



Michaël Boissonneault, Rafael Costa, Helga de Valk

The future of migration between Europe and the Middle East & North Africa under scenarios of social change: a factorial survey among European migration professionals

Deliverable 7.2



QuantMig has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 870299. Website: www.quantmig.eu

History of changes

Version	Date	Changes
1.0	25 March 2022	Issued for Consortium Review
1.1	25 April 2022	First version submitted as official deliverable to the EC

# Suggested citation

Boissonneault, M., Costa, R. and de Valk, H.A.G. (2022). The future of migration between Europe and the Middle East & North Africa under scenarios of social change: a factorial survey among European migration professionals. QuantMig Project Deliverable D7.2. The Hague: Netherlands Interdisciplinary Demographic Institute (NIDI)-KNAW/University of Groningen.

# **Dissemination level**

**PU** Public

# Acknowledgments

The authors would like to thank Jason Sadler and the GeoData team of the University of Southampton for developing the online survey. They would further like to thank Ariana Modirrousta-Galian for her suggestions in the conception of the survey, Kaja Warnke for her involvement in recruiting the survey participants, as well as Jakub Bijak and Michaela Potančoková for their comments on various pieces documenting this research, including the protocol, survey mock-up, and drafts of this discussion paper. Finally, they would like to thank all those who participated in the survey pilot, including the members of the QuantMig consortium and researchers at the Netherlands Interdisciplinary Demographic Institute (NIDI-KNAW).

Cover photo: iStockphoto.com/Guenter Guni

# Table of Contents

	Ackn	owledgments	i
	Table	of Contents	2
A	bstrac	t	3
1	Inti	roduction	4
2	Ma	terials and methods	5
	2.1	The geographical scope	5
	2.2	The time horizon	6
	2.3	The vignettes	6
	2.4	The experimental design	9
	2.5	The measures	9
	2.6	The survey	9
	2.7	Ethical approval, respondents' privacy, and protocol registration	11
3	Res	sults	12
	3.1	Analyses	12
	3.2	Respondents' experience with migration and background	12
	3.3	Anchoring assessments	13
	3.4	Vignette assessments	14
	3.5	Variance analysis	18
4	Coı	nclusion	21
R	eferen	ces	22
A	ppend	lix	24
	A1.	Eurostat data used for the graphs: countries covered	24
	A2.	Messages sent to potential respondents and organizations	25
	A3.	Survey mock-up and screenshots	27

# The future of migration between Europe and the Middle East & North Africa under scenarios of social change: a factorial survey among European migration professionals

# QuantMig Deliverable D7.2

Michaël Boissonneault a\*, Rafael Costa a\* and Helga A.G. de Valk a

- a Netherlands Interdisciplinary Demographic Institute (NIDI)-KNAW/University of Groningen
- \* Corresponding authors: boissonneault@nidi.nl; costa@nidi.nl

# **Abstract**

This discussion paper presents the QuantMig survey carried out among European migration professionals between November 2021 and January 2022. The survey relied on a factorial experimental design to present respondents with vignettes depicting scenarios of change in the demographic, cultural, political, and economic aspects likely to impact migration from the Middle East and North Africa to Europe between now and the year 2030. Based on these vignettes we collected data on the expected change in the intensity of family, work, refugee, and return migration flows with respect to the year 2019, as well as in the likelihood of achieving "safe, orderly, and regular migration" (as stipulated in the UN Global Compact for Migration). We show how our innovative survey design complements and improves on previous expert opinion collection techniques by enhancing both the internal and external validity of the data collection instrument. We also discuss how the results can be used as input in projection models and inform decision-making.

# 1 Introduction

Over the last decades, migration has become Europe's main engine of demographic growth, and its importance is expected to increase in the coming decades due to population aging (Eurostat, 2021a). In this context, there is increased policy interest in forward-looking analyses of migration flows to Europe. Such analyses allow policymakers to anticipate the potential consequences of current and future migration trends and inform them about the possible policy actions. Predicting future migration flows, however, is notoriously difficult (Willekens et al., 2016). First, there is a lack of consistent data and definitions that would allow the estimation of time trends on which projection models could rest. Second, there exists no comprehensive theory of migration on which researchers can rely to make predictions about the future. Finally, some of the most important drivers of migration—such as wars and economic downturns—are themselves highly unpredictable, adding to the uncertainty in the prediction of flows.

In the face of the difficulty inherent to predicting future migration outcomes, scholars have sought input from experts by means of surveys, including Delphi-type surveys (Wiśniowski et al., 2013). In such surveys, experts are typically asked about the change in the intensity of future migration flows assuming stability in the current circumstances, and how confident they are in their estimates. Such expert input was used in projection models of future migration flows (e.g. Bijak and Wiśniowski, 2010), but because of the little amount of confidence that experts have in their estimates, the projected numbers remain very uncertain.

As a potential remedy for this, migration scholars have been thinking more and more in terms of scenarios (Sohst et al., 2020). For example, instead of asking experts to estimate migration flows in the absence of change in the underlying drivers, researchers have asked them to estimate the size of the impact of change in one driver (e.g. economic growth) on the expected flows (Wiśniowski and Bijak, 2009). While this approach does not remove the uncertainty inherent to the fact that migration is amenable to largely unpredictable factors, it allows a better management of uncertainty because it involves explicitly acknowledging that flows could significantly change in the face of specific events.

While the potential of scenarios is being more and more acknowledged, methods to elicit judgment about what they imply for the future of migration have progressed little so far. In most cases, authors have presented experts with scenarios of change in one underlying factor only.¹ While this approach has the merit of being simple, its degree of both internal and external validity can be questioned. For example, it is unclear whether separate judgments about the impact of change in different underlying factors can be compared to each other. Furthermore, by focusing on a single factor at the time, questions arguably present respondents with oversimplified depictions of the reality, whereas real-world situations involve change in different factors at the same time as well as interactions between them.

In an effort to advance the state of the art in the context of forward-looking analyses of migration, we propose and discuss here the use of a factorial survey experiment to elicit expert judgment about the future of migration. Factorial surveys have been extensively used to collect judgments among the broader population (Auspurg and Hinz, 2014) and among experts (including in medicine, e.g.

<sup>&</sup>lt;sup>1</sup> We note, however, the work of Acostamadiedo et al. (Acostamadiedo et al., 2020) which considered four scenarios based on two directions of change in two factors.

Sheringham et al., 2021) but, to the best of our knowledge, they have not been used to collect judgment about what different scenarios could imply for the future of migration.

This kind of survey involves the use of vignettes, i.e. "short, carefully constructed description[s] of a person, object, or situation, representing a [...] combination of characteristics" (Atzmüller & Steiner, 2010, p. 28). Here, we use such vignettes to present migration professionals with scenarios of change in the demographic, cultural, political, and economic dimensions likely to affect future migration flows from the countries of the Middle East and North Africa (MENA) to Europe between now and the year 2030. By doing so, we aim to improve both the internal and the external validity of the expert judgments. This is made possible by presenting experts with scenarios of change in all dimensions of interest at once, rather than separately. This way, experts are forced to weigh the impact of each factor against each other, and the complex situations that they are presented with arguably represent better the complexity of real-world situations. Furthermore, by systematically varying the content of the vignettes, we are able to establish a causal relationship between the changes in the content of the vignettes and the change in the expert assessments, lending the experiment high internal validity.

The survey was part of work package 7 of the Horizon 2020 project QuantMig which aims at producing quantitative migration scenarios to support European migration policy (QuantMig, 2022). The survey's main output consists of quantitative estimates of migration flows under different scenarios of change in the selected drivers of migration, which will serve as input for the estimation of migration projections in a subsequent work package of the QuantMig project. More than strictly serving the estimation of projection models, however, the experts' assessments can also guide policy actions aiming at managing migration flows to Europe. In this perspective, we not only asked experts to evaluate the changes implied by the vignettes in different types of flows—including family, work, refugee, and return migration—but also to identify how more favourable conditions can be created for migration. To this end, we asked experts to evaluate whether the changes implied by the vignettes would favour or disfavour the achievement of "safe, orderly, and regular migration" between MENA countries and Europe as specified in the Global Compact for Migration prepared under the auspices of the United Nations and signed in 2018 by 164 countries (United Nations, 2017).

The survey, which targeted migration professionals working in European academic, governmental, and civil society organizations, was conducted online between November 2021 and January 2022, allowing the collection of answers among a total of 138 respondents. In the remainder of this paper, we first present in more detail the different methodological aspects of this survey, including a precise description of the vignette's contents and the survey design. We then show some of the results that it allowed us to obtain, first in a uni- and bivariate fashion, then in a multivariate context. This paper then concludes by discussing the implication of the results for European migration policy and the usefulness of the approach presented here to collect expert opinion on the future of migration.

# 2 Materials and methods

# 2.1 The geographical scope

We concentrated on European countries as receiving countries and on countries of the Middle East and North Africa (henceforth MENA) as sending countries. The focus on European countries as receiving countries falls in line with the QuantMig project in which this survey was embedded. The choice of MENA countries as sending countries, on the other hand, was motivated by three

considerations. First, although migration to Europe is becoming more diversified, immigrants from MENA countries still account for a large share of migrants to Europe and are likely to continue to do so in the coming decades. Second, the geographical proximity of MENA countries with Europe means that disruptive events in those countries have a more important impact on migration to Europe than disruptive events elsewhere in the world. Third, MENA countries constitute a relatively culturally homogenous group of countries which in turn facilitated the identification of factors that could have similar effects there compared to other sending regions (e.g. Sub-Saharan Africa).

In line with the other work packages part of QuantMig, we considered as Europe the 27 member states of the European Union (as of 2021), the four member states of the European Free Trade Association (Norway, Iceland, Lichtenstein, Switzerland), and the United Kingdom. We considered as MENA countries those in northern Africa (Algeria, Morocco, Libya, Egypt, Tunisia), the Arabian Peninsula (Kuwait, Saudi Arabia, Oman, Yemen, Bahrein, United Arab Emirates, Qatar), the Levant (Israel, the State of Palestine, Jordan, Lebanon, Syria), the Caucasus (Armenia, Azerbaijan, Georgia), central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan), as well as Iran and Iraq.

### 2.2 The time horizon

We asked respondents to evaluate the consequences of social change for migration in the period 2021–2030 using the situation in the year 2019 as a reference. We explicitly instructed the respondents to disregard the potential impact that the COVID-19 pandemic might have on migration as we hypothesized that it would be short-lived. Furthermore, considering a time horizon of approximately ten years appeared appropriate as it is enough time so that things can change considerably, while not being too far in the future to appear too abstract to the respondents.

# 2.3 The vignettes

We constructed vignettes following a factorial survey experiment methodology (Atzmüller and Steiner, 2010; Auspurg and Hinz, 2014). The goal of the vignettes was to present respondents with fictional, yet plausible scenarios of change in migration drivers to elicit judgments about their potential consequences for migration. By systematically varying the content of these vignettes, we aimed at estimating the causal impact of the change in the elements that compose them on the change in the resulting judgments.

The vignette universe. The vignettes were constructed relying on a finite number of factors and their levels. Factors represented dimensions of social change (e.g. the demographic dimension) while the levels represented change in those (e.g. faster or slower population aging). All vignettes contained the same factors but varied in the values that the different levels took. The sum of the unique combinations between the different levels within all factors formed the vignette universe. Considering more factors allows probing the effect of more variables on the outcomes of interest, while considering more levels allows for a more fine-grained measurement of these effects. However, since the size of the vignette universe increases exponentially as a function of the number of factors and their levels, it is preferable to keep this number as low as possible. First, the larger the number of factors, the longer and the more complex the vignettes, increasing the burden on the respondents' cognitive capacities and possibly undermining the quality of the inherent judgments. Second, as the vignette universe expands, so does the number of judgments required to estimate the implications of their content for the outcomes of interest. This can either be obtained by recruiting more participants, increasing the pressure on the resources at the disposition of the researchers, or by asking each participant to evaluate more vignettes, which can lead to boredom or fatigue and again impact the quality of the assessments.

Previous studies have used samples of the whole vignette universe to accommodate large vignette universes without putting too much burden on the survey resources or the respondents (de Jong and Fonseca, 2020). However, sampling necessarily leads to a loss of information, which in turn can lead to a loss of precision when estimating the link between the vignette content and the corresponding judgments. In this survey, we opted for a relatively constrained universe composed of seven factors with each two levels, for a total of (2<sup>7</sup>=) 128 vignettes. Three considerations guided this choice. First, our survey targeted a very specific population of respondents (i.e. European migration professionals) and since this population is arguably small, we expected to compose with a low number of respondents as well. Second, due to the complex nature of the topic we treated, we considered it better to keep both the number of dimensions inside of each vignette and the total number of vignettes that respondents were asked to evaluate as low as possible to prevent response fatigue. Third, to attain as high a degree of precision as possible when estimating the regression models, we chose to use the whole vignette universe rather than a sample of it.

The vignettes' content. The choice of the factors that composed the vignettes was inspired by de Haas et al.'s theory of social change (Haas et al., 2020). This theory argues that social change is best studied as a function of the change in its political, economic, demographic, technological, and cultural dimensions, and was applied to understand the change in global migration patterns between the years 1990 and 2015 (de Haas and Fransen, 2018). In this study, we decided to consider the political, economic, demographic, and cultural dimensions, but not the technological one. The choice of leaving the technological dimension aside was motivated by two reasons. First, it appeared very difficult to identify which technological changes are susceptible to influence migration from MENA countries to Europe during the next ten years. Second, even if we did identify such changes, none of them would have appeared to us as having a clearly predictable impact on migration. For instance, an increase in automation could both decrease the demand for low-skilled migrants and increase the demand for highly skilled ones. Furthermore, concentrating on social change, we disregarded the potential impact of climate change could have on migration between MENA countries and Europe over the next ten years. While we acknowledge that climate change will potentially be an important factor, its causal relationship with migration is complex (Boas et al., 2019), and we contend that modelling its impact within the context of a factorial survey experiment would also require a complex study framework. Thus, as a first attempt to use a factorial survey experiment in the context of expert assessments of future migration flows, we chose to leave this dimension for future research.

For each of the demographic, cultural, and political dimensions, we specified one factor for MENA countries and one factor for European countries. Concerning the economic dimension, we specified one factor affecting both groups of countries. Finally, for each factor, we specified two directions of change (i.e. levels). The realities that each factor referred to and their directions of change were inspired by recent literature reviews of the determinants of migration (Czaika and Reinprecht, 2020; De Haas et al., 2019; Soto & Czaika, 2022). Essentially, we aimed at identifying for each factor those determinants that are the most likely to influence future migration flows between MENA countries and Europe. We also aimed at describing for each factor two situations that clearly diverged from the present one without being implausible. The two situations are in each case diametrically opposed to each other to allow us to explore the whole extent of change in migration that each factor could be associated with. Table 1 gives a full overview of the factors and their levels, while Figure 1 presents an example of a vignette.

**Table 1** Vignette factors and their corresponding levels

Factor	Reality	Levels
	MENA countries	
Demographic	Change in the proportion of young people	<ul><li>Increase</li><li>Decrease</li></ul>
Cultural	Change in the level of fundamentalism	<ul><li>Increase</li><li>Decrease</li></ul>
Political	Change in the level of political stability	<ul><li>Increase</li><li>Decrease</li></ul>
	Europe	
Demographic	Change in the pace of population aging	<ul><li>Acceleration</li><li>Deceleration</li></ul>
Cultural	Change in favourability to immigration	<ul><li> More favourable</li><li> Less favourable</li></ul>
Political	Change in the level of restrictiveness of immigration policies	<ul><li>Increase</li><li>Decrease</li></ul>
	MENA countries and Eu	ırope
Economic	Convergence/divergence in unemployment	<ul><li>Increase in MENA (compared to EU)</li><li>Decrease in MENA (compared to EU)</li></ul>

# Figure 1 Vignette example

During the period 2021-2030,

# In the Middle East & North Africa,

The proportion of young people has **increased** as women have been having **more** children.

Religious fundamentalism has lost ground.

Countries have become **less** politically stable.

Unemployment rates have reached much higher levels compared to Europe.

# In Europe,

The increase in the proportion of older people has accelerated as lifespans have been strongly increasing.

People have become **more** favourable to immigration.

Immigration policies have become **less** restrictive.

# 2.4 The experimental design

Each respondent was presented with four distinct vignettes. The four vignettes per questionnaire meant that we split our vignette universe into (128/4=) 32 distinct questionnaire versions (i.e. blocks). For each questionnaire version, vignettes were presented to participants following one of two orders: the *MENA first* order, with the demographic, cultural, and political factors in MENA countries coming first, followed by the economic factor, followed by the demographic, cultural, and political factors in European countries; and the *Europe first* order, with the demographic, cultural, and political factors in European countries coming first, followed by the cultural and political factors in MENA countries, followed by the economic factor. We used the command *optBlock* of the R package AlgDesign to generate the vignettes and assign them to the different questionnaire versions (Wheeler, 2014), ensuring that there is a maximum of variation between the content of the vignettes composing each questionnaire version.

# 2.5 The measures

Measures included respondent assessments of the possible change (based on the vignettes' content) in four types of migration flows: family migration, work migration, refugee migration, and return migration. By asking respondents about these four migration types separately, rather overall flows, we aimed at detecting the possibly different influences that changes in different social dimensions might have on different types of flows. Family and work migrants referred to migrants who are granted a residence permit by their host country for family or professional reasons, respectively. Refugees are those who are granted the status of refugees or temporary protection, while return migrants are the Middle East and North Africa nationals who return to their country of origin after having been granted a residence permit (of any kind) in a European country. Respondents were presented with the vignettes and asked whether their content would lead, for each migration flow, to a multiplication by a factor of 5, 3, 2, 1.5, or 1.25, a division by a factor of 5, 3, 2, 1.5, or 1.25, or no change with respect to the number of migrants observed in the year 2019. To guide respondents in their assessments, each question was accompanied by a graph showing the observed trends in the corresponding annual flows between the years 2010 and 2019. Values for family migrants, work migrants, and refugees came from the Eurostat database on residence permits (Eurostat, 2021b). We selected from this database the 15 European countries for which data was available for the majority of the period of interest (details about the countries that this entails are provided in the Appendix). Values for return migrants came from estimates produced within work package 6 of the QuantMig project, fitted to Eurostat data.

A fifth measure included an assessment of the impact of the changes depicted by the vignettes on the likelihood to achieve "safe, orderly, and regular migration" as stipulated in the Global Compact for Migration (United Nations, 2017). The choice of including this measure was motivated by our intention to identify the elements that could favour more desirable migration outcomes between MENA countries and Europe. Here, respondents were presented with the vignettes and asked whether their content would make the achievement of "safe, orderly, and regular migration" to be "Much more difficult", "Moderately more difficult", "Somewhat more difficult", "Neither more nor less difficult", "Somewhat less difficult", "Moderately less difficult", "Much less difficult".

# 2.6 The survey

**Implementation.** The survey was implemented online using a custom layout. We invited participants by sending them an email containing a link to the survey's home page. Participants could navigate through the different survey pages by clicking on a "Previous | Next" button. Each

survey page contained either explanations about the survey's concepts and approach, or a short set of instructions followed by one question and different answers to choose from. Besides facilitating the anonymization of the responses and the compilation of the results, the use of a web survey allowed the implementation of an interactive answering tool. More specifically, when assessing what the content of each vignette would imply in terms of migrant numbers, respondents were shown a number line containing the values from which they could pick their answer. To make their choice, respondents could use the mouse pointer to move a bullet along the different values represented on the number line. As respondents moved the bullet, a line in the graph showing migration trends moved simultaneously to help respondents visualize what their answer implied in terms of future migration flows (see Appendix for figures depicting the number line and graphs).

Upon connecting with the webpage hosting the survey, each new participant was assigned a new survey version based on a round-robin attribution. The content of each completed survey was saved in a database with a corresponding survey number, as attributed by the *optBlock* command. As new participants logged in to participate, an algorithm searched the database for the survey versions with the fewest number of completed cases and ordered them accordingly, allowing the round-robin attribution to give priority to survey versions with the lowest number of complete cases.

**Structure.** The survey contained four parts (see Appendix for the whole survey content). In the first part, we asked respondents about their professional experience with migration and their background. More specifically, questions pertained to the frequency at which respondents thought about migration in their profession, their familiarity with the way that structural factors influence people in their decision to migrate, their highest level of education attained, their employer's sector, and the number of years that they had been working on migration upon taking the survey.

In the second part, to evaluate the level of heterogeneity in the respondents' response behaviour, we asked them about the future number of migrants in the year 2030 (all groups of migrants) and the likelihood of achieving "safe, orderly, and regular migration", supposing a continuation of the relevant demographic, economic, cultural, and political trends in Europe and MENA countries. Furthermore, we asked respondents how confident they felt that their assessment of the number of migrants in the year 2030 would lie closer to the actual value compared to any other value on the scale. In the remainder of this document, we will refer to the answers to these questions as *anchoring assessments*.

The third part presented the respondents with the vignettes. These were followed by the questions about the number of family, work, refugee, and return migrants—accompanied by the corresponding response scales and graphs—and by the question about the likelihood of achieving "safe, orderly, and regular migration"—with the corresponding response scale.

In the fourth part, respondents were given the opportunity to type text to express whether they believed that the factors contained in the vignettes were sufficient to capture most of the change in future migration flows, or whether they believed there were other, equally or more important changes, that were omitted. Here, respondents could also comment on the whole of the survey if they wished.

Finally, in different places in the survey, participants could read succinct explanations of the concepts used by opening different pop-up windows.

**Pilots.** We ran two pilots prior to launching the survey. The first one took place on 30 June 2021 among three migration scholars based at the Netherlands Interdisciplinary Demographic Institute in The Hague (NIDI-KNAW/University of Groningen). Participants received the pdf versions of the survey and were asked to answer the questions with a pen and paper. We then sought feedback among them about the content of the vignettes, the scales used and their values, and the general

validity of the survey. The second pilot took place between 25 October and 4 November 2021 and was performed using the web version of the survey. Four migration scholars involved in the QuantMig project and based in different research institutes across Europe participated and provided feedback about the vignette text and the presentation of the graphs. Finally, we also received feedback on the formulation of the vignettes and the survey questions from two psychologists (with experience in the implementation of factorial survey experiments) based at the University of Southampton.

Recruitment. The population of interest consisted of migration professionals working for European academic, governmental, and civil society organizations (we thus consider a broader notion of "expert" than most expert opinion-based studies). To reach them, we first established a list of European organizations where migration professionals were likely to work. This list included the organizations listed by the national contact points of the European Migration Network (EMN), the organizations part of the International Migration Research Network (IMISCOE), the European national offices of the International Organization for Migration (IOM), and national statistical institutes present in European countries. Organizations listed by the national contact points of the EMN were found on the website of each of these contact points or, if unavailable, were provided to us after we had requested them via email or an online form. The organizations part of IMISCOE and the IOM were found on these networks' respective websites, while the statistical institutes were identified using the Google search engine.

The process described above allowed us to make an initial list of 233 European organizations where migration professionals potentially worked. As a second step, for each of these organizations, we retrieved the email addresses of at least one potential survey participant, usually the director or the head of a lab, and sent them personal invitations to participate. In cases where we could not find the email address of potential participants, we sent a general query to an assistant to ask whether they could provide us with the names and email addresses of people who could potentially participate. In each email, we also enjoined potential participants to share the link to the website hosting the survey with any of their colleagues who might be willing to participate. As part of this step, we contacted a total 258 potential participants.

In a last step of our recruiting strategy, we contacted the potential participants who were suggested to us by people working at the various organizations that we contacted in the second step. At this point, we also contacted the researchers from the *Rat für Migration* (Council on Migration), a German-based union of migration scholars, as well some of the authors' personal contacts who work on migration in different European research institutes or universities. This last step allowed us to contact an additional 161 potential participants.

The first invitations were sent on 24 November 2021, the last ones on 18 January 2022 (see Appendix for the messages sent to participants). Potential participants who did not reply to our first email were contacted again one week following the initial contact, and those who did not reply to any of our first two emails were contacted a third time two weeks following the initial contact. As of 14 February 2022, there had been at least 841 connections established with the website hosting the survey and 138 fully completed questionnaires containing a total of 552 vignettes evaluations.

# 2.7 Ethical approval, respondents' privacy, and protocol registration

We consulted the ethics committee of the Faculty of Behavioural and Social Sciences at the University of Groningen to determine whether ethical approval was needed for our survey. They provided ethical clearance without further evaluation to be necessary since we were interested in the professional judgment of the participants rather than their personal judgment. To preserve the

respondents' anonymity, we restrained from asking them any personal information and did not offer them any remuneration or incentive. We informed each respondent that their responses would be used for the purposes of the study only, and that all information would remain anonymous given it would be transferred to a database with random identifying numbers, making it impossible to link individual respondents to their answers. They were finally informed that they could quit at any time while answering the survey, and that their responses would only be saved upon completing the whole survey.

The survey protocol was registered on 23 November 2021 in the Open Science Framework under the title "Collecting expert opinion on future migration flows to Europe: a factorial survey experiment" (<a href="https://osf.io/3azhf/?view\_only=42e03fec48454f5796ad70c14774a7d2">https://osf.io/3azhf/?view\_only=42e03fec48454f5796ad70c14774a7d2</a>).

# 3 Results

# 3.1 Analyses

The analyses below concentrate on the fully completed questionnaires. Since responses were saved to our database only after all of the questions were answered, it is impossible for us to say anything about the respondents who did not complete the questionnaire entirely (see more on this point in the concluding section). Regression results rely on random-intercept regression models with individual respondent identification numbers as a grouping variable, accounting for the fact that each respondent provided four observations. In each case, the dependent variable was either the assessment of the change in the number of migrants (family, work, refugees, return) in the year 2030 compared to the one observed in the year 2019, converted into logarithmic values, or the assessment of the change in the likelihood to achieve "safe, orderly, and regular migration", converted into ordinal values ranging from one to seven. The independent variables are the factor levels shown in Table 1. Regression models were estimated using the R package lme4 (Bates et al., 2014).

# 3.2 Respondents' experience with migration and background

The first part of the survey evaluated respondents' experience with migration and background. Table 2 (first column) breaks down our sample according to the information collected along the five variables describing the respondents. First, concerning the frequency at which respondents thought about migration when exercising their work, no respondent chose the answer "No, never". The sample was roughly equally divided between the answers "Yes, sometimes" and "Yes, most of the time". Concerning the familiarity of the respondents with the way that structural factors influence people in their decision to migrate, more than half of the respondents considered themselves considerably familiar, while no respondents considered themselves not familiar at all. The following question regarded the highest level of education completed. More than half of the respondents had a doctoral degree as their highest educational degree, while 38 percent had a Master's degree and six percent a Bachelor's degree. Originally, one respondent had secondary education as the highest level of education, but this respondent was merged with the category "Bachelor's" for the purpose of the analyses presented below. The fourth question within this section pertained to the sector to which the respondent's employer belonged. The majority of the participants worked for an employer that belonged to academia, one-third worked for a governmental organization, and about one-tenth for an employer part of the civil society. Finally, we asked respondents the number of years they had been working on issues relating to migration: we found that, on average, participants had spent 15 years working on migration. For the purposes of the analyses presented below, this variable was discretized as a three-level variable with ten-year intervals.

# 3.3 Anchoring assessments

In section 2 of the survey, we asked respondents to assess the change in migration flows and the likelihood of achieving "safe, orderly, and regular migration" supposing a continuation of the current trends in the different factors affecting migration. Responses concerning the change in the total number of migrants are shown in the second column of Table 2. On average, respondents estimated that migration flows would increase by more than 50 percent compared to the level in the year 2019. Respondents differed little with respect to the frequency at which they thought about the future of migration in the exercise of their profession, or their level of familiarity with the structural factors that influence migration. Respondents working for an employer that belonged to a government tended to expect somewhat larger increases in the number of migrants compared to respondents working for an employer part of academia or the civil society. Respondents with higher levels of education tended to expect smaller increases compared to respondents with lower levels of education. No clear pattern could be detected concerning the number of years of experience.

**Table 2** Respondents' breakdown by professional experience with migration and background, and corresponding anchoring assessments<sup>1</sup>

	Number of respondents (%)	Assessment of change in all migration types	Level of confidence in the assessment	Likelihood to achieve "safe, orderly, and regular migration" <sup>2</sup>
Frequency think about mi	igration			
Most of the time	71 (51.4)	1.55 (0.49)	64.3 (16.3)	-2.17 (0.96)
Sometimes	67 (48.6)	1.49 (0.47)	61.42 (14.1)	-2.06 (1)
Familiarity with factors				
Considerably familiar	76 (55.1)	1.52 (0.44)	65.46 (15.7)	-2.24 (0.91)
Moderately familiar	47 (34.1)	1.53 (0.54)	61.81 (15.2)	-1.87 (1.08)
Somewhat familiar	15 (10.9)	1.50 (0.49)	53.33 (8.8)	-2.27 (0.88)
Sector of employer				
Academia	76 (55.1)	1.45 (0.40)	63.75 (14.9)	-2.05 (1.04)
Civil society	15 (10.9)	1.47 (028)	64.33 (14.4)	-2.47 (0.64)
Government	47 (34.1)	1.65 (0.62)	61.06 (16.4)	-2.11 (0.94)
Highest level of education	ı			
Bachelor's	8 (5.8)	2.00 (0.65)	66.88 (19.3)	-2.38 (0.74)
Master's	52 (37.7)	1.61 (0.53)	61.63 (14.9)	-2.15 (0.92)
Doctorate	78 (56.1)	1.41 (0.38)	63.33 (15.2)	-2.06 (1.04)
Years of experience				
[0;10[	49 (35.5)	1.52 (0.41)	60.82 (15.0)	-2.18 (0.83)
[10;20[	41 (29.7)	1.56 (0.50)	63.78 (15.0)	-2.1 (1.04)
[20;more than 20]	48 (34.8)	1.49 (0.53)	64.27 (15.9)	-2.06 (1.06)
Total	138 (100.0)	1.52 (0.48)	62.9 (15.3)	-2.12 (0.97)

 $<sup>^{\</sup>rm 1}{\rm Values}$  between parentheses indicate the standard deviations unless otherwise indicated.

Concerning the level of confidence respondents had in their assessment, more than half of the respondents indicated that they were only 50 percent certain that the value they chose would lie closer to the actual value in the year 2030 (compared to any of the other values on the scale). One-third indicated that they were 75 percent certain, and a minority indicated that they were either 90 percent or 95 percent certain. Assessments varied mostly according to the variable indicating how

<sup>&</sup>lt;sup>2</sup> Values represent the responses converted into numerical values, where -3 corresponds to "Very difficult", -2 to "Considerably difficult", -1 to "Moderately difficult", 0 to "Not particularly easy or difficult", 1 to "Moderately easy", etc.

familiar respondents were with the structural factors that influence migration: those who were "Somewhat familiar" showed less confidence than those who were more familiar.

Lastly, in this section of the survey, we asked respondents how difficult they believed it would be to achieve "safe, orderly, and regular migration" between MENA countries and Europe as stipulated in the Global Compact on Migration. On average, they believed this would be somewhat more than "Considerably difficult". Average values all lied within less than a half-point difference when comparing the responses of respondents with different experiences and backgrounds. The largest discrepancy concerned respondents working for an employer that belonged to academia and respondents working for one that belonged to civil society, the former showing somewhat more optimism compared to the latter.

# 3.4 Vignette assessments

In section 3 of the survey, respondents provided assessments of the change in the number of migrants and the likelihood of achieving "safe, orderly, and regular migration" given changes in the demographic, cultural, political, and economic dimensions affecting migration between MENA and European countries. An important condition for sufficiently precise estimates of the link between the assessments and the vignette contents was a sufficiently large number of participations to each of the 32 questionnaire versions. Figure 2 shows the response distribution by questionnaire version and vignette composition (i.e. MENA first vs. EU first). They furthermore show the vignettes for which participants invariably chose the answer "No change" (or "Not more or less difficult") to all of the five questions following those vignettes. We took these outcomes as a possible indication of protest or fatigue and labelled the corresponding assessments as "problematic".<sup>2</sup>

**Migration flows.** Figure 3 shows the distribution of the assessments concerning the number of family migrants, work migrants, refugees, and return migrants based on all vignettes. Assessments concerning family migrants, work migrants, and refugees translated on average an increase of about 30 to 50 percent in the number of migrants compared to the year 2019 (means of 1.34, 1.52, and 1.44, respectively), while assessments concerning return migrants reflected almost no change (mean of 1.06). There was a higher variability in the respondents' assessments concerning future refugee flows and a lower one concerning the number of return migrants (standard deviations of 0.82 and 0.39, respectively).

Table 3 shows the regression outputs for the four models including the assessments about the change in the number of family migrants, work migrants, refugees, and return migrants as a function of the changes described in the vignettes.<sup>3</sup> Two vignette factors have a strong and consistent effect on all migration types: the change in the level of political stability in MENA countries and the convergence or divergence in levels of unemployment between both country groups. More specifically, both lower political stability in MENA countries and an increase of the unemployment gap between MENA countries and Europe are expected to increase the inflow of migrants from MENA countries to Europe while discouraging MENA country nationals to return to their country of origin. The effect of lower political stability is particularly strong concerning the change in the number of refugees as this factor alone could, according to the respondents, increase refugee flows by 34 percent (exp(0.29)).

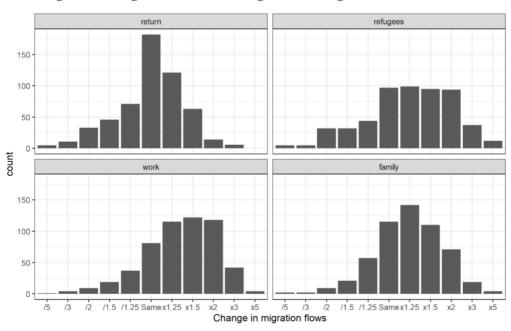
<sup>&</sup>lt;sup>2</sup> The slightly unequal distribution of questionnaire versions is due to the round-robin attribution of the questionnaire versions to each new participant. Upon starting filling in a questionnaire, a respondent would "occupy" this version until they either completed it or terminated the connection with the site. Thus, this version was not attributed to a new participant as long as it was not "set free", causing it to be skipped in the round-robin attribution.

<sup>&</sup>lt;sup>3</sup> The models including the participants' characteristics as control variables yielded very similar results.

1 2 3 4 4 5 6 7 8 8 7 8 7

Figure 2 Response distribution by vignette and vignette composition

Note: numbers at the top of each panel indicate the questionnaire version; those on the x-axis indicate the vignette number inside of each questionnaire. The colours indicate the order of the elements composing the vignettes ("MENA  $1^{\rm st"}$  means that for a given version, vignettes described the situation in those countries first, followed by the one in European countries).



**Figure 3** Distribution of assessments by value of expected change in the number of family migrants, work migrants, refugees, and return migrants, all vignettes assessments

Changes in other factors are expected to have an impact on some migration types but not on other. An increase in the number of young people in MENA countries is for example expected to lead to a large increase in the number of family and work migrants, but to no or very small increase in refugees or return migrants. Concerning a rise in fundamentalism, exactly the opposite situation applies, as it would lead to a large increase in the number of refugees and an important decrease in

return migration. In Europe, more favourable attitudes toward immigration and less restrictive policies are expected to lead to increases in the number of family and work migrants, but to little change concerning the number of refugees and return migrants. Effects associated to accelerated population aging in Europe are mostly small and insignificant, except concerning the number of work migrants, in which case accelerated aging is expected to lead to a moderate increase.

In general, we see that while changes in the number of family and work migrants are expected to depend on factors in both MENA and European countries, changes in the number of refugees and return migrants are expected to depend much more on factors in MENA countries than on factors in European countries.

**Table 3** Regression outputs. Impact of change in the demographic, cultural, political, and economic factors in MENA countries and Europe on the expected number of family, work, refugee, and return migrants.

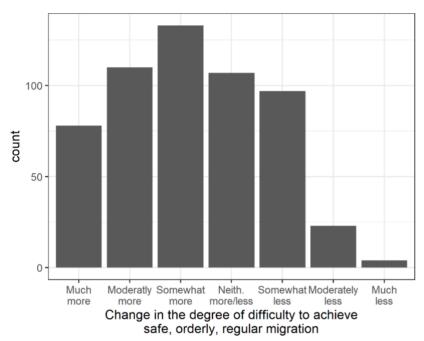
		<b>Family</b>			Work		]	Refugee	<u>s</u>		Return	
	В	SE	р	В	SE	p	В	SE	p	В	SE	p
Intercept	133	.040	.001	064	.045	.155	164	.054	.003	.188	.043	.000
MENA countries												
More young people (ref: fewer)	.123	.025	.000	.103	.030	.001	.059	.035	.087	034	.028	.227
More fundamentalism (ref: less)	.054	.025	.031	.044	.029	.138	.179	.034	.000	083	.028	.003
More pol. Instability (ref: less)	.137	.025	.000	.113	.030	.000	.290	.034	.000	126	.028	.000
MENA countries and EU  Diverging unemployment	.120	.024	.000	.176	.029	.000	.162	.033	.000	174	.027	.000
(ref: converging)												
Europe												
Faster aging (ref: slower)	.006	.025	.809	.084	.029	.004	.000	.034	.989	.004	.028	.892
More favourable attitude (ref: less)	.114	.025	.000	.115	.029	.000	.009	.034	.785	005	.028	.850
Less restrictive policy (ref: more)	.146	.025	.000	.150	.030	.000	.087	.034	.012	.013	.028	.655
Variance-covariance (id vs. residual)	.054	.100		.047	.136		.095	.185		.038	.114	
REML criterion	371			518			709			458		

Note: p = Pr(>|t|)

The likelihood of achieving "safe, orderly, and regular migration". Figure 4 shows the response distribution to all vignettes on the question about the change in the likelihood of achieving "safe, orderly, and regular migration" as stipulated in the Global Compact for Migration. On average, respondents estimated that the situations described by the vignettes would make the achievement of "safe, orderly, and regular migration" somewhat more difficult compared to the situation in 2019 (average assessment of -0.78, standard deviation of 1.48). Table 4 shows how assessments varied according to the content of the vignettes. According to our sample of migration professionals, the largest impediment to achieving "safe, orderly, and regular migration" would be, in order, increased political instability in MENA countries, more restrictive immigration policies in Europe, less favourable attitudes toward immigration in Europe, and diverging unemployment rates between MENA countries and Europe. An increase in fundamentalism in MENA countries is also expected to decrease the likelihood of achieving "safe, orderly, and regular migration", although to a lesser

extent. Change in the structure by age of the populations of both groups of countries are expected to play little role with this regard.

**Figure 4** Distribution of assessments by value of change in the likelihood of achieving "safe, orderly, and regular migration", all vignettes assessments



Note: labels on the x axis refer to the change in the degree of difficulty, e.g. "Much more difficult", "Neither more nor less difficult", "Moderately less difficult", etc.

**Table 4** Outputs from regression models for the change in the likelihood of achieving "safe, orderly, and regular migration" as a function of the change in the social factors depicted in the vignettes

	UN Globa	al Compact for M	<u>ligration</u>
	В	SE	р
Intercept	-0.506	0.155	0.001
MENA countries			
More young people (ref: fewer)	-0.182	0.103	0.077
More fundamentalism (ref: less)	-0.302	0.102	0.003
More pol. instability (ref: less)	-0.575	0.103	0.000
MENA countries and EU			
Diverging unemployment (ref: converging)	-0.422	0.099	0.000
EU			
Faster aging (ref: slower)	-0.038	0.102	0.707
More favourable attitude (ref: less)	0.423	0.102	0.000
Less restrictive policy (ref: more)	0.557	0.103	0.000
Variance-covariance (id vs. residual)	0.503	1.610	
REML criterion	1,864		

Note: p = Pr(>|t|)

# 3.5 Variance analysis

The results presented above concentrated on the link between the change in the content of the vignettes and the change in the participants' judgments, considering the fact that each respondent contributed judgments on different vignettes. It can be of interest, however, to determine how much of the variation in the responses is attributable to differences between the respondents compared to differences between the vignettes. This can shed light on the ability of the vignettes to elicit a variety of responses among the respondents. If most of the variation in responses is explained by differences between individuals, this means that respondents chose roughly the same answers no matter what the vignettes' content was. In contrast, if differences between individuals explain little variation, then the vignettes met their goal of eliciting varying judgments.

To investigate this, we estimated random intercept models with the respondent identification numbers as sole predictor (also called "empty" models) and extracted from those the variance that was attributable to the identification numbers and the variance that was left unexplained and thus attributable to the vignettes. Results are shown in Figure 5 for each of the four migration types and in Figure 6 for the question on the Global Compact for Migration. We see that the amount of total variance was larger for the expected number of refugees and smaller for the expected number of family, work and return migrants. The proportion of the total variance that was attributable to the respondents varied between 25-26 percent in the case of return and work migration, respectively, and 34-35 percent in the case of refugee and family migration, respectively. The total variance reached 2.1 concerning the Compact, and 24 percent of it was attributable to variation between the respondents. In sum, there was a fair amount of variance between judgments concerning each migration type. Most of this variance was attributable to the variation between the items composing the vignettes, since between two-thirds and three-fourths of it could not be explained by the variation in the identification numbers.

Comparison between respondents with different experiences and backgrounds. Do the patterns discussed above vary between respondents with different experiences and backgrounds? Figure 6 aims at answering this question by contrasting the amount of variance explained by the differences between respondents and the differences between vignettes among pairs of groups of respondents defined by their background and experience with migration. We see that, in general, the amount of variance attributable to differences between the respondents increases as the amount of variance attributable to differences between the vignettes also increases. There are, however, some important exceptions to this trend. Focusing on respondents with different numbers of years of experience, concerning family migration, we see that among respondents with more than 12 years of experience, almost half of the variation (48 percent) in the responses can be attributable to differences between respondents. Among respondents with one to 12 years of experience, this proportion is less than half as large (23 percent). A similar pattern can be noticed concerning work migration: 37 percent of the variance is attributable to differences among respondents in the case of those with more than 12 years of experience but merely 16 percent in the case of those with one to 12 years.

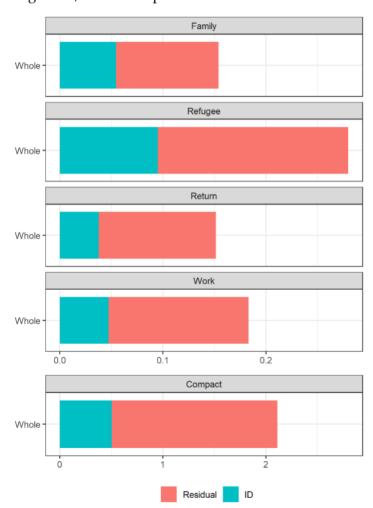
Concerning the change in refugee flows, differences between respondents who sometimes thought about migration within their work accounted for 22 percent of the variance, but among respondents who thought most of the time about migration within their work, this variation accounted for 47 percent of the variance. The starkest contrasts are however to be found concerning return migration. Among respondents with a Master's or Bachelor's degree, 46 percent of the variance is attributable to differences between respondents while among those with a Doctorate degree, 14 percent of it is. Among respondents who worked for a governmental or civil society organization, 38 percent of the

variance is attributable to differences between participants, while among respondents within academia, this is the case for 17 percent of them.

The differences between respondents with different experiences and backgrounds are in all cases less stark concerning the Global Compact for Migration. Here, the largest difference is between respondents with different levels of education, where the proportion attributable to differences between respondents reaches 29 percent in the case of respondents with a Master's or a Bachelor's degree versus 19 percent in the case of those with a Doctorate degree.

In general, the vignettes seem to have generated a fair amount of variation in the respondents' judgments. In a few specific cases, however this amount of variation was much lower. This is particularly the case concerning the judgments made by respondents with more than 12 years of experience on flows of family migrants, and by respondents with a Bachelor's or Master's degree concerning return migration. In these cases, the amount of unexplained variance was very low, both in relative and absolute terms. However, we could not detect any systematic bias toward lower unexplained variance, neither in terms of the respondents' experiences and backgrounds, nor in terms of migrant type.

**Figure 5** Variance attributable to differences between respondents (ID) and to the vignettes' content (Residual) for questions on family, work, refugee, return migration, and the Global Compact on Migration, whole sample



Note: figures for family, work, refugee, and return migrants are on a different scale than the one for the Global Compact on Migration

**Figure 6** Variance attributable to differences between respondents (ID) and the vignettes' content (Residual) for questions on family, work, refugee, and return migration, and the Global Compact for Migration, by respondent groups defined along their professional experience and background



# 4 Conclusion

In this discussion paper, we presented an application of factorial survey methodology to collect judgments among migration professionals about the future of migration between MENA countries and Europe in the year 2030. Although this approach was to our knowledge never applied to collect this type of data, we report on the whole a very positive experience. First, despite the fact that we targeted a highly specific population, we collected input among a relatively large number of respondents. These were all professionally involved with thinking about the future of migration, and all considered themselves at least somewhat familiar with the factors that influence people in their decision to migrate. They worked in various types of organizations, ranging from academic to civil society and governmental organizations, and had different amounts of professional experience. The mostly positive experiences of the respondents with the online survey were reflected in the comments they either left on the survey website or sent to us by email.

Second, the judgments we collected provided interesting insights into how respondents believed that change in various social dimensions in sending and receiving societies might influence the future of migration between those. The often strong and largely positive effects associated with specific changes depicted by the vignettes suggest that there is a fair degree of consensus among migration professionals concerning the link between specific types of social change and migration. The estimated effects can be used in projection models that quantify the amount of change in migration flows under different scenarios of social change in Europe and MENA countries, but they can also inform policy directly. For example, the analyses presented here suggest that, according to migration experts, policymakers have a fair amount of leverage over the influx of family and work migrants by influencing people's attitude toward migration and adopting more or less restrictive migration policies. However, this leverage should not be overestimated as factors in MENA countries could have, according to our sample of migration professionals, an equally important impact on family and work migration flows. In contrast, experts predicted that refugee and return migration flows would be mainly influenced by changing circumstances in MENA countries. This suggests that European policymakers wishing to influence these flows might have to look for answers outside of Europe, rather than within it.

Third, as shown by the variance analysis, respondents generally showed a high degree of sensitivity to the change in the content of the vignettes, suggesting that the vignettes did a good job in eliciting interest among the respondents.

As we implemented it, our survey did however have some limitations. Despite having obtained responses from a relatively large sample, it remains unclear whether we managed to fully exploit the diversity of European migration professionals. In our sample, academics and more highly educated professionals were somewhat overrepresented while people working for civil society organizations were relatively underrepresented. It is also worth noting that we limited ourselves to collecting judgments among migration professionals working in Europe only, as this was the region of interest of the larger project in which this study was imbedded. However, collecting opinions among migration professionals working in the sending countries could also have been highly informative and should be considered in the future.

Although most respondents gave positive feedback on our survey, some of them pointed to the important cognitive load caused by the vignettes and would have preferred more traditional data collection methods (e.g. focusing on one factor at the time). Some of the decisions we made may

have affected somewhat the results. In particular, the fact that we did not allow for incomplete questionnaires to be handed over may have precluded the collection of (incomplete) data among some participants, while other participants may have chosen answers with some degree of indifference if they were tired or time-pressured.

In the comments left by the respondents in the fourth part of the survey, respondents most often expressed that they believed climate change could have a substantial impact on migration from MENA countries to Europe in the coming ten years. Due to the reasons enumerated in the Materials and methods section, we did not include this dimension in our vignettes. This is something to consider for inclusion in future studies. Our work showed the usefulness of factorial survey experiments for collecting expert input on the future of migration and future studies could take a step forward and include climate change in the vignettes. For this, we believe that a very good analytical framework is necessary because the effect of climate change on migration is rarely direct and often operates through different factors.

Some respondents also pointed to factors that will play out in countries other than those considered here, such as China and Russia, and which according to them could have an important impact on migration flows from MENA countries to Europe. This point has become particularly relevant since the outbreak of the war in Ukraine during the spring of 2022. Since it occurred few months after our data collection, we could not consider its possible impact on migration to Europe. In general, although the factorial survey approach proved useful to explore the impact of changes in some of the most important drivers of migration, such specific events continue to be very difficult to predict and hence to take into account in the composition of the vignettes.

One challenge for future research based on factorial survey methodology might consist in striking a balance between selecting a sufficiently high number of relevant factors for the countries of interest while keeping their number low enough so the vignettes do not put a too high burden on the respondents. Using this methodology for the first time to collect judgments among migration professionals about the future of migration, this study generated a rich array of data that will not only feed into projection models, but also offer a great many possibilities to gain insights into what can be possible, probable, and desirable future migration outcomes to Europe.

# References

- Acostamadiedo, E., Sohst, R., Tjaden, J., Groenewold, G., & de Valk, H. (2020). *Assessing Immigration Scenarios for the European Union in* 2030 *Relevant, Realistic and Reliable?* International Organization for Migration, Geneva, and the Netherlands Interdisciplinary Demographic Institute, the Hague.
- Atzmüller, C., & Steiner, P.M. (2010). Experimental vignette studies in survey research. *Methodology*, 6(3), 128-138.
- Auspurg, K., & Hinz, T. (2014). Factorial survey experiments. Sage Publications.
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2014). Fitting linear mixed-effects models using lme4. *arXiv preprint arXiv*:1406.5823.
- Bijak, J., & Wiśniowski, A. (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.

- Boas, I., Farbotko, C., Adams, H., Sterly, H., Bush, S., Van der Geest, K., Wiegel, H., Ashraf, H., Baldwin, A., & Bettini, G. (2019). Climate migration myths. *Nature Climate Change*, 9(12), 901–903.
- Czaika, M., & Reinprecht, C. (2020). Drivers of migration. A synthesis of knowledge. IMI working paper No. 163.
- de Haas, H., Czaika, M., Flahaux, M.-L., Mahendra, E., Natter, K., Vezzoli, S., & Villares-Varela, M. (2019). International migration: Trends, determinants, and policy effects. *Population and Development Review*, 45(4), 885–922.
- de Haas, H., & Fransen, S. (2018). *Social transformation and migration: An empirical inquiry*. International Migration Institute Network.
- de Haas, H., Fransen, S., Natter, K., Schewel, K., & Vezzoli, S. (2020). *Social transformation*. International Migration Institute Network
- de Jong, P.W., & Fonseca, M.L. (2020). The role of the origin country in migration aspirations: A cross-national comparison of Master students in Portugal and the Netherlands. *Population, Space and Place*, 26(5), e2325.
- Eurostat, 2021a. Population and population change statistics [WWW Document]. URL https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population\_and\_population\_change\_statistics (accessed 7.22.21).
- Eurostat, 2021b. Statistics on migration to Europe [WWW Document]. European Commission European Commission. URL https://ec.europa.eu/info/strategy/priorities-2019-2024/promoting-our-european-way-life/statistics-migration-europe\_en (accessed 7.2.21).
- QuantMig, 2022. QuantMig Home [WWW Document]. URL http://www.quantmig.eu/ (accessed 3.8.22).
- Sheringham, J., Kuhn, I., & Burt, J. (2021). The use of experimental vignette studies to identify drivers of variations in the delivery of health care: a scoping review. *BMC medical research methodology* 21(1), 1–17.
- Sohst, R.R., Dag Tjaden, J., de Valk, H., & Melde, S. (2020). A systematic review of the literature on migration scenarios and forecasting. CrossMigration Deliverable 9.1.
- Soto Nishimura, A., & M. Czaika (2022). Migration Drivers Database. QuantMig Deliverable 5.6, Danube University Krems, AT
- United Nations (2017). Global compact for migration [WWW Document]. Refugees and Migrants. URL https://refugeesmigrants.un.org/migration-compact (accessed 7.2.21).
- Wheeler, B. (2014). AlgDesign: Algorithmic experimental design. R package version 1–1.
- Willekens, F., Massey, D., Raymer, J., & Beauchemin, C. (2016). International migration under the microscope. *Science*, 352(6288), 897–899.
- Wiśniowski, A., & Bijak, J. (2009). Elicitation of expert knowledge for migration forecasts using a Delphi survey. Working Paper 2/2009, Central European Forum for Migration and Population Research.
- Wiśniowski, A., Bijak, J., Christiansen, S., Forster, J.J., Keilman, N., Raymer, J., & Smith, P.W. (2013). Utilising expert opinion to improve the measurement of international migration in Europe. *Journal of Official Statistics*, 29(4), 583–607.

# **Appendix**

# A1. Eurostat data used for the graphs: countries covered

The Eurostat data used for the graphs in the online survey covers as receiving (European) countries: Belgium, Denmark, Estonia, Spain, Hungary, Ireland, Iceland, Italy, Lithuania, Norway, Poland, Portugal, Romania, Sweden, and Slovenia. Sending countries include United Arab Emirates, Afghanistan, Azerbaijan, Bahrain, Algeria, Western Sahara, Georgia, Israel, Iraq, Iran, Jordan, Kirghizstan, Kuwait, Kazakhstan, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tajikistan, Turkmenistan, Tunisia, Yemen.

The following origin countries were missing in the year 2010 for:

• Sweden: United Arab Emirates, Western Sahara, Kuwait, Oman, Palestine, Turkmenistan.

### In the year 2011 for:

- Hungary: United Arab Emirates, Western Sahara, Tajikistan, Turkmenistan.
- Lithuania: United Arab Emirates, Bahrain, Algeria, Western Sahara, Georgia, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Turkmenistan, Tunisia, Yemen.
- Norway: United Arab Emirates, Bahrain, Algeria, Western Sahara, Georgia, Israel, Kuwait, Libya, Oman, Palestine, Qatar, Saudi Arabia, Tajikistan, Turkmenistan, Tunisia.
- Poland: Bahrain, Algeria.
- Portugal: United Arab Emirates, Azerbaijan, Bahrain, Western Sahara, Jordan, Kuwait, Kazakhstan, Libya, Oman, Qatar, Tajikistan. Yemen.
- Romania: United Arab Emirates, Azerbaijan, Bahrain, Western Sahara, Jordan, Kirghizstan, Kuwait, Kazakhstan, Lebanon, Libya, Morocco, Oman, Saudi Arabia, Syria, Tajikistan, Turkmenistan, Tunisia, Yemen.
- Sweden: Algeria, Palestine
- Slovenia: United Arab Emirates, Azerbaijan, Bahrain, Algeria, Western Sahara, Georgia, Israel, Iraq, Jordan, Kirghizstan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tajikistan, Turkmenistan, Tunisia, Yemen.

In the year 2017 for:

• Iceland: all.

In the year 2019 for:

• Poland: all.

Data covered flows between all of the 26 sending countries and all of the 15 receiving countries in the years 2012, 2013, 2014, 2015, 2016, and 2018.

# A2. Messages sent to potential respondents and organizations

# Message 1: Recipient is known

Subject: QuantMig survey: invitation to participate

Dear [NAME SURNAME],

As part of the Horizon 2020 project QuantMig (<a href="https://quantmig.eu/">https://quantmig.eu/</a>), our team of researchers at the Netherlands Interdisciplinary Demographic Institute (NIDI) has developed a survey to gain insights into how migration to Europe might change over the next decade. We ask you to kindly share your opinion by clicking on the following link:

# https://quantmig.eu/survey/

Your participation will be greatly valued as it will help to develop enhanced quantified migration scenarios that will inform European migration policy. Answering the survey will take about 20 minutes.

To ensure that the results reflect the views of the diverse community of European migration professionals, we are doing our outmost to reach as wide an array of participants as possible. You will greatly assist us by forwarding this message to your colleagues, or by sharing with us the contact information of potential participants who are part of your personal network.

Please don't hesitate to get in touch if you have questions or comments and thank you in advance for your cooperation.

Sincerely,

Dr. Michaël Boissonneault

Dr. Rafael Costa

Prof. Dr. Helga de Valk

### Message 2: Recipient is known

Subject: QuantMig survey

Dear Sir/Madam,

As part of the Horizon 2020 project QuantMig (<a href="https://quantmig.eu/">https://quantmig.eu/</a>), our team of researchers at the Netherlands Interdisciplinary Demographic Institute (NIDI) has developed a survey to gain insights into how migration to Europe might change over the next decade. We would like to ask you if you could provide us with the names and contact information of professionals who work within [NAME OF ORGANIZATION] whom we could invite to participate in our survey. You may also share the survey link with any potential participant within your organization:

# https://quantmig.eu/survey/

Participation in our survey will be greatly valued as it will help to develop enhanced quantified migration scenarios that will inform European migration policy.

Many thanks in anticipation for any information you can provide.

Sincerely,

Dr. Michaël Boissonneault

Dr. Rafael Costa

Prof. Dr. Helga de Valk

# A3. Survey mock-up and screenshots

Pages 28–47 present, page by page, the survey mock-up on the left column and screenshots taken from the online survey on the right column. Pages 49–52 present the same for the pop-up windows that could be accessed throughout the survey.

How many people will migrate to Europe in the next ten years? Will there be more refugees? And will migration become safer? Answers depend in part on how societies in Europe and the rest of the world will change.

By responding to this survey, you will help our team of researchers understand better the factors that will influence the future number of migrants to Europe and the conditions in which they will migrate. Answering takes about 30 minutes.

[Next]



### Which future for migration to Europe?



How many people will migrate to Europe in the next ten years? Will there be more refugees? And will migration become safer? Answers depend in part on how societies in Europe and the rest of the world will change.

By responding to this survey, you will help our team of researchers understand better the factors that will influence the future number of migrants to Europe and the conditions in which they will migrate. Answering takes about 20 minutes.

Previous Next

Overall Progress

# About the study

This survey is being conducted by researchers at the Netherlands Interdisciplinary Demographic Institute in The Hague, the Netherlands. The research is part of the project QuantMig, a European Union's Horizon 2020 research and innovation program (grant agreement No. 870299).

# Confidentiality and agreement

This study is interested in your professional judgment about the future of migration to Europe. Study participation is anonymous and confidential. We do not ask or store your identity. Your participation in this study is completely voluntary, and you may quit at any time without penalty. By clicking "Next", you indicate that this research has been sufficiently explained to you and you agree to participate.

[Previous] [Next]



# Which future for migration to Europe?



### About the study

This survey is being conducted by researchers at the Netherlands Interdisciplinary Demographic Institute in The Hague, the Netherlands. The research is part of the project QuantMig, a European Union's Horizon 2020 research and innovation program (grant agreement No. 870299).

### Confidentiality and agreement

This study is interested in your professional judgment about the future of migration to Europe. Study participation is anonymous and confidential. We do not ask or store your identity. Your participation in this study is completely voluntary. You may quit at any time, and your responses will only be saved upon completing the whole survey. By clicking "Next", you indicate that this research has been sufficiently explained to you and you agree to participate.

Previous Next

**Overall Progress** 

We would first like to ask you a few questions about your profession.

# In your profession, do you often think about the future of migration?

- 1. No, never
- 2. Yes, sometimes
- 3. Yes, most of the time

[Previous] [Next]



# Which future for migration to Europe?



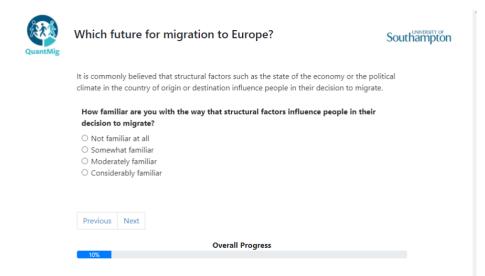
We would fi	rst like t	o ask you a few questions about your profession.
In your pr	ofession	n, do you often think about the future of migration?
O No, nev	er	
O Yes, son		
O Yes, mo	st of the	time
Previous	Next	
		Overall Progress

It is commonly believed that structural factors such as the state of the economy or the political climate in the country of origin or destination influence people in their decision to migrate.

# How familiar are you with the way that structural factors influence people in their decision to migrate?

- 1. Not familiar at all
- 2. Somewhat familiar
- 3. Moderately familiar
- 4. Considerably familiar

[Previous] [Next]



# What is the highest level of education you have completed?

Secondary education

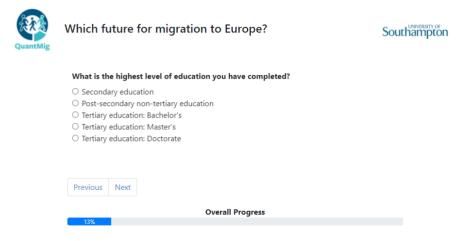
Post-secondary non-tertiary education

Tertiary education: Bachelor's

Tertiary education: Master's

Tertiary education: Doctorate

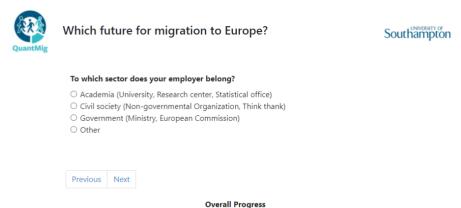
[Previous] [Next]



# To which sector does your employer belong?

- Academia (University, Research center, Statistical office)
- Civil society (Non-governmental Organization, Think thank)
- Government (Ministry, European Commission)
- Other

[Previous] [Next]



QuantMig	Which fo	uture f	or migration to Europe?	Sou	thampton
	For how n	nany yea	rs have you been working on issues relating to migration?		
	Previous	Next	Overall Progress		
	18%				

We are now interested in your judgment about how the annual **number** of migrants (i.e. flows) and the **conditions** in which they migrate will change in the next ten years.

Throughout the survey, we refer exclusively to migration between Europe and the Middle East & North Africa. [Question mark, pop-up window on the Geographical areas]

**Flows** concern four migrant types:

- 1. Family migrants
- 2. Work migrants
- 3. Refugees
- 4. Return migrants.

[Question mark, pop-up window on the Types of migrants]

As a help throughout the survey, we present you with graphs that show the change in the annual number of migrants between the years 2010 and 2019. [Question mark, pop-up window on the Data on past migrant numbers]

The **conditions** in which people migrate refer to those described in the United Nations' Global Compact for safe, orderly and regular migration. [Question mark, pop-up window on the Global Compact for migration]

The survey has two parts. The first part supposes a **continuation** of the demographic, economic, cultural and political trends that have affected Europe and the Middle East & North Africa in the period 2010-2019. In the second part, we suppose different **changes** in those trends in the period 2021-2030 in comparison to the period 2010-2019. [Question mark, pop-up window on the Dimensions of social change]

Throughout the survey, we avoid referring to the year 2020 because it is still uncertain how the COVID-19 pandemic will affect migration and its determinants.



### Which future for migration to Europe?



We are now interested in your judgment about how the annual **number** of migrants (i.e. flows) and the **conditions** in which they migrate will change in the next ten years.

Throughout the survey, we refer exclusively to migration between Europe and the Middle East & North Africa.

Flows concern four migrant types: ?

- 1. Family migrants
- 2. Work migrants
- 3. Refugees
- 4. Return migrants

As a help throughout the survey, we present you with graphs that show the change in the annual number of migrants between the years 2010 and 2019. **3** 

The **conditions** in which people migrate refer to those described in the United Nations' Global Compact for safe, orderly and regular migration.

The survey has two parts. The first part supposes a **continuation** of the demographic, economic, cultural and political trends that have affected Europe and the Middle East & North Africa in the period 2010-2019. In the second part, we suppose different **changes** in those trends in the period 2021-2030 in comparison to the period 2010-2019. **?** 

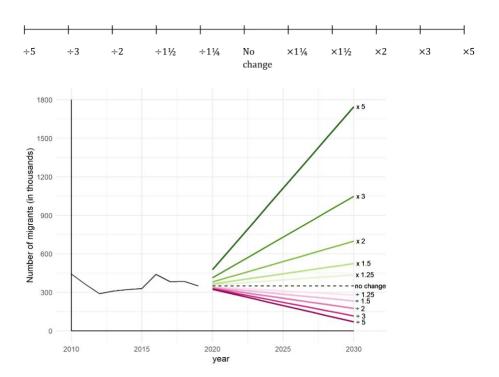
Throughout the survey, we avoid referring to the year 2020 because it is still uncertain how the COVID-19 pandemic will affect migration and its determinants.

revious	Next
21%	

Supposing a **continuation** of the demographic, economic, cultural and political trends in Europe and the Middle East & North Africa.

Compared to 2019, the total\* number of migrants from the Middle East & North Africa to Europe will be in 2030...

\*Refers to the sum of family migrants, work migrants, and refugees



Annual total number of migrants from the Middle East & North Africa to Europe

[Previous] [Next]



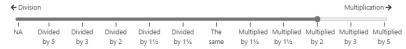
#### Which future for migration to Europe?

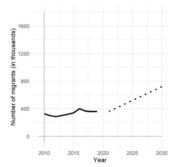
Southampton

Supposing a **continuation** of the demographic, economic, cultural and political trends in Europe and the Middle East & North Africa

Compared to 2019, the total\* number of migrants from the Middle Fast & North Africa to Europe will be in 2030.

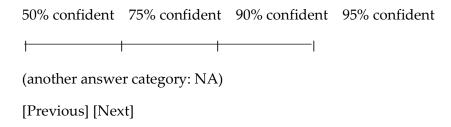
\*Refers to the sum of family migrants, work migrants, and refugees





Annual number of migrants from the Middle East & North Africa to Europe

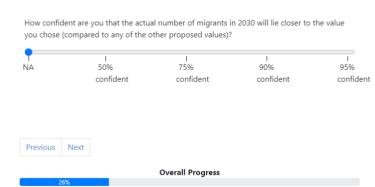
How confident are you that the actual number of migrants in 2030 will lie closer to the value you chose (compared to any of the other proposed values)?





# Which future for migration to Europe?

Southampton



Supposing a **continuation** of the demographic, economic, cultural and political trends in Europe and the Middle East & North Africa.

How difficult will it be to achieve safe, orderly and regular migration between Europe and the Middle East & North Africa by the year 2030, as stipulated in the Global Compact for Migration? [Question mark, pop-up window on the Global Compact for Migration]

- NA
- Very difficult
- Moderately difficult
- Somewhat difficult
- Not particularly easy or difficult
- Somewhat easy
- Moderately easy
- Very easy



# Which future for migration to Europe?



Supposing a **continuation** of the demographic, economic, cultural and political trends in Europe and the Middle East & North Africa.

How difficult will it be to achieve safe, orderly and regular migration between Europe and the Middle East & North Africa by the year 2030, as stipulated in the Global Compact for Migration?



Previous Next  Overall Progress				
Overall Progress	Previous	Next		
			Overall Progress	

The following presents hypothetical situations that depict how the demographic, economic, cultural, and political conditions could change over the next ten years in Europe and the Middle East & North Africa. We are interested in your judgement about how migration will change under each hypothetical situation.

Some situations might appear more realistic than others. However, we ask you to treat them as they are, as we are interested in how the elements that compose these situations might impact migration.

You may furthermore find that the situations omit factors that you find important for the future of migration between Europe and the Middle East & North Africa. We ask you to suppose a continuation of the current trends in these factors. For example, the situations do not consider climate change. We ask you to suppose that this factor will continue along its current path of change.

[Previous] [Next]



#### Which future for migration to Europe?

Southampton

The following presents hypothetical situations that depict how the demographic, economic, cultural, and political conditions could change over the next ten years in Europe and the Middle East & North Africa. We are interested in your judgement about how migration will change under each hypothetical situation.

Some situations might appear more realistic than others. However, we ask you to treat them as they are, as we are interested in how the elements that compose these situations might impact migration

You may furthermore find that the situations omit factors that you find important for the future of migration between Europe and the Middle East & North Africa. We ask you to suppose a continuation of the current trends in these factors. For example, the situations do not consider climate change. We ask you to suppose that this factor will continue along its current path of change.

#### Situation 1

During the period 2021-2030,

### In Europe,

The increase in the proportion of older people **slowed down** as lifespans have been **stagnating**.

People have become **less** favorable to immigration.

Immigration policies have become **less** restrictive.

#### In the Middle East & North Africa,

The proportion of young people has **decreased** as women have been having **fewer** children.

Religious fundamentalism has gained ground.

Countries have become more politically stable.

Unemployment rates have reached **similar** levels compared to Europe.

[Previous] [Next]



## Which future for migration to Europe?



#### Situation 1

During the period 2021-2030,

#### In Europe,

The increase in the proportion of older people has  ${\bf slowed\ down}$  as lifespans have been

#### stagnating

People have become less favorable to immigration.

Immigration policies have become less restrictive.

#### In the Middle East & North Africa,

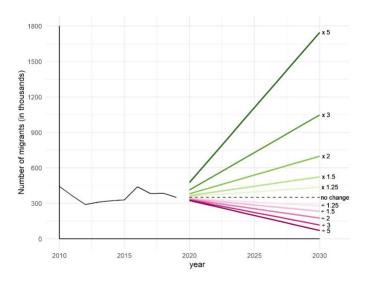
The proportion of young people has **decreased** as women have been having **fewer** children.

Religious fundamentalism has gained ground.

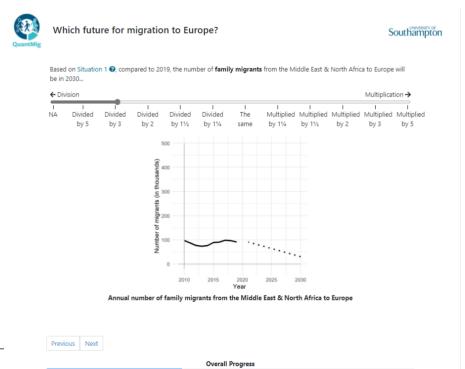
Countries have become more politically stable.

Unemployment rates have reached similar levels compared to Europe.

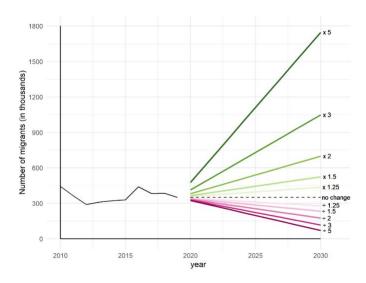
Based on Situation 1, compared to 2019, the number of **family migrants** from the Middle East & North Africa to Europe will be in 2030...



Annual number of family migrants from the Middle East & North Africa to Europe [Previous] [Next]



Based on Situation 1, compared to 2019, the number of **work migrants** from the Middle East & North Africa to Europe will be in 2030...



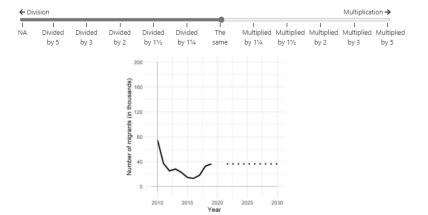
Annual number of work migrants from the Middle East & North Africa to Europe [Previous | Next]



#### Which future for migration to Europe?

Southampton

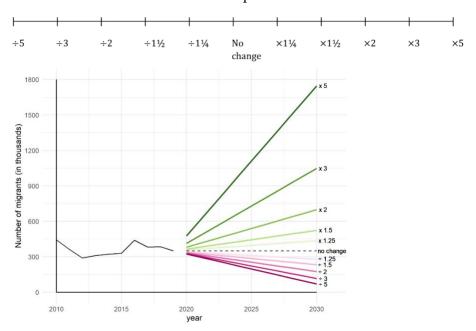
Based on Situation 1 ②, compared to 2019, the number of work migrants from the Middle East & North Africa to Europe will be in 2030



Annual number of work migrants from the Middle East & North Africa to Europe

		Previous	Next							
					Overa	all Progress				
			39%							
	1	ı	1	1	1	1	1	1	I	1
÷5	÷3	÷2	÷1½	÷1¼	No change	×1¼	×1½	×2	×3	×5

Based on Situation 1, compared to 2019, the number of **refugees** from the Middle East & North Africa to Europe will be in 2030...

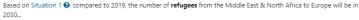


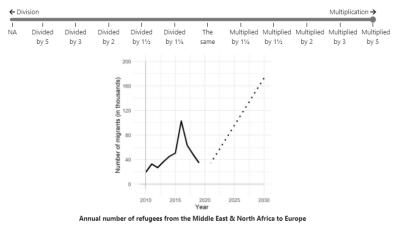
Annual number of refugees from the Middle East & North Africa to Europe [Previous] [Next]

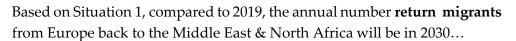


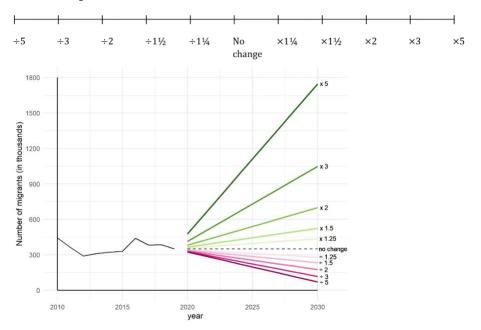
#### Which future for migration to Europe?

Southampton









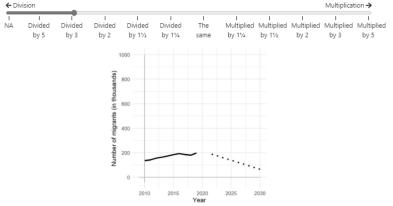
Annual number of return migrants from Europe back to the Middle East & North Africa [Previous] [Next]



#### Which future for migration to Europe?

Southampton

Based on Situation 1 ②, compared to 2019, the annual number return migrants from Europe back to the Middle East & North
Africa will be in 2030

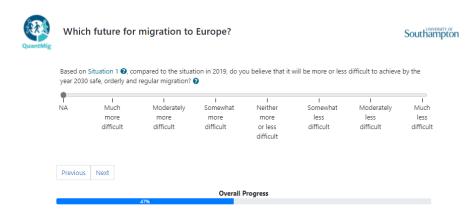


Annual number of return migrants from Europe back to the Middle Fast & North Africa

Based on Situation 1, compared to the situation in 2019, do you believe that it will be more or less difficult to achieve by the year 2030 safe, orderly and regular migration?

- NA
- Much more difficult
- Moderately more difficult
- Somewhat more difficult
- Neither more or less difficult
- Somewhat less difficult
- Moderately less difficult
- Much less difficult

[Previous] [Next]



[REPEAT PAGES 41–45 WITH EACH OF THE FOUR VIGNETTES ASSIGNED TO THE CURRENT SURVEY VERSION]

Quantining

[Enter Comment]		

[Previous] [Next]

Southampton

In this survey, we asked you to estimate the number of migrants and the conditions in which they will migrate supposing changes in the demographic, economic, cultural and political trends that might affect Europe and the Middle East & North Africa. However, there are other factors that might shape the future of migration between Europe and the Middle East & North Africa. Before concluding the survey, we would like to give you the opportunity to indicate whether you believe that there are factors that will have an impact on migration between Europe and the Middle East & North Africa that is equally large or larger than those referred to in this study, if so, please indicate which ones. If you wish, you may provide a justification for your answer. You

Which future for migration to Europe?

may further provide any comment that you may have on any other aspect of the survey.					
Enter Co	mment				
Previous	Next	End			
			Overall Progress		
			0.794		

# **Summary**

Your responses concerning family migration

Situation 1 [pop-up, situation 1]: (given estimate)

Situation 2 [pop-up, situation 2]: (given estimate)

Situation 3 [pop-up, situation 3]: (given estimate)

Situation 4 [pop-up, situation 4]: (given estimate)

(same summary for

- refugees migration
- safe, orderly and regular migration
- work migration
- return migration)

Please click on the corresponding situation if you wish to change your answers to the different questions. If not, please click "Conclude the survey" to conclude the survey.

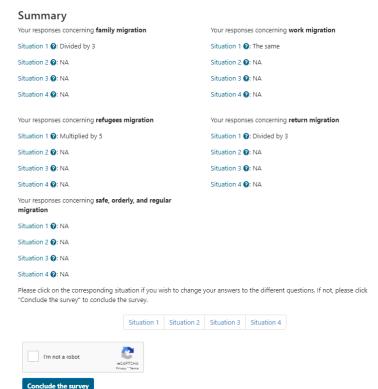
[Boxes: Situation 1 – Situation 2 – Situation 3 – Situation 4]

ReCaptcha: I'm not a robot

You have completed the survey. Thank you very much for your participation!



Southampton



# [Conclude the survey]

 $The \ future \ of \ migration \ between \ Europe \ and \ the \ Middle \ East \ \& \ North \ Africa \ under \ scenarios \ of \ social \ change$ 

## Geographical areas

The Middle East & North Africa includes countries of northern Africa (Algeria, Morocco, Libya, Egypt, Tunisia), the Arabian Peninsula (Kuwait, Saudi Arabia, Oman, Yemen, Bahrein, United Arab Emirates, Qatar), the Levant (Israel, the State of Palestine, Jordan, Lebanon, Syria), the Caucasus (Armenia, Azerbaijan, Georgia), Central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan), as well as Iran and Iraq.

Europe includes countries of the European Union, countries of the European Free Trade Agreement (Norway, Iceland, Lichtenstein, Switzerland), as well the United Kingdom.

[Map showing the geographical areas]

#### Geographical areas

×

The Middle East & North Africa includes countries of northern Africa (Algeria, Morocco, Libya, Egypt, Tunisia), the Arabian Peninsula (Kuwait, Saudi Arabia, Oman, Yemen, Bahrein, United Arab Emirates, Qatar), the Levant (Israel, the State of Palestine, Jordan, Lebanon, Syria), the Caucasus (Armenia, Azerbaijan, Georgia), Central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Taiikistan), as well as Iran and Irao.



Europe includes countries of the European Union, countries of the European Free Trade Agreement (Norway, Iceland, Lichtenstein, Switzerland), as well the United Kingdom.



Close

## Dimensions of social change

*Demographic change* concerns change in the structure by age of populations.

*Economic change* concerns change in unemployment rates between the Middle East & North Africa and Europe.

*Cultural change* concerns the secularization of societies and the emancipation of women and minorities in the Middle East & North Africa and attitudes toward migrants in Europe.

*Political change* concerns political stability in the Middle East & North Africa and the degree of restrictiveness of migration policies in Europe.

# Dimensions of social change

 $\times$ 

Demographic change concerns change in the structure by age of populations.

Economic change concerns change in unemployment rates between Europe and the Middle East & North Africa.

Cultural change concerns the secularization of societies in the Middle East & North Africa and attitudes toward migrants in Europe.

Political change concerns political stability in the Middle East & North Africa and the degree of restrictiveness of migration policies in Europe.

Close

# The Global Compact for migration

In 2018, 152 countries adopted the global compact for migration prepared under the auspices of the United Nations. This is a non-legally binding agreement that encourages countries to take actions to achieve safe, orderly, and regular migration between them. To guide these actions, a set of 23 objectives was agreed upon. These address the adverse drivers that compel people to emigrate from their place of origin, the risks and vulnerabilities that migrants face at different stages of the migration process, and the conditions that can be created to maximize the contribution of migrants to their host society.

# The Global Compact for migration

~

In 2018, 152 countries adopted the global compact for migration prepared under the auspices of the United Nations. This is a non-legally binding agreement that encourages countries to take actions to achieve safe, orderly, and regular migration between them. To guide these actions, a set of 23 objectives was agreed upon. These address the adverse drivers that compel people to emigrate from their place of origin, the risks and vulnerabilities that migrants face at different stages of the migration process, and the conditions that can be created to maximize the contribution of migrants to their host society.

Close

## Migrant types

Migrant types correspond to the reason for granting a residence permit by the host country.

- Family migrants are people who were granted a residence permit for family reasons
- Work migrants are people who were granted a residence permit for professional reasons
- Refugees are people who were granted the status of refugee
- Return migrants are Middle East & North Africa nationals who returned to their country of origin after having been granted a residence permit in a European country

# Migrant types Migrant types correspond to the reason for granting a residence permit by the host country. • Family migrants are people who were granted a residence permit for family reasons • Work migrants are people who were granted a residence permit for professional reasons • Refugees are people who were granted the status of refugee • Return migrants are Middle East & North Africa nationals who returned to their country of origin after having been granted a residence permit in a European country

## Data on past migrant numbers

Values appearing in the graphs come from the Eurostat database on residence permits. In total, data covers eighteen European countries and 21 Middle East and North African countries. Due to lack of data, information is missing for countries including Germany, Finland, and the Netherlands. Figures account for the majority of migrants from the Middle East and North Africa to Europe

# Data on past migrant numbers

Values for family migrants, work migrants, and refugees come from the Eurostat database on residence permits. Due to lack of availability for the whole period, data comes from 15 European countries. The absolute numbers of migrants are thus biased downward but trends are supposed to be representative. Values for return migrants come from estimates obtained within the QuantMig project fitted to Eurostat data.

Close

×