

ASSESSING IMMIGRATION SCENARIOS FOR THE EUROPEAN UNION IN 2030

RELEVANT, REALISTIC AND RELIABLE?



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Authors: Eduardo Acostamadiedo, Rhea Ravenna Sohst, Jasper Tjaden, George Groenewold and Helga de Valk

There is increasing policy interest in the European Union to better plan and prepare for future migration flows. This is reflected in the growing number of reports that use expert knowledge to anticipate migration trends and develop migration scenarios. In this report, the IOM's Global Migration Data Analysis Centre (GMDAC), in partnership with the Netherlands Interdisciplinary Demographic Institute (NIDI), examines the potential and limitations of using expert opinion to predict future migration. This pilot study combines two approaches, namely, migration scenarios and Delphi expert surveys, to assess the implications and uncertainty of immigration scenarios for the European Union in 2030. The results demonstrate the high level of uncertainty and disagreement among experts about how basic drivers of migration – such as multilateralism and economic convergence – might shape future immigration to the European Union. While expert advice is useful for stimulating strategic, long-term thinking and discussion, the results highlight the limitations of using experts to improve operational preparedness.

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ACRONYMS

EASO	European Asylum Support Office
EU-28	the European Union with 28 member States, including the United Kingdom prior to its withdrawal of membership (Brexit)
GMDAC	Global Migration Data Analysis Centre
MPI	Migration Policy Institute
IOM	International Organization for Migration
NIDI	Netherlands Interdisciplinary Demographic Institute
OECD	Organisation for Economic Co-operation and Development

EXECUTIVE SUMMARY

Background

- Migration scenarios for Europe are in high demand from policymakers who aim to anticipate future trends.
- There are many different methods to explore the future of migration. Approaches that use expert opinion have become increasingly popular in recent years due to the limited availability and quality of data required to make quantitative predictions (i.e. forecasting) of future migration flows.
- Expert-developed migration scenarios are narratives that describe alternative futures for migration. The implications of such scenarios for the magnitude of immigration flows are rarely explored. It remains unclear how insights from expert-led migration scenario exercises can feed into policymaking.
- IOM's Global Migration Data Analysis Centre (GMDAC) and the Netherlands Interdisciplinary Demography Institute (NIDI) join forces to combine two complementary approaches – migration scenarios and Delphi expert surveys – to assess the usefulness of common scenarios for future international immigration to Europe (specifically, the European Union). The study also aims to shed light on the potential of and the challenges associated with relying on expert judgement.
- A large Delphi survey of 178 migration experts was conducted to estimate the size and uncertainty of various types of future international immigration flows to the European Union in different scenarios.

Key results

- In this study, experts rate a 2030 scenario in which countries solve issues through international, multilateral cooperation and world regions converge economically as being the least likely for the European Union. Overall, scenarios that describe a future where countries act unilaterally are considered by experts as more likely to occur than scenarios in which there is multilateral cooperation among countries.
- Experts consulted for this study expect the number of international migrants arriving in the European Union in 2030 to be 21–44 per cent higher than the average annual inflow recorded between 2008 and 2017.
- The largest increase in international immigration flows is expected among highly skilled migrants. In the scenario rated by the experts as most likely (economic convergence and unilateralism), the number of annual highly skilled immigrants in Europe in 2030 will increase by 134 per cent of the average annual inflow recorded for the 2009–2018 period.

- Experts estimate a modest or no increase in the number of asylum applications in 2030 compared to the annual average for the 2009–2018 period and large decreases compared to 2015 and 2016, when the European Union saw a peak in asylum applications. The estimated number of irregular border-crossings into the European Union depends on the scenario evaluated. In scenarios that envisage a 2030 with narrower economic gaps between low- and high-income countries, irregular migration is expected to be lower than in the 2009–2018 period and far lower than in 2015–2016. However, experts estimate modest increases in the number of irregular border-crossings in 2030 in scenarios that describe growing economic divergence between low- and high-income countries.
- Overall, experts have little confidence in their responses and disagree substantially on the size of international immigration flows and the likelihood of the different scenarios. Experts also appear to stick to their views when confronted with the views of their peers. Only 1 in 10 experts change their opinion after learning about their peers' responses to questions regarding flow estimates.
- Survey responses do not vary considerably across the different categories of experts. For example, the responses of migration scholars with extensive work experience do not differ from migration practitioners or from less experienced peers.

Conclusion

- Migration scenarios are useful for stimulating strategic, long-term thinking and discussion. However, long-term scenarios are often too vague to derive actionable recommendations for what to do in the short to medium term. Experts struggle to predict what different scenarios would mean for the volume and composition of future immigration to Europe. While they can identify broader trends, the level of disagreement and uncertainty among experts limits the potential use of migration scenarios for improving operational preparedness.
- Each expert is subject to his or her own cognitive biases – that is, their individual rationalities in making judgements. The findings confirm that expert opinion must be handled carefully. Disagreement among experts in this Delphi study reveals the lack of understanding of how basic drivers might affect future migration flows. Yet disagreement and uncertainty present a challenge to decision makers, who demand clear messages to guide policy.
- Scenarios and expert opinion should therefore not be assessed based on their ability to provide actionable insights but rather their ability to provide input to discussions on policy design. The value of scenarios and expert opinion does not lie in the output they produce, but in the discussion that they generate among relevant stakeholders. Direct participation of policymakers in migration scenario exercises and direct engagement in discussion with experts can help towards gaining a more nuanced understanding of migration processes and possibly reduce the risk of rushing into short-sighted policy responses.



1

INTRODUCTION

1. INTRODUCTION

There is increasing policy interest in the European Union and its member States to better plan and prepare for future international migration flows. This is reflected in the growing number of reports that utilize foresight and migration scenarios as tools to provide insight into how migration patterns may develop (Sohst et al., 2020). A better vision of the future is meant to facilitate anticipatory policy and proactively manage public opinion.

Predicting the future, however, is notoriously difficult. A wide range of approaches have been developed in various fields to find ways to explore future migration trends (Schmidt and Hooper, forthcoming; Organisation for Economic Co-operation and Development (OECD), 2018 and 2020; Bijak, 2011; de Haas et al., 2010; United Kingdom Government Office for Science (GO-Science), 2011; Sohst et al., 2020; and Sardoschau, 2020). Each approach has its own advantages and disadvantages. As experts face growing demand for guidance from policymakers, careful consideration of the limitations of common approaches is needed.

Migration scenarios are a popular approach to developing an understanding of future migration flows. Rather than relying on quantitative data from past trends and predicting future migration flows based on these, migration scenario-building commonly follows a systematic process of eliciting expert judgement to derive coherent narratives that describe plausible futures. The narratives are built around migration drivers¹ perceived to be the most uncertain and most impactful on future migration flows (Vezzoli et al., 2017). Scenarios usually do not provide a specific magnitude and/or direction of future migration; instead, they present coherent storylines in which the identified migration drivers affect future migration flows.

Another approach is the Delphi survey – a method for facilitating consensus among experts on numerical estimates of migration flows and their corresponding probabilities. A Delphi survey typically proceeds by iteratively improving one estimate of future migration, while migration scenarios develop a set of alternative futures that are each thought to be of equal probability and plausibility.

This study combines both approaches. First, the author team synthesized four immigration scenarios from a group of studies selected from a systematic literature review of migration scenarios (Sohst et al., 2020). In a second step that involved the use of a Delphi survey, 178 migration experts rated the implications of these four scenarios for immigration flows to the European Union in 2030 and assessed the likelihood of each scenario becoming reality. The report presents the average of the estimates for each scenario and analyses the degree to which experts, overall and grouped according to certain background characteristics, agreed on the estimates for each scenario.

¹ Migration drivers are “elements that have the potential to facilitate, enable, constrain, or trigger migration. Migration drivers might increase or decrease the salience of migration, the likelihood of certain migration routes, and the desirability of different destinations.” (Natter et al., 2020)



The combined approach therefore provides insights into how leading experts judge the most common scenarios for migration to Europe that were developed by organizations such as IOM, OECD, the European Union and the European Asylum Support Office (EASO). The analysis further illustrates the potential and limitations of the scenario approach for policymakers.



2

A REVIEW OF COMMON APPROACHES TO MIGRATION SCENARIOS

2. A REVIEW OF COMMON APPROACHES TO MIGRATION SCENARIOS

The literature on exploring the future of migration has grown in the past decades to encompass an increasingly complex and diverse field of approaches. As such, migration scenarios and Delphi surveys are not the only tools available to help anticipate future migration. Depending on the particular methodology used, the literature can be categorized into three main groups:

- (a) Early-warning systems;
- (b) Quantitative models (including forecasts, projections and predictions);
- (c) Foresight and scenarios.

Given this study's focus on evaluating existing migration scenarios in terms of how probable they are and what consequences, in quantitative terms, for future migration to Europe might be expected from them, it is useful to start with a brief review of how scenarios and Delphi surveys have been and are being used.

As previously mentioned, this study combines elements of two well-known approaches: the migration scenario and the Delphi survey.² Both fall under the last category of approaches (i.e. foresight and scenarios) and should not be confused with forecasts.³ Scenarios systematically explore the future by developing plausible alternative storylines, with each storyline focusing on future trajectories of key migration drivers and processes related to migration. Scenarios typically provide no quantitative estimates of future migration flows or indications of how likely the realization of their storylines is. Instead, they offer an interactive and intellectually stimulating way to think about a set of equally plausible futures in a "What if...?" type of discussion.

Vezzoli et al. (2017) explain the key steps of the migration scenario creation process. With the scenario method, the framework around which to structure a storyline consists of so-called "dimensions," which are the future migration drivers that are most uncertain and most impactful (van der Heijden, 2005). The way that the dimensions of a scenario study are selected varies. A comprehensive methodological and conceptual framework has been proposed by the Global Migration Futures project (de Haas et al., 2010). The methodology follows roughly four steps: (a) identification of migration drivers; (b) sorting of migration drivers into groups based on how predictable they are (for instance, how

² Other studies attempt to explore the complementary approaches of scenarios and Delphi surveys; see, for example: Drbohlav (1996) and Bijak and Wiśniowski (2010).

³ For a more detailed discussion of how foresight and forecasts differ, see, for example: Sohst et al. (2020). In short, foresight does not attempt to provide a definitive assessment of the future, but, rather, to delimit a field of possible futures. Forecasts, in contrast, aim to predict future migration flows or stocks, often expressed through a quantification of their estimates. Although Delphi surveys are frequently described as a type of foresight study (Aichholzer, 2009), expert estimates produced through them have recently been used to complement time series data in probabilistic migration forecasts (see, for example: Wiśniowski and Bijak (2009); and Bijak and Wiśniowski (2010)). Compared to migration scenario studies, Delphi surveys are thus a hybrid approach, suitable for use in either forecast or foresight studies, depending on their design.



much uncertainty there is about their future) and how much impact they might have on future migration patterns; (c) selection as scenario dimensions those migration drivers (typically two) with the highest potential impact and the highest uncertainty; and (d) development of scenario narratives based on these identified scenario dimensions.

In contrast to migration scenarios, Delphi surveys can be used to produce both quantitative and qualitative insights about future migration. Originally developed at the beginning of the Cold War to improve forecasts where data were scarce or of insufficient quality (Helmer-Hirschberg, 1967, p. 5), their goal is not to open up a field of possible futures, as the scenario approach does; instead, Delphi surveys narrow down the number of potential pathways towards a more accurate assessment of the future (Rowe and Wright, 1999). Various types of Delphi surveys can be distinguished based on the objective, namely, (a) collecting and organizing ideas, (b) making predictions and (c) forming consensus – the last one being the most common (Ammon, 2009, p. 463). All three types have been applied in migration research and many studies combine quantitative estimates of future migration with more qualitative statements to explain these estimates (see, for example: Petreski et al., 2017; Drbohlav and Jaroszewicz, 2014; and Jandl et al., 2009). Whatever the specific goal might be, the Delphi method relies on consecutive rounds of a structured survey to collect information and aims to facilitate consensus among experts. By confronting survey participants with the anonymized, aggregated responses of the entire group and of its various subgroups, and letting them re-evaluate their own responses in succeeding survey rounds, it is possible to assess the degree to which the experts' responses converge. The insights thus retrieved are deemed superior to elicitation methods in which experts give estimates without feedback on the aggregated responses of their peers.

Leveraging the full potential of both approaches, this study aggregates and synthesizes four scenarios from existing and well-known migration scenario studies, then uses a two-round Delphi survey to investigate migration experts' beliefs about the implications of each scenario for immigration to European Union countries in 2030.⁴ Experts estimate the size of future immigration to Europe based on different scenarios for the world in 2030. This combination of methods has rarely been applied to such a large sample of experts in the field of migration.

The current state of the art of migration scenarios and migration-related Delphi studies is summarized in the succeeding sections.

2.1. MIGRATION SCENARIOS

In the past 10 years, many of the major national, European and international actors concerned with migration have developed their own sets of migration scenarios, in studies published by the Joint Research Centre of the European Commission (2018), IOM (2017), Frontex (2011 and 2016), EASO (2019) and OECD (2009, 2016 and 2020). Scenarios have also been developed by researchers, albeit lower in number. A systematic literature review authored by Sohst et al. (2020), with support from the Netherlands Interdisciplinary Demographic Institute (NIDI) and IOM's Global Migration Data Analysis Centre (GMDAC), compared and evaluated studies published in English that are concerned with European migration scenarios. The review shows that there is considerable overlap in the selection of focus areas across the studies. While every scenario study in the review considers a host of migration-relevant drivers and their interconnections, the ones considered to be more impactful on migration but also

⁴ Refer to the [Annex V](#) for the list of participating experts who agreed to be named.

highly uncertain, as mentioned previously, are chosen to serve as cornerstones of their respective scenario frameworks and are called “scenario dimensions.” Among them, international governance, that is, the degree of international cooperation between countries and, particularly, between member States of the European Union, stands out as the single most frequently discussed factor (or driver) determining the future of migration in Europe. Other factors that appear prominently in many migration scenarios are the degree of future economic convergence between world regions, the severity and speed of environmental change, and, more recently, the impact of public opinion on migration policy. The detailed discussion of such macro-level factors underscores the approach taken in recent migration scenario-building exercises to uncover the impact of structural changes (for example, geopolitical shifts, technological advances or demographic change) and the interaction between multiple migration drivers. Besides commonalities or overlaps in migration drivers and dimensions, the systematic literature review also shows a preponderance of certain methodologies used to create the migration scenarios in these studies. Many of the studies rely on a participatory approach that involves a group of participants (usually migration experts and stakeholders) and an iterative workflow that alternates between workshops, interviews, online surveys and fact-finding sessions (Sohst et al., 2020). Against a backdrop of multiple variations to this approach, a comprehensive guide to participatory migration scenario-building has been created by the Global Migration Futures project (de Haas et al., 2010; and Vezzoli et al., 2017).⁵

The review of European migration scenario studies shows that scenarios are a useful tool to enhance the strategic thinking of policy leaders in the field of migration. With their focus on global developments and contextual factors, they help convey the extent of the interdependencies and uncertainties involved in migration policy planning. However, migration scenarios also come with important limitations. First, the collective creation process is a time- and resource-intensive exercise. Second, the subjective nature of expert opinion means that the results depend considerably on the experts invited to participate in the scenario development process, as well as on the workshop format (Sardoschau, 2020). Third, given the complexities of scenarios and the lack of accompanying quantitative estimates, they are unwieldy to communicate and draw lessons from. The use of scenarios as evidence base by policymakers who are under pressure to deliver outcomes within the electoral cycle is contested. Fourth, while all migration scenarios recognize the uncertainty attached to their storylines, there is no formalization of probability or uncertainty (see, for example, de Haas et al. (2010), for a discussion about the role of uncertainty in migration scenarios). This ultimately undermines the applicability of migration scenarios in addressing policy challenges today. Ultimately, there might be diminished uptake of such efforts and, correspondingly, their potential impact. Furthermore, in contrast to quantitative forecasting, migration scenarios are less clear and explicit in how diverging opinions and model assumptions from experts are weighted (Sardoschau, 2020).

⁵ Refer to the Global Migration Futures website for more details: www.migrationinstitute.org/completed-projects/gmf.

2.2. DELPHI SURVEYS

One of the earlier applications of the Delphi method in migration forecasting was a 1991 study conducted in what is now the Russian Federation, in which migration experts estimated the size of future emigration from the former Soviet Union between 1992 and 1997 (Vishnevsky and Zayonchkovskaya, 1994; after: Willekens, 1994, p. 28).⁶ Delphi surveys became a popular tool in estimating future migration from Eastern to Western Europe starting in the 1990s (Lachmanova and Drbohlav, 2004). In 1993, for example, Drbohlav questioned 70 experts in the first round and 36 in the second round of a Delphi survey, and found that short-term circular migration was thought to increase markedly in the near future – a prediction that, according to some accounts, became true (OECD, 2001, p. 26; Fassmann et al., 2014, p. 45; and Drbohlav, 1996 and 1997).⁷ Lastly, Petreski et al. (2017) used a Delphi survey to estimate the size and effects of emigration and remittances from countries of the Western Balkans. The survey found that North Macedonia and Serbia would receive more remittances in the coming five years, whereas Albania and Kosovo⁸ would receive less (Petreski et al., 2017).

Over the past decade, Delphi surveys have been used in combination with Bayesian models to create probabilistic migration forecasts⁹ (Wiśniowski and Bijak, 2009; Wiśniowski et al., 2013; Wiśniowski et al., 2014; and Bijak, 2011).¹⁰ The particular features of Bayesian statistics allow researchers to combine subjective expert opinion with time series data in one integrated model. By questioning survey participants about their confidence in their estimates, researchers can construct subjective probability distributions for migration forecasts. These give readers an intuitive and visual indication of the uncertainty involved in the forecast.

One recent example of a Bayesian probabilistic forecast using inputs from a Delphi survey comes from Abel et al.'s (2013) assessment of future environmental migration to the United Kingdom. In the questionnaire, experts were asked to estimate the number of future immigrants and indicate their confidence in their own estimates. In the two-round survey, the authors encountered several methodological challenges. First, their survey participants openly admitted the limitations of their expertise. Second, definitions of key terms, such as “environmental migration”, were left open in the first round of the survey, leading to confusion and problems of comparability. Lastly, the adoption of a subjective, 100-point percentage confidence scale may have been interpreted differently by respondents, further rendering the results difficult to evaluate. These concerns were discussed with the experts in a meeting that took place between the two rounds to agree on the key concepts and the scales used. Nonetheless, the authors concluded that the inclusion of expert opinion was useful in opening up questions about meanings

⁶ Wegren and Drury (2001, p. 16) cite 2.57 million emigrants from the Russian Federation (not to be confused with the Commonwealth of Independent States established after the dissolution of the Soviet Union in 1991) from 1992 to 1998. However, the numbers are difficult to verify and should be treated with caution. It is widely assumed that emigration to countries outside of the Russian Federation was much more modest than expected, especially due to the ethnic selectivity of the migration policies of many receiving countries, particularly, Germany and Israel. The vast majority of migration post-Soviet Union took place internally. (See, for example: Timothy Heleniak, “Migration dilemmas haunt post-Soviet Russia”, profile, 1 October (Washington, D.C., Migration Policy Institute, 2002), available at www.migrationpolicy.org/article/migration-dilemmas-haunt-post-soviet-russia; and Mikhail Denisenko, “Historical and current trends in emigration from Russia”, article, 14 August (Moscow, Russian International Affairs Council, 2013), available at https://russiancouncil.ru/en/analytics-and-comments/analytics/historical-and-current-trends-in-emigration-from-russia/?sphrase_id=705758).

⁷ There is disagreement and a lack of evidence about the extent of circular migration between Eastern and Western Europe (see, for example: Favell (2008); and Strockmeijer et al. (2019)).

⁸ References to Kosovo shall be understood to be in the context of United Nations Security Council resolution 1244 (1999).

⁹ Probabilistic forecasts present probability distributions, from which ranges of possible values can be derived. Hence, as opposed to deterministic forecasts, a probabilistic forecast does not present one single number, but a range of numbers to express uncertainty (see, for example: Azose and Raftery (2015)).

¹⁰ As opposed to majority of forecast methods, Bayesian forecasts are unique in that they do not only rely on an assessment of data but also include prior beliefs in their calculations. For example, so-called “priors” (which are often subjective estimates of future migration) were collected from experts. The subjective assessments of the experts were later combined with historical migration data. Bayesian approaches have gained popularity in migration forecasts because they offer innovative ways to deal with the large amount of uncertainty connected to them, while also making use of different sources of information (i.e. expert opinion and migration data analysis).

and assumptions that might have been lost in a purely quantitative framework (Findlay et al., 2012; and Abel et al., 2013, p. 19).

2.3. LIMITATIONS

The examples in the previous section showed that the Delphi method has its advantages and limitations. Its flexible nature is clearly an advantage because it can be applied to all kinds of settings and combined with other approaches, such as Bayesian modelling and forecasting. Furthermore, the anonymity of Delphi surveys helps elicit participants' opinions on subject matters, as well as estimates of future scenarios, that participants might otherwise be reluctant to comment on – an advantage that is particularly relevant for applications in the field of migration. Also, the use of online tools naturally eases the inclusion of experts who would otherwise be difficult to reach. Limitations of the Delphi method include a lack of methodological clarity. For instance, a recent systematic literature review by Jünger et al. (2017) of 30 Delphi studies found that there was substantial variation in the quality of reporting among participants. This is of serious concern since the validity of results depends on the rigorous application of the Delphi method. Furthermore, the fundamental claim that the method eventually leads to consensus among participants has also been criticized on methodological grounds (Diamond et al., 2014). In fact, of 98 studies that assessed consensus-forming through Delphi surveys, only 64 provided a definition of “consensus” prior to survey implementation. Nonetheless, 88 per cent of the studies found that consensus was achieved.¹¹ Lastly, participating “experts” are generally only highly qualified in one or a limited number of specific topics or subjects and lack expertise in others. If a complex issue is being assessed in a study that uses the Delphi method, there arises the question of how participants should weigh their peers' estimates pertaining to the different aspects of the issue. Failure to address this question properly can jeopardize the findings of the study. Consequently, Delphi surveys need to be understood for what they are – a tool to collect opinions and estimates from selected individuals, not for deriving statistically representative data.

The literature review by Jünger et al. (2017) shows that migration scenarios are a well-suited approach to broaden thinking about future migration by exploring long-term societal and contextual shifts affecting the migration process. Therefore, Delphi surveys are a well-suited approach to obtaining estimates of the size and direction of future migration by drawing on collective expert knowledge.

The approach in this study is to leverage the strengths of both migration scenarios and the Delphi method. While the latter is typically used to provide quantitative estimates, these do not vary according to the key migration drivers considered – something that the scenario method emphasizes. The central methodological contribution in this study is to build upon existing migration scenarios and evaluate them through a Delphi survey. The Delphi survey is used to assess which one of the four synthesized, aggregate immigration scenarios appears most likely to become reality in 2030 and, further, produce quantitative estimates of international immigrant flows to Europe for each of the four scenarios. (Section 3. Methodology describes the design of the study in greater detail.)

¹¹ Different definitions of “consensus” have been proposed. Among them are those that rely on formal measures of agreement, such as variance (specifically, a decrease in) and central tendency, in addition to individually defined criteria and thresholds. (Refer to Diamond et al. (2017, p. 405) for a complete review of definitions of “consensus” used in Delphi studies.)





3

METHODOLOGY

3. METHODOLOGY

The process of building detailed migration scenarios is a time- and resource-intensive undertaking. Large-scale, high-quality scenario studies have been undertaken in recent years to explore the future of European migration. This study aims to avoid duplication and instead builds upon these existing scenario studies, analysed by Sohst et al. (2020) in a systematic literature review. Four immigration scenarios, which best represent and summarize the storylines of the analysed studies, are thus created. In a two-round Delphi survey, the scenarios are evaluated and quantified using expert opinion. The following is an elaboration of the procedure:

- (a) Systematic review of the literature of European migration scenario studies published in Sohst et al. (2020);
- (b) Aggregation and synthesis of storylines from a selected group of studies (based on recurring or common migration drivers) into four distinct scenarios that describe the future of migration to the European Union in 2030;
- (c) Two-round online Delphi survey of 178 migration experts to evaluate the four synthesized immigration scenarios, their likelihood to become reality and their consequences for the volume of future international immigration to the European Union¹² (the Delphi survey is preceded by a pilot test during an expert workshop in Brussels, in which 17 experts provided feedback on the survey and scenarios).

Sections 3.1 and 3.2 detail the activities in steps (b) and (c).

3.1. SYNTHESIS OF EUROPEAN IMMIGRATION SCENARIOS

From the 21 scenario studies in Sohst et al. (2020), seven were selected to synthesize the scenarios (Table 1). Selection criteria included relevance to the context of migration to the European Union, geographic coverage and methodological soundness (see Table A1 in [Annex I](#) for a comparative overview of the seven scenario studies).

Table 1. Studies from which the four immigration scenarios are synthesized

Year	Author	Title
2019	European Asylum Support Office	The future of international protection in the EU+ by 2030: a scenario study
2018	Joint Research Centre (European Commission)	The future of migration in the European Union – future scenarios and tools to stimulate forward-looking discussions

¹² A total of 178 experts responded to the survey in the first round and 145 in the second round. These experts work in the field of migration, in both academia and policy. In the analysis of the survey, only experts with at least five years of experience and expertise in European immigration were included, reducing the sample size to 110.



Year	Author	Title
2017	Friedrich-Ebert-Stiftung, Global Futures and International Organization for Migration	<i>Tomorrow's World of Migration and Mobility</i>
2016	Organisation for Economic Co-operation and Development	<i>Perspectives on Global Development 2017: International Migration in a Shifting World</i>
2016	Frontex	<i>Risk Analysis for 2016</i>
2011	de Haas, H.	Mediterranean migration futures: patterns, drivers and scenarios
2011	United Kingdom Government Office for Science	Migration and global environmental change: future challenges and opportunities – future scenarios

The scenario dimensions (i.e. the potentially most impactful and uncertain migration drivers) in each of the seven studies were identified and compared. In the process, four scenarios were aggregated and synthesized. Most studies in Sohst et al. (2020) drew on a very similar set of dimensions because their selection procedures overlapped. In order of decreasing frequency, these are: (a) international cooperation (including European Union integration), (b) economic convergence between migrant-sending and -receiving regions, (c) environmental change and (d) social development. The two potentially most impactful but also highly uncertain migration drivers, (a) international cooperation and (b) economic development, were selected to compose the scenario frameworks for this study's immigration scenarios.¹³

While the two dimensions (international cooperation and European Union integration, and economic convergence) form the basic framework for the scenario storylines, other migration drivers were also considered in the scenario aggregation process. A broad range of drivers are recurrent in these storylines: automation and technology, demography, labour markets, inequality, social policy, environmental change and violent conflict, among others.

The aggregation process resulted in four complex narratives (i.e. scenarios) that describe the possible state of the world in 2030. Despite the importance of the other aforementioned migration drivers (i.e. environmental change and social development), the author team eventually decided to simplify the derived storylines for the purpose of the online Delphi survey by highlighting international cooperation (including European Union integration) and economic convergence between the European Union and migrant-sending regions. The details of the scenario aggregation process are presented in Section 3.2. The four aggregate scenarios thus synthesized are later presented in the final online survey.

¹³ In the scenario method, the framework around which storylines structured are called "dimensions". The way that the dimensions of a scenario study are selected varies. A comprehensive methodological and conceptual framework has been proposed by the Global Migration Futures project (de Haas et al., 2010). The methodology follows roughly four steps: (a) identification of migration drivers; (b) sorting of drivers into groups based on how predictable they are (for instance, how much uncertainty there is about their future) and how much impact they have on migration patterns; (c) selection of dimensions from migration drivers perceived to have the highest impact and the highest level of uncertainty (typically two); and (d) development of scenario narratives based on the identified dimensions. In this particular study, the two most recurrent scenario dimensions are the same as those in Sohst et al. (2020).

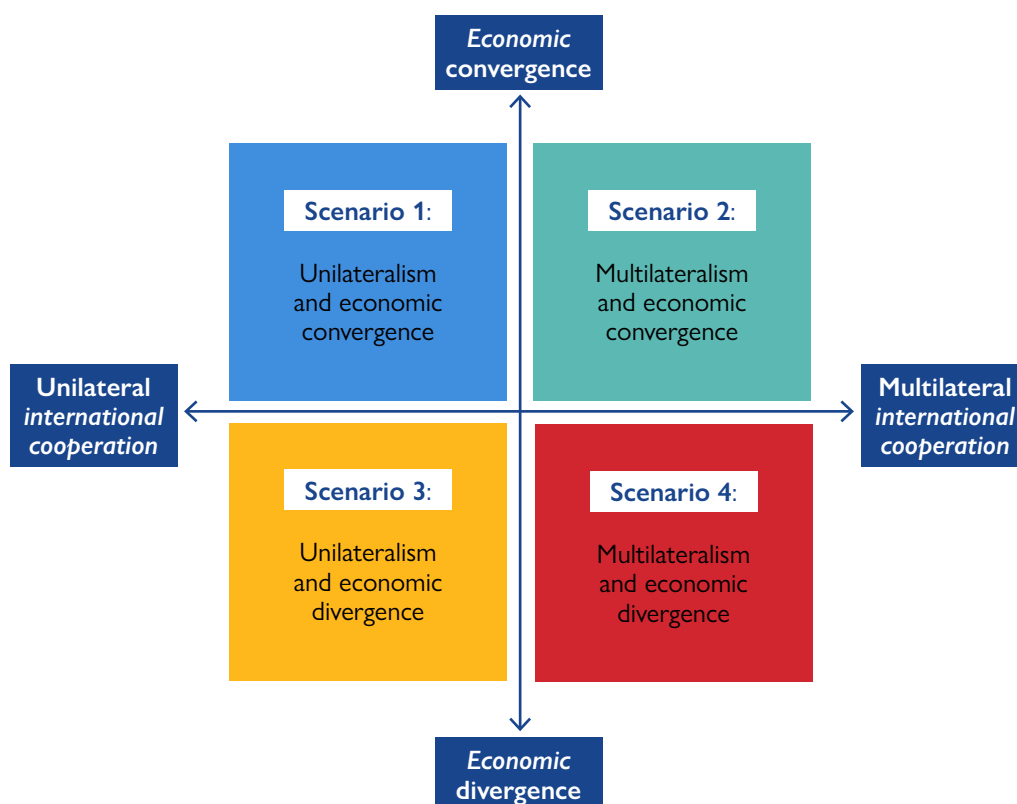
3.2. THE FOUR SCENARIOS: IMMIGRATION TO EUROPE IN 2030

The four aggregate scenarios thus synthesized describe the world in 2030, but with a specific focus on the European Union. As mentioned, the two main dimensions of the scenario framework are: (a) international cooperation (including European Union integration) and (b) economic convergence between the European Union and migrant-sending regions. The scenario narratives are described in detail in [Annex I](#).

While each scenario differs in terms of how it describes the future of these two dimensions, there are four underlying assumptions that are common to all scenarios:

- (a) Increased demand for health and elderly care services in the European Union;
- (b) Shrinking working-age populations in many European Union member States due to low fertility rates;
- (c) Increased importance of environmental and climate change to economies and societies;
- (d) Increased impact of automation and digitalization on the functioning of economies, particularly on labour markets.

Figure 1. The four aggregate scenarios, their dimensions and summary of narratives



Source: Authors' own elaboration of migration scenarios aggregated and synthesized from the literature.

Scenario 1: Unilateralism and economic convergence

In 2030, with protectionism on the rise, international cooperation is reduced to mostly one-sided action. Asia and Africa have caught up with Europe economically. Increasing wealth inequality poses a challenge to African, Latin-American and Asian countries.

Scenario 2: Multilateralism and economic convergence

Global economic growth and strong international cooperation create more inclusive, but also more diverse, societies in European Union member States, Africa, Latin America and Asia.

Scenario 3: Unilateralism and economic divergence

This scenario paints a gloomy picture for international cooperation, which is at its lowest, with large, persistent economic gaps have emerged between European Union countries, and the sending regions of Africa, Latin America and Asia. Social inequalities are on the rise, causing social unrest.

Scenario 4: Multilateralism and economic divergence

Economic crises in Africa, Latin America and Asia create patches of instability. To deal with economic instability in these sending regions, European Union, African, Latin American and Asian countries engage in multilateral cooperation that allows for some progress in the management of migrant flows.

3.3. PILOT SURVEY AND EXPERTS' WORKSHOP

Based on the systematic literature review and synthesis of the four immigration scenarios (described in the previous section), a two-round online pilot Delphi survey was developed and implemented using Qualtrics¹⁴ software. The first round presented the four scenarios and instructions on how to respond to the questions, in addition to the scenario questions themselves (see Annex I).¹⁵ The 17 experts who participated in the pilot survey had different disciplinary backgrounds and came from academia and various think tanks and international organizations (Annex II contains a list of participants who agreed to be named). The main block of questions concerned the evaluation of the scenarios, including their individual likelihood to become reality, the implications of each scenario for different types of migration flows to the European Union, and the respondents' confidence in their own estimates.

Following the completion of the pilot survey, the experts were invited to participate in a one-day workshop in Brussels in October 2019 to evaluate their experiences during the survey (as regards its design and content). The workshop comprised three parts:

- (a) Presentation of the literature review of migration scenario studies, with a summary of the most common thematic issues and migration drivers and a comparison of methodological approaches used to create the four immigration scenarios (refer to Sohst et al. (2020) for details);
- (b) Presentation of the results of the pilot survey, with the experts requested to evaluate the online survey tool in terms of its content, including the scenarios

¹⁴ For more information on the Qualtrics survey software, refer to its website at www.qualtrics.com/uk/core-xm/survey-software.

¹⁵ The complete questionnaire is available at <https://migrationresearch.com/migration-scenarios>. The first round consists of 47 items, while the second round has 56.

presented, the wording of survey questions, and the method they applied in analysing how confident they were about their estimates of future immigration to the European Union (Participants were shown aggregated responses to the survey so that they could compare and discuss their results. The evaluation by the experts prompted changes to the online questionnaire for the roll-out of the survey to a larger group of experts.);

- (c) Discussion of key concepts, the experts' reasoning for how they derived their estimates (i.e. what method they used and why), and how the study's scenarios and results can be put to use in identifying scenario-specific migration policy alternatives. (Given their feedback, it was decided that there was a need to add more visual elements to the survey questionnaire to illustrate historical immigration patterns and facilitate visual extrapolations; Table 2 includes the sources from the types of flows used to visualize the flows in the survey. Furthermore, the method of probability elicitation was modified to capture joint probabilities.)¹⁶

Table 2. Data sources for the immigration figures used in the Delphi survey

Type of flow	Source
Total immigration	Eurostat, "Immigration by age group, sex and country of previous residence", data set (2020a). Available at https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_imm5prv&lang=en . Data set: migr_imm5prv
Labour immigration	Eurostat, "First permits issued for remunerated activities by reason, length of validity and citizenship", data set (2020b). Available at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_resocc&lang=en . Data set: migr_resocc
High-skilled labour immigration	Eurostat, "First permits issued for remunerated activities by reason, length of validity and citizenship", data set (2020b). Available at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_resocc&lang=en . Data set: migr_resocc (filter: highly skilled workers and researchers)
First-time asylum applications	Eurostat, "Asylum and first-time asylum applicants by citizenship, age and sex", data set (2020c). Available at https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_asyappctza&lang=en . Data set: migr_asyappctza
Irregular border-crossings	Frontex, "Detections of illegal border-crossings statistics", data set (2020). Available at https://frontex.europa.eu/along-eu-borders/migratory-map .

¹⁶ In the survey, respondents were asked to estimate the likelihood of each scenario becoming reality in 2030. Their estimates for each of the four storylines had to add up to 100 per cent, thus forcing them to weight the scenarios against each other, thereby reducing the subjectivity of the scale.



3.4. THE DELPHI SURVEY

The online Delphi survey consisted of two full rounds. Invitations to the first full round of the Delphi survey (Wave 1) were sent out on 25 October 2019 and remained open until 15 November 2019. Experts that participated in a pilot study were invited to the survey given the wide range of changes that were implemented. An invitation to respond to the survey was sent to 1,656 experts in the field of migration studies, in both academia and policy, who were encouraged to further share the survey within their networks.¹⁷

Similar to the pilot, the online Delphi survey contained several sections:

- (a) An introduction with instructions for the survey;
- (b) A main block of questions about the expert's perception of the likelihood of each scenario to become reality in 2030, the expert's estimate of the volume of migration by type of scenario, and his or her confidence in the estimate;
- (c) Three open-ended questions on the respondent's reasoning about the likelihood of each scenario, the estimates of flows and migration drivers potentially omitted from the survey;
- (d) Questions about the respondent's academic and professional background and relevant experience.

Following the end of the first wave, valid responses for each question were aggregated and added to the survey. It was decided that respondents would be given copies of their own responses, as well as the mean (the average of the distribution) and median (the midpoint of the distribution) values of the respondents' estimates for the various types of immigration flows in each scenario. Wave 2 of the survey started on 25 November 2019, with the invitation remaining open for 40 days. All respondents from the first wave were contacted again, provided they had given their consent to be involved in the second. Respondents were then invited to review their initial estimates vis-à-vis those of others and, if they wished, make adjustments.

Of the 1,656 prospective respondents who received invitations for wave 1 of the survey, only 178 participated. Of this number, 145 went on to participate in wave 2. Only the responses of experts with at least five years of experience in migration and expertise in European migration issues were analysed, thus reducing the number of respondents from 178 to 110 (Table 3 presents the characteristics and distribution of the survey sample).

¹⁷ Invitations to participate in the survey were disseminated among European Union institutions, the network of research institutes associated with the International Migration, Integration and Social Cohesion in Europe (IMISCOE) (www.imiscoe.org) and Population Europe (<https://population-europe.eu>), among other research and policy institutes working in the area of migration.

Table 3. Characteristics of the survey sample

Expert characteristics		Wave 1		Wave 2		Net sample ^a	
		Total	Share (%)	Total	Share (%)	Total	Share (%)
Years of experience in the field of migration	0–4	21	11.9	18	12.4	0	0.0
	5–9	45	25.6	37	25.5	34	30.9
	10–14	30	17.1	27	18.6	19	17.3
	15–19	28	15.9	23	15.9	20	18.2
	≥20	52	29.6	40	27.6	37	33.6
Stakeholder/ respondent type	Practitioner	53	29.9	43	29.7	31	28.2
	Scholar	109	61.6	90	62.1	73	66.4
	Others	15	8.5	12	8.3	6	5.5
Academic discipline ^b	Political science	59	33.2	48	33.1	38	34.6
	Sociology	52	29.2	45	31.0	40	36.4
	Demography	45	25.3	36	24.8	26	23.6
	Economics	42	23.6	32	22.1	23	20.9
	Law	19	10.7	17	11.7	14	12.7
	Psychology	4	2.3	4	2.8	3	2.7
	Other disciplines	46	25.8	37	25.5	27	24.6
Area of experience in migration research ^b	Migration drivers	72	40.5	58	40.0	46	41.8
	Forecasting	41	23.0	33	22.8	28	25.5
	Region-specific	103	57.9	84	57.9	66	60.0
	Scenarios	46	25.8	41	28.3	30	27.3
	Other methods	57	32.0	47	32.4	34	30.9
Regional expertise ^b	Africa	66	37.1	55	37.9	45	40.9
	Americas	41	23.0	32	22.1	24	21.8
	Asia	47	26.4	36	24.8	26	23.6
	Europe	141	79.2	120	82.8	110	100.0
	Oceania	12	6.7	10	6.9	7	6.4
Total number of experts		178		145		110	

Note: Not all respondents answered all the questions; as such, the sum of a category is not always 178.

^a Responses of participants with less than four years of experience and without expertise in European migration were excluded from the analysis.

^b Totals do not add up to 100 per cent because a respondent may belong to more than one category.

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study).

A large, stylized number '4' is centered within a hexagonal pattern. The pattern consists of several overlapping hexagons in different shades of orange, creating a 3D effect. The number '4' is white and stands out against the darker orange hexagon it occupies.

4

SURVEY RESULTS: INTERNATIONAL IMMIGRATION TO EUROPE IN 2030

4. SURVEY RESULTS: INTERNATIONAL IMMIGRATION TO EUROPE IN 2030¹⁸

4.1. KEY FINDINGS

- Experts rate scenarios that describe a future where countries solve issues unilaterally as more likely than those where multilateralism thrives.
- Overall, experts expect an increase in total international immigration to the European Union in 2030 of between 21 and 44 per cent, from the recorded average annual figure for the 2008–2017 period. The largest increase – between 83 and 208 per cent higher than the annual average for the past decade – is expected for high-skilled labour migration.
- Experts expect higher levels of regular international immigration in scenarios that describe a future where countries cooperate multilaterally and find solutions at the international level.
- Experts estimate modest or no increase in the number of asylum applications in 2030 compared to the 2009–2018 period and a decrease compared to the years 2015–2016.
- The estimated number of irregular border-crossings into the European Union in 2030 depends on the particular scenario. In scenarios that foresee a future with narrower economic gaps between low- and high-income countries, irregular migration is expected to be lower than levels observed in the 2009–2018 period and far lower than levels in the years 2015 and 2016. However, experts estimate modest increases in the number of irregular border-crossings in 2030 in scenarios that feature economic divergence between low- and high-income countries.

Overall, experts are not confident in their responses, disagree substantially on the size of international immigration and do not reach more consensus after learning about their peers' responses. Responses do not vary substantially by type of expertise. For example, migration scholars with extensive work experience do not differ significantly from other experts, including practitioners, and colleagues with fewer years of experience.

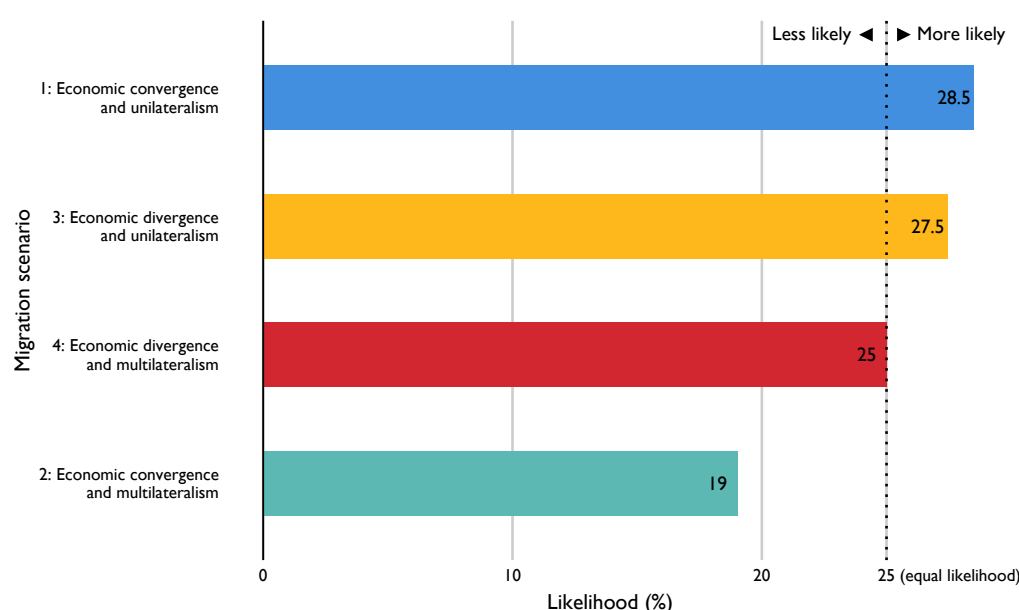
¹⁸ The analysis was limited to experts that participated in both survey rounds (i.e. Waves 1 and 2), with at least five years of experience in migration and expertise in European migration. The results refer to responses given in the second round.

4.1. LIKELIHOOD OF FOUR IMMIGRATION SCENARIOS FOR 2030

Migration scenarios are designed to describe alternative realities for the future of migration. They are collective reflections of participants of the scenario creation process on how uncertain but impactful migration drivers may shape Europe's future. The likelihood of a scenario is not of primary concern in the scenario-building process, and, in principle, each scenario is deemed equally likely and plausible. This study synthesizes common scenarios that have been previously developed and asks a large number of experts how likely they think each of these synthesized scenarios are (see [Section 3.4](#)). The likelihood of a scenario may serve as an indirect measure of the relevance of a scenario and can help determine policy priorities.

Experts rate the scenario of strengthened multilateralism and economic convergence between low- and high-income countries scenario to be the least likely. Apart from this finding, Figure 2 shows that the likelihood of different scenarios for 2030 are largely similar across the board. This is a reflection of the confidence of experts in their responses and the abstract nature of each scenario (which made it difficult for the experts to rate them). Scenarios that see international relations becoming more unilateral (Scenarios 1 and 3) are perceived by experts to be more likely than those that see multilateralism flourish.

Figure 2. Relative likelihood of immigration scenarios according to experts



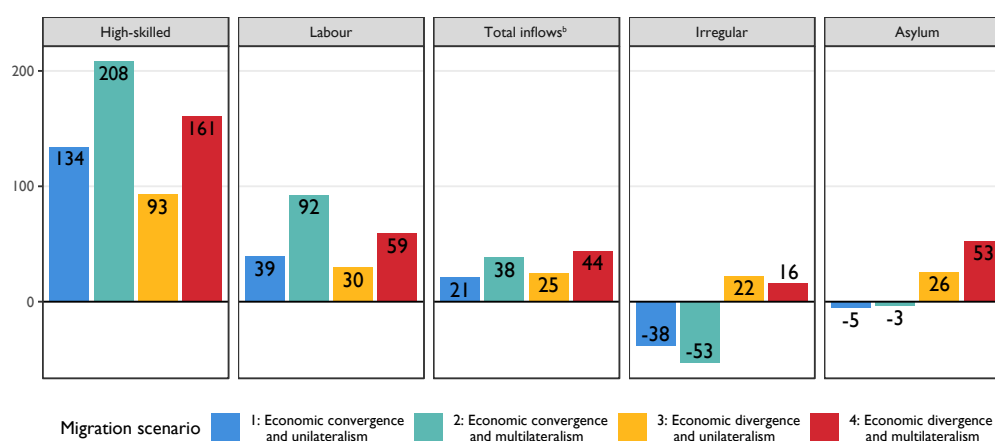
Note: The figure shows how the sample of experts' (see [Section 4.3](#)) averaged ratings of the relative likelihood of each of the four synthesized scenarios (see [Section 4.2](#)) to become reality. Experts balance each scenario against each other and indicate which they believe to be either more (or less) likely than others. A relative likelihood of 25 per cent for all four scenarios means that each is equally likely to materialize. When a scenario is rated more than 25 per cent by the experts, however, it is thought to be more likely than those rated lower.

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and IOM and NIDI, 2020.

4.2. ESTIMATED INTERNATIONAL IMMIGRATION FLOWS TO THE EUROPEAN UNION IN 2030

Figure 3 shows a summary of the changes in immigration flows to the European Union across different scenarios, as estimated by experts that participated in this study's Delphi survey. Compared to the average recorded immigration flows between 2009 and 2018, high-skilled immigration, in contrast to other types of flows, would see the largest increases (from 93% to 208%, depending on the scenario). Experts expect a 21 per cent to 44 per cent increase in total international immigration to the European Union in 2030, from the annual average for the 2008–2017 period. Irregular and asylum immigration flows could either increase or decrease.

Figure 3. Percentage change in immigration to the EU-28^a in 2030 compared to 2009–2018, by type of flow and scenario



Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); Eurostat, 2020d; and Frontex, 2020.

Note: ^a The EU-28 are a group of European Union member States consisting of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom prior to Brexit. The European Union currently has 27 member States.

^b Total inflows compared to 2008–2017.

4.2.1. Total international immigration flows to the European Union in 2030

Experts expect the total number of international immigrants flows (i.e. total immigration, which includes all types of migrants) coming to the European Union in 2030 to increase in three out of the four migration scenarios, compared to the annual inflow in 2017.

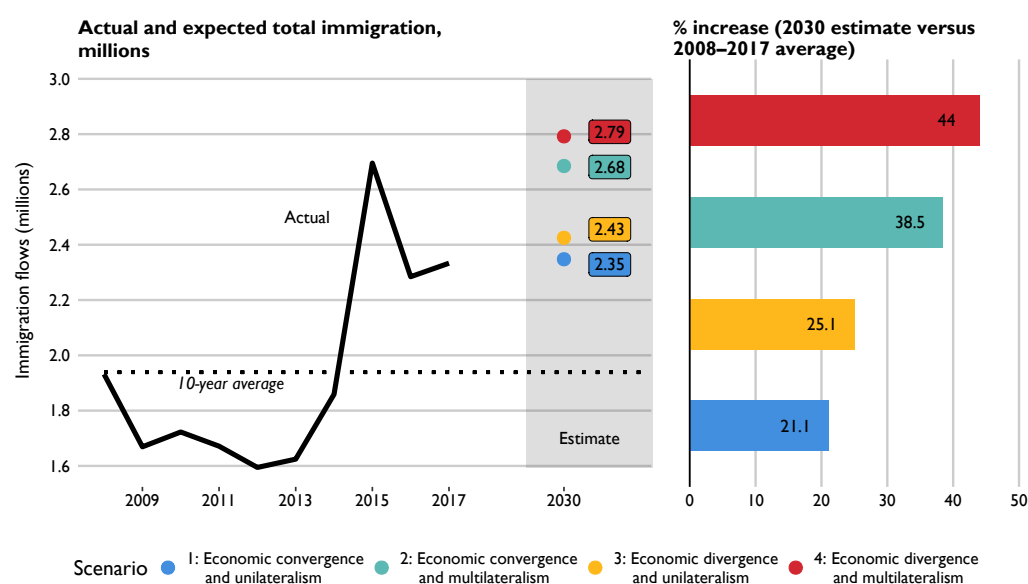
For scenario 1 (the scenario adjudged most likely by the experts), migration flows are estimated to be similar to 2017 levels. Compared to the average annual international immigration flow during the 2008–2017 period, experts expect an increase of 21 per cent in scenario 1 (economic convergence and unilateralism), 44 per cent in scenario 4 (economic divergence and multilateralism), 38 per cent in scenario 2 (economic convergence and multilateralism) and 25 per cent in scenario 3 (economic divergence and unilateralism) (figures are averages of estimates given by the experts). Overall, experts associate multilateralism with higher levels of total immigration to the European Union and, on the contrary, low levels of multilateralism with lower levels of immigration in 2030.

How to read the graphs in this section

In Figures 4 to 8, the left-hand panel shows the number of immigrants that have migrated to the European Union each year since 2008. The grey area shows the average of the experts' expected inflow of migrants to the European Union in 2030 by scenario. The dotted reference line represents the average annual inflow of migrants between 2008 and 2017.

The right-hand panel reports the percentage change in immigration flows between the 2008–2017 average and the scenario-based estimates for 2030. For example, a 10 per cent increase from an average annual inflow of 200,000 for the 2008–2017 period means that there will be 220,000 migrants in 2030.

Figure 4. Total annual international immigration to the EU-28



Note: Scenario estimates are averages of estimates given by individual experts.

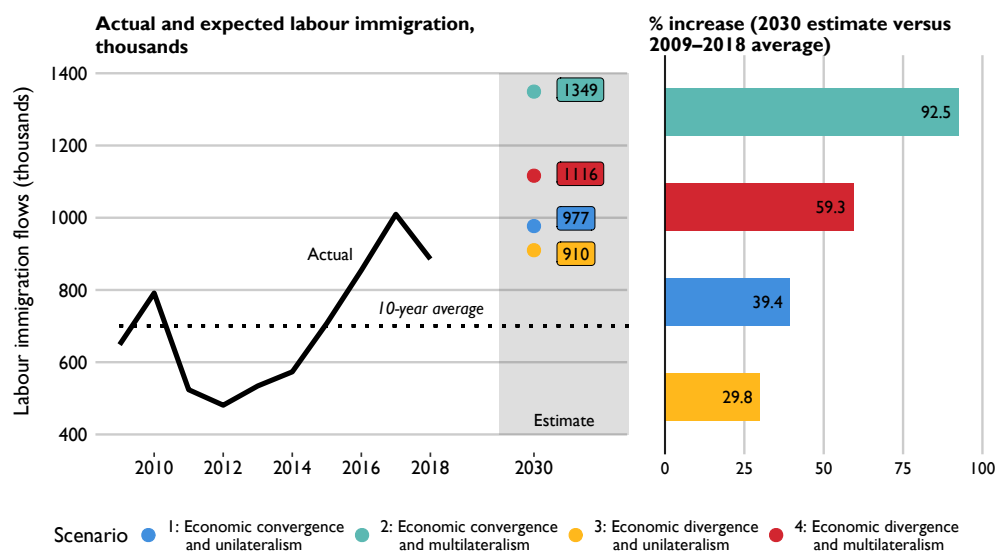
Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and Eurostat, 2020a.

4.2.2. International labour immigration to the European Union in 2030

Experts expect labour immigration (in this context, international immigration for the purpose of work) to increase substantially in all scenarios for 2030. For scenario 1 (the scenario adjudged most likely by the experts), experts estimate, on average, an increase in labour immigration of 39 per cent, compared to the average annual labour immigration volume for the 2009–2018 period. For scenario 2 (the “best-case scenario” describing a future where low- and high-income countries converge and countries work together to solve issues), experts estimate the inflow of migrant workers to double compared to the 2009–2018 period.

Experts expect labour migration to grow more rapidly than overall migration, suggesting that migrant workers will become more prominent in the future of the European Union relative to other types of migrants. This may be a result of the experts’ awareness of the demographic decline of the European labour force and the growing need to attract workers to sustain European economies and social welfare systems. As with total immigration, experts see multilateralism as an important driver of an increase in labour immigration.

Figure 5. Annual international labour immigration to the EU-28



Note: Scenario estimates are averages of estimates given by individual experts.

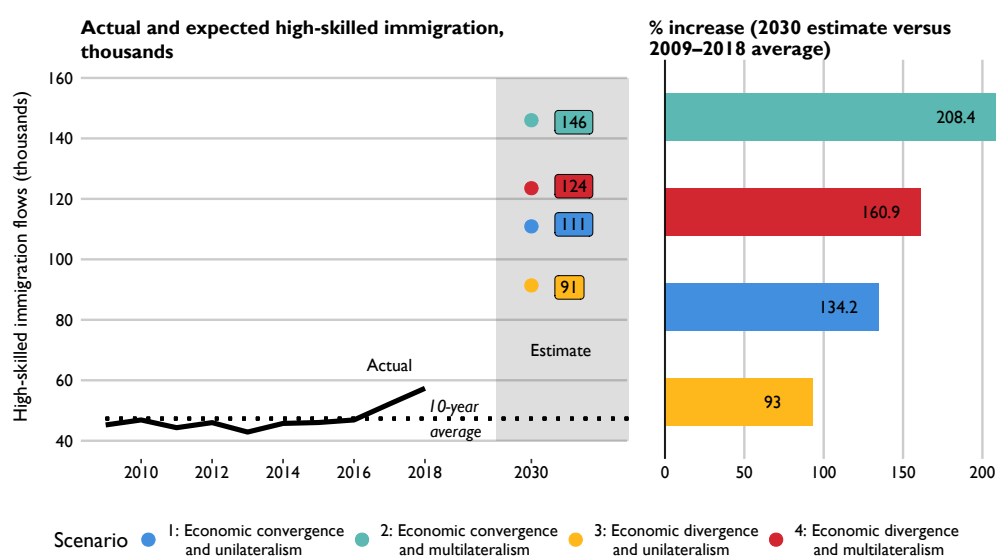
Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and Eurostat, 2020b.

4.2.3. High-skilled international immigration to the European Union in 2030

Across all four immigration scenarios, experts estimate the highest increases in annual immigration flow for highly skilled workers, compared to other types of migration. Compared to the annual average for the 2009–2018 period, experts expect three times as many highly skilled workers migrating to EU-28 countries in 2030. Scenario 1 (the most likely scenario according to the experts) sees an increase of high-skilled labour migration by 134 per cent.

In line with their vision of total immigration and labour immigration, experts expect more migration in future scenarios where multilateralism flourishes.

Figure 6. Annual international high-skilled immigration to the EU-28



Note: Scenario estimates are averages of estimates given by individual experts.

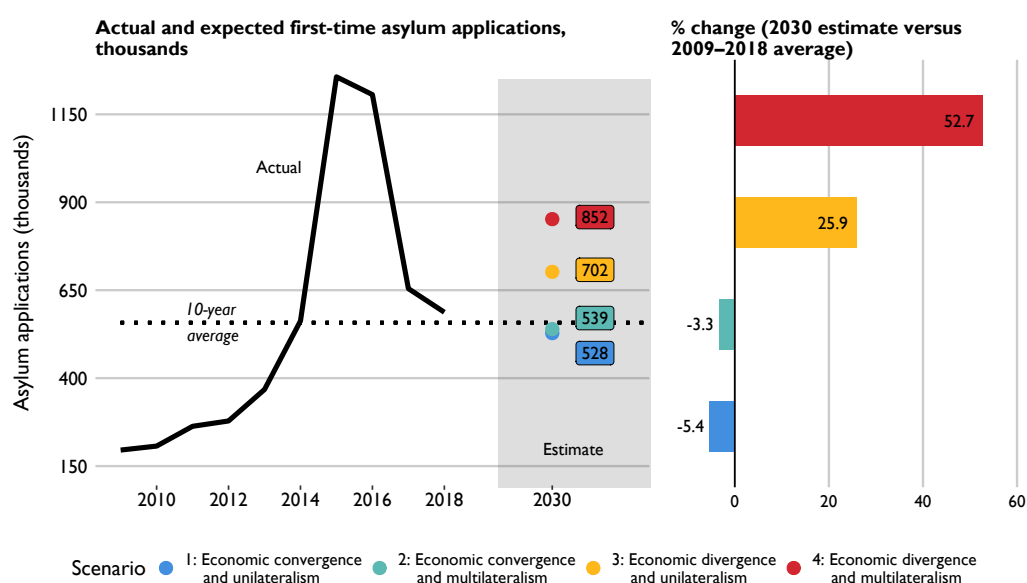
Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and Eurostat, 2020b.

4.2.4. Asylum applications to the European Union in 2030

In contrast to sharp increases in total immigration, labour immigration and high-skilled immigration, experts estimate moderate or no change in the number of asylum applications in 2030 compared to the annual average during the 2009–2018 period. For none of the four scenarios do the estimates reach levels similar to the recent peak in yearly asylum applications in 2015 and 2016. For scenario 1 (the scenario adjudged most likely by the experts), experts expect a “normalization” in the number of asylum applications consistent with the average annual volume for the 2009–2018 period.

Where experts associate multilateralism with higher levels of total immigration and labour immigration, the pattern appears different for humanitarian or forced migration (measured through the number of annual asylum applications as a proxy). Experts estimate higher numbers of asylum applications in scenarios that describe a future of economic divergence between wealthier European Union and poorer regions of the world. This is consistent with the fact that asylum applications reflect the result of forced migration due to instability in migrants' countries of origin. Such movements often occur regardless of the state of multilateral governance.

Figure 7. Annual first-time asylum applications to the EU-28



Note: Scenario estimates are averages of estimates given by individual experts.

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and Eurostat, 2020c.

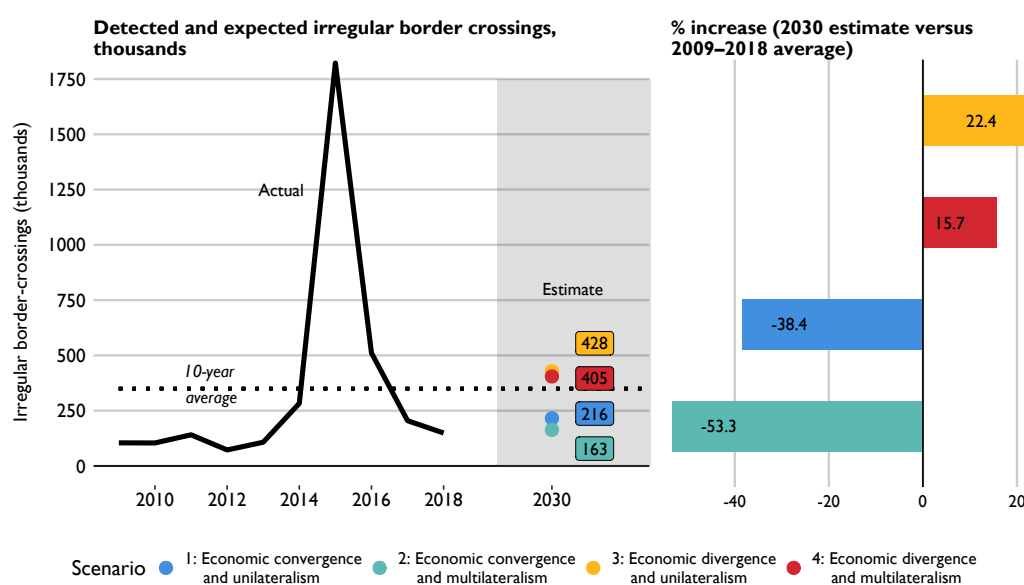
4.2.5. Irregular border-crossings into the European Union in 2030

Experts' opinions of irregular immigration in 2030 are more mixed compared to all other types of immigration flows. Experts expect either an increase or a decrease in the number of irregular border-crossings into EU-28 countries in 2030 (compared to the 2009–2018 period), depending on the immigration scenario.

In scenarios that predict larger economic divergence between the European Union and sending regions, experts expect a 15 per cent (scenario 4: economic divergence and multilateralism) to 22 per cent (scenario 3: economic divergence and unilateralism) increase in the volume of irregular border-crossings (i.e. compared to the average annual figure for 2009–2018). However, these predicted levels are still dramatically lower than the volume of irregular border-crossings recorded during the “migration crisis” of 2015 and 2016.

In contrast, for scenarios 1 and 2 (both characterized by overall economic convergence), experts see substantial decreases in irregular border-crossings compared to the 2009–2018 annual average. These findings suggest that experts see irregular migration as a function of economic push and pull factors in migrants' countries of origin and transit rather than being driven by international cooperation. Scenarios of multilateralism, compared to those of unilateralism, show lower levels of irregular inflows, suggesting that experts consider more cooperation among countries as being linked to less irregular migration to Europe.

Figure 8. Annual irregular border crossings into the EU-28



Note: Scenario estimates are averages of estimates given by individual experts.

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study); and Frontex, 2020.

4.3. HOW RELIABLE IS EXPERT JUDGEMENT?

4.3.1. Key findings

- Experts disagree substantially about the size of future immigration flows to Europe. Half of all migration experts disagree on the volume of total international immigration to the European Union in 2030 by a magnitude of 1.3 million migrants, approximating half of total inflows in 2017. Similar levels of variation were observed among estimates for specific types of flows.
- Experts are not confident in their estimates (an average of 40, on a scale of 0 to 100), with practitioners reporting slightly higher levels of confidence than scholars.
- Experts are not likely to change their views even when informed of the views of their peers. Only one in ten adjusted their estimates of future inflows after learning the responses of their peers.

- Looking at different groups of experts separately (i.e. disaggregating responses by academic discipline, migration-related expertise, years of experience and type of stakeholder – practitioners versus scholars) shows that a respondent's area of expertise does not seem to influence his or her estimates of flows substantially. In addition, migration scholars and experts with more years of migration-relevant experience are not more confident in their estimates than practitioners and experts with fewer years of experience.

4.3.2. How confident are experts?

Experts show intermediate levels of confidence in their estimates of future inflows to the European Union. On a scale of 1 to 100, the average level of confidence was 43 for the first wave and 41 for the second.¹⁹ For the second wave, the average level of confidence was similar across different types of inflows: 39 per cent for first-time asylum applications, 40 per cent for irregular border-crossings, 42 per cent for total inflows, 43 per cent for labour inflows and 43 per cent for high-skilled inflows.

4.3.3. How much do experts agree?

This section assesses the variation among experts' opinions across scenarios and for the same scenario – in other words, to what extent do experts agree on the future of immigration to the European Union in each of the scenarios?

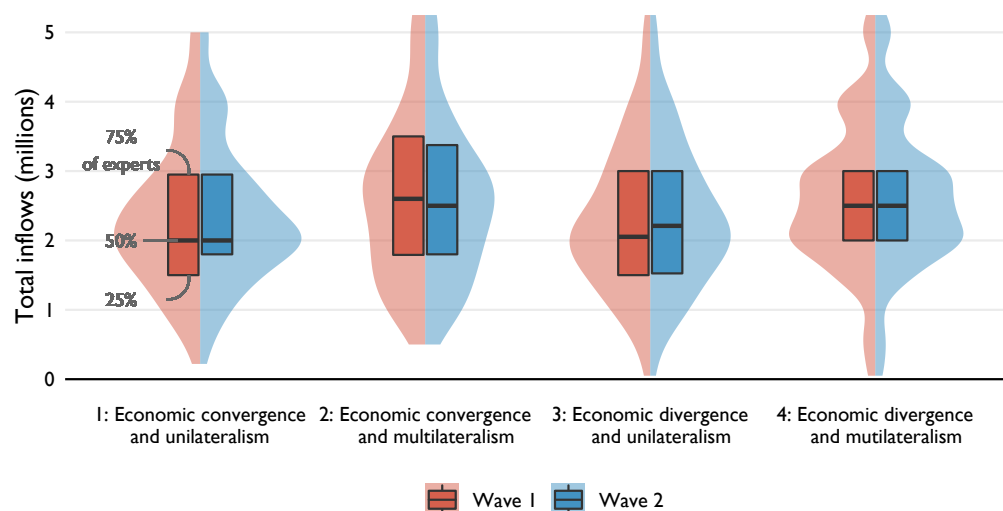
Figure 9 shows a large variation among experts' estimates of total migration inflows to Europe in 2030 across the four scenarios. This indicates large disagreement among experts on what the future of migration will hold. One quarter of experts believe that the number of total migrant inflows to the European Union in 2030 will be around 1.8 million (average for the four scenarios). Another quarter estimate at least 3.1 million – a substantial difference of about 1.3 million immigrants with the previous group's estimate. As such, 50 per cent of all experts disagree by a magnitude of at least 1.3 million migrants. To give some perspective, this figure approximates half of total immigrant flows to the European Union in 2017. Regardless of the scenario, experts believe that total inflows in 2030 to the European Union will be between 2 and 3 million.²⁰

¹⁹ The response categories on the Likert scale were: "Very confident" (80–100% confidence), "Confident" (60–79%), "Half-half" (40–59%), "Unsure" (20–39%) and "Very unsure" (1–19%).

²⁰ Figures A5 and A6 in Annex III show, on the left-hand side, the distribution of experts' responses (i.e. their estimates of future immigration in absolute volumes), and, on the right-hand side, the degree to which the experts' individual estimates for the four scenarios vary compared to the average of those estimates. This within-expert variation confirms the disagreement regarding the implications of inflows for each of the scenarios. To calculate this within-expert variation, the four scenario estimates are averaged per expert. The average of the four scenario estimates is then compared to each of these scenario estimates by calculating the percentage difference. Finally, the percentage difference between the average and each of the four scenario estimates is calculated per expert. A positive percentage change indicates that, in relation to the average scenario, the effect on flows of a particular scenario is positive for a specific expert. On the contrary, a negative percentage change indicates that the effect of a scenario is negative compared to the average scenario for that specific expert. The benefit of using this measure is that it allows a clearer disentangling of the impact of each scenario in relation to the others according to the individual perspective of each expert. For example, in Figures A5 and A6 in Annex III, within-expert variation shows that half of the experts believe that immigration flows will decrease and the other half believes that flows would increase. Overall labour immigration and high-skilled immigration flows show different levels of agreement depending on the scenario (Figure A6), unlike estimates of total immigration flows. About two thirds of experts agree that flows would decrease (since the third quartile is below zero) in scenarios 1 and 3, and increase in scenario 2 (compared to the average estimate of each expert). In contrast, half of the experts think that flows would decrease in scenario 4, since the median is very close to zero, while the other half believe the contrary.



Figure 9. Total inflows: variation and convergence of expert responses



Note: The figure shows a “violin plot” (which is commonly used to illustrate variation in survey responses). For each scenario, the corresponding plot shows the total volume of immigration flows to the European Union in 2030 (vertical axis), as estimated by experts. Only the estimates of experts that participated in both survey rounds are included in the plot. The red half of each “violin” represents estimates from the first round (wave 1) of the survey. The blue part of each violin represents second-round (wave 2) estimates.

Inside the violin is a so-called “boxplot”. The black line in the centre of the box, or the “median”, indicates how half of the respondents responded. For example, a median of 2 million means that 50 per cent of all respondents estimated 2 million or fewer immigrants in 2030. The length of the box and, accordingly, the length of the violin plot illustrate how far apart the experts’ estimates are. The lower part of the box represents the bottom quarter of the estimates (25th percentile or first quartile), while the upper part represents the top quarter (75th percentile or third quartile). As such, 50 per cent of the estimates fall within the range of the box.

This graph also shows the degree to which experts agree on each scenario – in other words, whether the variation in their responses is smaller and narrows over time (convergence). The larger the box, the more uncertain experts are.

The level of agreement among experts about the implications of scenarios for future inflows to the European Union was low overall but varied by type of inflow, as shown in Figure A6 in Annex III. Experts show more agreement in scenarios where unilateralism is common and less agreement where multilateralism is the norm for labour and high-skilled immigration flows. Experts estimate that scenarios of unilateralism will lead to lower levels of labour immigration compared to scenarios of multilateralism, regardless of the level of economic convergence. One quarter of the experts estimated at least 650,000 labour immigrants in the European Union by 2030, while another quarter believe the figure will be 1 million (i.e. a 350,000 difference) between the two scenarios of unilateralism. This difference of 350,000 is much lower than that of 650,000 for scenarios of multilateralism, with experts disagreeing more about their estimates of inflows, which ranged from 850,000 to 1.5 million. With regard to high-skilled labour inflows, for scenarios with unilateralism the difference among experts is 45,000, while in scenarios of multilateralism the difference amounts to 86,000, almost double the number.

As for first-time asylum applications, experts agree that economic convergence will lead to a lower volume of applications, but they agree less whether economic divergence will lead to more applications to the European Union in 2030, as indicated in Figure A6 in Annex III.

The variation in the absolute number of irregular border-crossings is almost double in scenarios of economic divergence compared to scenarios of economic convergence. In the former (divergence), the estimates of half of the experts differed by 285,000; in the latter (convergence), the estimates of half of the experts varied by 115,000, as Figure A6 shows.

Experts' estimates of the relative likelihood of different scenarios do not vary greatly across scenarios. On average, half of the experts estimated a likelihood of between 14 per cent and 35 per cent across the four scenarios. Experts agreed most on a low likelihood for scenario 2 – the best-case scenario.

Another useful indicator of the reliability of expert opinion is convergence, defined as the degree to which experts reach consensus over time and change their opinion after learning about the responses of their peers during the first and second rounds of the survey (Figures A5 and A6, Annex III). On average across the types of flows, only nine per cent of the experts changed their original estimates, with the highest changes in asylum and high-skilled labour inflows (11%). Seven per cent of practitioners and 8 per cent of scholars changed their migration flow estimates in the second round compared to the first. Experts with fewer years of experience tended to change their responses more than their more experienced peers. As can be seen in Figures A5 and A6, the variations in the second round (wave 2) were very similar to the ones in the first (wave 1), which means that the level of future uncertainty remained relatively unchanged across rounds.

Regarding the likelihood of different scenarios becoming real, 24 per cent of practitioners changed their estimates, while 22 per cent of scholars did so. Experts with fewer years of experience more often changed their estimates than experts with more years of experience.

The high level of disagreement and the low tendency to converge over time points to the difficulty of estimating future flows – even among subject-matter experts. This degree of variation may also be related to the abstract nature of future scenarios and the ambiguous relationship between various migration drivers and migration flows. For example, experts may see migration levels increase as a result of multilateralism. Countries may have multilateral labour agreements, leading to higher levels of mobility. In contrast, multilateralism may reduce future migration levels if countries choose to work together to curb flows through international agreements.

4.3.4. How much does judgment vary by type of expert?

The expert sample for this survey includes experts with very different characteristics (in terms of regional expertise, academic background and years of experience working in migration). In order to see how and to what extent the results are related to each of these individual characteristics, additional analyses is presented in this section. Overall, there are small differences observed in the responses when disaggregated by these characteristics.²¹

Confidence in their estimates of flows does not greatly vary according to number of years of experience in the field of migration (studies). Experts with at least 20 years of experience in migration (studies) reported an average confidence in their estimates of 43 per cent. This level is only slightly higher than experts with five to nine years of experience, with 41 per cent confidence. Practitioners, having an average confidence of 45 per cent, appear to be slightly more confident than scholars, with 40 per cent confidence on average.

Table 4 contains the average and spread (using the interquartile range) of the experts' flow estimates, averaged across the four scenarios to reduce complexity and show separately by group based on certain background characteristics (e.g. academic background/discipline, stakeholder/respondent type and years of experience in migration) and type of immigration flow. Experts with academic backgrounds in sociology and political science show the largest level of disagreement in their responses, whereas demographers show the largest level of agreement. Practitioners and scholars show similar levels of overall agreement, although scholars tend to provide more similar estimates for all flow types except first-asylum applications (for which the estimates of practitioners lay closer together). Experts with fewer years of experience tend to disagree more on future first-time asylum and high-skilled labour inflows. The group with 10–14 years of experience have the highest level of disagreement and, overall, both the group with the most years of experience and the least show the lowest levels of disagreement. None of these differences are found to be statistically significant, suggesting that there are no systematic differences across the estimates of experts with different background characteristics.²²

²¹ As some researchers have recommended, it is good practice to have a broad range of backgrounds among respondents to enrich the discussion regarding the extent of future possibilities (Burgman, 2016).

²² To compare the means across the groups of years of experience, the analysis of variance was performed using Tukey's Test. Since the analysis of variance for total immigration did not meet the assumption of equal variances for all groups, the Welch test was performed instead (Delacre et al., 2017). T-test and Wilcoxon rank sum test were performed for stakeholder types (comparing practitioners and scholars), academic background (comparing the experts that belong to a discipline and the ones that do not). However, these outcomes should be taken with caution because of the low sample size.

Table 4. Survey responses by individual characteristics of experts (in thousands)

Expert characteristics	Average of immigration flow estimate (in 000s), by category of flow					Interquartile range ^a (in 000s), by category of immigration flow					
	Asylum seekers	High-skilled	Irregular	Labour	Total immigration	Asylum seekers	High-skilled	Irregular	Labour	Total immigration	
Academic background	Demography	632	97	231	1 023	2 505	400	40	130	400	1 000
	Economics	602	144	241	1 128	2 574	355	108.75	132.5	635	1 000
	Law	551	94	196	962	2 715	400	46.25	135	437.5	1 000
	Political science	658	113	378	1 143	2 579	500	60	150	400	1 200
	Sociology	685	125	322	1 076	2 474	387.5	60	180	500	1 200
Stakeholder/ respondent type	Practitioner	663	119	274	1 073	2 718	400	46.25	181.25	462.5	1 700
	Scholar	650	116	323	1 084	2 440	450	40	150	437.5	1 200
Years of experience in the field of migration	5–9	644	118	357	1 126	2 467	500	61.5	180	400	1 000
	10–14	581	117	223	1 157	2 925	507.5	40	162.5	700	2 200
	15–19	804	156	388	1 099	2 537	300	43.75	250	475	1 200
	≥20	625	99	254	1 012	2 469	400	41	150	500	1 025

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study).

Note: * The interquartile range (IQR) is the difference between the lowest 25 per cent of responses and the highest 25 per cent of responses. The IQR is a measure of how much experts disagree or, in other words, how much their responses vary.



Table 5 shows the average and spread (using the interquartile range) of the likelihood of each scenario as estimated by the experts. The estimates are shown separately by scenario and background characteristic. Overall, the results show that there are small differences between types of experts, and few of the differences are statistically significant. The results indicate that the levels of agreement are relatively similar across academic backgrounds/disciplines. Whereas demographers, economists and sociologists tend to be more slightly more pessimistic, believing that scenario 3 (economic divergence and unilateralism) is the most likely to occur, experts with a background in political science or law, believe scenario 1 (economic convergence and unilateralism) to be the most likely. Both practitioners and scholars also tend to agree that scenario 1 is most likely to become reality in 2030. Scholars, however, have slightly higher levels of disagreement compared to practitioners. More experienced experts expect a future with narrower economic development gaps between the European Union region and the rest of the world, while less experience experts believe the opposite – that is, economic divergence.²³

²³ The same analysis performed in table 4 was performed in table 5. To compare the means across the groups of years of experience, the analysis of variance was performed using Tukey's Test. T-test and Wilcoxon rank sum test were performed for stakeholder groups (comparing practitioners and scholars), and academic background groups (comparing the experts that belong to a discipline and the ones that do not). These outcomes should be interpreted with caution because of the small sample sizes.

Table 5. Variation in likelihood of scenarios by expert characteristic (in thousands)

Expert characteristics		Average (000s), by scenario				Interquartile range (000s), by scenario			
Scenarios		1	2	3	4	1	2	3	4
Academic discipline	Demography	23.3*	22.2*	30.2	24.3	9.3	13.8	20.0	14.3
	Economics	25.1	22.3*	29.9	22.7	10.5	14.5	18.5	18.0
	Law	36.1*	21.3	23.6	19.0	15.0	9.5	19.3	15.5
	Political science	31.0	16.2*	27.2	25.6	15.8	10.0	14.5	18.0
	Sociology	27.7	17.0	28.5	26.9	16.0	12.0	12.3	14.8
Stakeholder/ respondent type	Practitioner	31.9	19.0	26.8	22.3	10.0	12.5	14.5	14.0
	Scholar	27.3	19.5	26.9	26.2	15.0	12.0	14.0	20.0
Years of experience	5–9	24.9	18.9	28.5	27.7	12.5	14.8	12.8	20.0
	10–14	30.1	17.2	26.8	25.9	11.0	10.0	11.0	13.5
	15 –19	29.3	19.8	27.4	23.6	17.5	13.0	15.8	18.3
	≥ 20	30.7	19.6	26.9	22.8	20.0	12.0	16.0	19.0

Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study).

Note: *Statistically significant differences. The comparison was performed between experts who belong to an academic discipline and the ones who do not.



A large, stylized number '5' is centered within a hexagonal pattern. The pattern consists of several overlapping hexagons in different shades of orange, creating a 3D effect. The number '5' is white and stands out prominently in the center.

5

DISCUSSION

5. DISCUSSION

This report – a collaboration between GMDAC and NIDI – examines experts' views on the likelihood and implications of common migration scenarios for the European Union in 2030. Rather than quantifying the “unquantifiable”, the report aims to assess the relevance of common migration scenarios produced in recent years, as well as the reliability of expert opinion in the field of migration. The results are humbling and largely in line with the larger literature on the elicitation of expert opinion.

The results suggest that experts tend to have little confidence in their estimates, disagree, and stick to their original estimates when presented with estimates of their peers. Neither do scholars and experts with more years of relevant work experience agree more nor are they more confident in their responses than practitioners and peers with fewer years of experience. There is a fairly high level of agreement that a future in which countries manage international migration collectively and grow economically more similar is the least likely scenario. Overall, scenarios in which countries attempt to solve their migration issues unilaterally are perceived more likely than those in which countries work together.

This said, there are broader patterns that emerge: On average, experts expect immigration to increase across scenarios. This is particularly true for high-skilled labour and total labour immigration. Forced and irregular migration is expected to remain at similar levels compared to the 2009–2018 annual average. In none of the four scenarios do estimates of forced and irregular migration exceed levels observed in 2015 and 2016. In comparison to the other types of migration flows, the future of irregular migration appears less certain. Depending on the scenario, experts expect either increases or decreases in the number of irregular border-crossings into the European Union. Policy leverage in this field thus appears to be the largest.

Despite these broader conclusions, the level of disagreement across different scenarios suggests that it remains unclear, even to experts, how structural migration drivers such as multilateralism and economic convergence between the European Union and other regions would shape migration. This finding adds to the evidence of the theoretically ambiguous effects that migration drivers have on the volume, composition and direction of migration flows (de Haas et al., 2019). Many experts appear to rely, at least implicitly according to the results presented above, on the conventional push–pull model: more economic convergence leads to less irregular flows; more international cooperation leads to more regular flows.

What do the results mean for policymakers?

Expert advice should be taken with caution. Previous research has shown that experts may not always be better at predicting the future than the average population (Kynn, 2008; Morgan, 2014; Sutherland and Burgman, 2015; and Tetlock, 2017). Like everyone else, experts have “cognitive biases” – that is, their own rationalities of judgement and individual frames of thinking that drive their responses. These biases persist even through repeated group surveys. From an academic perspective, high uncertainty is a natural and important feature, as it underscores the complexity and difficulty of estimating



future migration.²⁴ However, it presents challenges to decision makers, who desire less ambiguous advice to guide policy (Aspinall, 2010). Processes wherein expert opinion is used to inform policy need to find a middle ground: being transparent about uncertainty while minimizing it as much as possible. Migration scenarios lay bare the complexity of migration. Scenarios of future migration are diverse and abstract, leaving a lot of room for experts' imagination. The findings suggest that any evaluation of their likelihood to materialize can only be partially assessed by experts. The results also suggest, however, that merely changing the composition or background of participant experts is not likely to yield different results.

This is not to say that migration scenarios and Delphi surveys are not useful. In fact, eliciting expert opinion using these methods enriches the policy debate even without necessarily providing a clear number of migrants arriving to Europe. Scenario studies appear most useful as tools when they are applied to facilitating strategic long-term thinking of executive decision makers (Szczepanikova and van Criekinge 2018). However, they appear to have limited use for providing short-term operational inputs. Overall, the scenario method allows policymakers to understand the complexity of migration in a highly effective way, consider a larger range of migration drivers and challenge their own assumptions, as long as they participate actively in the scenario creation process (Vezzoli et al., 2017). With a more and more informed and nuanced understanding of the challenges ahead, the scenarios potentially help policymakers to avoid short-sighted policies.

Limitations and future research

Experts were asked to judge the future of migration based on four different scenarios, each describing various social, economic and political developments until 2030. The abstract and complex nature of the scenarios may have made it more difficult for experts to evaluate how different scenario features, such as multilateralism and economic convergence, affect future migration flows. It is possible that scenarios that are more specific in nature would have produced less variation in expert responses. However, the results also show the experts' uncertainty about how migration drivers, such as multilateralism and economic convergence, may shape migration. For example, in scenarios emphasizing a strong multilateral future, it is imaginable that countries cooperate in order to reduce migration or join forces to increase it. Either increased or decreased migration is a coherent conclusion from the scenario setup, depending on which factors are emphasized in the expert's individual reasoning.

Another possible limitation of this study is the minimal degree of interaction between experts. The survey instrument was initially piloted and discussed in person with a small group. However, when the actual survey was rolled out, experts responded individually to the online questionnaire in Wave 1 and had no opportunity to discuss the results in person prior to Wave 2. In-person group discussions may have facilitated more consensus among experts than was achieved through repeated online surveys. Repeated in-person discussion would have also helped to clarify key terms, in order to establish common definitions and reduce the complexity of the proposed scenarios. In future expert surveys, it would be worth exploring if giving experts more substantive feedback and the possibility to discuss in person (i.e. face to face) increases the chances of experts converging on their views. In the context of this study however, this would have required considerable resources, given that this study was able to collect responses from 178 experts.

²⁴ See, for example: Bijak and Wiśniowski (2010); Abel et al. (2013); Wiśniowski et al. (2013 and 2014); and Sanders et al. (2013).

Considering the complexity and uncertainty of future migration, researchers should continue exploring ways to integrate multiple techniques to estimate future migration flows, drawing on both the foresight and forecasting approaches. In isolation, these methods can provide useful but incomplete pictures of the future of migration. However, when combined, they have the potential to provide a more nuanced outlook of future uncertainty. The challenge lies in reconciling different paradigms in a coherent methodology, on the one hand, and in communicating the results of the exercises to policymakers, on the other.

ANNEX I.

SCENARIO NARRATIVES FOR 2030

Scenario 1: Economic convergence and unilateralism

Summary

Protectionism and unilateral international cooperation are on the rise. Asia and Africa have caught up with Europe economically. Wealth in Africa and Asia is heavily concentrated in the top 5 per cent of society.

Details

- Unilateral international cooperation in policy areas affecting migration
European Union cohesion is weakened. While some of the European Union seek collaboration, others continue to pursue an agenda of unilateral protectionist policies, with little interest in addressing global challenges. China consolidates its global economic dominance. Migration policies are focused on bilateral agreements to regulate labour shortages in Europe. Little is done to address humanitarian migration. Meanwhile, the European Union limit access to social services for migrants.
- Economic convergence between the European Union and regions of origin
Countries of the European Union have not seen any relevant growth since 2025. China, India and Turkey are attractive destinations for migrant workers due to spectacular economic opportunities.

Scenario 2: Multilateralism and inclusive economic growth

Summary

Global economic growth and strong international cooperation create more inclusive but also more diverse societies in the European Union, Africa and Asia.

Details

- Multilateral international cooperation in policy areas affecting migration
In Europe, Africa and Asia, governments and civil society rally to implement an ambitious agenda towards multilateralism, openness and environmental protection. European Union member States address the needs of migrant populations through a general rights-based approach.
- Economic convergence between the European Union and regions of origin
Sustained economic growth rates in the developed world and high, equitable growth in emerging and developing countries have narrowed development gaps between countries of the European Union and low-income countries of origin. Labour markets in both the European Union and developing countries offer young populations attractive job opportunities.

Scenario 3: Economic divergence and unilateralism

Summary

International cooperation is at its lowest. There is a large economic gap between the European Union and Africa and Asia. Social inequalities are on the rise, causing social unrest.

Details

- Unilateral international cooperation in policy areas affecting migration

The European Union project is at the brink of falling apart. Protectionist and isolationist policies are the norm, as more countries consider leaving the union and abandoning some hard-won global agreements. Very few applicants are granted asylum and visas are generally difficult to obtain.

- Economic divergence between the European Union and regions of origin

Since Asia and Africa have not seen relevant economic growth in the past decade, there is a wide economic divide between these sending regions and countries of the European Union.

Scenario 4: Economic divergence and multilateralism

Summary

An economic crisis in Africa and Asia creates patches of instability. To deal with economic instability in migrant-sending regions, countries in the European Union, Africa and Asia engage in multilateral cooperation that allows for some progress in migration management.

- Multilateral international cooperation in policy areas affecting migration

The European Union has become more cohesive. African and Asian countries have deepened their partnerships with each other and the rest of the world. Countries of the European Union, Asia and Africa engage in bilateral agreements on labour migration at all skill levels, the granting of refugee status and integration. The European Union has increased its ability to cooperate with third countries on matters pertaining to return and on delivering humanitarian support outside Europe.

- Economic divergence between the European Union and regions of origin

The economies of the European Union are experiencing stable economic growth. Developing economies in Asia and Africa have failed to catch up due to an economic crisis.

Table A1. Studies used as basis for the synthesized migration scenarios

Title	<i>The future of migration in the European Union – future scenarios and tools to stimulate forward-looking discussions</i>
Author(s) and/or institution	Szczepanikova, A. and T. van Criekinge; Joint Research Commission
Year of publication	2018
Geographic coverage	Europe; Asia and Africa as the main migrant-sending regions
Time horizon	2030
Scenario dimensions	<ul style="list-style-type: none"> • Level of international cooperation in policy areas affecting migration and the degree to which local governance is inclusive or exclusive • Economic gap between OECD and non-OECD countries

Title	<i>Perspectives on Global Development 2017: International Migration in a Shifting World</i>
Author(s) and/or institution	Organisation for Economic Co-operation and Development
Year of publication	2016
Geographic coverage	World
Time horizon	2030
Scenario dimensions	<ul style="list-style-type: none"> • Level of international cooperation in global governance • Economic convergence between OECD countries and non-OECD countries (in per capita incomes) • Restrictive versus open migration policies

Title	<i>Tomorrow's World of Migration and Mobility</i>
Author(s) and/or institution	Friedrich-Ebert-Stiftung, Global Future and International Organization for Migration
Year of publication	2017
Geographic coverage	Europe
Time horizon	2030
Scenario dimensions	<ul style="list-style-type: none"> • Perception of migrants by local population • Actors influencing migration policies

Title	<i>The future of international protection in the EU+ 2030: a scenario study</i>
Author(s) and/or institution	European Asylum Support Office
Year of publication	2019
Geographic coverage	World, with a focus on the European Union
Time horizon	2030
Scenario dimensions	<ul style="list-style-type: none"> • Geopolitical order • Quality of governance • Intensity of violent conflicts • Intensity of climate change • Approval rating of the European Union • European Union cooperation level • State of European Union democracies • Degree of global inequality • Societal perception of migrants • Terrorism in the European Union • Societal openness • Development of a European legal international protection framework

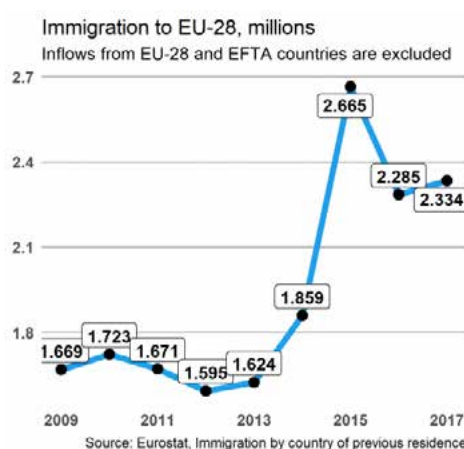
Title	<i>Mediterranean migration futures: patterns, drivers and scenarios</i>
Author(s) and/or institution	de Haas, H.
Year of publication	2011
Geographic coverage	Mediterranean
Time horizon	2050
Scenario dimensions	<ul style="list-style-type: none"> • Economic growth or stagnation in sending regions determining regional economic disparities • Political process moving towards openness, regional integration and democratization vs nationalism, xenophobia and autocracy

Title	<i>Migration and global environmental change: future challenges and opportunities – future scenarios</i>
Author(s) and/or institution	United Kingdom Government Office for Science
Year of publication	2011
Geographic coverage	World
Time horizon	2030 and 2060
Scenario dimensions	<ul style="list-style-type: none"> • Degree of inclusivity of political, social and economic local governance (inclusive versus exclusive) • Availability of global migration opportunities (linked to high global economic growth versus low global economic growth)

Title	<i>Risk Analysis for 2016</i>
Author(s) and/or institution	Frontex
Year of publication	2016
Geographic coverage	Europe
Time horizon	2021–2026
Scenario dimensions	<ul style="list-style-type: none"> • Global environment (conflict and economy) • Terrorism • European Union integration • European foreign policy • Migration and integration: openness of society • European asylum policies • Security and internal mobility • Border management

ANNEX II. EXTRACTS FROM THE DELPHI SURVEY QUESTIONNAIRES

Figure A1. Wave 1: Elicitation of future immigration estimates and subjective confidence



*European Free Trade Association (EFTA): Switzerland, Norway, Liechtenstein and Iceland

In 2017, there was an estimated **total inflow of 2,334,000 immigrants** to the EU-28 from countries outside the EU.

- What would be the **approximate number** in the year 2030 in the EU-28 for each of the scenarios described above?
- How confident are you about your estimation? Please provide a **percentage** based on the scale below:

Confidence level	Per cent scale
Very confident	80-100
Confident	60-79
Half-half	40-59
Unsure	20-39
Very unsure	1-19

	Inflows in 2030 (e.g. 2,334,000)	Confidence (e.g. 96)
Scenario 1: Unilateralism and shifting wealth (Economic convergence and unilateralism in international cooperation)	<input type="text"/>	<input type="text"/> %
Scenario 2: Multilateralism and inclusive economic growth (Economic convergence and multilateralism in international cooperation)	<input type="text"/>	<input type="text"/> %
Scenario 3: Unilateralism, crisis and inequality (Economic divergence and unilateralism in international cooperation)	<input type="text"/>	<input type="text"/> %
Scenario 4: Economic inequality, crisis and multilateralism (Economic divergence and multilateralism in international cooperation)	<input type="text"/>	<input type="text"/> %

Figure A2. Wave 2: Elicitation of future immigration estimates and subjective confidence using feedback from Wave 1

ESTIMATE OF TOTAL INFLOWS TO THE EU

- Aggregated responses and your estimate are in the table below:

	Scenario 1:	Scenario 2:	Scenario 3:	Scenario 4:
50% said at least (median)	2,000,000	2,450,000	2,300,000	2,500,000
Average (mean)	2,275,000	2,554,000	2,572,000	2,813,000
Your estimate	11	12	13	14

- If you wish to change your response please use the space below. If you do not want to adjust your response, please leave the space empty.

Scenario 1: Economic convergence and unilateralism	Scenario 2: Economic convergence and multilateralism	Scenario 3: Economic divergence and unilateralism	Scenario 4: Economic divergence and multilateralism
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

CONFIDENCE IN THE ESTIMATE

- Aggregated responses and your estimate are in the table below:

	Scenario 1:	Scenario 2:	Scenario 3:	Scenario 4:
50% said at least (median)	50	50	50	50
Average (mean)	45.4	45.5	45.4	45.3
Your estimate	11	12	13	14

- If you wish to change your response please use the space below considering the following scale. If you do not want to adjust your response, please leave the space empty.

Confidence level	Per cent scale
Very confident	80-100
Confident	60-79
Half-half	40-59
Unsure	20-39
Very unsure	1-19

Scenario 1: Economic convergence and unilateralism	Scenario 2: Economic convergence and multilateralism	Scenario 3: Economic divergence and unilateralism	Scenario 4: Economic divergence and multilateralism
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure A3. Wave 1: Elicitation of scenario probabilities

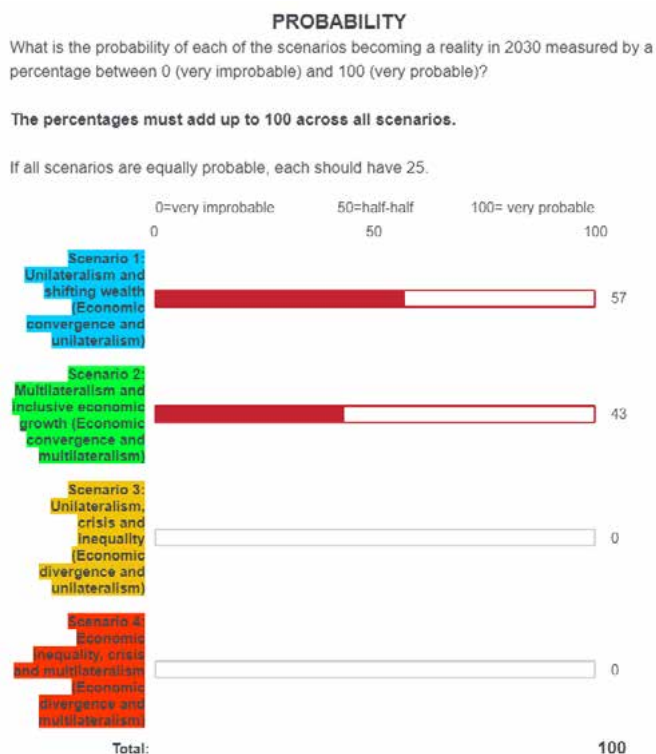
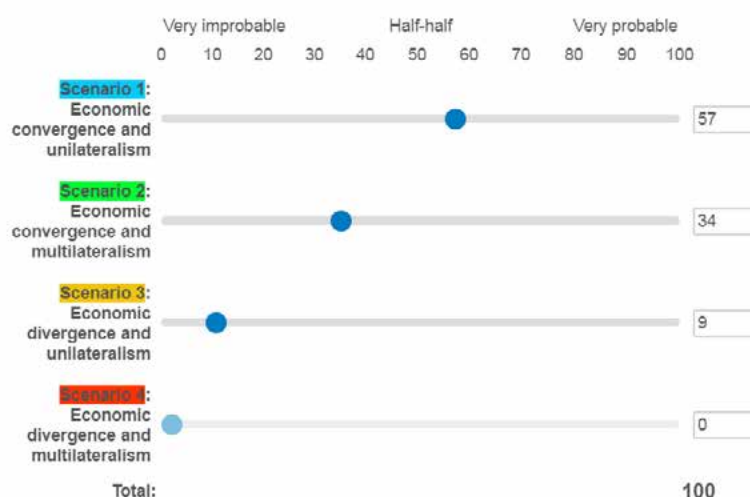


Figure A4. Wave 2: Elicitation of scenario probabilities using feedback from Wave 1

- What is the probability of each of the scenarios becoming a reality in 2030 measured by a percentage between 0 (very improbable) and 100 (very probable)?
- The percentages must add up to 100 across all scenarios.
- If all scenarios are equally probable, each should have 25.
- Aggregated responses and your estimate in the table below:

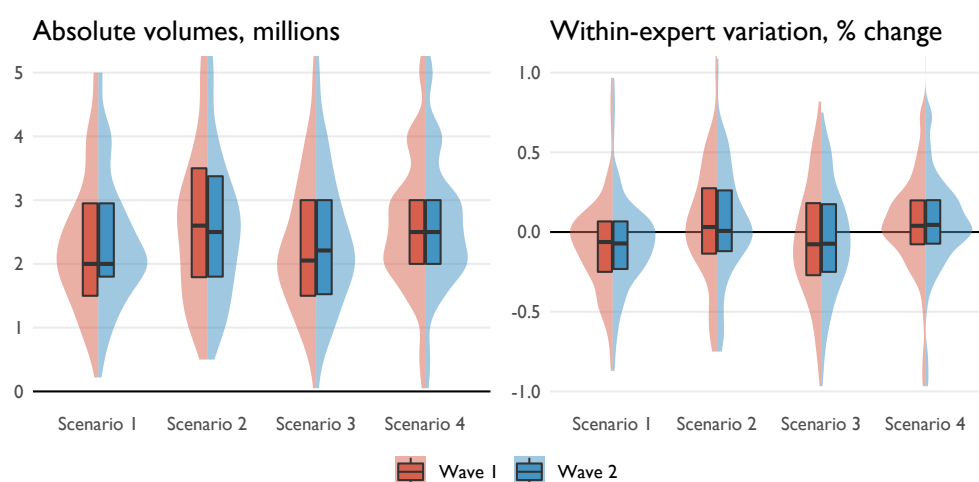
	Scenario 1:	Scenario 2:	Scenario 3:	Scenario 4:
50% said at least (median)	25	18	25	25
Average (mean)	28.3	19.2	26.9	25.5
Your estimate	40	60	0	0



ANNEX III.

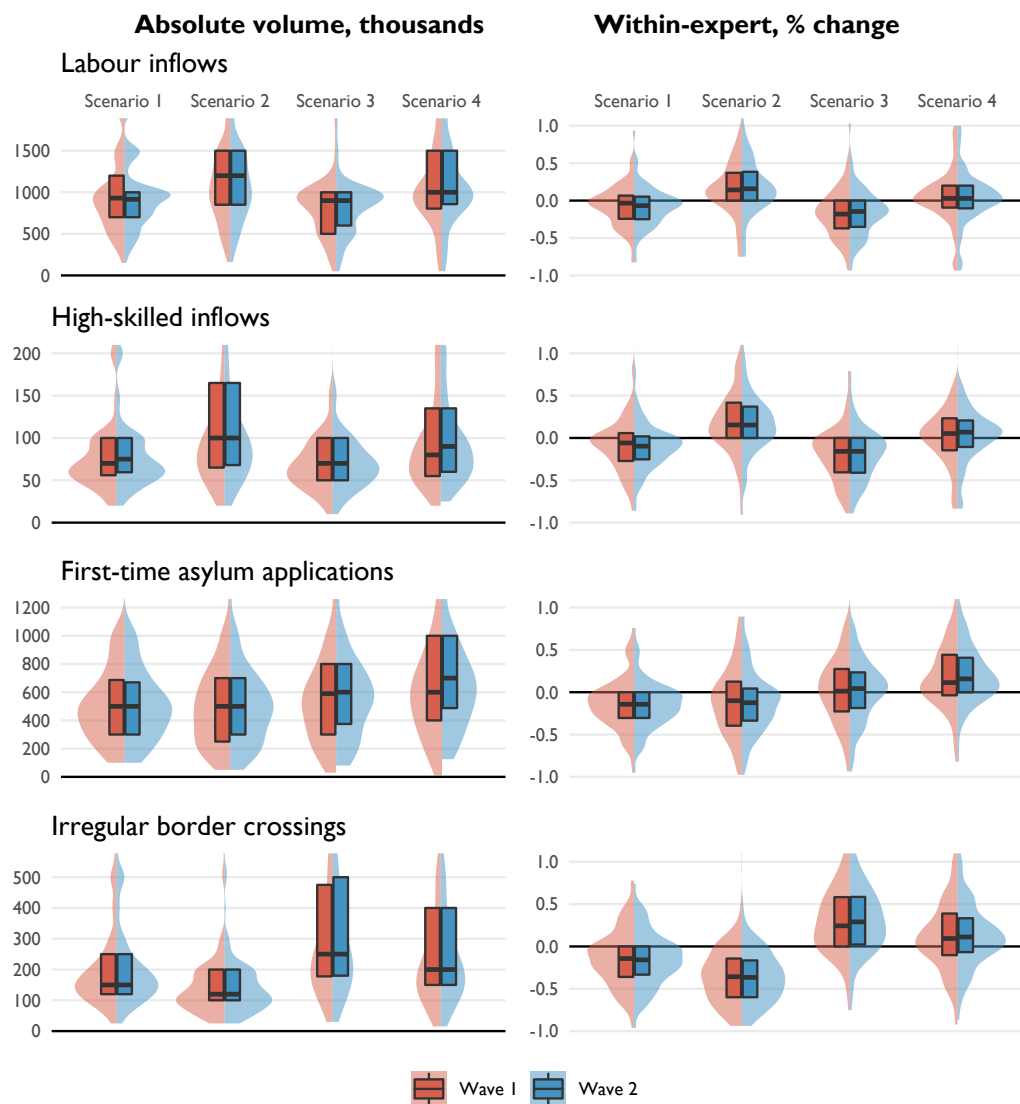
VARIATION AND CONVERGENCE OF EXPERTS' ESTIMATES

Figure A5. Variation and convergence of experts' estimates of total migration inflows



Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study).

Figure A6. Variation and convergence of experts' estimates of total labour, high-skilled labour, first-time asylum and irregular border-crossing inflows



Source: GMDAC and NIDI Delphi survey 2020 (undertaken for this current study).

ANNEX IV.

LIST OF SURVEY RESPONDENTS²⁵

Abolade, Surajudeen	Fihel, Agnieszka	Potyra, Maciej
Abuladze, Liili	Findlay, Allan	Poulain, Michel
Ahmad-Yar, Ahmad Wali	Foti, Klara	Pozzo, Riccardo
Akinyemi, Akanni	Gallia, Marco	Recchi, Ettore
Albertha, Winida	Galvan Montero, Juan	Rees, Philip
Aneta, Piekut	Francisco	Rischke, Ramona
Aragon, Estela	Giannetto, Leila	Roland, Hosner
Ares, Alberto	Gnesa, Eduard	Roman, Emanuela
Arteaga, Desireé	Gois, Pedro	Rowe, Francisco
Arvid Zheng Norin	Góra, Marek	Salazar, Pablo
Aujean, Laurent	Groenewold, George	Sánchez-Montijano, Elena
Batista, Catia	Habiyakare, Tite	Scarpa, Simone
Beber, Bernd	Hart, Laurence	Schachter, Jason
Belbeisi, Othman	Haschenz, Torsten	Scharrer, Tabea
Bijak, Jakub	Hazan, Miryam	Schmidt, Timo
Bither, Jessica	Hoffmann, Odile	Schneider, Jan
Bonfiglio, Ayla	Hoxhaj, Rezart	Schweiger, Raphaela
Bonifazi, Corrado	Jerari, Nacima	Sejersen, Tanja
Bouzouras, Charilaos	Jongstra, Eduard	Sexstone, Darrell
Braunsdorf, Felix	Kirk, Scott	Siebert, Wassili
Brumat, Leiza	Kiziltan, Umit	Simona, Vezzoli
Buhr, Franz	Klos, Christian	Snow, Rachel
Cagiano, De Azevedo	Kober, Ulrich	Sobotka, Tomas
Raimondo	Kollwelter, Serge	Solofo, Volatiana Raharinosy
Campioni, Maddalena	Kortendiek, Nele	Stade, Ronald
Caponio, Tiziana	Kreienbrink, Axel	Stapf, Tobias
Carammia, Marcello	La Vaccara, Alessandra	Stonawski, Marcin
Celestin, Franz	Lang, Christine	Striglia, Eleonora
Da Silva, Amanda	Lundberg, Susanna	Szczepanikova, Alice
Damla, Aksel	Marques, José	Tapia, Blanca
David, Coleman	Martikainen, Tuomas	Te, Sherry Aine
de Beer, Joop	Massey, Douglas	Teresa, Talo
Dearden, Kate	Melachrinou, Constantinos	Thomas-Hope, Elizabeth
Demireva, Neli	Migali, Silvia	Tingzon, Isabelle
Deubler, Stephanie	Mikkel, Barslund	Tomowski, Arno
Dewulf, Koen	Milan, Andrea	Tsioukas, Grigorios
Di Salvo, Mattia	Milewski, Nadja	Turper, Alışık Sedef
Dimitrievska, Vera	Montus, Arnaud	Van Costenoble, Peter
Dingu-Kyrklund, Elena	Morales, Laura	Vandenberghe, Ina
Dirk, Jacobs	Muro, Omar	Vandresse, Marie
Domingo, Andreu	Natter, Katharina	Venturini, Alessandra
(Dr) Abdul-Rahaman, Adam	Neef, Andreas	Veuthey, Michel
Drazanova, Lenka	Nicolle, Herve	Villaveces, Jeffrey
Drbohlav, Dusan	Obucina, Ognjen	Watson, Samantha
Duvell, Franck	Olanrewaju, Alamu	Weber, Ingmar
Eberle, Jan	Onken, Valeska	Wickramage, Kolitha
Egmont, Westy	Pastore, Ferruccio	Huijnk, Willem
El Yaagoubi, Said	Quesada, Patrice	Wiśniowski, Arkadiusz
Egler, Marcus	Pedro, Rente Lourenco	Yasar, Rusen
Eremenko, Tatiana	Peixoto, João	Yildiz, Dilek
Fahrenhorst, Brigitte	Pisarevskaya, Asya	Zuparic, Drago
Fassmann, Heinz	Ponzo, Irene	

²⁵ Only respondents who agreed to be named are listed here.

ANNEX V.

LIST OF PILOT WORKSHOP PARTICIPANTS

Szczepanikova, Alice
Domingo i Valls, Andreu
Wiśniowski, Arkadiusz
Bonfiglio, Ayla
Nienaber, Birte
Kessler, Carsten
Natale, Fabrizio
Laczko, Frank
Solano, Giacomo

Reisch, Gregor
Bijak, Jakub
Cornford, Kate
Carammia, Marcello
Stonawski, Marcin
Rees, Philip
Wilkin, Teddy
Lixi, Luca

REFERENCES

- Abel, G., J. Bijak, A. Findlay and D. McCollum
 2013 Forecasting environmental migration to the United Kingdom: an exploration using Bayesian models. *Population and Environment*, 35(2):183–203.
- Aichholzer, G.
 2009 The Delphi method: eliciting experts' knowledge in technology foresight. In: *Interviewing Experts* (A. Bogner A., B. Littig B. and W. Menz, eds.). Research Methods Series. Palgrave Macmillan, London.
- Ammon, U.
 2009 Delphi–Befragung. In: *Handbuch Methoden der Organisationsforschung: Quantitative und Qualitative Methoden* (Handbook on Methods of Organizational Research: Quantitative and Qualitative Methods) (S. Kühl, P. Strodtholz and A. Taffertshofer, eds.). Springer, Wiesbaden.
- Aspinall, W.
 2010 A route to more tractable expert advice. *Nature*, 463(7279):294–295.
- Azose, J. and A. Raftery
 2015 Bayesian probabilistic projection of international migration. *Demography*, 52(5):1627–1650.
- Bijak, J. and A. Wiśniowski
 2010 Bayesian forecasting of immigration to selected European countries by using expert knowledge. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 173(4):775–796.
- Bijak, J.
 2011 *Forecasting International Migration in Europe: A Bayesian View*. The Springer Series on Demographic Methods and Population Analysis. Springer, Amsterdam.
- Burgman, M.
 2016 *Trusting Judgements: How to Get the Best Out of Experts*. Cambridge University Press, Cambridge.
- Dalkey, N. and O. Helmer
 1962 An experimental application of the Delphi method to the use of experts. *Management Science*, 9(3):458–467.
- de Haas, H.
 2011 Mediterranean migration futures: patterns, drivers and scenarios. *Global Environmental Change*, 21(S1):S59–S69.
- de Haas, H., C. Vargas-Silva and S. Vezzoli
 2010 Global migration futures: A conceptual and methodological framework for research and analysis. Report. International Migration Institute, Oxford. Available at www.migrationinstitute.org/publications/global-migration-futures-a-conceptual-and-methodological-framework-for-research-and-analysis.

- de Haas, H., M. Czaika, M. Flahaux, E. Mahendra, K. Natter, S. Vezzoli and M. Villares-Varela
2019 International migration: trends, determinants, and policy effects. *Population and Development Review*, 45(4):885–922. Available at: <https://doi.org/10.1111/padr.12291>.
- Delacre, M., D. Lakens and C. Leys
2017 Why psychologists should by default use Welch's t-test instead of Student's t-test. *International Review of Social Psychology*, 30(1):92–101. Available at <http://doi.org/10.5334/irsp.82>.
- Denisenko, M.
2013 Historical and current trends in emigration from Russia. Article, 14 August. Russian International Affairs Council, Moscow. Available at https://russiancouncil.ru/en/analytics-and-comments/analytics/historical-and-current-trends-in-emigration-from-russia/?sphrase_id=705758.
- Diamond, I., R.C. Grant, B.M. Feldman, P.B. Pencharz, S.C. Ling, A.M. Moore and P.W. Wales
2014 Defining consensus: A systematic review recommends methodologic criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology*, 67:401–409.
- Drbohlav, D.
1996 The probable future of European “East–West” international migration – selected aspects. In: *Central Europe after the Fall of the Iron Curtain; Geopolitical Perspectives, Spatial Patterns and Trends* (Wiener Osteuropastudien series, no. 4) (F.W. Carter, P. Jordan and V. Rey, eds.). Peter Lang and Co., Frankfurt, pp. 269–296.
1997 Migration policy objectives for European East–West international migration. *International Migration*, 35(1):85–108.
- Drbohlav, D. and M. Jaroszewicz
2014 The probable future development of international migration from Ukraine, Moldova and Belarus to Visegrád countries and the European Union – the Delphi method (the search for “subjective objectivity”). In: *Forecasting Migration between the EU, V4 and Eastern Europe: Impact of Visa Abolition* (M. Jaroszewicz and M. Lesińska, eds.). Centre for Eastern Studies, Warsaw. Available at www.osw.waw.pl/sites/default/files/migration_report_0.pdf.
- European Asylum Support Office (EASO)
2019 The future of international protection in the EU+ by 2030: a scenario study (EASO/DOP/IAU/RSS/2019/229). Analysis paper. Valletta.
- European Spatial Planning Observation Network (ESPON) and Netherlands Interdisciplinary Demographic Institute (NIDI)
2010 DEMIFER – Demographic and migratory flows affecting European regions and cities. Final report. Luxembourg. Available at www.espon.eu/demifer.
- Eurostat
2020a Immigration by age group, sex and country of previous residence. Data set. Luxembourg. Available at https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_imm5prv&lang=en (accessed January 2020).
2020b First permits issued for remunerated activities by reason, length of validity and citizenship. Data set. Luxembourg. Available at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_resocc&lang=en (accessed January 2020).
2020c Asylum and first-time asylum applicants by citizenship, age and sex. Data set. Luxembourg. Available at https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_asyappctza&lang=en (accessed January 2020).
2020d International Migration Statistics Database section. Available at https://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics (accessed January 2020).



- Fassmann, H., J. Kohlbacher and U. Reeger
2014 The re-emergence of European East–West migration – the Austrian example. *Central and Eastern European Migration Review*, 3(2):39–59.
- Favell, A.
2008 The new face of East–West migration in Europe. *Journal of Ethnic and Migration Studies*, 34(5):701–716.
- Findlay, A., D. McCollum, G.J., Abel, A. Wiśniowski and J. Bijak
2012 A Delphi survey of immigration to the UK to 2060, with particular reference to environmental mobility. Working paper no. 28. Economic and Social Research Council Centre for Population Change. Available at <https://eprints.soton.ac.uk/345838>.
- Friedrich-Ebert-Stiftung (FES), Global Future and International Organization for Migration (IOM)
2017 *Tomorrow's World of Migration and Mobility*. FES, Global Future and IOM, Geneva. Available at www.iom.int/sites/default/files/our_work/ICP/Tomorrows-World-of-Migration-and-Mobility.pdf.
- Frontex
2011 Futures of borders: A forward study of European border checks. Report. Warsaw. Available at <http://btn.frontex.europa.eu/resources/library/futures-borders-forward-study-european-border-checks>.
2016 *Risk Analysis for 2016*. Warsaw. Available at https://frontex.europa.eu/assets/Publications/Risk_Analysis/Annula_Risk_Analysis_2016.pdf.
2020 Detections of illegal border-crossings statistics download (updated monthly). Migratory Map section. Available at <https://frontex.europa.eu/along-eu-borders/migratory-map> (accessed January 2020).
- Heleniak, T.
2002 Migration dilemmas haunt post-Soviet Russia. Profile, 1 October. Migration Policy Institute, Washington, D.C. Available at www.migrationpolicy.org/article/migration-dilemmas-haunt-post-soviet-russia.
- Helmer-Hirschberg, O.
1967 Analysis of the future: The Delphi method. Paper. RAND Corporation, Santa Monica, California. Available at www.rand.org/pubs/papers/P3558.html.
- International Migration Institute
2011 Exploring the future of migration in Europe – what we learn from uncertainty. Policy brief, vol. 8, July. Oxford. Available at www.migrationinstitute.org/publications/pb-08-11.
- Jandl, M., C. Hollomey, S. Gendera, A. Stepien and V. Bilger
2009 Migration and irregular work in Austria: a case study of the structure and dynamics of irregular foreign employment in Europe at the beginning of the 21st century. Report. Amsterdam University Press, Amsterdam.
- Jünger, S., S.A. Payne, J. Brine and L. Radbruch
2017 Guidance on conducting and reporting Delphi studies (CREDES) in palliative care: recommendations based on a methodological systematic review. *Palliative Medicine*, 31(8):684–706.
- Kynn, M.
2008 The 'heuristics and biases' bias in expert elicitation. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 171(1):239–264.

- Lachmanova, L. and D. Drbohlav
2004 The probable future development of European East–West migration (the Delphi method reviewed). *European Spatial Research and Policy*, 11(1):135–155.
- Loveless, S., C.P. McCue, R.B. Surette and D. Norris-Tirrell
1996 *Immigration and Its Impact on American Cities*. Praeger Publishers, New York.
- Morgan, M.G.
2014 Use (and abuse) of expert elicitation in support of decision making for public policy. *Proceedings of the National Academy of Sciences*, 111(20):7176–7184.
- Natter, K., F. Düvell, C. Preiss, A. Piekut, A. Ricard-Guay, A. Geddes and L. Gabrielli
2020 Key Knowledge Questions: Migration Drivers. CrossMigration Policy Briefs series, no. 4-7. IMISCOE Migration Research Hub, Rotterdam. Available at <https://migrationresearch.com/publications>.
- Organisation for Economic Co-operation and Development (OECD)
2001 *Trends in International Migration: Continuous Reporting System on Migration (SOPEMI) – Annual Report 2001*. OECD Publishing, Paris. Available at www.oecd.org/migration/mig/2508596.pdf.
2009 *The Future of International Migration to OECD countries*. OECD Publishing, Paris.
2016 *Perspectives on Global Development 2017: International Migration in a Shifting World*. OECD Publishing, Paris.
2018 Can we anticipate future migration flows? Migration Policy Debates, no. 16. OECD Publishing, Paris.
2020 *Making Migration and Integration Policies Future Ready. Towards 2035: Strategic Foresight Project*. OECD Publishing, Paris.
- Petreski, M., B. Petreski, D. Tumanoska, E. Narazani, F. Kazazi, G. Ognjanov, I. Jankovic, A. Mustafa and T. Kochovska
2017 The size and effects of emigration and remittances in the Western Balkans: forecasting based on a Delphi process. Policy study. Finance Think – Economic Research and Policy Institute, Skopje.
- Raymer, J., A. Wiśniowski J.J. Forster, P.W.F. Smith and J. Bijak
2013 Integrated modeling of European migration. *Journal of the American Statistical Association*, 108(503):801–819.
- Rowe, G. and G. Wright
1999 The Delphi technique as a forecasting tool: issues and analysis. *International Journal of Forecasting*, 15(4):353–375.
- Sardoschau, S.
2020 *The Future of Migration to Germany. Assessing Methods in Migration Forecasting*. DeZIM-Institut, Berlin. Available at www.dezim-institut.de/fileadmin/Publikationen/Project_Report/The_Future_of_Migration_to_Germany/projekt_report_The_Future_of_Migration_to_Germany.pdf.
- Sander, N., G. Abel and F. Riosmena
2013 The future of international migration: developing expert-based assumptions for global population projections. Working paper no. 7/2013. Austrian Academy of Sciences (ÖAW), Vienna Institute of Demography (VID), Vienna.
- Schmidt, T. and K. Hooper
Preparing for future migration trends: Using forecasting and scenario-building for forward-looking policies. Working paper. Migration Policy Institute Europe, Brussels (forthcoming).



- Sohst, R.R., J. Tjaden, H. de Valk and S. Melde
2020 *The Future of Migration to Europe: A Systematic Review of the Literature on Migration Scenarios and Forecasts*. IOM's Global Migration Data Analysis Centre, Berlin and Netherlands Interdisciplinary Demographic Institute, Amsterdam. Available at <https://publications.iom.int/books/future-migration-europe-systematic-review-literature-migration-scenarios-and-forecasts>.
- Strockmeijer, A., P. de Beer and J. Dagevos
2019 Should I stay or should I go? What we can learn from working patterns of Central and Eastern European labour migrants about the nature of present-day migration. *Journal of Ethnic and Migration Studies*, 45(13):2430–2446.
- Szczepanikova, A. and T. van Criekinge
2018 The future of migration in the European Union: future scenarios and tools to stimulate forward-looking discussions. Report. European Union, Luxembourg. Available at <https://ec.europa.eu/jrc/en/publication/future-migration-european-union-future-scenarios-and-tools-stimulate-forward-looking-discussions>.
- Sutherland, W. J. and M.A. Burgman
2015 Policy advice: use experts wisely. *Nature*, 526:317–318.
- Tetlock, P.
2017 *Expert Political Judgment: How good is it? How can we know?* New edition. Princeton University Press, Princeton.
- United Kingdom Government Office for Science (GO-Science)
2011 Migration and global environmental change: future challenges and opportunities – future scenarios. Review commissioned by the Foresight: Migration and Global Environmental Change Project. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/288793/11-1117-migration-global-environmental-change-scenarios.pdf.
- van der Heijden, K.
2005 *Scenarios: The Art of Strategic Conversation*. Second edition. John Wiley and Sons, Chichester, United Kingdom.
- Vezzoli, S., A. Bonfiglio and H. de Haas
2017 Global migration futures: Exploring the future of international migration with a scenario methodology. *IMI Working Papers Series*, no. 135. International Migration Institute, Oxford. Available at www.migrationinstitute.org/publications/global-migration-futures-exploring-the-future-of-international-migration-with-a-scenario-methodology.
- Wiśniowski, A. and J. Bijak
2009 Elicitation of expert knowledge for migration forecasts using a Delphi survey. Working paper no. 2/2009. Central European Forum for Migration and Population Research, Warsaw. Available at www.cefmr.pan.pl/docs/cefmr_wp_2009-02.pdf.
- Wiśniowski, A., B. Jakub, S. Christiansen, J.J. Forster, N. Keilman, J. Raymer and P.W.F. Smith
2013 Utilising expert opinion to improve the measurement of international migration in Europe. *Journal of Official Statistics*, 29(4):583–607.
- Vishnevsky, A. and Z. Zayonchkovskaya
1994 Emigration from the former USSR: the fourth wave. In *European Migration in the Late Twentieth Century: Historical Patterns, Actual Trends and Social Implications* (H. Fassmann and R. Münz, eds.), pp. 239–259. Edward Elgar Publishing, Aldershot, United Kingdom.

Willekens, F.

- 1994 Monitoring international migration flows in Europe. Towards a statistical data base combining data from different sources. *European Journal of Population*, 10(1):1–42.

Wiśniowski, A., J. Bijak and H.L. Shang

- 2014 Forecasting scottish migration in the context of the 2014 constitutional change debate. *Population, Space and Place*, 20(5):455–464.

Wilkinson, A.

- 2017 *Strategic Foresight Primer*. European Political Strategy Centre, Brussels. Available at https://ec.europa.eu/epsc/publications/other-publications/strategic-foresight-primer_en.

Wegren, S. and C. Drury

- 2001 Patterns of internal migration during the Russian transition. *Journal of Communist Studies and Transition Politics*, 17(4):15–42.





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