living, and the quality of available

education have a stronger pull effect on Albanian students specifically. Moreover, Matsui and Raymer (2020) claim that a political pull factor in the form of immigration policies plays a vital role in the process of choosing a country of destination for asylum-seekers.

To practically visualise the push-pull theory, Everett S. Lee introduced his graphic migration model (Figure 1). The model breaks down the decision to migrate into four parts: push factors, pull factors, intervening obstacles, and personal factors. As outlined before, push factors are motivations to leave a country of origin, while pull factors are the attractions of a destination. Intervening obstacles, such as strict immigration policies or the cost of moving, make it harder for people to follow through with their plans. Personal factors also play a role: age, available level of education, or having a support network influence whether people decide to migrate (Lee, 1966; de Haas, 2011). For interpretation purposes of Figure 1: left circle represents a country of origin, right circle represents a country of destination and a line between the two circles represents intervening obstacles. There are "+", "— "and "0" symbols representing personal factors. The "+" symbol represents positive elements, the "— "symbol represents negative elements and the "0" symbol represents factors to which migrants are indifferent, in either the country of origin or destination. Based on where such symbols are placed, they are perceived either as motivation to migrate or to stay put.

Figure 1: Origin and Destination Factors and Intervening Obstacles in Migration



Source: Lee (1966)

It is worth noting that, while the push-pull theory explains the basic assumptions behind migration, some academic authors state that it is insufficient and oversimplified at its core. Hein de Hass (2011) points out the disregard and the static nature of the theory. He argues that the theory describes migration as a simple action and not a process with many variables. Other critics of the theory accuse its models of being just collections of contributing factors and

lacking any explanatory mechanisms (Skeldon 1990, as cited in de Haas 2011). For such reasons, the push-pull framework has been enhanced in various ways, to account for different factors in addition to its basis. For example, the push-pull-plus framework - which incorporates additional factors that account for different drivers; or the push-pull-mooring framework - which accounts for mooring factors, such as switching costs, which tie a person to a place and are perceived as barriers to migration, functioning as a balancing element to the oversimplification of the push-pull theory (Van Hear et al., 2017). Bankhele (2024) conducted a study into international student mobility in Finland using the push-pull-mooring framework, concluding that pull factors, namely the quality of education, further career opportunities, and political stability, made the experience of studying abroad seem more beneficial, while push factors, had a deterring effect. Additionally, mooring factors like social support and connections in the host country played a prominent role in shaping both the perceived value of the experience, and the intention to stay.

1.2.2 Human Capital Theory

The application of this theory to migration was pioneered by Larry Sjaastad in 1962. The theory argues that migrants move to destinations, where a return in net human capital from the migration investment is expected to be the highest (Sjaastad, 1962, as cited in Chiswick and Miller, 2015). This theory provides an insight into the economic motivations behind migration. Before further interpretation, it is necessary to define capital and human capital. According to Seo (2024), capital is an asset that provides its holder with a regular stream of income. Goldin's (2016, as cited in Cappelli et al., 2023) definition elaborates, stating that human capital is a collection of knowledge and abilities acquired by individuals over time. From both definitions, we can conclude that human capital in the context of migration is a set of skills and knowledge that should help access a flow of income. Therefore, it is of importance for potential migrants to accumulate human capital in the form of education and training to increase their potential of a higher income. This perspective frames migration as a rational economic decision influenced by costs, benefits, and the long-term gains associated with human capital development. Education, training and remittances are vital components in the application of the theory. Not only do they drive individual migration decisions but also have broader implications for labour markets and economic development, both in countries of origin and destination. They serve as

factors influencing real migration, showcasing the economic consequences (Dustmann et al., 2011; Docquier et al., 2007; Contreas, 2012; Navarro and Zhou, 2024).

As people migrate, so does human capital, therefore cross-border movement reduces human capital in one country and increases it in the other. This is known as “brain drain” and “brain gain” (Docquier et al., 2007). Migration abroad motivated by labour or education preferences can trigger a brain drain phenomenon, which, as defined by Dustmann et al. (2011), is a reduction in the per capita human capital in a home country due to emigration. Initially, when labour or education motivated emigration becomes feasible, the local output in the home country may decrease because emigrants do not return, leading to a loss of potential production and knowledge. Dustmann et al. (2011) further note that emigration and brain drain can negatively impact those who remain in the home country due to changes in factor prices and a smaller tax base. Since fewer taxpayers contribute, the funding of local communities, goods and services supported by public funds is hindered. However, Dustmann et al. (2011) describe how brain drain can be halted or decreased by return migration. Returning migrants with human capital gained abroad increase the human capital per capita in their home country, thus benefitting the country in the overall scheme. This is referred to as brain gain, the opposite of brain drain. Brain gain is particularly efficient when human capital gained abroad is fluently transferable to the home country, which further provides to the economic development. Research into the topic by Docquier et al. (2007) set out to analyse the issue of brain drain in developing countries by breaking it down into two primary components: the level of openness in countries of origin (referring to the level of emigration) and the education level gap (referring to the disparity in educational levels between emigrants and residents). The research found proximity of destination countries (and historical links to them), sizes of origin countries, and society fractionalisation to be influential. The average emigration rate was higher in politically unstable countries and significantly larger in small developing island countries. The determinants for the level of openness were native human capital, political instability, size of a country and historical (colonial) links. For the schooling gap, the determinants were found to be a society fractionalisation, economic development, immigration-selectivity of a destination country, and native human capital. Docquier et al. (2007) mention the parallel link between labour market openness and level of education in potential migrants, suggesting that the prospect of future migration prompts individuals to invest into education to increase the chances of placement in a destination country. However, when the expected return from investment into

education is lower for rural residents in urban areas than it is in rural areas, it discourages the pursuit of higher education attainment, especially if migration is a feasible option, as the cost of attainment is higher that the marginal gain (Navarro and Zhou, 2024).

While the concepts of brain drain and brain gain focus on the macroeconomic implications of human capital mobility, the impact of migration is not limited to these phenomena alone. Remittances - financial transfers from migrants to their home countries – are another significant aspect of migration's influence on human capital. Contreras (2012) names remittances as a potential beneficial factor in brain drain. Remittances greatly help non-migrants by providing them additional income which can improve their life-standard. Funds transferred to a home country allow supported households to access better educational institutions, thereby enhancing native human capital. This suggests a possible counter-effect to emigration. However, remittance can also discourage a household from participating in the labour market and create dependency, which can lead to less investment into education. Strong ties to a home country and non-migrant households' dependency on remittances can negatively affect second generations of migrants' households. Since resources are put towards remittances rather than towards the attainment of human capital in the form of education, it can lead to a loss of potential human capital of the second generation (Contreras, 2012). Arbenita and Besnik (2024) conducted a study of Western Balkans between 2010 and 2022, to analyse the impact of remittances and migration on unemployment, and the relationship between emigration and unemployment rates in countries such as Albania, Kosovo, Serbia, North Macedonia, Montenegro, and Bosnia and Herzegovina. The empirical analysis established a positive link between migration and unemployment, where remittances had a significant effect on the increase of unemployment rates. Households receiving remittances were more likely to experience increased unemployment. This had a negative effect on the economic growth of a country, which lead to more emigration, as economic growth is one of many factors influencing the decision to migrate.

In addition to these direct economic effects, the broader theoretical framework surrounding migration and human capital also faces criticism, particularly regarding its assumptions and scope. Chiswick and Miller (2015) criticise Human capital theory on five accounts to further emphasise the shortcomings which should be accounted for when using its basis as an analytical tool:

I. Firstly, they point out that it is a single period model, as it overlooks repeated migrations and life-cycle factors like age, career stage, and income-leisure trade-offs, which affect migration likelihood. An older person is less likely to migrate than a young adult, just as a senior position manager is less likely to move compared to an entry level intern.

II. Secondly, they argue, that the focus is singular. Sjaastad (1962) works with a presumption that the migration decision-making process is based on the values and preferences of one individual. Chiswick and Miller (2015) state that family is not considered and that the prospects of family members in destinations should be included in the decision-making process.

III. Thirdly, they claim that in this theory the push and pull factors are assumed to be symmetrical, as the differential of these two isn't mentioned or rationalised. A reference is made to the empirical literature on migration, which has shown pull factors to be stronger than pull factors.

IV. Additionally, Chiswick and Miller (2015) criticise the assumption of a perfectly informed migrant. They note that uncertainty of return of capital is a vital element in the decision-making process, as migrants with uncertain investment return are taking a higher risk. If the risk of lesser return is too high, migrants may decide against moving. On the other hand, potential migrants who are considering moving with a certain return are not working with such risk and are better informed, albeit not perfectly.

V. Lastly, Sjaastad's (1962) original formulation of this theory overlooks remittances as a factor. According to Chiswick and Miller (2015) remittances can positively impact migration should the destination's currency rise compared to the origin country's currency. In such case, the benefits to migration are increased, especially if the cost of transferring funds back to the country of origin is low. Upon this assumption, migration should increase.

1.2.3 Social Network Theory

Social network theory in migration suggests that social networks - made up of family, friends, and community ties - are key in migration choices and experiences (Massey et al., 1993). Granovetter (1973) states that the strengthening of weak ties in social networks can improve access to information and resources, which can affect the choice to migrate. Likewise, Massey

et al. (1993) stress that these networks act not only as channels for information but also offer support systems which can ease the transition for newcomers. The main concept of social network theory focuses on the connections between individuals and their relations, and how it affects migration. As noted by Portes (1995), these networks create a "migration chain," where one individual migration can trigger the migration of others. The theory emphasizes the cutting of social costs, as it helps deal with the challenges of relocating, like securing jobs and housing, while also promoting a sense of belonging. The theory is a good asset in analysing international student mobility. The theory helps understand how social relationships influence migration trends and choices. It claims that decisions are shaped by social networks, which offer information, resources, and emotional support - ultimately affecting destination selection and the probability of migration (Massey et al., 1993). For international students, these networks may consist of family, friends, and alumni who have previously studied abroad.

Massey et al. (1993, p. 448), who introduced the concept of cumulatively caused migration, state that: "*Migrant networks are sets of interpersonal ties that connect migrants, former migrants, and non-migrants in origin and destination areas through ties of kinship, friendship, and shared community origin*." He claims that established networks in a destination country promote migration through lowering the social costs. The more expanded the community, the more opportunities for creating vital connections with influential individuals inside the network. Such connections further increase the probability of higher return from the initial migration investment by offering job opportunities with a better wage. Based on this argument, a social network is a motivator for migration. Massey et al. (1993) also argue that costs of migrating decline overtime as the migration flow increases. Networks connect migrants and non-migrants, creating a support system and information exchange. This support reduces perceived costs. As initial migrants pay the highest cost by moving in with no established network (and are in-fact the founders of a potential network), the migrants who move after them face decreased costs as the network is forming. Fawcett (1989) elaborates by stating that this can also lead to the development of a "culture of migration". That is when a returning migrant demonstrates to non-migrants their newly reached higher socio-economic status. Migration is then perceived as prestigious. Massey et al. (1993) additionally mention that with time, through expanded networks and their increased flow, the process of migrating becomes independent of the factors which initially caused it. However, once the mass movement reaches a certain

threshold, it slowly decelerates. This is caused by the decreased difficulty of migration, as the destination becomes more accepting of all layers of society from the country of origin.

The role of social networks in facilitating migration extends beyond general population movements to more specific contexts, such as the decisions of international students. While Massey et al. (1993) and Fawcett (1989) provide arguments on how networks reduce migration costs and foster a culture of migration, Robinson et al. (2024) provide a case study focused on examining how these dynamics play out in the decisions of international students in Canada. The case study is a result of noting the influence of social networks on students' decisions. It concludes that students relied on social networks of family, friends, colleagues and ethnocultural or religious groups for support. Family, which provided first-hand and second-hand accounts while helping find connections in Canada, was the primary network influencing the decision where to study. Family also provided emotional and financial support. Transnational friendship networks were used to gather information about living conditions and universities, as information online was considered limited. Furthermore, students were keen on trusting information from someone they knew, even if they had little contact before. Some students shared that they had found motivation and support beyond their immediate social circles, specifically from local communities connected by ethnicity or religion, as well as from colleagues in their academic or professional fields. One account stated they were temporarily provided housing by a religious group before they could find their own. Others have mentioned support systems offered by communities with a shared culture and/or ethnicity. One student mentions the influence of colleagues who have gone abroad for work, motivating his decision to study abroad. Student respondents also stated they felt a sense of duty to help newcomers in providing support and information to ease their transition. On the topic of deficiencies, some accounts pointed out they had received incomplete, misleading or false information.

While Robinson et al. (2024) illustrate the positive role of social networks in migration, it is important to acknowledge the limitations of these networks. Critics raise concerns about the eventual consequences of network-driven migration, particularly in relation to saturation in destination areas. The theory has been criticised by Light et al. (1989) and Gregory (1989), because it explores the ideas of how networks in a country of destination make the migration process simpler for newcomers, but it fails to see the eventual consequences. The issue is the disregard of saturation in destinations. As migration flows continue, a destination slowly runs out of job positions and housing opportunities. Since networks rarely create new jobs or

housing, new migrants can experience problems caused by saturation. With less available accommodation and fewer positions on the labour market, networks can reach their limit and so can the destination. There are economic consequences to this phenomenon, such as unemployment and homelessness, with which the governance must deal. Migrants who experience the difficulties of saturation can find different, unsaturated locations, where a network is fulfilling its potential. If they choose to migrate to new locations with no network in place, it, by definition, is no longer a networking migration process, as no established community is present in those locations.

2 Programmes, Determinants and Trends

The world of international student mobility is extensive, as globalisation has impacted the world of higher education. It has been the aim of governance around the world to focus effort into promotion of initiative like "Europe on the Move" (Schirmer and Hauschildt, 2024). Researchers have been trying to establish conclusions of the phenomenon of ISM for years. Unfortunately, lack of comprehensive data makes research into ISM a difficult task. It is tricky to capture the diverse experiences of international students, making it complicated to create a generalised conclusion or scheme upon which further elaborations could be made. Understanding the long-term effect of ISM is also a complexity which has proven to be a challenging feat (Wells, 2014). Despite that, researchers and academics have been examining ISM deeply and thoroughly with the goal of understanding its nature, patterns and characteristics.

2.1 Erasmus+ programme in International Student Mobility

Various institutionalised programmes have been established with the aim to help students access an international study experience and create an understanding of the international world. Universities enter agreements with other institutions to offer an exchange study experience to their students, as well as post-graduate internships, which are on offer to fresh graduates as an enhancing opportunity to their professional careers. Today in some regions it is a standard within higher education institutions to provide the opportunity of an international experience. Programmes such as Erasmus+, Turing Scheme, and ISEP offer these experiences and provide an insight into the world of academia abroad. The Erasmus+ programme specifically plays a key role in supporting international student mobility by offering opportunities for international educational experiences with the aim to prepare students for the globalised shift in the world. Erasmus (European Action Scheme for the Mobility of University Students) was founded in 1987 during the Bologna Process. It has been developed to provide students with opportunity to study abroad, encourage collaboration among institutions of higher education, and support development of policy. In 2014 it was rebranded as Erasmus+ to broaden the meaning beyond just higher education. Over 15 million students and researchers have participated and as many as 34 countries across the European Union are part of the programme. Erasmus + is now funded

by period runs, first one ranging from 2014–2020 and the current being 2021–2027 (European Commission, 2024).

To justify the Erasmus mobility programme within ISM, an argument can be made about its impact on participants in their professional and personal lives. Dolga et al. (2015) analyse the impact of Erasmus mobility on students by interviewing them. Concluding, most participants considered the mobility to have a very large or large impact on acquisitions of professional knowledge and skills, foreign language knowledge, building self-confidence, gaining a feeling of independency, attitude towards work and study, future career plans, and more. On the other hand, participants' opinions were divided on the topic of identifying academic or professional opportunities, with 48.8% stating a large impact, 33% neutral, and 18,2% stating little or no impact at all. While the programme is renowned for its broad impact, examining specific mobility patterns provides a better understanding of how participation varies across countries, reflecting changing dynamics. Restaino et al. (2020) examine patterns and trends of Erasmus student exchanges across European countries. Findings of the study point to a core-periphery structure as few central countries stand out because of their economic strength and heavier investment into education, which makes their universities more attractive to students. Furthermore, the study finds the number of exchanges to be on the rise. Mediterranean countries play a prominent role as both sending and receiving countries more than other states. As countries like Spain, Italy and France continue to attract a significant number of students, the role of these economic powerhouses is currently solidified. However, Kondakci et al. (2017) note that patterns and flows of ISM shift, therefore this may not be case in the future. These findings suggest a link between investment into education and mobility flows, which may lead to heavier investment and the emergence of less traditional countries as destinations of choice for future students.

2.2 Determinants

Determinants of ISM are factors which shape the decision-making process. They shape the choices of destinations, institutions, and experiences. There are various determinant groups: socio-economic, professional, social and cultural, academic, and world rankings, all of which play a vital role in the decision-making process (Zainab et al., 2019; Schirmer and Hauschildt,

2024). Among the most influential determinants are the promise of a better quality of education, the reputation of universities, the opportunity to experience a new culture, an access to more lucrative career prospects, pathways for immigration, and the prospect of professional recognition. The interplay between factors is further influenced by policy environments, such as visa regulations and scholarship availability. Students carefully consider these variables, comparing opportunities available in their home countries against those offered abroad, seeking the best balance of educational, personal, and professional benefit (Zainab et al., 2019). An integral component within these determinants is the socio-economic reality, which influences the access to higher education. A student's background is a significant factor shaping their ISM experience. This background is heavily influenced by parental education levels, household income, and financial stability, all of which affect both access and choice (Schirmer and Hauschildt, 2024). According to Caruso and de Wit (2014) inflow students tend to select their destination based on the availability of funding and respond favourably to financial incentives, to help ease the financial burden. They also react to economic and political states of countries, where wealthier countries are favoured for their opportunities, as well as openness. The more open the country is, the higher the inflow is. However, Caruso and de Wit (2014) also find correlation between crime and the number of incoming students as positive, suggesting that social unrest and safety are concerns and act as deterring factors, alongside any increase in costs of living. ISM is increasingly driven by subjective perceptions of self-satisfaction, such as the desire for personal growth and adventure. A motivation for mobility is not solely economic but is deeply influenced by individual preferences and life goals. Cultural needs and social needs are a dimension often overlooked in ISM literature, even though they are among the most influential determinants. (Dilek Fidler, 2019; King, 2002, as cited in Dilek Fidler, 2019; Mosneaga, 2013, as cited in Dilek Fidler, 2019).

In addition to these motivations, institutional factors also shape decisions, since the quality of educational system is perceived as important (Caruso, 2014), university ranking is another vital determining factor of ISM. University rankings are a comparative framework based on standardised performance indicators. Such Indicators include student selectivity, budget spending on infrastructure, citations of research conducted in the name of the institution, teaching environments, and post-graduate student outcomes. These are expected to be applicable to most institutions, regardless of the regional context (Soysal et al., 2021). Each ranking system uses different criteria for its ladders, suggesting the importance of considering

the criteria before jumping to conclusions about the quality of a university. For instance, the Academic Ranking of World Universities focuses on research and academic factors while Quacquarelli Symonds and Times Higher Education rankings emphasise academic reputation and international characteristics as priorities (Glass and Curz, 2022). The university ranking systems help cross beyond the limitations of social perceptions of higher education institutions by presenting quantifiable performance which can be evaluated on outcomes and improved with strategic approaches. Yearly reports on university rankings are assumed to inform stakeholders about annual performance improvements (Soysal et al., 2021). Marginson (2014) notes that students pay attention to the social perception of institutions. With this in mind, they select their study destinations, in order to gain an advantage by benefitting from the good name of such institutions in their social and professional life. Soysal et al. (2021) investigate how changes in the ranking positions of UK universities affect their ability to attract international students by analysing the performance and reputations ranking data and other characteristics. The article concludes that long-term social reputation is a leading motivator from a student's perspective, rather than a yearly report about the ranking. Despite there being little empirical evidence suggesting higher ranking directly affecting the ability to recruit international students, it still plays a significant determining role in the decision-making process of enrolling participants.

To bridge a gap between universities and potential international students, the role of intermediaries, such as recruiters, becomes increasingly significant. Recruiters for international student mobility play an influential role as the middlemen for information and can shape the decision to study abroad, as these recruiters should possess an understanding of the cultural context and educational market of the students' countries of origin. Such knowledge helps tailor the advice given to students. Recruiters inform students about the chosen institution, including information about courses, guidance and the application process. They sometimes offer additional support with Visa assistance, travel arrangements and accommodation. Information of this essence is vital to students, as recruiters have first-hand information. Some regions have commission-based agents who work for institutions as active recruiters promoting the institutions. For instance, in China and India, an agent model is well-established. Universities invest their resources into maintaining relationships with agents to ensure a steady flow of international students, even implementing a monitoring system to check the quality of representation by such agents (Beech, 2017).

2.3 Trends

Trends in ISM are multidirectional and continuously evolve. Choudaha (2017) talks about three waves of ISM between 1999 to 2020. First wave is dated between 1999 to 2006. The wave was affected by terrorist attacks on the 11th of September 2001 in New York. This wave had seen an increase in students enrolling in technology, engineering and science because of the growth of informational technology (IT) in the 1990s. Prior to the attacks, USA had been one of key destinations for students, who were looking to a fill a gap in a newly demanded skill. After the attacks, stricter control and more visa requirements shifted the concentration of enrolment elsewhere. Among the primary destinations were Canada, Australia and European countries, including France, Italy, UK Austria and Switzerland. Primary source countries of students were India and South Korea. Chinese students increased their mobility engagement, however most stayed in the region and studied in countries like Japan or South Korea. Students in the first wave were dependent on financial help from either the sending or receiving institution but were better prepared for the academic requirements. The second wave was directed by the economic recession of the late 2000s. Cuts in government budgets for higher education institutions made financial gains from tuitions fees paid by international students crucial, yet many could not offer scholarships. They relied on self-funded students like the Chinese middle-class, or Saudi Arabian students who were funded by the government. While China, Saudi Arabia, Nigeria and Vietnam became the prominent sending countries, India was on the other end of the spectrum, where students could not afford to fund themselves and the country saw a decline of mobility growth to 25% compared to 163% in the previous wave. Japan's economy was also hit by the recession which made it less attractive to students from the region, resulting in loss of potential revenue. The third wave, dated from 2013 to 2020, was defined by three events: Firstly, the election of Donald Trump as the president of the USA. Hacker and Bellmore (2020) state that Donald Trump's policies and anti-immigration rhetoric had a negative effect on the number of enrolling international students, stating that concerns over personal safety, mounting legal challenges, and demands placed on both students and institutions led to significant financial losses and a reduction in the number of degrees awarded by colleges in the USA. Second was the economic slowdown of China. The third event was a referendum in the UK to leave the European Union. Falkingham et al. (2021) examined return intentions of international students studying in the UK upon graduation. They found that non-EU graduates were less likely leave the UK than EU graduates right after the announcement of Brexit in 2017. The third wave also

saw an emergence of more competition as less popular countries experienced an increase of incoming students (Choudaha, 2017). In 2020 the outbreak of the COVID-19 pandemic shocked the world and had an unprecedented effect. The pandemic impacted higher education by switching face-to-face teaching to online formats, cancelling physical events, and establishing a 'new normality'. Travel restrictions, closure of buildings and concerns over health and safety halted movement in the academic world. Mok et al. (2021) examined how Mainland China and Hong Kong students reconsidered their plans to study abroad after the COVID–19 pandemic. They found that students preferred to stay within the East Asian region due to expected management of the pandemic and post-pandemic procedures and the distance between home and the destination.

3 Methodology

The aim of this work is to identify flows and patterns in outgoing international mobility of ECON MUNI students using provided data. The theoretical part is used as framework for the data interpretation. Three migration theories are described in detail and used as a basis for further reading. Push-pull theory describes factors which attract movers to a destination, and factors pushing movers away. Human capital theory speaks of migration as an investment, converting skills to maximise potential returns. Social network theory explains how interacting with established networks in destinations eases the transition in migration and lowers costs. Furthermore, the importance and effects of Erasmus+ mobility programme on students is evaluated, while the determinants of student mobility are sectioned into socio-economic, professional, social, cultural, and academic. Lastly, a section dedicated to trends elaborates on three waves of ISM and pinpoints countries which play a crucial role.

The applied part of the thesis focuses on analysing data and then identifying trends, flows and patterns in outgoing international academic mobility of ECON MUNI students. It visualises flows and examines network flow maps. Additionally, it discusses regional differences between outgoing ECON MUNI students and incoming students from partnering universities. Moreover, it focuses on possible determinants behind the trends, flows and patterns found in the data, such as geographical proximity or university ranking. The thesis interprets data on student mobility and visualises mobility patterns based on anonymised data. Methods of description, comparison, and synthesis are in use.

As mentioned, the analysed data is provided by the Masaryk University's Faculty of Economics and Administration and is collected anonymously through Masaryk University's ISOIS (Information System of the Centre for International Cooperation). For the purposes of this work, the provided dataset was filtered to account for academic mobilities only, disregarding internships. The selected years, 2015–2024, were chosen for their relevance, as older data may not accurately reflect current trends and could lead to misleading conclusions. Data also only regards students enrolled in Bachelor's and Master's programmes as they are deemed to be the relevant sample. The programmes and agreements which are a studied are: AKTION, CEEPUS, Erasmus+ Europe, Erasmus+ ICM, Erasmus Mundus, Interfaculty agreements, Freemovers, ISEP Exchange, Partner Universities and Selection processes and quotas.

Firstly, the data is compared in time, to understand possible differences and development of various variables such as the number of participants within specific countries, or participation based on the level of studies. Findings of the development in variables is then summarised. That is followed by visualising data using open-source Gephi software. The software is used to create network flow maps which show the flow of outbound students of ECON MUNI. This flow is discussed and inspected further with a closer look at flows within the European region. Afterwards, regional differences between outgoing students from ECON MUNI and incoming students are compared using network flow maps. Visible differences are discussed and dissected, and findings are summarised. Furthermore, patterns in the dates of departure and arrival are analysed using a heatmap format to identify the most common duration of mobilities, with findings of the section being summarised. Lastly, the chapter proposes theoretical determinants of previous findings to understand the reasoning behind the characteristics of academic mobilities.

In the beginning of the process, basic observations shall be listed: Between 2015 and 2024, a total of 1 875 students participated in international mobility programmes, with yearly figures fluctuating between 131 and 244. Participation declined from 223 students in 2015 to a low of 131 in 2021, before rebounding sharply to a peak of 244 in 2022, eventually settling at 197 in 2024. On average, 187.5 students went abroad each year, with a median of 189.5 and a standard deviation of 36.44, indicating moderate variability. Master's students comprised most participants at 62.13% (1,165), while Bachelor's students made up 37.87% (710). Erasmus Europe dominated the mobility landscape, accounting for 79.20% (1,485) of all cases. Other notable programmes included interfaculty agreements (6.93%), partner universities (4.21%), Freemovers (3.95%), CEEPUS (3.04%), and Erasmus ICM (1.65%), with the remaining minor programmes collectively contributing just 1.01%. Geographically, Europe was the predominant destination, attracting 89.44% of students (1,677), followed by the Americas (5.55%), Asia (4.27%), Australia (0.64%), and Africa (0.11%). Students travelled to 53 countries in total, with Spain (274), Germany (235), and France (231) being the top destinations. Austria, Finland, Belgium, and Italy also featured prominently, and together the top seven countries accounted for 61.07% of all mobility. On average, students spent 103.7 days abroad.

4 Data Interpretation and Visualisation

Building on the overview of student mobility trends over the past decade, this chapter shifts the focus to a structured analysis of the underlying data. It begins with a detailed examination of how key variables evolved between 2015 and 2024. For a visual interpretation of movement, network maps are used to illustrate the flow of outgoing students and are then compared with those of incoming students. The chapter also explores patterns in the duration of mobilities. These observations serve as a basis for identifying possible determinants behind mobility trends. The core variables for the analysis include the mobility programme, destination country and continent, level of study, calendar year, departure and arrival dates, and total duration of stay (measured in days).

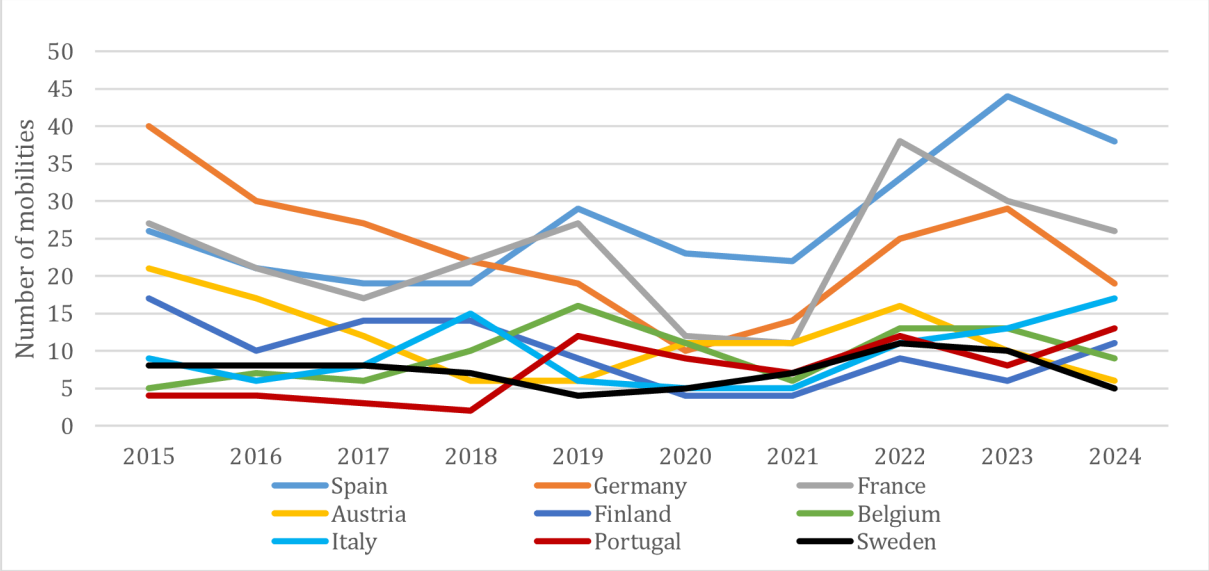
4.1 Development in Time

Destination choices develop over time as determining factors and personal preferences shift dynamically. Since European countries dominate the charts for incoming students, this section will focus mainly on European destinations, excluding many other countries due to their small contributions, which do not show differences significant enough to identify any trends.

The analysis is based on data presented in **Error! Reference source not found.**. It tells us, that between 2015 and 2024, European destinations consistently dominated international student mobility. In 2015, out of 223 participants, 205 chose European countries, with Germany, France, and Spain leading. This trend persisted over the following years, though the specific rankings and numbers fluctuated slightly. From 2016 to 2018, participation varied between 165 and 182 students annually, with Germany, Spain, France, Austria, and Finland generally forming the top five. Although Germany maintained a leading role, other countries such as Italy, Sweden, and Belgium occasionally approached the top ranks. During this period, mobility was more evenly spread across destinations. A modest increase occurred in 2019 (200 students), with Spain and France beginning to outpace Germany. The COVID–19 pandemic in 2020 and 2021 significantly disrupted mobility, causing a sharp drop in participation (140 and 131 students, respectively). Despite the decline, Spain remained the most popular destination both years. Mobility rebounded in 2022, reaching a peak of 244 students. France led that year, followed closely by Spain and Germany. However, the previously observed balance in

destination distribution started to diminish, with a widening gap between leading and lower-ranked countries. In 2023, Spain saw a dramatic rise in popularity (44 students), further distancing itself from France (30) and Germany (29). The top three destinations accounted for a significant share of all mobilities, distancing from the more balanced patterns of earlier years. By 2024, participation declined slightly to 197 students, with 179 remaining within Europe. Spain, France, and Germany again led, while Italy re-emerged among the top choices. The concentration of students among a few countries remained evident, confirming the trend towards a less evenly distributed mobility landscape. The following graph illustrates the development of student mobility across European destinations over time. The nine selected countries are the only ones in Europe that surpassed ten participants in any given year during this period.

Figure 2: Outgoing Student Participation Development 2015–2024



As is visible in the chart, Germany, France, and Spain have retained their top three spots from 2015 to 2024. However, in this period France experienced a fluctuating trend, with a sharp decline from 2019 (27 students) to 2020 (12 students), and a massive spike from 2021 (11 students) to 2022 (38 students). Spain has followed a rather upwards trend, never losing much, compared to other countries. Spain is the most popular country to study in overall. Its popularity doubled from 2021 (22) to 2023 (44). Germany seems to be following a fluctuating trend which now seems to be heading downwards. While its popularity in 2015 was undoubtably the highest, it has since lost number of incoming students. While from 2021 (14) to 2023 (29) it saw a

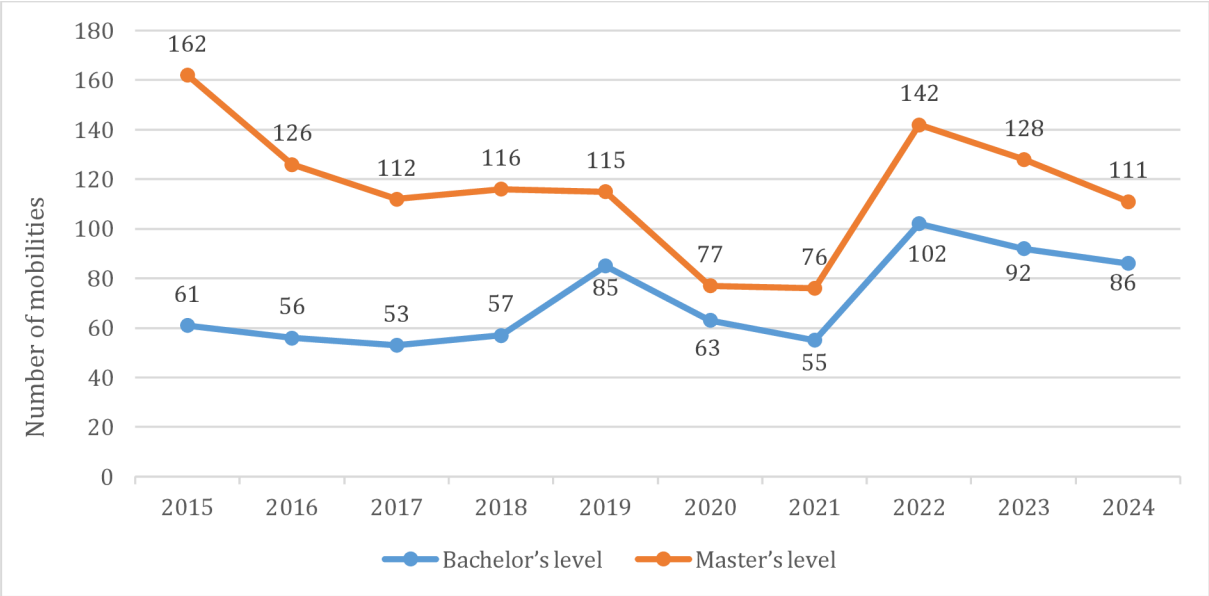
steeper incline, in 2024, it lost ten students. Austria, Finland, Belgium, Italy, Portugal, and Sweden do not fluctuate in such numbers compared to the top three. Italy experienced an increase in 2018 (15) compared to 2017 (8). Austria and Sweden are currently at a loss, while Italy, Finland and Belgium retained a steady number of students from 2022 to 2024.

An important observation made is the development of mobilities conducted in countries where political or economic spheres have shifted within the studied 10–year period. Having left the European Union in 2020, the UK is no longer participating in the Erasmus Europe scheme. Instead, ECON MUNI has struck partnerships with UK institutions through the Turing scheme and through interfaculty agreements. This impacted the number of mobilities in the UK. Coinciding with the COVID–19 pandemic, mobilities after 2020 have dropped by a third and have not risen back to the pre-Brexit era. In Russia, mobilities only took place between 2016–2019, having stopped after 2019, coinciding with the COVID–19 pandemic. The 2022 recovery seen in other countries did not take place, due to an invasion of Ukraine in the beginning of 2022, and the subsequent international political escalations. Mobilities to USA were impacted by the 2016 and 2020 election. After 2016 President Donald Trump's administration put in place stricter visa screening and travel bans. This however seemingly did not impact ECON MUNI outgoing students, as in 2017 mobilities increased and were steady until 2019. After the 2020 presidential elections, President Joe Biden's administration restored many policies and eased travel, which recovered the numbers after the COVID–19 pandemic. China has been quite insignificant as a contributor. Between 2017–2023 the country welcomed a maximum of 1 student each year. Israel in the Middle East has stopped receiving students from ECON MUNI since 2023, which could be linked to a build-up of political tension in the region.

Between 2015 and 2024, international mobility among students evolved notably across study levels as well. Attachment B presents the evolution in numbers. In 2015 and 2016, Master's students participated significantly more than Bachelor's students, with over double the numbers each year. However, from 2017 onwards, the gap began to narrow gradually. Master's participation declined while Bachelor's numbers remained relatively stable, and by 2019, a sharp increase in Bachelor's participation significantly reduced the difference. The impact of the COVID-19 pandemic in 2020 led to decreased participation at both levels, resulting in the smallest gap recorded during the period. Although both groups saw further declines in 2021, the difference between them slightly increased. A substantial recovery followed in 2022, with

participation nearly doubling at both levels, though the gap widened again. In the following years, both levels saw reduced numbers, but the difference continued to shrink. By 2024, the gap had narrowed to 25 students, with 111 Master's and 86 Bachelor's students participating in mobility programmes.

Figure 3: Development of Outgoing Participation by Study Level 2015-2024

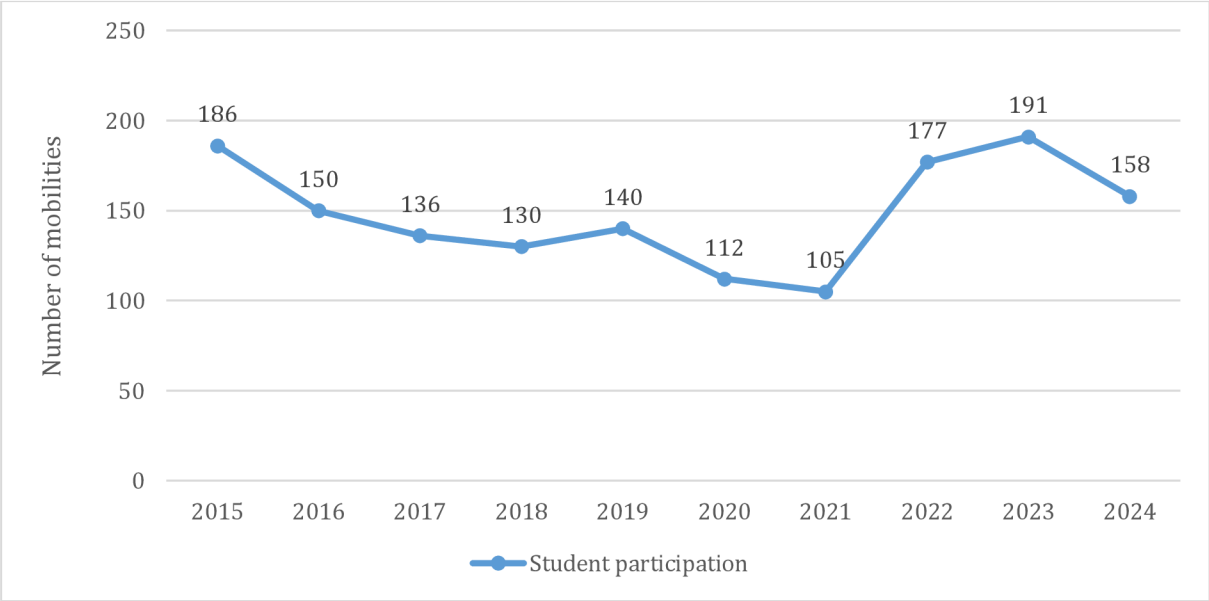


The chart above shows the number of mobilities in either Master's or Bachelor's study programmes 2015–2024. This chart shows the participation trend of all 1 875 elements, regardless of their destination, programme, or mobility length. Master's students have always reached higher numbers than Bachelor's students. Both levels of study display a fluctuating, yet steady trend. The graph line of both study levels has the same shape, which points to a similar development. A gap between them visibly closes from 2015 to 2020 and then starts to open slightly in 2021.

Developing changes were also observed in the programmes through which student mobility was conducted, as seen in Attachment C. There are ten programmes altogether, however, Erasmus Europe stands out the most. 1 485 out of 1 875 mobilities were conducted through Erasmus Europe - the only programme which had been steady in numbers throughout the 10–year period. In the year 2015, 186 students travelled through the programme. The following year saw a decrease to 150 students. 2017 experienced further decrease at 136 and so did 2018 at 130. 2019 was and odd year in the declining trend as the number of mobilities rose to 140. However, in 2020, the decline continued due to the pandemic, only 105 students travelled. 2021

continued the decline to 105 – the lowest Erasmus programme recorded in this period. In 2022 this trend changed direction – a considerable increase of seventy-two more students participating, amounting to 177. 2023 experienced 191 mobilities – the most recorded by the programme. 2024, however, stopped the increase and the number declined again, to 158 participants. Over the course of 10 years, student participation in mobility through the support of Erasmus Europe has been steady, albeit fluctuating.

Figure 4: Development of Outgoing Student Participation in Erasmus Europe 2015-2024



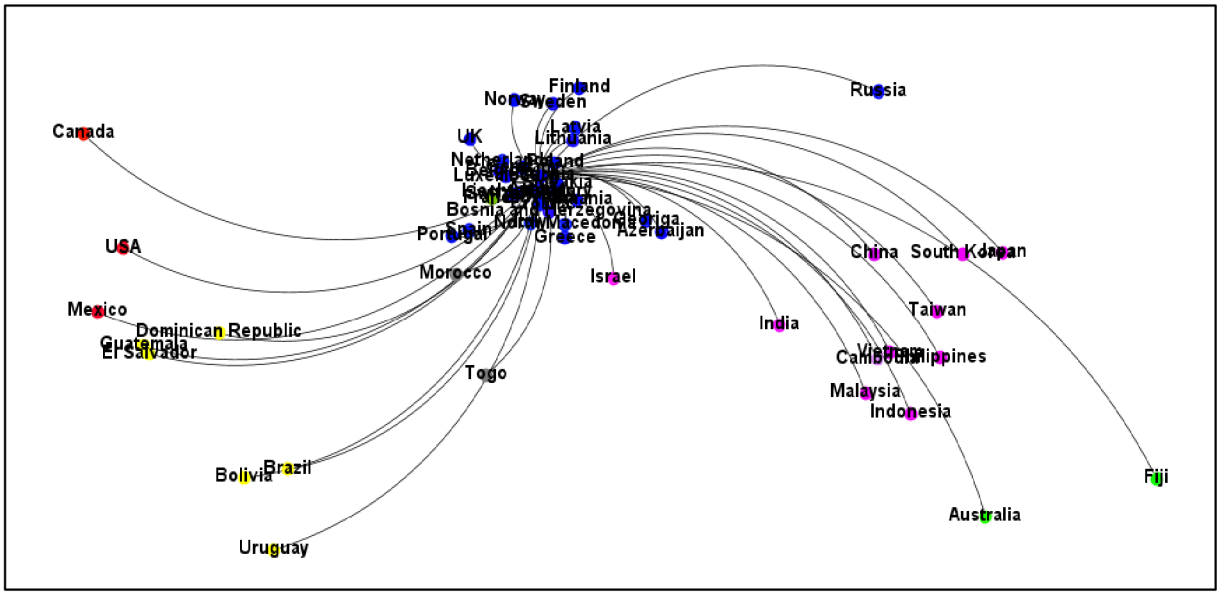
To summarize the findings, between 2015 and 2024, Germany, France, and Spain consistently ranked as the top three destinations, though Spain emerged as the most popular in recent years, while Germany saw a decline. Finland, Belgium, and Italy maintained more stable numbers, with occasional fluctuations. The COVID–19 pandemic caused sharp drops in participation in 2020 and 2021, but the numbers rebounded in 2022. Countries like the UK, USA, and Israel experienced trend changes due to political events such as Brexit, presidential elections, and regional conflicts. Moreover, the gap between Master's and Bachelor's study programme students narrowed over time, particularly between 2015 and 2020, though it widened again after 2021. Additionally, Erasmus Europe remained the dominant mobility programme, with a fluctuating participation but a steady long-term presence. Overall, mobility trends show an uneven distribution of destinations, a gradual shift in study level participation, and a strong reliance on Erasmus Europe for international exchanges.

4.2 Geographical Flows and Regional Differences

This section examines geographical distribution of students on academic mobilities and discusses mobility flows. All data is geographically visualised. A network flow map is used as a baseline to showcase the spectrum of destination distribution of students. Afterwards, a network flow map of Europe is presented and discussed. Furthermore, a flow of outgoing students is compared to a flow of incoming students. Figure 5, Figure 6, and Figure 7 are based on data available in Attachment D, while Figure 8 is based on data in Attachment E.

The following picture displays a network flow map of the ECON MUNI outgoing students and their distribution across the world, with Czechia being the source country. Nodes represent countries and lines represent connections. Note that the sizes and colours of nodes do not represent the density of flow, and the edge lines do not represent volume, but simply the existence of a connection between the source country and the destination country.

Figure 5: Distribution of ECON MUNI Outgoing Mobility (2015–2024)

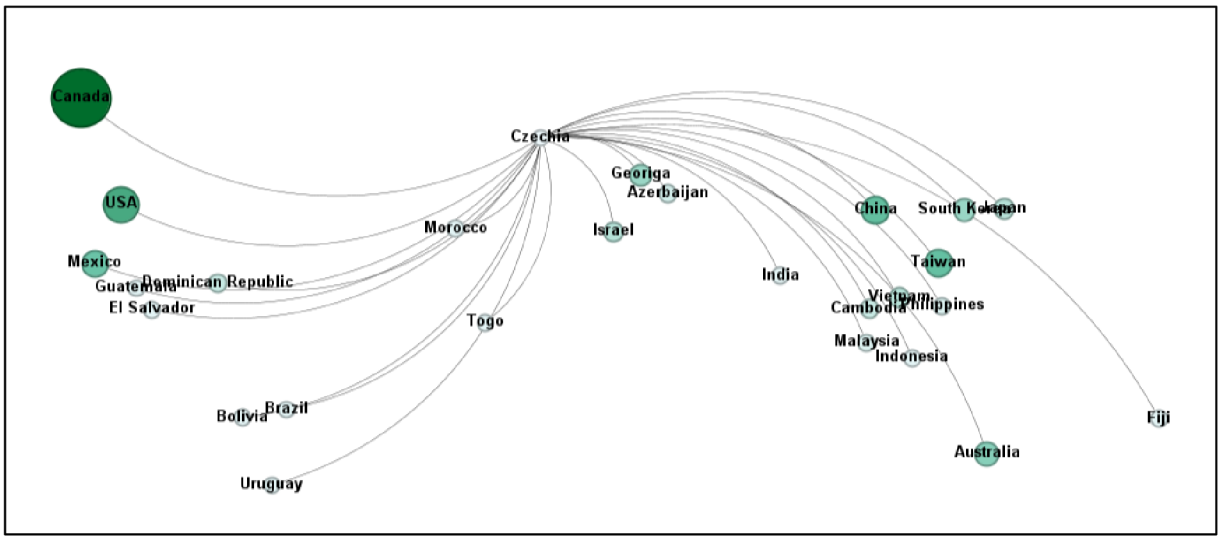


Source: Author

This distribution shows a strong core of flow, where the centralisation of destinations within Europe is very evident. Groups of countries form clusters. In Asia, it is China, South Korea, Japan, Taiwan, Vietnam, Philippines, Cambodia, Malaysia, and Indonesia. This would suggest

an emerging pattern of interest in the Southeast region of Asia. Nevertheless, data contradicts that as the number of mobilities in this region did not record steady values and visibly fluctuated, as some of the countries recorded just 1 or 2 students in a 10–year period. Central American Guatemala, Dominican Republic, and El Salvador also form a cluster alongside Mexico. This, as seen in Southeast Asia, would under different circumstances suggest a region-specific interest and flow. Nevertheless, the data still proves this assumption to be incorrect as the region only recorded twenty students overall, with Mexico (14) contributing the most. Peripheral nodes, such as Fiji, Uruguay or Togo shall be considered as some of the geographical outliers. Compared to the rest, they seem unexpected and unprecedented as destinations, these two specifically only recording one student each. There are established flows to Europe, moderate to The Americas and Asia, weaker flows to Oceania and a small flow to Africa. To display the distribution in the world in a more comprehensive manner, the following map shows the outbound flows to destinations, as seen in Figure 5, however disregarding European countries. Node sizes in this map represent density of flow. The bigger a node is, the more students represented corresponding country welcomed. Their colours reflect the same, the darker the shade of green is, the higher the number of incoming students.

Figure 6: Distribution of ECON MUNI Outgoing Mobility Disregarding Europe (2015–2024)



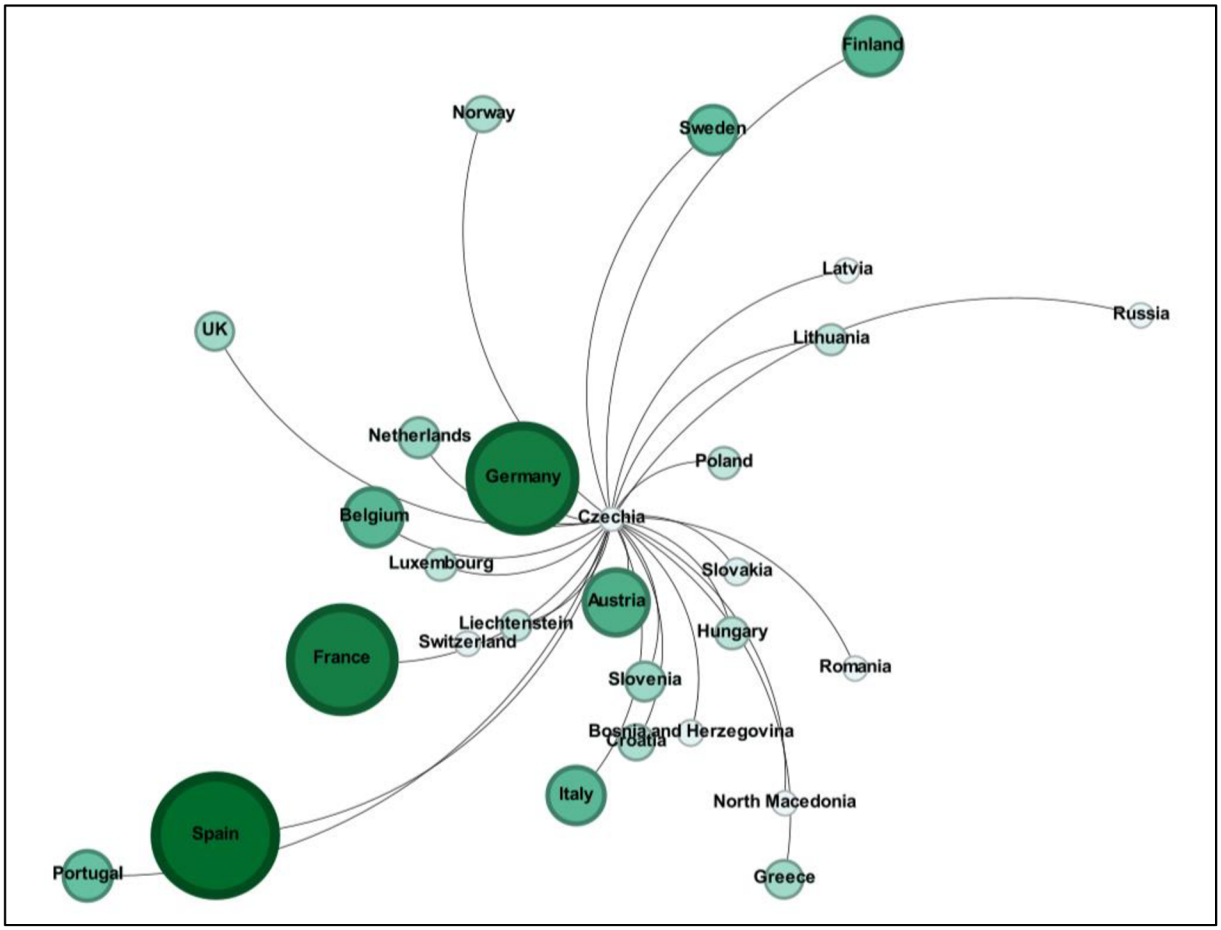
Source: Author

Outside of Europe, Canada has welcomed the most students overall (55). In The Americas Canada, USA, and Mexico are the main destinations with far higher numbers of students coming in. In Asia, the distribution is more even, as China, Taiwan, South Korea, and Georgia

share most of the arriving students between them. In Oceania, Australia is firmly the main destination. Lastly, just two students studied abroad in Africa, Morocco and Togo share them. Overall, the diversification of mobilities in a geographical sense is far-reaching, nonetheless a European preference is strong and demonstrates what has been highlighted before. It is therefore necessary to further inspect the European region.

A map pictured below, which is based on Figure 5, displays flows of students travelling to mobilities only within Europe, predominantly through the Erasmus Europe programme. The source country for the map is Czechia. Sizes of nodes represent proportional outbound flow of students. The darker a node is on a green spectrum, the higher the value of number of incoming students is. The edge lines do not represent volume, but a connection. This map visually represents what the previous chapters show in numbers. The highest outbound flow of students is directed to Spain, France, and Germany. These three countries are the main destinations for ECON MUNI students. The likes of Austria, Italy, Portugal, Belgium, Finland, or Sweden follow them. Countries with smaller-sized nodes recorded a smaller number of mobilities overall. However, there are significant differences in the representation, which can be misleading, due to the extreme numbers of the top three countries. For instance, Bosnia and Herzegovina recorded six students, while Russia recorded five, and Romania had just one incoming student overall. Yet the sizes and colours of their nodes are comparable to nodes of countries which have recorded more students, like Luxembourg which had twenty-four incoming students, or Croatia which welcomed thirty-five students, even the UK which recorded forty-one times more students overall than Romania. In terms of direction, there is an immensely stronger flow to the West when compared to the East. In the West it is due to the flow into the top three countries. Scandinavian countries have a flow comparable to a cluster of Austria, Slovenia, and Croatia, south of Czechia.

Figure 7: Distribution of ECON MUNI Outgoing Mobility in Europe (2015-2024)



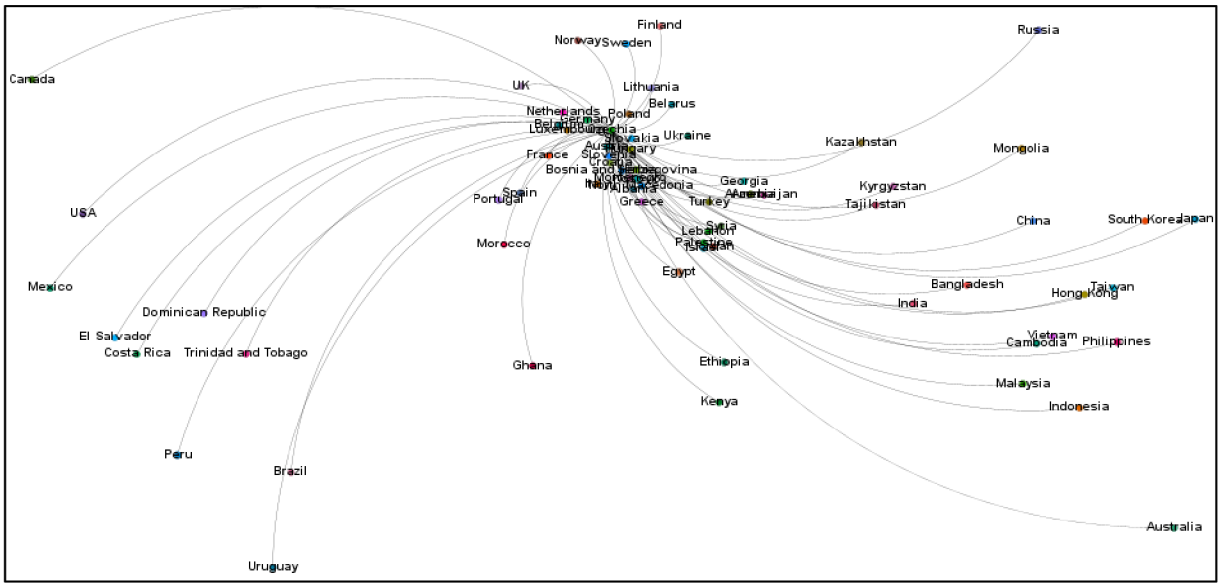
Source: Author

4.2.1 Regional differences

To compare the flow of outgoing students to a flow of incoming students, a dataset of 1 975 foreign students coming to ECON MUNI for academic mobility was used to create a network flow map. Nodes represent source countries of flow. The destination is Czechia. Edge lines only represent an existence of a connection. Flow-wise, there is a lot of a movement from Asia and Europe. A comparatively milder flow comes from The Americas, and a weak one from Africa and Australia. In Asia, there are many source countries, as they spread across most of the continent's area. Among others, there is India, Bangladesh, Malaysia, Indonesia, South Korea, Japan, or even Mongolia. As well as the Asian countries, a European cluster of countries sends out many students to study at ECON MUNI. The densest flow comes from the Western part of Europe, where the top three sending countries are France, Germany, and Spain. Among others in Europe, a considerable flow of students comes from the Balkan region. A flow from

The Americas spans ten countries, with Canada contributing the most to that. Another cluster is formed by four Central American countries, with Mexico joining in. Africa has a weak and uneven flow, as does Australia.

Figure 8: Flows of Incoming Students to ECON MUNI (2015–2024)



Source: Author

In comparison to the distribution of outgoing students from in Figure 5, distribution of incoming student, portrayed in **Error! Reference source not found.**, shows certain differences. Firstly, concerning the spectrum of countries involved in each flow, incoming students come from seventy unique countries, while outgoing students travelled to fifty-three countries. For instance, the incoming students from Asia come from twenty-four different countries, while outgoing students going there, travel to only thirteen Asian countries. A numerically higher value of unique countries per continent is consistently present in the incoming flow of students, in comparison to the outgoing flow, except for Australia, where students from ECON MUNI travelled to one country more. The flow of incoming students is denser in volume compared to the one of outgoing students. This is clear from the pure number of incoming students. ECON MUNI welcomed ninety-eight more students, than it sent out on international mobility. Therefore, the flow of incoming students is denser overall, in comparison to the flow of outgoing students. Furthermore, in terms of distribution across the world, the dominant position of Europe as the primary destination for outgoing students, is not comparatively as prominent in the distribution of incoming students. It is skewed by Asia and The Americas, who contribute more. 89,44% of outgoing students travelled within Europe, while just 74,61% of the incoming

students came from institutions in European countries. Europe still holds the top spot as the main contributor to the flow, however, overall, the distribution of incoming students is more even, not only in terms of countries per continent, but also in terms of the number of mobilities per continent, in comparison to the flow of outgoing students.

The synthesis of this section is that overall distribution of outgoing students shows a strong centralised flow towards Europe, while also displaying moderate activity in The Americas and Asia, and weaker connections with Oceania and Africa. Within Europe, Spain, France, and Germany emerged as dominant destinations for outgoing students, accounting for the largest share of mobility flows. Secondary destinations include Austria, Italy, Portugal, Belgium, and Scandinavian countries. A strong westward flow is evident from the top three destinations. Outside Europe, Canada is the leading destination, with the USA and Mexico also prominent in The Americas. Flows on a global scale show that although there are clusters forming in Southeast Asia and Central America, the low volume of students suggests these are more symbolic than substantial. While the interest in such countries seems to be present, their accessibility is limited and therefore, the growth is very inconsistent. In Asia, student distribution is more balanced among countries like China, Taiwan, South Korea, and Georgia. Australia dominates Oceania, and only Morocco and Togo received students in Africa. The overall trend indicates a diverse yet uneven distribution pattern, with European destinations overwhelmingly preferred over others. In contrast, incoming student flows to ECON MUNI are broader in scope and volume. More countries are represented - especially from Asia and the Americas - and the overall flow is denser. Notably, the incoming flow of students has slightly more balanced distribution versus the strongly dominant European distribution of the outgoing students.

4.3 Patterns

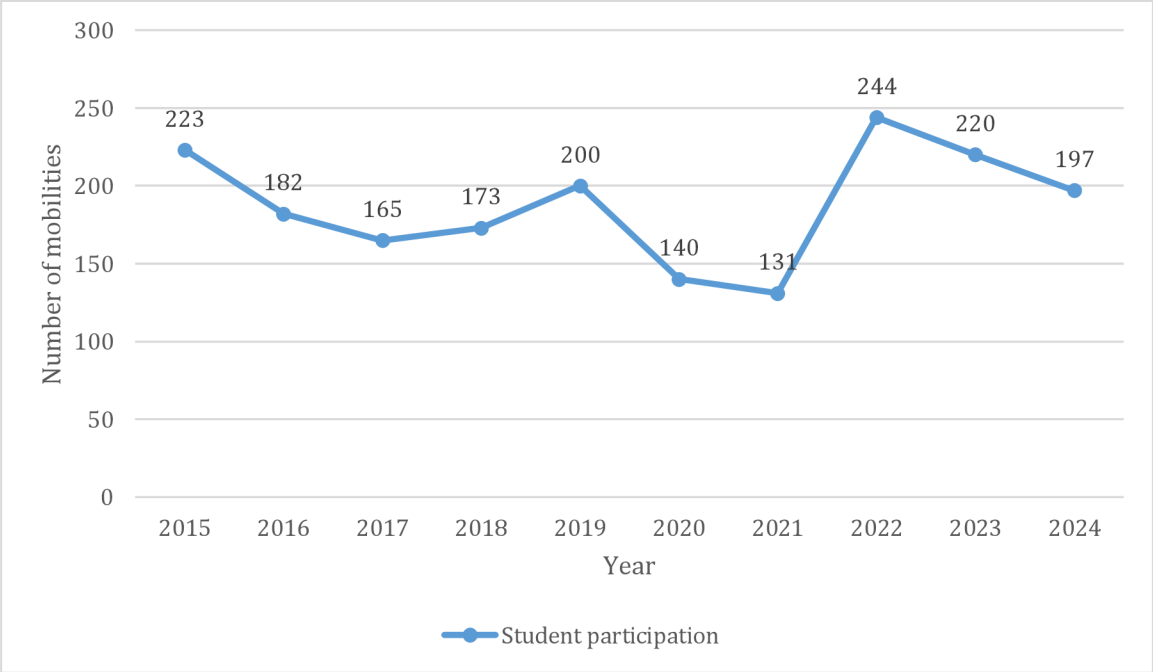
This section seeks to identify patterns within available data. It analyses patterns on departure and arrival dates, as well as on the overall participation of students in international mobility over the years.

When examining the dates of departure and returning arrival, a pattern of seasonality emerges in the dataset. A sample of a heatmap used to discover this pattern is available in Attachment F. There are two seasonal patterns which are prominent. In the first pattern, if a student left for

a mobility in either the 8th, 9th, or 10th month in any given year, they would most likely return in either the 1st or 2nd month of the following year. This puts the lengths of mobilities in this pattern into a range of 4–7 months. Within this range, majority of them took between 5–6 months, as data suggests that most students usually left for a mobility in the 9th month and returned in the 1st or 2nd month the following year - for a numerical representation, 524 out of 1 875 students did so, between 2015–2024. The second pattern has a similar characteristic: if a student left for an academic mobility in the 1st or 2nd month in any given year, they would most likely return in 5th, 6th, or 7th month of the same year. This, just like in the previous instance, ranges mobilities between 4–7 months, with most of them taking place within 5–6 months. The most common, within this pattern, was a departure in the 1st or 2nd month of the year and a return in the 6th month of the same year. This is a reoccurring trend in the data for each year.

Furthermore, the graph below displays participation in international academic mobility of all ECON MUNI outgoing participants between 2015–2024 using data in Attachment C.

Figure 9: Participation of ECON MUNI Outgoing Students in Mobility 2015-2024



The trend of participation shows a fluctuation from 2015–2019, a sharp drop in 2020 and 2021, and an increase in 2022 with a moderate decline in 2023 and 2024. These shifts may have been caused by external factors. A pattern is visible in the years surrounding the COVID–19 pandemic. In the years before it, 2015–2019, participation seemed steady, as the standard

deviation of this period's participation was 20,7 off the average. In 2020, the pandemic hit, which prompted governments to impose travel restrictions on a global scale. This led to a massive drop in travelling, and thus physical international academic mobility. Students may have postponed their mobility plans by year or two, hence the sharp drop in numbers. That followed suit in 2021. In 2022, as travel restrictions loosened, a sharp incline is visible in the data. This increase is the result of post-pandemic travel recovery, as students pursued their mobility. In the following two years, a decline balanced the increase.

The main observations of this analysis are, that there are two distinct seasonal patterns: students departing in the 8th–10th month typically return in January or February, while those leaving in January or February usually return by May to July. Overall participation between 2015 and 2019 was steady with minimal variation, but the onset of the COVID–19 pandemic led to a significant drop in 2020 and 2021, due to global travel restrictions. A sharp recovery was seen in 2022 as restrictions eased, followed by a moderate decline in 2023 and 2024.

4.4 Determinants

This section addresses possible determinants in academic student mobilities of outbound students. The context of the section is not derived from the provided data but rather focuses on creating theoretical assumptions of possible determinants of ISM among ECON MUNI students. The findings of previous sections within this chapter serve as the basis of discussion and are further elaborated on.

Section 4.1 finds that Germany, France, and Spain consistently rank the highest as the primary choices for students. Their popularity as touristic destinations certainly plays a role in their attractiveness to students. Particularly for France and Spain which, according to World Tourism Organization (2025), had 102 million and 93,8 million inbound arrivals in 2024, respectively. Another possible explanation could be the cultural familiarity. For instance, the official languages: studying German, French, or Spanish is common among ECON MUNI students, therefore going abroad can be assumed as an effort to further learn the language and practise. Besides that, the possibility of an established social network, as is described in section 1.2.3, could lead applicants to choose countries where they already have a social connection, which helps gain an insight and gather information, before applying, or to ease the transition into a new environment. Section 4.1 also finds a gap between Master's and Bachelor's study

programme students. The former group has outnumbered the latter group in participation in every year on record. This can be the result of the faculty's policy regarding mobility selection procedures. Students in latter stages of their study programmes might have a slight priority in comparison to those in the beginning of study programmes. In addition, a personal choice of applicants to postpone applying for a mobility to later stages of their studies might be the reason why Master's level students have the edge over Bachelor's level students. It is important to note, that there were absolute numbers of students in both study programmes in any given year, and it is possible that the ratio of Master's students to Bachelor's students could have played an important role in the difference. Additionally, European Union has imposed a cap which limits the number of mobilities conducted through the Erasmus Europe programme each year by an institution. Paired with the faculty's preferential regard for students in latter stages of their studies, this could have had an impact on the difference between the two. Lastly, section 4.1 finds Erasmus Europe to be the dominant programme through which students conduct their mobility. With a variety of options available, the programme seems to be a good opportunity for many applicants. According to the official website of ECON MUNI (2025, reference n. 36), the faculty offers 92 unique Erasmus Europe partnering institutions to study in. This gives students a very broad spectrum of choices. On top of that, university ranking may play a role as well. As discussed in section 2.2, students consider the social reputation of institutions when choosing where to study. They hope to leverage the prestigious image of these institutions to gain advantages in both their social and professional lives.

Section 4.2 concludes that there is a very strong centralised flow of outbound students in Europe. This trend is directly linked to the dominant role of the Erasmus Europe programme, suggesting that the factors of its dominance are equally related and applicable to the centralisation. By the same token, the geographical proximity of many institutions, in comparison to studying on a different continent, makes the programme highly attractive and the flow justifiable. Students are in a closer vicinity of their home faculty and have multiple means of transportation, which is potentially cheaper than flying with an airplane. What is more, section 4.2 finds clusters of destinations outside Europe to be insignificant in numbers, rendering them almost inconsequential to the study. Limited availability and the complexity of administration might force mobilities in these countries to be rare and considerable as outlying in comparison to European countries. Section 4.2 further reveals flows of students incoming to ECON MUNI for mobility to be denser in volume and broader in the diversity of countries. The

attractiveness of a European destination might seem stronger to students outside of Europe, especially when coming from a developing country such as Tajikistan or Ghana. This could relate to the push-pull theory (section 1.2.1) and the human capital theory of migration (section 1.2.2). Students experiencing political, social, or economic push factors, seek an introduction into a developed country through higher education as a mean of enriching themselves with knowledge, a form of human capital.

Section 4.3 identifies two similar patterns in relation to the dates of departure and arrival of students on mobility. Both patterns share the same characteristics of mobilities ranging between 4–7 months, starting in the 8th–10th month, or the 1st–2nd month of the year. These patterns can have their roots in the seasonal character of such mobilities. As previously presented, a majority of the mobilities were conducted through the Erasmus Europe programme, which usually takes place over one semester - mirroring the semester's timeline. For instance, if a semester starts in the 9th month of one year and ends in the 1st month of the following year, then students on mobilities follow the same timeline and go abroad within that given semester. With many students departing and arriving within this timeline, it affects the data, explaining why this pattern shows up so prominently. Lastly, section 4.3 specifies a pattern in student participation in years surrounded by the COVID–19 pandemic and how the volume of students was lower in years 2020 and 2021. In this case, external factors and internal factors may have played their role. Students were forced to either not go, as travel restrictions imposed by governments around the world prohibited free movement across the globe, or students may have chosen to postpone their international studies because of the pandemic and imposed restrictions, which would complicate their experience.

Conclusion

This thesis set out to investigate the flows and patterns in outgoing international academic mobility among students of ECON MUNI, with the goal of understanding not only where students go, but why they choose those destinations. To achieve this, the thesis is separated into a theoretical part and an applied part with the former aiding the interpretation of the latter.

Theoretical research into the topic of migration theories such as push-pull theory, human capital theory, and social network theory, alongside an inspection of programmes, trends, and determinants of international student mobility aided in establishing a framework through which a data interpretation was conducted.

An analysis of anonymised data revealed Spain, France, and Germany to be the most frequented destinations within Europe, with Spain emerging as the most popular in recent years. Other European destinations included Finland, Belgium, Italy, Austria, Portugal, and Scandinavian countries. Outside of Europe, Canada led mobility flows in the Americas, followed by the USA and Mexico. In Asia, outgoing mobility was more evenly distributed. In contrast, Oceania and Africa saw limited engagement. The overall flow shows a centralised and uneven distribution of outgoing mobility, heavily concentrated in Europe. In contrast, incoming student flows to ECON MUNI were broader and denser in volume, particularly from Asia and the Americas, and showed a more balanced global distribution than the strongly Europe-focused outgoing flows. Analysis also found participation in mobility to be affected by external factors, such as COVID–19, which caused a decline in 2020 and 2021, followed by a sharp recovery in 2022. Other global events, such as Brexit, presidential elections in the USA, and regional conflicts, can be considered as influential to trends in mobility. The Erasmus Europe programme remained the dominant mobility provider. Seasonal analysis also revealed two distinct departure-return patterns: students leaving in autumn (August–October) typically returned in January or February, while those departing in winter (January or February) usually returned by May to July.

There are limitations to this thesis, however. As the study focuses solely on students from a single faculty without a comparison to others, there are variables that are difficult to account for and are not possible to derive from the data. The provided data is only quantitative, and it is therefore difficult to conclude any specific determinants, socio-economic backgrounds, or any personal motivations of the studied population.

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Table of Acronyms

CEEPUSS	–	**Central European Exchange Program for University Studies**
ECON MUNI	–	**Faculty of Economics and Administration, Masaryk University**
ICM	–	**International Credit Mobility**
ISM	–	**International Student Mobility**
ISEP	–	**International Student Exchange Program**
ISOIS	–	**Information System of the Centre for International Cooperation**
WWI	–	**Second World War**

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Attachment A Frequency of outgoing mobility 2015–2024

Country	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Spain	26	21	19	19	29	23	22	33	44	38	274
Germany	40	30	27	22	19	10	14	25	29	19	235
France	27	21	17	22	27	12	11	38	30	26	231
Austria	21	17	12	6	6	11	11	16	10	6	116
Finland	17	10	14	14	9	4	4	9	6	11	98
Belgium	5	7	6	10	16	11	6	13	13	9	96
Italy	9	6	8	15	6	5	5	11	13	17	95
Portugal	4	4	3	2	12	9	7	12	8	13	74
Sweden	8	8	8	7	4	5	7	11	10	5	73
Canada	3	8	4	7	5	4	2	10	6	6	55
Netherlands	5	3	2	4	7	7	3	5	7	3	46
Slovenia	6	4	3	2	4	2	4	7	6	5	43
UK	7	4	2	3	6	6	2	3	3	5	41
Greece	3	6	4	3	2	2	4	4	6	6	40
Norway	5	3	5	2	3	3	2	6	2	4	35
Croatia	2	1	1	1	3	3	9	5	5	5	35
USA	1	3	4	3	5		3	4	1	2	26
Hungary	3	2	4	3	2		2	6	4		26
Poland	2	2	5	4	3	2	1		3	2	24
Luxembourg	1	3	4	5	3	5	3				24
Lithuania	4	3	1	1	2	4	2	2	2	1	22
Liechtenstein	3	3	1	2	1	2	1	2	3	3	21
China	3	4	1	1	1	1			1	4	16
Taiwan	1	2	1	2	2	2		1	1	3	15
Mexico	1	1		1	6	3		2			14
Australia		1	1	1	5	1		1		1	11
Georgia				2	3	1	1	1	1		9
Slovakia	3				2		1	1	1	1	9
South Korea					1		2	4	2		9
Bosnia andHerzegovina	1			2				2	1		6
Isreal	1	1	1		1	1		1			6
Vietnam			1	1	4						6
Japana	2	1						1		2	6
Russia		1	2	1	1						5
Switzerland	3							2			5
Dominican Republic								4			4
Cambodia			2	2							4
Azerbaijan	3										3
Malaysia			1	1							2
Philippines	1	1									2
Brazil						1					1
Uruguay								1			1
Bolivia				1							1
Togo	1										1
Morocoo	1										1
North Macedonia									1		1
Latvia			1								1
El Salvador									1		1
Romania							1				1
India							1				1
Guatemala		1									1
Fiji								1			1
Indonesia				1							1
Grand Total	**223**	**182**	**165**	**173**	**200**	**140**	**131**	**244**	**220**	**197**	**1875**

Attachment B Frequency of outgoing mobility by study level 2015-2024

Study level	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Bachelor's	61	56	53	57	85	63	55	102	92	86	710
Master's	162	126	112	116	115	77	76	142	128	111	1165
Total	**223**	**182**	**165**	**173**	**200**	**140**	**131**	**244**	**220**	**197**	**1875**

Attachment C Frequency of outgoing mobility by programme 2015-2024

Programme	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Erasmus Europe	186	150	136	130	140	112	105	177	191	158	1485
Interfaculty Agreements	7	6	3	19	26	6	3	28	12	20	130
Partnering Universities	8	13	6	9	14	6	1	9	4	9	79
Freemovers	9	7	9	3	11	8	13	7	3	4	74
CEEPUS	5	3	3	3	3	7	8	13	7	5	57
Erasmus ICM			6	8	6	1		8	2		31
Erasmus Mundus	6	1									7
ISEP Exchange			2	1			1	1			5
Selection processes and quotas	1	1						1	1	1	5
AKTION	1	1									2
Grand Total	**223**	**182**	**165**	**173**	**200**	**140**	**131**	**244**	**220**	**197**	**1875**

Attachment D Number of outgoing mobilities by country (2015-2024)

Country	Count	%
Spain	274	14.61%
Germany	235	12.53%
France	231	12.32%
Austria	116	6.19%
Finland	98	5.23%
Belgium	96	5.12%
Italy	95	5.07%
Portugal	74	3.95%
Sweden	73	3.89%
Canada	55	2.93%
Netherlands	46	2.45%
Slovenia	43	2.29%
UK	41	2.19%
Greece	40	2.13%
Norway	35	1.87%
Croatia	35	1.87%
USA	26	1.39%
Hungary	26	1.39%
Poland	24	1.28%
Luxembourg	24	1.28%
Lithuania	22	1.17%
Liechtenstein	21	1.12%
China	16	0.85%
Taiwan	15	0.80%
Mexico	14	0.75%
Australia	11	0.59%
Slovakia	9	0.48%
South Korea	9	0.48%
Georgia	9	0.48%
Vietnam	6	0.32%
Israel	6	0.32%
Bosnia and Herzegovina	6	0.32%
Japan	6	0.32%
Switzerland	5	0.27%
Russia	5	0.27%
Cambodia	4	0.21%
Dominican Republic	4	0.21%
Azerbaijan	3	0.16%
Malaysia	2	0.11%
Philippines	2	0.11%
Uruguay	1	0.05%
Fiji	1	0.05%
Romania	1	0.05%
Brazil	1	0.05%
Guatemala	1	0.05%
North Macedonia	1	0.05%
Togo	1	0.05%
Latvia	1	0.05%
Bolivia	1	0.05%
India	1	0.05%
Indonesia	1	0.05%
Morocco	1	0.05%
El Salvador	1	0.05%
Grand Total	**1875**	**100.00%**

Attachment E Number of incoming mobilities by country (2015-2024)

Country	Count	%
France	332	16.81%
Germany	249	12.61%
Spain	217	10.99%
Italy	103	5.22%
Canada	96	4.86%
Finland	77	3.90%
Mexico	75	3.80%
South Korea	59	2.99%
USA	55	2.78%
Portugal	54	2.73%
Slovakia	52	2.63%
Russia	41	2.08%
Greece	40	2.03%
Ukraine	37	1.87%
Poland	35	1.77%
Netherlands	34	1.72%
Hungary	29	1.47%
Albania	28	1.42%
Slovenia	26	1.32%
Japan	20	1.01%
Luxembourg	20	1.01%
Bosnia and Herzegovina	19	0.96%
China	19	0.96%
Georgia	16	0.81%
Taiwan	15	0.76%
Croatia	14	0.71%
Jordan	13	0.66%
Dominican Republic	13	0.66%
Lebanon	13	0.66%
Israel	12	0.61%
Kosovo	12	0.61%
Armenia	11	0.56%
Lithuania	10	0.51%
Norway	10	0.51%
Belarus	8	0.41%
Turkey	8	0.41%
Costa Rica	6	0.30%
Belgium	6	0.30%
Brazil	6	0.30%
Serbia	6	0.30%
Syria	5	0.25%
Morocco	5	0.25%
Kazakhstan	5	0.25%
Mongolia	4	0.20%
Cambodia	4	0.20%
Palestine	4	0.20%
Australia	4	0.20%
Kyrgyzstan	4	0.20%
Sweden	3	0.15%
Trinidad and Tobago	3	0.15%
Azerbaijan	3	0.15%

Kenya	3	0.15%
Ghana	3	0.15%
Philippines	3	0.15%
Ethiopia	2	0.10%
Indonesia	2	0.10%
India	2	0.10%
Tajikistan	2	0.10%
Bangladesh	2	0.10%
Malaysia	2	0.10%
El Salvador	2	0.10%
Hong Kong	2	0.10%
Vietnam	2	0.10%
Egypt	2	0.10%
Austria	1	0.05%
North Macedonia	1	0.05%
UK	1	0.05%
Montenegro	1	0.05%
Peru	1	0.05%
Uruguay	1	0.05%
Grand Total	**1975**	**100.00%**

Attachment F Seasonality heatmap sample

	2022-12	2023-01	2023-02	2023-03	2023-04	2023-05	2023-06	2023-07	2023-08	2023-09	2023-12	2024-01	2024-02	2024-04
2022-08	19	20												
2022-09	12	46	26	4	4			2						
2022-10		2	6	4										
2023-01					8	9	19	2						
2023-02					1		13	13	4					
2023-03							2	2	2					
2023-04								3	1					
2023-08											5	12	4	
2023-09										6	14	50	28	2
2023-10													12	
2024-01														5
2024-02														

Departure Arrival