National Audit Office
MALTA



Information Technology Audit

Review of the methodology for the compilation and updating of demographic statistics using multi-source administrative data

OUR VISION

To provide a multidisciplinary professional service to parliament, to Government and the taxpayer and to be an agent of change conducive to achieving excellence in the public sector.

OUR MISSION

To help promote accountability, propriety and best practices in Government operations.

National Audit Office
MALTA

Information Technology Audit

Review of the methodology for the compilation and updating of demographic statistics using multi-source administrative data

Information Technology Audits

Our information technology audits assess whether public sector entities manage and use their information technology securely, efficiently, and effectively. We identify risks and weaknesses in information technology governance, systems, security and controls, and provide recommendations to strengthen resilience, safeguard information, and ensure that technology effectively supports organisational objectives and public service delivery.

Report by the Auditor General

This Report has been prepared under sub-section 108(5) of the Constitution of Malta and sub-para. 5(ii) and para. 7 of the First Schedule of the Auditor General and National Audit Office Act, 1997 for presentation to the House of Representatives.



Charles Deguara
Auditor General

The Auditor General is head of the National Audit Office, Malta. He and the National Audit Office are totally independent of Government. He examines the accounts of all Government Ministries and Departments and may also examine other public sector bodies. He also has statutory authority to report to the House of Representatives on the economy, efficiency and effectiveness with which Departments and other bodies have used the resources voted annually to them in the Estimates.

National Audit Office
November 2026

Table of contents

List of abbreviations 4

Executive summary 5

Introduction 5

Key observations and recommendations 6

Conclusion 7

Chapter 1 – Introduction 8

1.1 Background 8

1.2 Legislative framework governing the National Statistics Office 8

1.3 Scope and objectives of this review 10

1.4 Review methodology 11

1.5 Structure of the Report 12

1.6 Acknowledgements 12

Chapter 2 – Background information and procedures of key data providers 13

2.1 Introduction 13

2.2 Jobsplus 14

2.3 Identità 15

2.4 International Protection Agency 16

2.5 Migration Directorate 17

2.6 Observations 18

2.7 Conclusions and recommendations 19

Chapter 3 – Administrative data and the compilation of population statistics 21

3.1 Background 21

3.2 National Statistics Office's use of administrative data and quality controls 23

3.3 Regulatory compliance and Eurostat submissions 25

3.4 National Statistics Office's vision and future developments 26

3.5 Observations 27

3.6 Conclusions and recommendations 29

Chapter 4 – Management comments 30

4.1 Overall comments 30

4.2 Feedback to NAO's observations and recommendations 32

List of figures

Figure 1: From administrative data to official statistics 5

Figure 2: Example illustrating matching approaches 24

List of abbreviations

AMIF	Asylum, Migration and Integration Fund
API	Application Programming Interface
EU	European Union
GDPR	General Data Protection Regulation
HRIU	Human Resources Information Unit
IPA	International Protection Agency
IT	Information Technology
MITA	Malta Information Technology Agency
MoU	Memorandum of Understanding
NAO	National Audit Office
NASMS	National Asylum Seekers Management System
NIDMS	National Identity Management System
NOIS	National Obstetric Information System
NSO	National Statistics Office
SOP	Standard Operating Procedure

Executive summary

Introduction

a. This review examined the governance framework and operational arrangements supporting the National Statistics Office's (NSO) use of administrative data in the compilation and maintenance of demographic statistics. It also focused on how information from multiple sources is accessed, integrated, processed, and maintained, and whether the supporting systems and processes provide a sufficiently robust basis for producing reliable demographic statistics.

b. The review also considered the wider operating environment and its ability to accommodate changing demands over time. Consideration was given to the scalability and adaptability of existing arrangements considering evolving data requirements, demographic and migration trends, and increasing reliance on administrative data.

c. **Figure 1** provides a simplified overview of the main data flows supporting the compilation of demographic statistics, including the four identified public entities[1].

Figure 1: From administrative data to official statistics



[1] The NSO also receives administrative data from other entities, including the Directorate for Health Information and Research, and Community Malta Agency. In addition, the NSO disseminates demographic statistics nationally and provides data to international organisations other than Eurostat.

Key observations and recommendations

The key observations and recommendations arising from this review are presented under two overarching themes. The first relates to the public entities involved in the provision of population data, while the second concerns the NSO's role in overseeing, coordinating and leveraging such data.

Population data management across public entities

a. Fragmented information flows across multiple systems increase complexity and reliance on manual processes. The National Audit Office (NAO) recommends greater standardisation of data exchanges and metadata structures to improve efficiency, reduce reconciliation efforts, and enhance timeliness.

b. The review identified variations in the validation controls applied across the entities reviewed, creating a risk of inconsistent data quality. The NAO recommends a common minimum validation standard, including mandatory field checks, format verification, and automated anomaly detection, to improve data quality and comparability.

c. The NAO recommends the introduction of digital intake forms, automated scanning, or structured online applications to reduce the risks associated with manual data entry and improve data accuracy, given that two of the entities reviewed still rely on manual input at the initial stages of the process.

d. Planned system developments at two of the public entities involved in the population data process present opportunities to enhance data management but also introduce transition risks. The NAO recommends the implementation of comprehensive transition arrangements to ensure data continuity, preserve integrity and metadata, and maintain the comparability of demographic information over time.

e. The Memorandum of Understanding (MoU) arrangements underpinning population data sharing provide a sound basis for cooperation. However, greater standardisation of operational requirements and validation procedures is needed to ensure consistent implementation across entities.

Oversight and coordination by the National Statistics Office

a. The absence of a centralised population register means that demographic statistics must be compiled using data from multiple administrative sources. This increases reliance on data integration and analytical methods and creates challenges in maintaining complete and up-to-date information. Moreover, certain migration flows and residency concepts required for official statistics are not directly captured by any administrative source, resulting in data gaps. Consequently, the challenge extends beyond integrating multiple data sources to estimating demographic phenomena for which complete administrative data is not available.

b. The varied nature of administrative data sources requires extensive data matching and validation activities, increasing operational complexity and the risk of inconsistencies. Greater standardisation of identifiers, classifications, and reporting arrangements would support more efficient data integration.

c. The planned transition to a register-based combined census represents a significant opportunity to improve efficiency and reduce respondent burden. Successful implementation will depend on the quality, completeness, and interoperability of administrative data, supported by appropriate readiness planning and testing.

d. Robust quality assurance procedures contribute to the reliability of demographic statistics. However, these processes are resource-intensive and dependent on specialised expertise. Increased automation would help address data quality issues more effectively and reduce manual effort.

Conclusion

Given NSO's long-term vision of making greater use of administrative data and moving towards a register-based combined census, this review seeks to support that objective by identifying opportunities to strengthen the arrangements underpinning the provision and management of population data.

Against this backdrop, the review highlighted the increasing importance of administrative data in the production of demographic statistics and the significant efforts undertaken to ensure the reliability of statistical outputs. At the same time, reliance on multiple data sources, different information systems, manual processes, and resource-intensive quality assurance procedures continue to present operational challenges.

The recommendations put forward seek to strengthen data quality, interoperability, and automation across the demographic statistics production process. This Office is confident that their implementation would improve efficiency, reduce operational risks, and enhance the long-term sustainability of demographic statistics. This is particularly important given the NSO's long-term vision, aligned with developments at European level and discussions surrounding the new regulation, to progressively move away from traditional, labour-intensive census methods towards more integrated, register-based statistical systems. In Malta, this transformation is expected to materialise more fully through the 2031 Census, envisaged as a combined census, supported by planned system developments and the future establishment of a statistical population register.

Chapter 1

Introduction

1.1 Background

1.1.1 In 2022, the NAO conducted an Information Technology (IT) audit of the online component of the 2021 Census. The audit examined the planning and implementation of the census, including data collection processes, data integrity and security, technological challenges, and project costs.

1.1.2 The Census of Population and Housing, carried out every ten years, is a large and complex national exercise. Its results serve as a key reference for statistical work over the following decade, and it requires substantial financial and human resources. For this reason, the NSO undertakes a coordinated, organisation-wide effort to ensure the census is completed successfully.

1.1.3 During the 2021 Census, the NSO faced a notable disadvantage compared to some European Union (EU) Member States. These European statistical offices were able to rely mainly on administrative registers instead of conducting a full traditional census. This approach was not considered feasible in Malta, as the available administrative sources were not sufficiently complete and robust to support a fully register-based census. Moreover, administrative registers do not capture all the concepts and variables required for census purposes, meaning that additional data collection and statistical methods remain necessary.

1.1.4 Following the NAO's audit, the NSO intensified its efforts to strengthen cooperation with administrative data providers. These efforts include proposed legislative updates and improvements to administrative registers to ensure better alignment with statistical requirements. Such developments are expected to improve data quality, reduce data collection costs, and lessen the burden on respondents.

1.1.5 The NSO also emphasised the importance of raising awareness across the public service regarding the need to enhance administrative registers for statistical use. Support from public entities, such as the NAO through its recommendations, played a valuable role in promoting this awareness and in supporting the long-term development of a more integrated, efficient, and data-driven national statistical system.

1.2 Legislative framework governing the National Statistics Office

1.2.1 The NSO operates within a legal framework made up of national laws, EU regulations, and public sector legislation. This framework establishes the NSO's mandate, defines its powers and responsibilities, and sets clear rules on independence, confidentiality, and data protection.

1.2.2 The NSO's statutory mandate is established by the *Malta Statistics Authority Act* (Cap. 422)[2]. This Act provides the legal basis for the collection, compilation, analysis, and dissemination of official statistics relating to the demographic, social, environment, economic and general activities and conditions in Malta.

In particular, the Act:

a. establishes the Malta Statistics Authority and the NSO;
b. gives the NSO the legal right to collect data from individuals, businesses, and public bodies for statistical purposes;
c. requires the production of statistics in an objective, impartial, and professionally independent manner;
d. sets strict rules on statistical confidentiality; and
e. defines offences and penalties for misuse of confidential statistical data.

1.2.3 In addition to the primary Act, the NSO operates under subsidiary legislations that regulate specific operational aspects of its functions, including:

a. *Fees Payable to the National Statistics Office for the Processing of Data Requests Regulations* (S.L. 422.01)[3] – governing charges for customised statistical requests.

b. *Requesting and Sharing of Data Regulations* (S.L. 422.02)[4] – enabling structured data exchange with public bodies.

c. *Tax Exemption and Statistical Work for Public Entities Regulations* (S.L. 422.03)[5] – allowing the NSO to conduct statistical work free from certain fiscal constraints.

Collectively, these subsidiary regulations support the efficient execution of the NSO's functions while maintaining accountability and transparency.

1.2.4 As Malta is a Member State of the EU, the NSO is directly bound by Regulation (EC) No 223/2009[6] on European statistics. This Regulation:

a. sets common rules for how European statistics are produced and shared;
b. integrates the NSO into the European Statistical System alongside Eurostat[7];
c. regulates the transmission of data to Eurostat;
d. provides legal authority for access to administrative and private data for statistical purposes; and
e. imposes common standards for statistical confidentiality and quality assurance.

---

2 https://legislation.mt/eli/cap/422/eng
3 https://legislation.mt/eli/sl/422.1/eng
4 https://legislation.mt/eli/sl/422.2/eng
5 https://legislation.mt/eli/sl/422.3/eng
6 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009R0223-20241226
7 The statistical office of the EU responsible for providing high-quality statistics and data on Europe, to support EU policies and decision-making.

The Regulation was significantly amended by Regulation (EU) 2024/3018[8], strengthening access to new data sources and improving crisis responsiveness. EU regulations apply directly in Malta and are mandatory for the NSO.

1.2.5 Since the NSO processes large volumes of personal and business data, it must therefore comply with data protection laws. These include:

a. The General Data Protection Regulation (GDPR), Regulation (EU) 2016/679[9], which applies directly and allows data processing for statistical purposes, as long as appropriate safeguards are in place.

b. The *Data Protection Act* (Cap. 586)[10], which applies the GDPR at national level.

Under this framework, the NSO must protect personal data, limit access to authorised staff only, and ensure that published statistics cannot identify individuals or entities.

1.2.6 In conclusion, the NSO follows clear national and EU laws that regulate how statistics are collected, processed, and published. National legislation, mainly the *Malta Statistics Authority Act*, gives the NSO its legal authority, independence, and strict rules on data confidentiality, while EU laws ensure data protection and consistency across Member States. Together, these laws help the NSO produce reliable statistics and strengthen accountability and public trust.

1.3 Scope and objectives of this review

1.3.1 The objective of this review is to assess the effectiveness, reliability, and efficiency of the information systems, processes, and data integration mechanisms used by the NSO to compile, maintain, and update demographic data using multi-source administrative datasets. It seeks to determine whether the current IT environment adequately supports the compilation of high-quality demographic statistics that are accurate, timely, secure, and in line with applicable national and EU legislative requirements.

1.3.2 The scope of the review is defined to cover the full flow of population data, from its collection and transfer by key public entities to its processing, validation, compilation, and dissemination by the NSO. It assesses how data is received from other public entities including Identità, Jobsplus, the International Protection Agency (IPA), and the Migration Directorate, as well as the methodologies used to consolidate fragmented administrative data into a structured and reliable demographic statistics.

[8] https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=OJ:L_202403018

[9] https://eur-lex.europa.eu/eli/reg/2016/679/oj/eng

[10] https://legislation.mt/eli/cap/586/eng/pdf

1.3.3 Finally, the review also considers the NSO's preparedness to respond to future challenges, including increasing data volumes, more complex migration patterns, enhanced reporting requirements, and potential shifts towards greater use of administrative data. In this context, the review seeks to identify weaknesses, risks, and opportunities for improvement that could strengthen the robustness, sustainability, and future-readiness of the population register and the national statistical system as a whole.

1.4 Review methodology

1.4.1 The achievement of the above objectives was supported by a structured set of methodological approaches designed to gather reliable information on demographic data practices. The process began with preliminary desk research to understand the current environment, identify potential risks, and limitations.

1.4.2 As part of this research, the audit team went through the IT Audit Report on the *Online Malta Census of Population and Housing 2021*, issued by this Office in December 2022, to assess any recommendations related to administrative demographic data. The NAO also considered how other European countries collect, record, and manage demographic information for statistical purposes. This included analysing the types of personal data typically captured, such as names, addresses, dates of birth, gender, and marital status, and systems used to maintain these records, in order to identify good practices and determine whether similar approaches could be adopted locally.

1.4.3 The NAO also considered the pertinent legislative frameworks governing the NSO to understand the legal obligations, mandates, and compliance requirements related to demographic data collection.

1.4.4 An initial meeting was held with the NSO to explain the scope of this review and to understand how demographic information is collected from different sources for population statistics and reporting to Eurostat. During this meeting, the key stakeholders involved in the process were identified, namely Identità, Jobsplus, the IPA, and the Migration Directorate.

1.4.5 Further meetings were held with key officials from the abovementioned stakeholders to understand how each entity manages its administrative data through its respective IT systems, and the specific data sets forwarded to the NSO for statistical purposes.

1.4.6 Following these meetings, the NAO held discussions with key NSO officials to examine the internal processes applied to the datasets received from stakeholders. This included reviewing procedures for data cleaning, validation, analysis, compilation, and the preparation of submissions to Eurostat.

1.4.7 The NAO analysed any policies, procedures, guidelines, or other documentation submitted by the NSO and the relevant stakeholders to identify potential issues or weaknesses related to data management practices.

1.4.8 Upon completion of the information-gathering phase and the assessment of observations arising from stakeholder meetings, the audit team prepared the draft report. This draft was subsequently submitted to the auditees for their comments prior to publication. This was followed by an exit meeting with NSO officials, being the main auditee.

1.4.9 The methodology adopted by the NAO was based on relevant elements of the Control Objectives for Information and Related Technologies (COBIT)[11] framework issued by the Information Systems Audit and Control Association (ISACA).

1.5 Structure of the Report

1.5.1 Following this introductory Chapter, this Report is structured as follows:

a. Chapter 2 includes background information on the key stakeholders, i.e., Identità, Jobsplus, the IPA, and the Migration Directorate. It also examines how they manage their administrative data and how this information is transmitted to the NSO for statistical purposes. Related observations, conclusions and recommendations feature at the end of this Chapter.

b. Chapter 3 follows the same approach to the previous one but focuses on the main auditee, the NSO. It examines the processes used by the foregoing Office to handle the administrative data received from the main entities, including data cleaning, analysis, compilation, and submission to Eurostat.

c. Chapter 4 presents the Management comments provided by the four identified public entities upon completion of this review and the concluding remarks submitted by the NSO following the exit meeting.

1.5.2 The overall key conclusions and recommendations arising from this review are presented in the Executive Summary.

1.6 Acknowledgements

1.6.1 The NAO would like to thank all key stakeholders involved in this review, including the Director General, NSO, the Director, Social Statistics Directorate, and other officials from NSO, Identità, Jobsplus, IPA and Migration Directorate. Their cooperation is greatly appreciated.

[11] https://www.isaca.org/resources/cobit

Chapter 2

Background information and procedures of key data providers

2.1 Introduction

2.1.1 As already mentioned in Chapter 1, the NSO proposed liaising with the IPA and Migration Directorate from within the Ministry for Home Affairs and Security, and Jobsplus and Identità from within the Ministry for Infrastructure, Planning and Employment. Together, these four entities play a crucial role in supplying administrative records for Malta's demographic statistics. This Chapter includes a brief description of the respective procedures in place to provide the required data to the NSO by the abovementioned stakeholders.

2.1.2 Following separate online introductory meetings, the NAO carried out a series of subsequent in-person meetings and walkthroughs at the entities' premises to obtain a clearer understanding of how each entity collects, manages and validates information, as well as the type of data forwarded to the NSO for demographic data. Through these meetings, the NAO obtained a clearer picture of the operational realities behind the data-sharing process, including practical challenges, system dependencies, and the extent to which existing procedures support the NSO's statistical requirements.

2.1.3 Copies of the formal MoU signed by the respective entity and the NSO, were submitted to the NAO upon request. These MoUs establish the official data-sharing framework governing the exchange of administrative records, including clearly defined data requirements, transmission frequency, responsibilities, and agreed metadata standards. These agreements ensure that the NSO receives the necessary information to meet its statistical obligations in a consistent and timely manner.

2.1.4 In addition to the MoUs, the NAO also requested and obtained relevant Standard Operating Procedures (SOPs) followed by the entities when compiling and transmitting data to the NSO. In several cases, entities provided extracts specifically selected for their relevance to this review. These procedures outline internal workflows, validation steps, and quality assurance practices, thereby offering further assurance that the data supplied to the NSO is produced and shared in line with established procedures.

2.2 Jobsplus

2.2.1 Jobsplus traces its origins to the former Employment and Training Corporation, which was established in 1990 under the *Employment and Training Services Act* (Cap. 343)[12]. The subsequent 2018 Act (Cap. 594)[13], bearing the same name, replaced and updated the earlier legislation, while the Agency continued to operate under the revised statutory framework.

2.2.2 The national public employment agency, Jobsplus, connects jobseekers with employers to support the local labour market. It facilitates job placements, career guidance, skills training, and various national and EU-funded employment schemes.

2.2.3 The Agency holds a key role in collecting, managing and updating administrative records on employment, unemployment, jobseekers and labour market data. This information provides an important administrative data source for the NSO and contributes to the compilation, validation and analysis of related official statistics. The quality, completeness, consistency and timeliness of the data maintained by the Agency are therefore important to the NSO's ability to accurately reflect labour market developments and related demographic characteristics in its statistical outputs.

2.2.4 The main IT system used at Jobsplus for managing labour-market administrative data, is the Human Resources Information Unit (HRIU)[14]. This system has a front-end web-based interface through which authorised staff can input, review and manage information. This interface interacts with a central back-end database through an Application Programming Interface (API)[15] allowing different modules and external systems to exchange data in a standardised and automated manner.

2.2.5 Inputting of data is carried out by the Labour Market Intelligence Section, which relies on the built-in validation features of the HRIU system to ensure that information is complete, logically consistent, and aligned with predefined formats at the point of entry. These validation features reduce the likelihood of human error, support uniform data standards, and help maintain the integrity of the administrative records used for statistical and operational purposes.

2.2.6 The main data sources for Jobsplus and the HRIU system originate from multiple data-entry points. The majority of the data is collected through digital forms hosted on the Jobsplus portal. Regardless of the source, whether it's through online forms or APIs, all the data is consolidated into a single centralised database at Jobsplus. This ensures data consistency, reduces duplication and allows real-time updates across all integrated systems.

12 https://legislation.mt/eli/cap/343/eng/pdf

13 https://legislation.mt/eli/cap/594/eng/pdf

14 Server based and hosted on premises at Jobsplus.

15 API acts as a messenger or middle layer between the two components, ensuring secure, reliable, and structured data exchange.

2.2.7 Before transmitting data to the NSO, the Jobsplus IT Department extracts the relevant datasets and performs internal data quality checks to identify inconsistencies, missing values, or anomalies. Any inconsistencies or anomalies detected are corrected or clarified to ensure that the information provided to the NSO is accurate, reliable, and suitable for national statistical purposes. Data is then shared with the NSO through secure, standardised transmission protocols designed to safeguard confidentiality, maintain integrity, and ensure compliance with established data exchange procedures.

2.3 Identità

2.3.1 Identità, formerly known as Identity Malta Agency, was established in 2013 by virtue of *Identity Malta Agency (Establishment) Order* (S.L. 595.07)[16]. This Government Agency is responsible for citizens' identity management and to oversee the implementation of migration-related processes. Through its operational units, including the Public Registry, Identity Cards Unit, Expatriates Unit, Passport Office, Central Visa Unit and Searches Unit, it offers a specialised public service. This includes the issuance and management of electronic identity cards, electronic passports, visas, residence permits, and the registration of acts of civil status and public deeds.

2.3.2 The main databases related to NSO data provisioning are the National Identity Management System (NIDMS)[17], comprising Identity Cards, Residents, Passports and D-Visa modules, as well as the New Public Registry System[18]. On the other hand, the main registers, i.e., external data access platforms, include the Person Register, which is replacing the former Common Database[19].

2.3.3 NIDMS is an online web-based application composed of multiple interconnected modules. It was developed externally, primarily to support the introduction of the electronic chip in passports, and supports the highlighted additional modules, including e-Residence Permits, e-Passports, D-Visas and e-Identity modules.

2.3.4 The Person Register, which includes a user-friendly search interface, automatically generates an identification card number. The Register consists of six main modules, namely Core Person Details[20], Basic Details, Identity Card (Malta), Identification Document, Birth, and Marriage.

2.3.5 All data exchanged between the interconnected systems is encrypted to safeguard its confidentiality and integrity, with system-to-system communication facilitated through APIs. As part of its normal operational processes, Identità carries out the necessary checks and verifications of application data before it is approved and made available for subsequent use.

---

16 https://legislation.mt/eli/sl/595.7/eng/portalpdf

17 The corporate system established in 2009, hosted by the Malta Information Technology Agency, which replaced the Identity Card Issuing System.

18 An internal database that feeds into the Person Register and includes, amongst others, information on births, deaths and civil status events such as marriages, cohabitations, divorces and separations.

19 Serves as a central repository containing data on individuals, residential addresses, relational links between persons, and detailed street-level information.

20 Further divided into four sub-modules, namely Personal Details, Relatives, History and Duplicate Persons.

2.3.6 The NSO has access to data via secure authenticated web services and APIs as the main methods for data consumption. The foregoing Office consolidates and analyses the whole data at its end. Yearly meetings are conducted between Identità and the NSO to confirm the trends observed and investigate any anomalies noted.

2.4 International Protection Agency

2.4.1 The IPA is the statutory authority in Malta responsible for receiving, processing and determining applications for international protection that are lodged in Malta under the *International Protection Act* (Cap. 420)[21]. The Agency was established in August 2020 by LN 194 of 2020, replacing the Office of the Refugee Commissioner. It implements national laws, EU directives, and the 1951 Geneva Convention relating to the status of Refugees and its 1967 Protocol.

2.4.2 The goal of the Agency is to provide a fair and efficient determination process, whilst maintaining high standards in the assessment of applications. This is achieved through the various units within the IPA, mainly the Procedures Unit, Dublin Unit, Protection Unit, Flow Operations Unit, Data and Information Unit, and the Support and Corporate Unit.

2.4.3 International protection may be granted to third-country nationals who cannot return to their country of origin, or to stateless persons who are unable to return to their country of former habitual residence, because of a well-founded fear of persecution tied to specific circumstances, or because of a real risk of suffering serious harm, in line with the criteria established in the law.

2.4.4 The Procedures Unit (Front Office) manages all applications, whether new or renewals[22], for individuals seeking international protection in Malta. It also handles all queries regarding the asylum procedure, documentation renewal, and issues decisions at the end of asylum process. The Unit is also responsible for processing Temporary Protection applications.

2.4.5 The initial processing by the foregoing Unit entails converting the paper form, completed by the applicant in the presence of an IPA officer[23], into a digital format in the National Asylum Seekers Management System (NASMS)[24]. Upon this first registration, two mandatory fields are filled in, namely the assigned reference number and, where applicable, the police number[25].

2.4.6 Once this initial registration is completed, the applicants are asked to fill in a 20-page application form to gather detailed information required for the full assessment of their case, including eligibility for refugee status or subsidiary protection[26].

---

21 https://legislation.mt/eli/cap/420/eng/pdf

22 Once protection is obtained, the certificate needs to be renewed every three years.

23 With the help of an interpreter, where applicable.

24 The system used to store and manage data relevant to population statistics, hosted by the Malta Information Technology Agency.

25 When unavailable, the same reference number is inserted to be able to link the person in question.

26 A form of international protection granted to individuals who do not qualify as refugees but face a real risk of serious harm if returned to their home country.

2.4.7 Subsequently, a quality-assurance check is carried out to verify the accuracy and completeness of the data. This process ensures that any missing and incorrect information is identified and corrected prior to further assessment.

2.4.8 The data obtained for asylum procedures, stored in NASMS, can be accessed via back-end queries by authorised entities such as the NSO and the Immigration Police for statistical or operational purposes.

2.5 Migration Directorate

2.5.1 The Migration Directorate is responsible for the management and delivery of operational processes relating to migration and asylum, including resettlement, relocation, voluntary returns, legal aid, appeals and cooperation with third countries. It leads the implementation of migration-related projects and initiatives, including those supported through EU and international funding. The Directorate works closely with EU agencies, including the European Union Agency for Asylum[27] and Frontex[28], as well as international, intergovernmental and United Nations organisations. It facilitates national inter-agency cooperation on migration and asylum, including irregular migration, and supports the implementation of obligations arising from EU and international legal frameworks. Through these functions, the Directorate contributes to strengthening, modernising and continuously improving Malta's migration governance system.

2.5.2 The Migration Directorate provides the NSO with three datasets relating to statistical assisted voluntary returns, relocations and resettlement. These datasets are used by the NSO in compiling migration and demographic statistics.

2.5.3 For cases involving assisted voluntary returns, the Migration Directorate is responsible for the operational management of the process, including the provision of return counselling and related support services to eligible beneficiaries notably failed asylum seekers and migrants who no longer have the right to stay in the EU.

2.5.4 The Directorate is also responsible for resettlement and transfer processes for individuals referred by the United Nations High Commissioner for Refugees for protection in other countries. Information on resettlement activities are transmitted to Eurostat through the NSO. The Migration Directorate analyses these statistics to compare Malta's relative burden, including comparisons with other countries on a per-capita basis.

2.5.5 The Directorate submits administrative data to the NSO in accordance with the related MoU, using a password-protected spreadsheet file to ensure secure transmission. For demographic purposes, the dataset includes key identifiers such as police-generated reference numbers, names, and other personal details required for statistical processing.

---

[27] https://www.euaa.europa.eu/

[28] https://www.frontex.europa.eu/

2.5.6 It is to be highlighted that as part of legislative initiatives, the European Commission has allocated funding through the Asylum, Migration and Integration Fund (AMIF) to explore and potentially procure, likely through open tender, a more advanced case management system.

2.6 Observations

2.6.1 Information flows across government systems

The absence of a common platform across the four autonomous systems[29] presents a challenge for the centralised aggregation and exchange of data with the NSO, resulting in fragmented information flows and increased reliance on manual processes.

2.6.2 Different levels of validation controls

Jobsplus uses built-in validation features in HRIU, while Identità relies on verification conducted as part of its standard operational processes. Similarly, the Migration Directorate carries out various checks during the application process, mainly in relation to the assisted voluntary returns dataset provided to the NSO. In contrast, the IPA carries out specific quality assurance reviews following data entry. These differences in the nature and extent of data validation controls may result in inconsistent data quality across the different data providers.

2.6.3 Reliance on manual data entry

The IPA and the Migration Directorate still rely on manual input at early stages of the process. The IPA's initial registration and the 20-page form, as well as the Directorate's application form, are manually transcribed into NASMS, increasing the risk of human error.

2.6.4 Upcoming system changes

During the meeting held with Jobsplus officials, the NAO was informed that the Agency is planning to move towards a fully centralised IT system by the end of 2026, that brings together all existing information into one unified platform. Also, the Migration Directorate is exploring procurement of a new case management system through EU funding. Both create a transition risk, especially if data structures or interfaces change.

2.6.5 Dependence on secure file transfers

The Migration Directorate transmits its data through password-protected spreadsheets, which is less robust than automated, standardised API-based transfers.

[29] As already highlighted, Jobsplus uses the HRIU, Identità the NIDMS and the Person Register, whilst the IPA and Migration Directorate both use NASMS.

2.6.6 Data-sharing arrangements

All four entities have an MoU with NSO, defining data-sharing terms and metadata standards. All MoUs currently differ in the extent of their operational detail, whilst the one submitted in relation to the Migration Directorate was originally concluded with the then Third Country Nationals Unit and expired in May 2019[30].

2.6.7 Periodic review cycle

While only Identità reported holding formal annual review meetings with the NSO, the latter maintains regular communication with Jobsplus, IPA and the Migration Directorate, with issues followed up as they arise.

2.7 Conclusions and recommendations

2.7.1 The mix of legacy and modern systems increases the complexity of administrative data flows. The NSO should continue to work with the Malta Information Technology Agency (MITA), the Data Governance Council and the relevant entities to support greater standardisation, including API-based data exchange and common metadata structures, where technically feasible. As a major user of administrative data, the NSO should remain actively involved in government-wide interoperability initiatives to help improve data integration, reduce reconciliation efforts and enhance timeliness.

2.7.2 Validation strength varies across systems. The NSO should work with the relevant entities to establish minimum validation standards, including mandatory fields, format checks, and automated anomaly detection, to improve data quality and comparability. Adequate resources should also be made available to the NSO to develop and sustain this capability.

2.7.3 Manual transcription at the IPA and the Migration Directorate increases the likelihood of errors. The NAO recommends that introducing digital intake forms, automated scanning, or structured online applications to reduce potential related risk and improve data accuracy.

2.7.4 The planned system changes at Jobsplus and at the Migration Directorate, presents both opportunities and risks. The NAO recommends that, in consultation with the NSO, a comprehensive transition plan be established to ensure the continuity of data structures, the smooth and accurate migration of data, the preservation of metadata and data integrity, as well as to maintain the comparability of historical data over time.

2.7.5 The Migration Directorate is to transition to secure automated transfers, aligned with the approach used by Jobsplus and Identità.

---

[30] The expiry of the MoU did not affect the legality of data exchanges, as the *Malta Statistics Authority Act* provides the legal basis for the NSO's access to administrative data.

2.7.6 The MoUs provide a solid foundation, but the level of detail and the supporting procedures differ across entities. The NAO opines that the NSO and the entities involved in this review, to update their respective MoU so that they include clearer operational definitions, and minimum validation requirements. This would improve uniformity and reduce ambiguity.

2.7.7 The NSO should coordinate periodic reviews with all relevant entities to ensure consistent interpretation of demographic variables and the early identification of anomalies.

2.7.8 The NAO recommends the introduction of structured onboarding for new staff within the main stakeholder entities. Such training would familiarise recruits with the NSO's data requests, the required variables, and the expected submission standards. This measure is intended to improve the timeliness, accuracy and overall efficiency of administrative data submissions, thereby strengthening the quality of the statistical process.

Chapter 3

Administrative data and the compilation of population statistics

3.1 Background

3.1.1 Eurostat's Population and Demography domain[31] provides the official population statistics used across the EU. These statistics describe how national populations evolve over time. They include changes in size, age structure, births, deaths, and migration patterns. They serve as a common reference point for EU institutions, enabling the monitoring of demographic trends and supporting policy development. Eurostat also ensures that statistics submitted by Member States are comparable and based on common standards.

3.1.2 Malta's demographic statistics are compiled and coordinated by the NSO, which is responsible for validating the data and submitting it to Eurostat. However, in the absence of a centralised population register, the NSO must compile population figures using multiple administrative datasets, most of which are available at microdata level and require extensive data linkage and validation. This process is complicated by incomplete coverage of certain demographic phenomena, differences between administrative and statistical definitions, inconsistencies in identifiers, and gaps in administrative data. These limitations are particularly evident in migration statistics, where certain flows, including those relating to Maltese nationals and EU citizens, are not comprehensively captured through existing administrative sources.

3.1.3 Consequently, the NSO must not only integrate, link and validate the available administrative data, but also estimate certain population components using statistical methods and auxiliary information sources. Individual demographic components, such as, births, deaths, immigration, emigration and changes in legal status, are therefore analysed and reconciled to derive the overall population estimate. This approach reflects the limitations of the current administrative-data environment and the additional methodological requirements arising from the absence of a centralised population register.

3.1.4 The decennial census remains Malta's primary benchmark for establishing the official population statistics. Each year, the NSO retrospectively updates the previous year's population figures using updated information on asylum seekers, EU nationals, third-country nationals, and Maltese residents.

[31] https://ec.europa.eu/eurostat/web/population-demography

3.1.5 The main administrative source is Identità, which manages the national identity data and residence information. Through its new Public Registry System software application, Identità records births, deaths, marriages, and civil status changes. NIDMS e-ID and eResidence modules record national identity cards and residence permit related data respectively. This system forms the core foundation of Malta's demographic data infrastructure.

3.1.6 To ensure that population statistics are complete and accurate, the NSO supplements core data of Identità with raw information from several other public entities. The latter contribute data that captures different aspects of demographic activity:

a. Jobsplus provides information on employment, work permits, and labour market activity. This helps the NSO identify active foreign workers, detect possible departures, and validate demographic characteristics such as age and nationality.

b. The IPA supplies information on asylum applications, protection decisions, and changes in legal status. These records allow the NSO to track migration flows linked to international protection and ensure that the number of individuals with recognised status are correctly reflected in population figures.

c. The Migration Directorate provides the NSO with administrative data relating to assisted voluntary returns, relocations and resettlement. This information is used in compiling and validating migration and demographic statistics and contributes to measuring migration flows and changes in the resident population.

d. The Directorate for Health Information and Research submits hospital birth notifications, medical death certificates, and cause-of-death information. These datasets enable the NSO to verify the completeness and accuracy of civil registration records and to cross-check births and deaths that may not yet be formally registered.

e. Community Malta Agency[32] is responsible for administering all matters related to Maltese citizenship, including applications for citizenship by birth, registration, naturalisation through long-term residence, and exceptional services based on merit or direct investment in Malta.

Taken together, these sources allow the NSO to build a more complete demographic picture and compensate for gaps or delays in any single administrative system.

3.1.7 Because demographic information is drawn from several administrative systems, each designed for its own operational purpose and using different structures, identifiers, and levels of detail, the NSO must integrate these sources carefully to produce a clear statistical dataset. This requires a robust record-linkage, validation, and cross-checking procedures to ensure accuracy and compliance with Eurostat standards. These processes are particularly important in Malta, which has a small population, high mobility, and a large foreign workforce.

[32] https://legislation.mt/eli/sl/595.38/eng/pdf

3.1.8 Demographic statistics play a central role across Government, supporting planning and decision making in areas such as education, healthcare, housing, pensions, labour markets, and social services. They also inform long-term strategies on migration, economic development, and regional planning.

3.1.9 This Chapter examines how the NSO collects, processes, validates, and reports demographic data, and assesses the extent to which these processes meet Eurostat's methodological and quality requirements. It also considers the main risks that may affect data quality, including system limitations, coordination challenges between entities, and the reliability and completeness of the administrative sources used.

3.2 National Statistics Office's use of administrative data and quality controls

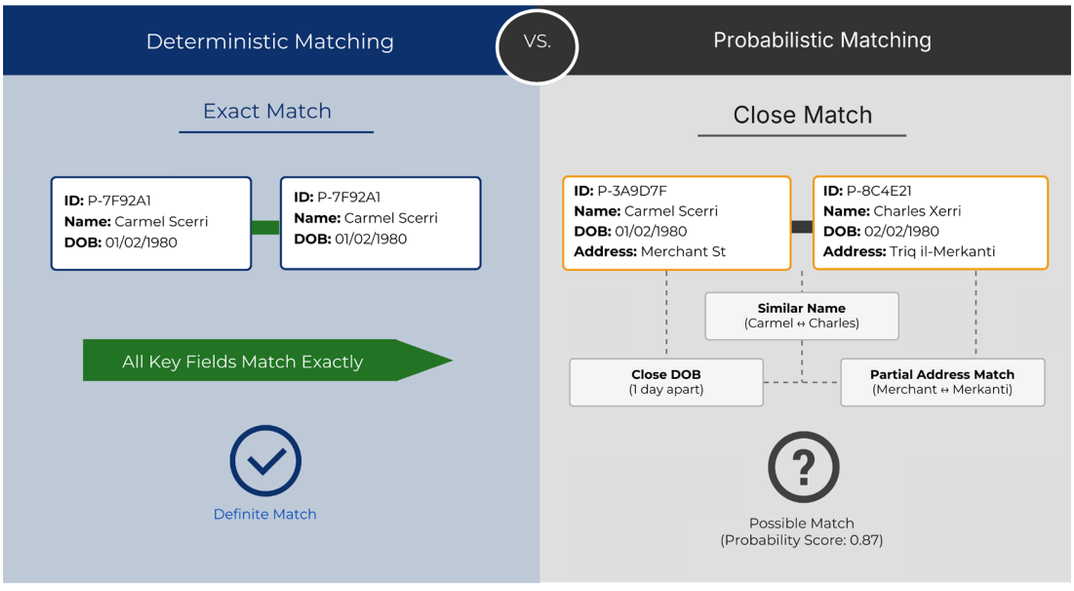
3.2.1 Record-linkage and validation form the backbone of Malta's demographic compilation process. As highlighted earlier, the NSO relies on several core administrative sources namely, Identità, Jobsplus, the IPA, and the Migration Directorate. Additional contributors include the Directorate for Health Information and Research and Community Malta Agency.

3.2.2 Most datasets are transferred to the NSO via a shared drive, following formal requests that specify the required variables, in line with the respective MoU. This arrangement helps ensure that the NSO receives data in a consistent format suitable for statistical processing.

3.2.3 Record-linkage is the process through which the NSO determines whether records from different administrative systems refer to the same individual. Since each entity collects information for its own operational needs, the structure, identifiers, and level of detail vary across sources. To construct a complete statistical record, at least one strong identifier, such as an identity card number, passport number, or residence permit number, must be available to support matching and data cleaning.

3.2.4 When identifiers are consistent across datasets, the NSO applies deterministic matching, linking records directly based on exact agreement. When identifiers are missing, inconsistent, or unreliable, the NSO uses probabilistic matching, which evaluates similarities in personal details such as name, surname, date of birth, sex, citizenship, and address. In such cases, the NSO refers to the Person Register, which is treated as the primary reference source for resolving uncertainties.

Figure 2: Example illustrating matching approaches



3.2.5 These matching procedures enable the NSO to detect potential errors or inconsistencies across administrative sources. When two records contain similar but not identical information, probabilistic matching flags them for further review. This is particularly useful for identifying duplicate entries, resolving spelling variations in names, and recognising cases where an individual's details may have changed over time.

3.2.6 The process also helps the NSO identify possible unreported departures through the linkage and validation of available administrative data. Inconsistencies across relevant records may indicate that individuals are no longer resident in Malta, even though their departure has not been formally recorded.

3.2.7 Once records are matched, the NSO proceeds to the validation stage, where it reviews the linked information to confirm that the connections are credible and internally consistent. This may involve checking whether age ranges are reasonable, verifying the chronological order of events, or confirming that the individual appears in other administrative systems.

3.2.8 Records that fall into an uncertain category are examined further or flagged for follow-up with the relevant entity. The NSO also checks for duplicate entries, inconsistencies in address information, and mismatches in demographic characteristics. These validation steps help identify errors arising from delays in administrative updates, manual data entry, or incomplete reporting.

3.2.9 Cross-validation is another essential step in Malta's demographic compilation process, particularly because no single administrative system captures all population movements. By comparing information across multiple sources, the NSO can identify gaps, delays, or inconsistencies that may indicate unrecorded events.

3.2.10 For example, an individual may appear in Jobsplus employment records but not in the population statistics, suggesting a possible unreported arrival. Similarly, a hospital birth recorded by the Directorate for Health Information and Research may not yet be registered at the Public Registry, indicating a delay in civil registration. Expired residence permits recorded by Identità may point to a departure, especially when combined with the absence of recent activity in other systems. The NSO also relies on data provided by the IPA as the main source of information on individuals' protection status. This information is cross-checked against residence permit data mainly to identify potential duplicate records, particularly where individuals granted protection status subsequently obtain a residence permit.

3.2.11 By integrating multiple administrative sources, the NSO can correct gaps in the population statistics, improve the measurement of arrivals and departures, and ensure that demographic indicators reflect the most accurate information available.

3.2.12 Despite the NSO's extensive efforts to integrate and validate administrative data, risks continue to affect the accuracy of the final demographic dataset. These include inconsistent or missing identifiers, incomplete fields, delays in updating administrative systems, and manual processes that increase the likelihood of human error. To mitigate these risks, the NSO must maintain strong quality assurance procedures and continue strengthening collaboration with data providing entities, ensuring that administrative systems evolve in ways that support the production of high-quality population statistics.

3.3 Regulatory compliance and Eurostat submissions

3.3.1 Eurostat's quality framework requires Member States to produce demographic statistics that are accurate, timely, and methodologically consistent. To meet these obligations, the NSO applies standardised definitions for all core demographic events, maintains transparent documentation of its compilation methods, and ensures that the administrative sources feeding into the process are reliable and up to date. Eurostat also expects Member States to demonstrate how administrative data is validated, how discrepancies are resolved, and how final population estimates are derived.

3.3.2 Within this framework, the NAO was informed that Malta has consistently met all EU demographic reporting requirements, with no related infringements recorded. Eurostat applies a set of automated validation rules to each annual submission, and any issues identified through these checks are flagged for clarification.

3.3.3 For every annual submission, the NSO prepares a detailed quality report outlining the sources used, the methodologies applied, and any known limitations. In the case of births, data is drawn from two primary sources: the National Obstetric Information System (NOIS) and the Public Registry. NOIS is a comprehensive system that collects obstetric and perinatal data from all public and private hospitals in Malta and Gozo. As a result, it may include births that have not yet been formally registered with the Public Registry. Although NOIS does not contain parental details, it provides clinical information such as gestational age, birth weight, and live birth order, the latter being required for Eurostat reporting.

3.3.4 When compiling such a report, the NSO submits two separate data requests to the Public Registry in Malta and Gozo, one in January and another between February and April, in order to capture any late registrations. Since the Public Registry data includes parents' details, their identity card numbers are cross-referenced with other sources such as records from Mater Dei Hospital, Jobsplus, and Social Benefits systems, to confirm signs-of-life indicators[33]. If the person appears in at least one of these sources, the baby is registered as a resident.

3.3.5 When estimating migration flows associated with residence permits, the NSO carries out a series of checks against relevant administrative data, including births and deaths, and reviews residence permits issued since 2013. Although residence permits have defined validity periods, the NSO uses the date on which the permit is issued and physically collected as the entry date, while records with no issue date are excluded from the statistics. Where a permit is revoked before its expiry, the individual is removed from the demographic dataset.

3.3.6 The NSO also reviews gaps in residence permit validity to assess whether individuals continue to meet the usual residence criterion, which underpins the compilation of European demographic statistics. Individuals who do not satisfy this criterion are not necessarily considered tourists but are more appropriately classified as short-term migrants or other non-usual residents, depending on their circumstances.

3.3.7 For data cleaning, validation, and statistical analysis, the NSO primarily uses the R programming language. Once processing is complete, selected datasets are transmitted to Eurostat using a hypercube structure, which organises data across multiple dimensions such as age group, reference year, and country. Submissions are transmitted as encrypted .CSV files, with each row representing a unique combination of categories and its corresponding numerical value.

3.4 National Statistics Office's vision and future developments

3.4.1 The NSO's long term vision, aligned with ongoing developments at European level and discussions surrounding the implementation of the new regulation[34], is to shift to more use of administrative data. This reflects a broader European trend of moving away from traditional, labour-intensive census operations and towards modern, register-based statistical systems. In Malta's case, this transition is expected to materialise fully by the 2031 Census, which is envisaged not as a conventional enumeration exercise but as a combined census. Under this model, a population register would be implemented using administrative data, and a large scale sample survey would then be carried out to collect information not captured in the register. This approach aims to reduce the burden on the individual to fill in the census, improve timeliness, and enhance the overall coherence of demographic statistics.

3.4.2 To support this shift, the NAO was informed that the NSO is actively developing a statistical population register built around signs-of-life methodology. This methodology assumes whether

[33] These may include engagement with services, such as attending to appointments, and presence across multiple administrative registers.

[34] ESOP: The EU's new legal framework for population and housing statistics (Eurostat) | UNECE

a person is residing in Malta based on activity recorded across multiple administrative systems. Such systems include health appointments, social security and tax records, education and childcare databases, elderly care registries, and transport related records. The underlying principle is straightforward: if individuals appear across several of these systems within a given year, the probability that they were living in Malta during that period is significantly strengthened. This multi-source approach is intended to compensate for the absence of a centralised population register and to provide a more dynamic, evidence-based picture of residency.

3.4.3 In parallel with the NSO's internal developments, national reforms are underway to strengthen the administrative infrastructure on which future demographic statistics will rely. Two major initiatives, the Person Register and the Centralised Address Register[35], are being implemented through dedicated legal notices. The Centralised Address Register, in particular, tackles a long standing structural issue: Malta has no uniform national standard for how addresses are recorded across different systems. As a result, inconsistencies in spelling, formatting, and structure have complicated data linkage for quite a long time and reduced the reliability of administrative sources. The new register aims to establish a single, authoritative national framework for address coding.

3.4.4 The target completion date for the Centralised Address Register reform is 2029, after which public entities will have a 48-month adoption period to align their systems with the new register. Consequently, full adoption may extend beyond the preparations required for the 2031 Census. While the reform is expected to improve data quality, reduce duplication, and facilitate the integration of administrative data, the NSO should not assume that it will be fully operational in time to support the 2031 Census. Census planning should therefore be based on the administrative systems and data sources currently available, while retaining sufficient flexibility to incorporate the Centralised Address Register and other reforms as they become operational.

3.5 Observations

3.5.1 Absence of a centralised population register

Malta does not currently maintain a centralised population register. As a result, the NSO compiles population figures through the extensive linkage, integration and validation of microdata obtained from multiple administrative sources. This process supports the measurement of the main components of population change, including births, deaths, immigration and emigration. The main challenge extends beyond combining these datasets, as certain demographic phenomena, particularly some migration flows, are not directly or comprehensively captured through existing administrative systems. The NSO must therefore complement available administrative data with statistical methods, validation procedures and other relevant information to estimate these population components and compile a comprehensive demographic picture.

[35] Including the concept of door numbering.

3.5.2 Fragmented administrative data environment

Demographic information is sourced from multiple administrative systems, each designed for operational rather than statistical purposes. These systems use different identifiers, formats, and update cycles, requiring the NSO to undertake extensive record-linkage, probabilistic matching, and cross validation to construct a coherent dataset. This fragmentation increases the likelihood of missing, duplicated, or outdated records, particularly given Malta's small population, high mobility, and large foreign workforce.

3.5.3 Strong but labour-intensive quality controls

The NSO applies rigorous validation procedures, including deterministic and probabilistic matching, chronological checks, and manual follow-ups with data-providing entities. While these controls support accuracy, they are time-consuming and heavily dependent on staff expertise. They also compensate for systemic weaknesses rather than addressing root causes.

3.5.4 Planned transition to a combined census model

The NSO plans to shift to a register-based combined census for 2031, with the aim of reducing respondent burden and improving the timeliness of census outputs. However, the success of this model will depend not solely on the quality, completeness, and interoperability of administrative sources, but also on the continued development of statistical methodologies to address demographic phenomena that are not directly or comprehensively captured through existing administrative sources. Moreover, given the implementation timelines of ongoing national reforms, planning for the 2031 Census should be based on existing data infrastructures and capabilities, while retaining sufficient flexibility to incorporate future improvements as they become operational.

3.5.5 Key reforms underway but long implementation timelines

Major national reforms, including the Person Register and the Centralised Address Register, are underway. These initiatives aim to standardise identifiers and address formats across entities. However, the full implementation extends to 2029, with an additional 48-month adoption period, meaning that until these reforms are complete, the NSO must continue relying on different information systems and manual processes.

3.5.6 Eurostat compliance but operational vulnerabilities

Malta has consistently met Eurostat's demographic reporting requirements, with no infringements recorded. However, compliance is achieved through significant manual effort to overcome system limitations, rather than through inherently robust administrative infrastructure.

3.6 Conclusions and recommendations

3.6.1 Until a single national central register is in place, the NSO must build the population figures from separate components such as births, deaths, immigration, and emigration. This increases the risk of missing or outdated information. As a result, the NSO is to continue prioritising the development of the statistical population register, based on signs-of-life analytical methods and ensure clear rules for determining who is considered a resident.

3.6.2 The NSO relies on multiple systems that were not designed to operate seamlessly together, resulting in significant effort being devoted to data matching, validation and error correction. The NAO recommends that the Government and the NSO, in collaboration with the relevant stakeholders, strengthen coordination and adopt common standards for identifiers, statistical classifications, definitions, data formats and reporting cycles. This would improve interoperability, facilitate data integration, and reduce data inconsistencies, delays and the need for manual intervention.

3.6.3 The NAO recommends that the NSO explores opportunities to strengthen automated validation controls and standardise data collection processes in order to address data quality issues at source, reduce reliance on manual quality assurance activities, and lessen dependency on individual staff expertise.

3.6.4 The move to a register-based census, which this Office highly commends, will reduce respondent burden and improve timeliness, but it requires high-quality administrative data and strong system interoperability. The NAO recommends that the NSO prepares a comprehensive readiness plan for the 2031 Census, covering data-quality assurance, system testing, and contingency plans if administrative reforms fall behind schedule. It is also advisable that stakeholders are roped in, to actively support the pilot phase, by contributing to the respective designs, and help identify which administrative datasets are most suitable for integration into the NSO's register.

3.6.5 The Person Register and the Centralised Address Register are expected to strengthen the quality and consistency of administrative data. However, with full implementation targeted for 2029, followed by a 48-month adoption period, their timely and effective implementation will depend largely on the entities responsible for developing and managing these national systems, as well as on their adoption by other public entities. The NAO therefore considers it important that Government must do its utmost to keep these reforms on track and promotes their timely uptake. As a key stakeholder and beneficiary, the NSO should continue to engage with the responsible entities and, within its statutory role as the producer of official statistics under the *Malta Statistics Authority Act*, provide appropriate guidance on statistical data requirements and data quality.

3.6.6 The NAO also recommends strengthening the systems and processes supporting the compilation of demographic statistics by increasing automation and introducing system-based controls, including automated validations, reconciliations, and exception reporting where feasible. Such measures could reduce reliance on manual corrective actions and mitigate risks arising from manual intervention. However, the scope for further automation is partly dependent on the quality, structure and interoperability of the administrative data provided by source entities, which falls largely outside the NSO's direct control.

Chapter 4

Management comments

This Chapter presents the overall comments provided by the respective auditees, together with their feedback on the NAO's observations and recommendations set out in the Report. Where necessary, the text in italics reproduces the relevant observation included earlier in the Report for reference purposes.

4.1 Overall comments

Jobsplus

4.1.1 Given the need for extensive interaction with several other parties, Jobsplus cannot unilaterally suggest timeframes for the project, however we are providing our considered feedback on the complexity and likely broad timelines for the individual recommendations.

4.1.2 Jobsplus has been making very intensive and significant efforts to coordinate related matters with the several players involved. The project proposed is very ambitious and will likely need to overcome several challenges including, securing related IT contracts, dedicated project management and operational human resource capacity, budgets, and alignment of different practices (possibly also legislation) across multiple entities including NSO, MITA, Identità, Migration Directorate, IPA, Malta Tax and Customs Administration, Department of Social Security, Malta Business Registry and others.

4.1.3 Our feedback is being made bearing in mind the current Jobsplus landscape, as well as the fact that there are several relevant on-going IT based projects related to the subject matter, with their individual challenges. These include the ongoing Jobsplus IT Modernisation project, the Business Portal preparations, the Person Register, NACE[36] alignment, etc.

Identità

4.1.4 We support greater standardisation across Government entities and recognise the NSO's role as the central coordinator of common data-transfer standards and implementation protocols.

4.1.5 These standards should be developed and reviewed through ongoing inter-agency collaboration, with appropriate representation from relevant stakeholders. We look forward to supporting initiatives that enable the effective use of secondary data for demographic statistics. However, we request that the following comments be addressed:

[36] NACE is derived from the French title *Nomenclature statistique des activités économiques dans la Communauté européenne*, meaning the statistical classification of economic activities in the European Community.

a. While Identità is a contributing entity for population demographics we are mainly engaged with the management of identity data, not population or demographic data. We are clarifying this as we cannot confirm that every person registered with the Agency currently resides in Malta, or that every person residing in Malta is registered with Identità. We do not trace the moment of individuals in such a manner.

b. References to visas in relation to Identità should be limited to D-Visas, namely national visas.

National Statistics Office

4.1.6 The NSO welcomes the conclusions of this review and appreciates the constructive engagement with the NAO throughout the audit. The NSO particularly welcomes the recognition of the extensive work already undertaken to integrate, validate and reconcile multiple administrative sources, as well as the limitations arising from the absence of a centralised population register and gaps within the existing administrative data environment.

4.1.7 The NSO broadly supports the direction of the recommendations and considers that their implementation can contribute to a more integrated and sustainable administrative data environment. In this regard:

a. The NSO will continue developing its statistical population register and signs-of-life methodology, alongside preparations for the 2031 Census.

b. Improvements in data quality, interoperability and automation require coordinated action across Government, particularly by the entities responsible for developing and maintaining the underlying administrative systems, supported by an appropriate legal framework that ensures compliance with the GDPR and other applicable data protection requirements.

c. Progress in these areas will also require adequate and sustained human, technical and financial resources, particularly given the specialist expertise and infrastructure required for data linkage, validation, automation and the development of the statistical population register.

d. The NSO particularly welcomes the emphasis on the Person Register and Centralised Address Register, which have the potential to strengthen the underlying administrative infrastructure supporting official statistics.

4.1.8 The NSO considers this review particularly valuable in giving further impetus to improvements that it has been advocating for several years. The NSO looks forward to continued cross Government cooperation, supported by the necessary resources and clear institutional ownership, so that the recommendations arising from this review translate into tangible improvements in the quality, timeliness and sustainability of Malta's demographic statistics.

4.2 Feedback to NAO's observations and recommendations

4.2.1 *During the meeting held with Jobsplus officials, the NAO was informed that the Agency is planning to move towards a fully centralised IT system by the end of 2026, that brings together all existing information into one unified platform. Also, the Migration Directorate is exploring procurement of a new case management system through EU funding. Both create a transition risk, especially if data structures or interfaces change.*

Migration Directorate

We do not anticipate any significant transition risks. All data currently available in NASMS will be securely backed up and migrated to the new system in a phased and controlled manner, as agreed with the contractor. The migration process will be carried out in accordance with established IT standards and appropriate data protection, security, and continuity measures to ensure data integrity, minimise disruption, and support a smooth transition to the new system.

4.2.2 *The Migration Directorate transmits its data through password-protected spreadsheets, which is less robust than automated, standardised API-based transfers.*

Migration Directorate

The number of applications for voluntary returns is relatively low. All data is double-checked and validated prior to being entered into NASMS.

Meanwhile, we are considering the development of an automated application form within the existing NASMS, whereby common data would only need to be entered once, with relevant existing data automatically populated where available.

4.2.3 *All four entities have an MoU with NSO, defining data-sharing terms and metadata standards. All MoUs currently differ in the extent of their operational detail, whilst the one submitted in relation to the Migration Directorate was originally concluded with the then Third Country Nationals Unit and expired in May 2019.*

Migration Directorate

A new MoU is under discussion. We will ensure that it is signed in the coming weeks[37].

4.2.4 *The mix of legacy and modern systems increases the complexity of administrative data flows. The NSO should continue to work with MITA, the Data Governance Council and the relevant entities to support greater standardisation, including API-based data exchange and common metadata structures, where technically feasible. As a major user of administrative data, the NSO should remain actively involved in government-wide interoperability initiatives to help improve data integration, reduce reconciliation efforts and enhance timeliness.*

[37] As per feedback received at the end of September 2026.

Jobsplus

The implementation of standardised API-based data flows and common metadata structures is considered to be of very high complexity. It would require close coordination between the NSO, MITA, Identità, the IPA, the Migration Directorate and Jobsplus itself. Implementation would also need to take account of dependencies on ongoing or planned initiatives, including the Jobsplus IT Modernisation project, the Person Register and the Business Portal, as well as any further IT investment that may be required. Given these dependencies, full implementation is unlikely to be achievable in the short-term and would therefore require a phased and coordinated approach.

Identità

We already support various web services and APIs that could be used and integrated for these purposes. Some adjustments to these resources may be required following consultation with the NSO and receipt of the relevant requirements.

4.2.5 *Validation strength vary across systems. The NSO should work with the relevant entities to establish minimum validation standards, including mandatory fields, format checks, and automated anomaly detection, to improve data quality and comparability. Adequate resources should also be made available to the NSO to develop and sustain this capability.*

Jobsplus

The establishment of a cross-entity minimum validation standard is considered to be of medium complexity. Although this recommendation is primarily governance-focused, its implementation would require the participating entities to agree on common validation requirements and align relevant business rules. Such alignment may be complex and would require appropriate coordination and dedicated resources.

4.2.6 *Manual transcription at the IPA and the Migration Directorate increases the likelihood of errors. The NAO recommends that introducing digital intake forms, automated scanning, or structured online applications to reduce potential related risk and improve data accuracy.*

Jobsplus

The introduction of digital intake forms and automated scanning is considered to be of medium complexity. Implementation would largely depend on changes to existing IT systems and related processes. Such changes may involve technical and operational complexities and could be affected by system dependencies and implementation delays.

International Protection Agency

With regard to digital intake forms, the IPA currently relies on NASMS, which is the same core system that will be further developed and procured by the Migration Directorate through EU-funded initiatives. While the IPA is actively contributing to this process, it is not the lead contracting

authority. Consequently, the IPA is unable to provide a definitive timeline for the introduction of additional digital intake functionalities. It is not advisable at this moment to expand a system that is already overloaded and which will be replaced in the near future.

Regarding automated scanning, the IPA has already initiated the procurement of a Document Management System. The related tender has been successfully adjudicated, and implementation works are expected to commence shortly. The system includes automated document scanning and indexing capabilities, which will significantly improve document handling, retrieval, and data accuracy. Full implementation is currently expected by mid-2027.

As regards the possibility of introducing fully online asylum applications, this condition has to be rejected. This is subject to significant legal and operational limitations under the Common European Asylum System. The EU Asylum Procedures Directive 2013/32/EU[38], and subsequently Regulation (EU) 2024/1348[39] establishing a common procedure for international protection, require Member States to ensure effective access to the procedure, the provision of information and procedural guarantees, personal interaction with applicants, and the collection of information necessary for the examination of an application. The legal framework also requires applicants to cooperate with the authorities, including through the provision of biometric data and participation in personal interviews. Moreover, the person has to be on the territory to be able to apply for asylum.

In practice, the lodging and registration stages of the asylum procedure require the competent authorities to establish and verify the applicant's identity, collect biometric information, assess potential vulnerabilities, identify any special procedural needs, verify original documentation where available, and provide detailed information regarding rights, obligations and the asylum process. All in a language that the person understands. That is why online applications are not suitable once the application form is signed, there are only specific conditions whereby that information can be changed. Moreover, once the information is formally lodged, it becomes part of the applicant's primary record. Providing this information is a fundamental element of the Common European Asylum System, ensuring that applicants understand the procedure and can effectively exercise their rights. That is why we have specific quality checks in place, both for data and application forms to minimise human error.

From an operational perspective, a fully online application system would create significant risks, including identity fraud, impersonation, false, multiple or duplicate applications, outside of the territory applications and concerns over document authenticity. These risks are compounded by the fact that many applicants may be illiterate, may not understand commonly used languages, or may lack adequate information about the procedure. Given the legal requirement to reliably establish the identity of applicants and safeguard the integrity of the international protection procedures, the IPA considers that the current legal and operational framework does not support the introduction of fully online asylum applications. Digitalisation efforts are therefore focused on improving efficiency through secure electronic case management, digital intake tools and document management systems, while retaining the in-person safeguards required under EU law and maintaining the integrity, security and legality of the asylum process.

[38] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0032

[39] https://eur-lex.europa.eu/eli/reg/2024/1348/oj/eng

4.2.7 *The planned system changes at Jobsplus and at the Migration Directorate, presents both opportunities and risks. The NAO recommends that, in consultation with the NSO, a comprehensive transition plan be established to ensure the continuity of data structures, the smooth and accurate migration of data, the preservation of metadata and data integrity, as well as to maintain the comparability of historical data over time.*

Jobsplus

The preparation of comprehensive transition plans for major system changes is considered to be of medium complexity. In the case of Jobsplus, transition planning could be incorporated within the governance and migration arrangements supporting its ongoing IT Modernisation project. However, the implementation of this recommendation would remain dependent on the successful progression and launch of the modernised system.

Migration Directorate

These technical requirements will be addressed through the new system.

4.2.8 *The Migration Directorate is to transition to secure automated transfers, aligned with the approach used by Jobsplus and Identità.*

Identità

We welcome the use of our existing live APIs and web services by other entities. While we are willing to provide support and assistance, each entity must develop the infrastructure and systems needed to consume data from these APIs.

Migration Directorate

This is something we can consider once the new system is in place.

4.2.9 *The MoUs provide a solid foundation, but the level of detail and the supporting procedures differ across entities. The NAO opines that the NSO and the entities involved in this review, to update their respective MoU so that they include clearer operational definitions, and minimum validation requirements. This would improve uniformity and reduce ambiguity.*

Jobsplus

The updating of MoUs to include clearer operational definitions and validation requirements is considered to be of medium complexity. Implementation would primarily involve governance and legal considerations and would require coordination between the NSO and the participating entities to agree on appropriate definitions, responsibilities and validation requirements.

Identità

We welcome this approach and are ready to work with the NSO, drawing on its expertise to further refine the MoU accordingly.

Migration Directorate

The Migration Directorate is considering the development of an automated application form within the existing NASMS, whereby common data would only need to be entered once, with relevant existing data automatically populated where available.

4.2.10 *The NSO should coordinate periodic reviews with all relevant entities to ensure consistent interpretation of demographic variables and the early identification of anomalies.*

Jobsplus

The introduction of a structured periodic review cycle is considered to be of medium complexity. Existing working-group arrangements could provide an appropriate mechanism through which such reviews are coordinated, thereby supporting a more systematic approach to identifying and addressing data-quality and operational issues.

Identità

This is already done annually with the NSO, and we continue to do this with the required frequency.

International Protection Agency

The IPA agrees with the recommendation in principle. Data quality reviews are already carried out on an ongoing basis through operational and statistical monitoring. These reviews are undertaken regularly in collaboration with the NSO to ensure the accuracy, consistency and reliability of demographic and operational data.

Furthermore, the IPA has been designated as an Official National Statistics Authority, which further strengthens its commitment to maintaining high statistical standards, implementing quality assurance measures and ensuring consistency in the collection, validation and reporting of data. The IPA will continue to work closely with the NSO and other stakeholders to identify anomalies at an early stage and promote the consistent interpretation of demographic variables across all relevant datasets.

4.2.11 *The NAO recommends the introduction of structured onboarding for new staff within the main stakeholder entities. Such training would familiarise recruits with the NSO's data requests, the required variables, and the expected submission standards. This measure is intended to improve the timeliness, accuracy and overall efficiency of administrative data submissions, thereby strengthening the quality of the statistical process.*

Jobsplus

The introduction of structured onboarding and training is considered to be of medium complexity. In the case of Jobsplus, these requirements could be incorporated into existing induction arrangements, SOPs and quality-management initiatives. This would help integrate the recommendation within established organisational processes rather than creating a separate training framework.

Identità

We remain committed to continuously improving our internal processes by updating policies and SOPs to standardise procedures and reduce inconsistencies.

International Protection Agency

The IPA agrees with the recommendation and recognises the benefits of structured onboarding and training for staff involved in data collection, management and reporting. The Agency has already developed a future organisational structure intended to strengthen its data management and statistical functions. However, the full implementation of this structure remains subject to the approval of additional headcount.

Notwithstanding these constraints, the IPA is committed to enhancing its data management capacity. The Agency has applied for AMIF funding, which includes dedicated work packages aimed at digitalisation, improved data governance, and strengthening the human resources capacity of the Data Department. These initiatives are expected to support the development of structured onboarding and training programmes for new staff, improve familiarity with NSO's reporting requirements, and contribute to the timeliness, accuracy and quality of administrative data submitted by the Agency.

Migration Directorate

New staff are always provided with hands-on training in the use of NASMS, including the collation and extraction of data.

4.2.12 *Until a single national central register is in place, the NSO must build the population figures from separate components such as births, deaths, immigration, and emigration. This increases the risk of missing or outdated information. As a result, the NSO is to continue prioritising the development of the statistical population register, based on signs-of-life analytical methods and ensure clear rules for determining who is considered a resident.*

Jobsplus

The development of a statistical population registers supported by a signs-of-life methodology is considered to be of high complexity. This represents a significant strategic initiative that would need to be aligned with the NSO's longer-term preparations towards a register-based 2031 Census. Given the scale of the required methodological, data and system-related developments, implementation is unlikely to be achievable within the short term.

4.2.13 *The NSO relies on multiple systems that were not designed to operate seamlessly together, resulting in significant effort being devoted to data matching, validation and error correction. The NAO recommends that the Government and the NSO, in collaboration with the relevant stakeholders, strengthen coordination and adopt common standards for identifiers, statistical classifications, definitions, data formats and reporting cycles. This would improve interoperability, facilitate data integration, and reduce data inconsistencies, delays and the need for manual intervention.*

Jobsplus

The introduction of common identifier, classification, format and reporting standards is considered to be of high complexity. Implementation would require coordination and agreement across the entities involved, including the alignment of NACE classifications and employer-related data. It would also need to take account of dependencies associated with the Person Register and Business Portal. A coordinated approach would therefore be required to ensure that common standards can be progressively adopted across the relevant systems and data sources.

Identità

We are available and committed to supporting improvements in this area, with the guidance and assistance of the NSO. We also recommend that inter-governmental standards be developed and maintained by a central agency to support consistent best practices for this type of data capture. These standards should be sufficiently detailed and technically robust to clearly define the required procedures.

4.2.14 *The NAO recommends that the NSO explores opportunities to strengthen automated validation controls and standardise data collection processes in order to address data quality issues at source, reduce reliance on manual quality assurance activities, and lessen dependency on individual staff expertise.*

Jobsplus

The strengthening of automated validations and standardisation of data collection processes are considered to be of high complexity. Implementation would need to be aligned with planned system enhancements and wider modernisation initiatives across the entities concerned. Accordingly, progress may depend on the timing and scope of these developments, making coordination between business and technical stakeholders particularly important.

4.2.15 *The Person Register and the Centralised Address Register are expected to strengthen the quality and consistency of administrative data. However, with full implementation targeted for 2029, followed by a 48-month adoption period, their timely and effective implementation will depend largely on the entities responsible for developing and managing these national systems, as well as on their adoption by other public entities. The NAO therefore considers it important that Government must do its utmost to keep these reforms on track and promotes their timely uptake. As a key stakeholder and beneficiary, the NSO should continue to engage with the responsible entities and, within its statutory role as the producer of official statistics under the Malta Statistics Authority Act, provide appropriate guidance on statistical data requirements and data quality.*

Identità

The Person Register is operational, and various entities are already onboarded. We are also in the process of developing further APIs to allow entities to pull and also push data to the register.

4.2.16 *The NAO also recommends strengthening the systems and processes supporting the compilation of demographic statistics by increasing automation and introducing system-based controls, including automated validations, reconciliations, and exception reporting where feasible. Such measures could reduce reliance on manual corrective actions and mitigate risks arising from manual intervention. However, the scope for further automation is partly dependent on the quality, structure and interoperability of the administrative data provided by source entities, which falls largely outside the NSO's direct control.*

Jobsplus

The introduction of automated reporting controls, reconciliations and exception reporting is considered to be of high complexity. From a Jobsplus perspective, this recommendation is aligned with modernisation objectives relating to reporting, audit trails, activity logs and business intelligence readiness. Nevertheless, implementation may involve significant technical and operational complexity and would need to be appropriately incorporated within the wider IT Modernisation project.

Identità

We are continuously identifying and implementing system controls to reduce data input errors.

2025 - 2026 (to date) Reports issued by NAO

NAO Annual Report and Financial Statements

July 2026	National Audit Office Annual Report and Financial Statements 2025

NAO Audit Reports

November 2025	Report by the Auditor General on the Workings of Local Government for the year 2024
December 2025	Report by the Auditor General on the Public Accounts for the year 2024
December 2025	Performance Audit: Home-Based Medical and Clinical Services for the Elderly
December 2025	Performance Audit: A Strategic Evaluation of Malta's Smart Specialisation Strategy for Research and Innovation
February 2026	Follow-up Audit Reports by the National Audit Office Volume II 2025
July 2026	Follow-up Audit Reports by the National Audit Office Volume I 2026
July 2026	Joint Audit: Government Leasing of Private Property - Insights from selected case studies
October 2026	Report by the Auditor General on Government-appointed bodies
November 2026	Performance Audit: Verifying Income Tax Returns