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# Immigration prospects, possible futures

(outline)

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## Uncertainty in migration forecasting

An inherent characteristic of migration forecasting is uncertainty. It is a state of not having enough knowledge on a process or phenomenon (now or in the future). We can identify its three sources: 1) lack of the coherent and operational **definition** of the phenomenon, 2) lack of its precise **measurement** and 3) lack of knowledge, how the phenomenon will **change** in the future.

In literature we can distinguish three main approaches to uncertainty in the migration forecasting: 1) to ignore it (deterministic forecasts), 2) to account for it in a deterministic manner (multi-variant deterministic forecasts), 3) to account for it in a stochastic manner (forecasts expressed in terms of the probabilities).

## Forecasting results

The aim of the 6th Working Package of IDEA was to provide forecasts of immigration into seven European countries (Austria, Czech Republic, France, Hungary, Italy, Poland and Portugal) in the horizon of 2025. To do it, we relied both on quantitative data and the knowledge of country-specific migration experts obtained by means of the Delphi survey.

The general conclusion is that the immigration flows are expected to increase in all the countries. As far as the uncertainty is concerned, while it is growing over time in all the cases, its magnitude differs among countries. The widest uncertainty spans are observed for Austria, Czech Republic and Italy, whereas the narrowest ones were obtained for France and Hungary. In all the cases, with the exception of Portugal, the expert knowledge increased the uncertainty of the forecasts. This result may stem from the fact, that the experts have the knowledge about the past events not reflected in the data, and based on it, they formulate their opinions and judgments concerning the future, increasing merely data-based uncertainty.

Forecasts of the shares of the immigration flows from the most important directions in the total inflows were in line with the tendencies indicated by the experts. However, the predictive uncertainty was too large to draw any meaningful conclusions upon it.

With respect to the analysis of the impact of additional economic and demographic variables, the outcomes show a rather clear pattern. Firstly, the two macroeconomic covariates

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considered (GDP growth rate and unemployment rate in the receiving country) appeared to have hardly any influence on migration, while the impact of the two demographic variables (the natural population growth rate and the share of the productive-age population group in the destination country) was found significant in most of the cases. On the other hand, the demographic covariates fail to provide more meaningful and precise migration forecasts, the expert knowledge support notwithstanding. Moreover, in many cases the counter-intuitive signs of the parameter estimates render the interpretation of the outcome at least dubious. Such results (no impact of economic variables detected, suspicious estimates in the demographic covariates study, meaningless forecasts) may have various roots, e.g. the short data series at hand, narrow scope of measures chosen for the study as well as their inner imperfections, the simplicity of statistical tools employed for the analysis.

## Conclusions

Stochastic methodology of forecasting of migration does not impact the character of the process itself. It just addresses the fact that migration is difficult to predict. Consequently, the use of deterministic models without an appropriate warning blurs the picture, giving untrue impression that migration can be predicted.

The study confirmed, that the migration processes are hardly predictable. The expert knowledge has influence on the characteristics of the processes, but not on their general nature. However, its inclusion in the analysis is important, due to the shortness of the data series and their often low quality. Moreover, the study indicates that the impact of migration covariates may be difficult to detect. Finally, it seems that due to the unpredictable nature of the migration process, too long forecasting horizons are useless.

It should be borne in mind, that the decisions made on the basis of such forecasts will strongly depend on nature, objectives and constraints of the decision problem, as well as the preferences of the decision makers. The decisions should account for possible costs of under or overestimation of the future migration. The quantified degree of uncertainty and variability of the migration processes is itself an important piece of information for the decision makers