“Application of decision tree model for prediction of immigration policy in different countries of the world”

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Abstract

In the past few decades, the ever-increasing dynamics of international migration flows can be observed. At this stage, the governments of major countries in the world are striving to balance the needs of their citizens and the support of immigrants. The paper analyzes factors that affect the immigration policies of various countries and determines the role of ecological factors (such as environmental conditions). The objective of the study is to predict the immigration policies of different countries of the world based on the analysis of the influencing factors, including environmental performance. The research method is based on the use of the RapidMiner software package to build two decision tree models and a static index database of more than 150 countries around the world. The results show that in most cases, the immigration policies of various countries will focus on maintaining the current level of immigration and increasing the number of skilled workers. At the same time, one of the key decision-making factors will be the country's current immigration level, environmental performance, GDP per capita, and the Education index. One of the main conclusions is that the country's environmental indicators have begun to become one of the priority values that determine the state immigration policy. This can be explained by the rising global community interest in the challenges of climate change.

Keywords

immigration policy, skilled workers, climate change, decision tree, immigration, environmental performance

JEL Classification

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INTRODUCTION

At the current stage of increased interaction of national economies, the proliferation of globalization and the tendency for management of international migration flows play an increasing role in public policy. The influence of developed countries on international trends in migration as well as the actions of governments of other countries necessitates the choice of the most optimal strategy for immigration governance.

In this context, it is important to understand that the growth of immigrants in the country has both positive aspects (growth of the consumer market, access to cheap labor, access to new technologies and communications, etc.) and negative (increased pressure on the budget, growth of social conflicts, risks of overpopulation and environmental degradation, etc.).

One of the key functions of countries' immigration policies, as a rule, is called the protection of the internal socio-economic balance through planned control and, if necessary, limiting the access of immigration flows to the country (Timmer & Williams, 1998; Anderson, 2010). At
the same time, at this stage of global development, an important key indicator is the environmental performance of the country. The growing problems of climate change and environmental degradation are more and more talked about at international forums and conferences, as well as reports of international institutions (McAuliffe & Khadria, 2019).

Obviously, the solution must be comprehensive, and since the root of negative environmental changes is human activity, it becomes logical to consider a question of how to minimize this impact and what countries do it in the best way. It is also important to understand the economic model of these countries and their policies for accessing their markets, and not only concerning goods and services, but also the availability of their labor market for immigrants.

### 1. LITERATURE REVIEW

Recently, an increase in interstate migration processes can be observed, leading to increased dynamics of migratory flows. Despite the restrictions on the movement of people between countries related to the fight against coronavirus infection COVID-19, which have been observed over the past 2 years, according to the International Organization for Migration (2019), in 2020, the number of international migrants was 272 million, or 3.5% of the world population. For comparison, in 2000 these figures were significantly lower: 150 million or 2.8%, respectively. At the same time, countries with a high level of development and income receive more than two-thirds of international migrants.

Labor migration dates to the birth of capitalism and international production, although migration per se has an even longer history. It arose simultaneously with the inception of humankind. The reasons for the constant movement of people in ancient times were hostilities, political conflicts, national and ethnic factors that have existed since the pre-capitalist age. Thus, migration processes have always existed, but only now this movement has such a great impact on the economy, politics, culture, and social component of countries.

The first attempts to explain the factors and analyze the causes that affect migration appeared in the XIX-XX centuries. This process was a consequence of the formation of nation-states and the marking of the borders of countries in which principles of citizenship, people’s rights, and freedoms were in process of establishing.

It should be noted that traditionally immigration policy is considered in conjunction with the labor market and the difference in the level of its wages (Dustmann et al., 2005; Cangiano, 2012; Aleksynska & Tritah, 2015; d’Albis et al., 2018).

For example, Aleksynska and Tritah (2015) described the impact of immigration on the labor market based on the example of European countries. The causal effect of immigration on the employment rate of residents was identified using the instrumental variables strategy based on the historical model. It was found that the employment rate of the country’s residents increased in those sectors that accept more immigrants.

Besides, Gabriel and Pellerin (2012) studied the phenomenon of migration and current trends in its modification. The emergence of a migration pattern in which the key factors are migration and its integration into the economies of industrialized countries can be observed. The example of Canada reflects the management of migration flows and the country’s policy on immigrants.

Links between temporary immigration to France and the macroeconomic situation of the country have been studied by d’Albis et al. (2018). It was found that immigration flows have a positive effect on GDP per capita in France especially in the case of family immigration but immigration has some negative impact on employment in the country.

As part of a study by the European Policy Center, Ghimis (2016) outlined the migration policy of the European Union. Considering the situation in the labor market and the demographic decline in Europe, the EU should pursue a more ambitious immigration policy to attract labor.
Lacroix (2012) considered the issue of French migration policy in the context of the problem of balance between national unity and market needs. On the one hand, France as a democratic country promotes equal treatment of foreigners, and on the other, promotes maintenance of the cultural homogeneity of the nation, implying selective immigration that cannot fully satisfy the needs of businesses in the labor force.

Détang-Dessendre et al. (2016) also tend to believe that with interregional migration that redistributes labor resources local labor markets become more flexible and unemployment rates fall. The results show that most of the new jobs are occupied by migrants.

Ndiaye (2018) considered the aspect of student migration alongside labor migration. Migration of students is often underestimated and unaccounted for although it meets socially identifiable standards. This kind of migration may turn into long-term or permanent migration and affect the economic performance of the recipient country.

Within this context, the issue of immigrant wages is important, and it has been in the focus of study by Laffineur et al. (2017). Despite such employment trends, the wages of immigrants and residents are quite different. Immigrants’ wages increase mainly because immigrants have a wide range of skills, which makes it possible for them to climb the career ladder.

Thus, the gradual increase in the number of international migrants with greater mobility is the subject of many research works at the present stage. The growing importance of migration processes also leads to the study of migration policy by researchers, primarily economists, from developed countries where immigration flows cause many controversial issues (France, Germany, USA, UK, Canada, etc.).

Regarding the impact of environmental factors on international migration, Feng et al. (2010) and Johnson (2011) considered climate change and the negative state of the environment to be the driving force behind migration from Mexico to the United States.

For instance, Feng et al. (2010) quantitatively investigated the relationships between climate variability, crop yields, and population migration responses using the instrumental variables approach. It was emphasized that due to global warming, crop yields in Mexico will significantly decrease (the forecast model was built until 2080). This, in turn, will force many Mexicans to immigrate to the United States. Although the results cannot be mechanically extrapolated to other regions and periods, according to Feng et al. (2010), these findings are important from a global perspective, given that many regions, especially developing countries are expected to significantly decrease crop yields as a result of projected warming.

Another more recent study by Prieur and Schumacher (2016) examines the relationship between immigration policy and climate change through the prism of internal and external conflicts. The main internal conflict is associated with the fact that attracting immigrants for the development of local production leads to a load on infrastructure and accelerates the processes of climate change, as well as causes internal conflicts. In addition, those potential migrants who wish to relocate due to climate change, but who are not allowed to immigrate, can provoke external conflicts. The coexistence of both conflicts makes it difficult to design effective immigration policies. Thus, depending on the parameters, the optimal will be either a steady state without immigration, but with mitigation of environmental impacts, or a steady state with a large number of immigrants, but less mitigation of the negative impact on the environment.

Defining the concept, causes, factors, and patterns of labor migration is a complex process that remains unclear to this day. The reason for this is the rapid development of the world that includes strengthening the social approach of the world economy, democratization of labor relations, internationalization of labor reproduction requirements, standardization of living and working conditions in different parts of the world, personal development, improvement based on universal values, and intensification of globalization processes in the international economy that cause the interdependence of countries and their regional groups. National labor markets are increasingly losing their insularity leading to the formation of a global labor market.
1.1. Highlights of relevant recent policies and programs

It is also worth considering the main trends in immigration policy in developed countries on specific examples. Immigration policy in the United States has undergone significant changes since the beginning of Donald Trump’s presidency. The reorganization of the system included measures such as targeted restrictions on legal immigration, the construction of a “wall” on the border with Mexico, and the strict screening of persons allowed to enter. After Joe Biden came to power, there were reversible changes in immigration policy, in particular, the US President lifted restrictions on travel to “predominantly Muslim” countries imposed by the Trump administration, and began other adjustments towards liberalization (Ries, 2020).

The EU’s latest immigration policy is based on attracting already qualified migrants. The focus is on improving the EU Blue Card with more flexible entry conditions, attracting innovative entrepreneurs, and developing methods for transparent and easy selection of migrants for relevant employers.

France has been attracting many migrants for a long time although its immigration policy is relatively new. At the current stage, three main trends are identified. First, the length of stay for adaptation has increased in recent years. Secondly, the government’s attempts to attract skilled migrants have brought mixed results. On the one hand, the procedure for issuing work visas has become selective and measures have been taken to develop professional mobility, and on the other, such a policy has had a restrictive effect because only a small number of specialists meet the new French market standards. Thirdly, significant efforts have been made for integration at the national level.

The Canadian Express Entry System is designed to attract qualified professionals and facilitate labor immigration. Assessment is based on a scoring system that considers age, education, work experience, desired employment, language skills, and ability to adapt, while omitting criteria of origin, nationality, and religion. Such standards allow determining the potential contribution of a migrant to the national labor force and the welfare of the country.

Thus, in general, the immigration policy of developed countries is quite democratic allowing a significant number of migrants to enter the country. Most developed countries are trying to attract skilled workers as a means of economic development and support for sustainable growth.

1.2. Future directions of migration processes under the influence of immigration policy of developed countries

Forecasting future trends is a rather difficult task as migration and international mobility are influenced by several factors. Various reasons besides the migration flow and the emergence of new, flexible types of migration have complicated the conceptualization of the phenomenon. Therefore, it is necessary to dwell more carefully not on the quantitative measurement but the identification of causal relationships and qualitative characteristics of possible results.

Manifestations of the consequences of today’s policy can be identified in the future through the development of scenarios, i.e., means of presenting plausible situations with a combination of different variables. Scenarios aim to help in understanding different points of view, opportunities, solutions, and possible failures. They provide an opportunity to look through informational data focusing on structural changes. By combining the results of independent research and work of the International Organization for Migration, the following model can be constructed:

1. The protectionist policy of protecting country’s borders from the entry of foreigners may become widespread in the future. Opinions of contemporaries (e.g., Donald Trump) in 20-30 years will become the basis for limiting the mobility of human resources. The United States will come to this need due to the growing illegal migration from Mexico; Europe will not cope with the crisis and will be unable to accept new people. Only a small number of developed countries will allow migrant workers to enter if they pay a certain amount providing them with temporary work and a residence permit. Such a policy will be experimental. The need for low-skilled
workers among these countries will be mini-
mized due to the high development of technol-
gy. Asian countries will attract larger migration
flows as their economies will become more at-
tractive to workers. Accordingly, the regulatory
policies of Western countries will become less
liberal and will focus on domestic needs and na-
tional security considering the phenomenon of
migration as a threat. Selectivity will culminate
when only cost-effective workers will be allowed
to fill gaps in certain sectors. International
management cooperation will decline. In gener-
al, there will be a decrease in migration flows.

2. The opposite future is possible under the con-
ditions of support of cooperation, liberalization,
and observance of human rights. States will seek
to optimize their policies towards openness and
successful integration understanding the ben-
efits of migration and its socio-economic con-
tribution to development. Of course, migration
will remain a controversial issue that will cause
some difficulties in regulation. However, gov-
ernments will put their efforts to make effective
use of the potential for human resource mobi-
ity. Immigrants will support stable economic
prosperity and make a positive contribution to
the host societies. Due to the development of
countries and recovery from the crisis, the de-
mand for migrant workers will increase. Better
integration will allow workers to be more secure
and have a wider range of livelihoods. The value
of human capital as a global resource and asset
will increase, and more attention will be paid to
cooperation and dissemination of information.
Economic cooperation will outweigh protec-
tionism facilitating international trade and hu-
man mobility. There will be favorable changes
in the mood of society that will strive to achieve
general well-being. The Canadian scoring sys-
tem is likely to expand making it easier for mi-
grants to assess their contribution to the econo-
my. In general, migration will be seen as an op-
portunity to expand one’s capacity for countries,
get better jobs for migrants, and improve the
quality of life for society.

3. The comprehensive impact of technology should
not be ruled out. Advances in the fields of com-
puterization and artificial intelligence may push
traditional mobility into the background. Today,
an increasing number of specialists work re-
motely via the Internet. Due to the global spread
of high technology, there will be no need for
physical movement of labor to developed coun-
tries. It is possible to create a separate area of
immigration policy to manage cyberspace. The
network will have its borders, the crossing of
which will be regulated by specialists at the be-
hest of the government. The freelance will be-
come the main form of employment facilitating
recruitment of required workers and minimizing
the legal red tape. Immigration policy will
focus on accepting refugees and restricting un-
regulated migration. The reduction of migration
flows will be the result of evolutionary processes
in the field of technological support eliminating
the need for immigration and easing social ten-
sions (Friedrich-Ebert-Stiftung et al., 2017).

It is impossible to unambiguously determine the fu-
ture direction of migration. Most developed countries
today pursue a policy of open borders and accumu-
late a significant influx of immigrants. States adopt
strategies to help refugees and provide employment
for foreign workers. However, any resources are lim-
ited. Countries are not able to accept everyone and
are forced to use selective mechanisms. Focus on the
economic value turns out to be the key criterion now.
Some developed countries along with the change of
government are moving to the other side of easing
legislation. The aim is to protect the interests of the
country and national borders that restrict freedom
of migration around the world. Therefore, the future
dynamics, centers, and features of migration flows
directly depend on modern solutions.

The purpose of the paper is to build a predictive
model of the immigration policy of states based on
the study of various factors of influence. Another im-
portant task is to determine the role of environmen-
tal factors in the hierarchy of influencing factors.

2. CONCEPTUAL FRAMEWORK OF THE STUDY

The classification of immigration policies in prac-
tice is expressed in the fact that states at the legal
level fix different regimes for the entry of immi-
grants into their country. One of the most comprehensive and consistent sources of information related to the analysis of international migration and immigration policies is the Population Division of the Department of Economic and Social Affairs at the United Nations. The Division publishes several detailed compilations of world population data, as well as descriptions and analyzes of global demographic trends.

According to the UN (2017) definition, immigration policy is expressed in the policy of the government to influence the level of documented immigration to the country. At the same time, it can be classified into four main categories: 1) *Raise* – aimed at increasing the level of immigration to the country; 2) *Maintain* – aimed at keeping the level of immigration at the current level; 3) *Lower* – aimed at reducing the level of immigration to the country; 4) *No interference*. There is also a fifth case where the country lacks any policy regarding immigration (Figure 1).

The key difference between the immigration policies of developed countries is their focus on the needs of employers or focus on the skills of immigrants (Stakanov, 2014). Today, labor migration policies in host countries have become more selective, with preference given to international migrants with deficient skills. A number of countries are implementing policies to attract or create favorable conditions for such involvement of highly skilled workers. Highly skilled migrants typically receive preferential access conditions and face fewer restrictions than low-skilled migrants in terms of admission conditions, length of stay, job change, and family reunification (Bernardini, 2019).

For analysis, the UN highlights “policy on highly skilled workers” that indicates the Government’s policy to influence the level of immigration of highly skilled workers into the country (UN, 2017).

Immigration policy can include various instruments that, depending on the goals, can stimulate the active integration of immigrants into society, and create conditions of strict responsibility for their violation of rules and laws. For example, measures on the integration of immigrants include language skills training, transfer of professional credentials, and protection against discrimination. At the same time, measures on irregular immigration cover penalties for employers of migrants, fines, detention or deportation of migrants, and regularization of legal status under defined schemes or conditions.

Source: Authors’ compilation.

**Figure 1.** Classification of the main types of immigration policies based on the UN approach
3. METHOD

To analyze the factors affecting the immigration policy of countries, as well as to determine the role of environmental factors, it is proposed to use the decision tree method.

Due to the versatility of the methodological apparatus, the decision tree has industrial applications both in different areas of economic science, which is reflected, for example, in works and other areas of activity, in particular, in information systems and management of technical systems (Patel & Prajapati, 2018). The possibility of including both qualitative and quantitative information in the decision tree allows analyzing the frequencies of phenomena, events, and objects (including the analysis of the compatibility of the frequencies of different combinations of events).

Thus, the combined application of the decision tree method and associative analysis can reduce the number of calculations by combining them, increase the visibility and interconnection of the results of the analysis of particular problems, and thereby increase business efficiency by increasing the validity and efficiency of management decisions (Chandrasekar et al., 2017).

For the actual calculations, it is planned to use the RapidMiner engine, which offers a variety of opportunities and integrated environments for data preparation, machine learning algorithms, deep learning, exploration of text, and predictive analytics (Kalra & Aggarwal, 2017).

The tree consists of leaves and branches. At the root is the most significant factor. All factors are assigned variables called attributes (set of X attributes). In addition, an important step is the selection of the target label, which is the parameter by which it is expected to predict Y. It is planned to build the following two models with data sets represented in the Appendix A:

- 1st model: – will predict what type of immigration policy will be chosen by the state,
- 2nd model: – will predict which type of policy on highly skilled workers will be selected by the state.

Therefore, the label in the first case will be the type of immigration policy (5 possible values: 1 – Raise, 2 – Maintain, 3 – Lower, 4 – No official policy, 5 – No intervention) (Figure 1).

Accordingly, in the second case, the type policy on highly skilled workers will become the label. The value options are the same as in the first case. The operating principle of the decision tree model was formulated by Kalra and Aggarwal (2017). For research purposes, it has been modified by adding

Source: Authors’ compilation based on Kalra and Aggarwal (2017).

Figure 2. General view of 1st and 2nd classification models
necessary parameters for attribute set (X) and class label (Y). The results are shown in Figure 2.

The attribute is checked on every internal node, the check result is checked on the branch, and the class label is checked on the leaf node.

As influencing factors, the following indicators have been identified: 1) GDP per capita, 2) population; 3) sending vs receiving ratio, and 4) immigration stock. Two complex indexes have also been added. The first describes the state of the environment in the country – Environmental Performance Index. Using 32 performance indicators across 11 problem categories, the EPI ranks 180 countries for environmental health and ecosystem resilience (Wendling et al., 2020). These indicators make it possible to assess, on a national scale, how close countries are to the established environmental policy goals. EPI offers a scorecard that highlights leaders and laggards in environmental performance and provides actionable guidance for countries as they strive to move towards a sustainable future.

The second comprehensive indicator is the Education index, which is calculated by the UN as a sub-index for the Human Development Index. Education index is a widely accepted measure of educational attainment within a country and is calculated by combining the average years of schooling (of adults) and expected years of schooling (of children), both expressed as an index obtained by scaling with the corresponding maxima (Adisa & McSharry, 2020).

To test the proposed models, relevant analytics for all indicators were collected (Table 1).

### 4. RESULTS

The main tool for analysis and forecasting is the construction of a decision tree using the RapidMiner software package, for which a database of static indicators was collected for more than 150 countries of the world. After calculation, two decision tree models have been built: 1) forecasting immigration policy; 2) forecasting immigration policy for skilled workers.

#### 4.1. Immigration policy

To build a decision tree on the Immigration policy, a database was collected according to the indicators indicated in Table 1 for 164 countries of the world. As a result of the calculations, the following conclusions can be drawn. Firstly, in most countries, it is clearly seen that the most significant vector in immigration policy is aimed at reducing the number of immigrants. However, secondly, the most important among the studied indicators is the EPI indicator. In the countries with the highest EPI, immigration policy is aimed at reducing the number of immigrants. However,
there are relatively few such countries: they are Denmark, Luxembourg, Switzerland, United Kingdom, France, and Austria.

In almost all other cases, the importance of such parameters as the number of immigrants in the country, as well as the level of per capita income, increases. In general, one can see the regularity of the desire of immigration policies to keep the level of immigration at the current level.

4.2. Immigration policy on highly skilled workers

To build a decision tree for immigration policy on highly skilled workers, a database was collected for 155 countries of the world according to the indicators indicated in Table 1. As a result of the calculations performed using the second model, the following conclusions can be drawn. First, in most countries, the immigration policy is aimed at increasing highly skilled workers (Figure 4).

Secondly, the most important among the studied indicators is the total number of immigrants in the country. When their number is minimal (less than 19,500), the country either does not have an official strategy regarding immigrants at all or is focused on maintaining the current level. However, there are few such regions, they are located mainly in Oceania, Africa, and Latin America. In other cases (when immigration stock accounts for more than 19,500), the critical value belongs to the level of environmental performance of the country. If the value of a country’s EPI is less than 26.1, it will follow the immigration policy of “maintain”. Otherwise (if a country’s EPI is higher than 26.1) the Education index becomes a valuable parameter. If it exceeds 0.287, then in 51% of cases, the country’s immigration policy will aim to increase
“highly skilled workers” ("raise"). This means that countries with high immigrant populations, environmental performance, and education indicators are interested in attracting high-quality workers. The results obtained allow making a very important observation and concluding that environmental factors are beginning to have an increasingly large influence on the immigration policy of the states. This can be explained by the growing attention of the world community to climate change. The analysis of databases showed a significant difference between the level of environmental performance in Europe and Africa. Therefore, in countries with a high level of environmental efficiency, immigration policy is often focused on curbing the flow of immigrants, even highly qualified ones, since immigration flows are associated with a load on the internal ecosystem.

**CONCLUSION**

The relevance of the studied problem is due to the growing number of international migrants and the internationalization of the labor force, as well as the impact of rapid economic development on the environment. The dynamics of the labor movement can have a significant impact on the socio-economic and environmental conditions of the countries to which they are migrated. It is important to understand all the advantages and disadvantages of immigration to determine the most optimal policy. Migrants, of course, can pose a threat to the national economy and place a burden on the state budget, which should provide them with social support, as well as worsen the environmental situation. On the other hand, foreign specialists make up a significant part of the labor force and have the ability to ensure the competitiveness of leading enterprises. Globalization necessitates the creation and implementation of
optimal immigration policies that will allow countries to reap the full benefits of the immigration phenomenon in the long run.

Immigration policies vary greatly from country to country but are generally divided into five main strategies: raise, maintain, lower, no interference, and no official policy (United Nations method).

The purpose of the study was to predict the immigration policies of different countries in the world by analyzing environmental performance and other influencing factors. Two predictive decision tree models developed based on the RapidMiner software package and static indicator libraries in more than 150 countries around the world allow us to draw the following conclusions.

First, in most cases, the immigration policy of the countries of the world will be aimed at maintaining the existing level of immigration and increasing the number of skilled workers.

Second, in general, countries tend to formulate immigration policies aimed at increasing the number of skilled workers. However, an important indicator is the total number of registered immigrants in the country. Therefore, if the country has very few immigrants, the government will not allocate a separate plan to attract them or try to keep them at the current level. Countries with higher immigration stock, environmental performance (EPI exceeds at least 0.26) and education index (more than 0.287) are interested in attracting highly skilled workers.

Third, the analysis has shown, even now the country’s environmental indicators have one of the priority values in determining the state’s immigration policy. Database analysis revealed significant differences between levels of environmental performance in Europe and Africa. Thus, in countries with a high degree of environmental efficiency, immigration policy often aims to limit the flow of even highly skilled immigrants, since immigration flows are associated with loads on ecosystems.

AUTHOR CONTRIBUTIONS
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### APPENDIX A

#### Table A1. Data set for 1<sup>st</sup> Model “Decision tree for classification of policy on immigration” and 2<sup>nd</sup> Model “Decision tree for classification of policy on immigration”

| ISO   | Region          | Megaregion | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|-------|-----------------|------------|------------------------|----------------------------------|-----------|-----------------------|-------------------------|--------------------------|-------------------------------|-------------------------------|
| DNK   | Northern Europe | EUROPE     | No official policy     | Raise                            | 82.5      | 60 909                | 5.83                    | 0.92                     | 2.792                         | 0.718                         |
| LUX   | Western Europe  | EUROPE     | Maintain               | Raise                            | 82.3      | 38 625                | 0.63                    | 0.806                    | 3.646                         | 0.298                         |
| CHE   | Western Europe  | EUROPE     | Lower                  | Maintain                         | 81.5      | 16 082                | 8.64                    | 0.9                      | 3.491                         | 2.491                         |
| GBR   | Northern Europe | EUROPE     | Lower                  | Lower                            | 81.3      | 40 285                | 67.22                   | 0.928                    | 1.978                         | 9.360                         |
| FRA   | Western Europe  | EUROPE     | Lower                  | Raise                            | 80        | 44 594                | 67.39                   | 0.817                    | 3.640                         | 8.525                         |
| AUT   | Western Europe  | EUROPE     | Lower                  | Raise                            | 79.6      | 45 724                | 8.92                    | 0.865                    | 2.893                         | 1.738                         |
| FIN   | Northern Europe | EUROPE     | Raise                  | Raise                            | 78.9      | 49 041                | 5.53                    | 0.927                    | 1.238                         | 0.386                         |
| SWE   | Northern Europe | EUROPE     | Raise                  | Raise                            | 78.7      | 51 926                | 10.35                   | 0.918                    | 6.117                         | 2.004                         |
| NOR   | Northern Europe | EUROPE     | Raise                  | Raise                            | 77.7      | 67 294                | 5.38                    | 0.93                     | 4.453                         | 0.852                         |
| DEU   | Western Europe  | EUROPE     | Raise                  | Raise                            | 77.2      | 48 105                | 83.24                   | 0.943                    | 4.089                         | 15.762                        |
| NLD   | Western Europe  | EUROPE     | Maintain               | Raise                            | 75.3      | 52 304                | 17.44                   | 0.914                    | 2.430                         | 2.358                         |
| JPN   | Eastern Asia    | ASIA       | Maintain               | Raise                            | 75.1      | 40 146                | 125.84                  | 0.851                    | 3.426                         | 2.771                         |
| AUS   | Australia/New Zealand | OCEANIA | Maintain               | Maintain                         | 74.9      | 51 812                | 25.69                   | 0.924                    | 12.836                        | 7.686                         |
| ESP   | Southern Europe | EUROPE     | Maintain               | Raise                            | 74.3      | 27 057                | 47.35                   | 0.831                    | 4.593                         | 6.842                         |
| BEL   | Western Europe  | EUROPE     | Maintain               | Maintain                         | 73.3      | 115 874               | 11.56                   | 0.902                    | 3.473                         | 2.005                         |
| IRL   | Northern Europe | EUROPE     | Raise                  | Maintain                         | 72.8      | 83 813                | 4.99                    | 0.922                    | 1.186                         | 0.871                         |
| ISL   | Northern Europe | EUROPE     | Maintain               | Raise                            | 72.3      | 59 261                | 0.37                    | 0.926                    | 1.513                         | 0.066                         |
| SVN   | Southern Europe | EUROPE     | Raise                  | Maintain                         | 72        | 25 180                | 2.10                    | 0.91                     | 1.735                         | 0.278                         |
| NZL   | Australia/New Zealand | OCEANIA | Maintain               | Raise                            | 71.3      | 41 792                | 5.08                    | 0.926                    | 12.836                        | 7.686                         |
| CZE   | Eastern Europe  | EUROPE     | No official policy     | No official                      | 71        | 22 762                | 10.70                   | 0.89                     | 0.527                         | 0.541                         |
| ITA   | Southern Europe | EUROPE     | Maintain               | Raise                            | 71        | 31 676                | 59.55                   | 0.793                    | 1.960                         | 6.387                         |
| CAN   | Northern America | NORTHERN AMERICA | Maintain               | Maintain                         | 71        | 43 242                | 38.01                   | 0.894                    | 6.229                         | 8.049                         |
| MLT   | Southern Europe | EUROPE     | Maintain               | Maintain                         | 70.7      | 27 885                | 0.53                    | 0.825                    | 1.116                         | 0.115                         |
| USA   | Northern America | NORTHERN AMERICA | Maintain               | Maintain                         | 69.3      | 63 544                | 329.48                  | 0.9                      | 16.899                        | 50.633                        |
| GRC   | Southern Europe | EUROPE     | Lower                  | Lower                            | 69.1      | 17 676                | 10.72                   | 0.849                    | 1.231                         | 1.340                         |
| SVK   | Southern Europe | EUROPE     | Maintain               | Raise                            | 68.3      | 19 157                | 5.46                    | 0.826                    | 0.470                         | 0.197                         |
| PRT   | Southern Europe | EUROPE     | Raise                  | Raise                            | 67        | 22 440                | 10.31                   | 0.768                    | 0.481                         | 1.002                         |
Table A1 (cont.). Data set for 1st Model “Decision tree for classification of policy on immigration” and 2nd Model “Decision tree for classification of policy on immigration”

| ISO  | Region       | Megaregion | Policy on immigration | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|------|--------------|------------|-----------------------|------------|----------------------|------------------------|-----------------------|-----------------------------|--------------------------------|
| KOR  | Eastern Asia | ASIA       | Raise                 | 65.5       | 31,489               | 51.78                  | 0.865                 | 0.784                       | 1.728                         |
| ISR  | Western Asia | ASIA       | Raise                 | 65.8       | 43,611               | 9.22                   | 0.883                 | 5.446                       | 1.954                         |
| EST  | Northern Europe | EUROPE | Maintain              | 65.3       | 23,312               | 1.33                   | 0.882                 | 0.964                       | 0.199                         |
| CYP  | Western Asia | ASIA       | Maintain              | 64.8       | 26,624               | 1.21                   | 0.827                 | 1.099                       | 0.190                         |
| ROU  | Eastern Europe | EUROPE | Raise                 | 64.7       | 12,896               | 19.29                  | 0.765                 | 0.177                       | 0.705                         |
| HUN  | Eastern Europe | EUROPE | Raise                 | 63.7       | 15,899               | 9.75                   | 0.821                 | 0.818                       | 0.585                         |
| HRV  | Southern Europe | EUROPE | Maintain              | 63.1       | 13,828               | 4.05                   | 0.805                 | 0.508                       | 0.528                         |
| LVA  | Northern Europe | EUROPE | Raise                 | 62.9       | 19,998               | 2.79                   | 0.898                 | 0.221                       | 0.145                         |
| LVA  | Northern Europe | EUROPE | Maintain              | 61.6       | 17,620               | 1.90                   | 0.883                 | 0.630                       | 0.239                         |
| POL  | Eastern Europe | EUROPE | Raise                 | 60.9       | 15,656               | 37.95                  | 0.869                 | 0.169                       | 0.817                         |
| SYNC | Eastern Africa | AFRICA | Lower                 | 58.2       | 11,425               | 0.10                   | 0.726                 | 0.446                       | 0.013                         |
| SGP  | South-Eastern Asia | ASIA | Maintain              | 58.1       | 59,798               | 5.69                   | 0.844                 | 7.242                       | 2.524                         |
| BGR  | Eastern Europe | EUROPE | Raise                 | 57         | 9,976                | 6.93                   | 0.779                 | 0.110                       | 0.184                         |
| ARE  | Western Asia | ASIA       | Raise                 | 55.6       | 31,982               | 9.89                   | 0.802                 | 42.892                      | 8.716                         |
| CHL  | South America | LATIN AMERICA AND THE CARIBBEAN | Maintain | 55.3       | 86,602               | 19.12                  | 0.81                  | 2.555                       | 1.645                         |
| SRB  | Southern Europe | EUROPE | Maintain              | 55.2       | 7,666                | 6.91                   | 0.783                 | 0.820                       | 0.823                         |
| BRN  | South-Eastern Asia | ASIA | Maintain              | 54.8       | 27,466               | 0.44                   | 0.702                 | 2.469                       | 0.112                         |
| KWT  | Western Asia | ASIA       | Raise                 | 53.6       | 22,105               | 4.27                   | 0.638                 | 14.652                      | 3.110                         |
| JOR  | Western Asia | ASIA       | Lower                 | 53.4       | 4,283                | 10.20                  | 0.667                 | 4.243                       | 3.458                         |
| BLR  | Eastern Europe | EUROPE | Raise                 | 53         | 6,411                | 9.40                   | 0.838                 | 0.719                       | 1.067                         |
| COL  | South America | LATIN AMERICA AND THE CARIBBEAN | Maintain | 52.9       | 5,333                | 50.88                  | 0.682                 | 0.630                       | 1.905                         |
| MEX  | Central America | LATIN AMERICA AND THE CARIBBEAN | Maintain | 52.6       | 8,347                | 128.93                 | 0.703                 | 0.107                       | 1.198                         |
| CRI  | Central America | LATIN AMERICA AND THE CARIBBEAN | Maintain | 52.5       | 12,077               | 5.09                   | 0.726                 | 3.466                       | 0.521                         |
| ARM  | Western Asia | ASIA       | Maintain              | 52.3       | 4,267                | 2.96                   | 0.74                  | 0.199                       | 0.190                         |
Table A1 (cont.). Data set for 1st Model “Decision tree for classification of policy on immigration” and 2nd Model “Decision tree for classification of policy on immigration”

| ISO   | Region      | Megaregion                  | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|-------|-------------|-----------------------------|-----------------------|----------------------------------|------------|----------------------|------------------------|--------------------------|-------------------------------|-------------------------------|
| ARG   | South America | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Maintain                         | 52.2       | 8 442                | 45.38                  | 0.855                    | 2.120                         | 2.282                         |
| BRA   | South America | LATIN AMERICA AND THE CARIBBEAN | Raise                 | Raise                            | 51.2       | 6 797                | 212.56                 | 0.694                    | 0.569                         | 1.080                         |
| ECU   | South America | LATIN AMERICA AND THE CARIBBEAN | Lower                 | No                               | 51         | 5 600                | 17.64                  | 0.702                    | 0.696                         | 0.785                         |
| BHR   | Western Asia  | ASIA                         | Lower                 | Lower                            | 51         | 22 402               | 1.70                   | 0.769                    | 16.065                        | 0.936                         |
| RUS   | Eastern Europe | EUROPE                      | Raise                 | Raise                            | 50.5       | 10 127               | 144.10                 | 0.823                    | 1.082                         | 11.637                        |
| UKR   | Eastern Europe | EUROPE                      | Raise                 | Raise                            | 49.5       | 3 727                | 44.13                  | 0.799                    | 0.814                         | 4.997                         |
| URY   | South America | LATIN AMERICA AND THE CARIBBEAN | Raise                 | Raise                            | 49.1       | 15 438               | 3.47                   | 0.765                    | 0.295                         | 0.108                         |
| ALB   | Southern Europe | EUROPE                   | Maintain             | Maintain                         | 49         | 5 215                | 2.84                   | 0.746                    | 0.039                         | 0.049                         |
| ATG   | Caribbean     | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Maintain                         | 48.5       | 14 450               | 0.10                   | 0.665                    | 0.441                         | 0.029                         |
| VCT   | Caribbean     | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Maintain                         | 48.4       | 7 298                | 0.11                   | 0.684                    | 0.085                         | 0.005                         |
| JAM   | Caribbean     | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Raise                            | 48.2       | 4 665                | 2.96                   | 0.689                    | 0.021                         | 0.024                         |
| IRN   | South-Central Asia | ASIA                     | Lower                 | Maintain                         | 48         | 2 283                | 83.99                  | 0.756                    | 2.111                         | 2.797                         |
| MYS   | South-Eastern Asia | ASIA                    | Lower                 | Raise                            | 47.9       | 10 402               | 32.37                  | 0.726                    | 1.869                         | 3.477                         |
| TTO   | Caribbean     | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Raise                            | 47.5       | 15 384               | 1.40                   | 0.728                    | 0.239                         | 0.079                         |
| PAN   | Central America | LATIN AMERICA AND THE CARIBBEAN | Maintain             | Raise                            | 47.3       | 12 269               | 4.31                   | 0.7                      | 2.245                         | 0.313                         |
| TUN   | Northern Africa | AFRICA                    | No intervention      | No                               | 46.7       | 3 320                | 11.82                  | 0.661                    | 0.067                         | 0.060                         |
| AZE   | Western Asia  | ASIA                         | Maintain             | Raise                            | 46.5       | 4 214                | 10.11                  | 0.711                    | 0.217                         | 0.252                         |
Table A1 (cont.). Data set for 1\textsuperscript{st} Model “Decision tree for classification of policy on immigration” and 2\textsuperscript{nd} Model “Decision tree for classification of policy on immigration”

| ISO   | Region          | Megaregion                        | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|-------|-----------------|------------------------------------|-----------------------|----------------------------------|------------|----------------------|------------------------|--------------------------|-----------------------------|-------------------------------|
| PRY   | South America   | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Raise                            | 46.4       | 4,950                | 7.13                   | 0.638                    | 0.189                       | 0.170                         |
| MNE   | Southern Europe | EUROPE                             | Maintain              | Maintain                         | 46.3       | 7,686                | 0.62                   | 0.803                    | 0.534                       | 0.071                         |
| DOM   | Caribbean       | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Maintain                         | 46.3       | 7,268                | 10.85                  | 0.666                    | 0.375                       | 0.604                         |
| GAB   | Middle Africa   | AFRICA                             | Raise                 | Raise                            | 45.8       | 7,006                | 2.23                   | 0.65                     | 8.610                       | 0.417                         |
| BRB   | Caribbean       | LATIN AMERICA AND THE CARIBBEAN     | Lower                 | Raise                            | 45.6       | 15,191               | 0.29                   | 0.782                    | 0.350                       | 0.035                         |
| BIH   | Southern Europe | EUROPE                             | Maintain              | Maintain                         | 45.4       | 6,032                | 3.28                   | 0.711                    | 0.021                       | 0.036                         |
| LBN   | Western Asia    | ASIA                               | Maintain              | Maintain                         | 45.4       | 4,891                | 6.83                   | 0.604                    | 1.999                       | 1.713                         |
| THA   | South-Eastern Asia | ASIA                        | Raise                 | Raise                            | 45.4       | 7,189                | 69.80                  | 0.682                    | 3.342                       | 3.632                         |
| SUR   | South America   | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Raise                            | 45.2       | 6,491                | 0.59                   | 0.675                    | 0.175                       | 0.048                         |
| MUS   | Eastern Africa  | AFRICA                             | Maintain              | Raise                            | 45.1       | 8,623                | 1.27                   | 0.736                    | 0.158                       | 0.029                         |
| DZA   | Northern Africa | AFRICA                             | Maintain              | Maintain                         | 44.8       | 3,310                | 43.85                  | 0.672                    | 0.124                       | 0.250                         |
| KAZ   | South-Central Asia | ASIA                        | Raise                 | Raise                            | 44.7       | 9,056                | 18.75                  | 0.83                     | 0.888                       | 3.732                         |
| DMA   | Caribbean       | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Maintain                         | 44.6       | 6,527                | 0.07                   | 0.632                    | 0.106                       | 0.008                         |
| BOL   | South America   | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Maintain                         | 44.3       | 3,143                | 11.67                  | 0.695                    | 0.177                       | 0.164                         |
| UZB   | South-Central Asia | ASIA                        | Maintain              | Maintain                         | 44.3       | 1,686                | 34.23                  | 0.729                    | 0.573                       | 1.162                         |
| PER   | South America   | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Maintain                         | 44         | 6,127                | 32.97                  | 0.74                     | 0.806                       | 1.225                         |
| SAU   | Western Asia    | ASIA                               | Lower                 | Maintain                         | 44         | 20,110               | 34.81                  | 0.789                    | 44.959                      | 13.455                        |
| TKM   | South-Central Asia | ASIA                        | Lower                 | Maintain                         | 43.9       | 7,967                | 6.03                   | 0.653                    | 0.804                       | 0.195                         |
| BHS   | Caribbean       | LATIN AMERICA AND THE CARIBBEAN     | Maintain              | Maintain                         | 43.5       | 28,608               | 0.39                   | 0.74                     | 1.182                       | 0.064                         |
Table A1 (cont.). Data set for 1st Model “Decision tree for classification of policy on immigration” and 2nd Model “Decision tree for classification of policy on immigration”

| ISO  | Region         | Megaregion       | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|------|----------------|-------------------|-----------------------|----------------------------------|------------|----------------------|------------------------|--------------------------|-----------------------------|---------------------------------|
| EGY  | Northern Africa | AFRICA            | Lower                 | Maintain                          | 43.3       | 3.548                | 102.33                 | 0.618                    | 0.151                       | 0.544                           |
| GRD  | Caribbean       | LATIN AMERICA     | No official policy    | No official                       | 43.1       | 9.680                | 0.11                   | 0.77                     | 0.116                       | 0.007                           |
| LCA  | Caribbean       | AND THE CARIBBEAN | Maintain              | Maintain                          | 43.1       | 9.276                | 0.18                   | 0.672                    | 0.117                       | 0.008                           |
| SLV  | Central America | LATIN AMERICA     | No intervention       | Maintain                          | 43.1       | 3.799                | 6.49                   | 0.555                    | 0.027                       | 0.043                           |
| ZAF  | Southern Africa | AFRICA            | Maintain              | Raise                             | 43.1       | 5.091                | 59.31                  | 0.724                    | 3.127                       | 2.860                           |
| TUR  | Western Asia    | ASIA              | Maintain              | Raise                             | 42.6       | 8.538                | 84.34                  | 0.731                    | 1.774                       | 6.053                           |
| MAR  | Northern Africa | AFRICA            | No official policy    | Maintain                          | 42.3       | 3.009                | 36.91                  | 0.569                    | 0.031                       | 0.102                           |
| BLZ  | Central America | LATIN AMERICA     | Lower                 | Maintain                          | 41.9       | 4.436                | 0.40                   | 0.695                    | 1.176                       | 0.062                           |
| GEO  | Western Asia    | ASIA              | Maintain              | Raise                             | 41.3       | 4.279                | 3.71                   | 0.862                    | 0.092                       | 0.079                           |
| BWA  | Southern Africa | AFRICA            | Maintain              | Raise                             | 40.4       | 6.711                | 2.35                   | 0.676                    | 1.735                       | 0.110                           |
| NAM  | Southern Africa | AFRICA            | Maintain              | Raise                             | 40.2       | 4.211                | 2.54                   | 0.584                    | 2.290                       | 0.109                           |
| KGZ  | South-Central Asia | ASIA           | Maintain              | Maintain                          | 39.8       | 1.174                | 6.59                   | 0.73                     | 0.257                       | 0.199                           |
| IRQ  | Western Asia    | ASIA              | Maintain              | No official                       | 39.5       | 4.157                | 40.22                  | 0.557                    | 0.176                       | 0.366                           |
| BTN  | South-Central Asia | ASIA           | Maintain              | Maintain                          | 39.3       | 3.122                | 0.77                   | 0.496                    | 1.031                       | 0.054                           |
| NIC  | Central America | LATIN AMERICA     | Maintain              | Maintain                          | 39.2       | 1.905                | 6.62                   | 0.573                    | 0.059                       | 0.042                           |
| LKA  | South-Central Asia | ASIA            | Maintain              | Maintain                          | 39         | 3.682                | 21.92                  | 0.746                    | 0.021                       | 0.040                           |
| OMN  | Western Asia    | ASIA              | Lower                 | Lower                             | 38.5       | 14.216               | 5.11                   | 0.718                    | 94.539                      | 2.373                           |
| PHL  | South-Eastern Asia | ASIA            | Maintain              | Maintain                          | 38.4       | 3.299                | 109.58                 | 0.678                    | 0.037                       | 0.226                           |
| MWI  | Eastern Africa  | AFRICA            | Lower                 | Maintain                          | 38.3       | 625                  | 19.13                  | 0.47                     | 0.615                       | 0.191                           |
| BFA  | Western Africa  | AFRICA            | No intervention       | No                                | 38.3       | 831                  | 20.90                  | 0.312                    | 0.453                       | 0.724                           |
| TKJ  | South-Central Asia | ASIA            | Maintain              | Maintain                          | 38.2       | 859                  | 9.54                   | 0.682                    | 0.470                       | 0.276                           |
| GNQ  | Middle Africa   | AFRICA            | Maintain              | Raise                             | 38.1       | 7.143                | 1.40                   | 0.467                    | 1.791                       | 0.231                           |
| ISO   | Region      | Megaregion               | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving (2020) | Immigration Stock, mln (2020) |
|-------|-------------|--------------------------|-----------------------|----------------------------------|------------|----------------------|------------------------|-------------------------|-------------------------------|--------------------------------|
| HND   | Central America | LATIN AMERICA AND THE CARIBBEAN | Maintain | Maintain | 37.8 | 2 406 | 9.90 | 0.499 | 0.040 | 0.039 |
| IDN   | South-Eastern Asia | ASIA | Maintain | Maintain | 37.8 | 3 870 | 273.52 | 0.65 | 0.077 | 0.356 |
| KIR   | Micronesia | OCEANIA | Maintain | Maintain | 37.7 | 1 671 | 0.12 | 0.594 | 0.613 | 0.003 |
| WSM   | Polynesia | OCEANIA | Maintain | Maintain | 37.3 | 4 067 | 0.20 | 0.713 | 0.030 | 0.004 |
| CHN   | Eastern Asia | ASIA | Raise | Raise | 37.3 | 10 500 | 1402.11 | 0.657 | 0.099 | 1.040 |
| QAT   | Western Asia | ASIA | Lower | Raise | 37.1 | 50 805 | 2.88 | 0.659 | 86.605 | 2.226 |
| ZWE   | Eastern Africa | AFRICA | No intervention | Raise | 37 | 1 128 | 14.86 | 0.587 | 0.335 | 0.416 |
| CAF   | Middle Africa | AFRICA | No intervention | Maintain | 36.9 | 477 | 4.83 | 0.353 | 0.108 | 0.089 |
| GUY   | South America | LATIN AMERICA AND THE CARIBBEAN | Maintain | Raise | 35.9 | 6 956 | 0.79 | 0.601 | 0.071 | 0.031 |
| MDV   | South-Central Asia | ASIA | Maintain | Raise | 35.6 | 7 456 | 0.54 | 0.573 | 18.864 | 0.070 |
| UGA   | Eastern Africa | AFRICA | No intervention | No | 35.6 | 817 | 45.74 | 0.523 | 2.201 | 1.720 |
| TLS   | South-Eastern Asia | ASIA | Maintain | Maintain | 35.3 | 1 381 | 1.32 | 0.51 | 0.212 | 0.008 |
| LAO   | South-Eastern Asia | ASIA | Maintain | Raise | 34.8 | 2 630 | 7.28 | 0.481 | 0.038 | 0.049 |
| SDN   | Northern Africa | AFRICA | Maintain | Maintain | 34.8 | 595 | 43.85 | 0.345 | 0.655 | 1.379 |
| ZMB   | Eastern Africa | AFRICA | Maintain | Maintain | 34.7 | 1 051 | 18.38 | 0.557 | 0.936 | 0.188 |
| KEN   | Eastern Africa | AFRICA | Lower | Maintain | 34.7 | 1 838 | 53.77 | 0.534 | 1.962 | 1.050 |
| FJI   | Melanesia | OCEANIA | Maintain | Maintain | 34.4 | 4 882 | 0.90 | 0.764 | 0.060 | 0.014 |
| ETH   | Eastern Africa | AFRICA | No intervention | Raise | 34.4 | 936 | 114.96 | 0.458 | 1.147 | 1.086 |
| MOZ   | Eastern Africa | AFRICA | Maintain | Maintain | 33.9 | 449 | 31.26 | 0.395 | 0.529 | 0.339 |
| RWA   | Eastern Africa | AFRICA | Raise | Raise | 33.8 | 798 | 12.95 | 0.458 | 1.043 | 0.514 |
| KHM   | South-Eastern Asia | ASIA | Maintain | Maintain | 33.6 | 1 513 | 16.72 | 0.484 | 0.072 | 0.079 |
| CMR   | Middle Africa | AFRICA | Maintain | No official policy | 33.6 | 1 499 | 26.55 | 0.547 | 1.313 | 0.579 |
| VNM   | South-Eastern Asia | ASIA | Maintain | Raise | 33.4 | 2 786 | 97.34 | 0.63 | 0.023 | 0.077 |
| PAK   | South-Central Asia | ASIA | Lower | Maintain | 33.1 | 1 194 | 220.89 | 0.402 | 0.518 | 3.277 |
| CPV   | Western Africa | AFRICA | Maintain | No | 32.8 | 3 064 | 0.56 | 0.562 | 0.084 | 0.016 |
| NPL   | South-Central Asia | ASIA | Maintain | Maintain | 32.7 | 1 155 | 29.14 | 0.521 | 0.188 | 0.488 |
| PNG   | Melanesia | OCEANIA | Maintain | Raise | 32.4 | 2 637 | 8.95 | 0.439 | 6.459 | 0.031 |
| MNG   | Eastern Asia | ASIA | Maintain | Raise | 32.2 | 4 007 | 3.28 | 0.736 | 0.260 | 0.021 |
| COM   | Eastern Africa | AFRICA | No intervention | Maintain | 32.1 | 1 403 | 0.87 | 0.482 | 0.083 | 0.012 |
### Table A1 (cont.). Data set for 1<sup>st</sup> Model “Decision tree for classification of policy on immigration” and 2<sup>nd</sup> Model “Decision tree for classification of policy on immigration”

| ISO    | Region       | Megaregion | Policy on immigration | Policy on highly skilled workers | EPI (2020) | GDP per capita, 2020 | Population, mln (2020) | Education index (2020) | Sending vs Receiving Stock (2020) | Immigration Stock, mln (2020) |
|--------|--------------|------------|-----------------------|----------------------------------|-----------|----------------------|------------------------|--------------------------|-----------------------------------|----------------------------------|
| GTM    | Central America | LATIN AMERICA AND THE CARIBBEAN | No intervention | Maintain | 31.8 | 4,603 | 16.86 | 0.519 | 0.062 | 0.084 |
| NGA    | Western Africa | AFRICA | Maintain | Raise | 31 | 2,097 | 206.14 | 0.499 | 0.783 | 1.309 |
| NER    | Western Africa | AFRICA | Maintain | Maintain | 30.8 | 565 | 24.21 | 0.249 | 0.871 | 0.348 |
| SEN    | Western Africa | AFRICA | No official policy | No official | 30.7 | 1,488 | 16.74 | 0.345 | 0.396 | 0.275 |
| BEN    | Western Africa | AFRICA | No intervention | No | 30 | 1,291 | 12.12 | 0.478 | 0.578 | 0.394 |
| AGO    | Middle Africa | AFRICA | Maintain | Raise | 29.7 | 1,896 | 32.87 | 0.5 | 0.983 | 0.656 |
| TGO    | Western Africa | AFRICA | No intervention | No | 29.5 | 915 | 8.28 | 0.517 | 0.513 | 0.280 |
| MLU    | Western Africa | AFRICA | Maintain | No | 29.4 | 859 | 20.25 | 0.286 | 0.373 | 0.486 |
| GNH    | Western Africa | AFRICA | No intervention | No | 29.1 | 728 | 1.97 | 0.414 | 0.161 | 0.018 |
| BGD    | South-Central Asia | ASIA | Maintain | Maintain | 29 | 3,969 | 164.69 | 0.529 | 0.286 | 2.115 |
| VUT    | Melanesia | OCEANIA | Maintain | Maintain | 28.9 | 2,783 | 0.31 | 0.561 | 0.449 | 0.003 |
| DJI    | Eastern Africa | AFRICA | Lower | Maintain | 28.1 | 3,426 | 0.99 | 0.325 | 6.520 | 0.120 |
| LSO    | Southern Africa | AFRICA | No intervention | No | 28 | 861 | 2.14 | 0.532 | 0.060 | 0.012 |
| GMB    | Western Africa | AFRICA | Lower | Lower | 27.9 | 787 | 2.42 | 0.406 | 1.549 | 0.216 |
| GHA    | Western Africa | AFRICA | Lower | No | 27.6 | 2,329 | 31.07 | 0.563 | 0.474 | 0.476 |
| IND    | South-Central Asia | ASIA | Maintain | Maintain | 27.6 | 1,901 | 1380.00 | 0.555 | 0.273 | 4.879 |
| HTI    | Caribbean | LATIN AMERICA AND THE CARIBBEAN | Maintain | Maintain | 27 | 1,177 | 11.40 | 0.456 | 0.011 | 0.019 |
| BDI    | Eastern Africa | AFRICA | No official policy | Raise | 27 | 274 | 11.89 | 0.417 | 0.626 | 0.345 |
| TCD    | Middle Africa | AFRICA | Maintain | Raise | 26.7 | 614 | 16.43 | 0.288 | 2.463 | 0.547 |
| MDG    | Eastern Africa | AFRICA | No official policy | Maintain | 26.5 | 495 | 27.69 | 0.486 | 0.184 | 0.036 |
| GIN    | Western Africa | AFRICA | No intervention | No | 26.4 | 1,194 | 13.13 | 0.354 | 0.220 | 0.121 |
| CIV    | Western Africa | AFRICA | Maintain | Maintain | 25.8 | 2,326 | 26.38 | 0.453 | 2.232 | 2.565 |
| SLE    | Western Africa | AFRICA | No intervention | No | 25.7 | 485 | 7.98 | 0.406 | 0.352 | 0.054 |
| AFG    | South-Central Asia | ASIA | Maintain | Maintain | 25.5 | 509 | 38.93 | 0.414 | 0.025 | 0.144 |
| MMR    | South-Eastern Asia | ASIA | Maintain | Raise | 25.1 | 1,400 | 54.41 | 0.464 | 0.021 | 0.076 |
| LBR    | Western Africa | AFRICA | Maintain | 22.6 | 583 | 5.06 | 0.426 | 0.377 | 0.088 |