wiiw

MAY 2021

Working Paper 199

Potential Mobility from Africa, Middle East and EU Neighbouring Countries to Europe

Isilda Mara, Michael Landesmann and Richard Grieveson

The Vienna Institute for International Economic Studies
Wiener Institut für Internationale Wirtschaftsvergleiche

Potential Mobility from Africa, Middle East and EU Neighbouring Countries to Europe

ISILDA MARA
MICHAEL LANDESMANN
RICHARD GRIEVESON

Isilda Mara is Economist at The Vienna Institute for International Economic Studies (wiiw). Michael Landesmann is Senior Research Associate at wiiw and Professor of Economics at the Johannes Kepler University, Linz. Richard Grieveson is Deputy Director at wiiw and Research Associate at the Diplomatic Academy of Vienna.

Research for this paper was financed by the Anniversary Fund of the Oesterreichische Nationalbank (Project No.18047). Support provided by Oesterreichische Nationalbank for this research is gratefully acknowledged.

Abstract

Migration from Africa and the Middle East to the EU has intensified over the last two decades. Relative differences between developed EU and less developed African and Middle East countries have not declined that much and continue to drive mobility. Also, demographic trends show a strong contrast between the population of the EU (ageing and shrinking rapidly) and that of Africa and the Middle East (young and continuously increasing). Apart from demographic pressures and development gaps, other forces related to conflicts and wars, as well as climate risks, have become important drivers of mobility and are not expected to fade away soon. Anticipating migration flows in order to ensure better management and regulated mobility has become essential, although this is an exercise subject to high uncertainty. With these caveats in mind, this study seeks to calculate long-term potential mobility from Africa, the Middle East and Eastern EU neighbouring countries to EU28 and EFTA by applying a migration gravity model following a scenario-based approach. Projections for 2020-2029 suggest that migration flows to the EU from Africa, in particular, will dominate the South-North mobility corridor. Migration policies will also play a role in shaping future migration trends, as migration flows are subject to EU destination countries' applying restrictive migration policies.

Keywords: International Migration, forecasting, scenario, gravity model, EU, Africa

JEL classification: F22, J11, J61, O15

CONTENTS

TABLES AND FIGURES

Annex

1. Introduction and background information

In 2015/16 the unprecedented inflow of refugees from the Middle East to the EU brought the issue of extra-EU migration high on to the EU agenda once again. The large influx of irregular migrants from North Africa and Middle East was curbed, owing to the agreement reached with Turkey and countries in North Africa. This was a clear example that mobility of people is better governed in co-ordination with other countries; however, it was also a clear signal that EU migration policy has to be revisited, with greater efforts needed to make it beneficial from the perspectives of both sending and receiving countries. Consequently, in September 2020 the EU introduced its new Pact on Migration and Asylum,[1] which aims to foster mobility by programming it in more effective ways, by strengthening partnership agreements between countries and by establishing sustainable labour migration pathways. Although the literature suggests that burden sharing and bilateral agreements tend to be beneficial both for sending and receiving countries (Collett and Ahad, 2017; Tardis, 2018; Zanker, 2019; Adam et al., 2020), often on-paper agreements contrast with restrictive and unregulated mobility in practice.

The issue of mobility from AME[2] to the EU can be seen as both supply- and demand-driven. The EU countries are expected to undergo a steep working-age population decline and will increasingly depend on workers from abroad – including AME countries – to sustain their labour force in all sectors of the economy, (Bommes et al., 2014; European Commission, 2018a). Meanwhile, relative differences between developed EU countries and less developed AME countries will persist over time and will further drive mobility. Consequently, there is a great need to better understand potential mobility from AME to the EU, identify its main drivers and how sizeable the mobility from this group of countries to the EU might be under the current circumstances and under different developing patterns regarding the political and economic context, but also in view of ongoing climate change.

Assessing migration potential and projecting future trends of migration is a complex task. The difficulty in projecting potential migration arises from the assumptions and uncertainties around this (IOM, 2016; Acostamadiedo et al., 2020; Sohst et al., 2020). The uncertainties stem from the determinants of mobility and how they will evolve over time – for example, how income, labour market conditions, environmental conditions and conflicts will develop domestically and internationally. There are particular difficulties with predictions relating to certain origin countries, such as those with high levels of instability and ongoing political conflicts.

With these caveats in mind, in this study we make an attempt to evaluate the medium- to long-term potential mobility (2020-2029) of AME migrants to the EU. We estimate the mobility of AME sending countries towards EU28 and EFTA destination countries between 2001 and 2019 by applying a migration gravity model and construct our projections on mobility using the coefficient estimates attained from this model. We start with a baseline scenario that assumes the status quo regarding the macroeconomic determinants (e.g. earnings and employment opportunities in the origin country and the

[1] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1706

[2] Africa, Middle East, Eastern EU neighbouring countries (EAP): we refer to this as the 'AME' group of countries. Further details about the countries are provided in Table C1, Annex C.

different destination countries), institutional arrangements, political and climate risk determinants. Other scenarios consist of different qualitative and quantitative assumptions concerning the main economic, political and climate-related determinants, building on different institutional arrangements and hypothetical assumptions as to how factors that determine mobility might evolve over time, especially during the period 2020-2029.

The main variables used in this model include macroeconomic determinants; earnings of sending and potential destination country (proxied by income per capita); employment opportunities in the country of origin relative to labour market conditions of other countries proxied by employment rates; population size of the origin and destination country as proxies of potential migration (in terms of mobility for the sending country and in terms of hosting capacity for the destination country); and also the share of the population aged 0-24 as a proxy of the pressure exercised by the population structure on mobility. Furthermore, the stock of migrants of a particular sending country in a destination country is included as a proxy of transnational network effects on mobility. Such a variable is considered a proxy that captures the pulling effect that such networks exercise in mobilising migrants towards a particular destination country. Over the last two decades, other determinants have gained importance as drivers of mobility. Political instability and climate risks seemed to have a role in mobility from AME to the EU (Wodon et al., 2014) and we have widened the range of determinants by including also these factors of mobility in our projections. The model accounts for different institutional arrangements: firstly as concerns restricted mobility and changes over time applied to AME by the EU countries between 2001 and 2019; and secondly in relation to facilitated mobility applied by the EU to AME migrants over the same period.

The projections between 2020 and 2029 suggests that migration flows from AME to the EU28 and EFTA countries is expected to be between 3.4 million and 4.7 million under different mobility scenarios. The mobility from AME to the EU will be dominated by mobility from Africa, which is projected to range between 2.4 million and 2.7 million. The scenario that assumes a less restrictive mobility from AME to the EU is expected to generate a higher inflow. In contrast, further institutional arrangements (i.e. strengthening measures that have already been in place in various economies) that restrict mobility would generate the scenario with the lowest influx of migrants from AME to the EU. This highlights the importance of migration policies in reshaping mobility patterns.

The rest of the study is organised as follows: the second section briefly presents some of the main features of future migration projections. Section three builds on the drivers of mobility and the fourth section discusses the development of migration scenarios. Section five presents the projections of future mobility obtained by applying different migration scenarios and the final section presents the main findings and conclusions.

2. The challenging task of forecasting future mobility

The upsurge of migration flows in 2015/16 from the Middle East and North Africa to the EU sent a strong signal to the EU that further co-ordinated efforts have to be devoted to anticipating migration flows in order to ensure a better managed and regulated mobility. A number of studies have emerged that emphasise the importance of predicting migration flows, as well as the kinds of new tools required for anticipating long-term mobility trends and what forecasting models and scenarios should be implemented to quantify future migration flows to the EU.

The task of quantifying future migration flows is very complex, especially if migration flows involve both regular and irregular mobility – such as in the case of migratory movements from AME to the EU. The high uncertainty concerning future trends of determinants of mobility conditions the predictability power of the forecast models. The predictability of the model is also strongly dependent on the time horizon used for anticipating mobility. It is also argued that forecast models should be better oriented and targeted for a special corridor of mobility, and be limited to a timeframe of between 10 and 15 years. Accordingly, Bijak and Bryant (2016), Haas et al. (2010) and Bijak et al. (2019) emphasise that no single forecast model is suitable to predict future migration flows. Indeed, they suggest using scenario-based models especially for forecasting longer-horizon future migration flows.

Sohst et al. (2020) provides a comprehensive overview of methodologies, forecast and scenario models used for analysing structural changes and generation/estimation of alternate migratory movements expected in the future. Haas et al. (2010), Sohst et al. (2020) and Sardoschau (2020) stress that forecast models that try to quantify future migration flows strongly depend on the assumptions made concerning determinants of migration flows. Scenarios are also built on qualitative assessments about how drivers of mobility might change and how this will shape future migration flows. In particular, they stress the importance of migration scenarios that take into account structural changes that are difficult to quantify (such as climate change); Haas et al. (2010). Sohst et al. (2020) and also the European Commission (2018a) argue that forecast models and scenarios differ from each other with regard to their focus. The latter focus on structural changes at the macro level, whereas the focus of the former is on quantifying the impact at micro and meso levels – e.g. as to how wage differentials, but also the sharing of common features (such as language proximity between sending and receiving countries), drive mobility. They suggest that future migration flows have to be analysed from a micro perspective, taking into account also the macro context. Accordingly, a number of forecasting models have been constructed combining quantitative and qualitative assumptions on drivers of mobility and building different scenarios depending on the level of uncertainty surrounding different determinants (Disney et al., 2015; Hanson and McIntosh, 2016).

Szczepanikova and Criekinge (2018) further elaborated a toolkit – with a more qualitative focus –that uses a scenario-based approach for building the discussion on future migration into the EU. Their toolkit on mobility scenarios was developed following the assessments of more than 80 researchers, representatives of think-tanks and also European Commission experts on migration. They came up with specific

suggestions concerning major drivers to be considered when building scenarios on future migration flows. They consider a number of determinants and the relative certainty of such determinants. Their argument is that the impact on mobility of different determinants – such as social, economic, demographic, but also environmental – can be considered as relatively certain or uncertain and so different scenarios should be taken into account depending on the levels of certainties. Relative certainties consist of variables that have a good predictability and can be projected over time with a reasonable level of accuracy. A good example of such variables is demographic trends, given that their development over time is already set and supported by the data. In contrast, relatively uncertain variables (e.g. political and economic crises) are subject to continuous change and more difficult to predict, but may have a strong impact on mobility. Furthermore, the impact of such variables on mobility can be both direct and indirect. The study also provides a list of certainties and uncertainties to be considered in the context of the EU for building different migration scenarios, Szczepanikova and Criekinge (2018). We rely on such a list for building our scenarios and gravity model estimates for quantifying future migration flows.

3. Mobility patterns from Africa, EAP and ME to EU and drivers of mobility

Immigration from AME to EU28 and EFTA countries has increased substantially, exceeding 23 million by 2019 (migrants being defined by country of birth); see Figures A1-A2 in Annex A. The increase in the migrant stock has been especially strong in relation to migrants originating from Africa. However, the last decade has seen migration from the Middle East dominating migration flows to the EU, explained by the political crises and military conflicts that have characterised the group of ME countries. Political crisis generates further turmoil such as economic crisis and contributes negatively to the level of development, further increasing the gap in economic conditions. Relative differences between developed and underdeveloped countries persist over time, driving further outward mobility. Also, demographic trends in the EU are in strong contrast with those in Africa and ME. The population in the EU is destined to age and shrink, in contrast with the population in Africa and ME, which is young and continuously increasing. Demographic projections indicate that by 2050 the population of Africa is expected to be four times larger than the population of the EU (Lutz et al., 2019). The drivers of mobility related to conflicts and wars, as well as climate risks – although subject to uncertainty about how they will develop in the future – are important determinants and very probably will continue to have an impact on mobility from AME to the EU (Beine and Parsons, 2017).

Accordingly, building on Sohst et al. (2020) and Szczepanikova and Criekinge (2018), we forecast future migration flows relying on quantitative assumptions of different mobility drivers following a scenario-based approach in combination with migration gravity model estimates. The migration corridors consist of migration flows between Africa, ME and EAP as sending countries, and the EU and EFTA as destination countries at pair-country level. The time horizon is 2020-2030 and drivers of mobility consist of:

Economic-related determinants

› Income levels and employment conditions in the destination and sending country are considered important pull and push factors of mobility.

Demographic-related indicators

› Population size as indicators of migration potential (sending country perspective) and absorption capacity (destination country perspective) and the share of young age cohorts (0-24) to test for the specific propensity of the young to migrate, on the one hand, and being specifically attractive for the country of destination, on the other hand, given the age profile of its population.

Gravity indicators

› Colonial relationships, geographical distance, and also sharing a common official language are important determinants of mobility.

Institutional-related indicators

› Degree of freedom indicators in the country of origin and the country of destination which might have a direct and an indirect effect on mobility, although how these may change over time must be considered relatively uncertain.

Climate-related indicator

› Also this indicator might be considered relatively uncertain, but the impact exercised on migration flows might be both direct and indirect.

Migration policy-related indicators

› Migration policy changes are considered an important instruments for shaping mobility patterns, but their effect on mobility flows can be diverse.

We investigate the drivers of mobility for AME to EU28 and EFTA for 2000-2020, augmenting the gravity model with a number of determinants which in the literature emerge as relevant for explaining mobility. We follow a similar approach to Landesmann et al. (2013) and Mara and Vidovic (2015).[3]

The equation of mobility is specified in the following form:

$$Ln(M)_{ift} = \beta_1 * \ln(M)_{ift-1} + \beta_2^{'} * \ln(EI)_{ift} + \beta_3^{'} * \ln(DI)_{ift} + +\beta_4^{'} * \ln(GI)_{ift} +$$

$$\beta_5^{'} * \ln(SFI)_{ift} + \beta_6^{'} * \ln(CI)_{ift} + \beta_7^{'} * \mathrm{MP}_{ft} + + \varepsilon_{fit}$$

where

› M_{ift} denotes the stock of migrants from sending country (i) residing in destination country (f) at time (t).

› M_{ift-1} is the lagged stock of migrants from a particular sending country in a destination country, used as a proxy for transnational networks.

› *EI* refers to economic development indicators such as income per capita levels in sending country (i) relative to income per capita levels in destination country (f). The squared level of income per capita in sending country (i) is also included to test the hypothesis of an inverted U-shape relationship between migration and level of development proxied by income per capita. Another indicator used as a proxy for the level of development is the employment opportunities at home relative to the destination country, which is captured through the employment rate.

› DI stands for the population size and population structure indicators. They are respectively represented by population size of origin and sending country – which are used as a proxy for absorption capacities and size of potential labour forces of the economies. Because of pronounced asymmetries in population age structure between the sending countries – especially as concerns Africa and ME – and the EU, we include among the determinants of mobility the share of population aged 0-24 of origin and destination countries.

[3] Further information about the gravity approach which we propose here can be found in our previous works: https://wiiw.ac.at/free-movement-of-workers-transitional-arrangements-and-potential-mobility-from-croatia-p-3630.html;https://wiiw.ac.at/auswirkungen-der-arbeitsmarktoeffnung-am-1-jaenner-2014-auf-den-wirtschafts-und-arbeitsstandort-sterreich-p-3032.html

› *GI* stands for gravity model determinants, which are country-specific and most of which are constant over time, and are represented by:

  - Geographical distance between the sending and the host country.
  - Colonial ties between sending and receiving countries presented by a dummy variable taking value one if such relationship exists and zero otherwise.
  - Sharing the same official language.
  - Sharing a common ethnic language when at least 9% of the populations of sending and host countries share the same language.
  - Religious affinity between the sending and destination country, which is another indicator that we have included in the deterministic part of the equation.

› Indicators that capture the quality of institutions, governance and democracy level, and also civil conflicts or wars are proxied by using two indicators: 'state fragility index' and the POLITY indicator[4] (an indicator that represents the degree of freedom in the country).

› Environmental and climate change indicators (CI). The impact of climate risks on mobility – e.g. climate change and rising concerns about water safety, food or nutrition security owing to rising temperatures, droughts, and also frequent floods in Africa and ME – are captured through the climate vulnerability index in the countries of origin and destination.

› *MP* stands for migration policies being introduced by receiving countries to affect entry and stay in the destination country. The policies taken into account are the ones that have contributed to restrict or facilitate entry and stay into the country of destination. The first group of policies are represented by a dummy variable taking the value one if the destination country (f) has made changes in migration policies at time (t) that are considered to have restricted the entry/stay of migrants and zero otherwise. The second group of policies are represented by a dummy variable taking the value one if the destination country (f) has made changes in migration policies at time (t) that are considered to have facilitated the entry/stay of migrants and zero otherwise.[5]

[4] http://www.systemicpeace.org/polity/polity4.htm

[5] The information about such policies has been obtained from the Oxford POLMIG database for 2000-2012 and the newly constructed wiiw POLMIG database for 2013-2020 – a database we have constructed following a similar approach and structure as the one used for the Oxford POLMIG database. Further details about data sources are provided in Annex C.

4. Methodology: forecast and scenario-based approach assessment of potential mobility

The estimation results obtained from the migration gravity model are presented in Table B1. Column 1, Table B1, Annex B, presents the results that include all the sending countries – AME group of countries – with EU28 and EFTA as countries of destination. Column 2 presents the results for EU15 as countries of destination and African countries as the main sending countries. The estimation results suggest that the income gap between sending and receiving countries is an important pull factor. However, we find here different patterns for the AME-to-EU28+EFTA and the Africa-EU15 migration flows. In the former case, we find that an increasing level of income in the country of origin reduces outward migration, albeit with a declining pattern (quadratic term). In the Africa-EU15 relationship, however, increasing income per capita leads to a rising outflow of migrants (which the literature suggests is often the case for poor regions as it requires a higher level of income to afford the costs of migration, especially to a more distant region such as the EU15). In the Africa-EU15 case, the quadratic term is negative (although insignificant) which supports the 'inverse U-shaped' hypothesis that starting from low levels of income, migration flows rise with rising incomes but, from a certain point onwards, migration starts to decline. Other determinants, such as migration policies, suggest that changes over time towards more restrictive entry and stay in the destination country will reduce inward mobility. Estimation results attained with respect to other determinants that capture political stability or degree of freedom and state fragility suggest that these seem to matter. Other determinants linked to environmental context seem to be significant, but the results show these to be less robust as concerns Africa. Demographic-related determinants also emerge as important drivers of mobility: a small share of the young age cohorts in the countries of destination acts as an important pull factor for migrants from AME and even more so from Africa, which supports the hypothesis that the 'older' the age profile of a European destination country, the more it exerts a 'pull' for migration from countries of origin. This confirms the importance of complementarity of the demographic structures for migration flows, particularly between Africa and Europe.

Overall, the estimation results suggest that drivers of mobility from AME to the EU are likely to persist over time, as long as the gap in terms of income, quality of institutions, state fragility – and also climate-related and conflict risks – remain high. Demographically, the ageing of EU societies can be associated with higher mobility from countries with abundant young age cohorts. The mobility of younger age cohorts in AME is strongly related to the level of income.

The next step is to use our quantitative assessment of migration flows and build forward-looking scenarios of mobility from AME to the EU. Following Sohst et al. (2020) and Szczepanikova and Criekinge (2018), we have come up with a baseline scenario and three other scenarios underpinned by the following assumptions.

Baseline scenario main assumptions

› The future trends of income levels follow WEO-IMF assumptions. In more detail, our future mobility projections rely on WEO-IMF projections about growth in the level of income per capita in percentage points: pps) for 2020-2025 and a five-year moving average for the projections covering 2025-2030.

› The WEO-IMF projections for the employment/unemployment rate in 2020-2025 have been used for our mobility projections for 2020-2025 and a five-year moving average assumption on income until 2030.

› The WEO-IMF projections for population dynamics for 2020-2025 have been used for our projections for 2020-2025 and a five-year moving average of population dynamics has been assumed for 2025-2030.

› POLITY, state fragility index and climate hazards have been assumed to have the same trend observed in 2010-2020 applied for 2020-2030.

› Gravity indicators: distance, colonial relationships, language affinity and religion affinity have been taken as constant over time, given their characteristics.

1) Economic and institutional improvements scenario

Differently from the baseline scenario, here the main assumptions consist of:

› A higher level of income in the countries of origin. The level of income per capita in pps is expected to increase by 3% over 2020-2030. So in addition to the current trend, we have been assuming a further speeding up of GDP per capita growth in pps, justified by an inclusive growth scenario as in Szczepanikova and Criekinge (2018). This scenario assumes better governance leading to a more equal distribution of wealth and income, better access to health and education and consequently better growth prospects.

› Other indicators are assumed *ceteris paribus* as in the baseline scenario.

2) Higher political and environmental risks and higher state fragility in countries of origin scenario

Differently from the baseline scenario, we assume that over 2020-2030:

› The level of freedom in the country of origin deteriorates further, while state fragility and climate hazards rise further. Other indicators are preserved as in the baseline scenario. This scenario tries to build on Scenario 4, ‘Shocks, inequality and control’, in Szczepanikova and Criekinge (2018). Under this scenario, regional and national crises in the political and economic spheres will further undermine the level of freedom in these countries. Also state fragility or state capacity to deal with economic or political crisis deteriorates further. The political unrest might lead to further outward mobility.

› Climate change and environmental or natural disasters are expected to increase and lead to internal displacement, but also to the intensification of migration flows towards the EU.

3) Migration policy changes[6]

To disentangle the effect of different determinants on mobility – especially the impact of migration policies – we have considered the following scenarios:

a) Differently from the baseline scenario, we assume that:

- All the countries have changed their migration policies to become more restrictive.
- Other indicators are preserved as in the baseline scenario.

Migration to the EU might be more difficult as receiving countries place tighter restrictions on moving and staying in a destination country and accordingly migration flows towards the EU might be reduced.

b) Differently from the baseline scenario, we assume that:

- All the countries have changed their migration policies to be less restrictive.
- Other indicators are preserved as in the baseline scenario.

Here, a more effective migration governance or facilitation of mobility, e.g. through partnership agreements which also regulate the entry and stay of migrants in the destination country, might contribute to a higher flow of migrants.[7]

[6] Migration policies taken into account in this context are those relating to 'legal entry and stay', which might be especially relevant for permanent and long-term migration.

[7] Further details about data sources are provided in Annex C.

5. Forecasting results: projected mobility for 2020-2029

Within these scenario settings, we calculate long-term potential mobility from AME to the EU28 and EFTA as well as mobility from Africa to EU15 respectively using the migration gravity model estimation results in Table B1 (Annex B) following the scenarios constructed above. As already discussed, the predictability power of the model (Figure B1, Annex B) is limited for a number of reasons, such as the length of the data series, data stationarity, and the complexity of mobility drivers regarding the different mobility corridors. We have organised the forecasting results into two parts: the first part presents the forecast results about future migration from AME to the EU: how the projections attained for the baseline scenario compare with other hypothetical scenarios that assume a faster catching-up process in AME and better economic prospects; as well as with scenarios that assume negative shocks or a deterioration of the social and political environment or higher climate risks; and scenarios that assume more favourable migration governance, leading to higher mobility. The second part presents the projections of migratory movements for the corridor of mobility Africa- EU15, given its current but especially future importance in the South-North mobility corridor.

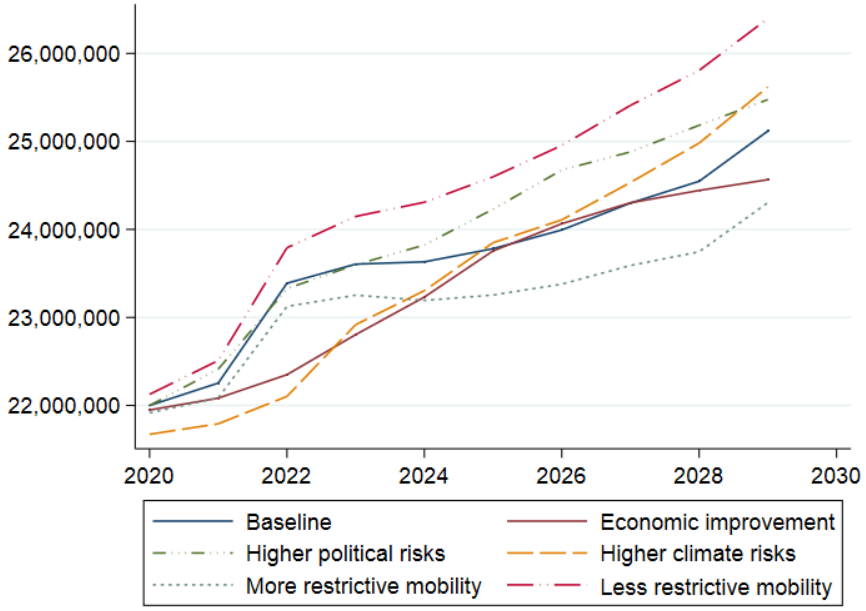
a) AME-EU28 and EFTA projected mobility for 2020-2029

Under the baseline scenario, in 2029 the projected stock of AME migrants in EU28 and EFTA countries is expected to exceed 25 million, implying a net increase in the stock of migrants by 3.4 million over this decade (see Figures 1-3). Under the first scenario, a faster catching up in GDP per capita and better economic prospects would generate a lower migratory movement from AME to the EU, which is projected close to 2.8 million – at a level 16% lower than under the baseline scenario (see Figures 2-3). A better economic outlook is expected to generate a lower level of outward mobility, suggesting that better life prospects in AME would discourage outward mobility at least by 500,000 in comparison with the baseline scenario. In contrast, the second scenario – which assumes further deterioration of the political and social context, as well as higher exposure to environmental and climate risks – would push up outward mobility, which might expand respectively up to 3.8 million or 3.9 million, an outward mobility that might be 11% to 15% higher than under the baseline scenario.

Under the third scenario – which assumes changes in migration policies that facilitate entry and stay in the destination country – we expect future migration flows from AME to the EU to be higher, approaching 4.7 million (similar to the migration flows in the last decade) or a net flow of migrants which is 38% higher than under the baseline scenario. Under such a scenario, an additional effect on migratory flows might result in an expansion by up to 1.2 million, implying that migration policies that facilitate entry and stay in the destination country might spur further inward mobility from AME to the EU. This finding is highly relevant in that, for destination countries faced with the challenge of population shrinking and ageing – but also declining working-age population and labour shortages – less restrictive migration policies that facilitate regular migratory movements might be part of the solution to tackle demographic imbalances and their negative consequences. In contrast, a governance of migratory movements dominated by more restrictive migration regimes is very likely to deter migration. However, lowering the

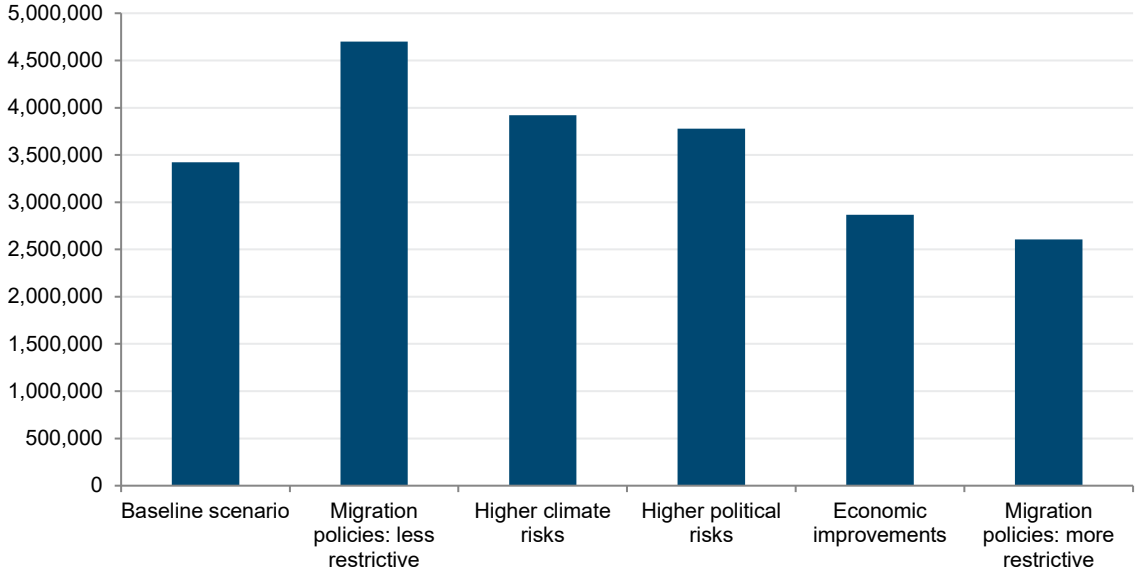
chances of a good regulatory framework of migratory movements might have other undesirable effects – such as more irregular mobility, as seen over the last decade in the South-North migration corridor.

Figure 1 / Projected stock of migrants from Africa, EAP and ME to EU28 and EFTA, 2020-2029



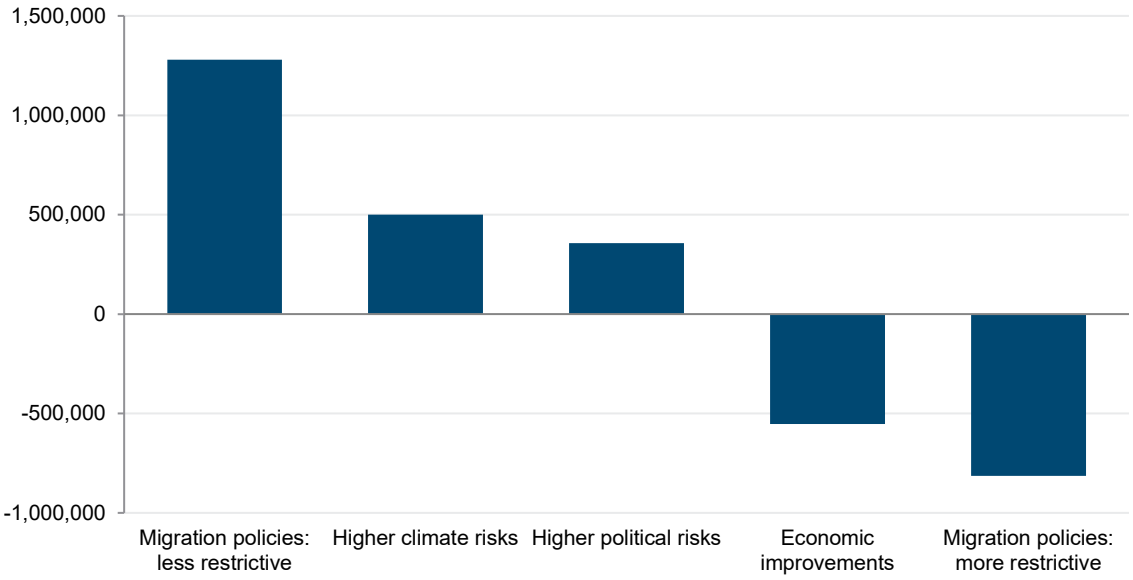
Source: own calculations.

Figure 2 / Projected net mobility from Africa, EAP and ME to EU28 and EFTA, 2020-2029



Source: own calculations.

Figure 3 / Projected net mobility from Africa, EAP and ME to EU28 and EFTA, deviation from the baseline scenario, 2020-2029

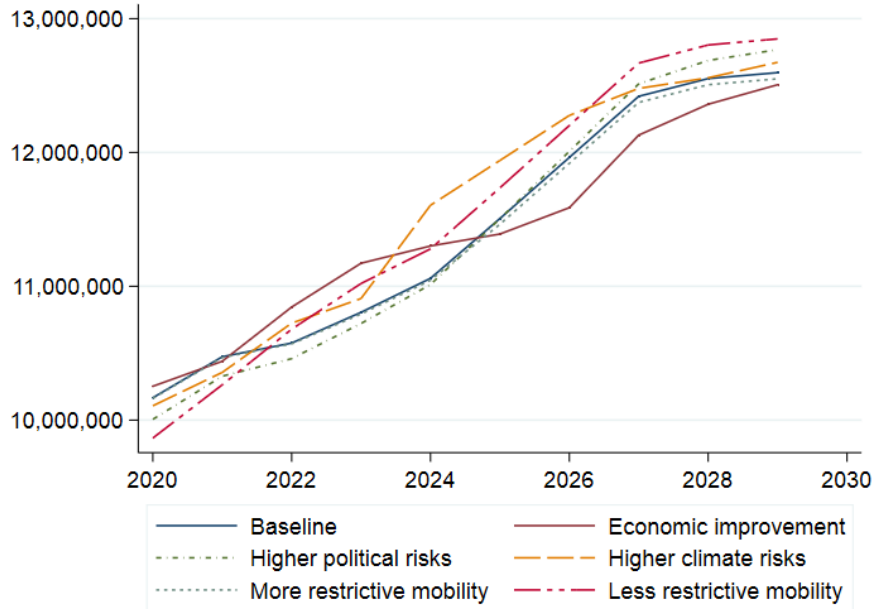


Source: own calculations.

b) Africa-EU15 projected mobility for 2020-2029

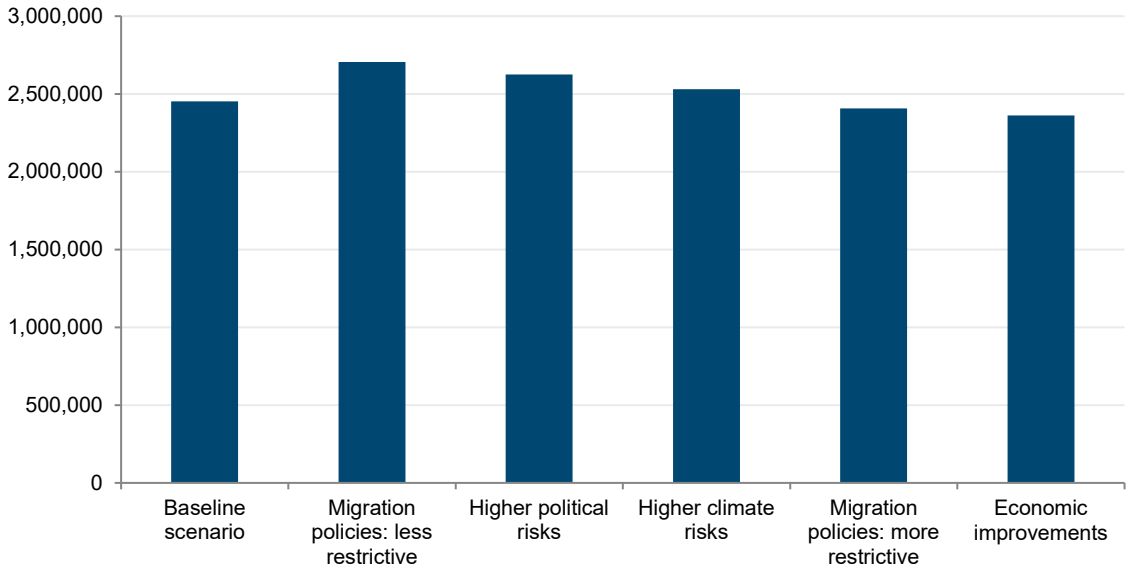
Future migration flows on the Africa-EU15 corridor are expected to surge by up to 2.5 million by 2029. The stock of migrants from Africa in the EU15 will be close to 12.5 million in 2029 (see Figures 4-6). The comparison of projected net migration flows under the first scenario with those in the baseline scenario suggests that economic improvements would initially be associated with a higher outward mobility (as discussed earlier), but from 2025 onwards net migration flows are expected to be lower than under the baseline scenario. Overall, under the second scenario, net migration flows from Africa to EU15 are expected to be lower, by almost 4%. Alternatively, under a scenario that foresees negative shocks related to the political context – such as weakening of the governance or state capacity to deal with different social, economic or political pressures – the projected flow of migrants is expected to be close to 2.6 million or 6% higher than under the baseline scenario. Higher exposure to climate risks will also generate pressure on future migration flows from Africa to EU15, pushing them above 2.5 million, or 3% higher than under the baseline scenario. Under the third scenario, which assumes more liberal migration regimes and less restrictive immigration rules, migration flows from Africa to the EU15 might reach 2.7 million by 2029, a 10% net increase from the baseline scenario. Under the third scenario – which assumes that EU15 countries opt for restricting further entry and stay in the destination country – net migration of African migrants to EU15 would be 2.4 million, and hence lower than under the baseline scenario. Thus, restricting access to and stay in EU15 countries would generate a lower influx of migrants from Africa.

Figure 4 / Projected stock of migrants from Africa to EU15, 2020-2029



Source: own calculations.

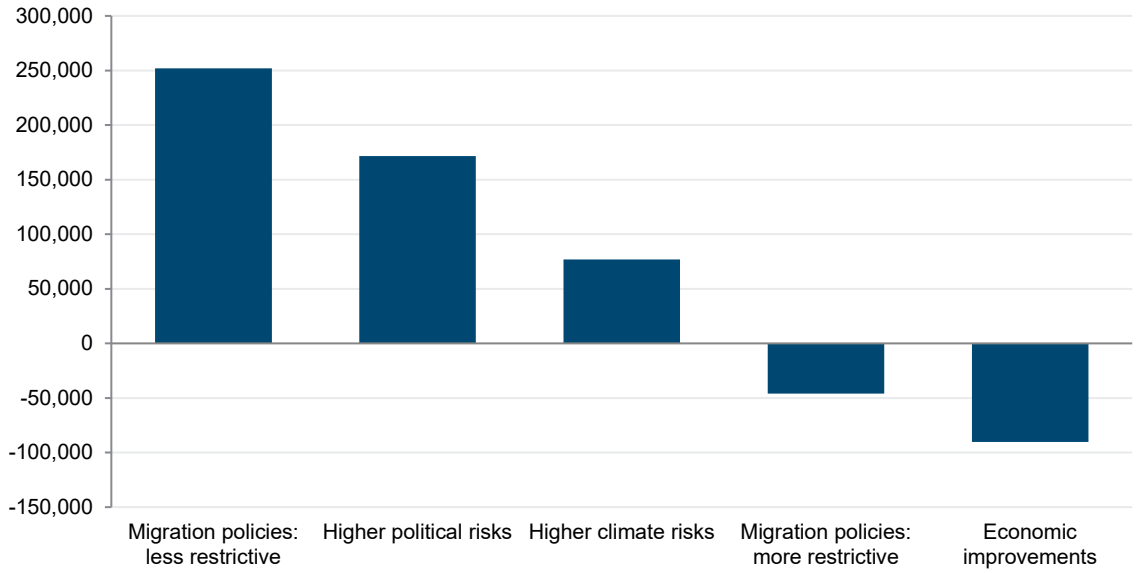
Figure 5 / Projected net mobility from Africa to EU15, 2020-2029



Source: own calculations.

Overall, the stock of African migrants is likely to increase from 10 million in 2019 to slightly above 12.5 million in 2029. If the EU15 were to apply a less restrictive migration regime for migrants originating from Africa, their total stock in the EU might increase further to 12.8 million by 2029. More restrictive migration regimes would only marginally deter migration flows from Africa to the EU15. Such results suggest that EU15 countries will continue to attract more migrants from Africa despite the imposition of mobility restrictions; their effect on future migration flows is therefore likely to be only moderate.

Figure 6 / Projected net mobility from Africa to EU15: deviation from the baseline scenario, 2020-2029



Source: own calculations.

6. Main findings and conclusions

Over the last two decades, the EU countries have been dealing with a rising inflow of migrants from Africa and the Middle East, and also other EU neighbouring countries. The last decade saw an increase in the stock of AME migrants in the EU of close to 5 million – slightly higher than between 2000 and 2010. Over the current decade, the expectations are that the inflow will hover around this level. The push and pull factors that drive the South-North mobility corridor are manifold. The income gap and the high level of poverty in Africa and ME continue to drive outward mobility, although for African countries a lot of migration occurs within the African continent. Demographic trends also suggest a young society and a growing population in Africa and ME, which contrasts with a stagnant and ageing population in the EU. Furthermore, in recent years, the young and dynamic population in Africa and ME has been pushed to move to seek a better future elsewhere not only by continuing internal conflicts and wars, but also by rising climate risks.

Forecasting and anticipating future mobility has gained momentum. Migration governance is demanding new tools that can assist policy makers to anticipate, better understand and effectively manage migration flows with the potential that mobility can be a win-win-win situation – for the destination and sending countries as well as for migrants.

The goal of this study was to make a modest contribution in this direction by forecasting long-term potential mobility from Africa, Middle East and EU neighbouring countries to the EU28 and EFTA. We combined a gravity model for migration with different scenarios that help to understand different directions that mobility might take, depending on the assumptions about the push and pull factors of mobility.

The advantage of using migration gravity modelling stems from the fact that it is flexible enough to accommodate a number of determinants that might be considered as important for mobility – both those that have theoretical underpinning, but also others that have been empirically tested as being relevant mobility drivers. Through gravity models for migration, we establish how push and pull factors are affecting mobility. The attained estimated parameters are then used for forecasting future migration flows and in implementing the different scenarios.

Certainly, there are limitations with this approach, which arbitrarily assumes that the same empirical relationships will persist in the future and that future migration flows will be determined in the same way as over the past. Also, gravity modelling might test the relevance and magnitude of migration drivers, but it does not establish any strict causality between different determinants of mobility. We try to address such limitations by applying migration gravity model estimates to different hypothetical scenarios (thereby trying out different combinations and bandwidths of changes in the determining factors).

We provide migration forecasts for five different scenarios, building on quantitative and qualitative assumptions about future trends of migration determinants. Based on such assumptions, we calculate future migration flows under a baseline scenario and four other hypothetical scenarios, which assume: a faster catching-up process in AME and better economic prospects (Scenario 1); negative shocks or

deterioration of the social and political environment or higher climate risks (Scenarios 2a and 2b); and more favourable migration governance towards higher mobility, as well as the opposite (Scenarios 3a and 3b).

Projections for 2020-2029 suggest that migration from AME to the EU will continue, but at a slower pace than in the previous decade. Nevertheless, a slightly increased pace of mobility in the South-North corridor is likely if the destination countries apply less restrictive migration policies, especially in relation to entry and stay in the destination country. The opposite effect would be produced if more rigid rules are applied by the destination country. Also, a narrowing of the income gap and better employment opportunities at home would decelerate migration flows in the South-North corridor.

In the specific case of mobility from Africa to the EU, long-term projections for 2020-2029 suggest a further acceleration of mobility compared with 2010-2019. Under the economic improvements scenario, a lower outflow of migrants will be generated than under the baseline scenario. However, an inverse U-shaped pattern of migration flows will characterise such a scenario, with mobility being initially higher than under the baseline scenario over the period 2020-2025, and then below the baseline scenario for 2025-2029. The results for other scenarios suggest that the pressure of political risks on mobility will be higher than that exercised by climate risks. In contrast, in the case of the overall AME-EU migration corridor migration flows will be more affected by climate risks than political risks. These findings show that climate risks will become an important driver of mobility from the AME group of countries. In the case of Africa, it seems that political conflicts and fragile states could be the more important push factor of outward mobility. The implementation of more restrictive migration policies by EU countries – especially as regards entry and stay in the destination – will only marginally affect mobility from Africa to the EU, but seems to play a greater role in the case of AME countries as a whole. Meanwhile, in a context of less rigid rules applied by the destination country regarding entry and stay, we expect a positive and sizeable impact in both the Africa-EU15 and the AME-EU migration corridors.

Overall, we do not expect our forecast results to precisely and accurately predict future mobility, given the high uncertainty that prevails for a number of determinants, especially climate change and political risks and conflicts. What we can claim is that the forecast results attained via the scenario-based approach might provide a good proxy about what such trends might look like over the 2020-2029 period.

The combination of quantitative assessments and hypothetical scenarios helps to answer, albeit only partly, questions at to ‘what if?’. As such, they could be a very useful tool for policy makers who have to grasp how a multiplicity of factors determine mobility patterns and who have to design and implement migration (and a bunch of other) policies that would make such mobility flows beneficial for all actors involved.

References

Acostamadiedo, E., R.R. Sohst, J. Tjaden, G. Groenewold and H. de Valk (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.

Adam, I., F. Trauner, L. Jegen and C. Roos (2020), 'West African interests in (EU) migration policy. Balancing domestic priorities with external incentives', *Journal of Ethnic and Migration Studies*, Vol. 46(15), pp. 3101-3118, https://doi.org/10.1080/1369183X.2020.1750354

Beine, M. and C.R. Parsons (2017), 'Climatic Factors as Determinants of International Migration: Redux', *CESifo Economic Studies*, Vol. 63(4), pp. 386-402.

Bijak, J., G. Disney, A.M. Findlay, J.J. Forster, P.W.F. Smith and A. Wiśniowski (2019), 'Assessing time series models for forecasting international migration: Lessons from the United Kingdom', *Journal of Forecasting*, Vol. 38(5), pp. 470-497.

Bijak, J. and J. Bryant (2016), 'Bayesian demography 250 years after Bayes', *Population Studies*, Vol. 70(1), pp. 1-19, https://doi.org/10.1080/00324728.2015.1122826

Bommes, M., H. Fassmann and W. Sievers (eds.) (2014), *Migration from the Middle East and North Africa to Europe: Past Developments, Current Status, and Future Potentials*, Amsterdam University Press, Amsterdam. Retrieved 16 April 2021, from http://www.jstor.org/stable/j.ctt12877p6

Collett E. and A. Ahad (2017), 'EU Migration Partnerships: A Work in Progress', Migration Policy Institute and Transatlantic Council on Migration, December.

Disney, G, A. Wiśniowski, J.J. Forster, P.W.F. Smith and J, Bijak (2015), 'Evaluation of existing migration forecasting methods and models', Report for the Migration Advisory Committee: commissioned research, ESRC Centre for Population Change, University of Southampton, Southampton.

European Commission, Joint Research Centre (2018a), 'Demographic and Human Capital Scenarios for the 21st Century: 2018 assessment for 201 countries' (Lutz W., A. Goujon, K.C. Samir, M. Stonawski and N. Stilianakis, eds.), Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-78024-0, https://doi.org/10.2760/41776

European Commission, Joint Research Centre (2018b), 'Many more to come? Migration from and within Africa', (Natale, F., S. Migali and R. Münz, authors), Publications Office of the European Union, Luxembourg, 2018 ISBN 978-92-79-79363-9, https://doi.org/10.2760/1702, JRC 110703

Haas, H. de, C. Vargas-Silva and S. Vezzoli (2010), 'Global Migration Futures: A conceptual and methodological framework for research and analysis', International Migration Institute, University of Oxford.

Hanson, G. and C. McIntosh (2016), 'Is the Mediterranean the New Rio Grande? US and EU Immigration Pressures in the Long Run', *Journal of Economic Perspectives*, Vol. 30(4), pp. 57-82.

IOM, Global Migration Data Analysis Centre (2016), 'Migration forecasting: Beyond the limits of uncertainty', *Data Briefing Series*, Issue No. 6, November 2016.

Landesmann, M., I. Mara, H. Vidovic, H. Hofer, P. Schuster and G. Titelbach (2013), „Auswirkungen der Arbeitsmarktöffnung am 1. Jänner 2014 auf den Wirtschafts- und Arbeitsstandort Österreich", *wiiw Research Report in German Language*, No. 2013-10, Vienna, October.

Lutz W. (ed.), G. Amran, A. Bélanger, A. Conte, N. Gailey, D. Ghio, E. Grapsa, K. Jensen, E. Loichinger, G. Marois, R. Muttarak, M. Potančoková, P. Sabourin and M. Stonawski (2019), 'Demographic Scenarios for the EU – Migration, Population and Education', EUR 29739 EN, Publications Office, Luxembourg, ISBN 978-92-76-03216-8, https://doi.org/10.2760/590301, JRC116398.

Mara, I. and H. Vidovic (2015), 'Free Movement of Workers, Transitional Arrangements and Potential Mobility from Croatia', *wiiw Research Report*, No. 402, Vienna, June.

Sardoschau, S. (2020), 'The Future of Migration to Germany: Assessing methods in migration forecasting', in: *DeZIM Project Report*, DPR 1|20.

Sohst, R.R., J. Tjaden, H. de Valk and S. Melde (2020), 'The Future of Migration to Europe: A Systematic Review of the Literature on Migration Scenarios and Forecasts', International Organization for Migration, Geneva, and the Netherlands Interdisciplinary Demographic Institute, The Hague.

Szczepanikova, A. and T. Van Criekinge (2018), 'The Future of Migration in the European Union: Future scenarios and tools to stimulate forward-looking discussions', EUR 29060 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-76-01762-2, https://doi.org/10.2760/882041, JRC111774.

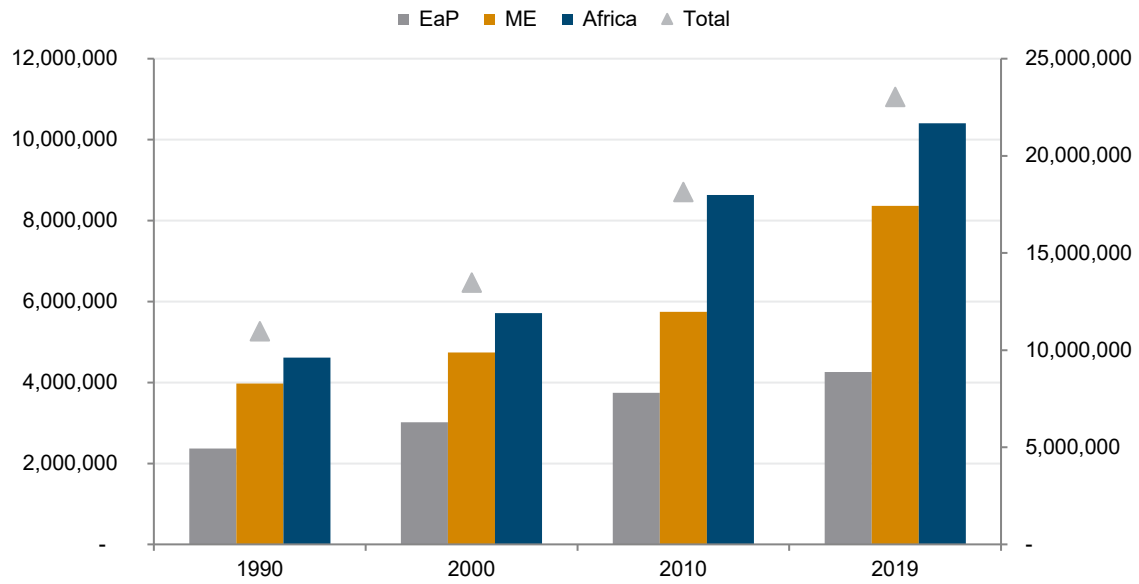
Tardis, M. (2018), 'European Union Partnerships with African Countries on Migration: A Common Issue with Conflicting Interests', *Notes de l'Ifri*, Ifri, March 2018.

Wodon, Q., A. Liverani, G. Joseph and N. Bougnoux (2014), 'Climate Change and Migration: Evidence from the Middle East and North Africa', *World Bank Study*, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/18929.

Zanker, F. (2019), 'Managing or restricting movement? Diverging approaches of African and European migration governance', *Comparative Migration Studies*, Vol.7(17). https://doi.org/10.1186/s40878-019-0115-9

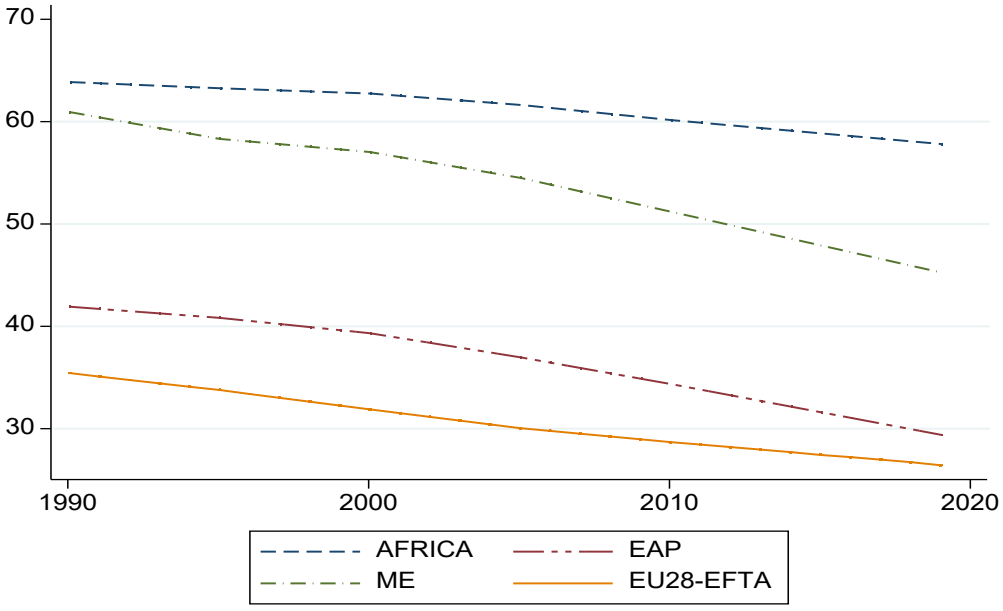
Annex A

Figure A1 / Stock of migrants to EU28 and EFTA by main region of origin



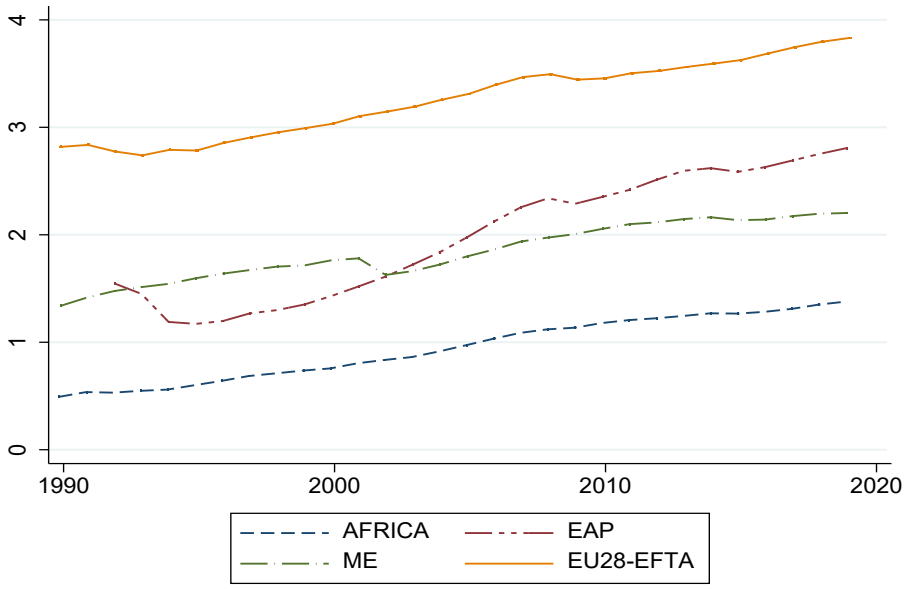
Note: Migrant defined by country of birth. Migrant stock by region of origin; left axis. Total migrant stock: right axis.
Sources: own calculations; UN statistics.

Figure A2 / Population 0-24, share of total population; %



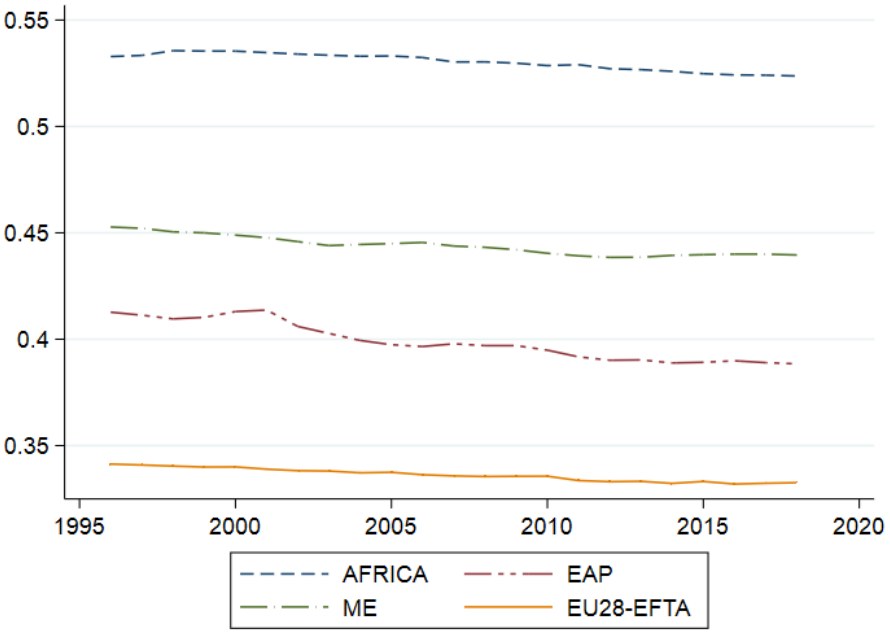
Sources: own calculations, UN statistics.

Figure A3 / Log of GDP per capita in pps; current prices, USD



Sources: own calculations, IMF-WEO statistics. The ME group excludes Gulf countries. (GDP per capita scaled by 1,000).

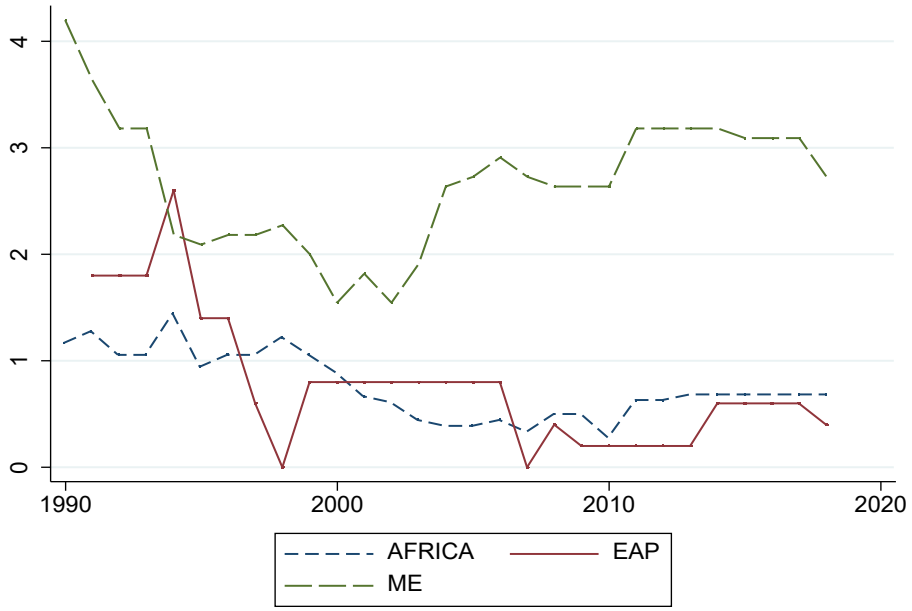
Figure A4 / Climate hazards/vulnerability



Source: own calculations, using ND-GAIN Country Index.[8]

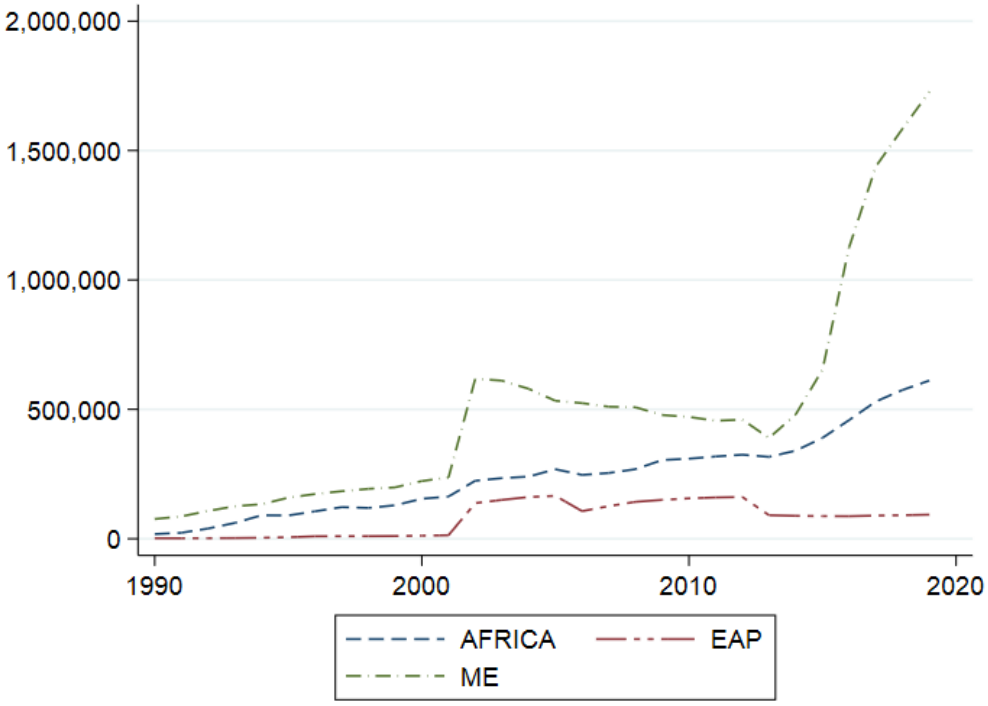
[8] Source: ND-GAIN Country Index. https://gain.nd.edu/our-work/country-index/. Climate vulnerability is defined as: propensity or predisposition of human societies to be negatively impacted by climate hazards. It is defined between 0 and 1: 0 implies 'no vulnerability' and 1 implies 'high vulnerability'. The vulnerability of a country is defined by considering six life-supporting sectors: food, water, health, ecosystem services, human habitat and infrastructure. For each of the sectors, the *exposure* to climate-related or climate-exacerbated hazards; the *sensitivity* of that sector to the impacts of the hazard and the *adaptive capacity* of the sector to cope or adapt to these impacts is assessed.

Figure A5 / Political conflicts/origin countries



Source: own calculations, MEPV (major episodes of political violence).

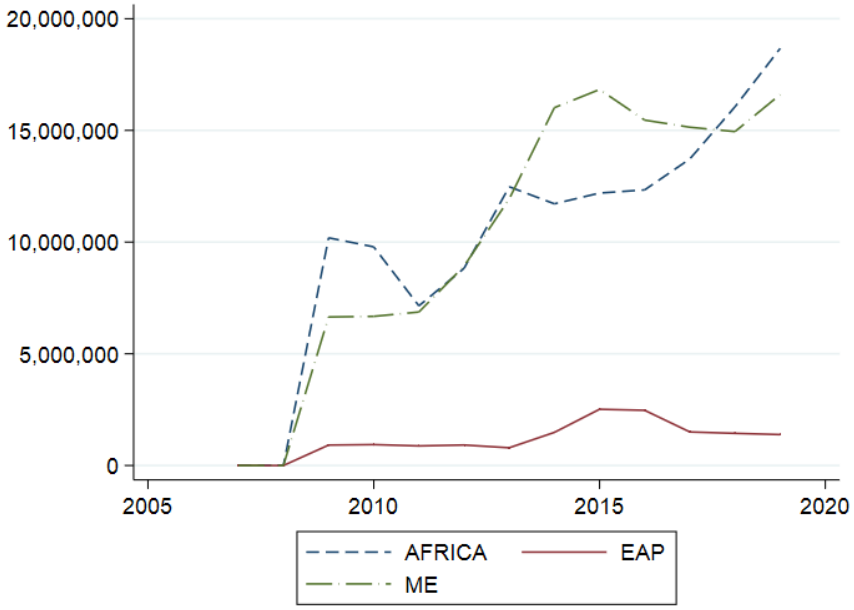
Figure A6 / Stock of refugees to EU28-EFTA originating from Africa, ME and EAP



Source: own calculations, using UNHCR data.[9]

[9] Source: UNHCR, https://www.unhcr.org/refugee-statistics/download/?url=XpVi0k

Figure A7 / Total number of IDPs as a result of conflict and violence



Source: own calculations, using IDMC database.[10]

[10] Source: Internal Displacement Monitoring Centre (IDMC) database. https://www.internaldisplacement.org/database/displacement-data

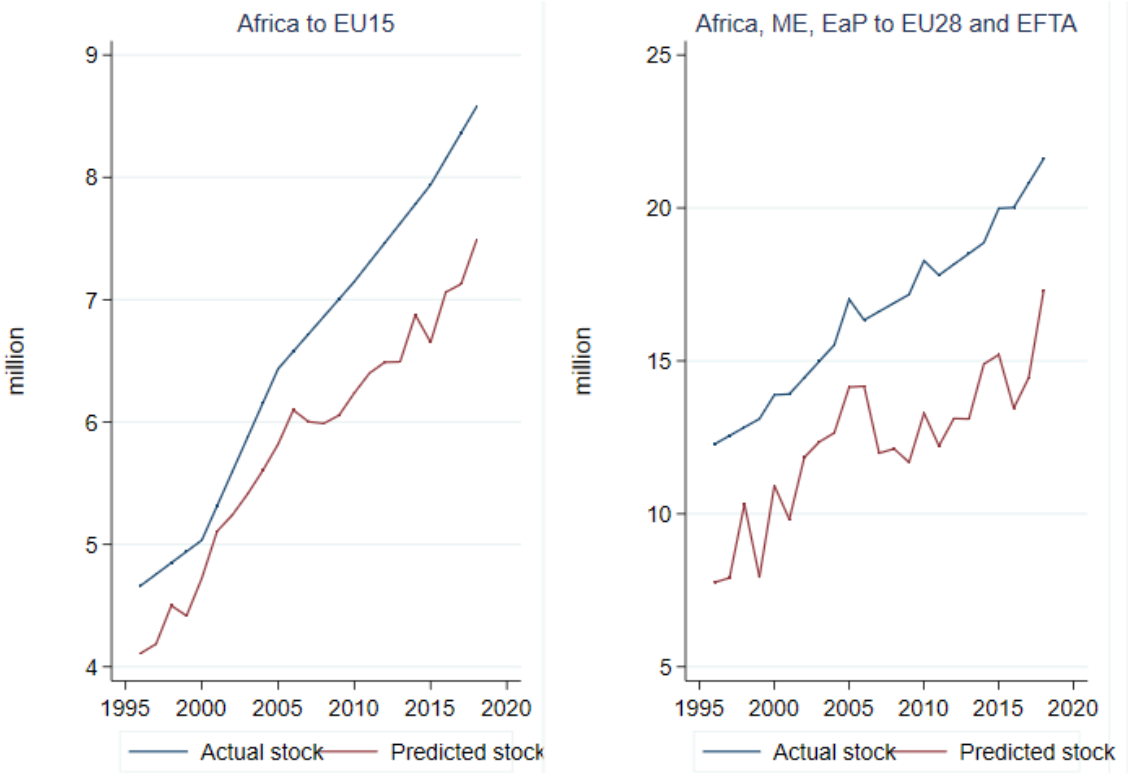
Annex B

Table B1 / Estimation results of the migration gravity model

Dependent variable Ln(stock of migrant)	S(1) EU28-EFTA	S(2) Africa to EU15
Stock of migrant Ln(stock) (t-1)	0.99***	1.00***
	(0.00039)	(0.00077)
Ln(GDP, cap, ppp) origin	-0.29***	0.30*
	(0.043)	(0.12)
Ln(GDP, cap, ppp), squared, origin	0.0058***	-0.0041
	(0.0015)	(0.0026)
Ln(GDP, cap, ppp) destination	0.033***	0.053***
	(0.0032)	(0.0072)
Ln(employment rate), origin	-0.088**	-0.033
	(0.032)	(0.045)
Ln(employment rate), destination	0.014	-0.020
	(0.019)	(0.034)
Ln(population), origin	0.046***	0.033
	(0.0088)	(0.021)
Ln(population), destination	0.0040***	0.0023+
	(0.00070)	(0.0014)
Ln(population share 0-24), origin	-0.20***	-0.11
	(0.040)	(0.069)
Ln(population share 0-24), destination	-0.077***	-0.27***
	(0.0086)	(0.017)
(Ln(population share 0-24), origin) X (Ln(GDP, cap, ppp)origin)	0.064***	-0.068*
	(0.010)	(0.027)
Colonial relationships	0.020***	0.012*
	(0.0048)	(0.0050)
Ln(distance)	0.048***	0.012
	(0.0083)	(0.018)
Ln(distance) X Africa	-0.034***	.
	(0.0071)	.
Ln(distance) X ME	-0.020***	.
	(0.0023)	.
Common official language	0.0088+	0.029***
	(0.0046)	(0.0058)
Common ethnic language	-0.00041	-0.016**
	(0.0045)	(0.0059)
Common religion	-0.015*	-0.032***
	(0.0068)	(0.0077)
Stage fragility, origin	-0.010+	0.0037
	(0.0059)	(0.0094)
POLITY, origin	0.0037	0.0025
	(0.0053)	(0.0068)
POLITY, destination	0.015***	0.013
	(0.0039)	(0.0098)
Climate hazard, origin	0.14**	0.13+
	(0.050)	(0.067)
Climate hazard, destination	-0.029**	-0.015
	(0.010)	(0.016)
Migration policies destination: Less restrictive	-0.0013	0.0030
	(0.0023)	(0.0026)
Migration policies destination: More restrictive	-0.0041+	0.00063
	(0.0024)	(0.0031)
_cons	-4.65*	3.17
	(1.81)	(4.63)
Fixed effects		
Year	YES	YES
Sending country	YES	YES
MRT	YES	YES
N	27687	8462
R^2	0.998	0.999

Standard errors in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001
All the specifications include time and sending countries dummies and MRTs (multilateral resistance terms).
Column 1 presents the results which include AME as sending countries and have EU28 and EFTA as countries of destination. Column 2 presents the results which have African countries as sending countries and EU15 as countries of destination. These specifications have been used for simulating future migration flows.

Figure B1 / Model prediction



Annex C

DATA SOURCES

Migration stock statistics have been obtained from the UN International Migration Statistical Database and cover the period 1995-2019. The compiled database used a number of national data sources such as census statistics, registered and survey data. Mainly the information is provided by country of birth or citizenship, but we use the statistics about the stock of migrants by country of birth.[11] The indicator at (t-1) is used also as a proxy for the possible pull effect of pre-existing migration networks.

Economic-related indicators that include income (GDP in per capita terms in purchasing power parity; ppp) and the employment rate, both for sending and receiving countries have been compiled from the World Development Indicators database, Penn World Table and other international data sources such as the IMF and ILO.

Demographic indicators such as population size and population structure (0-24 age group as a share of total population) have been obtained from UN population statistics for 1995-2019.

Gravity modelling variables such as geographical distance, contiguity or sharing common borders, language proximity or other cultural, colonial and religious ties have been obtained from **CEPII** http://www.cepii.fr/cepii/en/bdd_modele/bdd.asp[12]

Institutional indicators such as civil conflicts or wars, governance (SFI) and democracy level (e.g. POLITY indicator) have been obtained respectively from Center for Systemic Peace[13] and Freedom House. SFI is an indicator which ranges from 0 “no fragility” to 25 “extreme fragility.” POLITY variable – degree of freedom in the country takes value from 1 (highest degree of freedom) up to 7 (lowest degree of freedom). Freedom status is represented by “political rights” and “civil liberties” status.

Migration policy related indicators have been obtained from the POLMIG database launched by Oxford University and the wiiw POLMIG database. The database allows evaluating migration policy changes, years when the policy change occurred, the policy area, the target group but also in relation to the geographical origin of the target group.

Climate vulnerability index has been obtained from the Notre Dame Global Adaptation Initiative[14] of University of Notre Dame. Climate vulnerability index is defined as the propensity or predisposition of human societies to be negatively impacted by climate hazards taking values 0 to 1, where 1 implies high vulnerability. The researchers of Notre Dame have taken account of six life-supporting sectors: food,

11 http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml

12 These variables are intensively used in gravity models and we have downloaded them from: http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8

13 http://www.systemicpeace.org/polity/polity4.htm

14 https://gain.nd.edu/

water, health, ecosystem services, human habitat and infrastructure. Each sector includes six indicators that represent three cross-cutting components: the exposure of the sector to climate-related or climate-exacerbated hazards; the sensitivity of that sector to the impacts of the hazard; and the adaptive capacity of the sector to cope or adapt to these impacts.

Table C 1 / List of countries included in the study

Africa	ME	EAP
Algeria	Iran	Armenia
Angola	Iraq	Azerbaijan
Benin	Israel	Belarus
Botswana	Jordan	Georgia
Burkina Faso	Kuwait	Moldova
Burundi	Lebanon	Russia
Cabo Verde	Oman	Ukraine
Central African Republic	Pakistan	
Chad	Saudi Arabia	
Comoros	State of Palestine	
Congo	Syria	
Côte d´Ivoire	Turkey	
Democratic Republic of the Congo	United Arab Emirates	
Djibouti	Yemen	
Egypt	Afghanistan	
Equatorial Guinea	India	
Eritrea		
Eswatini/Swaziland		
Ethiopia		
Gabon		
Gambia		
Ghana		
Guinea		
Guinea-Bissau		
Kenya		
Lesotho		
Liberia		
Libya		
Madagascar		
Malawi		
Mali		
Mauritania		
Mauritius		
Morocco		
Mozambique		
Namibia		
Niger		
Nigeria		
Rwanda		
São Tomé and Principe		
Senegal		
Seychelles		
Sierra Leone		
Somalia		
South Africa		
South Sudan		
Sudan		
Tanzania		
Togo		
Tunisia		
Uganda		
Western Sahara		
Zambia		
Zimbabwe		

IMPRESSUM

Herausgeber, Verleger, Eigentümer und Hersteller:
Verein „Wiener Institut für Internationale Wirtschaftsvergleiche“ (wiiw),
Wien 6, Rahlgasse 3

ZVR-Zahl: 329995655

Postanschrift: A 1060 Wien, Rahlgasse 3, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50
Internet Homepage: www.wiiw.ac.at

Offenlegung nach § 25 Mediengesetz: Medieninhaber (Verleger): Verein "Wiener Institut für Internationale Wirtschaftsvergleiche", A 1060 Wien, Rahlgasse 3. Vereinszweck: Analyse der wirtschaftlichen Entwicklung der zentral- und osteuropäischen Länder sowie anderer Transformationswirtschaften sowohl mittels empirischer als auch theoretischer Studien und ihre Veröffentlichung; Erbringung von Beratungsleistungen für Regierungs- und Verwaltungsstellen, Firmen und Institutionen.

wiiw

wiiw.ac.at

https://wiiw.ac.at/p-5807.html