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MIGNEX Background Paper

A QCA (Qualitative Comparative Analysis) on the development impacts of migration

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MIGNEX

MIGNEX (Aligning Migration Management and the Migration-Development Nexus) is a five-year research project (2018–2023) with the core ambition of creating new knowledge on migration, development and policy. It is carried out by a consortium of nine partners in Europe, Africa and Asia: the Peace Research Institute Oslo (coordinator), Danube University Krems, University of Ghana, Koç University, Lahore University of Management Sciences, Maastricht University, ODI, the University of Oxford and Samuel Hall.

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MIGNEX Background Papers

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A QCA (Qualitative Comparative Analysis) on the development impacts of migration

Using Qualitative Comparative Analysis (QCA) as a method for formalised comparison of 26 research areas in 10 African and Asian countries, this study reveals under which conditions return migration, remittances and migrant investments can impact economic development.

Transnational networks boost economic well-being: enabling access to opportunities, investments, and support, enhancing economic prosperity.

Voluntary return migration drives economic well-being: Non-forced returns bring back assets and skills, vital for local economic development. Return policies should consider migrants' post-return conditions.

Remittances alone are insufficient to enhance an economic dynamic and alleviate poverty: Policies must address inequalities to fully utilise remittances for economic development.

Introduction

Migration is a multifaceted phenomenon with significant implications for economic development in countries of origin. While individuals departing their communities typically contribute to the economic well-being of households and communities back home by sending remittances, those returning may bring economic resources, new skills, and ideas with them (Levitt 1998). However, the impact of out-migration is not exclusively positive; it can also hinder development through the emigration of skilled workers, commonly known as 'brain drain' (Docquier & Rapoport 2012). This poses potential challenges to overall economic development, and effects on

the human capital levels of migrant-sending countries are uncertain. While labour losses can be detrimental in some cases, they can also alleviate labour surpluses in overcrowded labour markets (OECD 2017).

Another perspective posits that emigration of skilled workers can also stimulate the subsequent return of human capital. Return migrants, equipped with their financial savings and their know-how ('human capital'), are often seen as agents of development themselves. This migration-driven development, under favourable conditions, could eventually reduce incentives for further migration due to its implications on economic well-being *in situ*, paradoxically turning migration into a remedy against itself (Haas 2006: 16). Similarly, financial remittances, often seen as beneficial to receiving households and economies, may not consistently yield positive economic outcomes (Stark et al. 1986). Consequently, the intricate relationships between migration, remittances, and economic development are not straightforward.

The primary objective of this MIGNEX Background Paper is therefore to deepen our understanding of the specific conditions that may drive such paradoxical dynamics. It focuses on the intricate interplay between migration and economic, social, and political conditions in 26 African and Asian migrant-sending regions, exploring variations in the contexts of remittance sending, migrant investments, return migration, and their conjoint influence on economic well-being on households in these regions. The central question guiding this study is: *Under what (necessary and sufficient) conditions do return migration, migrant investments and financial remittances contribute to economic well-being (measured by* higher *wealth and* lower *poverty of households) in 26 research areas across ten African and Asian countries?*

In contrast to much of the existing literature, our approach involves a configurational analysis of factors across a diverse array of local areas and communities. This approach enables us to explore the complex relationships between different migration-related and contextual conditions. To perform this investigation, we employ fuzzy set Qualitative Comparative Analysis (fsQCA), a comparative method grounded in set-theory. fsQCA is particularly useful for analysing how specific combinations of conditions relate to particular outcomes by examining sets and their interrelations.

Specifically, our analysis investigates the impact of migration, in conjunction with structural and facilitating conditions, on economic well-being across 26 local areas. By considering the complex interplay between migration and economic wellbeing, we identify some critical research gaps that warrant further exploration. For example, while previous empirical research has predominantly employed quantitative methods and regression analyses to study the impacts of migration on economic development, our utilisation of QCA represents a methodological advancement in this field (Czaika & Godin 2021).[1]

[1] While this paper concentrates on the impact of migration on development, MIGNEX Background Paper 6.4 (Czaika & Weisner 2023) investigates the interplay of development-related factors and their impact on migration aspirations and migration behaviour.

While our outcome of interest is economic well-being, we investigate how various aspects of migration may interact with other contextual conditions, such as structural developments or policies, to shape this outcome. Significant attention has been paid to the impacts of remittances and emigration (for a good overview see Marchand et al. 2023), but there remains a notable gap in understanding the development impacts associated with different types of return migration and return policies. Most studies focus on one or two cases, while the present analysis compares 26 cases spread over ten countries. Exploring these different migration-related aspects in diverse contexts is essential for understanding the effects of migration on economic wellbeing in origin contexts more holistically.

Furthermore, our aim is to complement existing research, including by MIGNEX, which has shown that the relationship between migration and well-being is multifaceted rather than straightforward (Marchand et al. 2023). While the MIGNEX qualitative research in some instances pointed to potential explanations at the research area level (Erdal et al. 2023), we need further research to understand what lies behind these effects in different research areas. Through systematic comparison of MIGNEX research areas using QCA, we zoom into how various factors act in combination in specific contexts, and not others, to understand why positive effects may be observed in some areas while negative effects (or no effects) are observed in others.

By analysing how different migration-related factors (or 'conditions') impact outcomes of economic well-being (i.e. measured by wealth and poverty), either directly or indirectly, in isolation or conjointly with other migration-related factors and/or structural conditions, we move closer to understanding 'what works' and 'what doesn't' in different contexts.

The subsequent sections of this paper are structured as follows: first, an in-depth discussion of key concepts, clarification of our focus, and a summary of the literature on the key dimensions. We then present and discuss our data and method, along with associated caveats, followed by a description of the models and conditions used in the analysis. Next, we present and discuss the findings of the fuzzy set analysis. In the concluding section, we extract key findings, relate them to existing literature, and identify areas for future research. This may enhance our understanding of the intricate implications of migration on development, paving the way for more nuanced and effective policy considerations.

Conceptualising the impact of migration on economic wellbeing

Migrants typically maintain strong connections with their country of origin, fostering engagement with their household and communities back home. This connection serves as vital channel for realising the developmental advantages of migration, facilitating not only the flow of financial resources but also the exchange of knowledge and ideas between host and home countries through the migrant population. The concept of the "migration-

development nexus" (MDN) has been proposed to capture the complex linkages between migration and economic development processes in sending and receiving countries (Faist 2008).

When assessing the developmental impacts of migration, it is important to clarify the terms 'migration' and 'development' (Andersson & Siegel 2019). The definition of development plays a pivotal role in understanding the nexus between migration and development. To lay the groundwork for our analysis, the subsequent section offers a concise literature review to explore the diverse definitions of development and migration, shedding light on how various aspects of migration can affect development.

This exploration sets the stage for specifying our models for the QCA analysis. The section "The MIGNEX QCA Methodology" will provide a detailed explanation of our approach, elucidating how QCA is performed and how it enables a comprehensive understanding of the development impacts of migration-related factors.

What is 'development'?

The concept of 'development' remains elusive, with one notable conceptualisation suggesting it as a process of structural societal change (Sumner & Tribe 2008). While initial notions often focused narrowly on economic interpretations and metrics like gross domestic product (GDP) per capita, there has been a transformative shift towards a more comprehensive understanding epitomized by the Human Development Index (HDI). By integrating per capita GDP with quality-of-life indicators such as literacy, health outcomes, life expectancy, infant mortality, human rights, and gender equality, the HDI reflects Amartya Sen's reconceptualization of development. Sen views development as empowerment individuals to exercise autonomy and control over their lives (King & Collyer 2016: 169), framing 'development as freedom' (Sen 2001).

This evolving perspective broadens the scope of development to encompass multidimensional measures, emphasising the expansion of people's capabilities and choices. The contemporary discourse underscores the pursuit of sustainable and inclusive development, viewing it as both an individual and systemic endeavour. While individual well-being remains crucial, equal consideration is given to resource distribution and the capacity of economic, political and social systems to sustain well-being over the long term (Barder 2012).

In the realm of migration and development literature, a multifaceted approach emerges, categorising the impact migration can have on development into four main dimensions: (1) economic; (2) social; (3) environmental; and (4) institutional (Andersson and Siegel 2020). Various aspects within these dimensions, such as education, health, or gender norms, operate at different levels – some impacting individuals directly, others more indirectly.

For this paper, and considering the data available in the MIGNEX project, we focus on economic well-being as the primary outcome of interest, investigating how it is influenced by different migration-related conditions in four specific models. Our focus on economic well-being is based on two

specific development outcomes, namely wealth in assets, and prevalence of absolute poverty. While important, other types of development (e.g. social or institutional aspects) are not considered as an outcome for this analysis and are left for further research, however we aimed to conceptualise economic development quite multidimensionally, so as to represent wellbeing and livelihoods more generally.

Economic well-being refers to the overall state of an individual's or household's economic situation and stability, including factors such as income, employment opportunities, access to basic necessities, and ability to meet financial obligations. It encompasses both material wealth possessed and absence of economic poverty, thus providing a sense of security and financial freedom experienced by individuals and households (for more detailed conceptualisation see the section “Outcome specification”).

By focusing on these *economic* development outcomes and exploring how migration influences people’s economic capabilities in sending contexts, the paper aims to contribute to a nuanced understanding of how alternative aspects of migration impact on these key dimensions in economic outcomes, thereby partially capturing the complexities of the migration-development nexus.

Effects of migration on economic well-being

Several studies present divergent perspectives on the economic impact of migration on areas of origin. While some argue that out-migration can reduce poverty and enhance livelihoods for some individuals (Acosta et al. 2008; Bang et al. 2016; Vacaflores 2018), others contend that migration patterns may exacerbate poverty concentrations and have a limited overall impact due to factors such as the self-selectivity of migrants and the resultant loss of labour in origin areas (Gibson et al. 2013).

Empirical research on the poverty-alleviating effects of migration yields mixed effects. For example, Oberman (2013) finds substantial evidence supporting the notion that migration effectively reduces poverty. Similarly, Mohanty et al. (2016) indicate that migrant households experience lower levels, depts, and severities of poverty compared to non-migrant households, albeit with variations across different migrant categories based on skill levels. However, some studies find that the effects may be modest due to the fact that the poorest of the poor are often unable to migrate in the first place (Du et al. 2005) or the short-lived nature of positive effects, as evidenced by the negative relationship between remittances and agricultural income with the duration of migrants’ stay abroad (Gibson et al. 2013).

The impact of emigration on employment is also nuanced. Certain sectors may experience labour shortages due to emigration, while others may benefit from the release of pressure on its labour market (OECD 2017).

Migration of a family member may also improve the wealth of the remaining family (Alam 2011; Gagnon & Khoudour-Castéras 2011; Mergo 2016). One mechanism through which this occurs is the increase in self-employment among members of migrant-sending households, coupled with remittances, leading to wealth accumulation (Arouri & Nguyen 2018). However, wealth effects are often unevenly distributed among households, whereby richer

households may lose productive assets as a family member migrates, while poorer households may gain productive assets, thus contributing to a levelling effect in society (Garip 2014).

While much literature focuses on the impacts of current migrants residing abroad, primarily through the lens of remittance transfers, it is noteworthy that return migration (particularly when it is chosen and not forced) can lead to similar effects as migrants often return with savings, as well as new knowledge, skills and networks (Gagnon & Gagnon 2021; Marchand et al. 2023).

Historically, emigration from poorer countries has been regarded ambivalently, with the brain drain phenomenon highlighting the loss of highly skilled individuals and its negative impact on economic well-being and development (Mavroudi & Nagel 2016). The narrative shifted in the 1990s with the emergence of the "new economics of labour migration" paradigm, attributing migration a positive influence on development processes (Stark & Bloom 1985; Taylor 1999). However, some scholars have also challenged such views (Delgado-Wise & Covarrubias 2007; Portes 2009), emphasizing the importance of the agency and fate of individual migrants, who ultimately bear the social and economic burdens of both migration and (under-)development (Hernandez & Coutin 2006; Kunz 2008).

What is 'migration'?

To comprehensively assess the development impacts of migration, it is important to understand the different dimensions of migration, considering the multitude of channels through which migration can influence development outcomes (OECD 2017). The academic discourse has long been engaged in examining how migration shapes the lives of migrants, their households remaining in areas of origin, as well as the broader communities and countries of origin, yielding a large body of literature. This literature provides insights into the direct effects of migration on economic development, which can manifest through diverse channels such as monetary remittances, social remittances, defined as the attitudes, behaviours, and norms transmitted by migrants (Levitt 1998), and the presence or absence of migrants in households, including their eventual return.

In our study, we adopt a comprehensive perspective on migration, encompassing all individuals who have left their usual place of residence, regardless of the reasons for migration, their legal status, or the duration of their absence (Carling 2019). Furthermore, we incorporate the reception of economic and social remittances, as well as the return of migrants, as consequences of migration.

Our focus lies on examining the effects of 'migration' in its entirety, encompassing the impacts of migrants' absence and return, as well as the remittances they send, on local communities. Collectively, we term these effects as the consequences of 'migration'. In the section 'Model Specification' below, we delve into the specific concepts and measures employed in our analysis.

Return migration

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In many regions of origin, international migration is characterised by substantial return movements (Carling 2004; Hagan & Thomas Wassink 2020). Returnees may include retirees returning after years of work abroad, former overseas contract workers seeking new opportunities, or individuals returning from exile after several years as refugees. Additionally, some societies may see substantial numbers of deportees and other involuntary returnees.

Return migration has the potential to impact development in the country and region of origin in various ways, such as through the transfer of skills, knowledge, new networks and capital (Gagnon & Gagnon 2021). Despite data gaps, some studies suggest that return migration can lead to positive development often thanks to flows of financial resources or human capital (Bucheli et al. 2019), or increased levels of entrepreneurship and knowledge transfers (Wahba & Zenou 2012). Returnees contribute to their countries of origin by bringing back acquired human capital and skills, investing remittances and accumulated wealth in local economies, and facilitating innovative business partnerships between host and origin countries. They also contribute to social change by introducing new knowledge, norms, and ideas. Research by MIGNEX has found that having return migration and remittances are associated with higher social capital and community participation, highlighting the broader impacts of migration financial aspects (Marchand et al. 2023).

The development potential of return migrants is heavily influenced by the economic, social, and institutional conditions in their home countries. Many countries are implementing policies aimed at attracting and reintegrating emigrants, which can significantly enhance the contributions of diasporas and returnee migrants to development efforts.

Scholarly approaches to return migration generally consider three interrelated elements shaping patterns of reintegration: the context in migrants' home countries, the duration and type of migration experience abroad, and the factors motivating the return (both pre- and post-return conditions) (Cassarino 2004). Additionally, the nature of return migration, whether voluntary or forced, significantly affects individuals' likelihood and desire to reintegrate and contribute to development outcomes. While the 'forced-voluntary' dichotomy can be questioned (Erdal & Oeppen 2018), there is de-facto substantial difference between return as a self-chosen versus expulsions and forced removals. Empirical data confirms, that the more complete the migration cycle, the more prepared for return migrants are (Cassarino 2015: 220).

While voluntary returnees may have the potential to contribute positively to peace-building efforts (Van Houte & Davids 2014), deportation and forced return can have detrimental effects on development, especially when deportees are involved in organized crime (Kalsi 2018). Ultimately, the scale of international return migration varies across areas of origin, impacting the extent to which it influences development outcomes in areas of origin.

Economic remittances

Remittances, vital in understanding the impact of migration on economic development, refer to money transfers from individuals in one country to those in another. Despite often involving small amounts, these flows can constitute a significant share of household budgets in receiving countries. They represent one of the most tangible outcomes of international migration for developing countries and have grown to substantial levels globally.

At the national level, migrants' contributions to remittances-receiving countries' development are noteworthy. Remittance flows)accounting for nearly 6 percent of the gross domestic product (GDP) of low-income countries[2]) significantly contribute to sustaining communities and funding local development initiatives (Ratha n.d.). In fact, this figure is likely underestimated, as many transactions occur through informal channels not captured by official statistics (Ratha 2023). Remittances serve as a stable source of foreign exchange and financing for many developing countries, exhibiting less volatility compared to other capital flows such as portfolio investment, foreign direct investment and official foreign aid (Vargas-Silva 2008). They can also contribute significantly to the sustenance of communities at home and contribute to local development and the provision of basic services.

At the household level, remittances enhance earnings and well-being, elevating standards in food, health, housing, and education. However, sceptics argue that remittances primarily fuel household consumption (of often imported products) rather than foster longer-term economic development (Lewis 1986; Appleyard 1989; Todaro et al. 1991).

The impact of emigrants' money transfers on poverty alleviation undergoes scrutiny. While regular remittances can significantly reduce poverty, concerns arise about potential drawbacks. Critics suggest that consistent cash inflow may foster dependency in the country of origin and stifle innovation. Furthermore, the influx of migrant money may fuel inflationary pressures on the local economy, especially affecting land and real estate prices. At the household level, stable income from remittances may reduce labour supply and income. Furthermore, stable flows of migrant remittances depend on stable income opportunities in destination countries.

The impact of remittances on various development outcomes is extensively studied, however the overall impact in remittance-receiving countries and receiving households is ambiguous and contingent on various factors. For example, remittances can ease household credit constraints, boost consumption, facilitate short- and long-term investments, and mitigate poverty. Furthermore, there is evidence that remittances increase human capital acquisition at the household level (Edwards & Ureta 2003). As receiving remittances may relax the budget constraint of the receiving household, this potentially allows the household to send children to school. However, at the same time, the absence of one parent due to migration can

[2] In some cases, remittances can be as high as 13,5% of GDP as in Cape Verde in 2022 (World Bank (2022).

be detrimental on children' schooling achievements when credit constraints are binding (ibid).

Remittances are an important source of income for many low- and middle-income households, but their usage can affect people's welfare differently. This depends on factors such as household dependency on remittances, which may limit savings or investment in education or new businesses.

The impact of remittances on inequality is nuanced, linked to migration costs, network components, and distance between the sending and the receiving countries (Barham & Boucher 1998; Acosta et al. 2008). Higher migration costs reduce the probability of remittances by the poorest, potentially exacerbating inequality. However, recent studies suggest that remittances lower inequality over time as migration opportunities become more widespread (Kóczán & Loyola).

On the downside, evidence shows that many remittance-receiving households decrease their labour market participation, potentially leading to dependency akin to an international 'welfare' system. Nonetheless, reducing labour supply can improve quality of life and enable household members to acquire additional human capital through formal or informal education and training (Vargas-Silva 2012).

Migrant investments

Remittances can also take the form of direct migrant investments into businesses or other developments in regions of origin.

Remittances may provide essential capital for starting business or covering household expenses during business start-up phases, particularly in countries with underdeveloped credit markets (Woodruff & Zenteno 2007). Receiving remittances may allow the household to enter more profitable but riskier businesses, given that remittances can be used as a source of support for the household. This role of remittances is especially important in those countries where credit markets are not well developed.

Several studies from different countries, such as Guatemala, Mexico, Morocco, the Philippines and Tajikistan, have shown that households use remittances for investments in productive assets such as land, non-land assets and business investments (Haas 2006; Yang 2008; Adams & Cuecuecha 2010; Buckley & Hofmann 2012; Carvajal Guitiérrez & Johnson 2016).

Rather than direct remittances to households, collective remittances are transfers that are made by associations or other collectives of emigrants and intended to benefit the community of origin. While individual migrants may contribute through family remittances and occasional gifts, they often lack the capacity to undertake significant projects for their communities or home countries. Instead, these individuals may come together in various organizations, ranging from small hometown associations to larger regional and national federations, as well as professional and business groups (Iskander 2012). Described as 'globalisation from below' (Smith & Guarnizo 2006), transnational organisations established by migrants engage in economic, civic, and philanthropic initiatives within their localities and regions, aiming to enhance living conditions. Examples include emergency

aid, development assistance, financing of infrastructure and support to cultural events. Collective remittances, often channelled through migrants' hometown associations (HTAs) can therefore catalyse development at the community level, leading to improvements in health, education, sanitation, and infrastructure for both migrant and non-migrant households (Nyberg-Sorensen et al. 2002: 52). Professional and business associations can even take it a step further by transferring technological know-how and making capital investments of national importance (Portes 2015).

However, some warn against over assessing the impact of expatriate communities on the development of their home country. Overall, the resources that they can commit to developmental projects are modest. Therefore, while some may become successful entrepreneurs and the mass of their pooled contributions can have significant positive effects in their hometowns, there are limited effects at the regional and, especially, national levels (Guarnizo et al. 2003).

Transnational ties, social networks and social remittances

Transnational ties, social networks, and social remittances constitute the multifaceted phenomenon of migrant transnationalism, a dynamic process characterised by the establishment and sustenance of connections across national borders between migrants and their communities of origin (Basch et al. 2003; Carling 2008; Faist 2008). These connections are driven by various transnational practices, encompassing cross-border mobility, communication, and exchanges. The scope of migrant transnationalism is delineated by two principal dimensions: firstly, the prevalence of cross-border connections, especially within family networks, and secondly, the degree to which these connections facilitate transnational practices (Carling 2007). Among these practices, the act of sending remittances holds significant importance both monetarily and as a proxy for broader, intangible commitments (Yang 2011; Carling 2020).

Beyond the financial aspect, migrants also transmit ideas, behavioural norms, values, and expectations to their communities of origin (Levitt 1998). The term 'social remittances' encompasses these non-monetary transfers, which can be equally or even more impactful than financial remittances, often serving to complement or substitute them (Marchand et al. 2023). Social remittances frequently flow through South-North migration routes, with migrants in countries characterised by strict adherence to legal frameworks, contractual obligations, political accountability, and governmental transparency transmitting such ideas back to their home countries (Levitt & Lamba-Nieves 2011). Over time, these influences can potentially shape the expectations and behaviours of citizens, politicians, elected officials, and government employees. For example, empirical evidence suggest that exposure to education in democratic foreign countries foster democratic values in migrants' home countries (Spilimbergo 2009), and even brief experiences abroad can significantly impact the attitudes of returning immigrants, who subsequently act as agents of democratic diffusion (Pérez-Armendáriz & Crow 2010).

However, there is also evidence indicating that migrants may transmit a more materialistic perspective, prioritising financial success over values

such as family time and care. Additionally, preferences for increased privacy and a diminished sense of community life and social cohesion may also be disseminated (Portes 2009).

The emigration of highly educated individuals may contribute to the formation of a "brain bank," providing locals in the home country access to knowledge accumulated abroad (Agrawal et al. 2011). Previous studies suggest that migrants possess a unique advantage in investing in their home countries due to their possession of cultural and context-based knowledge that foreign investors lack. While non-migrant locals may possess similar knowledge, they often lack the valuable business expertise and entrepreneurial attitude acquired through experiences abroad.

Overall, the interconnectedness facilitated by transnational ties and social networks creates opportunities for economic development, wealth accumulation, and poverty alleviation by leveraging the resources, skills, and networks of migrants to benefit their home communities.

Migration and development policy interventions

Migration and policy interventions play a crucial role in shaping the developmental outcomes of migration movements, with governance frameworks and emigration policies interacting closely with broader development factors (Angenendt & Koch 2017).

In terms of migration policy approaches, governments of countries of origin typically adopt one of three strategies. Firstly, they may enact measures to either encourage or constrain the emigration of their citizens, either universally or targeting specific groups. Secondly, some countries adopt a laissez-faire policy, with minimal regulation of emigration. Thirdly, states may implement policies aimed at promoting the return of migrants from abroad and engaging with their diaspora communities. Despite the widespread use of such policies, their effectiveness in encouraging migrant return has rarely been comprehensively evaluated (Czaika & Carling 2019).

Furthermore, there exist policies that fall within the realm of development policies, aimed at facilitating and enhancing the impact of remittances or diaspora investments on household income and poverty alleviation. For example, Pakistan has developed a robust policy framework to promote labour emigration, channel remittances through formal channels, and encourage diaspora involvement in national development efforts (Godin & Vargas-Silva 2022: 30).

In terms of policies related to remittances, there are multiple approaches. For instance, governments may implement measures to maximise remittance inflows, such as incentive schemes to encourage higher remittances flows, e.g. by reducing costs, make transfers more secure, or quicker (OECD 2017). Policies may also focus on influencing the utilisation of remittances, ranging from financial education and training, to incentivise investments (Show 2010), or to initiatives like 'matching fund programmes,' where governments match funds raised by migrant organizations for social or infrastructural projects in specific communities (López-Córdova & Olmedo 2006: 26). Additionally, governments and development agencies may provide support to diaspora organisations or hometown associations and encourage

their expansion. While policy efforts encompass a spectrum from leveraging remittances and engaging diasporas to addressing the underlying causes of migration and fostering cooperation on migration management, the primary focus of the EU and its member states has tended to centre on the latter two aspects (Weisner & Pope 2023).

Overall, migration and development policies that effectively harness the economic potential of migration, remittances, and diaspora engagement seem to play a crucial role in fostering economic development, wealth accumulation, and poverty alleviation in origin countries and communities.

The QCA method applied to MIGNEX

Analysing the impact of migration on economic well-being with its sub-dimensions wealth and poverty necessitates a nuanced approach, considering both conceptual frameworks and methodological intricacies (Andersson and Siegel 2019). In this study, we have opted to employ fuzzy-set Qualitative Comparative Analysis (fsQCA) as an appropriate methodology for the following reasons.

Complex configurations of (migration-related) development drivers:
Development outcomes are influenced by a multitude of *interrelated* factors such as the rule of law, governance quality, violent conflict, security issues, international capital flows, transnational connections, and potentially various aspects of migration itself. Traditional linear (regression) models often oversimplify configurational complexities. However, Qualitative Comparative Analysis (QCA) excels in analysing such complex systems with multiple causal pathways (Gerrits & Pagliarin 2021; Byrne 2023). QCA's main advantage lies in its ability to model complex configurations of several factors ('combinations of conditions'), thereby enhancing our understanding of the intricate mix of development drivers and their connection with migration.

Equifinality and conjunctural causation:
QCA is particularly useful when multiple valid causal pathways exist ('equifinality'), and several factors need to configure conjointly for a particular outcome ('conjunctural causation'). In social sciences, causation is rarely a straightforward one-to-one relationship, and QCA embraces this complexity by identifying multipole patterns towards an outcome, thus offering a context-dependent approach to causality (Gerrits & Pagliarin 2021).

Necessity and sufficiency of configurational conditions:
Development outcomes, such as variations in levels of absolute poverty or wealth, often result from complex configurations of structural conditions, where factors like the extent of return migration or the receipt of remittances play significant roles. QCA assesses the necessity and sufficiency of individual factors and configurations, i.e., combinations of individual factors, thereby improving our understanding of how different migration-related conditions interrelate in their influence of economic development in migrants' home countries and communities.

Suitability for small and mid-sized datasets:
QCA is well-suited for research involving small (<10 cases) to mid-sized (<70 cases) datasets. In our study, which examines 26 research areas, QCA proves particularly relevant and interpretable, unlike regression-based methods which may not be as applicable due to the low number of observations.

While single case-based research and qualitative methods offer in-depth insights into specific cases, they often lack systematic comparison across multiple cases. QCA, on the other hand, allows for a systematic comparison of multiple cases, enabling researchers to identify common patterns and configurations across diverse contexts. This systematic approach enhances the generalizability of findings beyond individual cases, providing insights that can be applied to a broader range of cases.

Policy effectiveness assessment:
Since certain policies may only be effective in specific contexts, QCA helps to explore under what conditions, and their combinations, specific policies are necessary and sufficient to produce desired outcomes in different settings.

In summary, QCA aligns with the need for a comprehensive understanding of outcomes in the migration and development nexus. While acknowledging that it simplifies the complexities found in reality, QCA facilitates the identification of essential ('necessary') factors, effective ('sufficient') conditions, and combinations of conditions (i.e., configurations of conditions), thereby addressing key research gaps in the migration-development discourse, such as the role of social ties, the dynamics of the prevalence and circumstances of return and remittances, and migration-related policy impacts on economic development outcomes.

This study is based on the 26 research areas of the MIGNEX project, which we define as cases, and follows established QCA standards (Ragin 2010; Mello 2021; Oana et al. 2021). We specified one comprehensive QCA model for explaining average economic well-being of households in the 26 research areas. The comprehensive model includes the three main migration conditions, return, remittances, migration investments, in addition to a composite condition on multidimensional development and a condition capture transnational ties. We then refined our analysis by assessing three additional QCA models explaining configurational complexities of the three migration-related factors in a more fine-grained specification of conditions. The following sections explain the case selection and the conceptualisation and operationalisation of conditions and outcomes of the various models in this study.

Case selection: The 26 MIGNEX research areas

The process of defining and selecting cases constitutes a pivotal phase in the QCA research approach, exerting significant influence on the diversity of outcomes and conditions within the sample. In fact, case selection carries substantial implications for the analytical findings expressed in the form of QCA solutions.

In performing our QCA analysis, we selected the 26 distinct MIGNEX research areas (RAs) across ten countries (Figure 1), treating each as an individual case. These areas encompass a broad spectrum of geographical

regions, ranging from urban centres and city segments to rural areas, provided they met specific criteria. The selection of these research areas was guided by the aim of ensuring diversity in both outcomes and conditions. Factors such as population density, security considerations, and infrastructure standards were carefully considered in this process.

Central to the case selection process in QCA, and thus integral to the MIGNEX project, is the emphasis on ensuring variation across the selected research areas (RAs). Therefore, the selection process was further guided by the pursuit of *dissimilarity* in specific developmental aspects, with the objective of capturing diversity of these aspects through multiple unique configurations of development (see MIGNEX Handbook chapter 6 for more details). These developmental aspects encompass a wide spectrum, including substantial shifts in livelihood patterns, extended periods of economic stagnation, infrastructure enhancements, expansion of educational opportunities, fluctuations in security conditions (either improvements or deteriorations), reforms in social protection, and severe environmental challenges.

In broad terms, migration influences economic development at five levels: (1) individual (e.g., migrants enjoying higher wages due to emigration); (2) household (e.g., increased education spending in the household left behind due to remittances); (3) community (research areas in MIGNEX) (e.g., increased demand for consumption goods due to remittances); (4) national and regional economy and (5) global economy (e.g., more efficient allocation of labour regionally and globally) (Chappell & Sriskandarajah 2007; Andersson & Siegel 2019). Our analysis focusses on research areas, because case selection at the research area level offers a robust and contextually rich approach to studying the complex interplay between migration-related factors and development outcomes. It allows us to draw meaningful insights that are relevant, representative, and generalisable across diverse socio-economic contexts within and across the ten Asian and African countries.

Figure 1. The 26 MIGNEX local research areas (RAs)

MIGNEX data and data calibration

The data used to perform QCA stem from the MIGNEX survey conducted between 2020 and 2022.[3] The MIGNEX survey aims to provide a reasonably accurate representation of the 18-39-year-old population across 26 distinct research areas in ten African and Asian countries (Figure 1). This was achieved by employing a three-stage probability-proportional-to-size (PPS) cluster sampling approach, combined with systematic random selection methods. The survey also incorporated individual-/household-level weighting in its analysis to ensure proper representation of population demographics for each research area. A detailed overview of the survey's implementation, data cleaning and preparation of weights and other variables can be found in the MIGNEX Handbook Chapter 10 (Hagen-Zanker et al. 2023a).

The coding scales utilised for the Research Area Interim Reports (RAIRs) were derived from qualitative data sources, including key informant interviews, focus groups, and in situ observations. For a detailed understanding of these data collection tools and methodologies, readers can refer to the MIGNEX Handbook, specifically Chapters 7 and 10 (Hagen-Zanker et al. 2023b; Hagen-Zanker et al. 2023a) provide insights into the survey-related methodology, while Chapters 8 (Erdal & Carling 2020) and 11 (Erdal et al. 2023) delve into the nuances of qualitative data collection and the development of the RAIR coding scales.

To prepare the raw dataset for our QCA analyses, we processed both MIGNEX survey data and qualitative information from the research area

[3] The MIGNEX survey data collection was piloted in October 2020 (Ghana) finished in February 2022 (Pakistan). In this sense, the MIGNEX survey is not a true cross-section, because the data was collected in different countries at different times (MIGNEX handbook chapter 10).

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interim reports (RAIRs). Below, we present how we used these data to perform the QCAs.

MIGNEX survey data

The survey adopted a three-stage probability-proportional-to-size cluster sampling strategy with random walks. Since the research area is the analytical unit (cases) for the four QCA analyses, we aggregated micro-level data items using sampling weights to account for the likelihood of selecting households in a cluster sample. Weighted means were calculated for each research area using selected survey items as measures for the conditions of interest. These survey items utilised various point scales, and in total, we utilised 22 survey items as raw data to represent the two different outcomes and eight conditions.

MIGNEX RAIR coding scales

The qualitative data collection resulted in 26 Research Area Interim Reports (RAIRs) that contain coding scales for 19 selected topics. For example, for measuring the forms of foreign investment that inhabitants are aware of and likely to know that is funded from abroad, we used one distinct coding scale in our analysis. This coding scale on the prominence of international investment employed an ordinal scale ranging from 1 to 4, where 1 indicated no signs of any foreign investment in the area and 4 representing that large-scale foreign investment is highly prominent in a certain the area.

MIGNEX Policy Review

The assessment of country-level policies delved into multiple dimensions, including policy coherence, effectiveness, and their influence on the intricate interplay between migration and development (Godin and Vargas-Silva 2020). The database includes various domains, including, such as the presence and effectiveness of policies targeting out-migration, in-migration, return migration, readmissions, remittances, and diaspora investment.

In our examination of conditions, we placed specific emphasis on identifying policies facilitating diaspora investments or enhancing the effect of remittances.

Fuzzy-set concept formation of the MIGNEX data

In the context of QCA, the concepts of 'fuzzy sets' and 'calibration' are pivotal for analysing the necessary and sufficient conditions underlying complex relationships between factors and outcomes. A fuzzy set value represents the degree of membership of cases in various set categories, encompassing considered conditions and outcomes, as well as their related ‘indicators’ or ‘subdimensions’. This enables a detailed analysis of both qualitative data (MIGNEX research area interim reports) and quantitative data (MIGNEX survey).

Unlike traditional binary set theory, which classifies cases as either fully within a set (1) or outside of it (0), fuzzy sets offer the flexibility to represent varying degrees of membership. These degrees are expressed as values ranging from 0 to 1. For instance, within our dataset, fuzzy set membership values indicate how closely a research area (RA) aligns with a specific category, such as 'low poverty’ or ‘high level of HH wealth.' If a RA exhibits a

high degree of poverty, its assigned (or 'calibrated,' see below) fuzzy-set membership value could be 0.2 within the set 'low poverty.' Conversely, if households in a research area are wealthy, its calibrated fuzzy-set membership value might be 0.7 within the set 'high level of HH wealth.'

QCA involves the calibration of set memberships and the specification of critical qualitative anchors (Ragin 2009, 2010). Calibration is the process of assigning fuzzy membership values to cases (here, the MIGNEX research areas) for each selected condition and outcome involved in a QCA analysis. This process involves determining how closely each case aligns with a particular category or set according to specific criteria or definitions Calibration in QCA often relies on expert judgment, deeper qualitative case knowledge, or the use of empirical data to gauge the degree of membership (i.e., fuzzy-set membership values) of each case in the selected conditions and outcomes. In the following MIGNEX-based QCAs, we calibrate raw data from qualitative research area reports (RAIRs) and from a quantitative household survey, both of which provide objective descriptions of key aspects of migration and development in the 26 MIGNEX research areas. Our calibration procedure for the outcome and all conditions is outlined further below after introducing our model specifications.

MIGNEX QCA model specifications and operationalisation

The selection of conditions and (sub-)outcomes is grounded in a thorough literature review on the impact of migration on economic development (see section "Conceptualizing the development impact of migration"). These have been conceptualised in terms of their anticipated contributions, aligning with the 'directional expectations' in QCA, towards the outcome. In the following, we provide concise definitions for each sub-outcome and condition part of our four QCAs, along with details on their measurement and calibration procedures, and some key information on their empirical data distribution of each of them.

Model specifications

Model specification in QCA involves the definition of cases, outcomes, and conditions, as well as the operationalisation of the latter two. After having defined our cases, the second step involved specifying the outcome of interest for the QCA analysis and selecting an appropriate measure for it. In accordance with our research question, we focus on economic well-being as primary outcome. This outcome is based on the combination of (1) the presence of a high level of wealth and assets, and (2) the presence of low poverty in a research area. It is worth noting that while our analysis also examined the negation of the outcome according to QCA standards (Rubinson et al. 2019), our primary focus was on their presence. This asymmetric analysis of both presence and absence of the outcome is a distinctive feature of QCA, as it assumes that factors and their combinations explaining economic well-being are different from those explain a lack of economic well-being.

The third step entailed the selection and justification of a unique set of conditions for the analysis. Choosing conditions necessitates a theoretical understanding of the condition-outcome relationship and substantial background research based on empirical and case knowledge (Czaika & Godin 2019). Given the limited number of cases (26), and to maintain a manageable size of the truth table, we decided to limit each of our four models to five conditions.

For our analysis, we constructed four overarching models:

- *Model 1 (MIG): assesses the comprehensive combination of three migration-related conditions (RETURN, REMIT, INVEST) together with multidimensional development and transnational ties (Table 1);*
- *Model 2 (RETURN): assesses the impact of return migration in combination with other relevant conditions (Table 2);*
- *Model 3 (REMIT): assesses the impact of remittances (Table 3); and*
- *Model 4 (INVEST): assesses) the interplay of remittances and migrant investments with other forms of foreign investments (Table 4).*

These four models are each applied to the outcome:

- *Outcome: High level of economic well-being.*

The purpose of model 1 is to see how all migration-related conditions may configure conjointly, to see whether it is justified to then continue the analysis of the three sub-models specified towards a certain aspect of migration (i.e. return, remittances, migrant investments).

Table 1. Model specification for the 'comprehensive migration model' (Model 1/MIG)

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Condition	Measure	Label
High level return migrants	MIGNEX Survey Item F4 "Do you have other family members, relatives or friends who left [COUNTRY], lived abroad for at least one year and later moved back to [COUNTRY]?"	RET
Large share of remittance receiving households	MIGNEX Survey Item F9 "Has anyone who lives abroad sent money to you or anyone in your household during the past year?"	REM
Strong transnational ties (Social remittances)	Regular contact to household members abroad: MIGNEX Survey Item F8 "Would you say that there is any of them that you have been in contact with every month?"	TIES
Prominent migrant investment	MIGNEX Survey Item B14 "Do you know of any person who used to live in [research area], and now lives in another country, who has invested in a business here?"	MIGINV
High Multidimensional Development	*Good Governance*: Combination (PPCA) of five subindices: 1) Quality of public services in health and education (survey items a31, d04), 2) Governance index (j08-10, j13), 3) Perception of government quality (j11, j14), 4) Infrastructure improvement (RAIR code A), 5) Corruption (j14) *High Security*: Combination (PPCA) of three subindices: 1) Safety perception (k01), 2) Level of insecurity and violence in RA (RAIR code H), 3) Experience of insecurity and violence (k03-k07) *Low Unemployment*: Unemployment index based on labour force status 'unemployed' (survey item b02)	DEV

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Table 2. Model specifications for the 'return model' (Model 2/RETURN)

Condition	Measure	Label
High level return migrants	MIGNEX Survey Item F4 "Do you have other family members, relatives or friends who left [COUNTRY], lived abroad for at least one year and later moved back to [COUNTRY]?"	RET
Forced returns to research area not prevalent	MIGNEX Survey Item G10 "Been deported from abroad and forced to come back to [COUNTRY]?"	NODEP
Strong transnational ties (Social remittances)	Regular contact to household members abroad: MIGNEX Survey Item F8 "Would you say that there is any of them that you have been in contact with every month?"	TIES
High level of western return	MIGNEX Survey Item F5 "In which countries did they live?"	RET_W
High Multidimensional Development	*Good Governance*: Combination (PPCA) of five subindices: 1) Quality of public services in health and education (survey items a31, d04), 2) Governance index (j08-10, j13), 3) Perception of government quality (j11, j14), 4) Infrastructure improvement (RAIR code A), 5) Corruption (j14) *High Security*: Combination (PPCA) of three subindices: 1) Safety perception (k01), 2) Level of insecurity and violence in RA (RAIR code H), 3) Experience of insecurity and violence (k03-k07) *Low Unemployment*: Unemployment index based on labour force status 'unemployed' (survey item b02)	DEV

MIGEX Background Paper

Table 3. Model specifications for the 'remittance model' (Model 3/REMIT)

Condition	Measure	Label
Large share of remittance receiving households	MIGNEX Survey Item F9 "Has anyone who lives abroad sent money to you or anyone in your household during the past year?"	REM
Strong transnational ties (Social remittances)	Regular contact to household members abroad: MIGNEX Survey Item F8 "Would you say that there is any of them that you have been in contact with every month?"	TIES
Existence of policy to enhance effect of remittances	MIGNEX Policy Review: "What is the impact of policies to increase the effect of remittances on receiving households' incomes?"	REMPOL
High level of inequality	Calculated Gini coefficient per research area based on 15 MIGNEX Survey items operationalising household wealth[4]	INEQ
High Multidimensional Development	*Good Governance*: Combination (PPCA) of five subindices: 1) Quality of public services in health and education (survey items a31, d04), 2) Governance index (j08-10, j13), 3) Perception of government quality (j11, j14), 4) Infrastructure improvement (RAIR code A), 5) Corruption (j14) *High Security*: Combination (PPCA) of three subindices: 1) Safety perception (k01), 2) Level of insecurity and violence in RA (RAIR code H), 3) Experience of insecurity and violence (k03-k07) *Low Unemployment*: Unemployment index based on labour force status 'unemployed' (survey item b02)	DEV

[4] cf. MIGNEX Background paper D6.1, p.72.

Table 4. Model specifications for the 'investment model' (Model 4/INVEST)

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Condition	Measure	Label
Prominent migrant investment	MIGNEX Survey Item B14 "Do you know of any person who used to live in [research area], and now lives in another country, who has invested in a business here?"	MIGINV
Prominent international investment	RAIR Coding scale E. Prominence of international investment	FDI
Existence of policy to enhance effect of diaspora investments	MIGNEX Policy Review: "Are there any policies that facilitate diaspora investments?"	INVPOL
Strong transnational ties (Social remittances)	Regular contact to household members abroad: MIGNEX Survey Item F8 "Would you say that there is any of them that you have been in contact with every month?"	TIES
High Multidimensional Development	*Good Governance*: Combination (PPCA) of five subindices: 1) Quality of public services in health and education (survey items a31, d04), 2) Governance index (j08-10, j13), 3) Perception of government quality (j11, j14), 4) Infrastructure improvement (RAIR code A), 5) Corruption (j14) *High Security*: Combination (PPCA) of three subindices: 1) Safety perception (k01), 2) Level of insecurity and violence in RA (RAIR code H), 3) Experience of insecurity and violence (k03-k07) *Low Unemployment*: Unemployment index based on labour force status 'unemployed' (survey item b02)	DEV

Outcome specification

The analysis of the 26 cases (research areas) reveals a notable array of outcomes concerning the central focus of this paper: economic well-being, and its two sub-outcomes, the levels of wealth and absolute poverty, respectively. Drawing upon the extensive data obtained through the MIGNEX household survey and the qualitative interviews, alongside assessments contributing to the Research Area Interim Report (RAIR) coding scales, we constructed a nuanced understanding of these sub-outcomes, accounting for their multidimensional dimensions.

Sub-Outcome 1: Attainment of high wealth and asset levels

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Data and measurement

To formulate a comprehensive indicator encompassing wealth and assets, we utilised 15 designated MIGNEX survey items (I13-I24, M03, M06, M08) as measures for a composite indicator reflecting the degree of household wealth in the research area (WEALTH). Utilising polychoric principal component analysis (PPCA) on these items, we amalgamated them into an index, subsequently calibrating the data into standardised raw data scaled from 0 to 1. These values indicate relative level of household wealth of across the 26 research areas.

Case distributions "High_Wealth"

The empirical distribution of the raw data scores of the 26 research areas is displayed in Figure 2 (grey bars). Notably, significant diversity in average household wealth is evident both within and between case countries, with greater variance observed between countries.

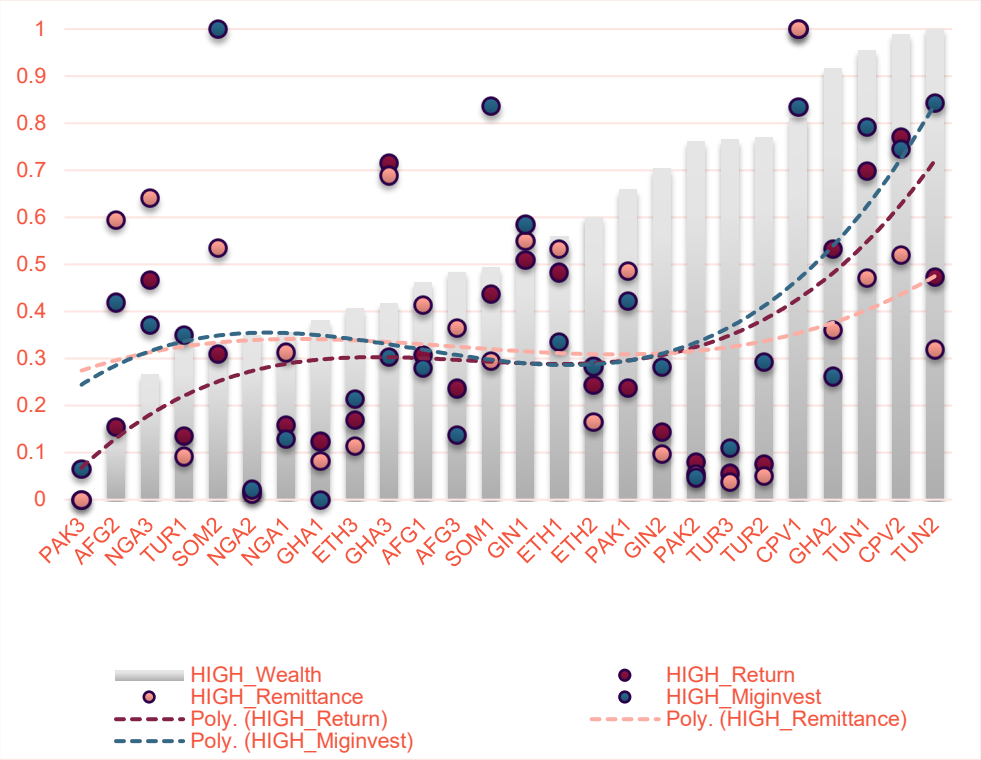

Figure 2. Wealth distribution across research areas vs. return rates, remittance incidence, and migrant investments

Note: Polynomial trend line is of order 3 (cubic). Raw data source: MIGNEX Survey (mxs-prep-merge-2023-01-20.dta) and MIGNEX Coding Scales based on Research Area Interim Reports (MIGNEX Handbook Chapter 11).

Sub-Outcome 2: Low levels of absolute poverty

MIGEX Background Paper

Data and measurement

To evaluate poverty levels across research areas, we identified two pivotal MIGNEX survey questions as crucial proxies for measuring absolute poverty within the research areas. In our study, poverty is defined as households lacking sufficient income and resources to meet basic needs, resulting in inadequate access to essentials like food, housing, healthcare, education, and other essential goods and services. The poverty indicator is derived as the mean of two dimensions: household financial status and the frequency of hunger.

- *Financial status: This dimension measures perceived household financial well-being through survey item I4: "How is your household's current financial situation?" Responses range from '1' for "Finding it difficult to get by" to '3' for "Living comfortably." Before merging this data with hunger frequency, we recode the responses to create an ordinal hardship scale with '1' indicating "Living comfortably" and rescale it to a 4-point scale.*

- *Hunger frequency: This dimension assesses food insecurity and hunger using survey item I8: "How often have you or your household gone to sleep without enough food to eat in the past month?" '1' means "Never," and '4' means "Always." No further transformations are required.*

By integrating financial status and the frequency of hunger, we have developed a poverty index that does not only consider the subjective evaluation of basic needs fulfilment but also identifies severe poverty through hunger incidence. This poverty assessment is computed as the average of both aspects, with equal weighting assigned to each.

Utilizing these two measures as metrics for assessing absolute poverty, we calibrated the resulting poverty index into 0-1 scaled raw data values to represent the degree of absolute poverty across research areas (Figure 3).

Case distributions "Low_Poverty"

The distribution of raw data scores representing household poverty across the 26 research areas is presented in Figure 3 utilising grey bars. Figure 3 illustrates the diversity of degrees of household poverty across the 26 cases. This graphical representation provides a comprehensive depiction of household poverty as a salient feature, manifesting both within individual research areas and between distinct case countries. The nuanced intricacies of absolute poverty are evident within each region, showcasing the range of financial conditions experienced by households. Moreover, when comparing across countries, the spectrum of household poverty exhibits even greater variation, emphasising the unique economic conditions characterising each case.

Figure 3 not only captures the distribution of absolute household poverty but also highlights the three key conditions of our analysis presumed to contribute to (low) levels of poverty. These conditions will be introduced in the next section.

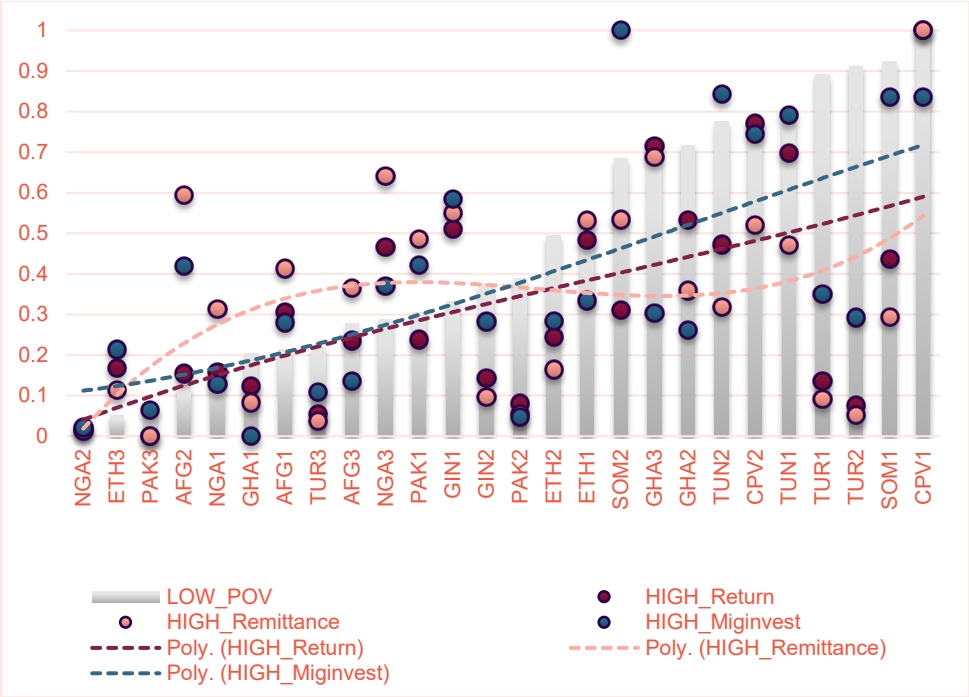

Figure 3. Poverty distribution across research areas vs. return rates, remittance incidence, and migrant investments

Note: Polynomial trend line is of order 3 (cubic). Raw data source: MIGNEX Survey (mxs-prep-merge-2023-01-20.dta) and MIGNEX Coding Scales based on Research Area Interim Reports (MIGNEX Handbook Chapter 11).

General and model-specific core conditions

We first outline the migration-related conditions, followed by other conditions facilitating economic well-being, which is proxied by the combination of wealth and poverty levels. When referring to 'high-levels' of a certain condition, this refers to the relative intensity of that condition being above average across the 26 research areas.

Core Condition 1: High levels of return migration (RET)

Data and measurement

To assess the intensity of return migration in a research area, we utilize household information provided from survey item F4:

- *"Do you have other family members, relatives or friends who left [country], lived abroad for at least one year and later moved back to [country]?*

Responses to this question were coded 1 for 'yes' and 0 for 'no', aggregated at the research area level to create a return migration index. This raw data index is scaled from 0 to 1.

Case distributions

The raw data distribution of the return migration index are displayed in Figures 2 and 3, respectively. The purple trend lines show a positive association between the return migration intensity and the two outcomes,

high levels of wealth and low levels of poverty, respectively. Despite cubic parametric, the best fit correlation between return intensity and poverty is strikingly linear, while the association with wealth levels is stronger at both tails of the wealth distribution but rather weak for medium wealth levels.

Directional expectation

High intensity of return migration (RET) contributes to high economic well-being in presence rather than is absence. Additionally, we test in the 'return model':

- *Low prevalence of deportations and forced returns (NODEP)*
- *High level of return migration from Western countries (RET_W)*

All directional expectations can be found in Annex 2: Directional expectations for the intermediate solutions.

Core Condition 2: High level of remittance receiving households (REM)

Definition, data and measurement

Fuzzy scores assessing the significance and prevalence of remittances within the research area are derived from responses to survey item F9:

- *"Has anyone who lives abroad sent money to you or anyone in your household during the past year?"*

Responses were coded as 1 for 'yes' and 0 for 'no'. While detailed information on the specific amounts of remittances is unfortunately unavailable, we can utilize this data to calculate the proportion of households within a research area receiving remittances. This proportion, indicative of the prevalence of remittances in the research area, is then rescaled into a 0-1 scale.

Case distributions

Rescaled raw data scores pertaining to remittances are presented in both Figure 2 and Figure 3, showing a non-linear correlation with poverty and wealth levels. Notably, in relation to both sub-outcomes of economic well-being, remittances exhibit a more robust positive correlation at both low and high levels of wealth and poverty. Unexpectantly, this correlation appears to weaken in the intermediate range of wealth and poverty.

Nevertheless, it is important to acknowledge the substantial variation around this cubic trend line. This variability underscores the need for caution in interpreting the relationship between remittances and the levels of wealth and poverty. The intricacies within this correlation warrant careful consideration to avoid oversimplified conclusions.

Directional expectation

A high level of remittances receiving households (REM) contributes to the outcome high economic well-being in its presence rather than its absence.

Core Condition 3: High level of migrant investments (MIGINV)

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Definition, data and measurement

Rae data information gauging the prevalence of noteworthy migrant investments within the research area is derived from responses to survey item B14:

- *'Do you know of any person who used to live in [research area], and now lives in another country, who has invested in a business here?*

Responses to this question were coded 1 for a positive and 0 for a negative response. Although detailed information concerning the specific amounts of migrant investment is not available, we can utilise this data to approximate the presence of migrant investments within a research area. Subsequently, this raw data indicator is rescaled into a 0-1 scale.

Case distributions

Rae data scores related to migrant investments are showcased in both Figure 2 and Figure 3. The blue trend lines in these figures emphasize the most robust correlation – surpassing return migration intensity or remittances – with poverty and wealth levels. Remarkably, migrant investments demonstrate a significant association with wealth levels, displaying a positive and nearly linear correlation with absolute poverty.

Much like with return migration and remittances, the presence of substantial variation around these trend lines underscores the need for a more nuanced examination of these relationships. This variability sets the stage for the subsequent in-depth case analysis of these relationships.

Directional expectation

A high level of migrant investments (MIGINV) contributes to high economic well-being in its presence.

Additionally, we test in the investment model:

- *High level of international investment (FDI)*
- *Existence of policies to enhance impact of diaspora investment (INVPOL)*

All directional expectations can be found in Annex 2: Directional expectations for the intermediate solutions.

Core Condition 4: Social remittances and strong diasporic ties (TIES)

Data and measurement

the extent of international diasporic ties and a presumably high level of social remittances is measured by the extent of regular contact to household members abroad based on survey item F8:

- *'Would you say that there is any of them that you have been in contact with every month?*

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Respondents provided either a positive response, coded as 1, or a negative response, coded as 0. We transformed this proportion of positive answers into a 0-1 scale to approximate the presence of a high connectivity of households in each research area with the diaspora abroad.

Directional expectation

A high level of international diasporic ties (TIES) is a sufficient condition for the presence of high economic well-being, measured by the combination of high wealth and low poverty.

Core Condition 5: Multidimensional development (DEV)

Data and measurement

The level of multidimensional development in the research area spanning the three domains of the economy, governance, and security is based on the following combination of survey items:

- *Good Governance: Combination (PPCA) of five subindices: 1) Quality of public services in health and education (survey items a31, d04), 2) Governance index (j08-10, j13), 3) Perception of government quality (j11, j14), 4) Infrastructure improvement (RAIR code A), 5) Corruption (j14)*
- *High Security: Combination (PPCA) of three subindices: 1) Safety perception (k01), 2) Level of insecurity and violence in RA (RAIR code H), 3) Experience of insecurity and violence (k03-k07)*
- *Low Unemployment: Unemployment index based on labour force status 'unemployed' (survey item b02)*

Directional expectation

High level of multidimensional development (DEV) contributes to the outcome of high economic well-being (measured by the combination of high wealth and low poverty) in its presence rather than is absence.

Core Condition 6: Existence of a remittance policy (REMPOL)

Data and measurement

For this condition we make use of the MIGNEX policy database (Godin and Vargas-Silva 2022). Regarding the existence of a remittance policy in the ten countries analysed in the project, the question was "What is the impact of policies to increase the effect of remittances on receiving households' incomes?". The responses were coded in the following way:

- *1 = there are no policies*
- *2 = modest impact*
- *3 = have an impact, but smaller than intended by policies*
- *4 = have major impact*

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In the database we saw that there was in fact no country where such a policy has had a major impact, therefore we decided to code this condition as crisp (meaning that cases receive only the value '0' or '1' to denote whether it is in or outside of a set).

Therefore, to capture simply whether a country has a policy to enhance the effect of remittances on receiving households' income cases with the value '1' were recoded as '0' (no existence of remittance policy) and the values 2-4 were recoded as '1' (existence of remittance policy).

Directional expectation

Theoretically we assume that a policy to enhance the effect of remittances on receiving households' income contributes to the outcome of higher economic well-being in its presence rather than its absence.

Core Condition 7: Existence of a diaspora investment policy (INVPOL)

For this policy-relevant condition we again use the MIGNEX policy database (Godin and Vargas-Silva 2022), specifically the question "Are there any policies that facilitate diaspora investments?". As the answers are either 'yes' or 'no' we again calibrate this as crisp giving 'yes' a '1' (existence of a diaspora policy) and 'no' becomes a '0' (no existence of a diaspora policy).

Directional expectation

Theoretically we assume that a policy to facilitate diaspora investments contributes to the outcome of higher economic well-being in its presence rather than its absence.

Core Condition 8: Economic inequality (INEQ)

Data and measurement

Economic inequality is based on a calculation of the Gini index for each research area, utilizing the household wealth index as a proxy, as outlined in Hagen-Zanker et al., 2023.[5] The Gini index is a statistical measure theoretically ranging from 0 to 1, where 0 would signify perfect equality, indicating that all households in the research area possess equal wealth, and 1, which would represent perfect inequality, implying that only one household would monopolizes all the wealth in the research area. The actual distribution across research areas is between 0.16 in Youhanabad (PAK2) and 0.57 in Keti Bandar (PAK3). We have rescaled all Gini coefficients into a 0-1 scale.

[5] The Gini index for each research area is estimated using the "ineqdeco" command in Stata developed by Stephen Jenkins.

Directional expectation

A high level of economic inequality is theoretically ambiguous (non-linear) regarding its effect on the outcome high economic well-being. That means it could contribute to the outcome in its presence (high level of inequality) or its absence (no high level of inequality).

Calibration procedure for the outcome and conditions

Based on the two MIGNEX qualitative and quantitative data sources at hand, we implemented a three-step calibration process. First, we defined and calculated indices based on numerous survey items and RAIR coding scales using polychoric principal component analysis (PPCA). The definitions and respective components of the indices are provided in Tables 1-3.

In a second step, these indices were then 'fuzzified', a central specificity to QCA. It is a transformational process from the raw numerical data to set membership scores ranging from 0-1, based on a certain number of qualitative anchors or thresholds.

To ensure comparability across categories and indicators, we calibrated indicators according to our directional expectations, aligning them with the underlying concept related to the degree of economic well-being (outcome), which is a composite of the degree of wealth (sub-outcome 1) and the degree of poverty (sub-outcome 2) in the research area.

For example, in the case of sub-outcome 1, which assesses the level of household wealth in the research area, we defined it based on the amount of assets available in households. To capture various dimensions of household assets, we utilized a combination of 15 MIGNEX survey items, including items such as air conditioners or dishwashers, as well as indicators such as the availability of electricity or tap water. These survey items were combined using polychoric PCA to create an index scaled from zero to one.

As for sub-outcome 2, which captures the degree of absolute poverty in the research area, we employed two survey items related to households' financial situations, along with information on the availability of food and the prevalence of hunger within the household. These survey items were equally combined using polychoric PCA to create an index scaled from zero to one.

To do so, we used a procedure called the 'min-max scaling technique', which comprises the following steps:

- *Identify the data range: Determine the minimum (min) and maximum (max) values of each variable to be fuzzified within your dataset.*
- *Apply the min-max formula: For each data point (referred to as 'x'), employ the min-max scaling formula: Scaled Value (x_scaled) = (x - min) / (max - min). This formula computes the proportion of 'x' relative to the minimum and maximum values.*
- *Repeat for all data points: Calculate the scaled value for each data point in your dataset using the same formula.*

The actual outcome 'economic well-being' is calibrated on a six-point Likert scale and is based on the raw data scores of these two sub-outcomes. Membership in the set of cases with a very high level of economic well-being requires, for instance, that the average raw data scores of sub-outcome 1 ('wealth') and sub-outcome 2 ('poverty') is larger or equal 0.8. Table 5displays the outcome specifications from "very high level of economic well-being (1.0)" to "very low levels of economic well-being (0.0)".

Table 5. Outcome specification: Economic well-being

Fuzzy score	Definition	Criterion: $(WEALTH + POV)$*0.5
1.0	Very high level of economic well-being	[1.0; 0.8]
0.8	High level of economic well-being	[0.8; 0.6]
0.6	Rather high level of economic well-being	[0.6; 0.5]
0.4	Rather low level of economic wellbeing	[0.5; 0.4]
0.2	Low level of economic wellbeing	[0.4; 0.2]
0.0	Very low level of economic wellbeing	[0.2; 0.0]

For all conditions (except the two policy conditions REMPOL and INVPOL and for the presence of foreign direct investment (FDI)), we calibrated the respective raw data scores into fuzzy scores using the direct method of logistical transformation for all 15 conditions (Ragin 2008). For this we used the anchors of 0 to denote raw data values that are fully out of the set, 0.5 to be neither in nor out and 1 as being fully out of the set. The following calibration table (Table 6) displays again the calibration scheme for all conditions.

Table 6. Calibration table of conditions

Condition	Calibration type	Calibration scheme
RET, REM, MIGINV, RET_W, NODEP, TIES, DEV, INEQ	Fuzzy, direct method	Full membership: 1 Crossover point: 0,5 Full non-membership: 0
REMPOL	Crisp	1: Policy exists 0: Policy does not exist
INVPOL	Crisp	1: Policy exists 0: Policy does not exist
FDI	4-Point Likert Scale	0: There are no signs of any foreign investment (FDI) in the area. 0.33: There are some signs of FDI in the area, but it is not very prominent 0.66: Foreign direct investment is prominent in the area, but not on a large scale 1: Large-scale foreign investment is highly prominent in the area.

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Raw data matrix and fuzzy score matrix

Appendix 8 reports the raw data scores of all (sub-)outcomes and calibrated the fuzzy score matrix. Raw data scores of all conditions have been calibrated using the direct method (Ragin 2008) with 0.5 as the cut-off value distinguishing between the (relative) presence and absence of cases in the respective sets. The outcome 'economic well-being', based on the raw data score of the two sub-outcomes wealth and poverty, has been calibrated into a six-level fuzzy score scaled from presence in the set of 'very high economic well-being' to presence in the set of 'very low economic well-being' (cf. Table 5).

Results and analysis

In this section, we apply a fuzzy- set Qualitative Comparative Analysis (fsQCA) to examine our four models.[6] We then proceed to elucidate and interpret our results, revisiting the cases and to illustrate some of our findings and relating them to specific research areas (cases). In the subsequent section we synthesize and compare the results of our multiple models, delving into the nuances of the findings and their alignment with existing literature.

Truth tables and truth table minimization

The primary analytical tool in the QCA process is the truth table, comprising all logically possible combinations of conditions within the respective model specification. With four different models under examination, a total of eight distinct truth tables (four for the presence of the outcome and four for its absence) need construction.[7] All truth tables can be found in Annex 3: "Truth tables." For more detailed information on the construction of the truth table, please refer to Annex 1: "Details of the QCA methodology".

In accordance with agreed-upon standards for the performance of QCA methodology and adhering to established best practices (Schneider & Wagemann 2010; Rubinson et al. 2019), we examine both the presence and the absence (negation) of the outcome. This dual evaluation is essential for conducting the enhanced standard analysis in QCA and for excluding true logical contradiction from the truth table minimisation process (for more details, refer to Annex 1: "Details of the QCA methodology"). Results for the negated outcomes are presented in Annex 5: "Solution paths for the negated outcomes". In the following sections, we commence by scrutinising the potential necessity of specific conditions in achieving the outcome before proceeding to the sufficiency analysis.

[6] We utilise the R software, specifically the 'SetMethods' (Oana and Schneider 2018) and 'QCA' (Dusa 2019) packages. These software tools enable us to conduct a range of operations and analyses aimed at uncovering patterns, relationships, and configurations among the conditions of interest. For a more detailed explanation, please refer to Annex 1: "Details of the QCA methodology".

[7] We make use of the function truthTable() in package QCA (Dusa 2019). See Annex 1 for detailed information on the QCA procedure and construction of the truth table.

Set-theoretic analysis for the 'comprehensive migration model' (Model 1/MIG)

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Test for necessity

Utilizing set-theoretic relationships, a necessity relation can be identified when the fuzzy-set membership values of a condition is consistently equal to or higher than surpass the fuzzy-set membership values of the outcome (condition as superset of the outcome). Our necessity analysis incorporates both the positive (affirmative) and negative expressions of the individual conditions.

We find that none of the entailed conditions (in its presence or absence) passes the standard benchmark of 0.90 consistency to be considered a necessary condition for the occurrence of widespread economic-wellbeing (Schneider & Wagemann, 2012, p. 143).[8] This finding is consistent with the negated outcome, as detailed in Annex 4: "Test for necessary conditions".

Considering existing literature and our theoretical framework (see section 'Conceptualising the development impact of migration'), it is plausible that none of the examined conditions can unequivocally be designated as necessary, given that wealth can manifest under various circumstances and may not hinge on one specific enabling condition.

Test for sufficiency

Sufficiency is indicated when the fuzzy-set membership values of a condition consistently equal or are lower than those of the outcome (condition/combinations of conditions being subsets of the outcome). The process of truth table minimization yields three distinct solution types for sufficiency: the conservative, parsimonious, and intermediate solution. In this analysis, we focus primarily on the intermediate solution for its balanced trade-off between parsimony and complexity. For further details on other solution types, please refer to Annex 1: "Details of the QCA methodology".

The sufficiency analysis results are presented through solution paths, which elucidate the combination of conditions contributing to the outcome of interest. These solution paths collectively constitute the solution formula, encompassing both present (uppercase) and absent (lowercase) conditions. Furthermore, the performance of QCA includes several measures to assess the strength and validity of results (see Box: "Key concepts and measures of fit"). While a detailed discussion of the measures of fit for each model is omitted here for simplicity and conciseness, it is important to highlight that all models analysed adhere to the acceptable thresholds established by QCA standards of good practice (see e.g. Schneider and Wagemann (2010).

[8] Coverage and relevance of necessity were also checked, to avoid trivial necessary conditions.

Key concepts and measures of fit in QCA

Consistency determines the accuracy of the approximation of the subset relationship and therefore provides information regarding the model's validity.

Coverage measures empirical relevance by evaluating the number of cases covered by the solution or solution path. S*olution coverage* indicates how many cases are covered by the solution term. *Raw coverage* signifies the share of the outcome that is explained by a specific alternative path, while the *unique coverage* refers to the share of the outcome that is *exclusively* explained by a specific alternative path (Ragin 2010; Schneider & Wagemann 2012).[9]

Proportional Reduction in Inconsistency (PRI) is a score which is used to avoid simultaneous subset relations of configurations. PRI consistency scores should be high and close to raw consistency scores (e.g., 0.7), while configurations with PRI scores below 0.5 indicate significant inconsistency (Greckhamer et al. 2018).

C*overed cases* represent the cases which empirically exhibit the combination of conditions of each solution path.

Table 7 displays the findings of our analysis for Model 1/MIG. We adhere to standard notation practices, with black circles denoting the presence of a condition, and crossed-out circles signifying its absence. Furthermore, it is important to note that in QCA notation, a "*" signifies a logical "AND" while a "+" a logical "OR". A "~" preceding a condition label denotes its relevance in absence rather than presence; for instance, while "RET" signifies a high level of return, "~RET" signifies "NOT a high level of return" (see Box: "Notation in QCA").

[9] Ragin (2010); Schneider and Wagemann (2012).

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Notation in QCA

* : logical AND (combines two or more conditions that need to occur in conjunction with each other)

+ : logical OR (showing that several conditions or pathways can be equally separate but equally valid, combined with a "+" two or several pathways make up the solution formula)

~: when written in front of a condition name, this signifies the absence rather than the presence of that condition

Table 7. Solution for the outcome high levels of economic well-being (Model 1/MIG)

Enhanced Intermediate Sufficient Solution, Model 1/MIG						
		Path 1	**Path 2**	**Path 3**	**Path 4**	**Path 5**
		RET **AND** TIES	MIGINV **AND** TIES	MIGINV **AND** DEV	TIES **AND** DEV	RET **AND** REM **AND** MIGINV
Conditions	**Label**					
High level of return migrants	RET	●				●
Large share of remittance receiving households	REM					●
Widespread migrant investment	MIGINV		●	●		●
Strong transnational ties	TIES	●	●		●	
High Multidimensional Development	DEV			●	●	
Consistency		0.935	0.903	0.940	0.934	0.916
PRI		0.896	0.840	0.891	0.883	0.840
Raw Coverage		0.513	0.535	0.445	0.574	0.355
Unique Coverage		0.043	0.043	0.031	0.114	0.007
Covered Cases		**GHA2**; TUN1; GHA3; CPV1, CPV2	**TUN2**; **SOM2**; TUN1; CPV1, CPV2	**SOM1**; CPV1, CPV2	**GIN2,TUR3, PAK2**; GHA3; CPV1,CPV2	**GIN1**; CPV1, CPV2
Solution Consistency	0.886					
PRI	0.825					

Solution Coverage	0.775		MIGEX Background Paper

Note: Black circles indicate the presence of a condition, crossed-out circles its absence. Conditions with a "~" in front mean the absence of the condition. Cases in bold are those that are uniquely covered by that path.

The solution comprises five distinct paths leading to high levels of economic well-being. The table's bottom section displays case membership for each path, with uniquely covered cases highlighted in bold. Overall, the intermediate solution demonstrates a consistency of 0.87 and a coverage of 0.772. This indicates a highly consistent account and coverage of approximately one-third of the set-membership values for the outcome.

- *Path 1 entails the combination of high levels of return and strong transnational ties and networks.*
- *Path 2 comprises widespread migrant investments along with strong transnational ties.*
- *Path 3 combines widespread migrant investments with a high level of multidimensional development, while Path 4 demonstrates strong transnational ties in combination with a high level of multidimensional development.*
- *Finally, path 5 consists of the combination of the three migration-related conditions that we be further explored in the subsequent models: high levels of return migrants, widespread migrant investment and high levels of remittance-receiving households.*

Case Analysis

Based on the sufficiency plots depicted in Figure 5, we observe the distribution of cases according to their membership in the outcome (y-axis) and each solution path (x-axis). Cases positioned in the upper left quadrant denote the so-called 'ideal typical cases', indicating perfect alignment with both the solution path and the outcome. Conversely, cases situated in the lower left quadrant are the so-called 'deviant cases', signifying their inclusion in the solution path (meaning the exhibit this combination of conditions) but exclusion from the outcome, thereby contradicting the sufficiency statement. In this case, only two deviant cases are identified across the four paths, NGA3 and GIN1. These cases warrant further examination to uncover other contextual factors influencing why the proposed solutions fail to yield the expected outcome.

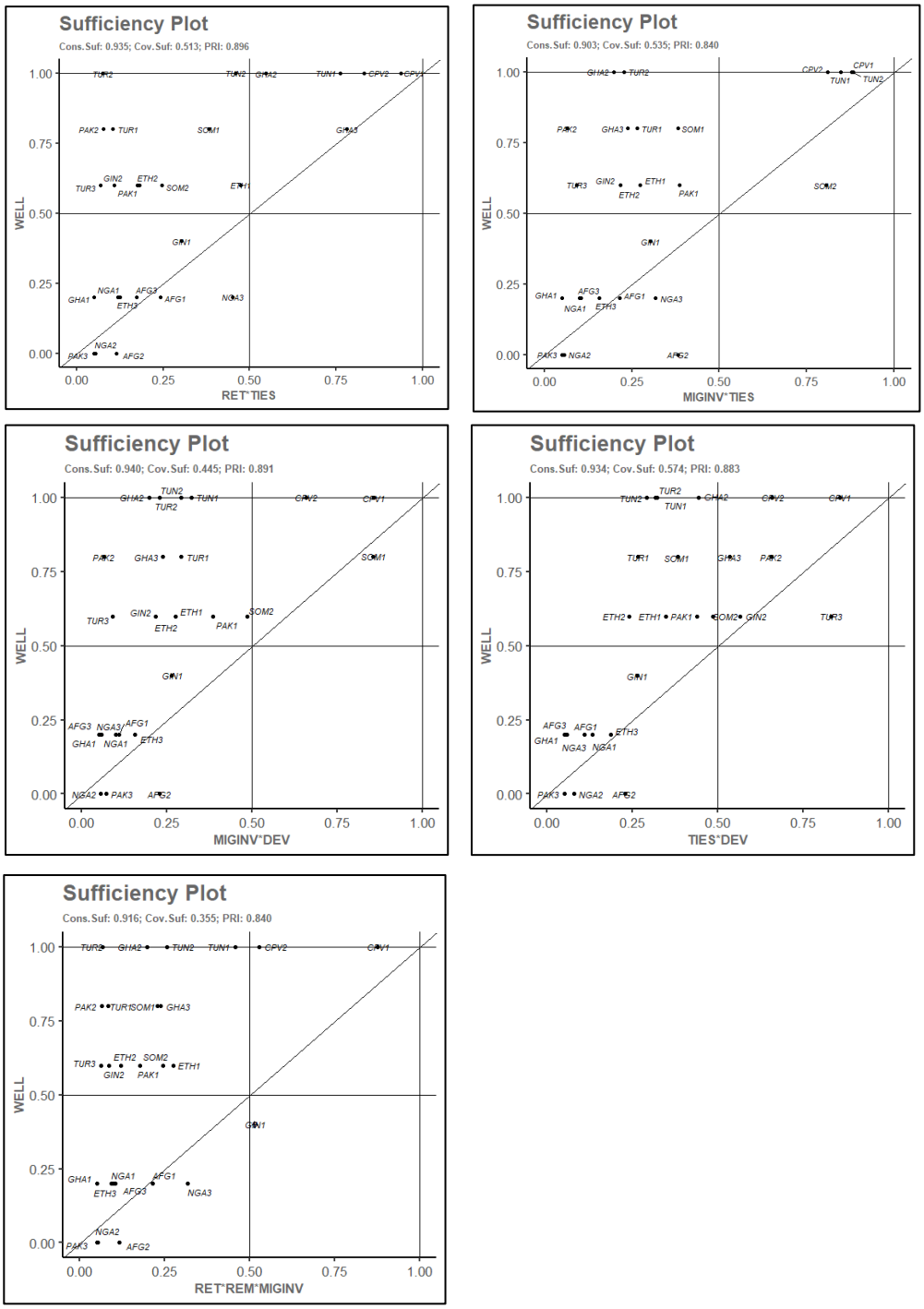

Figure 4. Sufficiency plots for the intermediate solution (Model 1/MIG)

For example, consider the case of Boffa in Guinea (GIN1), which falls within the solution path “MIGINV*INVPOL*FDI”. Boffa is increasingly affected by the international mining industry, with the construction of a new harbour by French NGO Charente-Maritime Coopération improving the working conditions of local fishers and wholesalers. Despite this, industrial mining threatens local trade, prompting significant out-migration concerns. Furthermore, around one-quarter (26%) of surveyed young adults in Boffa are aware of migrant investment, primarily comprising individual donations by members of the diaspora who wish to become notables in the locality. Therefore, migrant investments and foreign direct investments in Boffa fail

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to foster widespread economic well-being, as evidenced by livelihoods collapses and adverse impacts on artisan agricultural production. Most of the surveyed young adults (82%) express difficulties in earning a living and supporting their families.[10]

This in-depth analysis of the deviant case of Boffa underscores that the identified solution paths in our analysis represent empirical patterns toward an outcome. However, their universal validity is challenged by numerous unaccounted factors that may affect the causal patterns.

Set-theoretic analysis for the 'return model' (Model 2/RETURN)

Test for necessity

In Model 2 (RETURN), none of the conditions are considered as necessary (see Annex 4.2).

Test for sufficiency

Within the framework of the Model 2/Return, we uncover four significant solution pathways:

- *Path 1 entails the combination of a high level of return migrants in a research area together with a low prevalence of forced returns.*
- *Path 2 signifies a high level of returns from western countries, specifically in combination with strong transnational ties.*
- *Path 3 similarly consists of strong transnational ties combined with the absence of forced returns in a research area.*
- *Path 4 combines three conditions: a high level of returnees from western countries, minimal forced returns, and a generally high level of multidimensional development.*

These four conjunctions of conditions represent sufficient configurations, each covering distinct empirical observations. They are displayed with a logical OR relation, indicating that any one of them is adequate for certain positive configurations, while all four are needed to cover all of them (see Box below).

All pathways exhibit high consistency and coverage, affirming their empirical validity and relevance in our analysis. The solution coverage of 0.888 shows that there is only a small portion of cases that remains unexplained by the solution formula (see Table 8).

[10] Botta et al. (2022)

Table 8. Solution for the outcome high levels of economic well-being (Model 2/RETURN)

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Enhanced Intermediate Sufficient Solution, Model 2/RETURN					
		Path 1	**Path 2**	**Path 3**	**Path 4**
		RET **AND** NODEP	RET_W **AND** TIES	NODEP **AND** TIES	RET_W **AND** NODEP **AND** DEV
Conditions	**Label**				
High level of return migrants	RET	●			
Forced returns to research area not prevalent	NODEP	●		●	●
Strong transnational ties (Social remittances)	TIES		●	●	
High level of Western return	RET_W		●		●
High Multidimensional Development	DEV				●
Consistency		0.924	0.896	0.856	0.889
PRI		0.871	0.853	0.770	0.839
Raw Coverage		0.473	0.610	0.686	0.549
Unique Coverage		0.007	0.084	0.105	0.106
Covered Cases		**GIN1**, GHA2, TUN1, CPV1, CPV2	**TUN2**, PAK1, TUR1, TUR3, **GHA3**, GHA2, TUN1, CPV1, CPV2	**NGA3, SOM2**; **GIN2, PAK2;** PAK1; TUR3; GHA2, TUN1; CPV1, CPV2	**SOM1**, TUR1, **TUR2**; TUR3; CPV1, CPV2
Solution Consistency	0.839				
PRI	0.770				
Solution Coverage	0.888				

Note: Black circles indicate the presence of a condition, crossed-out circles its absence. Conditions with a "~" in front mean the absence of the condition. Cases in bold are those that are uniquely covered by that path.

What these pathways illustrate are four distinct combinations of conditions, often referred to as 'causal recipes' or 'pathways', wherein high levels of economic well-being become attainable. Notably, only one of these pathways highlights the necessity of a robust level of multidimensional development an integral part of a sufficient configuration (INUS). Furthermore, the return from western countries must coincide with a strong level of social ties to be effective (Path 2). Furthermore, three out of the four pathways include the condition of "no prevalent deportations," either in combination with a high level of return, strong national ties, or high multidimensional development. These findings support the claims in the return literature (see section "Conceptualising the development impact of migration") that emphasise the

positive effect of voluntary return migration on communities of origin, as opposed to forced returns.

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Solution formulas for Model 2 (RETURN):

Path 1: High level of return (RET) * No prevalent deportations (NODEP)

+

Path 2: High level of return from western countries (RET_W) * Strong transnational ties (TIES)

+

Path 3: No prevalent deportations (NODEP) * Strong transnational ties (TIES)

+

Path 4: High level of return from western countries (RET_W) * No prevalent deportations (NODEP) * High multidimensional development (DEV)

→ **High levels of economic well-being**

The sufficiency plot (Figure 5) reveals how cases are distributed concerning their membership in the outcome and the solution formula. In the upper right quadrant, predominantly robust typical cases, such as TUN2, TUN1, and CPV2, are shown.

For example, consider Redeyef (TUN2) in Tunisia, a prime illustration uniquely covered by Path 2 (RET_W*TIES). Redeyef, a marginalised mining town, embodies the complexities of migration amid socio-economic challenges. Decades of job cuts and corruption have fostered resentment and pessimism among locals regarding future livelihood prospects. Migration is seen as a beacon of hope despite its associated risks and costs, evidenced by a rise in irregular migration journeys. Transnational ties thrive in Redeyef, with historical destinations like France and Germany, particularly the French town of Nantes, sometimes dubbed 'Little Redeyef'. Although regular migration to the Gulf for specific work contracts is less common, 77% of Redeyef's population maintains connections with migrated friends and family, but only a third receive remittances. People keep in close touch with friends and family who have migrated, and the phenomenon of recurring summer visits ensures that those ties are kept close and have a wider impact on the town as well. These summer return visits by migrants have significant economic and psychosocial impact on the town, as visiting migrants

stimulate local economies by spending money on goods, restaurants, and activities, enriching familial bonds in the process.

A quarter of young adults (24%) in Redeyef have family, relatives or friends who have returned from abroad. The phenomenon of return migration takes manifests in various ways within the community. Some former residents return permanently, while others make short-term visits, contributing to a seasonal population increase during the summer months. Additionally, there are instances of forced returns or deportations, albeit to a lesser extent. Interestingly, nearly half of young adults (49%) either personally know someone who has been deported from abroad or have experienced deportation themselves within the past five years (Kasavan et al. 2022).

Notably, among what are termed 'typical cases,' only individuals in Guinea (GIN1 and GIN2) are subject to national policies that actively promote the return of nationals from abroad and implement integration strategies for returning nationals (Godin and Vargas-Silva 2022). Tunisia, Cabo Verde and Ghana do not have such policies.

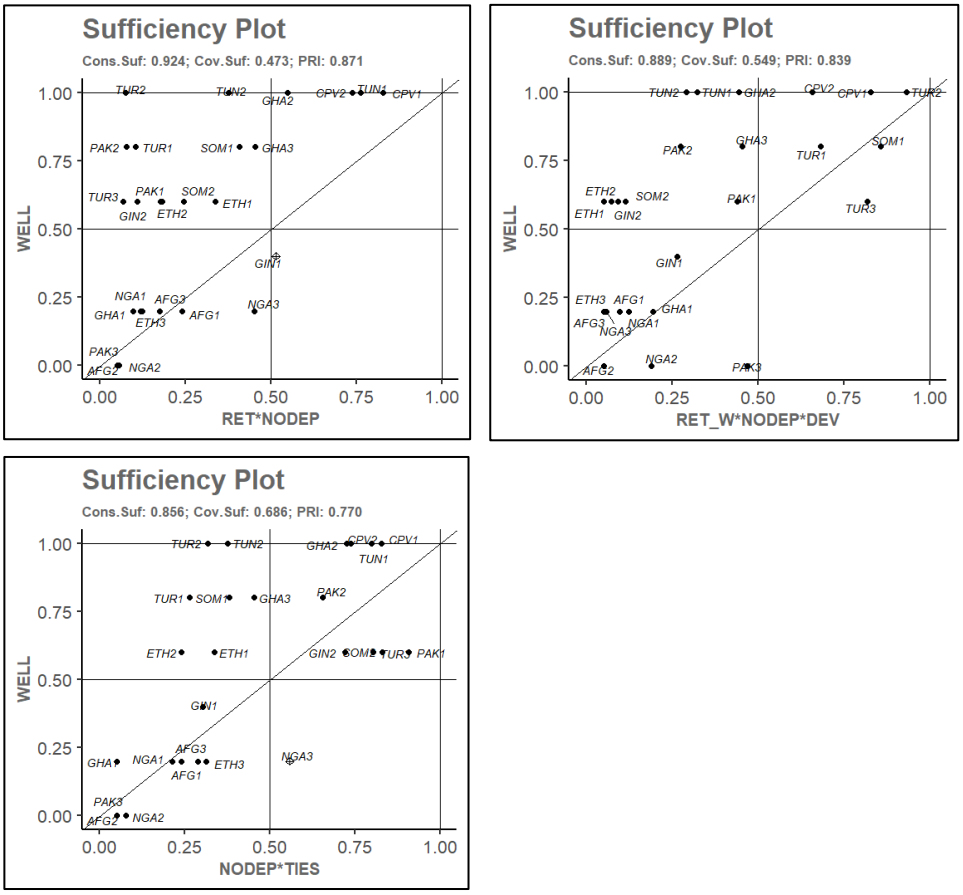

Figure 5. Sufficiency plots for the intermediate solution of Model 2/RET

Besides 'typical cases,' there are also the so-called 'deviant cases' regarding consistency (DCC), positioned in the lower right quadrant of the sufficiency plot. These cases are part of the solution, but not the outcome and therefore contradict our statement of sufficiency. Conversely, deviant cases in coverage are indicative of outcomes without corresponding solutions. These

phenomena present intriguing puzzles, and a thorough examination of such cases can shed light on potentially missing conditions that may also influence the outcome (Oana & Schneider 2021).

In this return model, only one deviant case, Ekpoma in Nigeria (NGA 3), is relevant for Path 3 (NODEP*TIES), highlighting the for further investigation into the factors driving its divergence from the expected outcome. Specifically, in the case of Ekpoma, we observe robust ties between Ekpoma residents at home and abroad, with over two-thirds (68%) of young adults maintaining contact with migrant family or friends abroad within the past year. However, it appears that Ekpoma's inclusion in the condition for no prevalent deportations may not be sufficiently robust to significantly contribute to the outcome of high achieving levels of economic well-being.

In fact, return migration in Ekpoma is characterised by its commonality yet diversity. About 15% of young adults have family or friends who have returned, including retirees and individuals displaced by violence. Some international returnees choose to reinvest in the town, thereby creating employment opportunities. However, a larger share returns with limited assets, often having been deported from countries like Libya or various European countries, sometimes through initiatives such as the International Organisation for Migration (IOM) return scheme. It's notable that more than one in ten (12%) young adults know someone who has been deported – or have themselves been deported – from abroad (Aghedo et al. 2022).

Set-theoretic analysis for the 'remittances model' (Model 3/REMIT)

Test for necessity

Upon conducting the analysis to identify necessary conditions, we find that none of the conditions used in Model 3/REMIT can definitively be categorised as necessary for the occurrence of high levels of economic well-being. This finding is consistent with the negated outcome, as detailed in Annex 4: Test for necessary conditions.

Test for sufficiency

Within the framework of Model 3/REMIT, which explores the impact of a high prevalence of remittance-receiving households in a given research area along with four additional conditions, our analysis reveals a solution formula featuring three distinct solution pathways (see Table 9).

Table 9. Sufficiency conditions for high levels of economic well-being (Model 3/REMIT)

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Enhanced Intermediate Sufficient Solution, Model 3/REMIT				
		Path 1	**Path 2**	**Path 3**
		REM*REMPOL* TIES	~INEQ*DEV	~INEQ*TIES
Conditions	**Label**			
Large share of remittance receiving households	REM	●		
Existence of policy to enhance impact of remittances	REMPOL	●		
Strong transnational ties (Social remittances)	TIES	●		●
High level of inequality	INEQ		⊗	⊗
Good multidimensional development	DEV		●	
Consistency		0.842	0.952	0.869
PRI		0.702	0.922	0.795
Raw Coverage		0.158	0.693	0.740
Unique Coverage		0.009	0.121	0.134
Covered Cases		**ETH1,** GHA3; **NGA3**	**SOM1, TUR1**, **TUR2**; GIN2, TUR3, PAK2; CPV1, CPV2, GHA3	**TUN1, TUN2**, **AFG1, PAK1**; GIN2, TUR3, PAK2; GHA2, CPV1, CPV2, GHA3
Solution Consistency	0.874			
PRI	0.814			
Solution Coverage	0.870			

Note: Black circles indicate the presence of a condition, crossed-out circles its absence. Conditions with a "~" in front mean the absence of the condition. Cases in bold are those that are uniquely covered by that path.

Out of the three pathways, only one is directly pertinent to remittance-receiving households, while the other two highlight the significance of favourable structural development conditions in combination with the absence of inequality is sufficient factors for achieving high levels of economic well-being.

- *Path 1 signifies that a significant concentration of remittance-receiving households in a research area, combined with strong transnational ties and intense regular contact to household members abroad, contributes to high levels of economic well-being.*

- *Conversely, Path 2 and Path 3 shows that research areas characterised by low levels of inequality, along with either substantial multidimensional development or strong ties, also exhibit heightened levels of economic well-being.*
- *Path 4 combines a high prevalence of remittance-receiving households with a substantial share of remittances originating from western countries, within the context of low levels of inequality in a research area.*

Path 1 covers only three research areas (ETH1, GHA3 and NGA3). In fact, among our case countries, only Ethiopia, Ghana and Nigeria have implemented policies aimed at enhancing the impact of remittances on receiving households' incomes (Godin and Vargas-Silva 2022). Consequently, the scope of cases applicable to this pathway is limited. However, it is especially intriguing to see that the influence of remittances in these three cases becomes apparent only when combined with the presence of such policy initiatives and strong transnational social networks.

Solution formulas for Model 3/REMIT:

Path 1: High level of remittance receiving households (REM) * Existence of policy to enhance effect of remittances * Strong transnational ties (TIES)

+

Path 2: Absence of high levels of inequality (~INEQ) * High multidimensional development (DEV)

+

Path 3: Absence of high levels of inequality (~INEQ) * Strong transnational ties (TIES)

→ **High levels of economic well-being**

Case analysis

Shahrake Jabrael (AFG1) and Ekpoma (NGA3) emerge as 'deviant cases' in terms of consistency within the solution formula but do not align with the outcome (Figure 6). In Shahrake Jabrael (AFG1), for example, many inhabitants are living in extreme poverty, lacking essentials such as potable water, adequate housing, social protection, and viable livelihood options. Afghan migrants abroad and the diaspora constitute serve as a vital lifeline for residents in Shahrake Jabrael. Among young adults with a migrant family member, relative or friend (71%), the majority (78%) had been in contact during the past year. Around one-quarter of young adults' households (25%) had received remittances in the past year. However, due to the extreme

poverty, remittances likely do not contribute to wealth and assets accumulation significantly. Furthermore, since August 2021, the Afghan financial system has been in crisis, with US sanctions imposing significant fiscal constraints. This crisis has hampered remittance flows to those remaining in this isolated area (Alizada & Murray 2022).

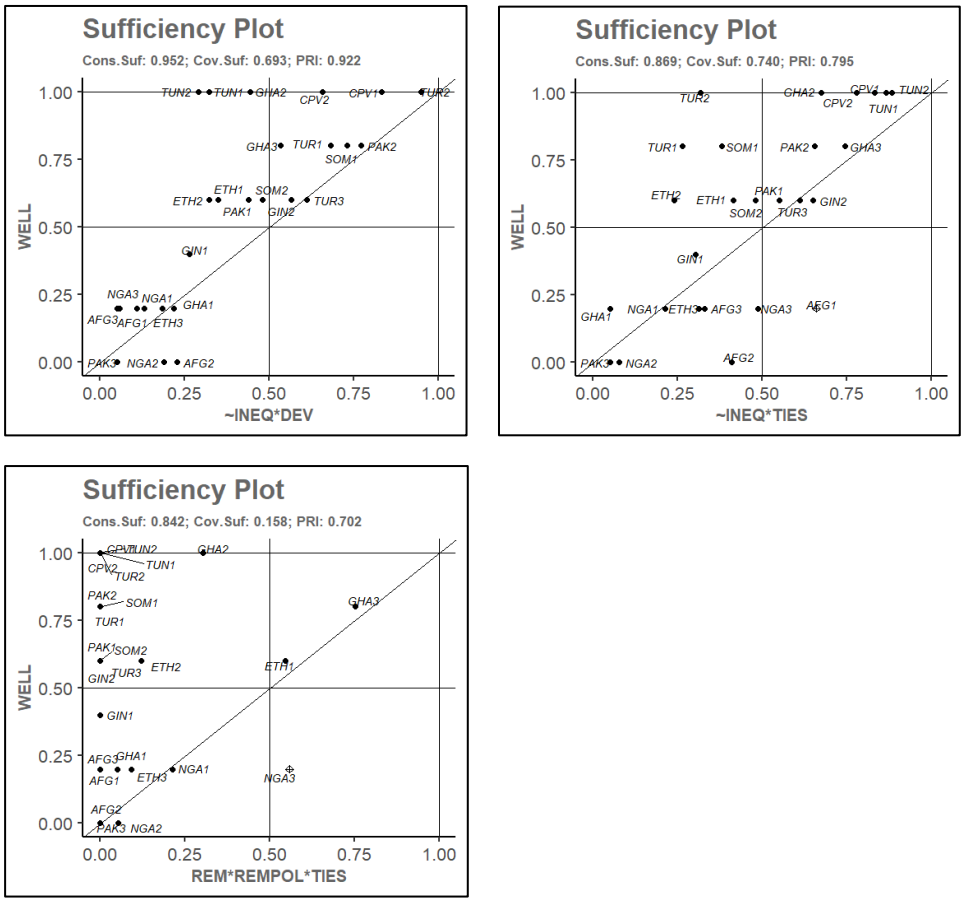

Figure 6. Sufficiency plots for the intermediate solution of model 3 (REMIT)

Set-theoretic analysis for the 'investment model' (Model 4/INVEST)

Test for necessity

None of the conditions used in Model 4 can be deemed as necessary conditions for the occurrence of high levels of economic well-being in the 26 research areas.

Test for sufficiency

In this model variant (Model 4/INVEST), we explore how different forms of investment and transnational connections may affect the level of wealth in a research area. The sufficiency analysis finds four possible pathways that can be independently led to this outcome (see Table 10).

- *Path 1 involves the presence of a policy aimed at enhancing the impact of diaspora investments, combined with strong transnational ties.*
- *Path 2 combines the absence of strong transnational ties with the absence of diaspora investment policies and a high level of multidimensional development.*
- *Path 3 and Path 4 both involve prominent migrant investments together with the existence of a diaspora investment policy. However, these paths diverge by the third condition: while in Path 3 these conditions synergise with prominent international investment, in Path 4, it is the presence of a high level of multidimensional development that complements the combination of conditions sufficient for achieving high levels of economic well-being (see Table 10).*

Table 10. Sufficiency conditions for high levels of economic well-being (Model 4/INVEST)

Enhanced Intermediate Sufficient Solution, Model 4/INVEST					
		Path 1	**Path 2**	**Path 3**	**Path 4**
		INVPOL*TIES	~INVPOL* ~TIES* DEV	MIGINV* INVPOL* FDI	MIGINV* INVPOL* DEV
Conditions	**Label**				
Prominent migrant investment	MIGINV			●	●
Prominent international investment	FDI			●	
Existence of policy to enhance effect of diaspora investments	INVPOL	●	⊗	●	●
Strong transnational ties (Social remittances)	TIES	●	⊗		
High Multidimensional Development	DEV		●		●
Consistency		0.867	0.881	0.900	0.968
PRI		0.810	0.836	0.852	0.943
Raw Coverage		0.681	0.118	0.258	0.392
Unique Coverage		0.268	0.118	0.007	0.029
Covered Cases		**PAK1**; GIN2, GHA3,PAK2; **GHA2**,**NGA3**, **ETH1**; **SOM2**, **TUN2**; CPV1; TUN1; CPV2	**TUR3**; **TUR2**	**GIN1**; TUN1; CPV2	**SOM1**; CPV1; CPV2
Solution Consistency	0.855				

PRI	0.797	
Solution Coverage	0.834	

Note: Black circles indicate the presence of a condition, crossed-out circles its absence. Conditions with a "~" in front mean the absence of the condition. Cases in bold are those that are uniquely covered by that path.

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While the overall consistency and coverage of the entire solution formula stand at a satisfactory level (0.855 and 0.834), notable disparities arise, particularly in the unique coverage of each path. Path 2, in particular, exclusively encompasses the two Turkish cases (TUR3 and TUR2 This unique configuration, exclusive to the Turkish cases, suggests a nuanced interplay between the absence of transnational ties and a robust domestic development within Turkey. This juxtaposition underscores the potential for domestic development efforts to offset the necessity for extensive transnational connections in fostering economic well-being.

Solution formulas for Model 4/INVEST:

Path 1: Existence of policy to enhance effect of diaspora investments (INVPOL) * Strong transnational ties (TIES)

+

Path 2: Absence of policy to enhance effect of diaspora investments (~INVPOL) * Absence of strong transnational ties (~TIES) * High Multidimensional Development (DEV)

+

Path 3: Prominent migrant investment (MIGINV) * Existence of policy to enhance effect of diaspora investments (INVPOL) * Prominent international investment (FDI)

+

Path 4: Prominent migrant investment (MIGINV) * Existence of policy to enhance effect of diaspora investments (INVPOL) * High Multidimensional Development (DEV)

→ **High levels of economic well-being**

Case analysis

One of these cases is Boa Vista in Cabo Verde (CPV2), which is covered by three out of four pathways, positioning it as an 'ideal typical case' located at the very top right of the sufficiency plot in Figure 7.

Boa Vista (CPV2), an island locale, has historically relied on international mobility and remittance inflows to sustain economic development. More recently, tourism has emerged as an economic driver, creating job

opportunities and spurred in-migration. Some of the investments in the tourism sector stem from the diaspora. Nearly one-third (31%) of young adults know of migrant investments in Boa Vista. However, the economic benefits derived from tourism are largely concentrated in a handful of all-inclusive resorts owned by foreign companies. As a result of the tourism boom, Boa Vista has transitioned from being a region characterised by out-migration to one experiencing substantial in-migration, closely intertwined with its development trajectory (Carling & Murray 2022). Therefore, this nuanced case analysis shows the potential significance of including of a condition representing in-migration into the analysis, as it may be conducive to higher levels of economic well-being.

The cases of Ekpoma (Nigeria, NGA3) and Boffa (Guinea, GIN1) are interesting because they are 'deviant cases' in terms of consistency, as they are part of the solution formula (specifically Path 1 and Path 2) however they are not part of the outcome set of cases with high levels of economic well-being. These two cases were already identified as deviant cases in Model 1, which included all migration-relevant conditions, including the 'MIGINVEST' condition in this Model 4. For further background information explaining the factors leading to the deviant outcome, we therefore refer to the case analysis of Model 1.

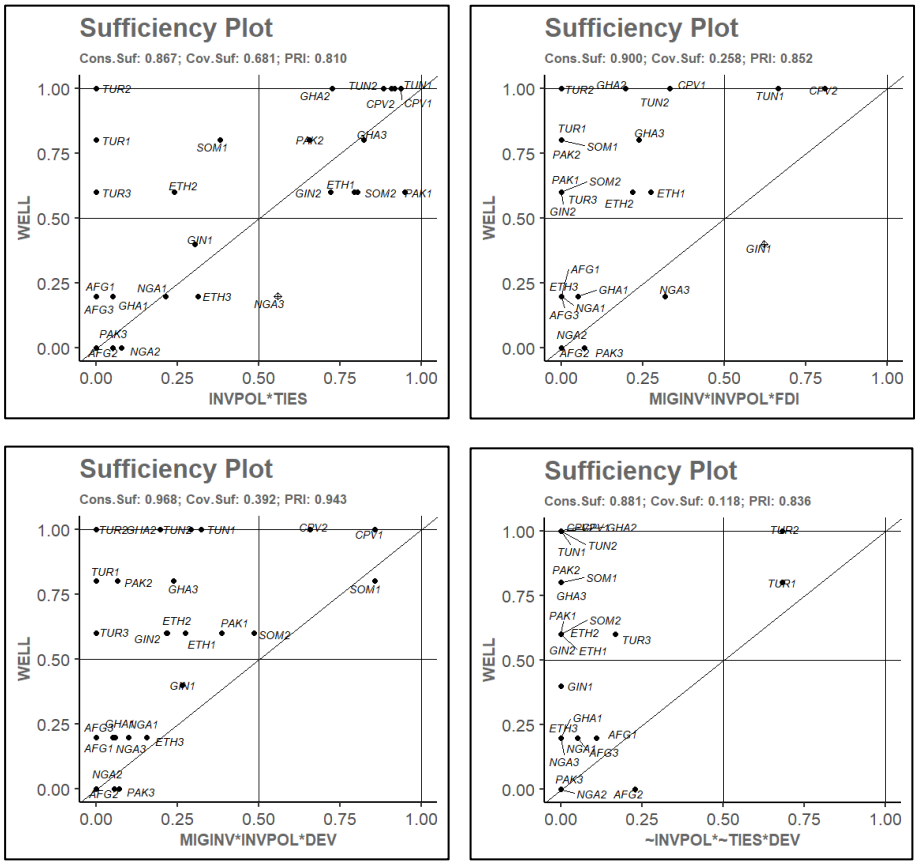

Figure 7. Sufficiency plot for the intermediate solution of model 4/INVEST

Robustness checks and sensitivity analysis

To ensure the credibility and reliability of our findings across the four models examined, we conducted extensive robustness checks, documented in Annex 6: "Robustness checks". These checks are fundamental to our methodological approach, serving as quality control measures to assess the stability and generalizability of our QCA results. We rigorously assessed the reliability and validity of our findings by scrutinising how variations in input parameters, consistency thresholds, or calibration anchors affected the solution paths.

Annex 6 details the boundaries and ranges within which solutions remained consistent. For example, in Model 1 (Comprehensive Migration Model), we identified that the consistency cut-off, initially set at 0.80, could be adjusted up to 0.86 without altering the identified solution pathways significantly. This demonstrates the robustness of our concerning consistency. Additionally, we examined the ranges of the calibration anchors.

Notably, these parameters indicate that altering the fuzzification of, for example, the migrant investments condition (MIGINV), within the specified ranges, would not lead to changes in the identified solution pathways. For example, the 0.5 cut-off point, which delineates whether a value in a condition falls 'in' or 'out' of the set, can vary between 0.42 and 0.64 for this condition, indicating a relatively wide range without affecting the solution pathways significantly. At the same time, we find that the condition 'DEV' proved to be more sensitive to changes in calibration. The 0.5 cut-off point for this condition only varied between 0.47 and 0.51 before changes in the identified solutions may occur.

As Model 1 displayed the most sensitive sensitivity ranges, we furthermore additionally tested the robustness parameters as recommended and laid out in the robustness protocol developed by Oana and Schneider (2021) (see Annex 6.1). These tests confirm that our results are robust from a fit-oriented perspective, but less so from a case-oriented perspective. That is because we have a few 'deviant cases for consistency'. As discussed in the case analysis in the results section, we were able to identify possible omitted conditions that may be the reason for that.

In summary, our core findings remained consistent and robust throughout these robustness checks, reinforcing the validity and reliability of our reported solution pathways.

Synthesis and discussion of main findings

MIGEX Background Paper

In this section, we aim to synthesise the results of the four models and discuss the most relevant findings. Figure 8 visualises the different causal pathways for the comprehensive migration model while Table 11 displays the results for the three sub-models.

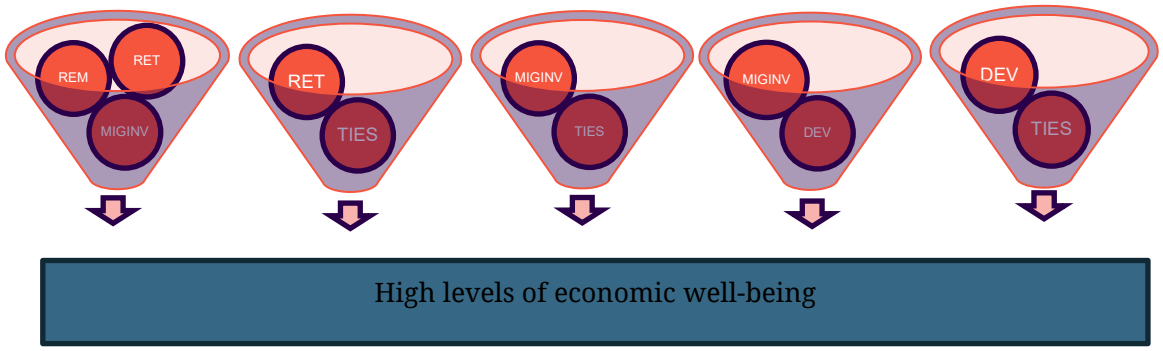

Figure 8. Results of the comprehensive migration model (Model 1)

Our comprehensive migration model (Model 1) highlights the central role of transnational networks and social ties in facilitating the relationship between migration-related conditions and economic well-being. Transnational networks, established by familial, social, and economic ties, transcend national borders.

These networks serve as conduits for information exchange, resource sharing, and mutual support among migrants and their communities of origin and destination. By leveraging these networks, migrants can access job opportunities, investment projects, and social capital that contribute to their economic well-being and the well-being of entire communities.

The comprehensive migration model provides one solution path. Although that does not rely on international connectedness, it is based on the combination of the three migration-related conditions return, remittances and investment, which are conducive for high levels of economic well-being in research areas.

Table 11. Overview of QCA results for Models 2-4

Model 2: Return Model			
RET*NODEP	RET_W*TIES	NODEP*TIES	RET_W*NODEP*DEV
Model 3: Remittances Model			
~INEQ*DEV		~INEQ*TIES	REM*REMPOL*TIES
Model 4: Investment Model			
INVPOL*TIES	~INVPOL*~TIES *DEV	MIGINV*INVPOL*FDI	MIGINV*INVPOL*DEV

The 'return model' (Model 2) reveals that return migration emerges as a central factor in explaining high levels of economic well-being across the 26 research areas. Specifically, non-coerced return migration is highlighted in three out of four pathways, underscoring the significance of voluntary repatriation in driving economic prosperity. Return migrants bring back not only financial resources accumulated abroad but also skills, knowledge, and social capital acquired during their migration experience. Moreover, return migration from Western countries is particularly noteworthy, as it often coincides with favourable economic conditions in the home countries (as people are more likely to return if the conditions are favourable in their place of origin) and strong transnational ties that facilitate reintegration and economic success upon return.

While remittances can contribute to economic well-being, their absence in two of the three pathways of Model 3 (REMIT) underscores that they are neither necessary nor sufficient on their own. This highlights the nuanced role of remittances in economic development, where their impact is contingent upon various structural conditions. The absence of high levels of inequality in two pathways suggests that reducing inequality is crucial for maximizing the positive impact of remittances on economic development. Remittances, when coupled with supportive structural conditions, can serve as catalysts for poverty alleviation, investment, and consumption, thereby enhancing economic well-being.

The 'investment model' (Model 4) reveals that multidimensional development and foreign direct investment (FDI) are interchangeable when combined with high levels of migrant investments and a diaspora investment policy. This underscores the interconnectedness of different forms of investment in driving economic development. Migrant investments, fuelled by transnational ties and diaspora engagement, complement FDI by channelling resources directly into local communities and fostering entrepreneurship and job creation. Moreover, the existence of a diaspora investment policy provides a supportive framework that encourages

diaspora contributions to economic development, amplifying the impact of migrant investments.

In summary, each of four models offers unique insights into the complex interplay between migration-related factors and economic well-being, underscoring the multifaceted nature of migration's impact on economic development. Transnational networks, return migration, remittances, and investment dynamics interact in intricate ways, shaping pathways to economic prosperity in diverse contexts.

Conclusion

This research underscores the intricate relationship between migration and development, emphasising their multifaceted nature influenced by a multitude of interconnected factors. While migration and development can impact each other, this impact is not automatic and depends on various conditions. This paper endeavoured to enhance our understanding of the interplay through fuzzy-set Qualitative Comparative Analysis (fsQCA), which allowed for an investigation into how different migration-related aspects interrelate with structural and policy conditions to contribute to high levels of economic well-being.

In-depth case analyses revealed that solution pathways can vary depending on circumstances, challenging broad generalisations about the effects of migration on economic development, inequality or poverty. Some cases, although exhibiting the sufficient (combinations of) conditions for the outcome, did not align with the expected outcome pattern, highlighting complexities in the relationship between migration and development. These so-called 'deviant cases' require further investigation and explanation. In some cases, for instance, the absence of high levels of economic well-being in a research area may have to do with the fact that there is rising inequality. Several authors have also pointed to the role of migration in perpetuating inequality (both at a global and regional scale) (Reichert 1981; Castles 2004; Delgado-Wise 2004). Furthermore, outcomes can be affected not only the level or prevalence of a certain migration-related factors, such as remittances or migrant investments, but also depends on how they are used or implemented. Only with such detailed case-knowledge can the real effects of migration be measured.

Policy implications

This analysis suggests that policy interventions can enhance the development benefits of migration. Specifically, policies facilitating diaspora investments, when combined with strong transnational ties, can be effective. However, findings from the MIGNEX policy database also show that not all countries have implemented policies aimed at maximising the impact of remittances on household income or national poverty levels. Even in countries where such policies exist, their effectiveness falls short of the intended outcomes, showing the untapped potential to further harness the developmental benefits of remittances. It is imperative to recognise that such policies should not be seen as operating in isolation at either the local or

national level. Our analysis underscores the dual nature of migration, wherein while remittances can alleviate poverty and stimulate economic growth, they can also exacerbate existing economic and social inequalities. Therefore, policies aimed at enhancing the impact of remittances must be complemented by policies targeting the reduction of inequalities.

To optimise the contribution of migration on economic development, policymakers must consider the intricate interplay between various public policies when designing comprehensive development strategies. Strengthening coordination mechanisms across sectors is crucial in this endeavour (OECD 2017: 209ff).

Furthermore, there are levers available to the international community and destination countries of migrants. For example, the 2030 Agenda and the Sustainable Development Goals (SDGs) advocate for universal labour protection, including for migrants (Target 8.8). These goals also emphasise the importance of reducing inequities within and between countries, which can be achieved by facilitating orderly and safe migration (Target 10.7) and reducing the transaction costs associated with migrant remittances.

For example, Africa stands out as the most expensive region for money transfers, with remittance costs reaching as high as 8 percent, thus diminishing the potential impact of such transfers (Ratha 2023). Host country governments can adopt policies to maximise developmental benefits, such as implementing programmes that match funds collected by migrant organizations for social investments in their home countries. Government support in host countries does not have to be limited to monetary support; it can also involve assisting organisations in defining their goals and implementing strategies effectively. Moreover, collecting and providing information on members of the diaspora and their relevant skills for development initiatives can further support home countries. Incorporating the perspectives of migrant organisations into host countries policy planning on development issues is also essential for fostering inclusive and effective migration-related development policies.

Finally, return policies of countries of destination play a central role in shaping the impact of return migration on economic development. Our analysis, supported by existing literature, demonstrates that when return migration is coerced, the development potential of returnees may be compromised. Currently, return policies primarily serve as mechanisms to combat unauthorised migration and overlook the post-return conditions of migrants, as well as their human and financial potential as contributors of development (Cassarino 2015). Understanding these dynamics is essential for informing policy interventions aimed at harnessing the developmental potential of migration.

Limitations and future directions

It's important to acknowledge the caveats of our qualitative comparative analysis (QCA) and inherent limitations in interpreting causality. While our results shed light on conditions and empirical patterns in research areas that may contribute to high levels of economic well-being, caution is warranted

in attributing causality solely to migration-related factors. Various background conditions, such as the diverse degrees of poverty across research areas, are influenced by a myriad of other factors beyond the scope of our analysis, potentially limiting the direct impact of migration-related conditions.

Furthermore, due to data constraints, several crucial factors were not included in our analysis. Variables and cases in QCA a static and do not capture changes over time, such as how long migrants have been abroad, the duration of remittance receipt by households, or the cyclical or permanent nature of migration. Furthermore, characteristics of migrants, including gender, age, skill level, and education, which are crucial for understanding the human capital composition of different migrant flows, could not be fully considered in our research design. Additionally, our analysis only included origin country information, which introduces a certain bias.

To address some of these limitations and provide a more nuanced understanding of the development impacts of migration, further QCA analyses with more disaggregated data (e.g., with households as cases) are necessary. By incorporating a broader range of factors and exploring temporal dynamics, future research can advance our understanding of migration's complex and multifaceted effects on economic well-being.

References

Acosta, P., Calderón, C., Fajnzylber, P. & Lopez, H. (2008) What is the Impact of International Remittances on Poverty and Inequality in Latin America? World Development 36 (1), 89–114.
Adams, R. H. & Cuecuecha, A. (2010) Remittances, Household Expenditure and Investment in Guatemala. World Development 38 (11), 1626–1641.
Aghedo, I., Diagboya, P., Binat-Sarwar, M. & Hagen-Zanker, J. (2022) Migration and development dynamics in Ekpoma, Nigeria. Available at mignex.org/nga3.
Agrawal, A., Kapur, D., McHale, J. & Oettl, A. (2011) Brain drain or brain bank? The impact of skilled emigration on poor-country innovation. Journal of Urban Economics 69 (1), 43–55.
Alam (2011) Impacts on International Migration and Remittances Growth. American Journal of Environmental Sciences 7 (1), 20–25.
Alizada, N. & Murray, H. (2022) Migration and development dynamics in Shahrake Jabrael, Afghanistan. MIGNEX Case Study Brief, Oslo: Peace Research Institute Oslo. Available at mignex.org/afg1.
Andersson, L. & Siegel, M. (2019) Empirical assessments of the development impacts of migration, Oslo.
Angenendt, S. & Koch, A. (2017) Global Migration Governance and Mixed Flows: Implications for Development-centred Policies.
Appleyard, R. T. (1989) Migration and development: myths and reality. International Migration Review 23 (3), 486–499.
Arouri, M. & Nguyen, C. V. (2018) Does International Migration Affect Labor Supply, Non-farm Diversification and Welfare of Households? Evidence from Egypt. International Migration 56 (1), 39–62.
Bang, J. T., Mitra, A. & Wunnava, P. V. (2016) Do remittances improve income inequality? An instrumental variable quantile analysis of the Kenyan case. Economic Modelling 58, 394–402.
Barder, O. (2012) What Is Development? Center for Global Development. Available at https://www.cgdev.org/blog/what-development.
Barham, B. & Boucher, S. (1998) Migration, remittances, and inequality: estimating the net effects of migration on income distribution. Journal of Development Economics 55 (2), 307–331.
Basch, L., Schiller, N. G. & Szanton Blanc, C. (2003) Nations unbound: Transnational projects, postcolonial predicaments, and deterritorialized nation-states, [Nachdr.]. Routledge, London.
Botta, E. Abdoulaye, S. Hagen-Zanker, J. Murray, H. (2022) Migration and development dynamics in Boffa, Guinea, 2022. MIGNEX Case Study Brief. Oslo: Peace Research Institute Oslo. Available at mignex.org/gin1.
Bucheli, J. R., Fontenla, M. & Waddell, B. J. (2019) Return migration and violence. World Development 116, 113–124.
Buckley, C. & Hofmann, E. T. (2012) Are Remittances an Effective Mechanism for Development? Evidence from Tajikistan, 1999–2007. Journal of Development Studies 48 (8), 1121–1138.
Byrne, D. (2023) Causation in complex systems where human agency is in play. International Journal of Social Research Methodology, 1–11.
Carling, J. (2004) Emigration, return and development in Cape Verde: the impact of closing borders. Population, Space and Place 10 (2), 113–132.
Carling, J. (2007) Transnationalism in the context of restrictive immigration policy. PhD Dissertation. Department of Sociology and Human Geography, University of Oslo., Oslo.
Carling, J. (2008) The determinants of migrant remittances. Oxford Review of Economic Policy 24 (3), 581–598.

Carling, J. (2019) Key concepts in the migration–development nexus, MIGNEX Handbook Chapter 2 (v2). Oslo: Peace Research Institute Oslo. Available at mignex.org/d021.
Carling, J. (2020) Remittances. In: Bastia, T. & Skeldon, R. (eds.) Routledge Handbook of Migration and Development. Routledge, First Edition. | New York Routledge, 2020., pp. 114–124.
Carling, J. & Erdal, M. B. (2014) Return Migration and Transnationalism: How Are the Two Connected? International Migration 52 (6), 2–12.
Carling, J. & Murray, H. (2022) Migration and development dynamics in Boa Vista, Cabo Verde. MIGNEX Case Study Brief. Oslo: Peace Research Institute Oslo. Available at mignex.org/cpv2.
Carvajal Guitiérrez, L. & Johnson, T. (2016) The impact of remittances from Canada's seasonal workers programme on Mexican farms. International Labour Review 155 (2), 297–314.
Cassarino, J.-P. (2004) Theorising Return Migration: The Conceptual Approach to Return Migrants Revisited. International Journal on Multicultural Societies (IJMS) 6, 253–279.
Cassarino, J.-P. (2015) Return migration and development: The significance of migration cycles. In: Triandafyllidou, A. (ed.) Routledge Handbook of Immigration and Refugee Studies. Taylor and Francis, pp. 216–222.
Castles, S., Haas, H. d. & Miller, M. J. (2014) The age of migration: International population movements in the modern world, Fifth edition.
Chappell, L. & Sriskandarajah, D. (2007) Mapping the development impacts of migration. Institute for Public Policy Research. Available at https://www.gdn.int/sites/default/files/Impactmap_0.pdf.
Czaika M. & Carling J. (2019) QCA conditions and measurement, MIGNEX Handbook Chapter 6 (v1). Oslo: Peace Research Institute Oslo. Available at mignex.org/d025.
Czaika, M. & Godin, M. (2021): Disentangling the migration-development nexus using QCA. Migration and Development 11 (3), pp. 1065–1086.
Czaika, M. & Godin, M. (2019) Qualitative Comparative Analysis for migration and development research. MIGNEX Background Paper. Oslo: Peace Research Institute Oslo. Available at mignex.org/d022.
Czaika M. & Weisner Z. (2023) A Qualitative Comparative Analysis of the determination of migration processes. MIGNEX Background Paper. Oslo: Peace Research Institute Oslo. Available at mignex.org/d064.
Delgado-Wise, R. & Covarrubias, H. M. (2007) The Reshaping of Mexican Labor Exports under NAFTA: Paradoxes and Challenges. International Migration Review 41 (3), 656–679.
Docquier, F. & Rapoport, H. (2012) Globalization, Brain Drain, and Development. Journal of Economic Literature 50 (3), 681–730.
Du, Y., Park, A. & Wang, S. (2005) Migration and rural poverty in China. Journal of Comparative Economics 33 (4), 688–709.
Edwards, A. C. & Ureta, M. (2003) International migration, remittances, and schooling: evidence from El Salvador. Journal of Development Economics 72 (2), 429–461.
Erdal M.B. and Carling J. (2020) Qualitative Data Collection, MIGNEX Handbook Chapter 8 (v1). Oslo: Peace Research Institute Oslo. Available at mignex.org/d041.
Erdal M.B., Godin M., Fitzmaurice M., Carling J. and Karl E. (2023) The determination of migration through focus group data. MIGNEX Background Paper. Oslo: Peace Research Institute Oslo. Available at mignex.org/d063.
Erdal, M.B., Fitzmaurice, M., Ivanova, M., Hemat, L.E. & Karl, E. (2023) Documentation of qualitative data collection, MIGNEX Handbook Chapter 11 (v2). Oslo: Peace Research Institute Oslo. Available at mignex.org/d042.
Erdal, M. B. & Oeppen, C. (2018) Forced to leave? The discursive and analytical significance of describing migration as forced and voluntary. Journal of Ethnic and Migration Studies 44 (6), 981–998.
Faist, T. (2008) Migrants as transnational development agents: An inquiry into the newest round of the migration–development nexus. Population, Space and Place 14 (1), 21–42.

Gagnon, C. & Gagnon, J. (2021) Migration in Asia: What skills for the future?, OECD Development Policy Papers, No. 40, OECD Publishing, Paris. Available at https://doi.org/10.1787/38a9c133-en.

Gagnon, J. & Khoudour-Castéras, D. (2011) Tackling the Policy Challenges of Migration. OECD Development Centre Studies. OECD. Available at https://www.oecd-ilibrary.org/social-issues-migration-health/tackling-the-policy-challenges-of-migration_9789264126398-en.

Garip, F. (2014) The impact of migration and remittances on wealth accumulation and distribution in rural Thailand. Demography 51 (2), 673–698.

Gerrits, L. & Pagliarin, S. (2021) Social and causal complexity in Qualitative Comparative Analysis (QCA): strategies to account for emergence. International Journal of Social Research Methodology 24 (4), 501–514.

Gibson, J., McKenzie, D. & Stillman, S. (2013) Accounting for Selectivity and Duration-Dependent Heterogeneity When Estimating the Impact of Emigration on Incomes and Poverty in Sending Areas. Economic Development and Cultural Change 61 (2), 247–280.

Godin, M. & Vargas-Silva, C. (2022) Documentation of policy review, MIGNEX Handbook Chapter 12 (v1). Oslo: Peace Research Institute Oslo. Available at mignex.org/d052.

Greckhamer, T., Furnari, S., Fiss, P. C. & Aguilera, R. V. (2018) Studying configurations with qualitative comparative analysis: Best practices in strategy and organization research. Strategic Organization 16 (4), 482–495.

Guarnizo, L. E., Portes, A. & Haller, W. (2003) Assimilation and Transnationalism: Determinants of Transnational Political Action among Contemporary Migrants. American Journal of Sociology 108 (6), 1211–1248.

Haas, H. d. (2006) Migration, remittances and regional development in Southern Morocco. Geoforum 37 (4), 565–580.

Hagan, J. M. & Thomas Wassink, J. (2020) Return Migration Around the World: An Integrated Agenda for Future Research. Annual Review of Sociology 46 (1), 533–552.

Hagen-Zanker J, Hennessey G, Carling J & Memon R (2023a) Survey data collection, MIGNEX Handbook Chapter 7 (v2). Oslo: Peace Research Institute Oslo. Available at mignex.org/d031.

Hagen-Zanker, J., Carling, J., Caso, N., Hennessey, G., and Rubio, M. (2023b) Documentation of survey data, MIGNEX Handbook Chapter 10 (v2). Oslo: Peace Research Institute Oslo. Available at mignex.org/d032.

Hernandez, E. & Coutin, S. B. (2006) Remitting subjects: migrants, money and states. Economy and Society 35 (2), 185–208.

Iskander, N. (2012) Partners in Organizing: Engagement between Migrants and the State in the Production of Mexican Hometown Associations. SSRN Electronic Journal. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2102679.

Kalsi, P. (2018) The impact of U.S. deportation of criminals on gang development and education in El Salvador. Journal of Development Economics 135, 433–448.

Kasavan, C., Azouzi, S., Hagen-Zanker, J., Carling, J. & Johnson, N. (2022) Migration dynamics and development Dynamics in Redeyef, Tunisia. MIGNEX Case Study Brief. Oslo: Peace Research Institute Oslo. Available at mignex.org/tun2.

King, R. & Collyer, M. (2016) Migration and Development Framework and Its Links to Integration. In: Garcés-Mascareñas, B. & Penninx, R. (eds.) Integration Processes and Policies in Europe: Contexts, Levels and Actors. Springer, pp. 167–188.

Kleist, N. (2014) Understanding Diaspora Organisations in European Development Cooperation – Approaches, Challenges and Ways Ahead. New Diversities 16 (2), 55–69.

Kóczán, Z. & Loyola, F. How Do Migration and Remittances Affect Inequality? A Case Study of Mexico.

Kunz, R. (2008) 'Remittances are Beautiful'?1 Gender implications of the new global remittances trend. Third World Quarterly 29 (7), 1389–1409.

Levitt, P. (1998) Social Remittances: Migration Driven Local-Level Forms of Cultural Diffusion. International Migration Review 32 (4), 926.

Levitt, P. & Lamba-Nieves, D. (2011) Social Remittances Revisited. Journal of Ethnic and Migration Studies 37 (1), 1–22.
Lewis, J. R. (1986) International labour migration and uneven regional development in labour exporting countries. Journal of economic and social geography 77 (1), 27–41.
López-Córdova, E. & Olmedo, A. (2006) International Remittances and Development: Existing Evidence, Policies and Recommendations. INTAL Working Papers, No 1290, Inter-American Development Bank, INTAL.
Marchand K., Hagen-Zanker J., Memon, R., Rubio, M. & Siegel, M. (2023). Direct effects of migration on development. MIGNEX Background Paper. Oslo: Peace Research Institute Oslo. Available at mignex.org/d071.
Mavroudi, E. & Nagel, C. (2016) Global migration: Patterns, processes, and politics. Routledge Taylor & Francis Group, London, New York.
Mello, P. A. (2021) Qualitative comparative analysis: An introduction to research design and application. Georgetown University Press, Washington, DC.
Mergo, T. (2016) The Effects of International Migration on Migrant-Source Households: Evidence from Ethiopian Diversity-Visa Lottery Migrants. World Development 84, 69–81.
Mohanty, S. K., Mohapatra, S. R., Kastor, A., Singh, A. K. & Mahapatra, B. (2016) Does Employment-Related Migration Reduce Poverty in India? Journal of International Migration and Integration 17 (3), 761–784.
Nyberg-Sorensen, N., van Hear, N. & Engberg-Pedersen, P. (2002) The Migration-Development Nexus Evidence and Policy Options State-of-the-Art Overview. International Migration 40 (5), 3–47.
Oberman, K. (2013) Poverty and Immigration Policy. American Political Science Review, 109:239 – 251.
Oana, I.-E. & Schneider, C. Q. (2021) A Robustness Test Protocol for Applied QCA: Theory and R Software Application. Sociological Methods & Research 53(1), 57-88.
Oana, I.-E., Schneider, C. Q. & Thomann, E. (2021) Qualitative comparative analysis using R: A beginner's guide. Cambridge University Press, Cambridge, New York, NY.
OECD (2017) Interrelations between public policies, migration and development. OECD publishing, Paris.
Pérez-Armendáriz, C. & Crow, D. (2010) Do Migrants Remit Democracy? International Migration, Political Beliefs, and Behavior in Mexico. Comparative Political Studies 43 (1), 119–148.
Portes, A. (2009) Migration and development: reconciling opposite views. Ethnic and Racial Studies 32 (1), 5–22.
Portes, A. (2015) Introduction: Immigration, Transnationalism, and Development: The State of the Question. In: Portes, A. & Fernández-Kelly, P. (eds.) The state and the grassroots: Immigrant transnational organizations in four continents. Berghahn, New York, NY, pp. 1–24.
Ragin, C. C. (2009) Fuzzy-set social science. Univ. of Chicago Press, Chicago.
Ragin, C. C. (2010) Redesigning social inquiry: Fuzzy sets and beyond. Univ. of Chicago Press, Chicago, Ill.
Ratha, D. (n.d.) Remittances: Funds for the Folks Back Home. IMF. Available at https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Remittances.
Ratha, D. (2023) Resilient Remittances. IMF. Available at https://www.imf.org/en/Publications/fandd/issues/2023/09/B2B-resilient-remittances-dilip-ratha.
Rubinson, C., Gerrits, L., Rutten, R. & Greckhamer, T. (2019) Avoiding Common Errors in QCA: A Short Guide for New Practitioners.
Schneider, C. Q. & Wagemann, C. (2010) Standards of Good Practice in Qualitative Comparative Analysis (QCA) and Fuzzy-Sets. Comparative Sociology 9 (3), 397–418.
Schneider, C. Q. & Wagemann, C. (2012) Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis. Cambridge University Press, Cambridge.

Sen, A. (2001) Development as freedom, Oxford Univ. Press, Oxford.
Smith, M. P. & Guarnizo, L. E. (eds.) (2006) Transnationalism from below, 6. printing. Transaction Publishers, New Brunswick, NJ.
Spilimbergo, A. (2009) Democracy and Foreign Education. American Economic Review 99 (1), 528–543.
Stark, O. & Bloom, D. E. (1985) The New Economics of Labor Migration. The American Economic Review 75 (2), 173–178.
Stark, O., Taylor, J. E. & Yitzhaki, S. (1986) Remittances and Inequality. The Economic Journal 96 (383), 722.
Sumner, A. & Tribe, M. (2008) International Development Studies: Theories and Methods in Research and Practice. SAGE Publications Ltd, 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom.
Taylor, J. E. (1999) The new economics of labour migration and the role of remittances in the migration process. International Migration 37 (1), 63–88.
Todaro, M. P., Papademetriou, D. G. & Martin, P. L. (1991) The Unsettled Relationship: Labor Migration and Economic Development. Population and Development Review 17 (4), 743.
Vacaflores, D. E. (2018) Are remittances helping lower poverty and inequality levels in Latin America? The Quarterly Review of Economics and Finance 68, 254–265.
van Houte, M. & Davids, T. (2014) Moving Back or Moving Forward? Return Migration, Development and Peace-Building. New Diversities 16 (2).
Vargas-Silva, C. (2008) Are remittances manna from heaven? A look at the business cycle properties of remittances. The North American Journal of Economics and Finance 19 (3), 290–303.
Vargas-Silva, C. (2012) Migration and Development. Available at https://migrationobservatory.ox.ac.uk/resources/primers/migration-and-development/.
Wahba, J. & Zenou, Y. (2012) Out of sight, out of mind: Migration, entrepreneurship and social capital. Regional Science and Urban Economics 42 (5), 890–903.
Weisner, Z. & Pope, S. (2023) From Development to Deterrence? Migration spending under the EU Neighbourhood Development and International Cooperation Instrument (NDICI). Oxfam International. Available at https://policy-practice.oxfam.org/resources/from-development-to-deterrence-migration-spending-under-the-eu-neighbourhood-de-621536/
Woodruff, C. & Zenteno, R. (2007) Migration networks and microenterprises in Mexico. Journal of Development Economics 82 (2), 509–528.
World Bank (2022) Persona, remittances, received (% of GDP) - Cabo Verde. Available at https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=CV.
Yang, D. (2008) International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks. The Economic Journal 118 (528), 591–630.
Yang, D. (2011) Migrant Remittances. Journal of Economic Perspectives 25 (3), 129–152.

Annexes

Annex 1: Details of the QCA methodology

Qualitative Comparative Analysis (QCA) enables systematic cross-case comparisons for identifying empirical patterns (pathways or 'causal recipes') across a range of diverse cases. Below, we delineate key considerations and potential limitations of the method. For a comprehensive overview of the MIGNEX QCA procedure, please consult Czaika and Weisner (2023). If you seek broader understanding of QCA in general, we recommend referring to works such as Schneider and Wagemann (2012) or Mello (2021).

Constructing the truth tables

A truth table comprises all logically possible combinations of conditions. In fact, each truth table row represents one distinct logical and possible combination of conditions. The truth table provides information about the empirical distribution of cases, and their relationship to the outcome. Therefore, each row of the truth table acts as a statement of sufficiency, meaning that it specifies the combination of conditions which are sufficient or not sufficient for the outcome to occur. A truth table row can either be sufficient for the outcome (outcome value = 1), not be sufficient for the outcome (outcome value = 0), or be a true logical contradiction (being sufficient for both the occurrence and non-occurrence of the outcome), or be a logical remainder (output come =?) (cf. Oana et al. 2022). Logical remainders represent theoretically possible combinations of conditions present in the truth table, yet devoid of empirical cases.

We construct the truth table using the fuzzy data matrix, which serves as the foundation for our analysis. Furthermore, we establish certain thresholds for consistency and inclusion score (incl), Proportional Reduction in Inconsistency (PRI), and the minimum number of cases in a row before classifying it as a logical remainder. In all our truth tables, we have set the consistency level (incl) cut-off value at 0.8 and a PRI threshold above 0.51. Furthermore, we have also specified that each truth table row must contain at least one empirical case (n=1).

Logical minimization and solution formulas

Subsequently, utilizing the truth tables, the analysis proceeds to the logical minimization process. This critical step allows to configure solution pathways that causally relate to the outcome of interest (i.e. low levels of poverty or high levels of wealth). The analysis is implemented using the R-software (Version 4.0.5) in conjunction with the 'QCA' package (Dusa 2019) and 'Set-methods' package (Oana and Schneider 2018).

The truth table minimization yields three solutions. First, a complex solution avoids any reliance on remainders, which are configurations logically possible but lacking empirical instances. Second, the parsimonious solution which permits the inclusion of remainders that helps simplifying the solution, regardless of their empirical plausibility and the existing substantive knowledge. Third, the intermediate solution selectively

incorporates remainders that align with expected outcomes based on established empirical research and theoretical expectations (Ragin 2010).

The intermediate solution includes all logical remainder rows, i.e.,. truth table rows without sufficient empirical evidence, provided they align with the researcher's theory-based directional expectations concerning individual conditions and their hypothesised impact on the outcome. For instance, we assume that the 'poor livelihoods' condition positively influences high migration aspirations, while for high out-migration intensity, we hypothesize its opposite effect, based on the notion that poverty can, in some cases, constrain actual migration opportunities.

In our analysis, we did not identify easy (or implausible) counterfactuals, as all conditions could feasibly co-exist in reality. Wherever feasible, we present the Enhanced Standard Analysis (ESA) solution, which considers the inclusion of some rows of the truth table as untenable assumptions. For instance, it is contradictory to use the same remainders to simplify the necessary conditions of the outcome and of the negated outcome. These so-called contradictory simplifying assumptions (or true logical contradictions) are excluded from the minimization in the ESA.

While we present the (enhanced) intermediate solution of the outcome in the body of the text, the results for the negated outcome are detailed in Annex 5.

Measures of fit

The QCA analysis involves various metrics to assess the strength of set relationships. Two fundamental dimensions underpin this assessment:

Consistency This metric determines the accuracy of the approximation of the subset relationship, thereby offering insights into the model's validity. It reveals the extent to which the selected configurations align with the observed data, enhancing the understanding of how well the model captures the cases.

Coverage This metric measures the empirical relevance by evaluating the number of cases covered by the solution or solution path. It helps researchers gauge the extent to which the outcome variable can be explained by the identified configurations. In this context, we differentiate between three key aspects: the 'solution coverage' denotes how much of the outcome is accounted for by the solution term; the 'raw coverage' indicates the proportion of the outcome explained by a specific alternative path; and the 'unique coverage' reveals the share of the outcome exclusively explained by a particular alternative path (Ragin 2006b; Schneider and Wagemann 2012)

Proportional Reduction in Inconsistency (PRI) This score plays a pivotal role in mitigating simultaneous subset relations among configurations. High PRI consistency scores, ideally approaching raw consistency scores (e.g., 0.7), indicate a robust and coherent configuration. Conversely, configurations with PRI scores below 0.5 indicate significant inconsistencies, demanding further scrutiny and refinement to enhance the model's explanatory power.

Finally, within the results tables, the 'covered cases' represent the cases where the combination of conditions corresponding to each solution path is empirically observed, underlying the real-world relevance of the identified configurations.

Annex 2: Directional expectations for the intermediate solutions

Directional Expectations for Model 1 (Comprehensive Migration Model)

Name of Condition	Abbreviated Condition	Directional Expectation
High level return migrants	RET	Contributes to outcome in its presence
Large share of remittance receiving households	REM	Contributes to outcome in its presence
Strong transnational ties (Social remittances)	TIES	Contributes to outcome in its presence
Prominent migrant investment	MIGINV	Contributes to outcome in its presence
High Multidimensional Development	DEV	Contributes to outcome in its presence

Directional Expectations for Model 2 (Return Model)

Name of Condition	Abbreviated Condition	Directional Expectation
High level return migrants	RET	Contributes to outcome in its presence
Forced returns to research area not prevalent	NODEP	Contributes to outcome in its presence
Strong transnational ties (Social remittances)	TIES	Contributes to outcome in its presence
High level of extra-regional return	RET_W	Contributes to outcome in its presence
High Multidimensional Development	DEV	Contributes to outcome in its presence

Directional Expectations for Model 3 (Remittance Model)

Name of Condition	Abbreviated Condition	Directional Expectation
Large share of remittance receiving households	REM	Contributes to outcome in its presence
Strong transnational ties (Social remittances)	TIES	Contributes to outcome in its presence
Large share of remittances sent from western countries	REM_W	Contributes to outcome in its presence

High level of inequality	INEQ	Theoretically ambiguous, it could contribute to outcome in its presence or absence
High Multidimensional Development	DEV	Contributes to outcome in its presence

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Directional Expectations for Model 4 (Investment Model)

Name of Condition	**Abbreviated Condition**	**Directional Expectation**
Prominent migrant investment	MIGINV	Contributes to outcome in its presence
Prominent international investment	FDI	Contributes to outcome in its presence
Existence of policy to enhance effect of diaspora investments	INVPOL	Contributes to outcome in its presence
Strong transnational ties (Social remittances)	TIES	Contributes to outcome in its presence
High Multidimensional Development	DEV	Contributes to outcome in its presence

Annex 3: Truth tables

Annex 3.1: Truth table for model 1

```
Enhanced Truth Table, Model 1 (incl. cut = 0.80, n.cut = 1)
=============================================================================
  RET REM MIGINV TIES DEV OUT n incl  PRI       cases
-----------------------------------------------------------------------------
32 1   1   1    1   1   1 2 0.954 0.913       CPV1,CPV2
28 1   1   0    1   1   1 1 0.939 0.855        GHA3
23 1   0   1    1   0   1 1 0.927 0.832        TUN1
19 1   0   0    1   0   1 1 0.913 0.767        GHA2
6  0   0   1    0   1   1 1 0.911 0.778        SOM1
4  0   0   0    1   1   1 3 0.905 0.789    GIN2,TUR3,PAK2
7  0   0   1    1   0   1 1 0.888 0.700        TUN2
29 1   1   1    0   0   1 1 0.866 0.570        GIN1
15 0   1   1    1   0   1 1 0.865 0.639        SOM2
2  0   0   0    0   1   0 3 0.798 0.617    TUR1,TUR2,PAK3
3  0   0   0    1   0   0 2 0.795 0.503       AFG1,PAK1
11 0   1   0    1   0   0 2 0.761 0.465       NGA3,ETH1
9  0   1   0    0   0   0 1 0.746 0.391        AFG2
1  0   0   0    0   0   0 6 0.541 0.212 GHA1,NGA1,NGA2,ETH2,ETH3,AFG3
5  0   0   1    0   0   0 0
13 0   1   1    0   0   0 0
8  0   0   1    1   1   ? 0
10 0   1   0    0   1   ? 0
12 0   1   0    1   1   ? 0
14 0   1   1    0   1   ? 0
16 0   1   1    1   1   ? 0
17 1   0   0    0   0   ? 0
18 1   0   0    0   1   ? 0
20 1   0   0    1   1   ? 0
21 1   0   1    0   0   ? 0
22 1   0   1    0   1   ? 0
24 1   0   1    1   1   ? 0
25 1   1   0    0   0   ? 0
26 1   1   0    0   1   ? 0
27 1   1   0    1   0   ? 0
30 1   1   1    0   1   ? 0
31 1   1   1    1   0   ? 0
-----------------------------------------------------------------------------
```

Annex 3.2: Truth table for model 1 (negation)

```
Enhanced Truth Table, Model 1 (Negation) (incl. cut = 0.80, n.cut = 1)
=============================================================================
```

```
  RET REM MIGINV TIES DEV OUT n incl  PRI       cases
-------------------------------------------------------------------------
1  0   0   0    0   0  1 6 0.867 0.771 GHA1,NGA1,NGA2,ETH2,ETH3,AFG3
9  0   1   0    0   0  1 1 0.836 0.609       AFG2
29 1   1   1    0   0  0 1 0.822 0.430       GIN1
3  0   0   0    1   0  0 2 0.793 0.497      AFG1,PAK1
11 0   1   0    1   0  0 2 0.792 0.535      NGA3,ETH1
15 0   1   1    1   0  0 1 0.761 0.361       SOM2
7  0   0   1    1   0  0 1 0.739 0.300       TUN2
19 1   0   0    1   0  0 1 0.715 0.233       GHA2
6  0   0   1    0   1  0 1 0.689 0.222       SOM1
2  0   0   0    0   1  0 3 0.674 0.383    TUR1,TUR2,PAK3
23 1   0   1    1   0  0 1 0.640 0.168       TUN1
28 1   1   0    1   1  0 1 0.639 0.145       GHA3
4  0   0   0    1   1  0 3 0.608 0.128    GIN2,TUR3,PAK2
32 1   1   1    1   1  0 2 0.517 0.087      CPV1,CPV2
5  0   0   1    0   0  0 0
13 0   1   1    0   0  0 0
8  0   0   1    1   1  ? 0
10 0   1   0    0   1  ? 0
12 0   1   0    1   1  ? 0
14 0   1   1    0   1  ? 0
16 0   1   1    1   1  ? 0
17 1   0   0    0   0  ? 0
18 1   0   0    0   1  ? 0
20 1   0   0    1   1  ? 0
21 1   0   1    0   0  ? 0
22 1   0   1    0   1  ? 0
24 1   0   1    1   1  ? 0
25 1   1   0    0   0  ? 0
26 1   1   0    0   1  ? 0
27 1   1   0    1   0  ? 0
30 1   1   1    0   1  ? 0
31 1   1   1    1   0  ? 0
-------------------------------------------------------------------------
```

Annex 3.3: Truth table for model 2

```
Enhanced Truth Table, Model 2 (incl. cut = 0.80, n.cut = 1)
=========================================================================
  RET RET_W NODEP TIES DEV OUT n incl  PRI      cases
-------------------------------------------------------------------------
32 1   1     1    1   1  1 2 0.969 0.952    CPV1,CPV2
8  0   0     1    1   1  1 2 0.964 0.892    GIN2,PAK2
28 1   1     0    1   1  1 1 0.930 0.865      GHA3
16 0   1     1    1   1  1 1 0.922 0.840      TUR3
11 0   1     0    1   0  1 1 0.920 0.824      TUN2
31 1   1     1    1   0  1 2 0.916 0.854    GHA2,TUN1
15 0   1     1    1   0  1 1 0.897 0.772      PAK1
14 0   1     1    0   1  1 3 0.862 0.760   SOM1,TUR1,TUR2
7  0   0     1    1   0  1 2 0.862 0.549    NGA3,SOM2
21 1   0     1    0   0  1 1 0.861 0.533      GIN1
6  0   0     1    0   1  0 1 0.825 0.507      PAK3
1  0   0     0    0   0  0 2 0.702 0.267    AFG2,AFG3
3  0   0     0    1   0  0 2 0.701 0.310    ETH1,AFG1
5  0   0     1    0   0  0 5 0.587 0.219 GHA1,NGA1,NGA2,ETH2,ETH3
13 0   1     1    0   0  0 0
2  0   0     0    0   1  ? 0
4  0   0     0    1   1  ? 0
9  0   1     0    0   0  ? 0
10 0   1     0    0   1  ? 0
12 0   1     0    1   1  ? 0
17 1   0     0    0   0  ? 0
18 1   0     0    0   1  ? 0
19 1   0     0    1   0  ? 0
20 1   0     0    1   1  ? 0
22 1   0     1    0   1  ? 0
23 1   0     1    1   0  ? 0
24 1   0     1    1   1  ? 0
25 1   1     0    0   0  ? 0
26 1   1     0    0   1  ? 0
27 1   1     0    1   0  ? 0
29 1   1     1    0   0  ? 0
30 1   1     1    0   1  ? 0
-------------------------------------------------------------------------
```

Annex 3.4: Truth table for model 2 (negation)

```
Enhanced Truth Table, Model 2 (Negation) (incl. cut = 0.80, n.cut = 1)
=========================================================================
  RET RET_W NODEP TIES DEV OUT n incl  PRI      cases
-------------------------------------------------------------------------
1  0   0     0    0   0  1 2 0.892 0.733    AFG2,AFG3
3  0   0     0    1   0  1 2 0.866 0.690    ETH1,AFG1
5  0   0     1    0   0  0 5 0.874 0.762 GHA1,NGA1,NGA2,ETH2,ETH3
21 1   0     1    0   0  0 1 0.842 0.467      GIN1
```

```
7  0  0   1  1  0  0 2 0.832 0.451    NGA3,SOM2
6  0  0   1  0  1  0 1 0.821 0.493       PAK3
8  0  0   1  1  1  0 2 0.703 0.108    GIN2,PAK2
15 0  1   1  1  0  0 1 0.653 0.228       PAK1
11 0  1   0  1  0  0 1 0.629 0.176       TUN2
14 0  1   1  0  1  0 3 0.562 0.240   SOM1,TUR1,TUR2
28 1  1   0  1  1  0 1 0.553 0.135       GHA3
16 0  1   1  1  1  0 1 0.548 0.071       TUR3
31 1  1   1  1  0  0 2 0.505 0.146    GHA2,TUN1
32 1  1   1  1  1  0 2 0.396 0.048    CPV1,CPV2
13 0  1   1  0  0  0 0
2  0  0   0  0  1  ? 0
4  0  0   0  1  1  ? 0
9  0  1   0  0  0  ? 0
10 0  1   0  0  1  ? 0
12 0  1   0  1  1  ? 0
17 1  0   0  0  0  ? 0
18 1  0   0  0  1  ? 0
19 1  0   0  1  0  ? 0
20 1  0   0  1  1  ? 0
22 1  0   1  0  1  ? 0
23 1  0   1  1  0  ? 0
24 1  0   1  1  1  ? 0
25 1  1   0  0  0  ? 0
26 1  1   0  0  1  ? 0
27 1  1   0  1  0  ? 0
29 1  1   1  0  0  ? 0
30 1  1   1  0  1  ? 0
------------------------------------------------------------------------
```

Annex 3.5: Truth table for model 3

```
Truth Table, Model 3 (incl. cut = 0.80, n.cut = 1)
========================================================================
  REM REMPOL INEQ DEV TIES OUT n incl  PRI     cases
------------------------------------------------------------------------
28 1   1   0  1  1  1 1 0.968 0.923    GHA3
4  0   0   0  1  1  1 3 0.947 0.900  GIN2,TUR3,PAK2
20 1   0   0  1  1  1 2 0.933 0.886   CPV1,CPV2
3  0   0   0  1  0  1 3 0.931 0.881  SOM1,TUR1,TUR2
10 0   1   0  0  1  1 1 0.872 0.667    GHA2
2  0   0   0  0  1  1 4 0.824 0.671 TUN1,TUN2,AFG1,PAK1
30 1   1   1  0  1  1 2 0.823 0.570   NGA3,ETH1
22 1   0   1  0  1  0 1 0.779 0.512    SOM2
1  0   0   0  0  0  0 1 0.755 0.392    AFG3
17 1   0   0  0  0  0 1 0.723 0.358    GIN1
21 1   0   1  0  0  0 1 0.712 0.343    AFG2
7  0   0   1  1  0  0 1 0.675 0.324    PAK3
13 0   1   1  0  0  0 1 0.608 0.190    GHA1
9  0   1   0  0  0  0 4 0.521 0.200 NGA1,NGA2,ETH2,ETH3
5  0   0   1  0  0  ? 0
6  0   0   1  0  1  ? 0
8  0   0   1  1  1  ? 0
11 0   1   0  1  0  ? 0
12 0   1   0  1  1  ? 0
14 0   1   1  0  1  ? 0
15 0   1   1  1  0  ? 0
16 0   1   1  1  1  ? 0
18 1   0   0  0  1  ? 0
19 1   0   0  1  0  ? 0
23 1   0   1  1  0  ? 0
24 1   0   1  1  1  ? 0
25 1   1   0  0  0  ? 0
26 1   1   0  0  1  ? 0
27 1   1   0  1  0  ? 0
29 1   1   1  0  0  ? 0
31 1   1   1  1  0  ? 0
32 1   1   1  1  1  ? 0
------------------------------------------------------------------------
```

Annex 3.6: Truth table for model 3 (negation)

```
Truth Table, Model 3 (Negation) (incl. cut = 0.80, n.cut = 1)
========================================================================
  REM REMPOL INEQ DEV TIES OUT n incl  PRI     cases
------------------------------------------------------------------------
13 0   1   1  0  0  1 1 0.908 0.810    GHA1
9  0   1   0  0  0  1 4 0.868 0.779 NGA1,NGA2,ETH2,ETH3
21 1   0   1  0  0  1 1 0.849 0.657    AFG2
17 1   0   0  0  0  1 1 0.845 0.642    GIN1
7  0   0   1  1  0  1 1 0.844 0.676    PAK3
1  0   0   0  0  0  1 1 0.842 0.608    AFG3
22 1   0   1  0  1  0 1 0.768 0.488    SOM2
30 1   1   1  0  1  0 2 0.766 0.430   NGA3,ETH1
```

```
10 0   1   0  0  1  0 1 0.744 0.333    GHA2
2  0   0   0  0  1  0 4 0.641 0.329 TUN1,TUN2,AFG1,PAK1
28 1   1   0  1  1  0 1 0.623 0.077    GHA3
4  0   0   0  1  1  0 3 0.525 0.096  GIN2,TUR3,PAK2
3  0   0   0  1  0  0 3 0.491 0.119  SOM1,TUR1,TUR2
20 1   0   0  1  1  0 2 0.481 0.114   CPV1,CPV2
5  0   0   1  0  0  ? 0
6  0   0   1  0  1  ? 0
8  0   0   1  1  1  ? 0
11 0   1   0  1  0  ? 0
12 0   1   0  1  1  ? 0
14 0   1   1  0  1  ? 0
15 0   1   1  1  0  ? 0
16 0   1   1  1  1  ? 0
18 1   0   0  0  1  ? 0
19 1   0   0  1  0  ? 0
23 1   0   1  1  0  ? 0
24 1   0   1  1  1  ? 0
25 1   1   0  0  0  ? 0
26 1   1   0  0  1  ? 0
27 1   1   0  1  0  ? 0
29 1   1   1  0  0  ? 0
31 1   1   1  1  0  ? 0
32 1   1   1  1  1  ? 0
-------------------------------------------------------------------
```

Annex 3.7: Truth table for model 4

```
Enhanced Truth Table, Model 4 (incl. cut = 0.80, n.cut = 1)
============================================================
  MIGINV INVPOL FDI TIES DEV OUT n incl   PRI    cases
------------------------------------------------------------
32  1   1   1  1  1  1 1 0.983 0.974    CPV2
28  1   1   0  1  1  1 1 0.971 0.944    CPV1
12  0   1   0  1  1  1 3 0.965 0.931 GIN2,GHA3,PAK2
31  1   1   1  1  0  1 1 0.946 0.911    TUN1
26  1   1   0  0  1  1 1 0.944 0.873    SOM1
27  1   1   0  1  0  1 2 0.938 0.869  SOM2,TUN2
11  0   1   0  1  0  1 1 0.892 0.755    PAK1
2   0   0   0  0  1  1 2 0.880 0.834  TUR1,TUR2
15  0   1   1  1  0  1 3 0.862 0.762 GHA2,NGA3,ETH1
29  1   1   1  0  0  1 1 0.814 0.571    GIN1
4   0   0   0  1  1  0 1 0.745 0.559    TUR3
10  0   1   0  0  1  0 1 0.709 0.436    PAK3
13  0   1   1  0  0  0 2 0.699 0.445  GHA1,ETH2
1   0   0   0  0  0  0 1 0.519 0.173    AFG3
9   0   1   0  0  0  0 3 0.482 0.186 NGA1,NGA2,ETH3
3   0   0   0  1  0  0 1 0.470 0.110    AFG1
5   0   0   1  0  0  0 1 0.398 0.071    AFG2
17  1   0   0  0  0  0 0
19  1   0   0  1  0  0 0
21  1   0   1  0  0  0 0
23  1   0   1  1  0  0 0
25  1   1   0  0  0  0 0
6   0   0   1  0  1  ? 0
7   0   0   1  1  0  ? 0
8   0   0   1  1  1  ? 0
14  0   1   1  0  1  ? 0
16  0   1   1  1  1  ? 0
18  1   0   0  0  1  ? 0
20  1   0   0  1  1  ? 0
22  1   0   1  0  1  ? 0
24  1   0   1  1  1  ? 0
30  1   1   1  0  1  ? 0
------------------------------------------------------------
```

Annex 3.7: Truth table for model 4 (negation)

```
Enhanced Truth Table, Model 4 (Negation) (incl. cut = 0.80, n.cut = 1)
============================================================
  MIGINV INVPOL FDI TIES DEV OUT n incl   PRI    cases
------------------------------------------------------------
5   0   0   1  0  0  1 1 0.954 0.929    AFG2
3   0   0   0  1  0  1 1 0.934 0.890    AFG1
1   0   0   0  0  0  1 1 0.899 0.827    AFG3
9   0   1   0  0  0  1 3 0.882 0.814 NGA1,NGA2,ETH3
10  0   1   0  0  1  0 1 0.775 0.564    PAK3
29  1   1   1  0  0  0 1 0.742 0.406    GIN1
13  0   1   1  0  0  0 2 0.736 0.514  GHA1,ETH2
11  0   1   0  1  0  0 1 0.668 0.245    PAK1
26  1   1   0  0  1  0 1 0.615 0.127    SOM1
27  1   1   0  1  0  0 2 0.589 0.131  SOM2,TUN2
4   0   0   0  1  1  0 1 0.548 0.219    TUR3
15  0   1   1  1  0  0 3 0.542 0.212 GHA2,NGA3,ETH1
```

```
12  0   1   0  1  1  0 3 0.528 0.069 GIN2,GHA3,PAK2
28  1   1   0  1  1  0 1 0.521 0.056   CPV1
31  1   1   1  1  0  0 1 0.451 0.089   TUN1
2  0   0   0  0  1  0 2 0.397 0.166  TUR1,TUR2
32  1   1   1  1  1  0 1 0.377 0.026   CPV2
17  1   0   0  0  0  0 0
19  1   0   0  1  0  0 0
21  1   0   1  0  0  0 0
23  1   0   1  1  0  0 0
25  1   1   0  0  0  0 0
6  0   0   1  0  1  ? 0
7  0   0   1  1  0  ? 0
8  0   0   1  1  1  ? 0
14  0   1   1  0  1  ? 0
16  0   1   1  1  1  ? 0
18  1   0   0  0  1  ? 0
20  1   0   0  1  1  ? 0
22  1   0   1  0  1  ? 0
24  1   1   1  1  1  ? 0
30  1   1   1  0  1  ? 0
------------------------------------------------------------
```

Annex 4: Test for necessary conditions

Annex 4.1. Test for necessity for the outcome and negated outcome of Model 1

	Cons.Nec	Cov.Nec	RoN
RET	0.526	0.923	0.966
REM	0.480	0.799	0.909
MIGINV	0.572	0.864	0.927
TIES	0.791	0.794	0.797
DEV	0.701	0.868	0.903
~RET	0.688	0.557	0.510
~REM	0.755	0.627	0.572
~MIGINV	0.637	0.557	0.567
~TIES	0.435	0.538	0.727
~DEV	0.558	0.559	0.647

	Cons.Nec	Cov.Nec	RoN
RET	0.320	0.452	0.799
REM	0.443	0.593	0.831
MIGINV	0.371	0.452	0.759
TIES	0.536	0.433	0.589
DEV	0.454	0.453	0.693
~RET	0.946	0.616	0.546
~REM	0.850	0.568	0.536
~MIGINV	0.888	0.626	0.607
~TIES	0.745	0.742	0.827
~DEV	0.867	0.700	0.730

Annex 4.2. Test for necessity for the outcome and negated outcome of Model 2

	Cons.Nec	Cov.Nec	RoN
RET	0.526	0.923	0.966
RET_W	0.737	0.855	0.883
NODEP	0.860	0.639	0.485
TIES	0.791	0.794	0.797
DEV	0.701	0.868	0.903
~RET	0.688	0.557	0.510
~RET_W	0.441	0.467	0.631
~NODEP	0.306	0.668	0.899
~TIES	0.435	0.538	0.727
~DEV	0.558	0.559	0.647

	Cons.Nec	Cov.Nec	RoN
RET	0.320	0.452	0.799
RET_W	0.375	0.351	0.628
NODEP	0.811	0.485	0.398

```
TIES    0.536  0.433 0.589
DEV     0.454  0.453 0.693
~RET    0.946  0.616 0.546
~RET_W  0.845  0.721 0.766
~NODEP  0.396  0.695 0.906
~TIES   0.745  0.742 0.827
~DEV    0.867  0.700 0.730
```

Annex 4.3. Test for necessity for the outcome and negated outcome of Model 3

```
      Cons.Nec Cov.Nec  RoN
REM      0.480  0.799 0.909
REMPOL   0.264  0.422 0.766
INEQ     0.419  0.644 0.833
DEV      0.701  0.868 0.903
TIES     0.791  0.794 0.797
~REM     0.755  0.627 0.572
~REMPOL  0.736  0.624 0.584
~INEQ    0.896  0.776 0.716
~DEV     0.558  0.559 0.647
~TIES    0.435  0.538 0.727
```

```
      Cons.Nec Cov.Nec  RoN
REM      0.443  0.593 0.831
REMPOL   0.448  0.578 0.817
INEQ     0.680  0.840 0.917
DEV      0.454  0.453 0.693
TIES     0.536  0.433 0.589
~REM     0.850  0.568 0.536
~REMPOL  0.552  0.376 0.459
~INEQ    0.712  0.497 0.529
~DEV     0.867  0.700 0.730
~TIES    0.745  0.742 0.827
```

Annex 4.4. Test for necessity for the outcome and negated outcome of Model 4

```
       Cons.Nec Cov.Nec  RoN
MIGINV   0.572  0.864 0.927
INVPOL   0.806  0.580 0.417
FDI      0.421  0.628 0.819
TIES     0.791  0.794 0.797
DEV      0.701  0.868 0.903
~MIGINV  0.637  0.557 0.567
~INVPOL  0.194  0.467 0.862
~FDI     0.648  0.571 0.580
~TIES    0.435  0.538 0.727
~DEV     0.558  0.559 0.647
```

```
       Cons.Nec Cov.Nec  RoN
MIGINV   0.371  0.452 0.759
INVPOL   0.724  0.420 0.341
FDI      0.397  0.476 0.763
TIES     0.536  0.433 0.589
DEV      0.454  0.453 0.693
~MIGINV  0.888  0.626 0.607
~INVPOL  0.276  0.533 0.877
~FDI     0.690  0.490 0.537
~TIES    0.745  0.742 0.827
~DEV     0.867  0.700 0.730
```

Annex 5: Solution paths for the negated outcomes

Annex 5.1 Intermediate solution for model 1 (negation)

```
Enhanced Intermediate Solution, Model 1 (negation)
(incl.cut = 0.80, n.cut = 1)
=============================================================================
                inclS PRI covS covU        cases
-----------------------------------------------------------------------------
-------------
~ RET* ~ MIGINV* ~ TIES* ~ DEV 0.872 0.787 0.629    GHA1,NGA1,NGA2,ETH2,
                                ETH3,AFG3; AFG2
Solution             0.872 0.787 0.629
-----------------------------------------------------------------------------
```

Annex 5.2 Intermediate solution for model 2 (negation)

```
Enhanced Intermediate Solution, Model 2 (negation)
(incl.cut = 0.80, n.cut = 1)
=============================================================================
                inclS PRI covS covU    cases
-----------------------------------------------------------------------------
~ RET* ~ RET_W* ~ NODEP* ~ DEV 0.886 0.774 0.380   AFG2,AFG3; ETH1,AFG1
Solution             0.886 0.774 0.380
-----------------------------------------------------------------------------
```

Annex 5.3 Intermediate solution for model 3 (negation)

```
Intermediate Solution, Model 3 (negation) (incl.cut = 0.80, n.cut = 1)
=============================================================================
                inclS PRI covS covU        cases
-----------------------------------------------------------------------------
-----------
~ REM* ~ DEV* ~ TIES       0.870 0.773 0.619 0.355 AFG3;NGA1,NGA2,ETH2
                                 ETH3; GHA1

~ REMPOL* ~ DEV* ~ TIES    0.844 0.696 0.293 0.029    AFG3;GIN1;AFG2

~ REM* ~ REMPOL* INEQ* ~ TIES 0.882 0.770 0.303 0.071       PAK3

Solution             0.868 0.787 0.719
-----------------------------------------------------------------------------
```

Annex 5.4 Intermediate solution for model 4 (negation)

```
Enhanced Intermediate Solution, Model 4 (negation)
(incl.cut = 0.80, n.cut = 1)
=============================================================================
                 inclS PRI covS covU     cases
-----------------------------------------------------------------------------
--
~ MIGINV* ~ INVPOL* ~ FDI* ~ DEV 0.922 0.883 0.170 0.042   AFG3; AFG1

~ MIGINV* ~ INVPOL* ~ TIES* ~ DEV 0.910 0.856 0.146 0.017   AFG3; AFG2

~ MIGINV* ~ FDI* ~ TIES* ~ DEV  0.886 0.817 0.480 0.351 AFG3,NGA1,NGA2,ETH3

Solution              0.897 0.844 0.538
-----------------------------------------------------------------------------
```

Annex 6: Robustness checks

Annex 6.1 Robustness checks for Model 1 (Comprehensive migration model)

Sensitivity ranges					
			Lower bound	Threshold	Upper bound
Parameters	Raw consistency threshold		0.80	0.80	0.86

	N.cut		1	1	1
Calibration Anchors	RET	Exclusion Crossover Inclusion	-0.93 0.31 0.51	0 0.5 1	0.49 0.52 NA
	REM	Exclusion Crossover Inclusion	-0.22 0.49 0.94	0 0.5 1	0.46 0.99 NA
	MIGINV	Exclusion Crossover Inclusion	NA 0.42 0.51	0 0.5 1	0.49 0.64 1.1
	TIES	Exclusion Crossover Inclusion	NA 0.00 0.73	0 0.5 1	0.02 0.51 1.02
	DEV	Exclusion Crossover Inclusion	NA 0.47 0.51	0 0.5 1	0.02 0.51 1.05

Robustness parameters[11]					
Fit oriented[12]		RF_cov: 0.966	RF_cons: 0.993	RF_SC_minTS: 0.935	RF_SC_maxTS: 0.782
Case oriented		RCC_Rank: 2	RCRtyp: 0.786	RCRdev: 0.333	

Note: The robustness tests conducted follow the protocol developed by Oana and Schneider (2021) and implemented in the SetMethods package (Oana and Schneider 2018). Upper and lower bound indicate the range within which the solution does not change. "NA" indicates that no limit was found to that range.

Annex 6.2 Robustness checks for Model 2 (Return Model)

Sensitivity ranges					
			Lower bound	Threshold	Upper bound
Parameters	Raw consistency threshold		0.00	0.80	0.86
	N.cut		1	1	1
Calibration Anchors	RET	Exclusion Crossover Inclusion	-0.44 0.48 0.54	0 0.5 1	0.49 0.51 NA
	RET_W	Exclusion Crossover Inclusion	NA 0.48 0.83	0 0.5 1	0.41 0.93 NA
	NODEP	Exclusion Crossover Inclusion	-0.53 0.42 0.51	0 0.5 1	0.49 0.86 NA
	TIES	Exclusion Crossover Inclusion	-0.50 0.36 0.87	0 0.5 1	0.49 0.74 NA

[11] To produce these parameters we created test solutions changing incl.cut and calibration anchors for the condition "TIES" and "DEV".

[12] The closer these values are to 1, the more robust the initial solution against changes of analytical decisions; 1 would indicate perfect robustness (Oana & Schneider 2021: 21).

	DEV	Exclusion Crossover Inclusion	-0.24 0.39 0.51	0 0.5 1	0.39 0.63 NA

Note: The robustness tests conducted follow the protocol developed by Oana and Schneider (2021) and implemented in the SetMethods package (Oana and Schneider 2018). Upper and lower bound indicate the range within which the solution does not change. "NA" indicates that no limit was found to that range.

Annex 6.3 Robustness checks for Model 3 (Remittance Model)

Sensitivity ranges					
			Lower bound	Threshold	Upper bound
Parameters	Raw consistency threshold		0.78	0.80	0.82
	N.cut		1	1	1
Calibration Anchors	REM	Exclusion Crossover Inclusion	-0.83 0.49 0.68	0 0.5 1	0.17 0.53 NA
	REMPOL[13]	Exclusion Crossover Inclusion	-	-	-
	INEQ	Exclusion Crossover Inclusion	-0.73 0.46 0.65	0 0.5 1	0.26 0.51 NA
	TIES	Exclusion Crossover Inclusion	-0.3 0.39 0.51	0 0.5 1	0.18 0.54 NA
	DEV	Exclusion Crossover Inclusion	NA 0.5 0.77	0 0.5 1	0.49 0.61 1.97

Annex 6.4 Robustness checks for Model 4 (Investment Model)

Sensitivity ranges					
			Lower bound	Threshold	Upper bound
Parameters	Raw consistency threshold		0.75	0.80	0.81
	N.cut		1	1	1
Calibration Anchors	MIGINV	Exclusion Crossover Inclusion	-0.1 0.48 0.88	0 0.5 1	0.35 0.83 NA
	INVPOL	Exclusion Crossover Inclusion	-0.17 0.00 0.51	0 0.5 1	0.49 0.99 1.09

[13] Crisp calibration based on existence of a policy or not, therefore no range of calibration anchors is identified

	FDI[14]	Exclusion Crossover Inclusion	-1.16 0.34 0.73	0 0.5 1	NA 0.77 NA
	TIES	Exclusion Crossover Inclusion	-0.42 0.39 0.94	0 0.5 1	0.49 0.7 1.4
	DEV	Exclusion Crossover Inclusion	NA 0.38 0.51	0 0.5 1	0.26 0.69 1.67

MIGEX Background Paper

Annex 7: Calibration Diagnostics

Annex 7.1 Skewness check

Set WELL - Cases > 0.5 / Total number of cases: 16 / 26 = 61.54 %

Set FDI - Cases > 0.5 / Total number of cases: 9 / 26 = 34.62 %

Set DEV - Cases > 0.5 / Total number of cases: 10 / 26 = 38.46 %

Set REM - Cases > 0.5 / Total number of cases: 8 / 26 = 30.77 %

Set RET - Cases > 0.5 / Total number of cases: 6 / 26 = 23.08 %

Set MIGINV - Cases > 0.5 / Total number of cases: 7 / 26 = 26.92 %

Set INVPOL - Cases > 0.5 / Total number of cases: 20 / 26 = 76.92 %

Set RET_W - Cases > 0.5 / Total number of cases: 11 / 26 = 42.31 %

Set NODEP - Cases > 0.5 / Total number of cases: 20 / 26 = 76.92 %

Set INEQ - Cases > 0.5 / Total number of cases: 6 / 26 = 23.08 %

Set TIES - Cases > 0.5 / Total number of cases: 14 / 26 = 53.85 %

[14] Calibration according to 4-point likert scale, therefore no range of calibration anchors is identified.

Annex 2: Raw and Calibrated Data

Annex 2.1: Raw dataset

Case name	Case code	WELL	WEALTH	POV	INEQ	DEV	TIES	REM	RET	HIGH_MIGINVEST	FDI	RET_W	REMPOL
São Nicolau	CPV1	1	0.8101985	1	0.2269	0.805159	1	1	1	0.8354434	0.0983836	0.3925833	0
Boa Vista	CPV2	1	0.9891767	0.77748	0.2864	0.6119581	0.6666667	0.5198596	0.7705742	0.7453316	0.9133973	0.4019907	0
Boffa	GIN1	0.4	0.5486382	0.3312587	0.4692	0.326547	0	0.5501398	0.51021	0.5849996	1	0.4326371	0
Dialakoro	GIN2	0.6	0.702988	0.375326	0.3939	0.5453253	0	0.0969084	0.1436447	0.282507	0.0998173	0.2535144	0
Gbane	GHA1	0.2	0.380962	0.2029305	0.5352	0.2844214	0	0.0832508	0.1234005	0	0.6371108	0.1439232	1
Golf City	GHA2	1	0.9152568	0.7176889	0.3749	0.461951	0.3333333	0.3594219	0.5327616	0.2620481	0.2182332	0.3715297	1
New Takoradi	GHA3	0.8	0.4163074	0.7026038	0.3165	0.5237228	0.6666667	0.6889071	0.715901	0.303023	0.1668795	0.4003709	1
Down Quarters	NGA1	0.2	0.3545099	0.1718183	0.3833	0.1797366	0.3333333	0.3129981	0.158701	0.1284768	0.036734	0.1164886	1
Awe	NGA2	0	0.3485213	0	0.4174	0.2532235	0	0.0122632	0.0181774	0.0216596	0	0.0252544	1
Ekpoma	NGA3	0.2	0.26549	0.2877501	0.5086	0.0276072	1	0.6405416	0.4671843	0.3705299	0.0206794	0.277848	1
Kombolcha	ETH1	0.6	0.5584358	0.5252405	0.5577	0.3941465	1	0.531585	0.4827066	0.3348397	0.5609161	1	1
Batu	ETH2	0.6	0.6004447	0.4940792	0.3961	0.374526	1	0.1644568	0.2437699	0.2830189	0.4693863	0.5625404	1
Moyale	ETH3	0.2	0.4058222	0.0519298	0.4269	0.2490599	1	0.1139813	0.1689515	0.2142436	0.0959317	0.1576512	1
Erigavo	SOM1	0.8	0.4935638	0.9223731	0.3301	0.8041222	0.3333333	0.294417	0.4364066	0.8360963	0.1648236	0.1475082	0
Baidoa	SOM2	0.6	0.3333285	0.6842395	0.5127	0.4900966	1	0.5343323	0.3097531	1	0.1724176	0.2717837	0

Enfidha	TUN1	1	0.9544672	0.7778766	0.1830	0.3740186	1	0.4708196	0.6978834	0.7914874	0.8361294	0.4995455	0
Redeyef	TUN2	1	1	0.7766306	0.1293	0.3490297	1	0.3186829	0.4723752	0.8432006	0.1798542	0.5928273	0
Hopa	TUR1	0.8	0.3330417	0.8919968	0.0132	0.630172	0.6666667	0.091828	0.1361143	0.3501072	0.2098958	0.3555886	0
Yenice	TUR2	1	0.768598	0.9121202	0	1	0	0.0512401	0.0759519	0.2924191	0.3132419	0.3025393	0
Kilis	TUR3	0.6	0.7650511	0.2193447	0.4217	0.8536976	0.6666667	0.0373987	0.0554352	0.1093233	0.0690248	0.0758954	0
Shahrake Jabrael	AFG1	0.2	0.4613869	0.2138881	0.3867	0.144748	0.6666667	0.413231	0.3072736	0.27983	0.1617512	0.641247	0
Behsud	AFG2	0	0.1681473	0.1240295	0.5606	0.2930254	1	0.5945556	0.1545368	0.4187043	0.0376613	0.6362591	0
Shahrake Mahdia	AFG3	0.2	0.4833453	0.2775772	0.4569	0	1	0.3649837	0.235758	0.13686	0.0543306	0.6553964	0
Chot Dheeran	PAK1	0.6	0.6590348	0.3058822	0.4654	0.4592801	1	0.4860958	0.2382533	0.4213575	0.21715	0.1974763	1
Youhanabad	PAK2	0.8	0.7605982	0.3888049	0.2925	0.7214824	0.3333333	0.0542132	0.0803588	0.0467327	0.0276452	0.0628364	1
Keti Bandar	PAK3	0	0	0.0658389	1	0.6913609	0	0	0	0.0645856	0.0929357	0	1

Annex 2.2: Fuzzy dataset

Case	WELL	FDI	TIES	DEV	REM	RET	MIGINV	INVPOL	RET_W	NODEP	INEQ	REMPOL
CPV1	1	0,333333	0,937644	0,857789	0,95	0,95	0,878188	1	0,945803	0,829514	0,166861	0
CPV2	1	1	0,909211	0,659105	0,529204	0,831091	0,809186	1	0,95	0,737988	0,221346	0
GIN1	0,4	1	0,302762	0,264746	0,573285	0,515027	0,622589	1	0,393864	0,650493	0,454789	0
GIN2	0,6	0	0,72081	0,566335	0,085196	0,10924	0,217416	1	0,092624	0,89382	0,348692	0
GHA1	0,2	0,666667	0,05	0,21934	0,079133	0,098168	0,05	1	0,195398	0,93124	0,551678	1
GHA2	1	0,666667	0,726135	0,444217	0,3041	0,548083	0,197615	1	0,673865	0,905625	0,323734	1
GHA3	0,8	0,333333	0,823059	0,534868	0,752586	0,780985	0,238672	1	0,797453	0,454634	0,253408	1
NGA1	0,2	0	0,214368	0,131702	0,249509	0,118171	0,100846	1	0,122958	0,944772	0,334637	1

NGA2	0	0	0,077903	0,189504	0,053544	0,055337	0,056418	1	0,352658	0,946332	0,38077	1
NGA3	0,2	0,666667	0,558799	0,058312	0,695854	0,451838	0,318118	1	0,492912	0,895203	0,512659	1
ETH1	0,6	1	0,794396	0,349018	0,546366	0,474562	0,274361	1	0,05	0,336546	0,584177	1
ETH2	0,6	1	0,241025	0,323244	0,121749	0,181101	0,217929	1	0,072227	0,810459	0,351699	1
ETH3	0,2	0	0,312291	0,185767	0,093366	0,124607	0,156727	1	0,057651	0,886343	0,393993	1
SOM1	0,8	0	0,382329	0,857042	0,229585	0,407456	0,878599	1	0,87847	0,898738	0,268827	0
SOM2	0,6	0	0,805205	0,485424	0,550373	0,245948	0,95	1	0,114198	0,88531	0,518627	0
TUN1	1	0,666667	0,917181	0,322591	0,457145	0,762296	0,847682	1	0,877362	0,798279	0,133903	0
TUN2	1	0,333333	0,885007	0,291307	0,25583	0,45942	0,882991	1	0,927359	0,37589	0,101265	0
TUR1	0,8	0	0,265055	0,682778	0,082893	0,104999	0,292619	0	0,728181	0,95	0,053823	0
TUR2	1	0,333333	0,317796	0,95	0,066441	0,076057	0,227511	0	0,932891	0,948741	0,05	0
TUR3	0,6	0	0,831641	0,889228	0,06156	0,06799	0,091069	0	0,819241	0,933644	0,386771	0
AFG1	0,2	0,333333	0,81486	0,109873	0,374966	0,24325	0,214746	0	0,096139	0,240199	0,339078	0
AFG2	0	0,666667	0,475346	0,228139	0,635718	0,115639	0,38255	0	0,137195	0,05	0,58828	0
AFG3	0,2	0,333333	0,330591	0,05	0,311076	0,174209	0,105412	0	0,106513	0,288224	0,436949	0
PAK1	0,6	0	0,95	0,440337	0,479541	0,176333	0,386247	1	0,84613	0,909423	0,449237	0
PAK2	0,8	0	0,657078	0,786555	0,067535	0,077901	0,064813	1	0,274692	0,946716	0,227623	0
PAK3	0	0,333333	0,05	0,755267	0,05	0,05	0,071485	1	0,469385	0,949312	0,95	0