MIRREM
Measuring Irregular Migration

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PUBLIC DATABASE ON IRREGULAR MIGRATION FLOW ESTIMATES AND INDICATORS

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THE MIRREM PROJECT

MIrreM examines estimates and statistical indicators on the irregular migrant population in Europe as well as related policies, including the regularisation of migrants in irregular situations.

MIrreM analyses policies defining migrant irregularity, stakeholders' data needs and usage, and assesses existing estimates and statistical indicators on irregular migration in the countries under study and at the EU level. Using several coordinated pilots, the project develops new and innovative methods for measuring irregular migration and explores if and how these instruments can be applied in other socio-economic or institutional contexts. Based on a broad mapping of regularisation practices in the EU as well as detailed case studies, MIrreM will develop 'regularisation scenarios' to better understand conditions under which regularisation should be considered as a policy option. Together with expert groups that will be set up on irregular migration data and regularisation, respectively, the project will synthesise findings into a Handbook on data on irregular migration and a Handbook on pathways out of irregularity. The project's research covers 20 countries, including 12 EU countries and the United Kingdom.

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README FILE

BACKGROUND

This *Public Database on Irregular Migration Flow Estimates and Indicators*, in short MIrreM D5.2, is a MIrreM project deliverable under work package 5. This database provides an inventory and critical appraisal of available estimates and indicators related to irregular migration flows. More specifically, the database contains the country-level data collected by MIrreM's national rapporteurs, as well as EU-level data from sources other than Eurostat. The datasets include meta-level information on sources and methodology and a quality assessment based on MIrreM's criteria. Users of this database are advised to consult the following **companion document** (henceforth, MIrreM Working Paper No. 9/2024) for a full discussion of the context, the underlying concepts, and the methodology used:

> Siruno, L., Leerkes, A., Hendow, M. & Brunovská, E. (2024). Working Paper on Irregular Migration Flows. MIrreM Working Paper No. 9. Krems: University for Continuing Education Krems (Danube University Krems). https://doi.org/10.5281/zenodo. 10702228.

The MIrreM project is a follow-up to CLANDESTINO, which covered the period 2000-2007. MIrreM extends this to the subsequent period 2008-2023. The data covered in this database reflect what is available within this period. Most of the data was collected between June and October 2023, and thus in some cases, the data are only until 2022 pending complete reports for 2023.

There is a separate *Public Database on Irregular Migration Stock Estimates* which provides an inventory and critical appraisal of country-level estimates of irregular migration stocks:

> Kierans, D., Vargas-Silva, C., Ahmad-Yar, A.W., Bircan, T., Cacciapaglia, M., Carvalho, J., Cassain, L., Cyrus, N., Desmond, A., Fihel, A., Finotelli, C., Gonzalez Ramos, M.P., Heylin, R., Jauhiainen, J.S., Kraler, A., Leerkes, A., Rössl, L., Schütze, T., Siruno, L., Sohst, R. (2024). MIrreM Public Database on Irregular Migration Stock Estimates. Krems: University for Continuing Education Krems (Danube University Krems). https://doi.org/10.5281/zenodo.10646739.

A comprehensive analysis of these stock estimates will also be published in a forthcoming *Working Paper[1],* and the full methodology used in in the data collection and quality assessment of MIrreM data on stocks and flows will also be made available at a later date.

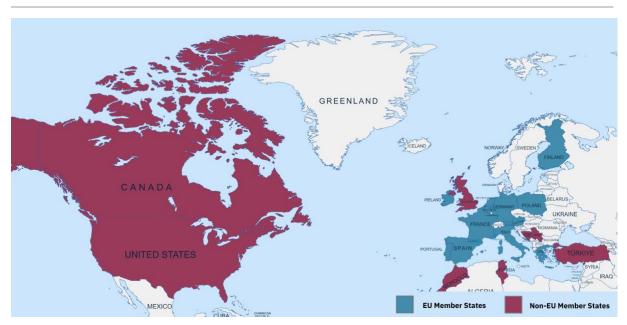[1] Outputs from the MIrreM Project can be accessed in this Zenodo page:
https://zenodo.org/communities/101061314/records?q=&l=list&p=1&s=10&sort=newest.

STRUCTURE

The database consists of the following files:

1) This README file which documents background information about the database and its structure;
2) A main (structured) database which provides an overview of all available country- and other EU-level flow indicators and their corresponding quality assessment; and
3) A linked ZIP file organised by country or data source which contains the raw data and accompanying context document. Please note that the context document does not only pertain to irregular flows, but covers irregular migration data in general, including irregular migrant stocks.

As noted in MIrreM Working Paper No. 9/2024, of the 20 countries covered in MIrreM, only the US has available data on flow *estimates*. The data are not included in the main database of flow *indicators,* but the dataset is available in the country subfolder. For the rest, the data available are *indicators* of irregular migration flows.

COVERAGE AND NATIONAL RAPPORTEURS

Figure 1. Geographical overview of countries covered in the MIrreM Project (adopted from MIrreM Working Paper No. 6[2])

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[2] Hendow, M., Qaisrani, A., Rössl, L., Schütze, T., Kraler, A., Ahmad Yar, A. W., Bircan, T., Oruc, N., Mohan, S. S., Triandafyllidou, A., Jauhiainen, J. S., Smolander, S., Toivonen, H., Cyrus, N., Nikolova, M., Desmond, A., Heylin, R., Cacciapaglia, M., Bonizzoni, P., … Sohst, R. R. (2024). Comparing national laws and policies addressing irregular migrants. Zenodo. https://doi.org/10.5281/zenodo.10782561.

The following Table lists the countries (and data sources other than Eurostat) covered in MIrreM and the respective rapporteurs who collected and assessed the data:

Table 1. MIrreM geographic coverage and national rapporteurs on irregular migration flows

Country	Rapporteurs	Institutional Affiliation
EU countries		
Austria	Lydia Rössl & Theresa Schütze	University for Continuing Education Krems (UWK)
Belgium	Maria Paula Gonzalez Ramos & Tuba Bircan	Vrije Universiteit Brussel (VUB)
France		
Finland	Jussi S. Jauhiainen	University of Turku (UTurku)
Germany	Norbert Cyrus	Univesity of Osnabrück (UOS)
Greece	Marina Nikolova	Hellenic Foundation for European and Foreign Policy (ELIAMEP)
Ireland	Ruth Heylin & Alan Desmond	University of Leicester (ULEIC)
Italy	Maristella Cacciapaglia	University of Milan (UMIL)
Netherlands	Lalaine Siruno & Arjen Leerkes	Maastricht University (UM)
Poland	Agnieszka Fihel	University of Warsaw (UNIWARSAW)
Portugal	João Carvalho & Sara Santos	Instituto Universitário de Lisboa (CIES-ISCTE)
Spain	Laura Cassain Claudia Finotelli	Complutense University of Madrid (UCM)
Other countries		
Bosnia and Herzegovina	Nermin Oruc	*Independent consultant*
Canada	Shiva S. Mohan & Daniela Ghio	Toronto Metropolitan University (TMU)
Morocco	Abdeslam Badre	*Independent consultant*
Tunisia		
Serbia	Katarina Jovanovic	*Independent consultant*
Türkiye	Ali Zafer Sağiroğlu	*Independent consultant*
UK	Denis Kierans	Oxford University (UOXF)
USA	Rhea Ravenna Sohst	Migration Policy Institute Europe (MPI-E)
EU-level data sources (other than Eurostat)		
FRONTEX	Maegan Hendow & Ema Brunovská	International Centre for Migration Policy Development (ICMPD)
IOM		

Eurostat's compilation of statistics on asylum and the enforcement of migration legislation serves as an example of indicators covering irregular flows such as refusal of entry at the external borders, orders to leave, and returns. <u>Eurostat data is generally not reproduced in this database</u> because it is easily and publicly available, but there are instances when Eurostat is the source of the data reported and assessed by a country rapporteur.

In addition to country-level data, EU-level data from other producers of migration statistics[3] are included in the database. These are:

- FRONTEX's Migratory Map which presents the current migratory situation in Europe, and Annual Risk Analyses which identifies the most important thematic risks for European integrated border management and the most affected regions at the EU external border
- IOM's Missing Migrants Project (MMP) which, since 2014, records people who die in the process of migration towards an international destination

Both data sources provide data on geographic flows, and IOM additionally collects statistics on migrant deaths and disappearances. While this is not exactly a demographic outflow indicator, they are relevant to the discussion as many migrant fatalities have been reported in the context of attempted and suspected unauthorised entries into the EU via the Mediterranean.

DATA COLLECTION

With the same national rapporteurs working on both stocks and flows, data collection for WP5 (flows) was administratively subsumed under WP4 (stocks). Together with the team at the University of Oxford leading WP4 and in close coordination with the University for Continuing Education Krems as the coordinating institution, the team at the University of Maastricht leading WP5 developed the *MIrreM guidelines for data collection of estimates of stocks and flows of irregular migrants and irregular migration indicators* to streamline the data collection process. This comprehensive document reiterates the purpose of the exercise as well as operational definitions, and illustrates, with concrete examples from the UK and the Netherlands, the reporting matrices for the collection and assessment of stock and flow estimates and flow indicators. Apart from the written guidelines, reporting templates (Excel sheets for the estimates and indicators, and a Word document with the country context questionnaire) were developed and shared with all the rapporteurs. In brief, national rapporteurs were instructed to:

- Compile relevant irregular migration data and record them using the templates provided;
- Assess the quality of the data based on the developed criteria;
- Provide background information, and identify how the data is used in policymaking; and
- Finally, complete the country context questionnaire and reflect on the overall picture of irregular migration data within the specific country assignment.

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[3] We also initially considered data from UNODC's Observatory on Smuggling of Migrants (number of people who arrived irregularly to Europe by the sea) and KCMD's EU Return Dashboard (nationalities that receive an order to leave) but excluded them as UNODC uses FRONTEX data, and KCMD uses Eurostat data. The data from UNHCR-UNICEF-IOM on refugees and migrant children in Europe are also not included in the structured database following the MIrreM conceptualisation of migrant irregularity.

MIrreM Public database on irregular migration flow estimates and indicators

As noted above, please consult MIrreM Working Paper No. 9/2024 for more detailed information on the methodology used.

QUALITY ASSESSMENT CRITERIA

MIrreM's approach to the collection of data on irregular migration stocks and flows generally builds on those developed in CLANDESTINO to maintain some consistency across the two projects. However, there are modifications implemented to account for changes across the different periods and overall purposes of the project. In addition, the approach to assessing the quality of estimates and indicators was refined, notably by explicitly distinguishing between statistical indicators, on the one hand, and estimates, on the other; developing different quality assessment criteria; and collecting information on the use of data in policymaking.

Table 1. MIrreM criteria for quality evaluation of indicators

Criteria	High (3 points)	Medium (2 points)	Low (1 point)
Accessibility	Data is publicly available and electronically accessible with no permissions required	Data is available on request from relevant authorities	Data is available, but access and use are exclusive to authorities
Documentation	Sufficient and transparent information on data and methods are available and accessible; a comprehensive quality report is also available	Limited information on data, methods, and quality are available and accessible	Information on data, methods, and quality are neither available nor accessible
Validity and reliability	Data is representative of the phenomenon it is supposed to measure and adequately reflects the type of irregular migration being measured; data is relatively complete (not highly selective) and does not indicate internal contradictions	Data is selective and points to some internal contradictions	Data is neither valid nor reliable

The first two criteria, accessibility and documentation, are based on the FAIR Data Principles (Findability, Accessibility, Interoperability, and Reusability) which provide guidelines for making data and related resources more accessible and reusable (Wilkinson et al., 2016). Here is a brief explanation of each principle:

1) Findability: Data and resources should be easy to find for both humans and machines through clear metadata and identifiers.
2) Accessibility: Data and resources should be readily accessible, preferably with open access, and permissions should be clearly stated.
3) Interoperability: Data and resources should be structured in a way that allows for easy integration with other datasets and tools.

4) Reusability: Data and resources should be well-described and properly formatted to facilitate reuse, ensuring that they can be used for multiple purposes by different individuals or groups.

To simplify, we have combined findability and accessibility under the rubric of **accessibility**, and interoperability and reusability under **documentation**. When establishing the quality of quantitative data, validity and reliability are two essential considerations. **Validity** is the extent to which the data accurately reflects the type of irregular migration flow it is supposed to measure. In statistics, a distinction is made between internal validity (how well a measure reflects the phenomenon under study) and external validity (the extent to which the measure is representative of the universe and applies to other situations and settings). Meanwhile, **reliability** is the consistency and stability of the data collected and reported over time. For the quality assessment of estimates, there is another criterion, **methodology**, which looks into the appropriateness and adequacy of the method used in the estimation and the extent to which it can be replicated.

Table 2. MIrreM criteria for the quality evaluation of estimates

Criteria	High (3 points)	Medium (2 points)	Low (1 point)
Accessibility	All raw data used to construct the estimate is publicly available and electronically accessible with no permissions required.	At least some of the raw data used to construct the estimate is only available on request from relevant authorities. If some of the data is not available at all, then give 1 point.	At least some of the raw data used to construct the estimate is not available for most potential users.
Documentation	Full documentation about data and methods are available and accessible. The level of information allows for replication of the estimates.	Limited information on data, estimation methods, and quality are available and accessible. Insufficient details to replicate the estimates.	Information on data and estimation methods is neither available nor accessible.
Reliability	Analysis includes demonstrated reliability indicators, with limitations clearly specified (e.g. ranges, alternative calculations, characterisation as minimum or maximum estimate).	Some discussion of reliability, but no indicators in quantitative terms.	Missing a discussion of reliability.
Methodology	Methodology is adequate and comprehensive including, but not limited to, rigorously implemented multiplier or residual studies.	Methodology is adequate, even if not comprehensive, including but not limited to: (1) Simple multiplier calculations; (2) Simple residual estimates; (3) Adjustment of older estimates with partly insufficient data; (4) Aggregate estimates for different groups, partly relying on plausibility calculations.	Inadequate method and application of the method; resulting estimate lacks foundation

It is recognised that there is some element of subjectivity involved with the quality assessment, and the reliability of the results cannot be quantified precisely. Thus, beyond

the numerical scores, rapporteurs were requested to provide sufficient explanation for the score given and as much relevant contextual information as possible.

CODEBOOK

The variables used in the main database are listed in the following Table. It is important to note that **given country variations, definitions of the different flow indicators included in the database are not provided here**, but the individual datasets include background information such as a short explanation of the irregular migration flow being measured, the type of person or institution supplying the information on the indicator, and the methodology used.

Table 4. Description and explanation of simple variables in the main database

Variable	Explanation	Type
Type of flow	Following the MIrreM conceptualisation of migrant irregularity, flows (and corresponding indicators) can be differentiated into *geographic*, *demographic*, and *status-related flows*. Please refer to the Glossary below.	String
Sub-type	Different irregular flows are further distinguished either as events that increase (*inflows*) or decrease (*outflows*) migrant stock within a given territory during a certain period.	String
Indicator	As noted in the Glossary, an indicator as used in this database refers to a metric or variable that relates to an observed or known irregular migration flow. Each type of flow can have different indicators.	String
Source	Source of the dataset to distinguish between *Eurostat*, *FRONTEX*, *IOM*, and *other* sources. To identify *other* sources, the individual datasets should be consulted.	String
Reporting country	The country for which the data is relevant. It is one of the 20 countries covered in MIrreM.	String
Accessibility	One of the three MIrreM criteria for the quality evaluation of indicators. Accessibility refers to how findable the data and whether they are readily accessible. Following the "traffic light" system outlined in Table 2 above, accessibility can be *high*, *medium*, or *low*. When there is no available dataset for the indicator and hence, assessment is irrelevant, it is indicated in the database as *not reported.*	String
Documentation	The second of the three MIrreM criteria for the quality evaluation of indicators. Documentation refers to the availability of metadata for each dataset. Also assessed as *high*, *medium*, or *low* as explained in Table 2, or *not reported*.	String

Validity and reliability	The final of the three MIrreM criteria for the quality evaluation of indicators. Validity is the extent to which the data accurately reflects the type of irregular migration flow it is supposed to measure. Reliability is the consistency and stability of the data collected and reported over time. Like the first two criteria, also assessed as *high*, *medium*, or *low* as explained in Table 2, or *not reported*.	String

GLOSSARY OF TERMS

Table 5. Operational definitions of the concepts central to understanding irregular migration flows

Demographic flows	Births and deaths in irregularity
Estimates	Estimates refer to statistical calculations or approximations that quantify both observed and non-observed or unknown irregular migration flows.
Geographic flows	In- and out-movements across borders
Indicators	Indicators as used in this database refer to metrics or variables that relate only to observed or known irregular migration flows. In other words, indicators of irregular migration flows show the number of actual observations or cases. Eurostat's compilation of statistics on asylum and the enforcement of migration legislation serves as an example of indicators covering irregular flows such as refusal of entry at the external borders, orders to leave, and returns.
Inflows	The events that increase migrant stock within a given territory during a certain period
Irregular migration	In MIrreM, irregular migration is operationally defined as a form of migration that is not "regular," "unlawful," or not according to the rules.
Migrant flows	Migrant flows represent the movement of migrants over a defined period, capturing arrivals, departures, and net migration, providing a dynamic perspective on migration patterns and trends.
Migrant stocks	Migrant stocks refer to the total number of migrants residing in a particular location at a specific point in time, offering a snapshot of the migrant population.
Outflows	The events that decrease migrant stock within a given territory during a certain period
Status-related flows	Falling into irregularity or acquisition of legal status

For more detailed information on the concept of migrant irregularity, please consult the following MIrreM publications:

- Kraler, A. (2023). *Taxonomy of migrant irregularity* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.7875543

- Kraler, A., & Ahrens, J. (2023). *Conceptualising migrant irregularity for measurement purposes, MIrreM Working Paper 2/2023*. Zenodo. https://doi.org/10.5281/zenodo.7868237

DISCLAIMER

This database provides an overview of available indicators and estimates of irregular migration flows, and it is neither exhaustive nor authoritative. Users should be aware that while efforts have been made to ensure accuracy, the data have inherent limitations and variations in quality, and as such, are not directly comparable across different countries. The database authors, researchers and administrators of the MIrreM Project make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability, or availability of the data contained herein. Users are encouraged to independently verify any information obtained from this database, particularly for certain indicators assessed by rapporteurs as having low or medium quality. Users are also advised to reach out to the respective rapporteurs for any specific questions or comments.

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THE MIRREM CONSORTIUM

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