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The Development Effects of Migration and Remittances in the Post-communist Region and Times

Rozvojové dopady migrace a remitencí v postkomunistickém regionu a období

Doctoral Thesis

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Prague, 2025

Declaration

I hereby declare that this doctoral dissertation is an original work by myself and that all sources and literature used have been properly cited. This thesis has not been previously submitted, in whole or in part, to obtain any other academic qualification. Technologies supported by artificial intelligence were used in writing this thesis to improve readability and language.

In Prague, January 28, 2025

Aokhir

Azizbek Tokhirov

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Abstract

Succeeding the fall of the Iron Curtain at the beginning of the 1990s, the expansion of capitalism and globalization significantly increased migration aspirations and opportunities, driving notable economic changes worldwide. These shifts facilitated greater transnational mobility, reshaped local economies via financial remittances, and led to the diffusion of cultural norms and practices via social remittances. The integration of previously closed economies into global markets introduced both challenges and opportunities. The purpose of this dissertation is to empirically investigate the global, regional, and within-country effects of emigration and financial remittances in the post-communist era. The results based on aggregated data spanning the post-communist period indicate that, generally, remittances received reduce fertility globally and promote income equality in the post-communist region. However, as a country becomes more exposed and dependent on remittances, the fertility- and inequality-reducing power of remittances decreases. At the household level, the analysis of country-representative data from Tajikistan, one of the post-communist countries most affected by remittances, over the 2007–2011 period reveals that the migration of a household member, along with the subsequent receipt of remittances, improves the subjective well-being of those who remain behind. Moreover, family remittances are largely unaffected by short-term income fluctuations and can partially mitigate their negative impacts. However, these mediating effects are limited to financial satisfaction, suggesting that more than mere compensation for income losses is needed to restore the overall quality of life entirely. Overall, the findings provided in this thesis support elements of both modernization and dependency development theories. Migration and remittances can be effective coping and utility-maximizing mechanisms at the household level. However, at the national level, reliance on these sources cannot be recommended as a sustainable strategy for long-term development.

Keywords: post-communism, development, migration, remittances, fertility, income inequality, subjective well-being

Abstrakt

Po pádu železné opony na počátku 90. let 20. století významně vzrostly aspirace a příležitosti k migraci díky expanzi kapitalismu a globalizaci, což vedlo k zásadním ekonomickým změnám po celém světě. Tyto změny usnadnily větší transnacionální mobilitu, přetvořily lokální ekonomiky prostřednictvím finančních remitencí a umožnily šíření kulturních norem a praktik prostřednictvím sociálních remitencí. Integrace dříve uzavřených ekonomik do globálních trhů přinesla jak výzvy, tak příležitosti. Cílem této disertační práce je empiricky zkoumat globální, regionální a vnitrostátní dopady emigrace a finančních remitencí v postkomunistické éře. Výsledky založené na agregovaných datech z postkomunistického období naznačují, že remitence obecně snižují plodnost na globální úrovni a podporují příjmovou rovnost v postkomunistickém regionu. Nicméně s rostoucí expozicí a závislostí země na remitencích se jejich schopnost snižovat plodnost a nerovnost oslabuje. Na úrovni domácností analýza reprezentativních dat z Tádžikistánu, jedné z postkomunistických zemí nejvíce ovlivněných remitencemi, z období 2007–2011 ukazuje, že migrace člena domácnosti spolu s následným příjmem remitencí zlepšuje subjektivní blahobyt těch, kteří zůstávají doma. Rodinné remitence jsou navíc do značné míry nezávislé na krátkodobých výkyvech příjmů a mohou částečně zmírnit jejich negativní dopady. Tyto tlumicí efekty jsou však omezeny na finanční spokojenost, což naznačuje, že pouhá kompenzace ztrát příjmu nestačí k úplnému obnovení celkové kvality života. Celkově výsledky této práce podporují prvky jak teorie modernizace, tak teorie závislosti. Migrace a remitence mohou být efektivními mechanismy zvládnání a maximalizace užítku na úrovni domácností. Na národní úrovni však nelze spoléhat na tyto zdroje jako na udržitelnou strategii pro dlouhodobý rozvoj.

Klíčová slova: postkomunismus, rozvoj, migrace, remitence, plodnost, příjmová nerovnost, subjektivní blahobyt

List of publications

- 1) Tokhirov, A. (2020). The impact of migration on well-being in a remittances dependent economy. *Statistika: Statistics and Economy Journal*, 100(3), 265–281.
Contribution: 100%.
- 2) Tokhirov, A., Harmacek, J., Syrovatka, M., (2021). Remittances and inequality: The post-communist region. *Prague Economic Papers*, 30(4), 426–448.
Contribution: 70%.
- 3) Tokhirov, A., Suchanek, J. (2024). Fertility, economic development, and remittances in post-communist times. *Journal of Maps*, 20(1): 2391337.
Contribution: 80%.
- 4) Tokhirov, A. (2024). Income fluctuations and subjective well-being: The mediating effects of occupational switching and remittances. *Journal of Happiness Studies*, 25(8): 121.
Contribution: 100%.

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List of abbreviations

DD – Difference in Differences

DDD – Triple DD

EU – European Union

FDI – Foreign Direct Investment

FE – Fixed Effects

FIW – Freedom in the World

GDP – Gross Domestic Product

GMM – Generalized Method of Moments

HDR – Human Development Reports

IMF – International Monetary Fund

IOM – International Organization for Migration

IOS – Leibniz Institute for East and Southeast European Studies

IV – Instrumental Variable

IZA – Institute of Labor Economics

LIS – Luxembourg Income Study

MVP – Millennium Villages Project

NELM – New Economics of Labor Migration

OLS – Ordinary Least Squares

ODA – Official Development Assistance

PSM – Propensity Score Matching

PWT – Penn World Table

RE – Random Effects

SDSN – Sustainable Development Solutions Network

SWIID – Standardized World Income Inequality Database

THPS – Tajikistan Household Panel Survey

TLSS – Tajikistan Living Standards Survey

UN – United Nations

UNCTAD – UN Trade and Development

UNICEF – UN Children’s Fund

USA – United States of America

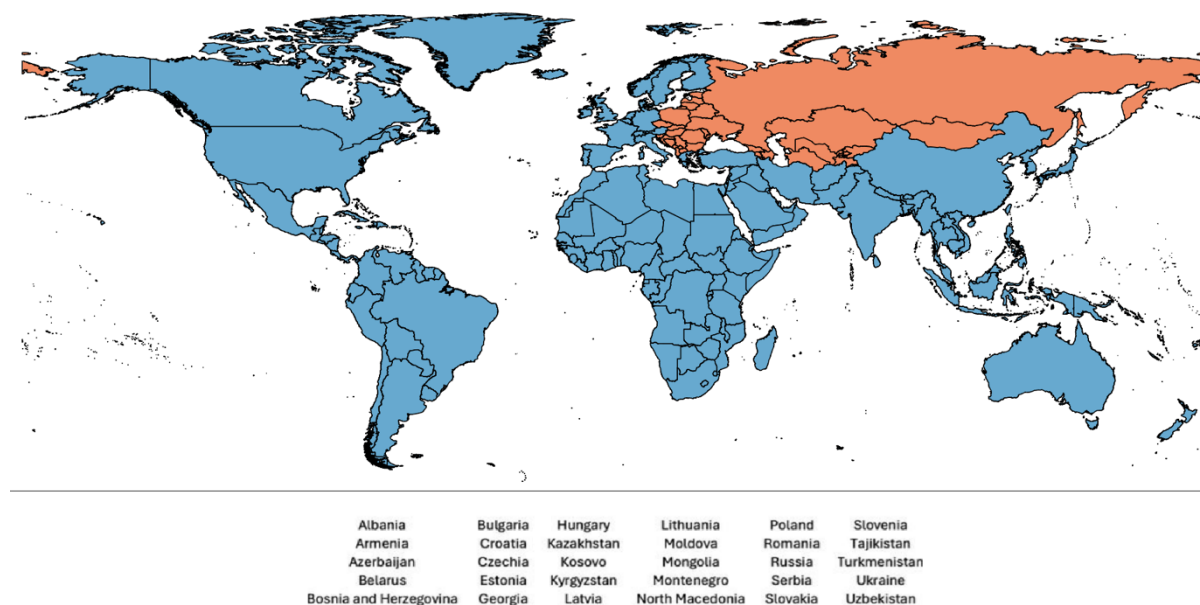
WB – World Bank

WDI – World Development indicators

1. Background

Over the period of the last decades, several countries in Asia and Europe indicated and illustrated in Figure 1 have transitioned from centrally planned economies under communism to market-based systems of capitalism. This profound change created widespread uncertainty and triggered a marked downturn in economic activity (Katchanovski, 2000). The resulting high unemployment rates led to significant welfare losses for certain populations. Many individuals were driven to migrate abroad on the lookout for economic prospects, while their household members began to depend on remittances to support their livelihoods (Kakhkharov et al., 2017). Such patterns are not confined to post-communist region alone. Because of internal markets imbalances and a range of non-economic factors, migration has re-emerged as a global trend in the post-communist times. In 2013, approximately 250 million individuals, representing 3.4% of the global population, were classified as international migrants (WB, 2016). This stock of migrants has not stopped growing, amounting to 280 million people in 2020 (IOM, 2021).

Figure 1. The distribution of post-communist countries. Source: Natural Earth.



Even in contemporary times, financial remittances continue to serve as a major source of income for numerous households in several post-communist states. Notably, multiple countries in the post-communist region recently ranked among the highest in the world for remittances-to-GDP ratios: Tajikistan (2nd), Kyrgyzstan (13th), Kosovo (20th), Uzbekistan (22nd), and Georgia (23rd). Remittances are also significant if we consider absolute numbers: countries

like Poland, Ukraine, and Uzbekistan each received over \$8 billion in remittances in 2023. These figures are based on the estimates by the WB using available data on payments from the IMF, but actual flows, including unofficial transfers, may be even higher.

Figure 2. Migration and remittance exposure in the post-communist region. Source: WDI.



In Figure 2, I present more detailed statistics on net migration and exposure to financial remittances in the post-communist region based on the WDI. As depicted in the figure, except for countries in Eastern Europe (which also came very close to negative), all country groups had negative net migration values at some point over the 1990-2020 period. This suggests that, on average, emigration is more characteristic of post-communist countries than immigration. Concurrently, these countries received considerable amounts of personal financial remittances, likely becoming dependent on them. Even in countries with strong economies and positive net

migration rates, the share of remittances in GDP appears to be notable. The figure also illustrates that the global economic importance of remittances increased twofold during the post-communist era.

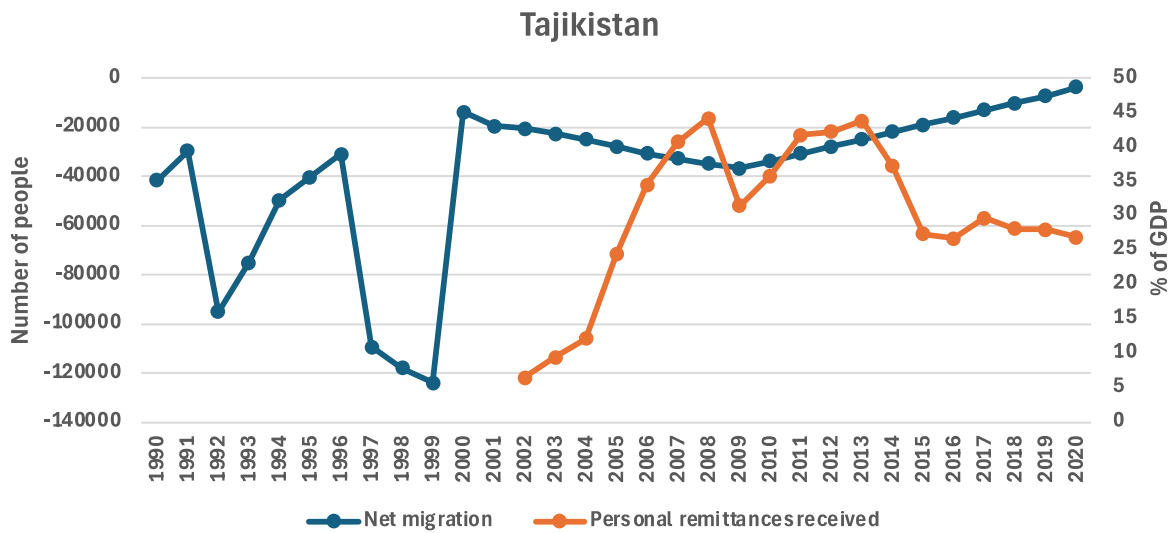
High migration rates and substantial remittance inflows could play a crucial role in alleviating financial pressures and enhancing the quality of life for individuals and households, making them an important focus for policymakers. This dissertation aims to empirically investigate the impact of transnational emigration and the financial remittances it generates on receiving countries and families during the post-communist era, with a specific emphasis on post-communist nations. Although the development effects of migration and remittances have garnered increasing attention, research specifically focused on the post-communist region and era remains limited. Moreover, existing studies often yield opposing results, even in well-researched settings. This dissertation seeks to fill this gap by examining their region- and period-specific consequences within the post-communist context. Acknowledging the heterogeneity in the treatment effects, it further contributes to the literature by presenting evidence based on detailed, representative data from Tajikistan—a post-communist country significantly influenced by emigration and remittances.

The selection of the country for the case study is deliberate. After the devastating effects of the Soviet Union's dissolution and the civil war from 1992 to 1997, migration became a survival strategy available for numerous households in Tajikistan. For a time, the country held the highest global economic reliance on remittances, reflected in the significant proportion of personal remittances contributing to its GDP (Tokhirov, 2020). This statistic remains the highest in the post-communist region. As illustrated in Figure 3, a significant proportion of the country's population¹ began emigrating in the initial years of the post-communist transition. Although the situation eventually stabilized, a considerable number of people continued to leave the country.² The figure also highlights that, in recent years, the share of personal remittances received increased from 5% of GDP in 2002 to nearly 45% in 2008. This overall upward trend in remittance inflows can be attributed to local economic deficiencies, which pushed individuals to migrate. Conversely, significant declines in remittances in certain years can be linked to economic crises both globally and within the post-Soviet region.

¹ Based on the WDI, in 1990, the country's population was 5,417,860.

² It should be noted that although in 2020, net migration was equal to -3,564, in 2022 and 2023, it again was almost -20,000.

Figure 3. Exposure to migration and remittances in Tajikistan. Source: WDI.



Given that migration and remittances can influence various economic, geographic, and social variables, this dissertation focuses on three outcome measures: fertility rate, income inequality, and subjective well-being. These variables can be analyzed at different levels of aggregation. Since subjective well-being is typically assessed through personal experiences, I examine alterations in subjective well-being at the household level in Tajikistan. In contrast, changes in inequality and fertility are often driven by broader societal transformations. Therefore, the analysis of these variables is conducted at the regional (all post-communist countries for which it was possible to find data) and the global (all countries for which it was possible to find data) level respectively. The choice of the regional level for analyzing income inequality is driven by data limitations. Meanwhile, since data availability is not a constraint for fertility rates, this dissertation links them to remittances in the post-communist era on a global level. This approach provides a more comprehensive way of studying the changes brought about by migration and remittances.

In Figure 4, I present the evolution of fertility rates worldwide and in post-communist countries in the post-communist era. During this period, fertility has become a topic of global significance, as the economic issues connected with fertility are currently peculiar to various countries irrespective of their development. As shown in the figure, fertility trends in the world and in post-communist countries are generally comparable in the post-communist times. Interestingly, the global trend appears less steep and volatile, possibly indicating that fertility rates in more and less developed countries offset each other at the aggregate level.

Figure 4. Fertility rates in the world and post-communist countries. Source: WDI.

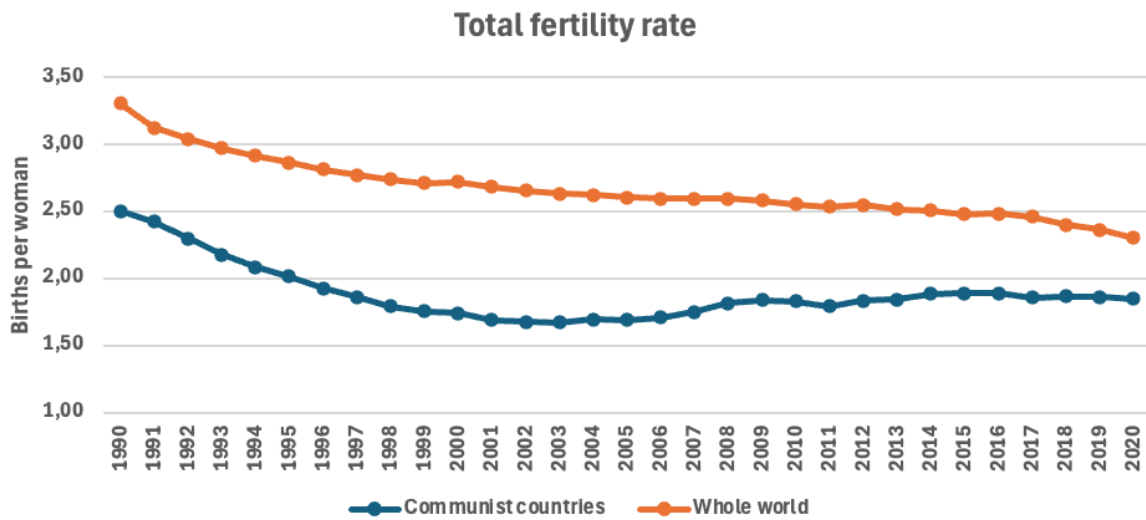
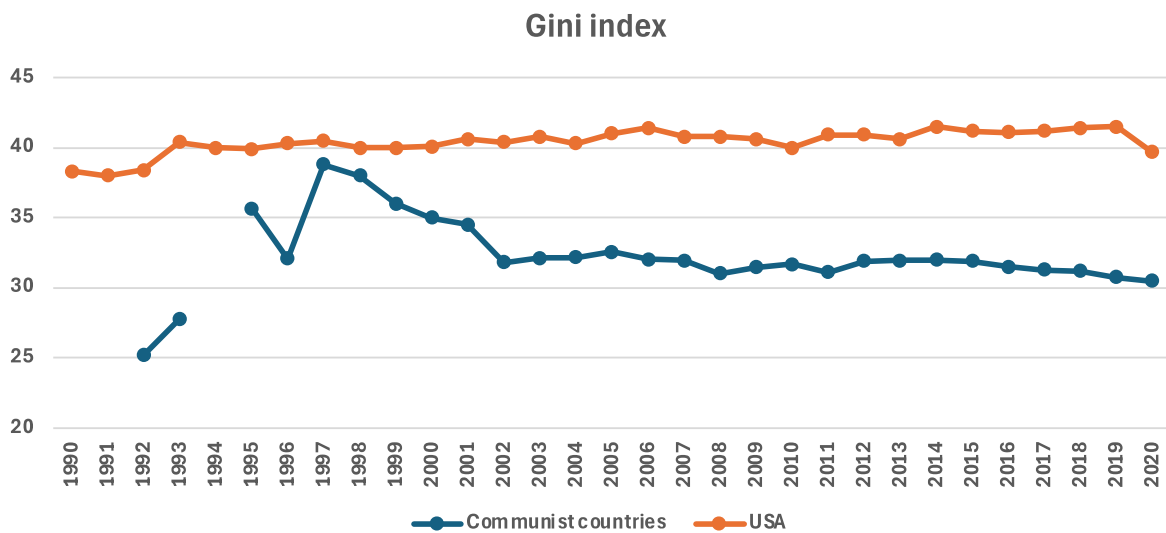


Figure 5. Gini index in the USA and post-communist countries. Source: WDI.



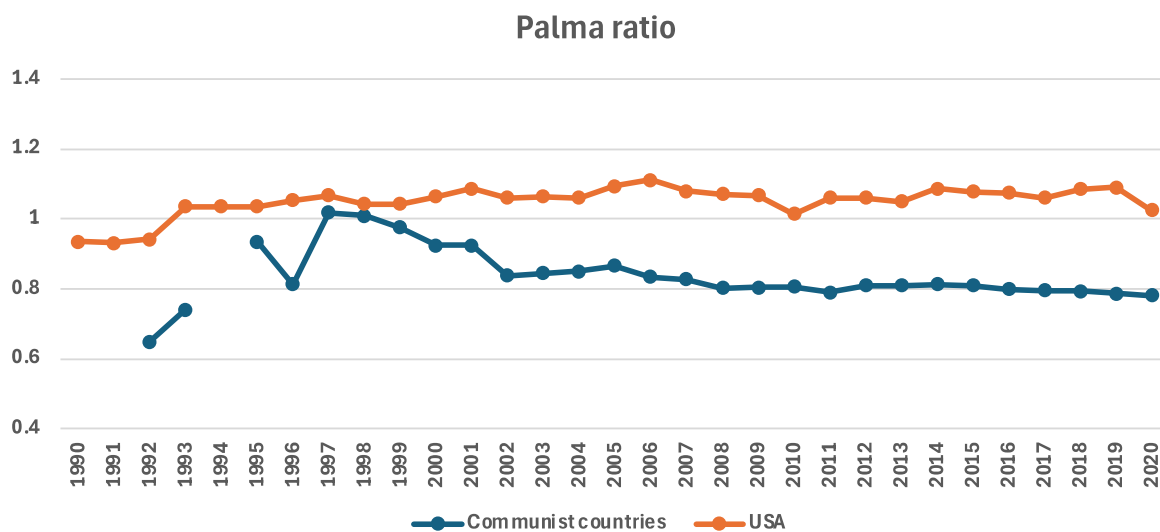
In Figure 5, I present the evolution of income inequality on the Gini index³ scale in the USA⁴ and post-communist countries during the post-communist era. In 1992, the difference in income inequality between the USA and post-communist countries was notable, with the latter exhibiting substantially lower income disparities. However, in the initial period of post-communism, this group of countries experienced a sharp increase in income inequality. By

³ The Gini index is the most prevalent inequality indicator that compares the degree to which income is distributed unevenly (closer to 100 than 0) among people within an economy compared to a scenario of perfect equality.

⁴ The USA is chosen as it has a well-established market economy.

1997, the Gini indices in the USA and post-communist countries were comparable. Over time, income inequality in the post-communist countries decreased and stabilized, possibly reaching an equilibrium. In this equilibrium, inequality levels remained higher than at the start of the post-communist period but were notably lower than in the USA. In addition to Gini index, income inequality can also be measured using other metrics. In Figure 6, I present the evolution of income inequality on the Palma ratio⁵ scale in the USA and post-communist countries in the post-communist era. As shown, the trend is similar to that observed with the Gini index, leading to comparable conclusions.

Figure 6. Palma ratio in the USA and post-communist countries. Source: WDI.

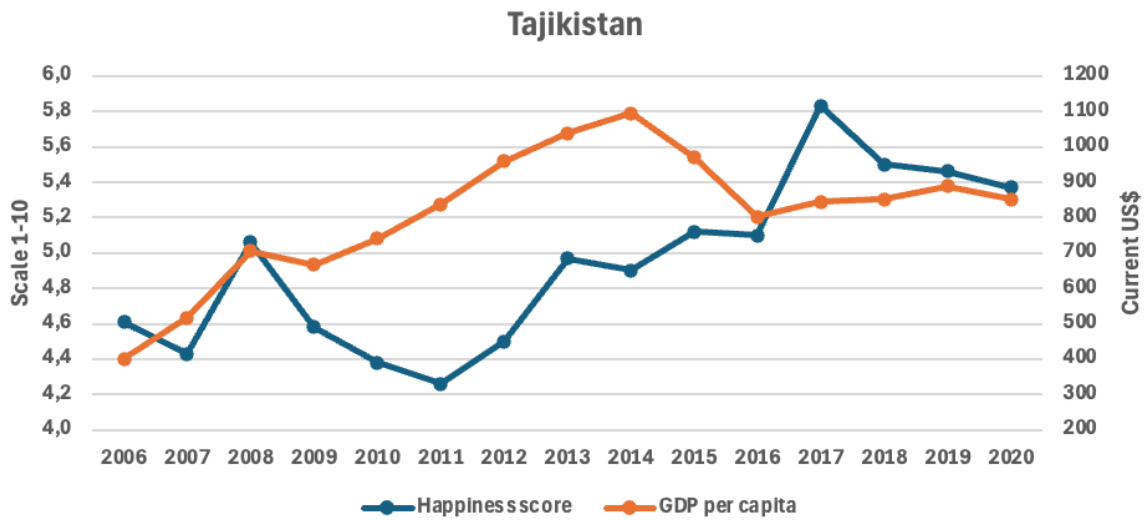


Finally, in Figure 7, I present the evolution of the happiness measure and GDP per capita in Tajikistan.⁶ The data series exhibit similar trends; however, the happiness variable appears more volatile. It is important to note that economic measures of well-being may fail to fully describe the actual welfare of people in developing countries. As reported by the WDI, in 2022, 22.5% of the Tajik population lived below the poverty line set by the government. Meanwhile, the country ranked 74th over the 2016–2018 period based on the average happiness measure. Notably, with an increase of 0.764 in the happiness index between 2005–2008 and 2016–2018, Tajikistan was among the top 18 nations in terms of improvement (Helliwell et al., 2019).

⁵ Another popular index that is aimed at measuring income inequality. It is calculated as the proportion of total income controlled by the richest 10% relative to that of the poorest 40%.

⁶ The observation period starts from 2006 due to the unavailability of happiness data for Tajikistan.

Figure 7. Happiness and income in Tajikistan. Source: SDSN and WDI.



This dissertation thesis aims to research the relationship between emigration and the selected outcome variables in four empirical research studies. These studies are designed to address the primary research question of this dissertation: to what extent does cross-border emigration, via financial remittances, promote inclusive socio-economic development in migrant-sending countries during the post-communist era?

More specifically, to address this research question, I set the following set objectives for this dissertation:

- Conduct a systematic review of the relevant theoretical literature and examine the mechanisms via which emigration and financial remittances influence the prospects of countries and families in the post-communist region and times.
- Review the existing empirical literature and develop a robust methodology to investigate the impacts of migration, particularly via remittances.
- Quantify and document the general effects of migration/remittances on selected development indicators using cross-sectional and panel regression analyses.
- Perform heterogeneity testing to identify and measure variations in the effects of migration/remittances across time and geographic regions.
- Summarize the implications and consequences of post-communist era migration/remittances at global, regional, and country levels through the preparation and publication of research articles in scientific journals.

The final objective is the main one because this dissertation is structured in the form of a set of four publications. Each of these academic studies has been published in local and international journals with impact factors. Table 1 presents an overview of the empirical studies.

Table 1. The summary of the research articles.

Article	Setting	Period	Main results
Tokhirov (2020)	Tajikistan	2007– 2011	At the disaggregated level, families with migrants (and receiving remittances) tend to report higher levels of subjective well-being compared to those without.
Tokhirov et al. (2021)	27 post-communist countries	1991– 2014	The relationship between income inequality and remittances in remittances-receiving countries is U-shaped.
Tokhirov and Suchanek (2024)	196 countries	1995– 2020	The relationship between remittances and fertility rates of remittances-receiving countries is generally inverse.
Tokhirov (2024)	Tajikistan	2007– 2011	Remittances can partially facilitate the adverse effects of temporary income shifts on perceived well-being.

The remaining part of the text has the following organization. Section 2 provides an overview of studies related to migration, remittances, and development. Section 3 reviews the specialized research on fertility, income inequality, subjective well-being, and migration/remittances. Section 4 discusses methodological considerations and issues associated with the conducted empirical investigation. Section 5 summarizes the results of four articles written for this dissertation. Section 6 provides policy recommendations and Section 7 concludes the study.

2. General literature review

2.1 Development studies

Researchers have extensively explored the causes of national development and advancement, both through conceptual frameworks (Pietak, 2014) and applied analyses (Chirwa and Odhiambo, 2016). Despite these efforts, consensus remains elusive regarding the mechanisms by which it is possible to close the development gap across the globe. Instead, existing research works frequently yield inconsistent results and conflicting policy propositions. Although the origins of development studies are possibly in the 19th-century evolutionary philosophies and subsequent functionalist approaches, the mid-20th century witnessed the emergence of more sophisticated and integrated theoretical models (So, 1990).

A group of scholars, drawing from the detected transition of “Western” societies from baseline to modern structures in a gradual and interlinked manner, argued that “non-Western” underdeveloped regions could address their challenges by repeating this progression. This idea formed the basis of the modernization school of thought. Key contributions to this perspective include the works of Levy (1967), Rostow (1964), and Smelser (1964), which are considered pivotal and serve as standard models in the field of development studies.

Modernization-based philosophy should not be seen as a singular, uniform approach to development challenges but rather as a collection of interdisciplinary frameworks that share common conventions and practices. For instance, Levy’s sociological perspective is grounded in the idea that modernization unfolds in the exchange between nations with differing levels of advancement. Instead, Rostow, drawing on economic logic, contends that such measures alone may not adequately address the shortage of productive investments in less developed nations. Broadly speaking, these theorists sought to replicate development transformations synthetically, positing that outward interference—primarily through the transmission of principles and resources—was a prerequisite for achieving economic leap (So, 1990).

Economists and sociologists were not the only ones to suggest that regions must pass over specific thresholds on their path to achieving advanced development. Notably, several prominent geographers also conceptualized development transitions in a similar way (Skeldon, 2011). For example, Zelinsky’s (1971) work connects migration patterns to broader global structural changes. He proposes that communities undergo a series of phased mobility transitions as they advance from a pre-modern traditional stage to a highly advanced state.

Although grounded in strong theoretical principles of modernization theory, many all-encompassing, phased intervention initiatives—such as by the IMF and WB in developing countries—failed to achieve their objectives and are widely regarded as ineffective (So, 1990). In reaction to this, scholars from the “Global South” introduced substitute perspectives on regional development and strategies for fostering comprehensive socio-economic development. Key contributions to this alternative view, labelled as the dependency school of thought, include the works of Frank (1967) and dos Santos (1971). These thinkers argued that economic and non-economic links with advanced countries perpetuate underdevelopment, advocating instead for self-contained development approach aimed at achieving independent domestic development. The discussions remain active, as modernization-based endeavors continue to be employed today, albeit with mixed outcomes. For example, the MVP, designed to eliminate poverty in Africa, was unsuccessful and has faced criticism from the proponents of dependency philosophy (Munk, 2014).

The focus of analysis does not necessarily have to be at the state level, as some authors advocate for a systemic approach to development issues: Wallerstein suggests that we should look beyond isolated economic or political dimensions of development and critically assess whether social sciences should remain distinct disciplines (So, 1990). Additionally, the founder of the world systems theory emphasizes the long-term nature of development and the importance of historical transformations. More generally, world-systems researchers, however, do not limit themselves to studying global phenomena—they also address regional dynamics. For instance, Mabogunje (1970) explores rural-urban migration patterns in West Africa. While local issues are considered, the systemic approach remains broad, making it challenging to translate its theoretical concepts into empirical research.

Before delving deeper into migration and remittance theories, it is important to acknowledge the existence of other development theories and approaches. However, these are generally less focused on policy applications and align imperfectly with the polarized optimistic and pessimistic perspectives often associated with the effects of migration and remittances. Consequently, the theoretical frameworks of modernization and dependency theories have been chosen as the foundation for this dissertation.

Both modernization and dependency approaches emphasize that growth is significantly influenced by various forms of transfers between nations. Focusing initially on financial transfers, several key sources of funding can be identified: ODA, FDI, portfolio investments,

bank loans, and remittances (UNCTAD, 2015). Historically, as highlighted by these theoretical methodologies, ODA and FDI were the primary financial inflows available to developing nations. More recently, remittances had been projected to surpass and surpassed ODA and FDI at the national level, turning to the major source of funding available for developing countries (Ratha, 2019; Ratha et al., 2024). Presently, remittances to less developed countries are projected to exceed the combined total of FDI and ODA (Ratha et al., 2024). Indeed, on a family scale, financial transfers from migrants are shown to account for as much as 50% of total income (Duval and Wolff, 2010).

This is not the only empirical regularity that highlights the significance of remittances in the contemporary development agenda. The end of the Cold War era and the rise of market economies, coupled with increasing international interconnectedness, created new pathways for population movement and financial transfers, making transnational mobility a prominent global trend. As a result, many migrants and their families back home frequently exist and function across multiple countries. At the same time, the requisite to model transnational behavior led geographic studies of migration also to become transnational, even though the initial studies were rather descriptive (King, 2012). Starting from the work of Mitchell (1997), an emphasis is placed on the interpretation of transnationality in terms of places and locality.

In addition, non-financial transfers between countries also occur due to migration. This observation is relatively new and could be attributed to the cultural turn in geographic studies. We can agree with Tony Fielding's recognition of the cultural shift in migration studies, emphasizing that migration is more than just an economic or demographic reaction to the factors influencing production process and disparities across space (King, 2012). It is equally influenced by culture, individual consciousness, and personal agency in human behavior. And as a result, it can be connected to intangible transfers (e.g., ideas, behavioral changes, or values), usually referred to as social remittances (Bailey et al., 2018).

Attention to studying the developmental impacts of migration has been growing, yet relatively few studies have focused on the post-communist world. Furthermore, even in extensively researched contexts, findings often diverge. This dissertation aims to examine global, regional, and country-specific transformations linked to migration, particularly thorough financial remittances, in underexplored settings. It also seeks to determine whether the migration/remittances effects differ between countries with varying levels of dependence on

them. To enhance the understanding of the migration-remittances-development relationship, this study utilizes diverse data sources and applies rigorous empirical methodologies.

2.2. Migration studies

Given the substantial number of migrants and the associated remittance transfers, a significant body of migration literature has been developed. Although many studies have explored the effects of migration, the current bulk of migration literature also does not offer a definitive explanation of how migration influences the development process. Ravenstein's classical migration work (1885) positioned migration as an integral part of the changeover from a less established to a more advanced level. In this framework, migration decisions—primarily driven by economic factors—played a pivotal role in facilitating regional convergence through the redistribution of surplus human and non-human inputs of production.

Not only were the early studies optimistic about migration, but we can also refer to the strand of literature connected with the neoclassical view on the economy (de Haas, 2012; Lewis, 1954). According to this interpretation, as summarized by King (2018), a source country could expect to benefit from emigration due to the elimination of excess labor supply, multiple positive effects of remittances, and technological know-how induced by return and circular migrants, while immigration was suggested to positively affect a host country by bringing new resources and boosting the economy.

An alternative perspective is presented in the NELM theory, developed in the 1980s (Massey et al., 1994). This approach expands beyond the conventional economic concept of personal income maximization by framing migration as a collective decision made at the family level. The intention of this decision is to address market inefficiencies and mitigate risks inherent to the local economic environment. In this case, remittances are expected to become the primary instrument by which migrants keep in touch with the source regions. Moreover, remittances should aid migrant-sending households in achieving joint utility maximization points. This could possibly involve removing financial constraints and transforming migrant transfers into productive investments.

However, a closer examination of remittance frameworks reveals that previous predictions are not unidirectional (Massey et al., 1994). An intention to remit can also vary with respect to individual characteristics. For example, at the individual level, remittances might be sent due

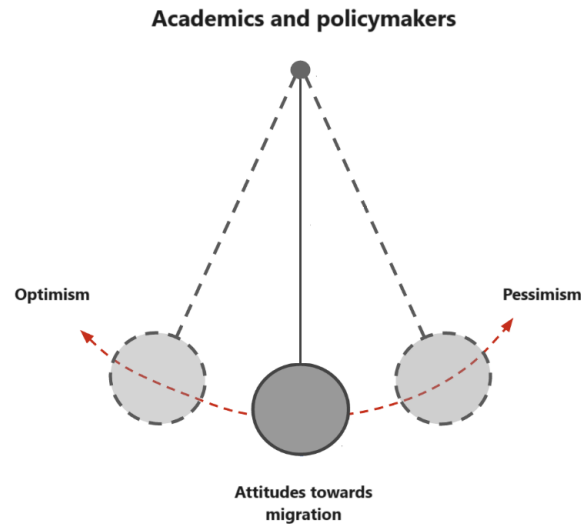
to altruistic or self-interest causes. Since different types of households receive remittances depending on the motive, the development effects of remittances might vary as well. Migrants driven by altruism are more likely to send remittances to support families if they are poor, whereas self-interested migrants tend to send remittances only when households can use them for investment or savings to generate additional benefits. Moreover, the motivations could coexist, creating multiple possible development equilibria.

Conversely, according to another prevailing literature, the economic development effects of migration can be detrimental for those who supply them (Bohra-Mishra, 2013). The mechanism can be found in Myrdal (1957), where the author argues that core countries subvert the economic prospects of peripheries; in this case, migration exerts only short-term positive effects via increased financial inflows and leads to lasting human capital losses to migrant-supplying regions. The theory predicts that source countries with high emigration outflows eventually become remittances-dependent and cannot escape poverty (Nzima et al., 2016). It was also previously suggested that an additional external labor force does not necessarily guarantee the development of host countries because it may undermine social cohesion and weaken social capital (Putnam, 2007).

Observing heterogeneity in the development effects of migration is nothing but a new occurrence, and as summarized by de Haas (2012), the migration-development nexus is more like a “pendulum”, as illustrated in Figure 8. In particular, by investigating the long history of development-related migration studies, the author attempts to link the times of positive and negative effects of remittances to historical events and ideological and paradigmatic shifts. They started with optimism of the 1950s era to the skepticism of the early 1970s and then returned to even greater optimism in the early 2000s. The first wave of optimism was related to the idea of solving structural within-country issues through migration. In the host countries, these were labor shortages, while in the source countries, they were the lack of financial and knowledge resources. After the 1973 oil crisis, the positive aspects of migration were overshadowed by “brain drain” concerns and inefficient remittance usage, accompanied by new integration issues. Later in the 1990s, the reemergence of neoliberal development paradigms led scholars to again highlight the positive aspects of migration. However, considering past trends, it seems we may be entering a period of renewed pessimism regarding migration (de Haas, 2012). Gamlen (2014) also considers paradigmatic shifts in migration studies and proposes that this relationship might be determined by economic cycles to a certain level. In years when the economy is performing well, scholars and policymakers might be

unwilling to consider the negative effects of remittances, while in crisis years, skepticism might prevent them from considering the positive transformations associated with migration.

Figure 8. *The changing attitudes towards migration.* Source: de Haas (2012).



More and more researchers started to propose empirical models in which the migration/remittances effects manifest at different stages of the migration (or of other related variables) history of a particular country. Among others, this nonlinearity is investigated by Koechlin and Leon (2007) (on income inequality), Hassan and Shakur (2017) (on per capita GDP growth), and Das and McFarlane (2022) (on financial development). Moreover, it might be insufficient to consider only exposure to migration to investigate the overall effects of migration, and additional, related transformations should also be considered. For example, Docquier (2014) suggests that if, in addition to dependence on remittances, a country at the same time would experience an outflow of effective human capital, migration might be negatively associated with the development prospects of this country. Finally, we should mention the possibility of reverse causality since it has been previously established that development might itself cause migration. Moreover, this process is usually also non-linear (Sanderson and Kentor, 2009). In this case, we should be careful when determining whether migration causes or is caused by development.

Given the indeterminacy in the theoretical literature, empirical studies tend to investigate the migration/remittances impacts on specific aspects of development, rather than concentrating on economic development as a whole. Among the previous areas of empirical research, studies have examined the various relationships, including household reserves (De Brauw and Rozelle,

2008), entrepreneurial investments (Bossavie et al., 2024), human capital creation and growth (Di Maria and Lazarova, 2012), health outcomes (Lu, 2013), household income (Axelsson and Westerlund, 1998), time use patterns (Chang et al., 2011), and poverty and inequality (Zhu and Luo, 2010). However, even when the effects of remittances are investigated on the same or similar indicator, the results are not necessarily identical. For example, if we consider the studies of Adams and Cuecuecha (2010) and Clement (2011), remittances are shown to lead to increased household investment and decreased household consumption in Guatemala, whereas, in Tajikistan, the authors found a reverse picture. In a similar fashion, Amuedo-Dorantes and Pozo (2006), based on the sample of Mexican men, report the absence of labor supply changes due to remittances, while Justino and Shemyakina (2012), based on the sample of Tajik men, report the presence of negative labor supply effects of remittances.

Indeed, the previously proposed specifications are built on exogenous assumptions regarding a socio-economic environment where migrants and their households could live and operate. More importantly, they are embedded within multiple equilibria. Therefore, depending on preliminary conditions, various outcomes may materialize in different settings. In this regard, the intrinsic characteristics of regions and countries might matter in determining the effects of migration and remittances. A critical review of previous research by de Haas (2012) indicates that various legal, economic, and political institutions matter in determining how effective migration is in promoting development.

A different point of view can be found in Abdih et al. (2012), where the authors consider a theoretical model of how increased levels of remittances might be associated with an exacerbation of institutional quality. Additionally, the authors empirically investigate the proposed model in a sample of 111 countries and found that remittances are linked to lower levels of bribery control, reduced administration efficiency, and weaker adherence to the law in recipient nations. Finally, we should mention that not only formal institutions matter for the effects of migration and remittances, but informal networks might also determine and mediate migrants. The study by Bertoli and Ruysen (2018) demonstrates that informal networks are actually a significant determinant of the migration decision. More specifically, the authors consider the location-decision problem and apply robust techniques to survey data from 147 countries and found that individual-level connections increase the willingness to emigrate to a particular country by 6 to 8 times. Moreover, the availability of connections could invert the ranking of countries in almost half of observed migration decisions.

Even though remittances affect macro variables such as the balance of payments, the actual transfer of flows essentially occurs between individual economic agents. Therefore, it can be effective to track remittance-induced changes among affected families. Because remittances on the basis are extra money for households, they can be saved, consumed, or invested. Traditional consumption theories generally do not recognize remittances as a factor capable of altering spending behavior (Tabuga, 2008). These theories assume that decisions related to saving, consumption, and investment are influenced by the change in the income sources rather than by the specific nature of transfers. For example, the hypothesis based on absolute income posits that current disposable income is the main factor influencing expenditures (Tapsin and Hepsag, 2014). Consequently, households receiving remittances are expected to have spending patterns similar to their counterpart that do not supply migrants. This view is line with other prominent classical theories (Fasoranti, 2010).

To improve the basic assumptions of classical approaches, further theoretical developments have integrated concepts from behavioral studies into traditional expenditures models (D'Orlando and Sanfilippo, 2010). Regarding remittances, the notion related to mental accounting can be applied. This concept, introduced by Thaler (1985), describes the psychological mechanisms employed by economic agents to evaluate and organize non-routine economic situations. Specifically, according to the work of Shefrin and Thaler (1988), which integrated mental accounting into consumption decision, households allocate cash or other forms of income from different sources in distinct ways. Consequently, total household income is divided into mental accounts, each designated for specific short- or long-term needs. Importantly, the temptation to consume varies depending on the account. The model predicts that additional resources, such as remittances, are likely to be managed differently from permanent income—potentially more responsibly—due to the temporary and non-recurring nature of remittances.

According to Adams and Cuecuecha (2010), the receipt of migrant money might trigger a structural shift, resulting in either an increase in productive investments or inefficient expenditure patterns. The concept of effective resource utilization is broad, encompassing a wide range of goods and services; however, it is conventionally aggregated that the most effective expenditure types are productive investments, payments that are aimed to improve income-generating capacity of households (Demurger and Wang, 2016). The literature widely agrees on the undeniably positive impact of human capital in promoting sustainable

development. It is regarded as a vital element in improving the efficiency of people by boosting their efficiency and skills, fostering knowledge creation, and spurring innovation.

On the other hand, it is important to acknowledge that no expenditure can be universally classified as wasteful; each case must be assessed within the broader macroeconomic context. For instance, even increased spending on food—commonly considered pure consumption—might lead to positive transformations in local communities with the means of multiplier effects (Bohra-Mishra, 2013). Additionally, as highlighted by de Brauw and Rozelle (2008), households facing extreme poverty may prioritize additional income for food to meet basic survival needs, despite their aspirations to save or invest.

Empirical literature suggests that the behavior of households receiving remittances can be effectively analyzed through the mental accounting paradigm. For instance, Adams (2002) focuses on whether the way households save and spend is different for those with remittances from that of those without the extra migrant-related source of income. This study finds that, on average, families in Pakistan save a larger portion of remittances compared to other sources of income. Building on this foundation, Davies et al. (2009) expanded Adams' analysis by utilizing cross-sectional data from Malawi to explore a broader range of mental accounting systems. Their research confirmed the influence of cognitive framing on households' decision-making processes concerning savings, investments, and consumption.

Despite these studies, there is no definitive unanimity on how additional remittance resources drive structural changes or on how they are allocated. Several studies (e.g., Adams and Cuecuecha for Guatemala, 2010; Adams and Cuecuecha, 2013 for Ghana; and Osili, 2004 for Nigeria) provide evidence that remittances are used for financing investments. In contrast, others highlight their role in consumption spending (e.g., Clement, 2011 for Tajikistan; de Brauw and Rozelle, 2008 for China; and Demurger and Wang, 2016 also for China). Furthermore, notable disparities in spending patterns between households that receive remittances and those that do not may always be evident (as shown by Castaldo and Reilly, 2007 for Albania). The latter referenced authors suggest this could be because remittances are often regarded as a consistent income source.

The review of migration literature reveals that it is possible that remittances alter the spending behavior of economic agents positively. However, the question is whether these micro-level changes could be transformed into the improved wealth of nations. More specifically, can the remittance-receiving countries benefit from increased individual investment activities?

At this point, we can refer to determinants of economic progress. As suggested by standard growth theories, the degree of technological progress (i.e., various processes that improve the creation of goods and services) limits or enables the long-run prosperity of nations (Zhou and Luo, 2018). The initial models, known as exogenous, state that technological progress is determined by extrinsically given processes. As a result, people's actions cannot change long-term growth patterns. However, observing the variations in the actual growth rates, the authors later proposed endogenous growth models. We can mention the widely cited work of Romer (1990) that highlights the contribution of education action on economic growth via technological change.

The available empirical works tend to confirm the incidence of a direct and significant effect of human capital on economic growth (Barro, 2016; Mankiw et al., 1992). As we can hypothesize further, not improved levels of education per se, but a technological advancement introduced by improved levels of human capital is a prerequisite of economic success in the long run. When analyzing the country-level development impacts of migration, we should consider the measures that reflect outcomes of improved human capital (i.e., technological progress) rather than measures that only assess efforts aimed at improving human capital. This becomes especially pertinent when we take into account the probability of J-curve effects of human development on emigration, when due to increased levels of human development, more people emigrate, and the source country cannot retain increased human capital (de Haas, 2010).

Despite the academic interest, certain aspects of the remittance-development interconnection still need to be researched. The contribution of this thesis is to investigate the migration and remittances effects on source countries in the post-communist era. Accordingly, this dissertation attempts to test two hypotheses: whether migration, observed over the last three decades globally and in the post-communist region, leads to a better life at first place and whether countries can subsequently benefit from the actions of remittance-receiving households.

Overall, it is challenging or even impossible to find an explicit answer to the query related to the development effects of emigration and financial remittances from the available literature. In this case, from the perspective of research philosophy, this dissertation is mainly based on objectivist epistemology and realist ontology with a pragmatic emphasis and focus on obtaining publishable and applicable results. Then, the obtained outcomes and recommendations could be layered on the current understanding of other aspects of these phenomena. To find the areas

to contribute, I initially considered various institutional settings, which led me to think about the unit of investigation. Then, the contemplation of the indeterminacy in the literature determined me to concentrating on less researched regions and time periods but based on prevalent indicator variables.

Given these conclusions, in this thesis project, I focus on the key factors commonly regarded as drivers of development. The objective of this dissertation is to examine the impact of migration and remittances on these factors at the family, regional, and global scales, depending on the specific variable under consideration. The empirical analysis of both aggregate and disaggregated effects of migration/remittances aims to demonstrate the continued relevance of modernization and dependency development theories as well as optimistic and pessimistic migration theories, and how they may co-occur. Specifically, I intend to show that at the level of individual families, initial emigration and later financial remittances can serve as a coping mechanism, enhancing the well-being of those who remain at a source country. However, at regional and global levels, increasing reliance on remittances can hinder the source country's overall development prospects. In the following sections, this dissertation concentrates on three possible areas where migration and remittances might affect socio-economic development: global fertility, regional income inequality, and subjective well-being of families.

3. Specialized literature review

3.1. Fertility

The beginning of the 1990s was marked by the establishment of new states and the integration of their economies into the global markets. Starting from this period, migration has indeed become a global phenomenon. And so, it should be imperative to investigate its effects on the global transformations. One of them is fertility changes and population dynamics. The issues and concerns related to population growth, which were formally modeled by Thomas Malthus already at the beginning of the 18th century (1798), have been repeatedly brought up in the progression of contemporary history. Migration as well as remittances may influence them in several ways. Given the history of migration-development nexus, these effects might be positive or negative.

First, remittances increase household income, creating a quantity or quality dilemma regarding the decision on the number of children to have (Anwar and Mughal, 2016). Considering this, it is important to begin analyzing the fertility effects of remittances via income and substitution effects (Becker, 1960). Household decisions on how to allocate remittances likely determine which effect is more dominant. For instance, remittances might be used to fund children's education (Demurger and Wang, 2016) or healthcare services (Ponce et al., 2011). Conversely, additional income might be directed toward conspicuous consumption, such as extravagant wedding celebrations (Danzer et al., 2013). Traditionally, the way how fertility and economic development progress was assumed to be negative (Fox et al., 2019), with fertility declining as nations advanced economically due to higher opportunity costs of childbearing (Becker, 1960) or shifting societal needs (Lesthaeghe, 2010). However, a more recent body of literature suggests that fertility and development trends may co-move (e.g., Esping-Andersen and Billari, 2015). This ideological shift could be linked to changes in migration patterns and remittance flows during the post-communist era. Therefore, the income-based changes induced by remittances on fertility can be specific to the period of time under investigation.

Second, migration can be also described by new beliefs, including those related to fertility, accepted from migrant-receiving countries that influence behavior in source states (Levitt, 1998). These changes are not always positive, as exposure to migration can alter established family ties and caregiving systems (De Haas, 2010). As summarized by Drbohlav and Dzurova (2021), social remittances can be of three forms: normative structures, systems of practice, and social capital. The former is about attitudes, including those related to how institutions should

operate across various societal domains, such as government, policy, and religion. Systems of practice refer to the behaviors and actions shaped by these normative structures, encompassing organizational methods like fostering more cohesive, socially integrated, and effective teams. Finally, social capital represents the network of relations that help people to achieve certain goals. The most relevant type of social remittances for fertility is normative structures because they can be ideas, values, and beliefs about family size, gender roles, parenting, and reproductive behavior. Furthermore, social capital can also affect individuals' fertility decisions and practices across different cultural and social contexts by providing networks of support, such as access to childcare or shared knowledge about family planning, which can facilitate or constrain fertility choices.

Migration and remittances may influence fertility through other additional mechanisms. For example, remittances can accelerate the process of demographic transition (Fargues, 2018). In lower-income, migrant-sending communities, households may achieve their desired number of children with lower birth rates due to the incidental economic advancements brought about by remittances. Furthermore, migration is often associated with the spatial relocation of large population groups, resulting in changes to population structure and fertility patterns (McKenzie, 2008). This can include fertility declines driven by urban adaptation, as rural migrants moving to urban areas tend to adopt urban lifestyles and norms, which are often associated with smaller family sizes (Liu et al., 2024).

Despite the complexity of the remittances-fertility nexus, the number of studies on this topic remains limited; moreover, much of the existing research has been regionally constrained (Anwar and Mughal, 2016; Katz and Stark, 1986; Mughal and Anwar, 2014; Naufal and Vargas-Silva, 2009). Generally, these studies confirm an inverse relationship between remittances and fertility, but they differ in the explanations provided for this relationship. For instance, Anwar and Mughal (2016) emphasize the financial effects of remittances as a key mechanism influencing fertility rates. In contrast, Katz and Stark (1986) and Naufal and Vargas-Silva (2009) argue that this relationship is shaped primarily by the motives behind remittances and the resulting changes in household norms and attitudes. Additionally, we should mention Beine et al. (2013), a cross-national work examining the influence of migrant remittances on fertility across 145 countries from 2000 to 2005. Drawing on the concept of the diffusion of fertility norms, this research investigates how exposure to new fertility norms through migration influences fertility rates in migrants' home countries. The findings indicate

that when migrants are exposed to environments with lower fertility norms, it correlates with a reduction in fertility levels in their countries of origin.

3.2. Income inequality

During the communist period, the dominant rhetoric for communist countries emphasized equality. However, with the downfall of this philosophy and the transition to a capitalist economy, economic inequalities within countries in this region began to escalate (Solt, 2016). Beyond ideological considerations, nowadays, income inequality raises several practical concerns for policymakers, such as diminished marginal returns on capital, heightened political disparities, and the risk of political instability (Lee and Song, 2016). In the post-communist era, an additional stable source of external income, such as remittances, could help promote economic a stable supplementary income source like remittances has the potential to foster economic equality by alleviating some of the initial negative impacts of economic liberalization. However, remittances can also have the opposite effect. Over time, reliance on remittances could lead to dependency among some households, potentially diminishing overall productivity and creating disadvantages for those who do not receive such financial support.

Family wealth plays a crucial role in shaping the link between migration and inequality (McKenzie and Rapoport, 2007). At the outset, monetary barriers prevent the majority of individuals from migrating, leaving the opportunity mainly to wealthier families. These early migrants often build systems that later enable families with fewer resources to participate in migration. Consequently, migration tends to widen income gaps in the beginning but eventually helps narrow them over time. The study of Koechlin and Leon (2007) provides evidence based on aggregate between-country estimations that the impact of remittances on income inequality can indeed be described by an inverted-U trajectory. Nevertheless, if wealthier families are less inclined to send migrants abroad, the effects of remittances may shift to being consistently linear and inverse, because lower-income families primarily turn to remittances as an alternative income source. Bang et al. (2016) further affirm that remittances have the most significant effect on improving the economic conditions of poorer households.

Earlier research consistently highlights a connection between family wealth levels and choices related to migration. Giannetti et al. (2009) demonstrated that in the post-communist countries which are now members of the EU, families with lower incomes are more likely to be recipients of remittances. On the other hand, the studies by Piracha and Saraogi (2017) and Kumo (2011)

reveal that in the post-Soviet states heavily reliant on remittances, namely in Moldova and Tajikistan, the probability to participate in migration and gain from remittance transfers is higher for wealthier families. When these families receive remittances that surpass their regular income and gain a disproportionately larger share compared to poorer households, remittances may intensify inequality in regions sending migrants (Milanovic, 1987). Uprety (2020) adds to this discussion with a cross-country analysis of more than 100 developing nations over the period 1980 to 2010, showing that migration of high-skilled individuals tends to widen income inequality (but only in the first years), whereas low-skilled migration has little to no effect. At the same time, also in the short term, emigration from Central and Eastern Europe has been shown to reduce income inequality by decreasing domestic unemployment and driving up wages (Zaiceva, 2014).

A crucial element in the inequality effects of remittances is the inclination to engage in remittances, that can be shaped by the traits of the sending and receiving sides (Milanovic, 1987). Factors such as the cultural obligations of migrants, their level of attachment to their home country, and the demographic composition of recipient families (e.g., the number of dependents or elderly members) all might play a role in determining the likelihood and amounts of remittances. These variations mean that the effects of remittances on inequality are not uniform; they depend on social norms, family structures, and the strength of transnational ties. For example, migrants who maintain strong emotional and social connections to their home communities are more likely to remit, which can shape inequality patterns differently than in cases where ties are weaker. This makes the relationship between remittances and inequality complex and subject to diverse influencing factors.

The dynamics in how remittances may affect income inequality can also be described by a parabolic trajectory. As theorized by Myrdal (1957), emigration can lead to adverse enduring consequences for the economic output and price stability of regions dependent on remittances. Over time, these areas may fall into the equilibrium state with low income and growing inequality. Supporting this economic dependency theory framework, Sanderson's (2013) cross-national longitudinal estimations reveal that migration disproportionately favors wealthier countries, exacerbating global inequality. Indeed, there is also evidence that remittances at the household level might lead to lower economic productivity (Clement, 2011; Justino and Shemyakina, 2012).

3.3. Subjective well-being

In addition to the traditional approach of assessing welfare via objective variables, we can also consider an alternative possibility involving personal judgments (Syrovatka, 2007). This method relies on subjective variables derived from individual or group responses to questions about the perceived quality of life. Notably, the subjective well-being assessment of people involved with migration and remittances represents a novel and underexplored research area (Nguyen et al., 2007).

Generally, migration may lead to negative hedonic or affective experiences, particularly due to the separation from loved ones. Several studies explore the emotional and psychological impact of parental migration on children. Dreby (2015) as well as Wu et al. (2015) report that children of emigrant parents in Mexico and China respectively often experience increased feelings of resentment and depression. In contrast, Vanore et al. (2015) established that in Moldova the effects of parental outmigration on children's emotional well-being (measured by indicators like worry, unhappiness, and fear) or behavioral issues are not notable. Additionally, a study by Mazzucato et al. (2015) in Ghana, Angola, and Nigeria shows that the disruption caused by changing caregivers due to household members' migration reduces the psychological well-being of children. The literature review by Ivlevs et al. (2019) indicates that some studies find well-being effects of emigration on the well-being of spouses and parents to be negative, while others find no effect.

When considering the temporal aspect of the well-being and migration relationship, we can also refer to the study by Cwerner (2001), which explores the impact of time on the migration process. Although the author focuses on the behaviors and perceptions of migrants, the empirical framework and tools used in the study can be adapted to the context of migrant households. Cwerner (2001) identifies three sets of experiences in the lives of migrants. For the current study, the concepts of "nomadic" and "diasporic" times are less relevant. However, "strange", "heteronomous", and "asynchronous" times, along with "remembered", "collage", and "liminal" times, may offer useful insights into the well-being of those left behind. The former set of "times" relates to the adjustment process to a new state of the world, while the latter set focuses on nostalgic memories and the gradual transition to the new reality. These experiences could be positively influenced by an additional source of income provided by remittances from migration, which may mediate some of the emotional and economic challenges faced by migrant households.

A vast body of research examines how income might affect subjective well-being (Clark et al., 2008; Frey and Stutzer, 2002). Although one cohort of literature reports a positive connection between income and life satisfaction (Cuong, 2021; Powdthavee, 2010), this connection is more complicated than it might initially appear. Earlier studies suggest that people often assess their earnings by comparing it to the earnings of others (Ferrer-i-Carbonell, 2005; Powdthavee, 2010). This viewpoint is not a modern concept; John Stuart Mill, a prominent 19th-century thinker, also emphasized the significance of income's relative value over its absolute value when considering its effects (Syrovatka, 2007). Contemporary research expands on this idea, proposing that the impact of income on well-being may stem from personal financial ambitions (Stutzer, 2004) or a perceived rank within social circle (Boyce et al., 2010). Furthermore, income can be seen as a way to achieve recognition and independence (Gardner and Oswald, 2007). In this case, significant attention should be given to whether financial changes are stable or temporary (Bayer and Juessen, 2015).

Previous studies also examined the relationship between remittance-induced transformations and reported well-being. Remittances are shown to be positively linked to satisfaction with life in Latin American countries conceivably via improvements in economic stability (Cardenas et al., 2009). Additionally, Borraz et al. (2010) report the differences in happiness levels between migrant-sending and non-migrant households to be similar, suggesting that extra money can help to mitigate the emotional costs of migration. In Nepal, Gartaula et al. (2012) show that while remittances improve objective outcomes for women, such as economic stability and access to services, subjective well-being may not improve due to family tensions. Akay et al. (2016) finds that while remittance income in China improves mental health among families supplying migrants, the migration itself negatively affects mental well-being.

Finally, as regional studies fail to provide clear predictions, it is important to mention the global investigation by Ivlevs et al. (2019), which analyzed data from 114 countries during the 2009–2011 period. The results suggest that the international migration of household members enhances evaluative happiness and positive affect. Furthermore, extra remittances are also linked to additional improvements in evaluative happiness. However, migration is also linked to higher levels of stress and depression, which remittances do not mitigate. It should also be mentioned that the authors find the heterogeneity in how migration and remittances might affect subjective well-being, which depend on income and exposure to migration.

4. Methodological considerations

4.1 Data sources

For the country-level analysis, this dissertation utilizes data that has been collected and aggregated by reputable international organizations to ensure consistency and reliability. The primary source of this data is the WDI, which provides a comprehensive set of economic, social, and demographic metrics for countries worldwide. Key variables relevant to the study, including remittances and fertility, are derived from this source. To robustly and precisely analyze income distribution, this thesis relies on records of the SWIID. The database is designed to maximize the comparability of income data among countries and throughout periods, further ensuring consistency in the analysis.

To accurately identify the effects of remittances, this work also incorporates additional variables obtained from specialized sources. In analyzing the relationship between remittances and fertility, these are democracy level (sourced from the FIW), infant mortality (sourced from the UNICEF Data), real consumption per capita and the composite human capital index (sourced from the PWT), and the cost of obtaining passport (sourced from the WB). For income inequality, these are democracy level (sourced from the FIW), the years of schooling (sourced from the HDR), and real GDP per capita (sourced from the PWT).

Nationally representative samples are vital in ensuring the accuracy and generalizability of survey-based research. By capturing diverse household characteristics across a country, these samples enable researchers to draw meaningful insights about economic, social, and demographic trends that reflect the broader population. Thus, for the within-country analysis, this dissertation utilizes three representative household-levels samples based on data from the TLSSs, as well as the THPS. Initially, in 2007, with the help from the WB and UNICEF, a nationally illustrative sample of 4,860 households was randomly selected for the first one. For the follow-up ones conducted two (still by the WB and UNICEF) and four (by the IOS) years later, random subsamples of 1,503 and 1,392 households from the original survey were re-interviewed. For the examinations, I utilize a balanced panel of approximately 1,300 households that were consistently tracked across each survey. This sample size aligns closely with recent research on Tajikistan by Gang et al. (2018), which employed a balanced panel of 1,257 households for their analysis.

4.2 Measuring treatment and outcome variables

To capture both the non-economic significance of migration and the aggregate financial influence of remittances, I propose using the remittances-to-GDP ratio as a proxy. Instead of relying on the absolute volume of remittances—which may primarily reflect a country’s size (e.g., large populations like those of India and Mexico receive the highest remittance volumes)—I employ a relative measure. By normalizing remittances by GDP, this approach also captures the non-direct effects of remittances. On the one hand, this variable reflects the financial and social benefits a country gains from international flows. On the other hand, its higher value suggests greater reliance on remittances, indicating a higher likelihood of economic stagnation due to dependency. At the disaggregated level, information about the exact amounts of remittances received may be sensitive. Moreover, the differences in the effects of migration and remittances are possibly more significant at the household level than for countries. Consequently, I measure migration and remittances separately at the extensive margin to capture its household effects. In particular, I use indicator variables for international migration and the material remittances received from migrants. Table 2 describes the main treatment variables in more technical terms.

Table 2. Main treatment variables.

Variable	Description	Source
Remittances-to-GDP ratio	The total of personal transfers and employee reimbursement expressed as a percentage of the recipient country's GDP.	WDI
I(Migration)	A binary variable that equals 1 for households with members who have left the country and are still abroad.	THPS, TLSS
I(Remittances)	A binary indicator set to 1 for households that have received international migrant transfers, either in cash or in kind, within the past 12 months.	THPS, TLSS

In Table 3, I present the description of the main outcome variables. Following conventional practice, I proxy fertility patterns by the aggregate fertility level, which is measured by per woman births. The choice of a dependent variable is less trivial because international

organizations provide expected number of children over a lifetime of women across the world. Since it is not possible to observe the actual birth patterns of a particular group of women at the time of calculation, total fertility rate is “illusory” and based on the inference (UN, 2007). Consequently, prevailing fertility rates for the reproductive ages in a single year are not representative of future fertility trends if there are fertility-related transformations. With the purpose of achieving robust results, I also considered alternative measure of fertility: unpolished birth statistic, which refers to live births happening during a year per 1,000 individuals in the population.

Table 3. *Main outcome variables.*

Variable	Description	Source
Total fertility rate	It represents the average number of children a woman would bear in a specific country if she experienced the current age-specific fertility rates throughout her entire reproductive life.	WDI
Gini index	An inequality index ranging from 0 (full parity) to 100 (perfect disparity), calculated based on the combined equalized disposable income of households within a country.	WDI
ℐ(Life satisfaction)	A binary indicator set to 1 if the most informed household member responds positively to the question related to overall life satisfaction	THPS, TLSS
ℐ(Financial satisfaction)	A binary indicator set to 1 if the most informed household member responds positively to the question related to current financial satisfaction	THPS, TLSS

Drawing conclusions on economic inequality is challenging due to the complexity of the concept, which encompasses various socio-economic dimensions. Thus, the indicator often determines the outcomes of the study. Because the primary interest typically lies in understanding the consequences of entrenched economic discrepancies that hinder the prospects of individuals and families and national development, this dissertation focuses on income distribution inequality.

As summarized by Deininger and Squire (1996), an effective indicator for measuring income inequality in cross-country analyses should meet several criteria. It is required to (a) utilize microdata derived from surveys of families, (b) accurately reflect the national level, and (c) comprehensively account for all income sources. The Gini index, as provided by Solt (2016) based on the LIS, fulfills these requirements and is the most widely used measure of income distribution. However, despite its popularity, the Gini index has certain limitations that may mask the actual effects of remittances on income inequality.

To address these limitations, this study also considers an alternative measure: the Palma ratio. This ratio measures inequality by comparing the income stakes of the wealthiest 10% and the poorest 40% of the country. Unlike the Gini index, it shifts the focus from the income distribution's median to its edges, potentially providing a different angle to look at income inequality. As Cobham and Sumner (2013) illustrate, this approach highlights differences that the Gini index may overlook.

Regarding the final set of outcome variables, Durand and Smith (2013) propose that subjective well-being consists of three distinct aspects: evaluative, hedonic, and eudaimonic. The first dimension involves a thoughtful appraisal of how a person is overall satisfied with life, while the second one emphasizes emotional states and feelings. The last dimension, being the most nonfigurative, pertains to a sense of purpose, personal development, and the challenges one encounters in life. Drawing on the work of Graham and Nikolova (2015), I posit that life evaluations serve as a more appropriate indicator of autonomy and potential compared to other components of happiness. More broadly, it is less influenced by temporary changes and is anticipated to reflect the long-term consequences of migration. However, drawing on Cwerner's (2001) framework, for the correct estimation of migration effects, it is important to consider the period after the initial shock of separation passes when cognitive or evaluative assessments of life conditions and financial situations become possible. Finally, to further distinguish between the financial and non-financial effects of migration and remittances, I focus on two types of evaluative well-being: general life satisfaction and present financial contentment.

4.3 Assessing the average effects

After defining outcome and treatment variables, the next challenge is to empirically detect the relationship between them. One initial approach might be to compare two households: one that

receives remittances and one that does not, or to compare two countries with differing levels of exposure to migration. If there are differences in well-being or development patterns between these treated and control groups, we could attribute these differences to the effects of remittances. However, this approach might be misleading due to the endogeneity problem (Adams and Cuecuecha, 2010). For example, when examining well-being differences, the characteristics of households regarding their intention to migrate may explain any divergences. Alternatively, in macro estimations, the remittance variable may be endogenous due to reciprocal causation and/or simultaneity (Adams and Page, 2005; Rao and Hassan, 2011). Furthermore, implementing a randomized controlled trial involving migration or remittance interventions may be neither practical nor ethically acceptable. Barham and Boucher (1998) illustrate the importance of proper specification: considering migrant-related transfers as exogenously determined suggests that they decrease income disparity; however, when domestic factors are accounted for, the effects are opposite.

McKenzie et al. (2006) analyzed various key approaches to addressing estimation bias in migration research via utilizing a natural experiment. This analysis highlights that the regressions based on instruments, when paired with well-chosen and robust variables, yielded the most reliable and precise results. In contrast, they observed that using weak instruments not only failed to mitigate endogeneity but also introduced substantial biases, which exceeded those found in unadjusted estimations. Furthermore, the authors identified bias-adjusted PSM and DD methods as viable alternatives to IV regressions.

At the aggregate level, I initially investigate the effects of cross-border remittances using basic OLS and FE estimations. The former involves averaging the data, while the latter is about including country and time FE. As a robustness check, I also consider instrumenting. For the fertility specification, to recover exogenous variation in the remittances-to-GDP ratio, I use the costs of obtaining a passport as a remedy for exogenous variation. Increased costs are expected to reduce the quantity of people who are eager to migrate and, consequently, the volume of remittances provided by international migrants (Koechlin and Leon, 2007). Regarding the “randomness” of the instrument, it is plausible to assume that passport costs and fertility rates are uncorrelated at the country level, after conditioning on economic development. However, this instrument is less valid for the specification with income inequality as the outcome variable due to the limited availability of passport cost data over time.

Without proper instruments, the estimators based on dynamic panel models can be used to generate instruments internally. This technique originally addresses aggregate FE by differencing. However, initial endogeneity may persist. The way out in this case are internal IVs using lagged values of the variables, which helps to uncover exogenous variation in the data. The system GMM approach is particularly effective in such case because it estimates equations in both differences and levels concurrently, employing distinct GMM-style instruments tailored to each estimation (Law et al., 2018). Specifically, it uses the lags of levels as instruments for the differenced estimation and the lags of differences as instruments for the level estimation (Koechlin and Leon, 2007).

To capture the treatment effects at the household level, in addition to baseline OLS and FE estimations, I also consider a RE specification. The chief dissimilarity between FE and RE estimations is in the treatment of unobserved heterogeneity. FE models assume it is correlated with the independent variables and focus on within variation, controlling for time-invariant characteristics. In contrast, RE models assume no correlation between unobserved factors and independent variables, allowing for both within and between variation, making them more efficient if this assumption holds. Traditional statistic techniques, primarily designed for continuous estimations, often cannot adequately model non-linear types of variables, such as for example happiness indicators. With the purpose of overcoming this issue, I also adopt alternative methods, including Chamberlain's binary conditional logit estimator (1980), the RE ordered probit regression outlined in Alsakka and Ap Gwilym (2010), and the blowup and cluster estimation developed by Baetschmann et al. (2015) for analyzing variables on an ordinal scale within a FE context.

To more robustly capture the disaggregated effects of migration and remittances, I instrument these variables using migration systems at the community level (Justino and Shemyakina, 2012). This instrument is characterized as the share of families within the community that have migrants. Given the nature of emigration, where migration decisions are strongly influenced by external economic and political conditions, this measure effectively captures the dynamic migration setting. This variable is anticipated to be exogenous and relevant. Migration systems are likely to increase the probability of migration without directly influencing household well-being. This assumption relies on the argument that social ties often guide prospective migrants by providing information on potential destinations (Demurger and Wang, 2016). However, the presence of migration networks might also suggest that migration has not significantly improved the quality of life for some households.

4.4 Documenting the heterogeneity in the effects

The migration/remittances effects can differ both between and within states. This variation is often linked to or influenced by the diverse stages of development observed at the macro level; similarly, in disaggregate analysis, household affluence might be an important factor.⁷ Concurrently, the economic opportunities available to households, and thus the benefits brought about by emigration, may differ across a country. Finally, the remittances' significance to the economies of countries is not the same, enabling analysis of changes at different stages of migration history. Therefore, to investigate heterogeneity in the effects, we should also consider adjusting the sample to economic and geographic different contexts. I present this idea in the equation below. This equation includes two additional variables, alongside the main treatment in the form of migration/remittances, controls, and the intercept. The coefficient γ_1 measures the effect of the treatment on the outcome (e.g., income inequality or total fertility rate), while γ_2 measures the effect of the heterogeneity variable. Finally, γ_3 represents how the treatment effect changes depending on the level or presence of the heterogeneity factor.

$$Y = \alpha + X'\beta + \gamma_1 Treat + \gamma_2 Het. + \gamma_3 Treat \times Het. + u,$$

where, Y and $Treat$ are the outcome and the treatment, $Het.$ is the variable capturing possible heterogeneity in the effects, and u – the error term.

Migration and remittances effects might also be non-linear. To detect a potential non-linear relationship between the variables of interest, a common approach is to include a quadratic term in the regression model. This technique, shown in the equation below, allows for the possible connection between migration or remittances and the outcome to change as the value of the variable under consideration increases or decreases. Specifically, while an initial increase in migration/remittances might result in substantial improvements in the outcome variable, there could be decreasing benefits beyond a specific point. Adding the squared term allows to capture these non-linear dynamics.

$$Y = \alpha + X'\beta + \gamma_1 Treat + \gamma_2 Treat^2 + u$$

⁷ When studying the income effects of migration, researchers should consider income satiation, as illustrated by the Easterlin Paradox (1974). Stevenson and Wolfers (2013) identify income thresholds of \$8,000 to \$25,000 annually, far exceeding the levels in the context of developing states like Tajikistan. Based on their results, it is possible to argue that the well-being effects of income continues to be positive until baseline needs are fulfilled, highlighting how remittances in such contexts often directly enhance well-being by fulfilling essential needs.

The estimates for $Treat$ and $Treat^2$ should not necessarily be statistically significant. If both are insignificant, we should assume that migration and remittances do not affect the outcome variable at all. The same indeterminacy applies to the respective signs of the variables. If the relationship turns out to be linear, γ_1 is expected to be either positive or negative with γ_2 being statistically insignificant. If the relationship follows a non-linear pattern resembling a U-curve, γ_1 is expected to be negative and γ_2 positive. Conversely, for an inverted U-curve, the opposite scenario should be observed. We can also estimate the turning point by taking the first derivatives and using the obtained estimates for γ_1 and γ_2 :

$$\frac{\partial Y}{\partial Treat} = \left| \frac{\gamma_1}{2\gamma_2} \right|$$

Nevertheless, standard regression techniques can sometimes lead to misleading conclusions. This might be the case when the actual effects are convex but remain monotonic within the observed sample. In this scenario, a model with the quadratic term might incorrectly suggest the presence of an extremum (Lind and Mehlum, 2010). To resolve this issue, Lind and Mehlum (2010) developed a test that ensures general conditions for detecting nonlinearity are met. This dissertation combines the quadratic term method and the Lind and Mehlum's test to check for non-linearities.

Additionally, this dissertation focuses on the mediating effects of remittances. This analysis is based on the response to the 2010/11 cotton price increase and begins with an assessment of the effects of this commodity price surge using classical and PSM DD models. I then employ a DDD framework (see Olden and Moen, 2022, for an overview) to examine how remittances influence the impact of the price increase. The triple-differences estimator is calculated by comparing two DD estimators: one for households with remittances that experienced the shock and another for households without remittances, comparing periods before and after the shock. Importantly, this estimator avoids the need for several parallel trend assumptions to ensure a causal analysis. Instead, the estimation relies on at least one component DD comparison adhering to parallel trends before the shock.

As triple differences are less commonly used, I provide a brief explanation of the DDD specification and its application. This method extends the standard DD framework by incorporating both communal income treatment exposure and household remittance status to capture nuanced interactions. Although remittances are often treated as a wealth-related treatment, the decision to send and receive these transfers is typically influenced by

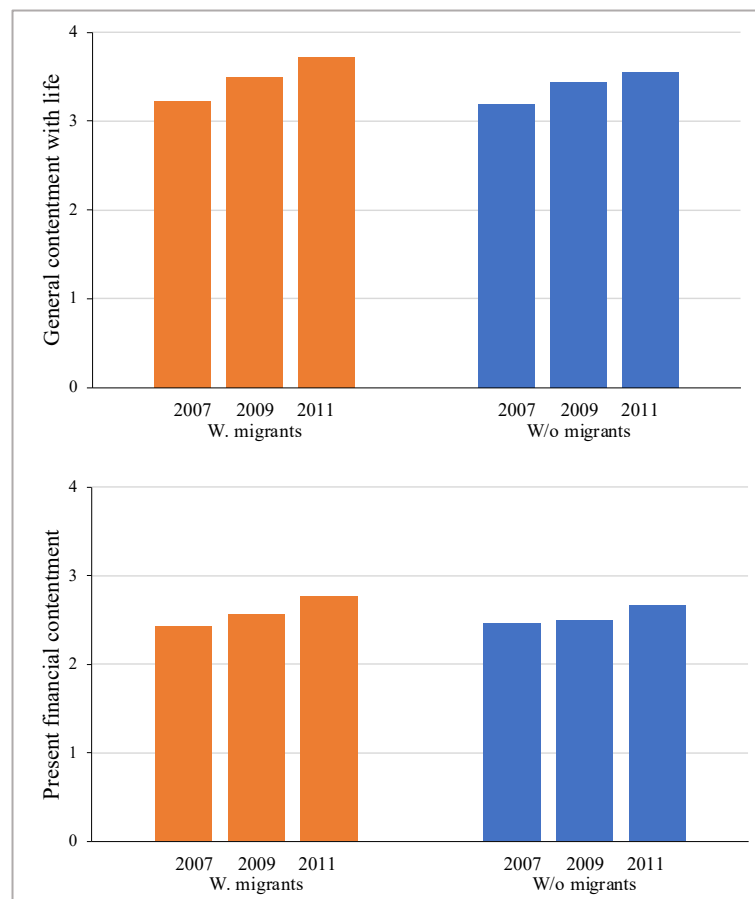
endogenous household dynamics, such as income levels, migration patterns, and familial needs. The key objective of this analysis is to disentangle the mediating effects of remittances that are triggered by an exogenous economic shock (i.e., the commodity price increase), rather than those arising from internal household decisions. By isolating these exogenous elements, the analysis seeks to estimate the incidental and causal impacts of remittances in the broader context of external economic changes. This approach not only accounts for the interplay between communal-level income variations and household remittance inflows but also provides a clearer understanding of the mechanisms through which migration-related financial flows interact with external economic forces. The results are intended to illuminate the broader implications of remittance-driven financial transfers on household welfare and well-being.

5. Overview of the set of publications

5.1 Tokhirov (2020)

This solo-authored study focuses on analyzing how emigration affects happiness with a help of household data from Tajikistan. Emigration holds significant importance in this post-communist and post-Soviet nation, where the outflow of population has remained persistently high over the years. The research primarily aims to explore how international emigration via financial remittances shapes the perceived well-being of family members who remain in their home communities and rely heavily on remittances. To achieve this, the study utilizes longitudinal data over the period of 2007 to 2011, offering a comprehensive insight into the effects of migration and remittances on household welfare.

Figure 9. Migration and subjective well-being in Tajikistan. Source: Tokhirov (2020).



The study identifies a statistically significant and economically notable positive link at the household level between perceived quality of life and international migration, with remittances playing a key role. The results suggest that households with members working abroad and receiving remittances are generally more contented with their lives and financial circumstances

compared to households without migrants. These findings are depicted in Figure 9, which contrasts the satisfaction levels of households impacted by migration with those unaffected during the 2007–2011 period. In each of three periods examined, households benefiting from remittances consistently reported higher satisfaction. Notably, the increase in total happiness is more significant compared to the improvements in present financial contentment. This disparity suggests that migration's effects extend beyond monetary gains, highlighting essential differences in how migration influences monetary versus non-monetary aspects of happiness.

Moreover, heterogeneity regressions indicated that family characteristics can influence how migration impacts the quality of life. Effects vary based on household location and income level. In terms of life satisfaction, more affluent and urban households tend to benefit more from migration. Conversely, rural migrant-sending households report greater contentment with their financial circumstances, whereas migration's effect is negligible in the case of households living in urban areas. Regarding financial well-being, the effects of migration appear positive and relatively uniform across income groups.

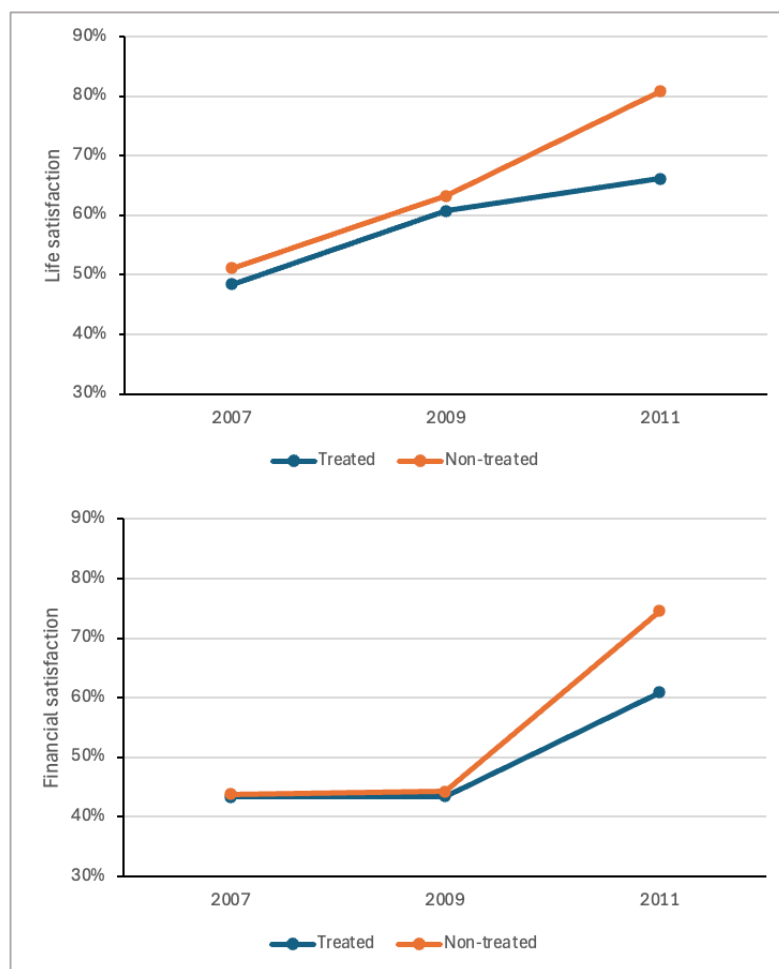
The heterogeneity regressions also possibly suggests that, beyond financial remittances, non-financial transfers may significantly contribute to shaping household well-being. This finding offers a possible explanation for the economic paradox where individuals often remain emotionally indifferent to extra money once they surpass a specific income level (Stevenson and Wolfers, 2013). Additionally, prior research indicates that rural households in Tajikistan face elevated costs when receiving international remittances, stemming from poor transportation infrastructure and inadequate access to economic amenities (Clement, 2011). Rural areas are also disproportionately exposed to natural disasters, leading many households to use migration as a strategy for income diversification (Robinson and Guenther, 2007). As a result, it might be the case that migrant-sending households in rural regions exhibit more cautious economic behavior and attain a higher level of economic stability.

5.2 Tokhirov (2024)

This second solo-authored article further explores the perceived quality of life of families, emphasizing territories reliant on export agriculture and the effects of short-term income fluctuations. Employing several types of DD analyses with the same data from Tajik households, the study investigates the consequences of the 2010/11 global cotton price surge.

While this upturn represented a positive income shock for families in Tajikistan’s cotton-producing areas, the results reveal an unexpected paradox: its overall impact on subjective well-being is negative. At the community level, the income shock is associated with notable declines in both financial and total contentment. To explore the underlying reasons for this outcome, the study incorporates split-sample analyses to provide deeper comprehensions. They indicate that the shock prompted occupational sorting within communities. Specifically, households already engaged in agriculture prior to the shock experienced markedly negative well-being effects, whereas those newly transitioning into farming reported slight improvements. This dynamic offers insights into the complex interplay between income changes and well-being. I also illustrate the main finding of this research in Figure 10.

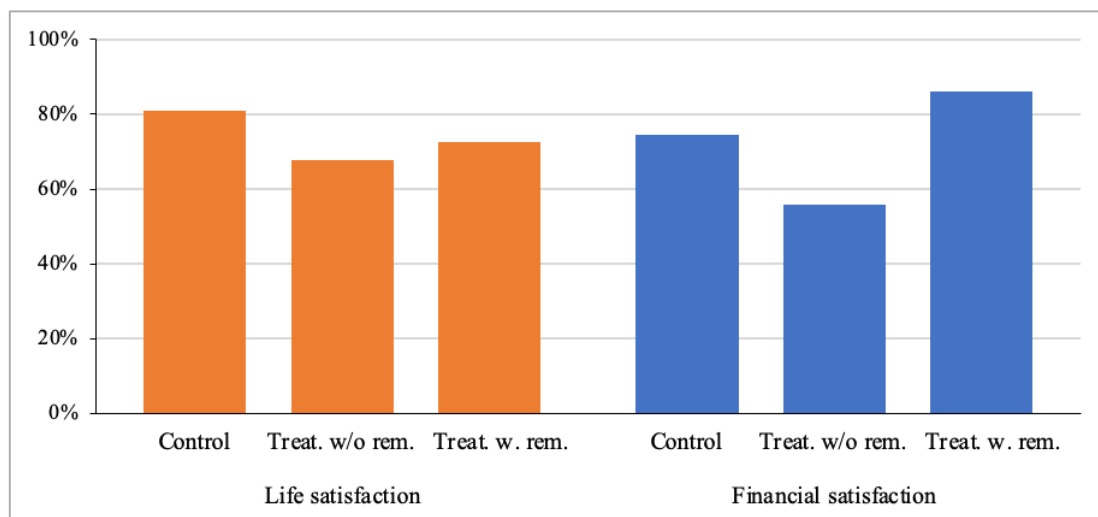
Figure 10. *Income shock and subjective well-being.* Source: Tokhirov (2024).



This article is a logical continuation of the first one. Given the increasing volumes of monetary transfers associated with migrants, this study also examines the role of remittances in shaping the connection between income fluctuations and happiness described above. This analysis reveals that while family remittances are not significantly impacted by short-term income

changes, they can partially intercede their negative effects. However, their impact is restricted to enhancing satisfaction related to financial domain, implying that merely compensating for lost income does not fully reinstate pre-shock happiness. I illustrate this finding in Figure 11. In the figure, I distinguish between three types of households: those not affected by the income shock, those affected by the income shock and do not receive remittances, and those affected by the income shock and receive remittances. The figure illustrates that the percentage of those who are satisfied with life and financial decreases after the income shock and that migrant remittances can partially mediate its negative effects. These results add to the existing research by offering fresh perspectives on the positive effects of migrant remittances in improving family welfare (Ivlevs et al., 2019).

Figure 11. *Income shock and the mediating effects of remittances in Tajikistan.* Source: Tokhirov (2024).

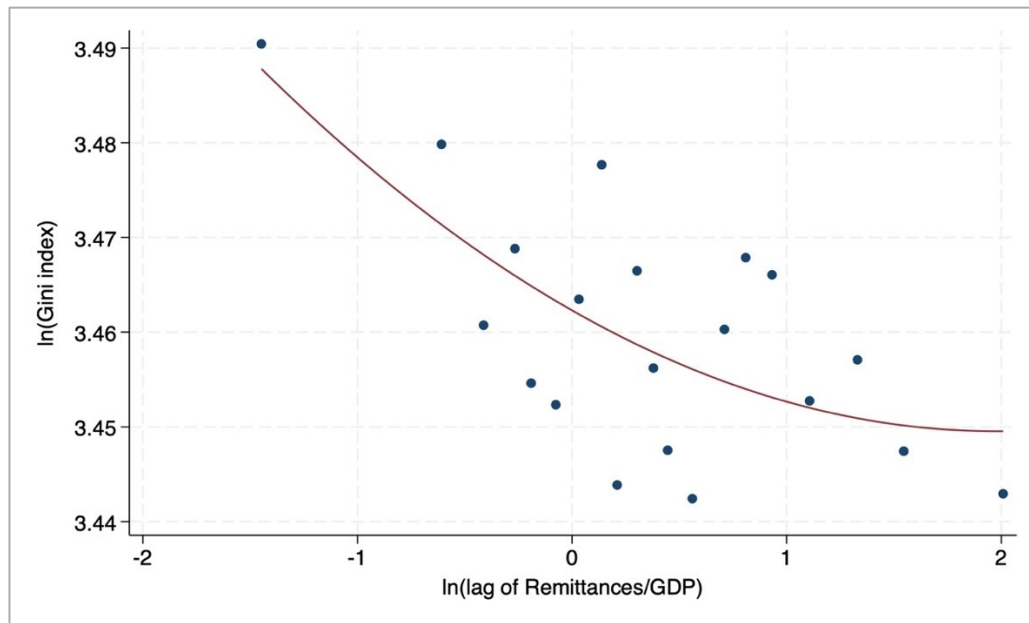


5.3 Tokhirov et al. (2021)

This collaborative research examines how economic exposure to financial remittances influences income inequality across post-communist countries. The study employs both static and dynamic panel data methods to explore this relationship. Using accumulated statistics from 27 nations between 1991 and 2014, the results reveal a U-shaped pattern in the effects of remittances: as exposure to remittances increases, income inequality mostly decreases but begins to rise after exceeding 20% of GDP. While remittances can reduce inequality in certain contexts, this threshold suggests a tipping point where additional inflows may worsen wealth disparities. This research challenges the view that financial remittances consistently act as a

tool for equitable redistribution, highlighting their potential to intensify inequality under conditions of economic dependence.

Figure 12. Remittances and income inequality across post-communist countries. Source: Tokhirov et al. (2021).



This study adds to the existing body of research by analyzing the regional remittances-based transformations in underexplored countries. It also assesses whether these conversions differ depending on the country's level of remittance exposure. By leveraging a country-level panel sample and employing rigorous estimations methods, the research seeks to provide deeper insights into the existing understanding of the remittances-inequality interconnection across post-communist countries. I illustrate the main finding in Figure 12. In the figure, I generated a binned scatterplot⁸ for the natural logarithms of the outcome (income inequality) and treatment (relative remittances) variables. The presented graph is obtained after conditioning on the country and period FE and using the lagged values of the treatment variable to account for possible estimation issues. Overall, the figure highlights that the remittances-inequality relationship is negative and parabolic.

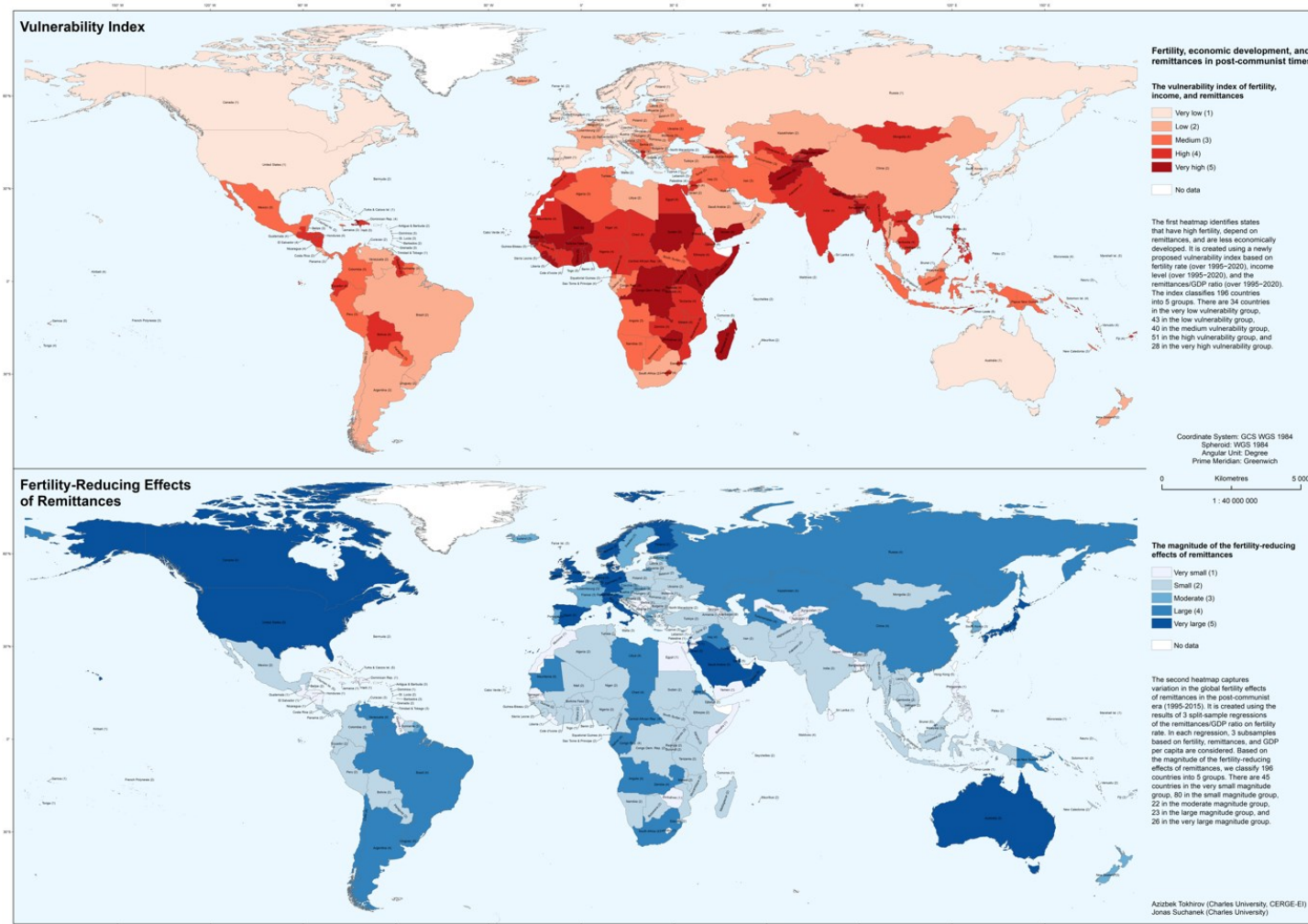
⁸ This non-parametric approach involves plotting the average value of the outcome variable for each corresponding value of the treatment variable.

5.4 Tokhirov and Suchanek (2024)

This coauthored study can be considered the primary one, as it includes a geographical analysis presented in the form of a heat map. More specifically, this study investigates fertility responses to remittances across developed and developing countries during the post-communist era. We first compiled fertility, remittances, and income data for the 1995–2020 period and developed a new vulnerability index to identify less economically developed states with high fertility rates and heavy reliance on remittances. A composite index was constructed to better describe the complexities of how migration and development are interconnected, focusing on fertility rates, income levels, and remittances-to-GDP ratios to identify vulnerable states. Using OLS, FE, and IV estimation methods, we then analyzed the global fertility effects of remittances between 1995 and 2015. The baseline regression results suggest an inverse relationship between remittances and fertility rates in remittance-receiving countries. Furthermore, we found that the fertility-reducing effects of remittances differ substantially between various regions. Using the regression coefficients, we calculated the fertility effects of remittances for each country group based on its fertility rate, economic development, and exposure to remittances. This aggregation signifies that the fertility changes caused by remittances are heterogeneous across the globe and vary between -1.23 and -0.03 .

Figure 13 illustrates the estimation results using a heat map based on shapefiles from Natural Earth. The upper map, which focuses on the distribution of the vulnerability index, reveals that the most vulnerable countries are located in Africa, Central, South, and Southeast Asia. However, vulnerable states are also present in other regions of the world. The lower map depicts the fertility-reducing effects of remittances, which are shown to be significant in less vulnerable countries such as Japan and Switzerland, and minimal in more vulnerable countries like Haiti and Zimbabwe. When analyzed together, the maps suggest that as a country becomes more vulnerable, the effects of remittances on fertility are more likely to be negligible. This research enhances migration literature via revealing that the global effects of remittances on fertility are predominantly negative in the post-communist era. Additionally, while prior studies have primarily examined the aggregate effects of remittances, this work emphasizes the variability in fertility responses to remittances across different regions. Finally, it contributes to cartographic research by developing global heat maps that identify countries with varying levels of vulnerability based on a newly proposed vulnerability index, illustrating how remittances impact fertility in these nations.

Figure 13. Remittances and fertility in post-communist times. Source: Tokhirov and Suchanek (2024).



6. Policy implications

This section of the thesis provides several policy recommendations based on the level of analysis and outcome variable. Considering the results of previously discussed studies on fertility and inequality, it is possible to infer that the aggregate changes associated with financial remittances in the post-communist world depend on a country's level of exposure to remittances. Therefore, policymakers should avoid drawing conclusions about the impacts of remittances based on data from other countries or regions, as national characteristics may significantly influence responses to remittances. Consequently, migration-focused country-level policy formulations, such as efforts to adjust local fertility rates or reduce income inequality, should first assess the country's dependence on remittances and explicitly account for this statistic. This intervention can be conducted using econometric (e.g., averaged or split-sample regressions) or geographic (e.g., comprehensive heat maps) estimation outputs. The processed data could also be used by global organizations and agencies to identify and support vulnerable states in addressing their challenges by offering targeted policies based on a comprehensive analysis of their unique circumstances.

In post-communist countries where economic reliance on remittances is relatively low, remittances are demonstrated to reduce income inequality. It can be hypothesized that this effect can be attributed to two main factors. First, remittances are excessively received by lower-income families, providing them with a crucial financial boost that narrows the national income gap. Second, the negative impacts commonly associated with migration, such as labor shortages or overdependence on external income, are less pronounced in these countries due to their diversified economies and stronger social safety nets. Given these dynamics, policy approaches aimed at addressing income disparities in these regions should prioritize preserving the existing positive contributions of remittances. This could involve measures to facilitate cheaper and more efficient remittance transfers, initiatives to integrate remittance income into long-term development projects, or programs to promote financial literacy among remittance-receiving households. By doing so, governments can ensure that the income-equalizing effects of remittances are sustained and potentially amplified, contributing to broader social and economic stability in these countries.

In contrast, in countries where remittance flows constitute a significant share of national GDP, remittances may exacerbate existing disparities of the national income. This could be attributed to higher-income households being the primary suppliers of migrants and beneficiaries of

remittances, coupled with a tendency for remittances to be used in “non-productive” ways. As a result, these countries may experience economic stagnation, with persistent disparities due to differences in income received from external migrants and earnings generated locally. Correspondingly, alongside policies designed to boost the earnings of low-income groups, targeted measures should focus on the utilization of remittances. For instance, creating a favorable economic environment to encourage saving and investment could help maximize the developmental potential of remittances.

In the case of fertility rates, it is possible to distinguish policies for two groups of countries. In the first group, comprising countries with low fertility rates, low exposure to remittances, and higher income levels, additional remittances are likely to decrease fertility rates. Conversely, in the second group, which includes countries with high fertility rates, high exposure to remittances, and lower income levels, additional remittances are likely to increase fertility rates. More specifically, the fertility changes associated with financial remittances is most notable in countries where the level of remittance exposure is relatively low. The first group includes economically developed nations with established economies. In contrast, the second group comprises less economically developed countries with transitioning economies. As fertility rates are low in the first group of countries, policy measures aimed at increasing fertility should focus on reducing emigration. Conversely, in the second group of countries, even emigration of people does not result in lower fertility, suggesting the need for other targeted fertility policies. It should be noted that, unlike income inequality, the fertility effects of remittances do not turn positive. Therefore, conclusions about the impacts of remittances should not only avoid being generalized from other countries but also account for differences across outcome variables.

The obtained within-country results are highly relevant to Tajikistan and countries with similar economies, where widespread economic emigration frequently serves as a strategy to address low income and high unemployment levels. In this type of settings, policymakers should focus on leveraging migration’s potential to enhance living standards of families. More explicitly, the results indicate that migration and later received remittances can improve the financial well-being of households, particularly in rural areas with limited employment opportunities, potentially helping them escape poverty. Thus, development policies should ideally differentiate between migrant and non-migrant households when designing poverty-related measures. However, migration’s benefits are not uniformly “pro-poor”, as wealthier households are expected to gain more from emigration. Therefore, policies related to migration

and remittances should also account for household characteristics. In this regard, prioritizing small-scale reforms and efficient targeting of aid to balance social assistance with budget constraints might be an appropriate approach. Beyond economic gains, migration enhances life satisfaction, framing it as more than only an economic factor.

Remittances are also shown to offer households a way to cushion the adverse effects of unexpected and short-lasting income instability, but their benefits are primarily confined to improving satisfaction with current financial circumstances, leaving overall life satisfaction unaffected. This result also indicates that policies aimed at enhancing family well-being must take a broader perspective, addressing more than just income stabilization. Moreover, this finding highlights fundamental differences across various dimensions of the perceived quality of life. Traditional frameworks dividing well-being into evaluative, hedonic, and eudaimonic aspects may not capture its full complexity, as distinctions between satisfaction related to monetary and non-monetary domains within these categories might be equally important. From a practical standpoint, refining well-being metrics to reflect these nuances could provide more accurate assessments of policies introduced to address large-scale economic disruptions. This approach can be particularly relevant for evaluating the effectiveness of recent financial support programs developed to alleviate the socio-economic consequences of shocks, such as the COVID-19 epidemic.

7. Concluding remarks

Since the early 1990s, labor and non-labor emigration has significantly increased and contributed to mitigating financial vulnerability among families in transition and non-transition economies. This dissertation investigates the extent to which exposure to cross-border emigration and financial remittances affect broader dimensions of individual and household decision-making, as well as the overall socio-economic development of the migrant-sending countries in the post-communist era. Previous studies on this topic have produced conflicting and often inconclusive outcomes. Given policymakers' concerns about balancing the provision of social assistance with maintaining a sustainable budget, the findings of this study could aid in better targeting assistance to households in need. This is especially significant for states in the post-communist region as the socio-economic implications of migration there remain critical. Moreover, following the collapse of the communist "Iron Curtain", the spread of capitalist systems and globalization transformed migration into a global phenomenon and elevated it to a prominent position on the global agenda.

Observing an increasing significance of cross-border emigration in a broad sense and financial remittances more precisely, I examine the relationship between exposure to them and the inclusive development prospects of migrant-producing countries and households. Particularly, this dissertation thesis consists of four inter-related empirical research studies, where I and my coauthors investigate how emigration via financial remittances affect selected measures of socio-economic development. At the core of each study is a spatiotemporal analysis of cross- and within-country statistics with robust econometric tools. The results provide new evidence supporting both dependency and modernization development theories. Similarly, they align with both "optimistic" and "pessimistic" perspectives on migration's effects. This dissertation indicates that at the individual level emigration and remittances can be viewed as the coping and utility-improving tool. However, as the country becomes more and more economically dependent on remittances, the positive effects of them diminish and even might turn to be negative.

In addition to employing general statistical tools, this dissertation also incorporates geographic data analysis. Whilst the former generally involves estimation methods aimed at quantifying the average impacts, the latter is used as a basis for various heterogeneity analyses. This dissertation also relies on geographic tools to visualize the setting under investigation and obtained results via the creation of various maps and a new classification of countries. The

latter involved a building a composite index that captures the indeterminacy of the migration-development nexus and identifies vulnerable states based on fertility, income, and remittance ranks. This index embodies the central idea of this dissertation by identifying threshold values at which a country faces the risk of stagnation due to remittance dependency, while also highlighting opportunities where excess resources could enhance national prosperity. Beyond its theoretical contribution to geopolitical science, this new classification system serves as a practical tool for designing and implementing targeted policies aimed at fostering sustainable development.

Although this dissertation comprises four distinct empirical studies addressing various aspects of the development-migration nexus, it does not cover every existing issue and has certain limitations, leaving area for further investigations. The first notable drawback is the quantity of outcome variables. Beyond fertility, income inequality, and subjective well-being, migration and remittances likely influence numerous other development variables. Furthermore, even for the variables considered, migration could impact them through alternative mechanisms. This dissertation primarily concentrates on the consequences of emigration mediated by financial remittances in source countries. Nevertheless, it is also important to explore other dimensions of migration, such as the significances of social remittances on source countries or the effects of immigration on receiving countries. The second limitation pertains to data. With the advent of the big data revolution, future research could utilize extensive cross-country surveys instead of aggregated data and compare these findings with those presented in this dissertation. Finally, as indicated by the title, this dissertation is centered on the post-communist world and era. An intriguing avenue for auxiliary scrutiny could be temporal comparisons of migration and remittances effects. Robust comparisons might yield new insights into whether the migration-development nexus behaves like a “pendulum”.

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