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Glossary

Term or acronym	*Meaning or definition*
B2G	Business-to-government
BRG	European Commission's Better Regulation guidelines
Census	Decennial population and housing census data collection
Census Hub	Web tool for central access to European census outputs
Census Regulation	Regulation (EC) No 763/2008 on population and housing censuses
CES	Conference of European Statisticians
CFR	Charter of Fundamental Rights of the European Union
DEGURBA	Degree of urbanisation
Demography Regulation	Regulation (EU) No 1260/2013 on European demographic statistics
DSS	Directors of Social Statistics (Eurostat expert group)
EEA	European Economic Area
EFTA	European Free Trade Association
EP	European Parliament
ESA	European System of Accounts
ESOP	European statistics on population
ESS	European Statistical System
ESSC	European Statistical System Committee
EU	European Union
EUDPR	Regulation (EU) 2018/1725 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data (EU Data Protection Regulation)
Eurobase	Public database of European statistics disseminated by Eurostat
Eurostat	Statistical office of the European Union, Directorate-General of the European Commission
EU-LFS	European Union labour force survey
EU-SILC	European Union statistics on income and living conditions

FTE	Full-time equivalent
FUA	Functional urban area
GDP	Gross domestic product
GDPR	Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation)
ISG	Interservice group of the European Commission
LAU	Local administrative unit
LGBTIQ+	Lesbian, gay, bisexual, transgender, intersex, queer and other minority gender identities and sexual orientations
MCDA	Multi-criteria decision analysis
Migration Regulation	Regulation (EC) No 862/2007 on Community statistics on migration and international protection
MS	Member State(s) of the European Union
NSI	National statistical institute
NUTS	Classification of territorial units for statistics
OI-OO	'One in, one out' approach to minimise new net burden for citizens and businesses
OPC	Open public consultation
PHD	Private holders of data
REFIT	Regulatory fitness and performance programme of the European Commission
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNSD	United Nations Statistics Division
Usual residence	Statistical concept to establish the population base, i.e. the set of persons (the 'usually resident population') that should be included in population statistics for a given geographic area

1. 1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

Eurostat and the European Statistical System

Eurostat, the statistical office of the European Union (EU), ensures the production of high-quality, comparable European statistics[1] under Regulation (EC) No 223/2009[2] (the 'Statistical law') and the statistical principles, notably those laid down in the European statistics Code of Practice[3]. These rules and principles aim to ensure, among other things, the independence, impartiality, objectivity and reliability of European statistics, and through those objectives public trust in the statistics. The main uses of European statistics are to serve EU policy design and implementation and monitoring, and their main users are EU institutions.

The European Statistical System (ESS) is the partnership between Eurostat and the national statistical institutes (NSIs), as well as other national authorities responsible for developing, producing and publishing European statistics in each Member State. This partnership also includes the European Economic Area (EEA) and European Free Trade Association (EFTA) countries, i.e. Iceland, Liechtenstein, Norway and Switzerland. The ESS functions as a network in which Eurostat's role is to lead the way in the harmonisation of statistics in close cooperation with national statistical authorities, which collect data and compile statistics for national and EU purposes. To fulfil this role, Eurostat issues statistical regulations and methodological guides, organises expert groups, and assesses the quality of statistics and Member States' legal compliance. In line with the EU's principles of subsidiarity and proportionality, each ESS member develops a statistical system suitable to their individual institutional context, while still following the common rules. The ESS also coordinates its work with candidate countries, other Commission departments at EU level, and international organisations, such as the United Nations Economic Commission for Europe (UNECE) and other United Nations (UN) bodies.

Eurostat's activities are further influenced by overarching policies such as the EU's Better Regulation agenda[4], which promotes open and transparent EU decision-making and evidence-based decisions, and European Commission President Ursula von der Leyen's six political priorities, among them 'An economy that works for people', 'Promoting our European way of life' and 'A new push for European democracy'[5]. Implementing, monitoring and assessing these priorities requires impartial and objective data – that is, official statistics.

Policies for the EU's population and citizens

Under Article 9 of the Treaty on European Union (TEU), every national of a Member State, in addition to the national citizenship, is also a citizen of the EU. To define and implement policies and activities benefiting the EU population and citizens in the areas of the EU's powers, as laid

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[1] Statistics in the ESS context are defined according to Article 3(1) of Regulation (EC) No 223/2009 (see footnote 2) as 'quantitative and qualitative, aggregated and representative information characterising a collective phenomenon in a considered population.'

[2] Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities (OJ L 87, 31.3.2009, p. 164).

[3] European statistics Code of Practice, revised version endorsed by the European Statistical System Committee on 16 November 2017 (KS-02-18-142).

[4] https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en

[5] https://ec.europa.eu/info/strategy/priorities-2019-2024_en

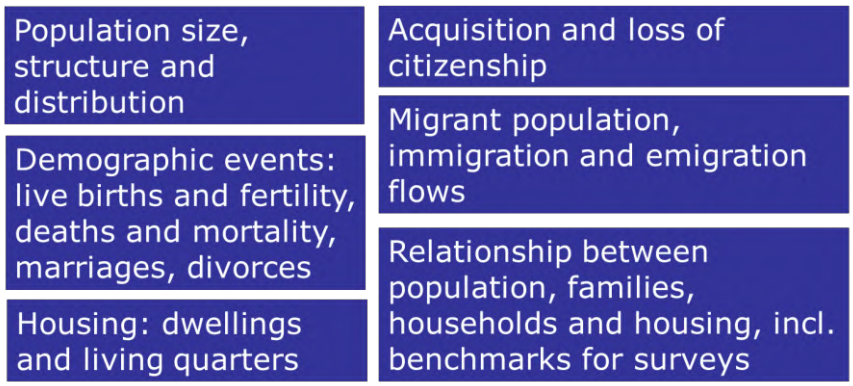

Figure 1 – Scope of European statistics on population

down in Articles 2 and 3 of the Treaty on the Functioning of the European Union (TFEU), EU institutions need timely, reliable, detailed, harmonised and comparable European statistics. To observe the principle of non-discrimination in all its activities and the individual citizens' rights as enshrined in Articles 10 and 19 of the TFEU and the Charter of Fundamental Rights of the European Union (CFR), EU institutions need a reliable and comparable count of the whole population of the EU. Moreover, the Commission is required to monitor and report on the EU demographic situation in line with Article 159 of the TFEU. EU institutions must also have accurate and comparable population figures at their disposal for administrative and procedural purposes, e.g. qualified majority voting in the Council.

The Treaties oblige the European Parliament and the Council to adopt measures for producing official statistics where necessary for EU policies (Article 338 of the TFEU). Over the past three decades, many EU policy areas have seen strongly increasing and evolving needs for complete, coherent, comparable, reliable and regular European statistics on population, demography and international migration[6] to support evidence-based policymaking. For instance, long-standing policy needs that already led to the current legislation concerned economic, social and territorial cohesion, migration (including labour market integration and wider developments) or challenges related to ageing. Policy needs that have emerged more recently concern more detailed geographic patterns, including on migration, EU and regional mobility, urban/rural integration at local levels, monitoring the European Green Deal, and equality and non-discrimination.

European statistics on population

Population and demographic statistics are among the most popular data Eurostat produces, and they are important for almost every area of policy. For instance, EU economic, social and territorial cohesion policies, labour market and integration policies, equality policies and the EU's long-term economic and budgetary projections have been relying on these statistics over the past two decades. However, these statistics also provide essential input for public research and informing the society at large. Finally, population statistics are very relevant to the general public because they describe facts and events that concern each individual.

[6] 'Migration' refers to the general demographic concept of people moving to live in a different country. It excludes specific administrative actions related to the entry and stay of non-EU nationals, such as asylum applications, granting refugee status, border controls and issuing residence permits. Statistics on these areas are specified under Articles 4 to 7 of Regulation (EC) No 862/2007 and have been recently updated.

As part of this initiative and as illustrated in Figure 1, European statistics on population (ESOP) cover official European statistics on population, demographic events and migration, statistics from the population and housing censuses, and the various indicators based on these statistics. Eurostat has published statistics in these areas since 1960, when the first survey on the size and structure of the active population in Member States at that time was introduced. Since then, population statistics have been produced mainly by taking results from a direct enumeration of the population during population censuses and interpolating intermediate periods with information on population changes from civil registration administrative systems (on births, deaths and migration). This means the burden of production has always been mostly on statistical authorities, except for the censuses that interviewed nearly the entire resident population, typically at decennial intervals. The ongoing move from traditional field censuses to combined or even fully register-based modes minimises the burden of production for the general public and moves it onto the statistical authorities.

Until 2007, Member States transmitted all related data on a voluntary basis, which resulted in inconsistencies and lack of completeness or timeliness (see evaluation of the current legislation)[7]. Therefore, after a previous intervention these statistics are now based on legislation adopted between 2007 and 2013. First, Regulation (EC) No 862/2007[8] (Migration Regulation) set out requirements on migration statistics in line with the action plan for the collection and analysis of Community statistics in the field of migration[9]. It includes statistics on: (i) immigration to and emigration from Member States, including from the territory of one Member State to that of another Member State and between a Member State and the territory of a non-EU country; (ii) the citizenship and country of birth of persons usually resident in the territory of the Member States; and (iii) statistics on citizenship acquisitions. Regulation (EC) No 763/2008[10] (Census Regulation) then set out common rules for providing comprehensive census data on population and housing in the EU every 10 years. This ensured compilation of detailed data on specific demographic, social and economic characteristics of persons, families and households, as well as on housing at a national, regional and local level. Finally, Regulation (EU) No 1260/2013[11] (Demography Regulation) laid down common rules for European demographic data, including data requirements on population stocks and vital events such as births and deaths. This Regulation also obliged Member States to provide the Commission (Eurostat) with harmonised data on the total national population to be used as weights for the qualified majority voting in the Council.

All three regulations specified definitions, data variables and periodicity of statistics. Data breakdowns (e.g. demographic or geographical) and detailed tabulations were defined mostly in implementing acts. Eurostat currently collects data from Member States according to data requirements specified in these statistical regulations. Where the legislation does not cover the EU's needs for statistics, Eurostat seeks the agreement of Member States to initiate voluntary data collections. For instance, statistics on marriages, divorces, legally induced abortions, infant mortality and loss of citizenship are currently entirely voluntary. Various breakdowns of live births and deaths (e.g. marital and activity status, educational attainment) and of international migration

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[7] SWD(2023) 13.

[8] Regulation (EC) No 862/2007 of the European Parliament and of the Council of 11 July 2007 on Community statistics on migration and international protection and repealing Council Regulation (EEC) No 311/76 on the compilation of statistics on foreign workers (OJ L 199, 31.7.2007, p. 23).

[9] Communication from the Commission to the Council and the European Parliament to present an Action Plan for the collection and analysis of Community Statistics in the field of migration, COM(2003) 179.

[10] Regulation (EC) No 763/2008 of the European Parliament and of the Council of 9 July 2008 on population and housing censuses (OJ L 218, 13.8.2008, p. 14).

[11] Regulation (EU) No 1260/2013 of the European Parliament and of the Council of 20 November 2013 on European demographic statistics (OJ L 330, 10.12.2013, p. 39).

are voluntary as well. To produce regional population projections that are important for the regional and cohesion policies and the European Semester, Eurostat collects voluntary data on regional international migration and interregional migration in the EU.

In 2020, to respond to data needs in the context of the COVID-19 pandemic, Eurostat and Member States set up the voluntary data collection on weekly deaths that also enables the publication of statistics on excess mortality. The evaluation has shown that regular use of voluntary data collections to address important user needs is not sustainable because timeliness and completeness of statistics at EU level cannot be guaranteed as needed. Many Member States compile and publish more extensive national population statistics than currently collected at EU level. However, there are differences in national practices and data availability.

European statistics on population – the backbone of social statistics

Population statistics are the backbone of all social statistics, as they provide the most accurate and up-to-date reference information on the entire population and its basic demographic characteristics. Such a population framework with very good coverage and location information is indispensable for more detailed annual population estimates, data collections based on samples, and regional analysis. Population estimates are also needed to obtain per capita indicators in statistics. Population statistics provide the input for preparing population projections for EU long-term economic and budgetary projections specifically and EU economic, social and cohesion policies more broadly.

In 2014, to comply with emerging statistical needs, the Commission (Eurostat) began the process of modernising social statistics. This led to adopting a common legal framework for European statistics on persons and households, based on data at individual level collected from samples of persons and households[12] in 2019. This framework is fundamental for laying a coherent foundation at European level for data collections on samples. This initiative on European statistics on population is the second core element of this modernisation process. Early high-level support for the initiative in the ESS was expressed in the 2017 Budapest Memorandum[13], which endorses action on a flexible response to changing needs, further harmonisation of concepts and definitions, and expanding annual data collection, including on migration and geographic detail.

European statistics on population and the global data and governance environment

At a global level, there is action to coordinate and harmonise population and housing censuses through the World Population and Housing Census Programme, which is developed and updated on a 10-yearly basis under the coordination of the United Nations Statistics Division (UNSD). The current 2020 decennial programme encourages all countries to hold at least one census between 2015 and 2024 and take into account international and regional recommendations on data quality, methods, concepts and definitions. The programme is supported by a set of principles and recommendations for population and housing censuses[14] that provides extensive guidance to countries on the design and implementation of the census. Regional and topical guidelines on the census and different methodological and implementation issues are produced, such as the

[12] Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 establishing a common framework for European statistics relating to persons and households, based on data at individual level collected from samples […] (Text with EEA relevance) (OJ L 261I, 14.10.2019, p. 1).
[13] https://ec.europa.eu/eurostat/documents/13019146/13237859/FINAL+Budapest+memorandum.pdf/96a6db89-1395-44a5-8a46-85e8c49d576c
[14] UN (2017) Principles and Recommendations for Population and Housing Censuses, Revision 3.

Conference of European Statisticians' (CES) recommendations for censuses of population and housing[15]. These CES recommendations are compatible with the world census programme but are focused on the specific circumstances and needs of countries in Europe. Looking ahead to the next 2030 worldwide census round, the foundations of which are currently being prepared, international recommendations are shifting further towards more efficient and versatile production systems, for instance with the 2018 UNECE guidelines on the use of registers and administrative data for population and housing censuses[16] and with the UN *Handbook on Registers-Based Population and Housing Censuses*[17] (draft in progress). These developments also address lessons learned from the COVID-19 pandemic, which showed that modern official statistics systems are needed that minimise dependencies on responses from individual contacts while becoming more efficient to react to ad hoc public needs.

Demography and migration statistics are other areas for which there is fruitful international statistical cooperation. The UNSD issues guidelines on demography, vital events and migration statistics[18], and collects data leading to the publication of the annual *Demographic Yearbook*[19]. Eurostat has integrated the UNSD data request in its data collection, thus helping 43 European countries to avoid transmitting the same data twice to international organisations. In the area of migration statistics, Eurostat also has a close partnership with the International Organisation for Migration, the United Nations High Commissioner for Refugees and UNICEF on methodological, promotional and technical assistance matters[20].

Furthermore, official statistics are being developed and produced in the context of a public data environment that is currently evolving rapidly, given the ongoing digitalisation of all sectors of public life. More and more often over the past two decades, statistical office complement traditional methodological approaches with opportunities offered by Big Data to increase topical relevance, timeliness of data and efficiency. This initially started with the increasing use of administrative register information that is becoming richer and more accurate – a transformation that is still ongoing and not equally achieved in all Member States. In addition, more and more new sources are becoming available (e.g. satellite, social network and mobile operator data), including sources held in the private sector. A modern governance framework including official statistics should embrace all these developments. For instance, the recently adopted Commission proposal for a Data Act[21] provides enablers for business-to-government (B2G) data sharing under certain conditions, including for official statistics. This new opportunity would increase the potential benefits from a modern data environment and incentivise further modernisation of population statistics[22].

Current issues with European statistics on population

As recognised by the evaluation, statistical data on the European population – including demographic and migration events, information on families, and households and housing

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[15] https://unece.org/statistics/publications/conference-european-statisticians-recommendations-2020-censuses-population
[16] https://unece.org/guidelines-use-registers-and-administrative-data-population-and-housing-censuses-0
[17] https://unstats.un.org/unsd/statcom/53rd-session/documents/BG-3e-Handbook-E.pdf
[18] https://unstats.un.org/unsd/demographic-social/standards-and-methods/
[19] https://unstats.un.org/unsd/demographic-social/products/dyb/
[20] e.g. in the framework of the Expert Group on Refugee and Internally Displaced Persons Statistics and the International Data Alliance for Children on the Move.
[21] COM(2022) 68.
[22] C Bosco et al. (2022) *Data Innovation in Demography, Migration and Human Mobility*, EUR 30907 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-46702-1, doi:10.2760/958409, JRC127369.

arrangements – are vital for evidence-based policymaking. In the European context, high-quality statistics across Member States are essential to support many policy areas and initiatives across the EU. Apart from the long-standing use cases mentioned above, four of the six Commission priorities for 2019-2024 (footnote 5) have expressed clear needs for specific relevant European population statistics as data evidence for policy, namely 'A European Green Deal' (renovated, energy-efficient buildings), 'Promoting our European way of life' (fundamental rights), 'A new push for European democracy' (long-term vision for rural areas, rights of persons with disabilities) and 'An economy that works for people' ('Union of equality'). Moreover, the final proposals of the Conference on the Future of Europe[23] have noted a need for further EU-level efforts to collect such data.

Appropriate data evidence for EU policies should be complete, coherent and comparable at EU level as well as timely and frequent enough to support policymaking effectively. A long-standing practical example is cohesion funding, which is allocated on the basis of regional population size and demographic patterns. If the underlying statistics are not comparable across all EU regions, this can distort the allocation of funding. Therefore, it is important that the data collected across Member States are coordinated and consistent to have relevant and comparable data to support policy initiatives and comply with the EU's aims and objectives. This includes ensuring consistent statistical definitions and data collection methods, including the periodicity, timeliness, completeness and required detail of statistical publications at EU level.

In terms of periodicity and timeliness as set out in the current legislation, Eurostat's demographic and international migration data collections are mostly annual and available in full detail 12 months after the reference year. This was insufficient in relation to the COVID-19 pandemic, for instance, when timelier data were needed. Eurostat currently has no data available to answer user questions about EU citizens returning to their home countries as a result of Brexit or COVID-19 until the annual data become available. In addition, a very recent ad hoc collection of statistics on Ukrainian residents in the EU directly before Russia's unprovoked invasion of Ukraine showed that a majority of, but by far not all, Member States could respond with the necessary details on time. Furthermore, EU-level statistics on population and housing censuses are made available only 27 months after the reference year. This delay is considered to be too long by key policy users, even while they acknowledge the complexity of the process in some Member States. There are time lags between the releases of national census results and EU census outputs as well as across Member States.

While measures were taken to align concepts and definitions in the current legal framework, the population base is defined in each regulation with some statistically important differences in the formulation. Moreover, most of the legal definitions currently in place offer default exceptions for Member States to resort to national population definitions where the harmonised concept of usual residence based on 12 months' presence is difficult to determine.

The evaluation has shown that this lack of harmonisation reduces the relevance, coherence, consistency and comparability of statistics across Member States, with negative impacts for decision-making based on them. There is therefore the need for a new legal basis that can provide a long-term framework for necessary developments towards further convergence of population statistics. This should include real progress on harmonisation and sufficient flexibility to adapt better to evolving policy needs and to make the most of opportunities emerging with new data sources. Since there are also potential opportunities for administrative simplification and process

[23] 'Future of Europe: Conference Plenary agrees final set of proposals' (press release IP/22/2763); see measure 15.10.

integration compared to the status quo under three non-aligned legal bases, this initiative is included in the 2022 Commission work programme as a REFIT initiative.

2. 2. PROBLEM DEFINITION

2.1. 2.1. What are the problems?

The evaluation identified issues structured around the following four main problems. The current legal framework:

- does not ensure sufficiently complete, coherent, and comparable statistics, which may lead to suboptimal decision-making (**Problem 1**);
- does not ensure sufficient availability of population data in terms of frequency and deadlines for data transmission (**Problem 2**);
- fails to capture characteristics and details of politically relevant topics or groups, e.g. the data provided to users, and the way it is presented, is not detailed enough in terms of statistical topics, characteristics, and breakdowns for the population in general and relevant specific groups of interest (**Problem 3**);
- is not flexible enough to adapt to evolving policy needs and to enable using data from administrative and other new sources in Member States and at EU level (**Problem 4**).

The next section explains these problems in turn and how significant they are in terms of scale and impact. It also examines the main drivers leading to the problems and reflects on how these problems are likely to evolve in the absence of targeted action.

2.2. 2.2. What are the problem drivers?

2.2.1. 2.2.1. Problem 1: The current legal framework does not ensure sufficiently complete, coherent, and comparable statistics, which may lead to suboptimal decision-making

The most significant quality gap identified by the evaluation in the current legal framework is the lack of harmonisation of the population base. More precisely, three conceptually different definitions for resident population are currently allowed in varying formulations across the three base acts: either strict usual residence based on 12 months' presence, or in default registered residence, or legal residence where strict usual residence cannot be determined. The default options were originally introduced in the legislation to accommodate specific constraints of a small number of Member States. However, as more and more countries are relying on administrative data sources, such non-harmonised default definitions are becoming an increasingly common practice across Member States, sometimes even using different definitions for different datasets. Figure 2 illustrates this fragmented landscape across the ESS. Moreover, the legislation is not detailed enough to set out exhaustively what is included in (and excluded from) the population.

An entailed gradual loss of relevance had already been accepted when the current legislation was adopted, since many policy and democratic representation considerations, notably at EU level, require a population base definition (who is counted among the population and who is not) that reflects the actual population present. The compromises detailed above have generally led to a

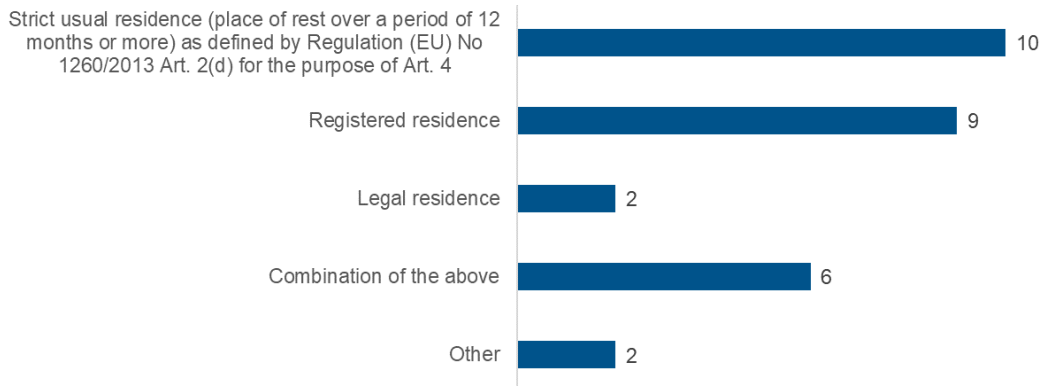

Figure 2 – Population base definitions currently in use across ESS members, according to responses to the NSI survey. (Source: ICF analysis of NSI survey Q4.2.1)

barely sufficient situation in this respect. The Demography Regulation only requires national population figures based on strict usual residence for Council voting weights. However, these figures must be of the highest possible quality[24] but the factual accuracy or comparability achieved is currently not quantified, and the evaluation indicates that the strict definition for this purpose is not implemented consistently in all Member States. (This touches on another issue of reduced completeness, namely insufficient metadata being published along with the statistics, which was also raised by users during consultation surveys and interviews).

The harmonisation gap also entails a situation where the vast body of demographic and migration statistics cannot reach its potential in terms of comparability between Member States and consistency between datasets due to differences in the definitions applied. For instance, different population bases are often used for population stocks and migration flows, which leads to inconsistencies between stock differences and demographic changes (demographic balance) between reference years. During the current legislation's implementation, only between 8 and 14 ESS members have been reporting consistent demographic balances. Regarding comparability, the differences between total populations reported for Council voting weights (strict usual residence nominally enforced) and in other annual datasets (no common population base enforced) may be used as a rough proxy indicator for the remaining level of comparability limitation across Member States. From 2014 to 2020, relative differences over the years were on average smaller than 1% (for 23 of 27 Member States), and the largest relative differences encountered for single Member States were below 5% for any reference year[25].

The open public consultation[26] (OPC) has revealed a complex picture around this harmonisation gap and its relation to coherence and comparability. When asked whether the current statistics are sufficiently harmonised, comparable and/or coherent overall, OPC respondents across all key

[24] A qualified majority under Article 16(4) of the TEU requires at least 15 Council votes representing at least 65% of the EU's population, where some (rare) combinations of Member States can lead to results that are extremely close to the population threshold. For instance, Austria, Belgium, Bulgaria, Croatia, Cyprus, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Poland Portugal and Spain (15 MS) would represent 65.000032% of the EU's population based on 2021 data.

[25] This assessment only addresses national population totals. It is likely that comparability losses are much bigger in certain parts of the population that are hard to capture and/or where the coverage is very sensitive to the population base.

[26] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12958-European-statistics-on-population-ESOP/public-consultation_en

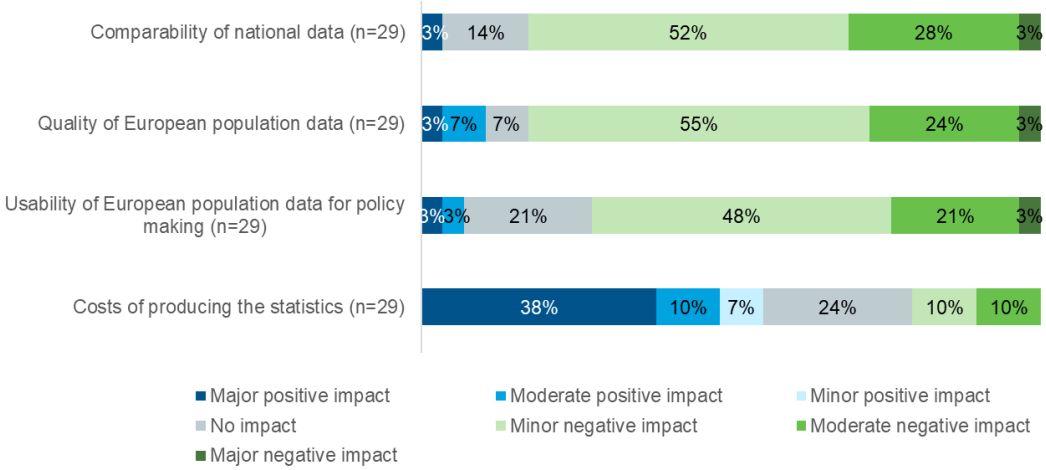

Figure 3 – NSI survey respondents' views on the impact of maintaining different national population base definitions. (Source: ICF analysis of NSI survey Q3.3)

stakeholder groups did not have a strong tendency to either agree or disagree[27]. Across all stakeholder groups, however, there is a lack of knowledge about the current harmonisation gap of the population base definition. Only among researchers, the majority of respondents is aware, but for example in the institutional user group, just about half of the respondents know about this gap. Then, contrary to generic opinions above, once respondents have been made aware of the current harmonisation gap, more than 50% across all stakeholder groups strongly agree that harmonisation would be important[28].

The survey of national statistical institutes (NSIs)[29] and in-depth interviews highlighted that NSIs consider their national definitions to be adapted to the national context and that the benefits of the current use of national definitions centre around meeting current national requirements. Some NSIs asserted that this can lead to not entirely comparable statistics at EU level, which can be an issue for some data users with more advanced needs for comparable population statistics (those for whom precision at a granular level is required). The use of national definitions can also lead to double counting when people move between Member States, which may result in discrepancies in European population statistics. Data users and international partners of Eurostat identified similar problems, for instance when counting people who migrate between Member States to study or work, or where people have second homes and spend parts of the year living in two or more places. Figure 3 illustrates NSIs' (i.e. statistics producers) opinion that the status quo means accepting a trade-off between certain drawbacks for the quality and use of the data at EU level (considered mostly minor impacts) and advantages in terms of reduced production costs of these statistics (considered mostly a major impact).

The lack of rules on time series revision is another gap leading to patchy revision practices across Member States and thus to reduced comparability over time, in particular for Member States relying on more traditional data collection approaches (as opposed to administrative source-based approaches). This is the case for instance when annual data is computed as incremental changes (vital and migratory events accumulating over time) since the last census year and thus suffer from

[27] Responses to OPC survey (Q2.4).
[28] Responses to OPC survey (Q2.5).
[29] Responses to NSI survey (Q4.2.2).

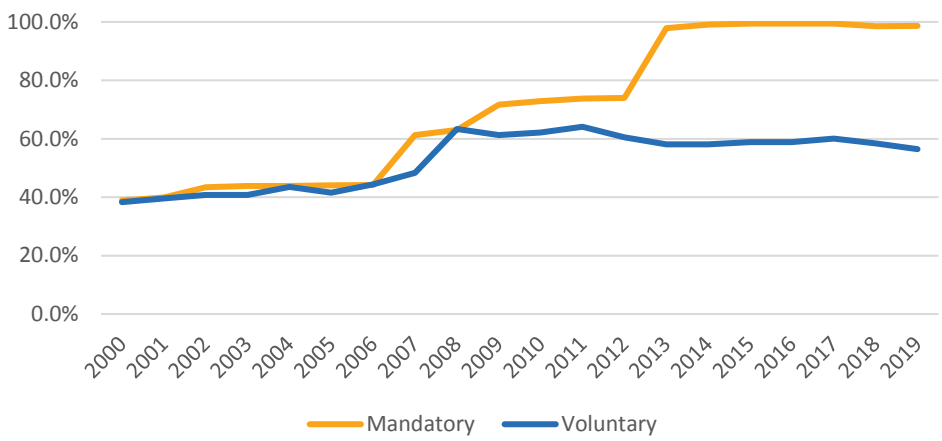

Figure 4 – EU level completeness of breakdowns over time: those that became mandatory under the current legislation and those that are still voluntary today. (Source: Eurostat analysis of Eurobase datasets)

accuracy decreasing with the time gap after the last census. However, the current legal framework does not contain any rules on time series revisions of annual data. The 2011 EU census experience illustrates some consequences, where, on Eurostat's initiative, 18 countries voluntarily revised parts of their annual time series with average correction magnitudes at total population level of around 1.4% but up to 7.5% in individual cases[30]. However, two of these countries only revised back to the reference year of 2011 (Germany; avg. -1.87%) or 2010 (Poland; avg. -0.81%). This meant that breaks in their time series remained around the census year 2011, with the German case extending to a visible time series break of the entire EU population due to the population size of the country. Consequently, most OPC respondents across almost all key stakeholder groups give high priority to potential future improvements leading to better revision rules[31].

Finally, continuing large parts of the statistical outputs under voluntary collections leads to various gaps in quality and other related gaps documented in the evaluation. In particular, a key consequence is the lack of completeness of voluntary statistics across all Member States (Figure 4). This limits the utility for EU-level analysis or publication of EU aggregates, and thus reduces the EU added value significantly. A related issue is the reduced efficiency of this practice: the overall baseline production costs across Member States delivering voluntary statistics fail to deliver significant benefits at EU level. Even if more Member States start producing a given voluntary dataset, the practice will not be cost effective as long as there are other Member States that continue not to produce this dataset. These findings are in line with the opinion of OPC respondents across all stakeholder groups (except statistics producers) that potential future improvements should include measures to regulate data that is currently voluntary[32]. Current completeness and comparability gaps are seen as most critical in the datasets on international migration – from/to and within the EU.

[30] The limitation of footnote 25 applies here too. In particular, a 2014 Eurostat analysis showed that the size of revisions can be much larger in certain population groups, e.g. only in the basic demographic breakdowns by age and sex corrections up to +21% were found (for males aged 20-24 in Ireland).
[31] Responses to OPC survey (Q3.16).
[32] Responses to OPC survey (Q3.13, Q3.14).

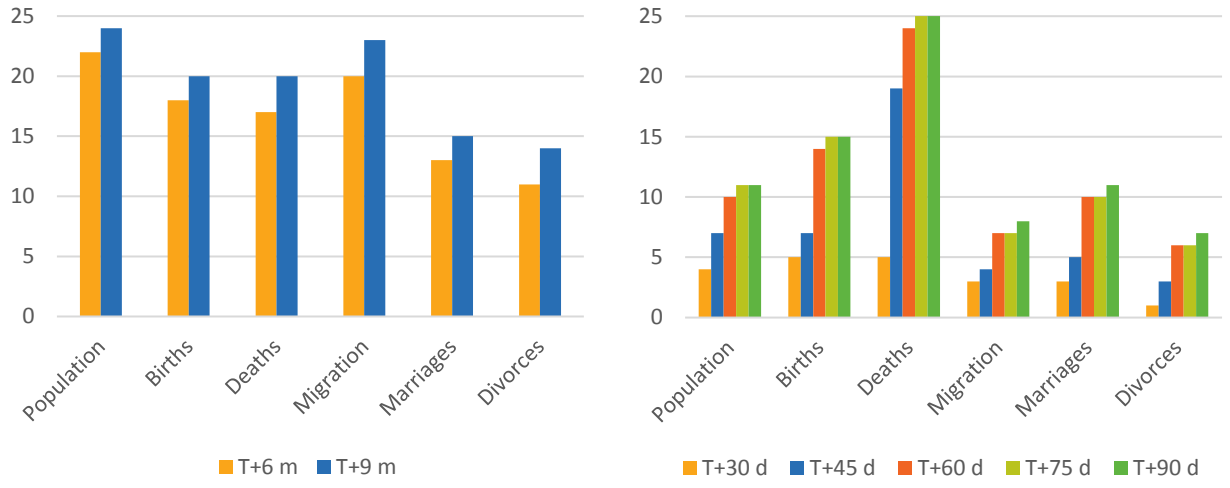

Figure 5 – Number of ESS members currently publishing national data with annual frequency (left) and with infra-annual frequency (right), by statistical topic and by timeliness. Source: Eurostat analysis of information from NSI national websites (state as of 08/2021).

2.2.2. 2.2.2. Problem 2: The current legal framework does not ensure sufficient availability of population data in terms of frequency and deadlines for data transmissions

Currently, mandatory demographic and international migration statistics are published with an annual frequency and a default deadline of 12 months after the reference period (timeliness) for the full details. These annual data are complemented by detailed decennial EU outputs from population and housing censuses that are published based on national schedules within a deadline of 27 months from the end of the census year (e.g. by March 2024 for 2021 EU census outputs)[33].

The stakeholder consultation has revealed that the current frequency and timeliness of the publication of statistics remains below user expectations. There were no strong opinions from OPC respondents across all stakeholder groups (and only a minority of respondents among institutional users found that the current statistics were generally not timely enough). However, population and housing census outputs were mentioned most often as most critically affected by insufficient frequency and especially timeliness[34]. The targeted consultation of Commission departments (representing EU-level institutional users) also indicated critical gaps. In particular, regarding frequency, various EU policy areas (e.g. rural integration, seasonal movements between rural and urban territories including workers) have been identified as requiring at least quarterly data on population stocks and demographics, including migratory events. Moreover, monitoring the European Green Deal requires housing data more frequently than every 10 years, including data on energy characteristics of housing[35].

Similarly, responding effectively to disruptive events or crises – requiring effective measures for quick and very frequent (e.g. monthly or weekly) ad hoc data collections – has become more

[33] Whereas 15 Member States already publish national population and migration estimates monthly or quarterly, and a majority of Member States publish national census results much faster than within the 27 months at EU level.
[34] Responses to OPC survey (Q2.4).
[35] Responses to the targeted consultation of statistical correspondents of Commission services.

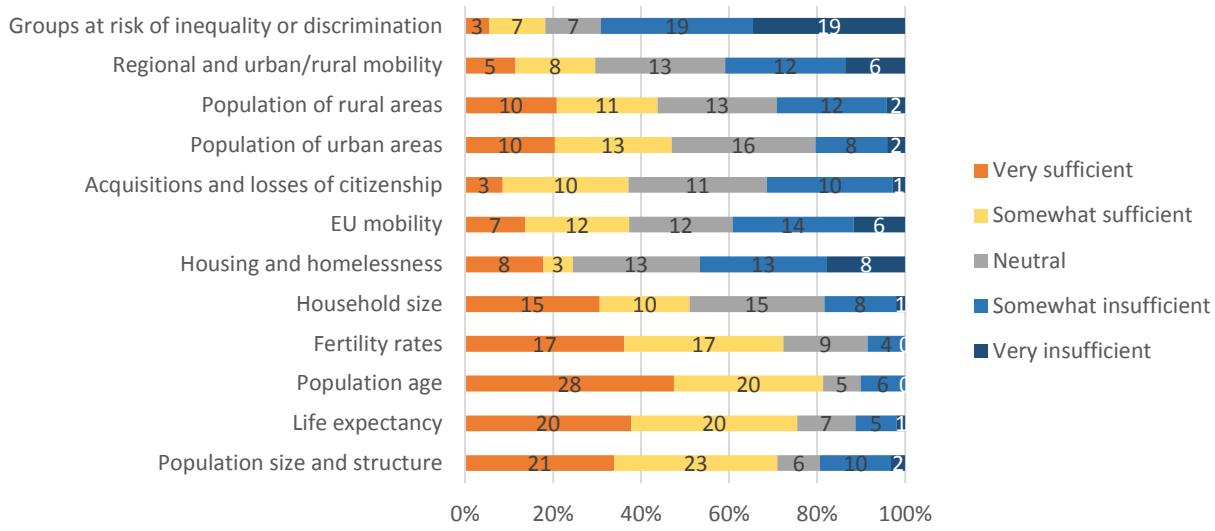

Figure 6 – Views of OPC respondents from all professional user groups (institutional, researchers and other) on the sufficiency of current data, by demographic or societal change topic and excluding answers 'don't know'. Source: Eurostat analysis of OPC responses to Q2.3

important during the past decade. For instance, Eurostat has not been able to sufficiently answer user questions on EU citizens returning to their home countries following Brexit or the onset of the COVID-19 pandemic until the standard annual data became available, and provided that Member States sent voluntary breakdowns. An ad hoc data collection on weekly deaths was initiated to address COVID-19 information needs, but OPC responses indicate that generally such (voluntary – see Section 2.2.1) ad hoc measures may not be sufficient to meet such highly dynamic crisis response needs[36]. These issues are also linked to the lack of flexibility in the legal framework (see Section 2.2.4).

Finally, from the statistics producers' perspective, the frequency with which NSIs publish population statistics nationally varies significantly[37]. However, Figure 5 shows that many of them already publish some statistics topics at national level more frequently and/or more quickly than Eurostat does at EU level. For instance, 22 ESS members publish national population stock data within 6 months of the reference date, which is 6 months earlier than the 12-months legal deadline, and at least 17 ESS members manage to do so for data on vital events and on migration as well. The use of administrative data sources in particular makes more frequent/timely publication less costly and more efficient. In a poll carried out during a consultation workshop with directors of NSIs[38], 64% of respondents indicated improved timeliness as the biggest priority for a future EU initiative. However, increasing the EU-level frequency and timeliness of data collections would likely have varying impacts across Member States, including increased administrative burden (and costs) on some NSIs, with production processes relying less on administrative sources. Nevertheless, there is a similar overall cost-effectiveness argument at EU level as regards completeness (see Section 2.2.1) – understanding that the status quo gets less efficient the more Member States use baseline resources to attain a certain national standard without reaping the EU added value.

[36] Responses to OPC survey (Q2.6).
[37] Responses to NSI survey (Q2.16).
[38] DSS workshop 'What users want and what modernised population statistics can deliver (inception results)', virtual Teams meeting with 50 registered NSI participants, 23 September 2021.

2.2.3. 2.2.3. Problem 3: The current legal framework fails to capture characteristics and details of politically relevant groups or topics

The evaluation has identified various gaps in detail that have led to a significantly reduced relevance of the current legal framework over time from a policy perspective. In addition, a majority of OPC respondents from professional user groups were of the opinion that, generally speaking, the statistics do not provide enough detail[39]. The most crucial gaps identified revolve around characteristics of politically relevant topics and groups (migrants, migration and mobility within the EU; urban/rural population; vulnerable groups for equality, non-discrimination and fundamental rights policies; energy efficiency of housing for the European Green Deal), as well as around an insufficient geographic detail of the statistics (especially functional typologies and georeferenced data for urban/rural mobility and cross-border analysis). These gaps were confirmed by the targeted consultation with Commission departments, as well as by a majority of OPC respondents across almost all key stakeholder groups – for instance professional users' views shown in Figure 6. Each topic will now be addressed briefly in turn.

Migration and mobility to, from and within the EU

The relevant concept of migration used in ESOP-related statistics is any change of residence at a given geographic level of detail, where the concept used for 'residence' links migration directly to the population base, or any change thereof, at the same geographic level[40]. Therefore, changes of residence at any geographic level across the EU are in principle considered migration flows within the scope of ESOP. This includes international migration (between countries) both from/to the EU and within the EU, as well as internal migration (between regions or other geographic units inside the same country). Moreover, migrant stocks relate to population subgroups with an immigrant background (typically identified by a country of birth and/or citizenship different from the country of residence).

Currently, Eurostat publishes some mandatory data on international migration flows and migrant stocks under the Migration Regulation (flows and stocks by core demographic characteristics and broad groups of countries of origin/destination), complemented by a variety of voluntary data breakdowns of increasing policy relevance, including migration patterns at subnational level, more detailed and ideally single-country information on origin or destination, and socio-economic characteristics. However, as the evaluation has shown, most of these voluntary data are affected by a lack of EU completeness and comparability. Furthermore, there are no European statistics yet for other specific migratory movements (like short-term/seasonal movements or return migration) that receive increasing policy attention but are even harder to capture.

Consequently, OPC responses across user-type stakeholder groups indicate an insufficient status quo; for instance, EU and subnational mobility rank among the most insufficient in professional users' views, as seen in Figure 6. Moreover, out of 92 OPC respondents overall that noted any inadequacies in the current data, the majority identified migration within the EU (66%) directly followed by migration from/to the EU (62%) as high priorities to improve by 2030[41]. This is

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[39] Responses to OPC survey (Q2.4).

[40] It is this defining notion linking migration to a change of residence according to a given population base concept that separates the migration data within the scope of ESOP (Article 3 of the Migration Regulation) from the other statistics on administrative and judicial events related to international migration, legal and irregular migration under Articles 4 to 7 of the Migration Regulation.

[41] Responses to OPC survey (Q2.4).

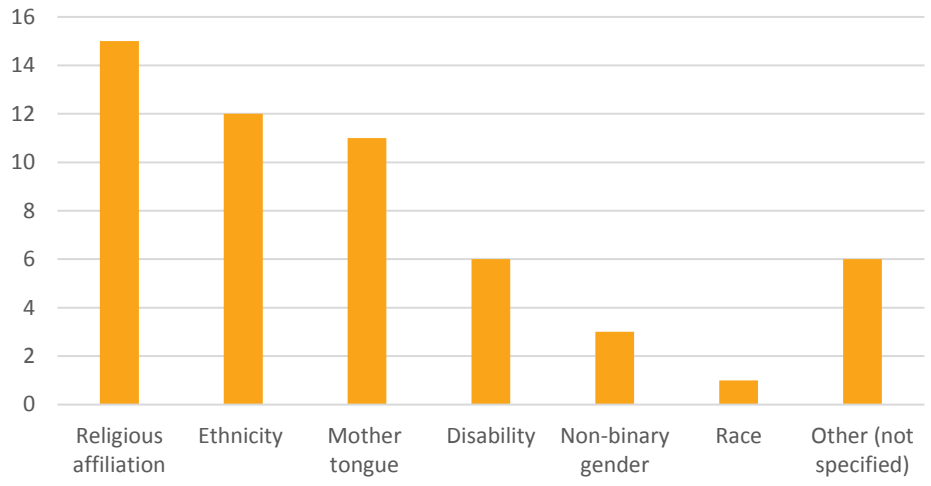

Figure 7 – Number of Member States publishing equality data as part of their national 2021 census outputs, by equality characteristics. Source: Eurostat monitoring survey of NSIs on 2021 census activities (situation as of September 2021, sexual orientation not asked).

substantiated by replies to the targeted consultation of Commission departments, where various policy areas signalled the need for more detailed migration data – including flows and stocks by socio-economic characteristics and by single country of origin/destination (flows) or of birth/citizenship (stocks) – to monitor the integration of immigrants in labour markets and society.

Migration data also appears to be one of the datasets most requested by national data users, as 79% of NSIs have indicated migration flows within the EU and from/to non-EU countries among the most commonly requested topics[42]. At the consultation workshop with NSIs (footnote 38), migration within and from/to the EU was also ranked among the top priorities to be improved by 2030, where migration within the EU in particular poses increased challenges due to freedom of movement entailing reduced availability of administrative sources. Moreover, the quality of emigration data may be limited and may underestimate the true scale of the phenomenon as existing data collection processes may not be sufficiently sensitive to disaggregate emigration by detailed characteristics.

Specific population groups

The term 'equality data' refers to data on population subgroups characterised by attributes that make them more vulnerable to inequality or discrimination. Articles 10 and 19 of the TFEU list six grounds for discrimination (variables) that are relevant for EU non-discrimination policies: sex, racial or ethnic origin, religion or belief, disability, age and sexual orientation. To date, European equality statistics in the area of population statistics exist for the basic demographic characteristics, sex[43] and age[44]. More detailed information is available in other areas of European statistics on

[42] Responses to NSI survey (Q2.18).
[43] The demographic concept of 'sex' in most official statistics standards, including in the ESS, links to the (binary) biological sex assigned at birth. However, while Articles 10 and 19 of the TFEU literally list 'sex' from an equality perspective, this ground for discrimination is normally understood as also including self-identified gender identity. The latter is not addressed in any European statistics so far.
[44] The demographic concept of 'age' is generally already well-covered in current statistics, but sometimes a breakdown by 5-year age bands is used, which some stakeholders noted does not capture children and youth well (e.g. below/above

disability, but notable gaps persist on race/ethnicity, religious affiliation, gender identity and sexual orientation. Therefore, the targeted consultation of Commission departments confirmed that European equality data are greatly needed across all grounds for discrimination for EU policies on fundamental rights and non-discrimination, especially in the context of the 'Union of equality'[45]. Moreover, OPC respondents from professional user groups believe that equality is the topic with the most insufficient available data (see Figure 6; only 18% of the group that expressed an opinion finds the current data sufficient). Most recently, the final proposals of the Conference on the Future of Europe have also noted a need for further EU efforts to collect such data (footnote 23).

At national level in the ESS, the coverage of equality data is patchy as well. For instance, according to a recent Eurostat survey on implementation of the 2021 census round, only 19 ESS members published any variables on population subgroups at risk of inequality or discrimination as part of their national 2021 census outputs[46]. Figure 7 shows the number of ESS members publishing specific equality variables. The most prevalent reasons for not providing certain equality topics across Member States seem to be historical or cultural perceptions of such data as very sensitive or not to be collected by public authorities. Moreover, a majority of NSI respondents saw implementation costs (10 Member States) and national census modes (9 Member States) as a huge barrier to including self-declared information in their 2031 censuses[47]. National legal barriers are often brought up as an argument as well, but recent Commission studies have found that such barriers do not factually exist in any Member State on race/ethnicity and gender[48].

National contexts aside, there are technical and feasibility challenges for the collection of such data. For instance, there is a generally accepted principle that these characteristics should be self-identified[49], which would require primary data collection (e.g. based on surveys) rather than extraction from administrative sources (let alone the fact that such characteristics are often not recorded at all in public administration registers). Moreover, the quality of results from sample surveys depends on an accurate sampling of the target population. This is another key challenge because the best sampling frames available are often based (again) on administrative registers[50]. However, these registers have notorious under-coverage issues with certain vulnerable groups – like Roma or migrants with unclear or irregular status – due to them not being registered in the national systems.

Housing data for the European Green Deal

Only the censuses currently provide decennial outputs on housing arrangements and homelessness, including data on housing characteristics such as the type of facilities and heating systems. However, the available variables have become less and less relevant to professional users, including

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18 years). A relatively simple improvement for the future would thus be to collect age by single years wherever possible (as part of improved demographic details) and to define some dedicated age categories where necessary.

[45] Including the '1st Commission strategy on LGBTIQ equality in the EU' (press release IP/20/2068), the 'EU Anti-racism Action Plan 2020-2025' (press release IP/20/1654), and the 'Strategy for the Rights of Persons with Disabilities 2021-2030' (press release IP/21/810).

[46] Responses to the 2nd Eurostat monitoring survey with NSIs on implementation of the 2021 census round (state September 2021).

[47] Responses to NSI survey (Q4.3.3).

[48] DG JUST (2017) Analysis and comparative review of equality data collection practices in the European Union – Data collection in the field of ethnicity; DG JUST (2017) Analysis and comparative review of equality data collection practices in the European Union – Data collection in relation to LGBTI people.

[49] DG JUST (2016) European handbook on equality data, Section 2.2.4 on categorisation.

[50] ESSnet KOMUSO (2018) Quality Guidelines for Frames in Social Statistics.

policy users. For instance, housing is the second-lowest-rated data topic (after equality data) according to professional users among OPC respondents (see Figure 6; only a quarter of the respondents that expressed an opinion finds the current data sufficient). The consultation of Commission departments also identified a need for more frequent and timelier housing data, including appropriate variables to capture energy efficiency of housing and other aspects relevant to Green Deal monitoring. Relevant European statistics serving these needs will be important to measure whether the EU remains on the right track towards its ambitious greenhouse gas reduction goals over the next decades.

During technical consultations with Commission informal expert groups, Eurostat collected several opinions from NSI experts indicating that housing data are indeed often available from administrative sources within the countries. In principle, this would lead to cost-efficient production of more frequent and more relevant housing data, at least in some Member States. The Census Regulation covers the need for data supporting 'the protection of the environment and the promotion of energy efficiency' in recital 2. However, its legal structure is not flexible enough to change or add variables in response to such needs (see problem 4). Moreover, the intention to address this under the present initiative has been subject to more critical opinions at higher levels of the ESS governance, where the main concern was rather whether these data should remain within the scope of ESOP, especially when buildings in general (beyond housing) are addressed.

Geographic granularity

Currently, mandatory annual statistics on demography and international migration are mostly only collected at national level, with some less detailed demographic breakdowns at regional level (NUTS 2, 3)[51]. More detailed regional breakdowns of annual statistics are currently only provided through voluntary data collections, with the typical consequences outlined in Section 2.2.1. This annual picture is complemented by mandatory decennial population and housing census outputs with very detailed breakdowns, including at local administrative unit (LAU) level and – for the 2021 round – some key population indicators georeferenced to a pan-European 1 km square grid.

The evaluation and stakeholder consultation found that most key users of the data believe the current situation is inadequate, due to a complete lack of subnational data on migration (stocks and flows). For instance, insufficient geographic detail was the second most frequent critical gap (after insufficient detail of characteristics) noted for any statistical topic by OPC respondents across all stakeholder groups[52]. Consequently, most OPC respondents across almost all stakeholder groups (except statistics producers) also put a high priority for a future initiative on adding (mandatory) regional detail to annual demographic and migration statistics, and on providing functional typologies (DEGURBA, cities, FUAs) and 1 km square grid data annually[53]. This is in line with findings from the targeted consultation of Commission departments identifying policy needs for more annual NUTS 3 data, functional typologies, including city and FUA data) and prominently 1 km square grid data[54].

The 1 km square grid data play key roles, both technically and in terms of policy. From a technical view, the total population at 1 km square grid level is needed to construct the functional typologies

[51] Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (OJ L 154, 21.6.2003, p. 1).
[52] Responses to OPC survey (Q2.4).
[53] Responses to OPC survey (Q3.3-6).
[54] Supporting e.g. monitoring and policies on regional cohesion, urban/rural integration, access to services.

(DEGURBA, cities, FUAs), which Regulation (EC) No 1059/2003 defines as clusters of LAUs according to certain population density and movement patterns based on the grid. This means that even if Eurostat does not publish European grid data, NSIs need grid information at national level to determine and maintain the functional typologies. In terms of policy, only 1 km square (or more detailed) data allow accurate analysis on access to services (e.g. driving time to next hospital), local crisis management (e.g. locally contained natural disasters like flooding or wildfire) or cross-border patterns (e.g. functional urban areas clustering in a river basin, where the river happens to mark a national border). Finally, the baseline includes substantial investment across the ESS to create infrastructure for the first mandatory grid data collection from the 2021 EU census round[55].

Urban/rural integration

Even though increased availability of regional data at NUTS 3 is widely acknowledged by users, the angle from an urban/rural dichotomy is often underexposed. This is because NUTS 3 regions are often still too coarse to capture urban/rural patterns according to functional characteristics accurately (mostly related to local population density). Therefore, during the targeted consultation with Commission departments, policy needs were raised for cohesion and the integration of urban and rural areas, notably for the Commission's long-term vision for rural areas[56]. These policy areas require any relevant population data cross-tabulated against the degree of urbanisation (DEGURBA) classification defined in Regulation (EC) No 1059/2003 based on clusters of local administrative units (LAUs). In addition, population data on cities and their functional urban areas (FUA) are needed to shed further light on urban/rural patterns.

While European statistics cross-tabulated against DEGURBA have become more and more prevalent over the past years, no statistics published under the current legal framework have provided DEGURBA so far. Moreover, annual statistics on the population of cities and FUAs are currently published regularly on a voluntary basis and outside the ESOP data collections. Therefore, these data suffer from a lack of harmonisation with ESOP data, in addition to the identified drawbacks of voluntary collections (Section 2.2.1). Consequently, Figure 6 shows that urban (47%) and rural (44%) populations also rank among the lowest scoring data topics among OPC respondents from professional user groups when asked about their agreement on whether the current data are sufficient.

2.2.4. 2.2.4. Problem 4: The current legal framework is not flexible enough to adapt to evolving policy needs and to enable using data from administrative and other new sources in Member States and at EU level

Currently, with regard to the output of the statistical production process, the legal framework sets out a fixed set of statistical units, variables/breakdowns and cross-tabulations to be produced regularly, without providing for specific mechanisms to update this statistical content efficiently. The evaluation has shown that this current static framework has been losing relevance rather quickly, starting during its implementation period and continuing to the present, due to a framework that is too rigid and lacking flexibility to adapt data collections to evolving needs. This is confirmed by the OPC, where a majority of respondents in all stakeholder groups (except statistics producers) agree only 'somewhat' that the legislation is fit for purpose. The Census Regulation represents a minor exception, as it leaves some room to specify statistical needs for each EU census round before the census year, thus maintaining a higher relevance of census outputs over time. However,

[55] Eurostat (2018) Selected Census 2021 topics on a European 1km^2 grid – Cost-effectiveness analysis.
[56] COM(2021) 345.

the 2021 round has shown that this flexibility was not sufficient in terms of introducing georeferenced/grid data, which necessitated an ad hoc legal act[57] to ensure EU-level completeness, comparability and coherence.

With regard to input, all three base regulations contain enabling provisions allowing reporting countries to choose appropriate sources for the statistics, with the Census and Migration Regulations mentioning administrative sources or registers explicitly. This is in line with a general principle that has been prevalent in the ESS of ensuring that European statistics are 'output oriented', i.e. minimising legal constraints on inputs and processing of the statistical production chain[58]. Currently, there is a strong ongoing trend towards register-based production systems drawing from administrative sources. The evaluation has clearly shown that this leads to increased data availability at significantly reduced production costs. For example, according to the baseline cost assessment, the median cost of a traditional census across EU-27 countries was roughly 20 times the median cost of a register-based census both in the 2001 and the 2011 census rounds. The single most significant cost driver in this context for NSIs conducting traditional censuses is the full field enumeration of the entire population, which entails a complex organisation and coordination at national level, extensive procedures, and repetitive training and temporary employment of large workforces of enumerators. However, NSIs that base their production system on administrative information, for instance from administrative population registers, can usually reduce costs and avoid such difficulties. Nevertheless, this creates new constraints, as the efficiency of such systems then depends on the information already available from such sources. If other information is needed, it must then be modelled (a typical concern being quality) or collected again from field surveys (which means costs scale up again quickly).

The benefits of moving towards using more administrative and other sources are most pronounced in combination with a statistical population register as a central processing element of an integrated multisource statistical production system. According to the targeted NSI survey, 12 Member States (Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Italy, Latvia, Netherlands, Slovakia, Spain, Sweden) already have a statistical population register and 8 more are planning one (Croatia, Cyprus, France, Greece, Hungary, Lithuania, Malta, Portugal). The main reasons for not having one, or not having one yet, indicated by the 17 NSIs concerned are the current national legal framework (mentioned seven times) followed by historical reasons (six)[59]. A collaborative network of ESS experts on population and household frames for social statistics also acknowledged the significant potential added value of statistical population registers, especially when linked to rich information from various sources[60].

However, the current statistical legislation on data sources does not allow statistics producers to easily access appropriate sources held by other owners, including administrative sources. General access enabling legislation exists in Article 17a of Regulation (EC) No 223/2009 and also very

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[57] Commission Implementing Regulation (EU) 2018/1799 of 21 November 2018 on the establishment of a temporary direct statistical action for the dissemination of selected topics of the 2021 population and housing census geocoded to a 1 km^2 grid (OJ L 296, 22.11.2018, p. 19); it was adopted as a one-off under Article 14(2) of Regulation (EC) No 223/2009.

[58] e.g. the European Statistics Code of Practice (footnote 3) puts a strong emphasis on outputs.

[59] Responses to NSI survey (Q4.1).

[60] ESSnet KOMUSO (2019) Quality Guidelines on Frames for Social Statistics (QGFSS) version 1.51 supported by the DSS (minutes on item 3.4 of the December 2019 meeting); see in particular guideline 3.4 on 'rich frames' representing a type of statistical population register and Annex III on requirements for frame contents (person and household variables).

often in national legislation, as 26 of 29 NSIs confirmed in the survey[61]. Such enabling legislation is generally covered by the GDPR[62] and EUDPR[63] providing for the processing of personal data for statistical purposes. However, legal access problems often persist, mainly where specific legislation on a given source database has more restrictive access limitations. Eurostat is experiencing such problems with administrative sources held by eu-LISA[64], and 15 NSIs indicate similar issues by stating that additional legal acts are needed to access some or all specific sources relevant for population statistics[65]. This suggests that the situation could be improved by more explicit sector-specific rules granting access to statistical offices as needed to all relevant sources for population statistics. Nevertheless, the evaluation also showed that the effectiveness and efficiency of practical cooperation agreements between NSIs and administrative source owners are as important as legal enablers.

Finally, the current legal framework does not encourage the use of new sources, such as privately held data, including, for instance, geospatial systems or mobile operator data. While the Demography and Migration Regulations at least allow the use of such sources in principle, the Census Regulation contains a closed list of eligible source types, excluding any new sources[66]. On top of the issues around access enabling legislation outlined in the previous paragraph, this puts a strict legal barrier on the use of such new sources for European population statistics. Therefore, the status quo falls critically short of the state of the art both methodologically[67] and legally. Regarding the legal perspective, the recent Commission proposal on a Data Act (footnote 21) provides enablers for B2G data sharing, including for official statistics. In this context, the previous paragraph pointed out that explicit sector-specific enablers (aligned with the Data Act proposal) on relevant new sources for population statistics may help improve new ESOP legislation in terms of continued relevance, effectiveness and efficiency.

2.3. 2.3. How likely are the problems to persist?

The evaluation has identified the following four key legislative drivers for the problems described in Section 2.2.

- Only **mandatory data collections** with common rules can ensure completeness and timeliness of statistics at EU level; regulating voluntary data collections that already have high completeness may lead to significant effectiveness and efficiency gains, as

[61] Responses to NSI survey (Q2.8).
[62] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).
[63] Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).
[64] European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA).
[65] Responses to NSI survey (Q2.8).
[66] Article 7 of the Demography Regulation does not list any specific source types and Article 9(1) of the Migration Regulation allows any 'other appropriate sources'. On the other hand, Article 4(1) of the Census Regulation lists as eligible source types 'conventional censuses', 'register-based censuses' (without a definition), or a combination thereof, possibly complemented by sample surveys.
[67] Eurostat is active in research in this respect; see e.g. Ricciato et al. (2020) *Towards a methodological framework for estimating present population density from mobile network operator data*. Pervasive and Mobile Computing 68, October 20, 101263.

considerable EU added value can be generated at limited incremental costs (linked to problems 1, 2, 3).

- **Voluntary data collections** are appropriate instruments to pilot the production of new topics or characteristics, and to foster the incremental capability of national statistical systems to provide such new data. However, they tend to become inefficient over time, as recurrent production costs eventually fail to generate substantial EU added value in terms of completeness and timeliness for all Member States (linked to problems 1, 2).
- **Loose legal definitions** of statistical concepts lead to a gradual loss of control over conceptual harmonisation, and thus ultimately over coherence and comparability, over time. The population base example shows how a default clause originally introduced as an exception with limited scope turned into a new standard that is detrimental to European statistics. However, a stronger stance on definitions also requires closer guidance and monitoring of implementation to ensure real harmonisation (linked to problem 1).
- A **legal framework** that is too **rigid** prevents it remaining relevant over time. The current framework has been losing relevance rather quickly, starting during its implementation and continuing to the present day. This is due to a lack of flexibility mechanisms for adapting data collections to evolving needs or for benefiting from opportunities driven by the availability of new data sources (linked to problems 1-4).

The baseline assumes continuing the status quo regarding the availability of European population data (see section 5.1). The insight set out above – that the problems emerge directly from legal constraints enshrined in the current framework – leads to the conservative scenario in which the current framework will continue losing relevance as observed in the evaluation. This typically leads to professional users turning to other national or unofficial sources of statistics, both affected by reduced quality (measured from an EU perspective) and thus leading to poorer policy decisions. A more optimistic scenario would have to operate on the assumption that evolving policy needs for data would be sufficiently addressed in the future by voluntary data collections. However, the experience over the past two decades does not leave much room for such optimism.

3. 3. WHY SHOULD THE EU ACT?

3.1. 3.1. Legal basis

The legal basis for EU intervention in the area of European statistics is **Article 338 of the Treaty on the Functioning of the European Union (TFEU)**, which confers on the European Parliament and the Council the power to adopt measures for the production of statistics where necessary for the performance of the activities of the EU, in line with the ordinary legislative procedure. Article 338 of the TFEU sets out the requirements for producing European statistics, stating that they must conform to standards of impartiality, reliability, objectivity, scientific independence, cost-effectiveness and statistical confidentiality. This section assesses whether a revision of the current legal framework governing European statistics on population is appropriate and justified, in view of its purpose to ensure high-quality EU population data in line with the statistical principles and quality criteria applicable to European statistics.

Population data are currently collected under three separate Regulations that neither allow flexibility nor respond sufficiently to new and emerging statistical needs of users and a recognised necessity for modernisation (Section 2.3). A partial revision of the legal framework on population statistics is inevitable for current Regulation (EU) No 1260/2013 on European demographic statistics, as, under Article 12, it will cease to apply in 2028. A minimal revision is therefore

necessary even if the status quo is to be maintained. However, this also generates an opportunity for a wider review to modernise the broader legal framework for population statistics, which also includes Regulation (EC) No 763/2008 on population and housing censuses as well as Article 3 of Regulation (EC) No 862/2007 on statistics on international migration. This would also enable maximising the added value of capacity already developed for the one-off Commission Implementing Regulation (EU) 2018/1799 on georeferenced census 2021 outputs, and fully accounting for the integrated approach to statistical quality set out in Regulation (EC) No 223/2009 on European Statistics.

Article 5 of the Treaty on European Union (TEU) enshrines three principles: conferral, proportionality and subsidiarity. As an expression of the principle of conferral, Article 338 of the TFEU empowers the EU to set up European statistics. Furthermore, Article 338(2) of the TFEU mentions six general principles that EU statistics must follow, namely impartiality, reliability, objectivity, professional independence, cost-effectiveness, and statistical confidentiality. These principles are specified in Article 2(a) to (f) of Regulation (EC) No 223/2009 (footnote 2) and further specified in the European statistics Code of Practice (footnote 3) maintained by the ESS Committee in line with Article 11 of the same regulation. Article 338(2) of the TFEU also stipulates that EU statistics must not entail excessive burdens on businesses. This provision, together with Article 338(1) of the TFEU, according to which statistics must only be produced where necessary, reflect an expression of the **principle of proportionality**. Finally, legislative action on European population statistics falls under supporting competences, where the **principle of subsidiarity** authorises an EU intervention only if a specific issue cannot be addressed by the individual action of Member States (necessity test, Section 3.2) and provided the objective can be better achieved 'by reason of the scale and effects of the proposed action' at EU level (EU added value, Section 3.3).

3.2. 3.2. Subsidiarity: Necessity of EU action

The ESS provides an infrastructure for statistical information. The system is designed to meet the needs of multiple users for decision-making in democratic societies. The proposal for this regulation has been drafted to protect core activities of ESS partners while better ensuring the quality and comparability of statistics. One of the main criteria that statistical data must meet is to be consistent and comparable. Member States cannot achieve the necessary consistency and comparability without a clear European framework, that is to say without EU legislation laying down the common statistical concepts.

The principle of proportionality aims at identifying the best level of governance to ensure that decisions meet the public's needs to the greatest extent possible. Together with the principle of subsidiarity, the principle of proportionality regulates how the EU exercises the powers conferred by the Member States on the EU. According to the principle of proportionality, EU action must be limited to what is necessary to achieve the objectives of the Treaties. It requires the EU to only take action that is deemed essential to achieve the aim pursued. To ensure compliance with the principle of proportionality, any EU intervention must ensure a higher level of coherence and comparability of population statistics across Member States. Further action at EU level is justified in light of the variety of measures adopted at national level and given that a robust legal framework for the collection of population statistics is essential for maintaining relevant and comparable statistics at EU level based on harmonised concepts and approaches to methodology.

Proportionality also requires that the intervention matches the size and nature of the EU-related problems identified, including the right choice of policy instruments to address the problems. From this perspective, a legislative solution would be necessary and proportionate, as the problems

identified have a genuine EU-wide scope clearly linked to gaps in the current EU legislation (Section 2). Without further EU legislative action, these problems will persist or worsen. The current EU legislation will likely continue to become less effective and efficient in achieving its objectives as many Member States continue to modernise nationally by setting up statistical population registers and harnessing new data sources. Relevance will also likely decrease further, as the EU-level statistics are expected to diverge further from users' needs in terms of content, desired frequency or timeliness. Without EU legislative action, national approaches will diverge further, leading to less comparable statistics, which in turn risks compromising policymaking at EU level.

3.3. 3.3. Subsidiarity: Added value of EU action

The added value of complete and comparable population and demographic statistics at EU level lies primarily in their significant contribution to various institutional needs and policy areas of the EU that are highly relevant for many political priorities of the Commission (i.e. An economy that works for people, Promoting our European way of life, A new push for European democracy). Population and demographic statistics are also needed to feed into various EU institutional tasks and procedures laid down by the Treaties, such as national population weights to determine the 65% EU population quota for qualified majority voting of the Council (Article 16 of the TEU), EU long-term economic and budgetary projections within the European Semester (Article 121(6) of the TFEU detailed in Regulation (EU) No 1175/2011), and monitoring of the annual EU demographic situation (Article 159 of the TFEU).

These data inform EU policies that fall under shared competences (e.g. social policy; economic, social and territorial cohesion; and the area of freedom, security and justice) and supporting competences (e.g. health, youth, civil protection and administrative cooperation). Population statistics are the backbone of other European statistics (sample surveys, national accounts) and used to calculate per capita indicators. Finally, population and demographic statistics are also designed to meet the needs of multiple users, for decision-making at all levels in the EU, as well as research and informing the general public. The EU may therefore adopt measures in this area in line with the principle of subsidiarity under Article 5 of the TEU.

4. 4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

Figure 8 presents a problem tree showing the logical links between problem drivers and general and specific problems identified during the evaluation and the consequences of these problems for policymakers and other data users. As shown in the figure, the regulatory problem drivers reveal the limitations in the current legal framework, which is not harmonised and lacking in coherence and flexibility, while at the same time practices in Member States are evolving and societal trends changing. This leads to specific problems in comparability of population data, data not being as timely and frequently produced as possible, limitations in the depth and comprehensiveness of data topics, and quality-related problems. Combined, these problems lead to content and quality gaps compared to policymakers and users' evolving needs regarding demographic and societal challenges.

The general and specific objectives for an EU intervention to modernise European population statistics have been linked to the problems and their drivers. These are shown in the lower half of Figure 8 and detailed below.

4.1. 4.1. General objective

As shown, the general objective of EU intervention in this case is to better respond to users' needs over time and to modernise and enhance the relevance, harmonisation and coherence of European population statistics.

4.2. 4.2. Specific objectives

Statistics are assessed in the context of the ESS framework for statistical quality[68], and the key dimensions for this initiative are 'relevance', including 'completeness', 'coherence', 'comparability', 'timeliness' and 'frequency' (or 'periodicity'). Therefore, the general objective can be broken down into four specific objectives (SOs) along statistical quality dimensions.

- **SO1.** Ensure complete, coherent and comparable European population statistics. This means all European statistics should be available from all Member States and include EU-level aggregate information. These statistics should follow the same underlying concepts operationalised in a comparable way, so that the information is comparable across Member States and coherent across statistical products.
- **SO2.** Ensure availability of timely and frequent population statistics to meet users' needs. This means all European statistics should be provided by all Member States and ready for publication according to a strict agreed deadline that takes into account user needs for the time span between reference period and publication of the statistics (timeliness). Statistical products should also be published with a sufficient granularity of publication dates considering current user needs (frequency).
- **SO3.** Provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns. This means the European statistics should address the topical and detail needs of key statistics users and give information that benefits society at large. Statistics must provide the data evidence needed for better policymaking in priority areas of the EU as well as support decision-making at other governance levels or provide the data needed for relevant research or for public debates.
- **SO4.** Promote legal and data collection frameworks that are sufficiently flexible to adapt datasets to evolving policy needs and to opportunities emerging from new sources. This means the EU statistical legislation should be better able to maintain the relevance of statistical products over time, by enabling the use of more diverse sources and by offering mechanisms to update the statistical products. As worked out in Section 2.3, a key issue of the current legislation is its inability to adapt to evolving input and output contexts. The evaluation measured this in terms of the gradual loss of relevance of the statistical products.

These specific objectives are SMART[69] in that they directly link to the four gaps quantified in the evaluation (footnote 7). The evaluation provides quantitative indicators on each specific objective to follow up in the future, for instance over the first one or two production cycles (including censuses) after adoption of a new legal framework. This completes the pathway from the problem drivers to the proposed solutions and builds the foundation for developing the policy measures and options outlined in Section 5.

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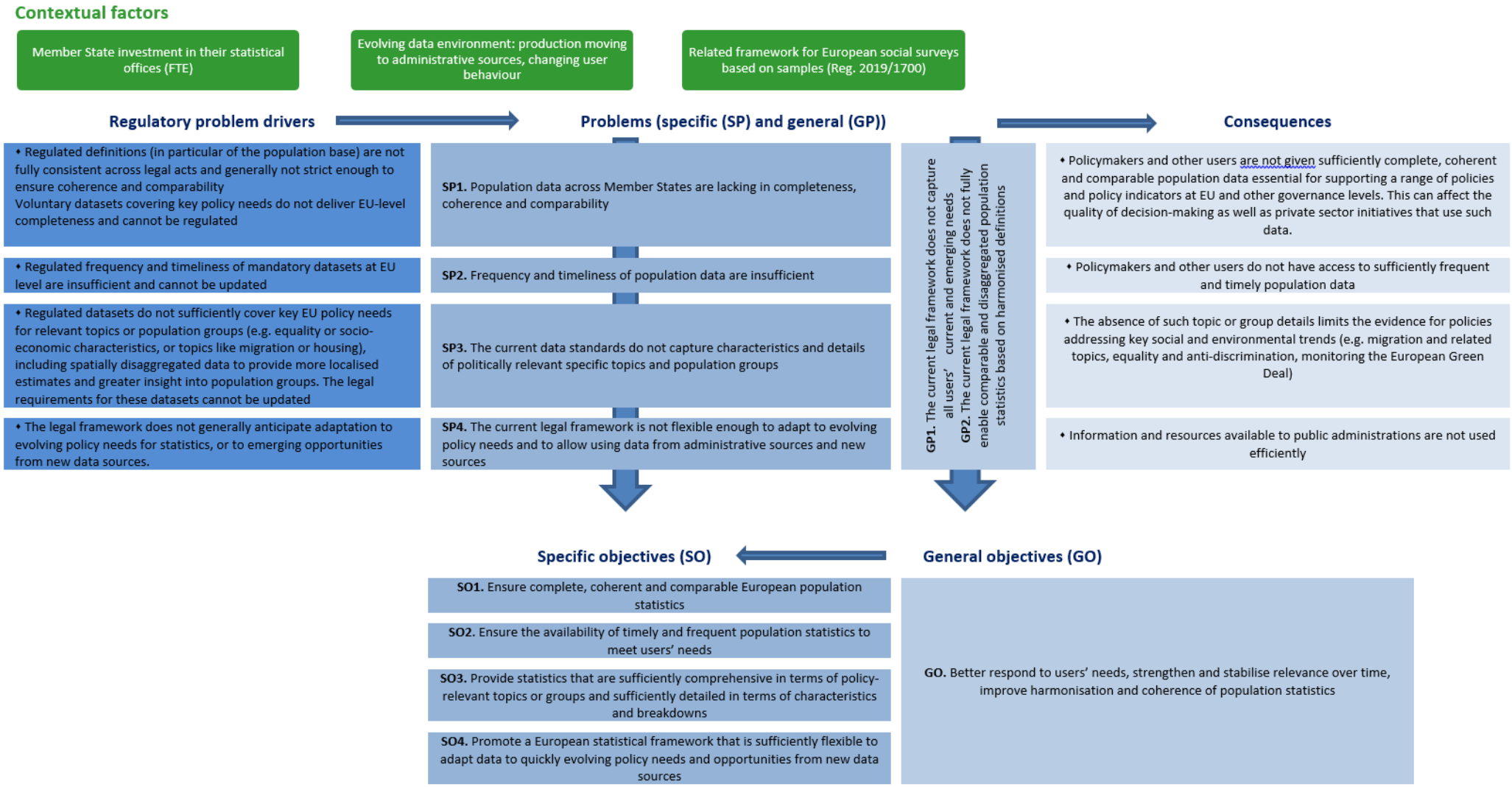
[68] See European statistics Code of Practice (footnote 3) and European statistical system handbook for quality and metadata reports (2020 edition): https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-19-006.
[69] Specific, measurable, achievable, relevant and time-bound in line with the Commission's Better Regulation Tool #15.

Figure 8 – Problem tree (contextual factors)



In general, as explained above, the specific objectives are clearly problem-driven as they match the specific problems worked out in detail in the evaluation (footnote 7) and described in Section 2. From this perspective, the specific objectives have clear support from essentially all stakeholder groups because the underlying problems are flagged by those groups. For instance, in the OPC[70], completeness and comparability (SO1) and insufficient detail (SO3) were mentioned as critical gaps in the current statistics by significant shares of respondents across all stakeholder groups for all statistical domains (except marriages and divorces), ranging from 53 respondents on acquisition or loss of citizenship to 94 on international migration (out of 172 respondents overall). Similarly, a lack of timeliness and frequency (SO2) were noted as critical gaps by between 19 respondents (acquisition or loss of citizenship) and 43 respondents (population census outputs). These current gaps and their relevance to EU policies were expressed even more strongly in the targeted survey of Commission departments. NSIs generally also acknowledged these gaps across the consultation activities (OPC, targeted survey and workshops), but typically saw them as less critical than did stakeholder groups representing statistics users. SO4 emerges as a foresight requirement for a new legal framework to minimise the risk of accumulating such critical gaps again quickly in the future.

Furthermore, during interviews conducted in the external support study[71], many of the stakeholders were asked to provide their views on the specific and operational objectives proposed for the ESOP initiative. Data users and international partners of Eurostat largely supported the policy objectives shown in Figure 8, though different stakeholders put greater or lesser emphasis or priority on different aspects. Only a couple of the NSIs commented on the policy objectives and highlighted some of the practical difficulties of addressing them. Stakeholders interviewed from NSIs and international organisations also pointed to some of the trade-offs between the policy objectives. For example, there is a trade-off between ensuring the timeliness and the quality/accuracy of the data. There may also be a trade-off between adapting the current system and ensuring consistency in the time series (though some international partners indicated that it can be relatively easy to retrospectively adjust historic time series). Some NSI stakeholders further mentioned potential challenges related to personal data protection, particularly if data are to be disaggregated by very small areas and/or specific population groups, though it is also understood that methodologies are available or under development that could help to overcome these challenges.

5. 5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

5.1. 5.1. What is the baseline from which options are assessed?

Under the baseline scenario as analysed in depth in the evaluation, each statistical domain will continue to be implemented based on the three separate legal acts currently in force (Census, Demography and Migration Regulations). One issue is that the Demography Regulation contains a 'sunset clause' stating that it will cease to apply on 31 August 2028. However, mandatory data collections under that Regulation are currently generally running well with no reason to assume that this status quo would be seriously questioned by relevant stakeholder groups (including statistics producers) in the baseline scenario. It is therefore assumed at the baseline that the Demography Regulation would simply be amended to extend its application (see Section 5.3). In summary, the baseline has the characteristics described below.

[70] Responses to OPC survey (Q2.4).
[71] ICF (2022) Study supporting the evaluation and impact assessment of European statistics on population – final report on impact assessment support.

There are **no changes regarding harmonisation of statistics** across Member States. The limited harmonisation of the population base definitions remains, which would likely mean that the EU-level comparability of national definitions will continue to diverge further, as observed in the evaluation, in the wake of an ongoing and still increasing transition to national register-based systems in most Member States.

Demography, international migration, and population and housing census statistics are implemented as **separate statistical processes.** Member States may or may not update, streamline or integrate their national processes in future, according to their own considerations. Eurostat keeps the existing data flows from Member States unchanged. This means possible efficiency gains by embracing administrative and other new sources remain uncoordinated at EU level and up to Member States.

There are **no new or more detailed statistical outputs adding EU value**, as the mandatory data requirements are not updated. Voluntary data collections when agreed with Member States lead to gaps in terms of data completeness and timeliness and cannot sufficiently deliver EU value, as shown in the evaluation.

The legal framework is **not flexible enough to adapt** the mandatory data collections to evolving policy or data environments. This means that, as needs evolve, even if new voluntary collections should perform better than the baseline assumes, there are no mechanisms to reap the full benefits at EU level and in terms of the efficiency of such achievements. With regard to evolving data environments, the current legislation generally does not sufficiently enable the use of new sources (e.g. B2G), and the Census Regulation currently even excludes such uses.

5.2. 5.2. Description of the policy options

The aim of any policy option beyond the baseline is to deliver on each of the specific objectives set out in Section 4.2. To achieve this, more detailed policy measures were identified under 17 topics, where each topic acts on exactly one specific objective. More precisely, each topic provides a set of different policy measures typically relating to varying levels of ambition for that topic (see

Table 2). Each overarching policy option is then constructed bottom-up as a combination of policy measures from all 17 topics, thus acting with varying ambition on all specific objectives.

Before grouping the various measures into policy options, however, a first feasibility assessment of each individual topic and measure was carried out. This process involved assessing how the topics and measures relate to one another (mutually exclusive or complementary), and carrying out an initial screening of their likely effectiveness, as well as their technical, operational, economic and legal feasibility. This initial screening had the results described below.

- A topic on the census frequency (original measures to maintain status quo, split the census into decennial and annual outputs depending on the relevance of the data, and annual census) has been discarded because combinations of other measures factually imply that the frequency of (parts of) the census changes by default.
- Two of the measures relating to the topic on output flexibility of the legal framework have also been discarded. One measure 'Include limited flexibility to adapt statistics; use voluntary data collections to serve emerging needs' was discarded because it was assessed as being very similar to the status quo. The other measure 'Include effective mechanisms to adapt statistics more quickly and efficiently when there is an added value for the EU, even if the administrative cost and burden are high' was discarded as unrealistic.

The remaining list of the most feasible individual measures, which have been retained for further analysis, is presented in

Table 2.

Policy options were then constructed by grouping measures based on **four main characteristics**:

- **harmonisation of statistics** where the main focus is on the population base definition (status quo, harmonisation with justified exceptions, strict harmonisation);
- **integration of statistical processes** (status quo, improved statistical processes, integrated statistical processes);
- **statistical outputs** (status quo, limited upgrade, more expansive upgrade, major upgrade);
- **framework flexibility** (status quo, limited flexibility, effective mechanisms).

Table 2 lists all policy topics and potential measures with a short description of each. Figure 9 shows the resulting grouping of the measures into seven policy options:

A – Baseline as described in Section 5.1.

Policy options B.1 and B.2 – For these options, there is some simplification of EU-level data collections, but the statistical production processes remain separate and somewhat improved depending on plans of Member States, and the harmonisation of the definition of population remains limited. However, these options introduce *two incremental levels of ambition in terms of statistical outputs* (limited upgrade for B.1, more expansive upgrade as well as improved flexibility for B.2).

Policy options C.1 and C.2 – In these options, EU data collections are simplified and the statistical production processes remain separate and somewhat improved depending on plans of Member States, but the *harmonisation of the population base definition is improved* relative to policy options A and B. Policy options C.1 and C.2 introduce the same two incremental levels of ambition in terms of statistical outputs as policy options B.1 and B.2 described above (limited upgrade for C.1, more expansive upgrade as well as improved flexibility for C.2).

Policy options D.1 and D.2 – These are the most ambitious options, introducing *strict harmonisation of the population base definition as well as a major upgrade of statistical outputs*. These options also include effective flexibility mechanisms to adapt statistics more quickly and efficiently to meet emerging user needs and exploit new data sources or methods. While option D.1 leaves statistical production processes within the competence of Member States, option D.2 requires all Member States to set up statistical population registers, thus initiating the redevelopment and integration of statistical processes at national and EU levels.

From the perspective of the four main characteristics introduced above, these policy options thus implement incremental ambitions to improve as follows (see also Table 1).

With regard to the **harmonisation of population base definitions**, the status quo is maintained in policy options B (both B.1 and B.2). Incremental levels of harmonisation would be introduced for policy options C and D as follows. In policy option C (both C.1 and C.2), a harmonised population definition would be introduced for all datasets, but Member States would still be able to use national population definitions in justified exceptions with limited impact on comparability of statistics across Member States. Policy option D (both D.1 and D.2) introduces a strictly harmonised population definition whereby Member States would be required to use the strict usual residence concept including the 12-months rule to define their populations for all datasets for European statistics purposes.

On **statistical processes**, all options will revise the legal framework and thus offer an opportunity to streamline it, which would lead to simplified data collection procedures between NSIs and Eurostat. In the most ambitious option (D.2), all Member States would additionally be required to set up a statistical population register. This would align with earlier ESS expert recommendations in the context of population and household frames for social statistics (footnote 60).

In terms of **statistical outputs**, three incremental levels of ambition are introduced across the options as follows. In policy options B.1 and C.1, the annual statistical outputs for demography and migration would become more detailed to a limited extent, either in terms of characteristics or geographical disaggregation. In policy options B.2 and C.2, statistical outputs on demography and migration would become even more detailed compared to policy options B.1 and C.1. Some currently voluntary datasets and breakdowns, as well as proportionate time series updates, would

Table 1 – Comparative ambition of the policy options going beyond the baseline (A) regarding the four main characteristics discussed in the text (scale: no ambition '0', otherwise '+', '++' or '+++').

Option	Harmonisation	Process integration	Statistical outputs	Flexibility
A (baseline)	**0**	**0**	**0**	**0**
B.1	**0**	+	+	+
B.2	**0**	+	++	++
C.1	++	+	+	+
C.2	++	+	++	++
D.1	+++	+	+++	+++
D.2	+++	+++	+++	+++

become mandatory. In all policy options B and C, the timeliness would be improved. In policy option D (both D.1 and D.2), the required statistical outputs on migration and demography as well as regulation of currently voluntary datasets and breakdowns go further than in policy options B.2 and C.2. Moreover, timeliness would be improved and the NSIs would be required to coordinate their census data releases. LAU-level data would become annual, and time series would be updated entirely.

On the **flexibility of the legal framework governing European statistics on population,** the policy options B-C introduce limited flexibility to adapt statistics to emerging needs by piloting voluntary collections, combined with a legal mechanism to regulate successful pilots and strengthen the legal base to benefit from administrative and other new data sources. Moreover, policy options B.2 and C.2 introduce basic interoperability of statistical population registers. In policy options D.1 and D.2, the flexibility of the legal framework would be substantially improved by setting up full EU-wide interoperability of statistical population registers as well as an effective mechanism to adapt statistics more quickly and efficiently, as proportionate, to cover more general emerging needs.

Table 2 – Detailed overview of policy topics and their policy measures and sub-measures

Policy topic		Policy measure		Acting on SO
1	Statistical population frames or registers	1.1	Maintain status quo	-
		1.2	NSIs set up statistical population registers; the registers would cover total population exhaustively and accurately and enable direct extraction of up-to-date statistics	1
2	Harmonisation of the population definition	2.1	Maintain status quo	-
		2.2	Publish European population statistics based on a strictly harmonised population definition (based on usual residence concept) for all datasets	1
		2.3	Publish European population statistics based on a harmonised population definition (based on a usual residence concept) for all datasets, with justified exceptions and limited impact on comparability of statistics across Member States	1
3	Regional detail of annual population statistics	3.1	Maintain status quo	-
		3.2	NSIs provide all annual population data at NUTS 3 level	3
		3.3	NSIs provide annual population data by functional geographic units (cities, functional urban areas) and typologies (DEGURBA classification)	3
		3.4	NSIs provide essential annual population data by functional geographic units (cities, functional urban areas) and typologies (DEGURBA classification)	3
4	Regional detail of annual migration statistics	4.1	Maintain status quo	-
		4.2	NSIs provide migrant stocks and migration flows at NUTS 2 level	3
		4.3	NSIs provide migrant stocks and migration flows at NUTS 3 level	3
5	Statistics at local/municipality level	5.1	Maintain status quo	-
		5.2	NSIs provide LAU data annually	3
6	Georeferenced statistics	6.1	Maintain status quo	-
		6.2	NSIs provide georeferenced data every 10 years	3
		6.3	NSIs provide georeferenced data annually	3
7	Infra-annual statistics	7.1	Maintain status quo	-
		7.2	NSIs provide detailed monthly data on population, births, deaths and migration regularly	2
		7.3	NSIs provide less detailed quarterly data on population, births, deaths and migration regularly	2
8	Timeliness of annual	8.1	Maintain status quo	-

Policy topic		Policy measure		Acting on SO
	population statistics	8.2	Quality first: NSIs provide annual data more quickly as far as possible, while ensuring high statistical quality before release	2
		8.3	Timeliness first: NSIs provide annual data substantially more quickly, at the expense of revising the data more often to improve quality gradually	2
9	Timeliness of EU census outputs	9.1	Maintain status quo	-
		9.2	NSIs publish EU census data within a shorter legal deadline but without the obligation to coordinate the exact release date at EU level	2
		10.3	NSIs publish EU census data within a shorter legal deadline and with the obligation to coordinate the release date	2
10	Details of migrant population characteristics	10.1	Maintain status quo	-
		10.2	Define migrant groups in more detail (e.g. by single years of age where possible)	3
		10.3	Define migrant groups in more detail (e.g. by single years of age where possible), including socio-economic details	3
11	Details of migration flow characteristics	11.1	Maintain status quo	-
		11.2	Ensure that statistics on migration flows within the EU become as detailed on demographic aspects as statistics on migration flows from/to non-EU countries	3
		11.3	Ensure that statistics on migration flows within the EU and from/to non-EU countries become more detailed and comprehensively cover demographic (e.g. single years of age where possible) and socio-economic aspects	3
12	Voluntary statistics on marriages, divorces, legally induced abortions, infant mortality and loss of citizenship	12.1	Maintain status quo	-
		12.2	Set requirements for all NSIs to provide mandatory statistics on marriages, divorces, legally induced abortions, infant mortality and loss of citizenship	3
13	Voluntary breakdowns of live births, deaths and international migration	13.1	Maintain status quo	-
		13.2	Set requirements for NSIs to provide existing voluntary breakdowns on a mandatory basis	3
14	Statistics on equality and non-discrimination characteristics	14.1	Maintain status quo	-
		14.2	Provide size and demographic characteristics of the groups referred to	3
		14.3	Provide size and demographic characteristics of the groups referred to, and disaggregate other statistics by such group characteristics where relevant	3

Policy topic		Policy measure		Acting on SO
15	Flexibility of the legal framework for statistical outputs	15.1	Maintain status quo	-
		15.2	Include limited flexibility to adapt statistics; introduce limited executive power on the Commission to enable the use of initial voluntary data collections to serve emerging needs with a mechanism to make them mandatory later depending on piloting results	4
		15.3	Include more effective executive power on the Commission to adapt statistics more quickly and efficiently (e.g. to meet emerging user needs, exploit new data sources or methods), where the administrative cost and burden are proportionate to the added value for the EU	4
16	Time series of annual statistics	16.1	Maintain status quo (update historic time series where feasible; NSIs choose which time series to update)	-
		16.2	Update historic time series proportionately (from 1990 for demography and from 2007 for international migration) to ensure a certain degree of comparability over time	1
		16.3	Update historic time series entirely (from 1960 for demography and from 1990 for international migration) to ensure comparability over time	1
17	Flexibility of the legal framework for inputs and new sources	17.1	Maintain status quo	-
		17.2	Better use of administrative data sources at national and EU level, including reuse of interoperability systems	4
		17.3	Better use of privately held data (B2G) by effectively enabling the mechanisms provided for in the Data Act proposal (footnote 21) for European population statistics	4
		17.4	Basic interoperability of statistical population registers	4
		17.5	Full EU-level interoperability of statistical population registers	4

Figure 9 – Mapping of policy options to topic measures (the cell shading represents the different levels of ambition of each sub-measure: the darker, the more ambitious)

Policy topic	Stat. pop. frames or registers	Harmonisation of the pop. definition	Regional detail of annual pop. stats	Regional detail of annual migr. stats	Stats at LAU level	Georef'd stats	Infra-annual stats	Timeliness of annual pop. stats	Timeliness of EU census outputs	Details of migrant pop.	Details of migration flows	Voluntary datasets	Voluntary breakdowns	Stats on equality	Flexibility of the legal framework (outputs)	Time series of annual stats	Flexibility of the legal framework (inputs)
Policy option	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
A – Baseline – maintain **limited** harmonisation, **current** statistical processes and **current** statistical outputs	**1.1** Status quo	**2.1** Status quo	**3.1** Status quo	**4.1** Status quo	**5.1** Status quo	**6.1** Status quo	**7.1** Status quo	**8.1** Status quo	**9.1** Status quo	**10.1** Status quo	**11.1** Status quo	**12.1** Status quo	**13.1** Status quo	**14.1** Status quo	**15.1** Status quo	**16.1** Status quo	**17.1** Status quo
B.1 – Limited harmonisation, **improved** statistical processes, **limited upgrade** of statistical outputs	**1.1** Status quo	**2.1** Status quo	**3.2** All annual population data at NUTS 3	**4.2** Migr. data at NUTS 2	**5.1** Status quo	**6.2** Georef'd data every 10 years (population only)	**7.1** Status quo	**8.2** Quality first	**9.2** Shorter legal deadline, no coordinated release	**10.2** Migrant groups in more detail	**11.2** EU flows as detailed as flows from/to non-EU countries	**12.1** Status quo	**13.1** Status quo	**14.1** Status quo	**15.2** Limited flexibility to adapt stats + voluntary data + legal mechanism for emerging needs	**16.1** Status quo (NSIs choose what to update)	**17.2** Better use of admin. sources **17.3** Better use of B2G
B.2 – Limited harmonisation, **improved** statistical processes, **more expansive upgrade** of statistical outputs and **flexibility**	**1.1** Status quo	**2.1** Status quo	**3.2** All annual population data at NUTS 3 and **3.4** Essential annual population data at functional geo units	**4.3** Migr. data at NUTS 3	**5.1** Status quo	**6.3** Georef'd data annually (population and housing)	**7.3** Less detailed quarterly data regularly	**8.3** Timeliness first	**9.2** Shorter legal deadline, no coordinated release	**10.3** Migrant groups in more detail, incl. socio-economic	**11.3** Flows within the EU and from/to non-EU countries more detailed, incl. socio-economic	**12.2** Provide mandatory stats on marriages, divorces, legally induced abortions, infant mortality, loss of citizenship (some or all)	**13.2** Provide voluntary breakdowns on a mandatory basis (some or all)	**14.2** Size and demographic characteristics of the groups	**15.2** Limited flexibility to adapt stats + voluntary data + legal mechanism for emerging needs	**16.2** Update proportionately	**17.2** Better use of admin. sources **17.3** Better use of B2G **17.4** Basic interoperability of nat. stat. registers
C.1 – Improved harmonisation, **improved** statistical processes, **limited upgrade** of statistical outputs	**1.1** Status quo	**2.3** Harmonised population definition (based on usual residence) with justified exceptions	**3.2** All annual population data at NUTS 3	**4.2** Migr. data at NUTS 2	**5.1** Status quo	**6.2** Georef'd data every 10 years (population only)	**7.1** Status quo	**8.2** Quality first	**9.2** Shorter legal deadline, no coordinated release	**10.2** Migrant groups in more detail	**11.2** EU flows as detailed as flows from/to non-EU countries	**12.1** Status quo	**13.1** Status quo	**14.1** Status quo	**15.2** Limited flexibility to adapt stats + voluntary data + legal mechanism for emerging needs	**16.1** Status quo (NSIs choose what to update)	**17.2** Better use of admin. sources **17.3** Better use of B2G
C.2 – Improved harmonisation, **improved** statistical processes, **more expansive upgrade** of statistical outputs and **flexibility**	**1.1** Status quo	**2.3** Harmonised population definition (based on usual residence) with justified exceptions	**3.2** All annual population data at NUTS 3 and **3.4** Essential annual population data at functional geo units	**4.3** Migr. data at NUTS 3	**5.1** Status quo	**6.3** Georef'd data annually (population and housing)	**7.3** Less detailed quarterly data regularly	**8.3** Timeliness first	**9.2** Shorter legal deadline, no coordinated release	**10.3** Migrant groups in more detail, incl. socio-economic	**11.3** Flows within the EU and from/to non-EU countries more detailed, incl. socio-economic	**12.2** Provide mandatory stats on marriages, divorces, legally induced abortions, infant mortality, loss of citizenship (some or all)	**13.2** Provide voluntary breakdowns on a mandatory basis (some or all)	**14.2** Size and demographic characteristics of the groups	**15.2** Limited flexibility to adapt stats + voluntary data + legal mechanism for emerging needs	**16.2** Update proportionately	**17.2** Better use of admin. sources **17.3** Better use of B2G **17.4** Basic interoperability of nat. stat. registers
D.1 – Full harmonisation, **improved** statistical processes, **major upgrade** of statistical outputs and **effective flexibility**	**1.1** Status quo	**2.2** Strictly harmonised population definition (based on usual residence) for all datasets	**3.2** All annual population data at NUTS 3 and **3.3** Annual population data at functional geo units	**4.3** Migr. data at NUTS 3	**5.2** LAU data annually	**6.3** Georef'd data annually (population and housing)	**7.2** Detailed monthly data regularly	**8.3** Timeliness first	**9.3** Shorter legal deadline and coordinated release	**10.3** Migrant groups in more detail, incl. socio-economic	**11.3** Flows within the EU and from/to non-EU countries more detailed, incl. socio-economic	**12.2** Provide mandatory stats on marriages, divorces, legally induced abortions, infant mortality, loss of citizenship	**13.2** Provide voluntary breakdowns on a mandatory basis	**14.3** Size and demographic characteristics of the groups, and disaggregate other stats as relevant	**15.3** Effective mechanisms to adapt stats more quickly and efficiently as proportionate	**16.3** Update entirely	**17.2** Better use of admin. sources **17.3** Better use of B2G **17.5** Full EU interoperability of nat. stat. registers
D.2 – Full harmonisation, redeveloped and **integrated** statistical processes, **major upgrade** of statistical outputs and **effective flexibility**	**1.2** NSIs set up national statistical population registers	**2.2** Strictly harmonised population definition (based on usual residence) for all datasets	**3.2** All annual population data at NUTS 3 and **3.3** Annual population data at functional geo units	**4.3** Migr. data at NUTS 3	**5.2** LAU data annually	**6.3** Georef'd data annually (population and housing)	**7.2** Detailed monthly data regularly	**8.3** Timeliness first	**9.3** Shorter legal deadline and coordinated release	**10.3** Migrant groups in more detail, incl. socio-economic	**11.3** Flows within the EU and from/to non-EU countries more detailed, incl. socio-economic	**12.2** Provide mandatory stats on marriages, divorces, legally induced abortions, infant mortality, loss of citizenship	**13.2** Provide voluntary breakdowns on a mandatory basis	**14.3** Size and demographic characteristics of the groups, and disaggregate other stats as relevant	**15.3** Effective mechanisms to adapt stats more quickly and efficiently as proportionate	**16.3** Update entirely	**17.2** Better use of admin. sources **17.3** Better use of B2G **17.5** Full EU interoperability of nat. stat. registers

5.3. 5.3. Options discarded at an early stage

Another option has been taken into consideration, in which demography statistics would become deregulated because a sunset clause is included in the Demography Regulation. However, this option has not been included in the shortlist of options for further analysis as it was too similar to the baseline scenario. The rationale is that this sunset clause states that the Demography Regulation will cease to apply on 31 August 2028. This impact assessment looks at the impacts over a 10-year period, until 2031. Therefore, the differences between the baseline scenario and this option would only apply to the 3 last years of the time period assessed. Moreover, the evaluation has shown that the currently regulated data collections are mostly running well, so it can be assumed that an amendment of the Demography Regulation could be put in place simply by extending its application.

6. 6. WHAT ARE THE IMPACTS OF THE POLICY OPTIONS?

This section provides a partial quantitative assessment of the efficiency of the policy options, with impacts monetised to the extent possible based on the available evidence. It also contains a qualitative assessment for each of the policy options covering the following criteria:

- **effectiveness**, including impacts on fundamental rights and wider environmental and social impacts;
- **coherence** with the EU policy objectives, including consistency with the proportionality principle;
- **efficiency**.

A detailed analysis of impacts is provided in Annex 2 based on the external support study (footnote 71).

Scoring approaches used in the report

The consistency of each policy option with the principle of **proportionality** is rated as 'Pass', 'Uncertain' or 'Fail'.

The options have also been scored qualitatively against the criteria of effectiveness and coherence. Each option was scored against these three criteria using the following scoring system:

Level of impact	Score
Very strong negative impact	- 4
Strong negative impact	- 3
Moderate negative impact	- 2
Slight negative impact	- 1
No impact compared to baseline	0
Slight positive impact	+ 1
Moderate positive impact	+ 2
Strong positive impact	+ 3
Very strong positive impact	+ 4

However, efficiency has been assessed qualitatively by confronting the incremental costs and benefits for each policy option.

The baseline sets a '0' against all three criteria (on efficiency, there are no incremental costs or benefits). All policy options B-D have been scored relative to this baseline using the scoring system above. The options have also been scored relative to one another. Thus, two or more options with a similar impact against the same criterion have been given a tied score. For most criteria, it is clear that one or more options will have a very strong positive (+4), or very strong negative (-4) impact. For these criteria, the option(s) with the strongest impact received the highest/lowest score (+/-4), and all other options are scored relative to this maximum and the '0'.

For a few criteria (e.g. social impact and impact on fundamental rights), the maximum score is 3, a strong positive impact. For these criteria, the score of 4 is not reached due to risk discounts related to concerns expressed by some stakeholders. Thus, a lower score was used as the comparator.

Scores are given based on the evidence gathered from the consultation and desk research.

6.1. 6.1. Quantitative analysis of the options

Quantitative analyses of costs have been carried out for the baseline and each of the six options, over a 10-year period (2022-2031)[72]. The costs associated with the baseline represent an estimation of the current costs, assuming these costs would remain constant over 10 years. The costs assessed for policy options B.1, B.2, C.1, C.2, D.1 and D.2 are incremental relative to the baseline (denoted as A). These only estimate the added costs associated with the implementation of each of the measures/action required by each option, over and above the baseline situation, i.e. costs that would be incurred in any scenario. As such, **total** costs associated with each option should be interpreted as being equal to the costs reported for the baseline in addition to those reported for every other relevant option. A specific cost itemisation was made and the different 'cost items' were then matched to the generic cost itemisation in the Better Regulation guidelines (BRG).

[72] The detailed cost assessment is part of the external support study (footnote 71).

Table 13 in Annex 2 (part 1.1) presents the cost types considered in the quantitative assessment of all options and how these relate to the specific cost items.

Most benefits associated with each option, except for some potential cost savings related to reduced administrative burden, have not been quantified and are therefore assessed qualitatively in Section 6.2. A more detailed costs-and-benefits assessment of each option is provided in Annex 2.

6.1.1. 6.1.1. A – Baseline

In the baseline scenario A, the harmonisation of population base definitions will remain limited by default provisions under the current legislation, statistical production processes will also remain up to Member States and the current requirements in terms of statistical outputs will continue to be the same. Finally, the current lack of flexibility to address evolving statistical needs as well as to benefit from opportunities from new data sources will persist.

The cost assessment of the baseline scenario was carried out based on the evaluation results. For all policy measures included in the baseline, and as always in a baseline scenario, the status quo will remain. It should be noted that even though there is a sunset clause in the Demography Regulation, it was assumed in the baseline that a minimal amendment would be adopted to extend its application (see Section 5.3).

All recurrent costs incurred by the Census, Demography, and Migration Regulations were estimated to remain constant and were calculated over a 10-year period, for both the Commission (Eurostat) and the 27 Member States and their respective NSIs. However, the baseline scenario is not one of 'no change'. The baseline is dynamic in the sense that it takes into account ongoing and/or planned activities and takes into account the effects of national action (both legislative and voluntary) that can be expected to be taken regardless of any future EU initiative. Therefore, costs and cost savings associated with maintaining statistical population registers (for those Member States that have implemented or are planning to implement one regardless of this initiative), implementing a strict usual residence definition of the population (for those Member States that currently adopt this definition) or providing voluntary statistics are also included in the dynamic baseline. The rationale for the including these elements in the baseline is as follows.

- In terms of statistical processes, Member States that already have a statistical population register[73] are assumed to continue to incur costs to keep these registers up to date. These costs are therefore included in the baseline. Similarly, some NSIs plan to set up a statistical population register in the near future[74] and will therefore incur implementation costs as well as cost savings related to subsequent efficiency gains, regardless of a potential new EU legal base. These upcoming effects cannot be attributed to a potential new EU requirement on NSIs to set up and maintain national statistical registers (see measure 1.2), and are therefore also included in the baseline[75].

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[73] NSIs survey responses (*Q. 'Does your NSI maintain a national population register for statistical purposes?'* The following NSIs responded 'Yes': Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Italy, Latvia, Netherlands, Slovakia, Spain, Sweden).

[74] NSIs survey responses (*Q. 'Does your NSI maintain a national population register for statistical purposes?'* The following NSIs responded 'No, but planned': Croatia, Cyprus, France, Hungary, Lithuania, Malta, Portugal; Greece imputed due to auxiliary information).

[75] The contract support study (footnote 71) estimated the cost savings for Member States planning a statistical population register using the same model as in Section 6.1.3. However, given the non-reciprocity between having a

- On the harmonisation of population definitions, some Member States already use a population base definition based on the strict usual residence concept[76]. Following the same reasoning as above, those Member States already incur related costs and will continue to incur them. These costs cannot be attributed to a potential new EU requirement to use that same definition (measures 2.2 or 2.3) and are thus included in the baseline.
- Similarly, some Member States already provide datasets voluntarily. Data currently collected on a voluntary basis incur costs for both the Commission (Eurostat) and NSIs. These costs are likely to remain whether a new regulation makes this voluntary data collection mandatory or not. These costs associated with voluntary data are therefore also included in the baseline.

register-based census and having a statistical population register, it was assumed conservatively that these costs savings would be equal to one tenth of the annual costs savings indicated by that model.

[76] NSI survey responses (*Q. 'Which definition(s) of the population is used by your NSI?'*. The following NSIs responded 'strict usual residence': Bulgaria, Croatia, France, Hungary, Ireland, Lithuania, Malta, Portugal, Romania).

Table 3 – Overview of baseline total and incremental costs in million 2021 EUR by policy option, and split by one-off and recurrent per 10 years on Eurostat and on all aggregated 27 Member States.

Option	Eurostat		Member States/NSIs (all 27)	
	One-off	Recurrent (over 10 years)	One-off	Recurrent (over 10 years)
A – baseline total		**13.56**		**1 677.41**
B.1 – incremental	0.19	0.10	5.82	6.97
B.2 – incremental	0.39	0.37	17.77	33.98
C.1 – incremental	0.29	0.61	12.46	25.96
C.2 – incremental	0.48	0.89	24.41	52.97
D.1 – incremental	0.58	1.18	41.41	75.60
D.2 – incremental	0.83	1.83	50.42	128.92

Table 4 – Overview of median costs per capita for the three Member State groups (see text) in 2021 EUR per capita.

Option	Member States/NSIs by group (median)		
	Group 1	Group 2	Group 3
A – baseline total	**2.37**	**4.91**	**4.07**
B.1 – incremental	0.07	0.04	0.02
B.2 – incremental	0.24	0.15	0.06
C.1 – incremental	0.23	0.13	0.05
C.2 – incremental	0.44	0.24	0.07
D.1 – incremental	0.68	0.37	0.09
D.2 – incremental	0.98	0.50	0.19

Table 5 – Overview of average costs per capita in the three Member State groups (see text) in 2021 EUR per capita.

Option	Member States/NSIs by group (average)		
	Group 1	Group 2	Group 3
A – baseline total	**3.00**	**7.33**	**8.18**
B.1 – incremental	0.10	0.18	0.23
B.2 – incremental	0.35	0.66	0.91
C.1 – incremental	0.37	0.34	0.54
C.2 – incremental	0.63	0.81	1.22
D.1 – incremental	0.90	1.12	2.48
D.2 – incremental	1.22	1.68	3.19
D.2 – incremental	1.22	1.68	3.19

In summary, it is thus important to note that the baseline costs estimated as part of this impact assessment go beyond the costs associated with the current legal framework, in that they also include current costs incurred on aspects affected by some policy measures and options. As described in Section 2.2.4 and substantiated by the evaluation findings, there is a clear pattern expected in the overall baseline costs depending on whether NSIs can use administrative and other appropriate sources efficiently or not. While it is not straightforward to categorise Member States under this criterion, the existence (or not) of a statistical population register is a good proxy. Therefore, Member States are split broadly into three groups as follows:

- group 1 – already have a statistical population register[77];
- group 2 – currently do not have a statistical population register but are planning to set up one in the near future regardless of any EU intervention[78];
- group 3 – do not have and are not planning a statistical population register[79].

Indeed, the contract support study (footnote 71) has confirmed the expected pattern of higher per capita costs in groups 2 and 3 than in group 1, both in medians (Table *4*) and in averages (Table *5*) across members of each group. Note that the pattern holds despite cost savings included in the baseline for group 2, likely due to the very conservative approach taken in the estimation model (footnote 75).

6.1.2. 6.1.2. Incremental costs incurred by policy options B-D

A comprehensive and detailed quantitative assessment of incremental costs incurred by policy options B-D is provided in Annex 2 (part 1.1). Table 3 shows the aggregated baseline and incremental costs in 2021 EUR by policy option. The cost model is aligned to the basic characteristics of the policy options in terms of harmonisation – process integration – upgrade of statistical outputs (see Section 4.2 and Figure 9 for context). Incremental costs related to flexibility characteristics are considered indirect and largely depend on unknown context factors (e.g. specific new data needs or data source environments in the longer-term) so they could not be quantified.

Table 3 also shows that the largest part of both baseline and incremental costs (97.7% to 98.5% depending on the policy option) are, or would be, incurred by Member States, more precisely by their national statistical production systems coordinated by the respective NSIs. This reflects the structure of the ESS governed under Regulation (EC) No 223/2009 (footnote 2), where Member States produce statistics under the coordination of Eurostat and governance of the ESS Committee (ESSC). Key features of each policy option regarding incremental costs are summarised below.

B.1 causes incremental costs compared to the baseline solely through the limited upgrade of statistical outputs, including for instance improved detail and timeliness of statistics and decennial population grids.

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[77] Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Italy, Latvia, Netherlands, Slovakia, Slovenia, Spain and Sweden following replies to the targeted NSI survey. Note that Slovenia was imputed to group 1 following findings form the case study in conjunction with a broad definition of 'statistical population register'.

[78] Croatia, Cyprus, France, Greece, Hungary, Lithuania, Malta and Portugal following replies to the targeted NSI survey (Greece communicated information later).

[79] Czechia, Germany, Ireland, Luxembourg, Poland and Romania following replies to the targeted NSI survey (*Q. 'Does your NSI maintain a national population register for statistical purposes?'* These NSIs responded 'No, and not planned').

B.2 causes higher incremental costs than B.1 solely through a more expansive upgrade of statistical outputs, including improved frequency and timeliness, regulating some of the currently voluntary datasets and introducing annual population and housing grids as well as basic equality data.

C.1 and C.2 cause higher incremental costs than B.1 and B.2 respectively solely through the improved harmonisation of the population base definition based on the strict usual residence concept, subject only to justified exceptions (measure 2.3).

D.1 causes higher incremental costs than C.2 by fully harmonising the population base definition without exceptions and through a major upgrade of statistical outputs, including monthly demographic data, annual data at LAU level and more detailed equality data.

D.2 causes higher incremental costs than D.1 solely through the obligation on Member States in group 3 to set up a statistical population register. However, this option also generates long-term recurrent cost savings for these Member States as described in Section 6.1.3.

Regarding quantitative incremental cost estimates by policy option and Member State group, Table 4 and Table 5 show that average incremental costs per capita are generally increasing from group 1 to group 3, while median incremental costs per capita follow the *opposite* pattern (decreasing from group 1 to group 3). This is in contrast to the baseline assessment in Section 6.1.1 (where per capita cost patterns are consistent for averages and medians over group members), and it suggests that the cost model provided in the contract support study (footnote 71) was not detailed enough to allow reliable quantitative estimates broken down by specific Member States or Member State groups.

Nonetheless, the stakeholder consultation and regular expert consultations with NSIs provide three broad qualitative patterns described below of how adaptation or modernisation challenges vary across Member States.

1. While upgrading statistical outputs does depend a lot on the specific details of the upgrade (e.g. whether only timeliness or frequency is improved or whether new variables or breakdowns are to be added that may or may not be available from sources already in use), it is generally acknowledged that an integrated statistical production system in place, with a statistical population register as a backbone, does reduce the costs of such upgrades. This means that Member States in group 3 (and in group 2 while national efforts to set up a statistical population register are ongoing) will likely face more severe challenges than group 1 in adapting to any of the policy options. The same pattern is also relevant when it comes to preparing for additional flexibility (either to address changing policy needs or to set up data-sharing systems with new sources).
2. Most of the modernisation activities covered to a varying degree in the policy options would entail upfront investment (adaptation costs) that are not necessarily proportional to country size in terms of population or gross domestic product. For instance, upgrading IT infrastructure or introducing new data products (e.g. infra-annual publications) typically entails incremental financial and human resources that are at least partly comparable in volume across countries, whereas smaller countries typically have fewer staff and smaller budgets for official population statistics. This means that these countries are generally expected to face relatively more severe challenges than larger countries in adapting to any of the policy options.
3. The correct implementation of a harmonised population definition based on a strict usual residence concept as a basis for annual and more frequent statistics is challenging for all Member States, in particular in combination with the expected upgrading of statistical outputs. It is generally acknowledged that an integrated statistical production system based

on administrative and other readily available sources is needed to produce detailed statistical outputs frequently and with shorter deadlines. However, multisource production systems ultimately based on administrative population registers have well-known coverage issues with respect to the usually resident population. While efficient methods like signs of life are available in principle to control over-coverage (i.e. to identify persons not factually present at a given address), ESS[80] and international[81] guidance generally acknowledges that the only effective method currently available to check for systematic under-coverage of the registers against the usually resident population is to carry out dedicated field surveys. The costs of such field surveys scale with their frequency and geographic area covered and would be incurred by all Member States using (or transitioning towards) integrated register-based production systems with a proper implementation of the usual residence concept.

From these points, in particular 1 and 2, it may be roughly summarised that the smallest Member States in groups 2 and 3 are likely to face relatively the most severe challenges in adapting to any of the policy options.

6.1.3. 6.1.3. Incremental cost savings (benefits) incurred by policy option D.2

While incremental quantitative costs could not be broken down by specific Member States or Member State groups due to a lack of granular information, the quantitative evidence for baseline costs by Member State is more robust and makes it possible in principle to model some specific cost savings. This is particularly true for census costs, for which there is comparably rich granular information from the 2001 and 2011 rounds that may be used to model efficiency differences between production systems, either based on statistical population registers or having to cope without them. This is used here as a rough proxy to estimate potential cost savings expected specifically from policy option D.2 that would introduce such statistical registers for all Member States.

The detailed baseline cost assessment by Member State has shown that there is a significant gap between Member States producing their annual and census statistics from an up-to-date statistical population register (group 1 in Section 6.1.1) and Member States currently coping without such a register (groups 2 and 3). According to the baseline cost assessment, the median cost of a traditional census across EU-27 countries was roughly 20 times the median cost of a register-based census both in the 2001 and the 2011 census round. A rough estimation of respective potential cost savings in the future, accounting for scale effects from changing population sizes, amounts conservatively to EUR 2 (EUR 1-4 with sensitivity margin of 50-200% around the best estimate) per capita less in a census round[82], incurred only by six Member States not currently planning to set up a statistical population register[83] (Annex 3). The total potential cost savings at EU level per future census round could thus amount to EUR 281 million (between EUR 141 million and EUR 563 million according to sensitivity margin). This is roughly between two and eight times the total combined one-off and recurrent (over 10 years) incremental cost estimate for all affected Member States to set up and maintain such registers (see Annex 2 part 1.1.7).

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[80] ESS Quality Guidelines on Frames for Social Statistics (footnote 60).
[81] UN Handbook on Registers-Based Population and Housing Censuses (second draft version presented to the UN Statistical Commission in March 2022, see footnote 17).
[82] External support study (footnote 71).
[83] NSIs survey responses (*Q. 'Does your NSI maintain a national population register for statistical purposes?'* The following NSIs responded 'No, and not planned': CZ, DE, IE, LU, PL, RO).

Similarly, recurrent cost savings can also be expected for the production of annual and infra-annual data, even at the highest demographic and geographic details and improved timeliness, due to the continuous availability of a single statistical source at microdata (individual person record) level from which the tabulations can be extracted. This would incur a substantial discount on the incremental costs related to the major upgrade of statistical outputs in policy option D.2, but such a discount was impossible to quantify reliably on top of the estimate of these costs.

6.2. 6.2. Qualitative analysis of the options

Most benefits associated with each policy option, except for some potential cost savings related to reduced administrative burden (see Sections 6.1.3 and 8.2), have not been quantified. This is in part due to a lack of available data on the benefits associated with population statistics, and in part due to the nature of the benefits that are likely to be generated by this initiative. For many of the benefits considered, their effects are more indirect and variable across Member States and stakeholder groups, which make them challenging to quantify or monetise. For example, the benefits to data users from increased access to high-quality European statistics on population would depend on several additional factors, such as how these data would be used or the cost of accessing data through alternative sources. In addition, benefits to policymaking at EU or other governance levels, from improved access to reliable, comparable population data across the EU, would be difficult to monetise since these would depend on several contextual factors, such as the types of policies at each governance level that rely on population data or what the impact of evidence quality would be.

For these reasons, respective benefits have been considered qualitatively; and Table 6 shows to what extent each of the policy options B-D achieve incremental benefits compared to the baseline, by beneficiary groups and specific benefit items. The tables in Annex 2 (part 1.2) provide a detailed and systematic qualitative assessment of the proportionality and incremental impacts by option, based on the policy measures included in each option (see Figure 10) and how these affect the effectiveness, coherence with wider EU objectives and efficiency; and applying the qualitative scoring method introduced at the beginning of Section 6.

Key features of each policy option regarding incremental policy measures and their benefits on stakeholder groups are summarised below. Stakeholder groups' views on each policy option were collected at three dedicated option validation workshops: one with participants from NSIs, one with representatives of Commission departments and one with other professional users (institutional users, researchers, NGOs). Earlier consultation activities could not refer directly to the policy options as these were not yet finalised at the time, but the OPC did ask for respondents' priorities among the various potential measures considered under each of the policy topics (see

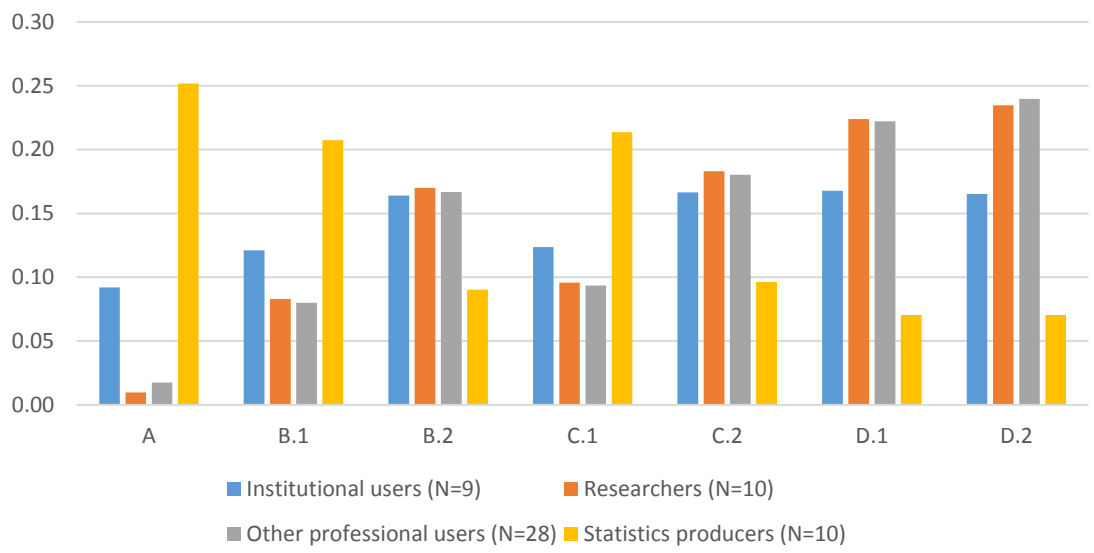

Figure 8 – Relative preference for policy options by stakeholder group, based on the prioritisation of policy measures expressed in the OPC (responses to Q3.1 – Q3.17). Note that this figure only covers OPC uptake, so findings from other consultation activities (e.g. option validation workshops mentioned in Section 6.2) complement this picture. In particular, 'institutional users' do not cover EU policy users, who did not submit replies to the OPC; their views were captured in a targeted survey and a dedicated option validation workshop with the Commission. (Source: Eurostat analysis)

Table 2). Mapping their answers to policy options (Figure 9) makes it possible to calculate an OPC-based relative preference for the policy options by stakeholder group. The result, shown in Figure 10, corroborates the following summaries by option.

B.1 causes modest incremental benefits from better data evidence for various professional users, including policymakers (measures 3.2, 4.2, 6.2, 8.2, 9.2, 10.2, 11.2) but fails to deliver on key aspects like geographic granularity or specific topics of policy interest. Statistics producers, including Eurostat, benefit moderately from simplified procedures due to a streamlined legal framework for all datasets and lighter adaptation processes to evolving data needs (measure 15.2). Source data providers benefit from simplified procedures due to a clearer legal base for sharing relevant data (measures 17.2 and 17.3). During the option validation workshops, participants from NSIs and professional users (Commission departments, other institutional users and researchers) identified policy option B.1 as realistic, i.e. feasible to implement[84].

B.2 causes larger incremental benefits for professional users than B.1 in terms of further improved data evidence for various policy and institutional purposes (additional measures 3.4, 4.3, 6.3, 7.3, 8.3, 10.3, 11.3, 12.2, 13.2, 14.2, 16.2). Statistics producers additionally benefit from the interoperability of statistical population registers for simplified sharing of relevant data (measure 17.4). The feedback from the option validation workshops was mixed: a majority of NSI participants stated that the measures under policy option B.1 would be unrealistic due to the increased burden involved, while the opposite view was broadly expressed among professional users (see footnote 84).

C.1 (C.2) causes larger incremental benefits relative to B.1 (B.2) solely through improved EU-level comparability across Member States, stemming from the harmonised population base

[84] See overall assessment of this option in the external support study (footnote 71), Section 4.5.4.

(measure 2.3). Notably, large majorities of OPC respondents in all stakeholder groups (from 73%, or 8 out of 11 respondents among statistics producers, up to 93% or 39 out of 42 respondents among professional users) put a high priority on introducing a strictly harmonised population definition (either for all datasets or with justified exceptions)[85]. In the targeted survey with NSIs, maintaining the status quo of non-harmonised population definitions was considered to have minor or moderate negative impacts by a majority of the 29 respondents (69% on usability of European data for policymaking, 79% each on comparability of national data and on quality of European data), while production costs was the only area where a majority (55%) of respondents saw a positive impact (38% 'major', 17% 'moderate' or 'minor')[86]. During the option validation workshops, most participants from NSIs as well as from among professional users found option C.1 feasible to implement, whereas the views on C.2 were split: not realistic according to a majority of NSI participants, realistic according to professional users (see footnote 84).

D.1 brings larger incremental benefits for users than C.2, with even better EU-level comparability through full harmonisation (measure 2.2), and a major improvement of data evidence (additional measures 5.2, 7.2, 9.3, 14.3, 16.3). Statistics producers and Eurostat both benefit from further simplified processes due to effective adaptation mechanisms to evolving data needs (measure 15.3) and from full EU-level interoperability of statistical population registers (measure 17.5). In the option validation workshops, participants from NSIs unanimously found D.1 unrealistic, driven mostly by expectations of excessive additional burden on NSIs, while participants among professional users generally stated that the option is realistic (see footnote 84).

D.2 causes larger incremental benefits than D.1 solely through the introduction of statistical population registers across all Member States (measure 1.2). This benefits users with higher data quality in general and quicker adaptation to their evolving needs. Statistics producers also benefit substantially over time thanks to the integrated statistical production processes. In the option validation workshops, NSI participants unanimously agreed that D.2 is unrealistic, largely due to the costs involved in transitioning to statistical population registers and due to the subsidiarity and proportionality concerns around them, while this option was largely viewed positively by professional users (see footnote 84). In the OPC, a large majority (84%, or 27 out of 32 respondents) among professional user groups also prioritised the introduction of statistical population registers, while the opinions of statistics producers were split (50%, or 5 out of 10 respondents prioritised maintaining the status quo)[87].

[85] Responses to OPC survey (Q3.2).
[86] Responses to NSI survey (Q3.3).
[87] Responses to OPC survey (Q3.1).

Table 6 – Beneficiaries and qualitative level of incremental benefits expected by policy options compared to the baseline (scale: no increment, '+', '++' or '+++').

Beneficiary	Incremental benefits compared to the baseline	B.1	B.2	C.1	C.2	D.1	D.2
People (the public and migrants)	Benefits from improved policymaking, including for potentially disadvantaged population groups	+	++	+	++	+++	+++
	Better information on own local/regional environment	+	++	+	++	+++	+++
	Reduced response burden, i.e. fewer direct inputs needed from individual persons						+++
EU institutional users	Better EU-level timeliness and completeness of statistics across all Member States	+	++	+	++	+++	+++
	Better EU-level comparability and coherence of statistics across all Member States		+	+	++	++	+++
	More accurate and comparable total population counts for Council voting			++	++	++	+++
	Improved inputs to monitoring of demographic change and projecting long-term budget sustainability in relation to population ageing	+	++	+	++	+++	+++
	Better data evidence for regional and cohesion policies	++	+++	++	+++	+++	+++
	Better data evidence for local and urban/rural policies		++		++	+++	+++
	Better data evidence for free movement of persons in the EU internal market	++	+++	++	+++	+++	+++
	Better data evidence for non-EU migration and migrant integration policies	+	++	+	++	+++	+++
	Better data evidence for fundamental rights and non-discrimination policies		++		++	+++	+++
	Better data evidence for the European Green Deal and housing policies		+++		+++	+++	+++
	Better data evidence for access to services analysis and monitoring		+++		+++	+++	+++
	Better data evidence for disaster/crisis response		++		++	+++	+++
	Reputational gains from improved policymaking and EU decision-making in general	+	++	+	++	+++	+++
Other institutional users (national and subnational levels)	Better comparability with other Member States on population size at all levels		+	+	++	++	+++
	Better comparability with other Member States on migration patterns	+	++	+	++	+++	+++
	Better comparability with other Member States on migrant integration	+	++	+	++	+++	+++
	Better comparability with other Member States on housing		+++		+++	+++	+++
	Better comparability with other Member States on equality and non-discrimination		++		++	+++	+++
	Better comparability with other EU regions	++	+++	++	+++	+++	+++
	Better comparability with other EU municipalities and functional areas		++		++	+++	+++
	Better data evidence (through grids) for policymaking in border regions and local crisis response		+++		+++	+++	+++
	Reputational gains from improved visibility and transparency in a European context	+	++	+	++	+++	+++
Other	Better comparability of research/analysis across all Member States		+	+	++	++	+++

professional users	Better research/analysis of detailed geographic patterns across the EU	+	++	+	++	+++	+++
	Better research/analysis of migration patterns and migrant integration across the EU	+	++	+	++	+++	+++
	Better research/analysis of equality and non-discrimination across the EU		++		++	+++	+++
	Better research/analysis of longitudinal patterns across the EU		+		+	+++	+++
	Reduced administrative burden (through ability to find all statistics on Eurostat's website)	+	++	+	++	+++	+++
	Economic benefits from availability of better European statistics	+	++	+	++	+++	+++
	Benefits from improved policymaking (e.g. enhanced social cohesion)	+	++	+	++	+++	+++
Statistics producers (NSIs)	Improved comparability of statistics with other Member States		+	+	++	++	+++
	Improved accuracy and coverage of statistics due to interoperability with other Member States					++	+++
	Reduced administrative burden (through simplified statistics transmission processes)	+	+	+	+	+	+++
	Reduced administrative burden (through integrated statistics production process)						+++
	Reduced administrative burden (through improved use of administrative and/or other data sources)	++	++	++	++	++	+++
	Reduced administrative burden (relating to regulatory changes to adapt to evolving policy needs)		++		++	+++	+++
	Increased ability to meet legal requirements	+	+	+	+	+	+++
	Increased staff skills	+	++	+	++	++	+++
Administrative data providers	Improvements in administrative registers thanks to closer collaboration with NSIs	++	++	++	++	++	+++
	Reduced administrative burden through streamlined data exchange with NSIs	++	++	++	++	++	++
	Increased added value from own data through improved reuse	++	++	++	++	++	+++
	Improved legal base of statistical cooperation through a clear mandate	+++	+++	+++	+++	+++	+++
	Reputational gains from improved reuse of administrative registers	++	++	++	++	++	+++
Eurostat	Advancement of Eurostat mission 'to provide high-quality statistics and data on Europe'	+	++	+	++	++	+++
	Improved collaboration with EU policy users	+	++	+	++	+++	+++
	Improved collaboration with ESS partners due to EU-wide interoperability					++	+++
	Better data evidence for other European statistics (e.g. data collection based on samples, national accounts)	+	+	++	++	++	+++
	Reduced administrative burden (relating to regulatory changes to adapt to evolving policy needs)		++		++	+++	+++
	Reduced administrative burden (related to coordination / quality assurance for voluntary data)		++		++	+++	+++
	Reputational gains from improved international standing of European statistics freely available to all	+	++	+	++	+++	+++

Table 7 – Comparative overview policy option assessments (see Annex 2 part 1.1 for detailed quantitative cost estimates and part 1.2 for detailed qualitative assessment scores)

Dimension	Policy options						
	A	B.1	B.2	C.1	C.2	D.1	D.2
Proportionality	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Uncertain**	**Uncertain**
– Necessary minimum	Pass	Pass	Pass	Pass	Pass	Pass	Pass
– Limitation to EU scope	Pass	Pass	Pass	Pass	Pass	Pass	Uncertain
– Costs commensurate	Pass	Pass	Pass	Pass	Pass	Pass	Pass
– Simplest effective action	Pass	Pass	Pass	Pass	Pass	Uncertain	Uncertain
Effectiveness – average	**0.00**	**0.93**	**1.93**	**1.21**	**2.21**	**3.14**	**3.71**
– Specific objective 1	0	1	1.5	2	2.5	3	4
– Specific objective 2	0	1	2	1	2	3	4
– Specific objective 3	0	1	3	1	3	3.5	4
– Specific objective 4	0	1	2	1	2	3.5	4
– fundamental rights	0	0.5	1	1.5	2	3	3
– society	0	1	2	1	2	3	3
– environment	0	1	2	1	2	3	4
Coherence with EU objectives	**0**	**1**	**2**	**2**	**3**	**4**	**4**
Efficiency	***Baseline***	***Ambition in incremental effectiveness grows with incremental costs***					***Better than D.1***[88]
– total incremental costs[89]	0	10.5 – 15.7	42.0 – 63.0	31.5 – 47.2	63.0 – 94.5	95.0 – 142.5	145.6 – 218.4[90]
Views of key stakeholder groups	***Big difference of views between statistics producer and user profiles***						
– Statistics producers	*Feasible*		*Split views*	*Feasible*	*Split views*	*Not feasible (unanimous)*	
– EU and other institutional users	*Feasible but outputs not sufficient for current policy needs*				*Barely sufficient*	*Feasible and sufficient*	
– Researchers, other professional users	*Feasible but outputs not sufficient for professional needs*				*Split views*	*Feasible and sufficient*	

[88] According to the detailed comparative efficiency assessment in Annex 2 part 1.2 (see Subsections 1.2.6 for D.1 and 1.2.7 for D.2), policy option D.2 is expected to be more efficient than D.1 in the long term due to the gradual cost savings and subsequent efficiency gains incurred through statistical population registers over time (this may stretch over a long period going beyond the 10 years assessed here). While D.1 is expected to be less efficient than the more modest options (including notably C.2) due to the extremely ambitious increase in statistical outputs without taking strong facilitating action, the relative efficiency of D.2 against the more modest options remains unclear (see further description in Section 7).

[89] +/- 20% margin in millions of 2021 EUR. As shown in Table 3, most of these estimated incremental costs (97.7% to 98.5% depending on the policy option) fall on Member States, mostly in the form of additional human and financial resources required by NSIs and the respective national statistical production systems.

[90] Specifically for policy option D.2, almost all incremental costs with respect to D.1 are incurred by Member States not currently having or planning a statistical population register (group 3 in Section 6.1.1). Potential cost savings estimated in Section 6.1.3 have not been set off against the costs here, due to larger uncertainties around these estimates.

7. 7. HOW DO THE OPTIONS COMPARE?

In line with the Better Regulation guidelines (BRG)[91], a multi-criteria decision analysis (MCDA) should be used to compare the different options in terms of compliance with the proportionality principle, effectiveness against specific objectives and wider impacts (fundamental rights, social, environmental), coherence with EU objectives, and efficiency. Table 7 summarises the assessment of all policy options for each of these criteria, by also including views of key stakeholder groups. A detailed reasoning for each of the assessments, presented by policy option, is provided in Annex 2. A comparison of policy options synthesising these findings is presented in this section.

On **proportionality**, four questions were answered (see also Section 4.6.1 of the external support study, footnote 71):

1. *Does the option go beyond what is necessary to satisfactorily achieve the objectives?*
   All options pass, as all policy measures considered are clearly linked (albeit with varying ambitions) to specific problems with the current EU legal framework, as established by the evaluation.
2. *Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own and where the EU can do better?*
   Member States alone clearly cannot provide European statistics fulfilling required common quality standards, especially on completeness, comparability, frequency, timeliness and geographic and topical detail, and thus relevance for EU policy needs.
   Policy options B.1 through D.1 pass, as all their measures are clearly linked to creating or improving such common standards. The status of option D.2 is uncertain due to measure 1.2 requiring statistical population registers in all Member States.
   While the goals of improving efficiency, flexibility and comparability across all Member States are proportionate, some NSI experts have expressed concerns that national systems would lose flexibility to find their own solutions[92]. However, it is the freedom of movement in the EU internal market under EU law that presents characteristic challenges for statistics, such as highly dynamic and further increasing mobility, cross-border work/family patterns and several places of residence split across regions and countries becoming common practice.
   Experience over the past years suggests that national approaches are ineffective to produce genuine European statistics[93], so that EU action would be proportionate in the form of (ideally interoperable) national population registers solely for statistical purposes.
3. *Are costs for the EU, national governments, regional or local authorities, economic operators or the public commensurate with the objectives of the initiative?*
   Based on the quantitative analysis of the costs (Section 6.1), all policy options are judged as passing this question. This includes the costliest option, policy option D.2, because a large part of these costs (around the statistical population registers) would be an investment in the

[91] European Commission (2021) Better Regulation Toolbox Chapter 8, Tool #62.
[92] At the option validation workshop with NSIs and on various other regular expert consultations in the ESS.
[93] For instance, after the adoption of the Demography Regulation, Eurostat initiated studies with NSIs on how the population definition based on usual residence can be implemented within the national systems. The outcome is that currently there is no common implementation of this definition, which leads to the continuing situation that the EU population cannot be measured at a single place of residence (or main residence) across the entire EU territory, and there is a constant risk of under or double counting people, vital events and migration asymmetries. In absence of a single European identifier, addressing such issues is generally difficult for NSIs, but there are methods based on data sharing between NSIs that are worth exploring. In the longer term, additional benefits could emerge from improved European digital identities under a proposed amendment to Regulation (EU) No 910/2014; COM(2021) 281.

capacities of a few Member States (group 3 in Section 6.1) that is expected to be offset by long-term savings and wider benefits at EU level.

4. *Is the form of action (choice of instrument) as simple as possible and coherent with the satisfactory achievement of the objective and effective enforcement?*
   The choice of legal instrument (one new regulation or an update of existing legislation) to implement the policy options has not been explored in depth in this study. Any of the measures entailed can, in principle, be achieved by each approach, whereas integrating the current three basic acts into one would have natural benefits for streamlining all related processes. Thus options B.1 through C.2 pass this question, while whether D.1 and D.2 pass remains uncertain: D.1 is so ambitious on statistical outputs that there are increased risks of significant non-compliance across Member States. The statistical population registers required under D.2 can be seen as facilitating the statistical infrastructure in this respect. It is known from experience that statistical population registers are not simple to implement and may compete with other measures that address comparability issues at EU level (e.g. harmonised population definition, internal migration flows)[94].

Regarding **effectiveness in achieving the specific objectives (SO)**, all options were scored against the relevant policy measures included (see Figure 9) for each SO.

- *SO1 (completeness, coherence, comparability)* took into account policy measures to harmonise the population definition (policy topic 2), ensure completeness of voluntary statistics (topics 12, 13) and ensure a consistent time series (topic 16). Moreover, statistical population registers (topic 1) were considered to reduce implementation risks of a harmonised population definition. Therefore, option D.2 scored highest (+4), followed by D.1 (+3) and C.2 (+2.5).
- *SO2 (timeliness and frequency)* took into account measures to improve the publication frequencies (topics 5, 7) and the time between reference and publication dates (topics 8, 9) of various statistical products. Statistical population registers (topic 1) were considered to improve production efficiency and thus reduce compliance risks. Option D.2 scored highest (+4), followed by D.1 (+3) and by B.2 and C.2 (+2).
- *SO3 (geographic and topical detail)* took into account measures to improve the geographic detail of existing statistics (topics 3, 4, 6) and introduce new statistics or more details on topics of key policy interest (topics 10, 11, 14). Statistical population registers (topic 1) would allow georeferencing of the whole population and also improve the availability of statistical detail and thus reduce compliance risks. Option D.2 scored highest (+4), followed by D.1 (+3.5) and B.2 resp. C.2 (+3).
- *SO4 (input and output flexibility)* took into account measures to adapt the statistical products more quickly and efficiently to evolving policy needs (topic 15) and enable better use of existing or new data sources that may become available in the future (topic 17). Statistical population registers (topic 1) would streamline the integration of data sources and also be more flexible to extract new statistical outputs, and thus reduce compliance risks. Option D.2 scored highest (+4), followed by D.1 (+3.5) and B.2 resp. C.2 (+2).

Options were also scored against wider impacts on fundamental rights, society and environment. While the scores generally followed the patterns of SO scores, the impact of statistical population

[94] For instance, instead of setting up statistical population registers, a thorough scaled-up auditing of national practices by Eurostat, including regular country visits to extensively assess national production systems, could be considered – at least in principle – to give stronger incentives for common operationalisation and implementation of the harmonised concepts.

registers in option D.2 were particular, in that some concerns were expressed about certain risks of negative impacts on fundamental rights (related to personal data protection) and social impacts (doubts around the social licence). However, they would have specific positive environmental impacts by embracing digitalisation and efficient production systems, thus reducing the carbon footprint of statistics production, especially when full field enumerations for traditional censuses become obsolete. Overall, on effectiveness, option D.2 scored highest (+3.71) followed by D.1 (+3.14) and C.2 (+2.21).

Regarding **coherence with EU objectives**, all options were scored against the relevant policy measures on how ambitiously statistics move towards EU-level comparability of population definitions (topic 2), deliver on the data needs for current EU priorities (topics 3, 6 as regards urban/rural integration and the Green Deal; topics 4, 10, 11 for migrant integration; topic 14 for equality) and improve flexibility to adapt to evolving policy needs and data environments (topics 1, 15, 17 for enabling new data sources and interoperability of ESS production systems). Overall, on coherence options D.1 and D.2 scored the highest (+4) followed by C.2 (+3) and B.2 resp. C.1 (+2).

Regarding **efficiency**, baseline and incremental costs by policy option have been quantified in Section 6.1. The baseline (A) sets zero incremental costs or benefits but is considered dynamic in that key impacts of modernisation already planned in some Member States (group 2 of Section 6.1) are factored in. However, most of the benefits could not be quantified, so incremental costs and benefits by option can only be confronted qualitatively. Nevertheless, three broad qualitative trends can be identified.

1. Incremental effectiveness grows steadily with incremental costs. This means that a simple retail analogy applies: the more expensive option buys more or bigger benefits – in increasing order, this is B.1, C.1, B.2, C.2, D.1 and D.2. However, a key aspect to note is that most costs are incurred by statistics producers, while the most relevant direct beneficiaries are statistics users (see Table 6). Nonetheless, at a higher level, both costs and direct benefits are incurred by the same actors, namely public administrations across the EU. Researchers and other professional users also benefit directly from better statistics availability, while society as a whole benefits from key indirect benefits, mostly through better policymaking.
2. Introducing a harmonised population definition based on a strict usual residence concept (going from option B.1 to C.1 or from B.2 to C.2) is estimated to be almost as expensive as all the significant improvements on statistical output and flexibility together (going from B.1 to B.2 or from C.1 to C.2). This is because, even in advanced integrated statistical production systems based on administrative registers, complex specific efforts are needed to capture the actual presence of persons at a registered place of residence (i.e. control over-coverage) and the size and characteristics of population groups actually present on a given territory but not registered there (i.e. control under-coverage). Nonetheless, improving on this aspect has a leverage effect on higher quality, not only of population outputs from this initiative, but of all European social statistics (since accurate enumeration of the whole population is the backbone of other statistical tools such as collecting data from samples).
3. The respective high incremental costs and burdens during an extended adjustment phase of options D.1 and D.2 along the lines of points 1 and 2 above are clear, but despite associated large benefits, the extent to which these outweigh the costs is uncertain. Nonetheless, option D.2 is considered more efficient than D.1, as they both have the same statistical outputs and flexibility, but statistical production in D.2 is expected to be more efficient in the long term due to the full process integration through statistical population registers. However, the monetised cost and benefit estimates for option D.2 are very uncertain, meaning it is unclear over which period the net recurrent benefits break even with the required one-off

investments. In reality, D.2 is expected to be much more efficient than the baseline, maybe even than all options B-C (especially as recurrent cost savings accrue), but a conservative assessment requires particular caution on this option, which may be very costly upfront for some Member States.

The **views of key stakeholder groups** on the different policy options mainly reflect the insights on effectiveness v costs (see point 1 of the efficiency assessment above). Most statistics producers consulted during the various consultation activities (OPC, targeted survey, two dedicated workshops) focused exclusively on the additional costs and burden on their own organisation. However, most professional statistics users consulted (institutional users, researchers and other professional users) put emphasis primarily on the benefits of upgraded statistical outputs and flexibility. This led to a deep division between these stakeholder profiles. The producers strongly favoured the status quo (baseline) or, at most, options B.1 or C.1, while the users strongly favoured options D.1 or D.2 or, at least, C.2. This split between producers and users is clearly visible in Figure 10 (illustrating OPC uptake) and in Table 7 (integrating the uptake from all consultation activities)[95].

8. 8. PREFERRED OPTION

8.1. 8.1. Overall ranking and selection of the preferred option

Table 7 summarises the comparative performance of all policy options against the criteria assessed. With a lack of quantified benefits, a direct ranking of options is not possible. The efficiency assessment, however, showed qualitatively that none of the options is obviously more cost-effective than any other. Rather, the options offer increasing benefits (directly for statistics users and indirectly for the whole society) at increasing costs (mostly for statistics producers, i.e. national statistical production systems). The deep division between producers and users of statistics reflects this pattern, as producers focused on costs while users prioritised the benefits. Option C.2 appears as a possible compromise because costs are still considered high by producers (but not by too much), while benefits are considered barely sufficient by users (but still an improvement compared to the current situation).

The underlying policy decision to be made is which level of ambition – and costs entailed – is deemed appropriate for a more future-proof EU framework for population statistics. The main concerns of statistics producers need to be read in this context as driven mainly by a strict limitation of new costs and burden. However, the assessment has clearly shown that ambitious action on data needs for EU policy priorities has its price, in the form of additional resources needed for statistics producers that are substantial compared to the current baseline costs (up to around 10% for option D.2 according to Table 3). More precisely, only the most ambitious options, D.1 and D.2, contain strong measures to address the needs of key EU policy areas like urban/rural integration, the Green Deal, and fundamental rights and non-discrimination. Additionally, only option D.2 includes statistical population registers as a strong measure to increase production efficiency and thus facilitate delivering the ambitious output goals.

[95] Unfortunately, the dedicated option validation workshops (see external support study, footnote 71) failed to reconcile these perspectives. In particular, the workshop with NSI experts did not distinguish clearly incremental costs and burden from technical and methodological feasibility aspects.

Therefore, **the overall preferred option is D.2**. While option D.2 is the most ambitious in terms of statistical output and flexibility of the framework, it achieves the best result thanks to a similarly ambitious simplification and integration of the statistical production systems and sustainable long-term efficiency gains. However, the main issues of this option argued in Section 7 are the uncertainties around subsidiarity and proportionality, and the significant incremental costs and benefits of introducing interoperable statistical population registers in all Member States.

Therefore, an **alternative (conservative) approach preferring option C.2** would also be reasonable if the acknowledged sizeable uncertainties around the proportionality and efficiency of option D.2 are given more weight – this would also be more acceptable to statistics producers as key stakeholders for implementation.

Finally, as pointed out in Section 4.2, each option was constructed bottom-up from a combination of more specific policy measures addressing the specific objectives. This means that all options represent a form of necessary simplification among the available measure combinations. While option D.2 represents a group of measures that collectively emerged as the preferred package among all assessed, when further developing this intervention it may be reasonable, proportionate and ultimately necessary to consider adjustments around this package at the level of individual measures. However, the unique feature of option D.2 – and a significant facilitating factor for its very ambitious output goals – is the introduction of interoperable statistical population registers in all Member States, which makes this option the most ambitious one, not only in terms of requirements and outputs, but also in terms of expected long-term simplification, integration and efficiency gains. Therefore, a legislative proposal in line with option D.2 should include credible ambition in this direction.

8.2. 8.2. REFIT (simplification and improved efficiency)

All options going beyond the baseline, including the preferred options C.2 or D.2, would entail an update of the current legal framework and thus make some level of streamlining the legal base relative to the current situation possible. This may give rise to benefits in terms of compliance, monitoring and enforcement, and associated cost savings.

For instance, it is expected that some cost savings could be made by reducing the current administrative burdens borne by the Commission (Eurostat) as well as Member States in all groups and their respective NSIs. It was not possible within the scope of this study to quantify this effect due to uncertainties around the overall cumulative effect that streamlining the legal framework would have on individual Member States. For example, it is possible that the individual administrative approach taken by each Member State to provide and report on population statistics is embedded within other procedures, tempering the cost-saving effect from streamlining the legal base.

More generally, given the nature of the measures proposed (i.e. the fact that most measures required placing *additional* requirements and therefore burdens on statistics producers and thus on public administrations), net simplifications and associated savings were challenging to quantify. Nonetheless, Table 8 summarises the qualitative analysis of the relevant benefits under the preferred option.

Notable simplifications are incurred by introducing flexibility features leading to simplified data sharing between source data owners and NSIs as well as to simplified regulatory adaptations of NSIs and Eurostat to evolving data needs. Users will benefit from simplified and centralised access to all relevant data through the Eurostat website. Moreover, both NSIs and Eurostat will also benefit from simplified data transmission procedures from streamlined legislation.

Table 2 – Summary of REFIT relevant benefits of the preferred option D.2 and alternative C.2.

Beneficiary	Reduced administrative burden through:	D.2	C.2
Professional users	ability to find all needed statistics on Eurostat website	+++	++
Statistics producers (NSIs)	simplified statistics transmission processes	+++	+
	integrated statistics production process	+++	
	improved use of administrative and/or other data sources	+++	++
	regulatory changes to adapt to evolving policy needs	+++	+++
Admin. data providers	streamlined data exchange with NSIs	++	++
Eurostat	regulatory changes to adapt to evolving policy needs	+++	++
	coordination/quality assurance for voluntary data	+++	++

Finally, the introduction of statistical population registers in all Member States (measure 1.2, uniquely appearing in option D.2) is expected to bring about significant long-term efficiency gains due to a substantial simplification and full integration of national statistical production processes. The full volume of potential cost savings is very hard to quantify, and will depend on the specific national backgrounds of the Member States that currently do not have such a register and are not planning one (group 3 in Section 6.1). Nevertheless, this impact assessment has set a benchmark by roughly estimating the potential recurrent EU-level cost savings on censuses to between EUR 141 million and EUR 563 million per census round (Section 6.1.3).

In practice, Member States in group 3 that do not currently intend to set up statistical population registers might also accrue recurring cost savings in relation to the delivery of other types of data requirements, including annual statistics. However, these impacts could not be reliably quantified since no data were available on the isolated effect of using statistical population registers for annual statistics specifically. To this end, the estimate for cost savings associated with the census rounds is a proxy for the wider cost savings associated with the use of statistical population registers. Since the cost savings related to the census was significant for those Member States that do not currently have a population register, estimating this value was deemed to be the most proportionate approach.

8.3. 8.3. Application of the 'one in, one out' (OI-OO) approach

8.3.1. 8.3.1. Potential new burden on citizens

Regarding any **new burden on citizens**, the only potential source of such impacts under the preferred options D.2 or C.2 is policy measure 14.3 (only in D.2), introducing new collection modes for equality data. Since at least some of these variables would need to be collected by self-declaration (see footnote 49), some form of incremental direct interaction with citizens (e.g. surveys conducted in person, by phone or online) will generally be required. However, due to the relative stability of respective population group patterns, such data are expected to be needed only in less frequent intervals, for instance during census years. For instance, according to the targeted NSI survey, in the 2021 census round 20 Member States relied on either full enumeration (13 countries) or sample surveys (7 countries) as part of their census taking modes[96]. Moreover, according to a Eurostat monitoring survey (state September 2021), in total 19 countries will publish data on at

[96] Responses to NSI survey (Q2.1); Greece imputed from https://www.statistics.gr/en/2021-census-pop-hous.

least one of the equality variables other than sex and age with the 2021 census results, four of them based on a fully register-based census[97].

The incremental burden on citizens will be mainly measured by additional time afforded by survey respondents to answer the relevant new questions. Now the point is that sample surveys are a standard instrument of data collection carried out regularly also at EU level (e.g. annually for EU-SILC or even quarterly for the EU-LFS), with considerable baseline burden on citizens in terms of average person-time spent per year. For example, according to the impact assessment on Regulation (EU) 2019/1700[98], a typical LFS interview covering roughly 100 questions takes about 20 minutes (median). At a typical sample size of around 1% of the population per quarter[99], this means a total response burden of very roughly 6 million person-hours per year EU-wide (order of magnitude). Going further, the following assumptions can be made for collecting equality-relevant population data other than sex and age based on a sample survey:

- a roughly similar setting as EU-LFS is needed in terms of sample size per survey (1%) and question duration (0.2 minutes per question)[100];
- an equality survey would be conducted (or respective module added to an existing survey) multiannually, e.g. once every 10 years during census years;
- about 10 extra questions would be needed (two questions per five equality dimensions other than age).

As a result, the total incremental time burden on citizens would be a fraction of 1/400 or 0.25% of the regular baseline burden caused by EU-LFS only.

However, there are issues specific to surveys or survey questions addressing grounds for discrimination, namely that the overall response rate drops with each question potentially perceived as contentious or sensitive by a sizeable share of respondents[101]. This is a known challenge normally requiring larger sample sizes and thus overall response time to achieve the same level of accuracy (e.g. compared to EU-LFS). Therefore, one could allow a very conservative uncertainty margin on the result above, for instance estimating the relative incremental burden as up to 1% of the current baseline burden. It can still be concluded that a new or extended direct population data collection at EU level – under the assumptions reflected above – would cause only negligible incremental response burden on citizens and would thus not generate any significant net ins relevant for OI-OO.

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[97] This means these countries have some of the equality variables in national administrative sources, e.g. non-binary gender (AT), ethnicity (LT, LV), religious affiliation (FI, LT).

[98] SWD(2016) 283.

[99] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_force_survey_(LFS)_-_sampling_design,_sample_size_and_sampling_errors#What_is_the_sample_size_in_each_country_.3F

[100] Notably, the target groups of EU-LFS and such a new survey would not be fully the same, as EU-LFS addresses private households only, whereas target groups at risk of discrimination or inequality do not necessarily live in regular private households. However, this intricacy does not affect the ensuing argument on rough total response time in the whole population. (It does affect the potential incremental costs on NSIs carrying out such a survey, but this is not relevant here.)

[101] In a Eurobarometer survey, respondents expressed support for providing sensitive personal details on an anonymous basis, if that could help to combat discrimination in their country. This applies to information on their ethnic origin (72% in favour), their religion or beliefs (71%), their health situation (66%) and their sexual orientation (63%), This shows that there are sizeable minorities who still have reservations against such questions, which supports the assumptions that the non-response would typically increase. Special Eurobarometer on Discrimination in the EU in 2015: https://op.europa.eu/en/publication-detail/-/publication/d629b6d1-6d05-11e5-9317-01aa75ed71a1.

Table 3 – Overview of B2G direct benefits related to the Data Act proposal (impact assessment (IA) preferred policy option) – from Table I in Annex 3 to the IA (footnote 102)

Overview of B2G incremental benefits related to the Data Act proposal (IA preferred option)		
Description	***Amount***	***Comments***
Direct benefits		
Lower administrative burden	EUR 155 million per year	Large and medium businesses should experience lower compliance costs and less duplication in B2G data sharing. Qualitative benefits include improved reputation and workforce motivation.

Table 4 – Overview of B2G incremental costs related to the Data Act proposal (IA preferred option) – from Table II in Annex 3 to the IA (footnote 102)

Overview of B2G incremental costs related to the Data Act proposal (IA preferred option)							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
B2G data sharing	Direct costs	n/a	n/a	EUR 552.5 m	EUR 78.1 m	n/a	EUR 21.6 m
	Indirect costs	n/a	n/a	n/a	n/a	n/a	n/a

8.3.2. 8.3.2. Potential new costs for businesses

Regarding **new costs for businesses**, the only potential source of such impacts under the preferred options D.2 or C.2 is policy measure 17.3, enabling B2G data-sharing approaches to European population statistics. In this context, the impact assessment on the Commission's initiative on a Data Act[102] has assessed relevant costs and benefits of such approaches to official statistics in general. A summary of these is presented in Table 9 and Table 10.

The direct benefit in Table 9 relates to the fact that statistical authorities in the ESS try any way they can to maximise the use of new sources from private holders of data (PHD). Such factual requests, partly based on national laws, already create a factual procedural burden, and thus costs, that are driven further by redundancies and inefficiencies in the absence of a legal base. Clear common enablers across the EU as included in the Data Act proposal are thus estimated to lead to a

[102] SWD(2022) 34.

direct saving of administrative costs of EUR 155 million per year on the PHDs to be shared under B2G. However, the direct costs on PHD businesses in Table 10 consist of (one-off) adjustment costs of EUR 552.5 million and (recurrent) administrative costs of EUR 78.1 million per year.

A cost-benefit analysis focusing on the OI-OO relevant impacts incurred by the PHD sector suggests that the benefit mentioned above affects the PHD sector directly and exclusively, which allows for direct compensation and offsetting of OI-OO relevant costs. In particular:

- **administrative costs** (recurrent) are directly offset by administrative cost savings introduced by the same initiative, leaving recurrent excess cost savings of EUR 76.9 million per year;
- **adjustment costs** (one-off) are compensated over time by the recurrent offsetting excess cost savings above; more specifically, just over 7 years would be needed, based on the estimated amounts, for the entire PHD sector to fully compensate their adjustments.

According to this analysis, B2G data sharing in general, including for official statistics, is not expected to generate OI-OO relevant net ins on businesses. This argument can be projected to specific sectors of official statistics – such as population statistics – by assuming a linear scaling of both benefits and costs from B2G by the same factor. In this model, it is not even necessary to estimate the specific scaling factor for population statistics because the OI-OO offsetting/compensation relation above is also linear and thus not sensitive to the value of the scaling factor.

9. 9. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?

The performance of the new ESOP legislation will be monitored and evaluated against the operational objectives (OOs) set out in Table 11. The following paragraphs outline the main considerations for monitoring and evaluating each stage of the policy cycle. These will complement the regular monitoring and quality control mechanisms already present in the ESS that are mostly based on regular quality reports by NSIs. It has become a default standard to anchor such quality reporting in EU statistical legislation, and this initiative aims to further strengthen and specify the legal basis on quality reporting and monitoring. Additionally, surveys with key user groups have shown to be useful in the stakeholder consultation for this initiative. These could become regular parts of the monitoring approach to track the user uptake of the updated statistical outputs.

During the **implementation phase** of the new legal framework, the Commission (Eurostat) will continue organising regular expert group meetings with partner NSIs in the ESS to discuss and clarify any issues that may arise, continuing a long-standing history of good and close cooperation between Eurostat and its ESS partners on technical and statistical matters. This includes diligent joint preparation of key implementing acts regulating the detailed new statistical data and metadata requirements, which will be of central interest to both statistics users and producers. For instance, Eurostat can establish topical task forces to address specific technical challenges in achieving the objectives of the new legislation. The implementation stage is planned to conclude with a first evaluation focusing on the implementation, functioning and initial impacts of the new legal framework. To obtain sufficient information on the performance, this evaluation is planned within 3 to 5 years after the entry into force of the new legal framework, in line with BRG advice that evaluations should have access to at least 3 full years of data.

After transition to the **application phase**, the Commission (Eurostat) plans to evaluate the functioning and impact of the legislation every 3 to 5 years. Table 11 below outlines some potential

indicators to monitor the effectiveness of a new ESOP framework against each OO, including potential data sources that that are easily available and credible. In this context, the recent evaluation of the current legislation (see footnote 7) has developed several highly valuable indicators – in particular regarding statistical quality based on data and metadata published by Eurostat – that will be considered for consecutive monitoring of the new legal status quo. In addition, Eurostat's regular user satisfaction survey, along with targeted surveys (e.g. of NSIs and statistical correspondents of Commission services), have proven to be good tools for evidence-gathering during the past stakeholder consultation, and are thus considered valuable instruments for future evaluations.

Table 11 – Possible key performance indicators, targets and data sources for the operational objectives (OO). Indicators reused from the recent evaluation of the current legislation are referenced by their acronyms used in Annex 5 of the evaluation report (e.g. 'SQ1.4' for 'statistical quality indicator number 1.4' and so on – see evaluation report). Current benchmarks are taken from the evaluation report (footnote 7) and from stakeholder consultation findings, otherwise the source is referenced explicitly.

SO	OO	Possible key performance indicators and data sources	Current benchmarks	Targets
1 Complete, coherent and comparable statistics	**1.1** Coherent processes used to produce statistics across Member States (MS) to improve comparability	**KPI 1.1.1** Number of MS producing their data with a single integrated process *Sources: Eurostat metadata, quality reports, targeted surveys with NSIs*	12 MS	All MS after 10 years from adoption of the new legal framework
		KPI 1.1.2 Evaluation SQ1.4: number of MS providing coherent annual and census data for 2031 *Source: Eurostat data*	22 MS	All MS
		KPI 1.1.3 Evaluation SQ1.5: number of MS providing consistent demographic balances *Source: Eurostat data*	12 MS	All MS after end of transition period
	1.2 Consistent population base definitions used across MS and within datasets submitted by a MS	**KPI 1.2.1** Evaluation SQ1.1: number of MS using the strict usual residence definition for their population base *Sources: Eurostat metadata, quality reports, targeted surveys with NSIs*	18 MS	All MS after end of transition period
		KPI 1.2.2 Number of MS providing qualitative metadata on how they implement the population base definition *Sources: Eurostat metadata, quality reports*	0 MS[103]	All MS
		KPI 1.2.3 Number of MS providing quantitative metadata on how accurately they implement the population base definition	0 MS (footnote 103)	All MS

[103] Eurobase metadata accompanying the dataset on usually resident population on 1 January (demo_urespop): https://ec.europa.eu/eurostat/cache/metadata/en/demo_urespop_esms.htm

SO	OO	Possible key performance indicators and data sources	Current benchmarks	Targets
		Sources: Eurostat metadata, quality reports		
	1.3 Complete transmission of mandatory datasets from all MS	**KPI 1.3.1** Evaluation SQ6.1: completeness of mandatory statistics *Source: Eurostat data*	98.9%	All MS provide all mandatory breakdown categories after end of transition period
		KPI 1.3.2 Evaluation EE2.1: share of EU aggregates provided in mandatory datasets *Source: Eurostat data*	84%	All mandatory breakdowns include an EU aggregate category after end of transition period
		KPI 1.3.3 Evaluation EE2.2: share of 'unknown' in mandatory breakdowns *Source: Eurostat data*	~0.1%	No more than 5% of any population broken down by a variable where the category 'unknown' exists are assigned to that category
	1.4 Update historic time series	**KPI 1.4.1** Number of MS having updated the last 10 reference years before the 2021 census *Source: Eurostat record of data revisions*	10 MS (2011 census)[104]	All MS where the 2021 census requires revisions of the last 10 reference years
		KPI 1.4.2 Number of MS having updated the complete time series *Source: Eurostat record of data revisions*	0 MS	All MS after end of transition period
2 Timely and frequent statistics meeting user needs	**2.1** Frequencies and deadlines set out in EU legislation better meet users' needs	**KPI 2.1.1** Opinion of key user groups including policy and institutional users *Sources: Eurostat user satisfaction survey, targeted surveys*	n/a	A majority of policy and institutional users agree that that frequency and timeliness have improved

[104] Auxiliary information assessed for indicator SQ3.4 of the evaluation report (footnote 7).

SO	OO	Possible key performance indicators and data sources	Current benchmarks	Targets
		with Commission statistical correspondents		after the implementation of the new legal framework
		KPI 2.1.2 Evaluation SQ4.1: EU data timeliness evolution *Source: Eurostat record of data transmissions*	397 days	Time elapsed between reference period and publication of EU-complete data becomes shorter than baseline for all mandatory datasets under the new legal framework
		KPI 2.1.3 Evaluation SQ4.2: EU data timeliness compared to national and international practices *Sources: Eurostat record of data transmissions, metadata of national and international data collections*	22 MS (population) 18 MS (births) 17 MS (deaths) 20 MS (migration)	All MS achieve timeliness standard T+6 months currently achieved by a majority of MS in national data collections
	2.2 MS compliance with legal deadlines	**KPI 2.2.1** Evaluation SQ5.1: punctuality of MS data transmissions *Source: Eurostat record of data transmissions*	31 days	All MS transmit mandatory datasets within the agreed legal deadlines after end of transition period (i.e. 0 days)
3 Statistics are sufficiently comprehensive in terms of policy relevant topics or groups and sufficiently detailed in terms of characteristics and breakdowns	**3.1** Statistics better meet users' needs regarding: • migrants and migration flows • specific population groups characteristics • geographical detail of statistics • housing	Opinion of key user groups including policy and institutional users regarding: **KPI 3.1.1** Migrants and migration flows **KPI 3.1.2** Specific population groups characteristics **KPI 3.1.3** Geographical detail of statistics **KPI 3.1.4** Housing *Sources: Eurostat user satisfaction survey, targeted surveys with Commission statistical correspondents*	n/a	A majority of policy and institutional users agree that statistical detail has improved after implementation of the new legal framework

SO	OO	Possible key performance indicators and data sources	Current benchmarks	Targets
4 Legal framework is sufficiently flexible to adapt data to quickly evolving policy needs and opportunities from new data sources	**4.1** Improved flexibility to adapt statistical outputs to evolving policy needs	**KPI 4.1.1** Number of new datasets that were regulated using the flexibility mechanism over time *Sources: Executive acts adopted by the European Commission*	0	At least one successful application of the flexibility mechanism during the first 10 years after adoption of the new legal framework
		KPI 4.1.2 Opinion of key user groups including policy and institutional users *Sources: Eurostat user satisfaction survey, targeted surveys with Commission statistical correspondents*	n/a	A majority of policy and institutional users agree that flexibility regarding new data needs has improved 10 years after the adoption of the new legal framework
		KPI 4.1.3 Opinion of NSIs on effectiveness and proportionality of the flexibility mechanism *Source: targeted surveys with NSIs*	n/a	A majority of NSIs agrees that flexibility regarding new data needs is effective and proportionate
	4.2 Dynamic and flexible use of relevant data sources available or becoming available	**KPI 4.2.1** Number of new data sources included in statistical production over time *Sources: Eurostat documentation, metadata, quality and specific reports*	0	At least one new data source is successfully included in production in the first 10 years after adoption of the new legal framework
		KPI 4.2.2 Opinion of NSIs on improved availability of relevant source data and/or cooperation with data owners *Source: targeted surveys with NSIs*	n/a	A majority of NSIs confirm improved availability of relevant source data and/or cooperation with data owners

ANNEX 1: PROCEDURAL INFORMATION

10. 1. LEAD DG, DECIDE PLANNING/CWP REFERENCES

Lead DG	Eurostat
Decide Planning	PLAN/2021/10584[105]
CWP reference	CWP 2022 Annex II - REFIT

11. 2. ORGANISATION AND TIMING

After political validation of the ESOP initiative in February 2021, an interservice steering group (ISG) chaired by Eurostat and composed of representatives of 16 Commission DGs[106] was set up to supervise the progress on combined evaluation and impact assessment including stakeholder consultations. The ISG met six times:

Meeting date	**Topics discussed**
31/03/2021	• Introduction to European population statistics • Draft evaluation roadmap / inception impact assessment (IIA) • Draft consultation strategy • Draft terms of reference for a tender on evaluation/IA support
20/08/2021	• Introduction of contractor ICF SA for support study • Progress on evaluation/IA incl. contractor inception results • Stakeholder consultation plan, activities and timing • Draft OPC questionnaire (launch of written consultation)
21/10/2021	• Progress on evaluation/IA incl. contractor interim results • Update on stakeholder consultation activities
27/01/2022	• Contractor feedback on final workshop results • Complete draft SWD on evaluation for endorsement • Progress draft SWD on impact assessment • Progress draft SWD on consultation synopsis
10/02/2022	• Complete draft SWD on impact assessment for endorsement • Complete draft SWD on consultation synopsis for endorsement
16/06/2022	• Revised draft SWD on impact assessment for endorsement of changes addressing the RSB opinion

[105] https://intragate.ec.europa.eu/decide/sep/?view-dossier-details-id=DORSALE-DOSSIER-2021-5573
[106] SG, SJ, AGRI, BUDG, EAC, ECFIN, EMPL, ENER, HOME, INTPA, JRC, JUST, NEAR, REGIO, RTD, SANTE.

12. 3. CONSULTATION OF THE RSB

The RSB was consulted on this impact assessment at a meeting on 16 March 2022.

13. 4. EVIDENCE, SOURCES AND QUALITY

Evidence and sources

Evidence	**Sources**
Desk research	• Statistical data and metadata currently published (baseline) • Legal acts and explanatory memoranda related to the current legislation • Commission reports on implementation of the current legislation • Methodological guidelines and papers • International recommendations • Policy documents establishing statistical needs A comprehensive list of documents reviewed is provided in Table 12.
Opinion of statistics users: Commission services	• Written consultation with the Commission network of statistical correspondents • Bilateral exchanges to pinpoint specific needs • OPC survey
Opinion of other statistics users	• Topical workshop with selected organisational statistics users on problem definition • In-depth interviews with selected organisational statistics users • OPC survey
Opinion of statistics producers	• Regular consultation of relevant Commission expert groups (see below) • Case studies with five selected Member States • OPC survey • Targeted survey with NSIs complementing the OPC

Expert advice used

To seek advice and inputs on the progress of evaluation and impact assessment, Eurostat has engaged the following Expert Groups (see Register of Commission Expert Groups[107]) regularly:

- Working Group on Population and Housing Censuses (E01544) and its subgroup the Task Force on the Future of Censuses;
- Working Group on Population Statistics (E03076);

[107] https://ec.europa.eu/transparency/expert-groups-register/screen/home

- European Directors of Social Statistics (E01552).

The European Statistical System Committee was also informed about the progress.

External support study

Eurostat carried out this impact assessment with support from a contractor study contributed by ICF SA, Belgium. In particular, the quantitative cost analysis, the methodological approach to scoring and ranking of the policy options as well as support on stakeholder consultation activities, were provided through the support study. Parts of this impact assessment SWD are therefore based on the final report on the study supporting the impact assessment and other analysis documents prepared by the contractor.

Quality

Based on the evidence sources and expert advice mentioned, Eurostat has carried out this impact assessment using various inputs from an external support provider on stakeholder consultation, cost quantification and options design and comparison as mentioned above. Eurostat has monitored the work of the external support contractor regularly (at least every two weeks) and assessed the quality of the final report on impact assessment. The overall work quality and deliverables were found to be in line with the contract and generally sufficient to be used for this evaluation [preliminary draft as contract still runs until 7 April 2022; revisit after final acceptance of all contract deliverables].

All external references relevant for aspects of the impact assessment were also added to this report.

Table 12 – List of reviewed documents

Author	Published	Title
Agilis	2017	Analysis of the legal and institutional environment in the EU Member States and EFTA Countries
DG ECFIN	2009 – 2021	Ageing Report 2009, 2012, 2015, 2018, 2021
DG ECFIN	2021	Euro Area Housing Markets: Trends, Challenges and Policy Responses
DG HOME	2009 – 2020	Annual reports on migration and asylum
DG JUST / Subgroup on Equality Data	2021	Guidance note on the collection and use of equality data based on racial or ethnic origin
DG JUST	2018	Guidelines on improving the collection and use of equality data
DG JUST	2017	Analysis and comparative review of equality data collection practices in the European Union - Equality data indicators: Methodological approach Overview per EU Member State Technical annex
DG JUST	2017	Legal framework and practice in the EU Member States
DG JUST	2017	Data collection in relation to LGBTI People
DG JUST	2017	Data collection in the field of ethnicity
DG JUST	2016	European handbook on equality data
DG JUST	2015	Special Eurobarometer 437 – Discrimination in the EU in 2015
DG REGIO	2022	8th Report on Economic, Social and Territorial Cohesion
DG REGIO	2017	7th Report on Economic, Social and Territorial Cohesion
DG REGIO	2014	6th Report on Economic, Social and Territorial Cohesion
ECB	2018	The state of the housing market in the euro area (ECB Economic Bulletin, Issue 7/2018)
European Commission	2021	GREEN PAPER ON AGEING Fostering solidarity and responsibility between generations
European Commission	2021	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of Regulation (EC) No 862/2007
European Commission	2018	COMMISSION IMPLEMENTING REGULATION (EU) 2018/1799 on a temporary direct statistical action for the dissemination of selected topics of the 2021 population and housing census geocoded to a 1 km^2 grid
European Commission	2018	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of Regulation (EC) No 862/2007
European Commission	2018	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of Regulation (EU) No 1260/2013
European Commission	2017	COMMISSION IMPLEMENTING REGULATION (EU) 2017/881 implementing Regulation (EC) No

Author	Published	Title
		763/2008 on population and housing censuses, as regards the modalities and structure of the quality reports and the technical format for data transmission
European Commission	2017	COMMISSION REGULATION (EU) 2017/712 establishing the reference year and the programme of the statistical data and metadata for population and housing censuses provided for by Regulation (EC) No 763/2008
European Commission	2017	COMMISSION IMPLEMENTING REGULATION (EU) 2017/543 laying down rules for the application of Regulation (EC) No 763/2008 on population and housing censuses as regards the technical specifications of the topics and of their breakdowns
European Commission	2015	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of Regulation (EC) No 862/2007
European Commission	2014	COMMISSION IMPLEMENTING REGULATION (EU) No 205/2014 laying down uniformed conditions for the implementation of Regulation (EU) No 1260/2013 on European demographic statistics, as regards breakdowns of data, deadlines and data revisions
European Commission	2012	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the implementation of Regulation (EC) No 862/2007
European Commission	2011	Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on European statistics on demography
European Commission	2010	COMMISSION REGULATION (EU) No 1151/2010 implementing Regulation (EC) No 763/2008 on population and housing censuses, as regards the modalities and structure of the quality reports and the technical format for data transmission
European Commission	2010	COMMISSION REGULATION (EU) No 519/2010 adopting the programme of the statistical data and of the metadata for population and housing censuses provided for by Regulation (EC) No 763/2008
European Commission	2010	COMMISSION REGULATION (EU) No 351/2010 implementing Regulation (EC) No 862/2007 on Community statistics on migration and international protection as regards the definitions of the categories of the groups of country of birth, groups of country of previous usual residence, groups of country of next usual residence and groups of citizenship
European Commission	2009	COMMISSION REGULATION (EC) No 1201/2009 implementing Regulation (EC) No 763/2008 on population and housing censuses as regards the technical specifications of the topics and of their breakdowns
European Commission	2007	Proposal for a Regulation of the European Parliament and of the Council on population and housing censuses

Author	Published	Title
European Commission	2005	Proposal for a Regulation of the European Parliament and of the Council on Community statistics on migration and international protection
European Committee of the Regions	2016	The impact of demographic change on European regions
European Parliament	2021	Resolution of 21 January 2021 on access to decent and affordable housing for all
European Parliament	2019	Demographic trends in EU regions
European Parliament and Council	2019	REGULATION (EU) 2019/1700 establishing a common framework for European statistics relating to persons and households, based on data at individual level collected from samples
European Parliament and Council	2013	REGULATION (EU) No 1260/2013 on European demographic statistics
European Parliament and Council	2013	REGULATION (EU) No 549/2013 on the European system of national and regional accounts in the European Union
European Parliament and Council	2009	REGULATION (EC) No 223/2009 on European statistics
European Parliament and Council	2008	REGULATION (EC) No 763/2008 on population and housing censuses
European Parliament and Council	2007	REGULATION (EC) No 862/2007 on Community statistics on migration and international protection
European Parliamentary Research Service (EPRS)	2021	Demographic Outlook for the European Union
European Parliamentary Research Service (EPRS)	2013	How can regional and cohesion policies tackle demographic challenges?
European Commission's Joint Research Centre	2022	Data Innovation in Demography, Migration and Human Mobility
Eurostat	2020	European statistical system handbook for quality and metadata reports
Eurostat	2007 – 2021	Sustainable development in the European Union — Monitoring reports on progress towards the SDGs in an EU context 2007, 2011, 2015, 2019, 2021
Eurostat	2021	The European System of Accounts — ESA 2010 — interactive version
Eurostat	2020	Quality assurance framework of the European statistical system
Eurostat	2010 – 2020	Report on the impact of demographic change 2010, 2015, 2020
Eurostat	2014 – 2020	Eurostat Regional Yearbook 2010, 2014, 2020
Eurostat	2009 – 2020	Eurostat User Satisfaction Survey reports 2009, 2013 – 2017, 2019 – 2020
Eurostat	2019	EU legislation on the 2021 population and housing

Author	Published	Title
		censuses – explanatory notes
Eurostat	2018	European statistics Code of Practice for the national statistical authorities and Eurostat
Eurostat	2011	EU legislation on the 2011 population and housing censuses – explanatory Notes
ESSnet KOMUSO	2019	Quality Guidelines for Multisource Statistics
ESSnet KOMUSO	2019	Quality Guidelines on Frames for Social Statistics
ICF	2022	Final Report on impact assessment support study for European statistics on population
ICF	2021	Inception Report on support study for European statistics on population
United Nations	2017	Principles and Recommendations for Population and Housing Censuses
UNECE	2018	Guidelines on the use of registers and administrative data for population and housing censuses
UNECE	2015	Recommendations for the 2020 Censuses of Population and Housing
UNECE	2014	Measuring population and housing. Practices of UNECE countries in the 2010 round of censuses
UNECE	2008	Measuring population and housing Practices of UNECE countries in the 2000 round of censuses

ANNEX 2: WHO IS AFFECTED AND HOW?

14. 1. PRACTICAL IMPLICATIONS OF THE INITIATIVE

14.1. 1.1. Detailed quantitative costs by policy option

This part of Annex 2 provides detailed quantitative cost assessments of all options including the baseline (option A), based on a detailed cost itemisation applied in the external support study (footnote 71; see also Annex 3) and mapped onto BRG cost items in

Table 13 below. Incremental costs of options B – D are aligned to the main option characteristics introduced in section 4.2, and all amounts are given in thousands of 2021 EUR with a range of +/-5% around the best estimate derived from the cost model to account for a margin of error.[108] As explained further in Annex 3, one-off costs are calculated over 3 years to account for the transition period to a new legal framework.

[108] The final report on the support study (footnote 71) provides more extensive variations including additional error margins of +/-10% and +/-20% around the best estimate.

Table 13 – Mapping between BRG cost items and detailed cost items assessed in this study, including definitions

BRG cost items	One-off / recurrent	Stake-holders	Detailed cost items	Definitions
Direct adjustment costs	One-off	Eurostat	Regulatory costs	Costs required to prepare and draft the new regulation, including adopting executive acts, communication and provision of training
	One-off	MS/NSIs	Administrative costs - training, guidance and support	Resources required to develop, implement and communicate any training required and/or commission experts to cover skills gaps
Direct administrative costs	Recurrent	MS/NSIs	Administrative costs - design and implementation of new procedures	Resources required to design and implement a programme to collect, accumulate, manage, clean and transmit demographic data (in the manner required by the regulation) including through collaboration/ data transmission between NSIs and national authorities
Direct enforcement costs	Recurrent	Eurostat	Enforcement costs - monitoring and reporting	Resources required to monitor MS alignment to, and compliance with the requirements of the new regulation (including around data protection, data quality and transparency) and to receive and publish data provided
	Recurrent	NSIs/MS	Enforcement costs - monitoring and reporting	Resources required to monitor and ensure compliance to the regulation in the MS
	Recurrent	NSIs/MS	Compliance costs	Resources required to ensure compliance with requirements, including adopting national arrangements or legislation to ensure cooperation with relevant source data holders
IT costs	One-off / recurrent	Eurostat NSIs/MS	IT costs	New software/application/IT update necessary for implementing the new measure
Direct regulatory fees and charges	Not estimated			
Indirect costs	Not estimated			

14.1.1. 1.1.1.

14.1.2. 1.1.1. A – Baseline

The baseline scenario is described in section 6.1.1. The following tables present an overview of the costs entailed by this policy option.

Table 14 – Overview of baseline costs (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
A – BASELINE Limited harmonisation, separate statistical processes and current statistical outputs	Population frames or registers	N/A	N/A	N/A	22,706 – 23,901
	Population Definitions	N/A	N/A	N/A	4,299 – 4,525
	Mandatory demography statistics	N/A	2,377 – 2,502	N/A	89,739 – 94,462
	Mandatory migration statistics	N/A	2,181 – 2,296	N/A	92,081 – 96,927
	Mandatory census statistics	N/A	8,214 – 8,646	N/A	1,461,036 – 1,537,933
	Voluntary statistics	N/A	758 – 798	N/A	3,357 – 3,534
	Cost savings	N/A	N/A	N/A	111,730 – 123,492
	Total baseline costs	N/A	12,886 – 14,242		1,481,810 – 1,637,790

Table 15 – Overview of baseline costs (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
A – BASELINE Limited harmonisation, separate statistical processes and current statistical outputs	Direct adjustment costs	N/A	N/A	N/A	N/A
	Direct administrative costs	N/A	N/A	N/A	1,481,810 – 1,637,790
	Direct regulatory fees and charges	N/A	N/A	N/A	N/A
	Direct enforcement	N/A	12,886 – 14,242	N/A	N/A

	costs				
	Indirect costs	N/A	N/A	N/A	N/A

14.1.3. 1.1.2. Policy option B.1 – Limited harmonisation, separate statistical processes, limited upgrade of statistical outputs

In policy option B.1, the status quo remains for the harmonisation of population definition (limited), as well as for the statistical processes (separate resp. up to Member States).

The incremental costs of this option, relatively to the baseline, are incurred by the limited upgrade of the statistical outputs. Updated statistical requirements are introduced in demography, migration, and housing census statistics.

Under this Option, the European Commission would incur the following incremental costs:

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 97,116
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 97,072
  - IT costs: N/A

Under this Option, all 27 Member states (NSIs) would incur the following incremental costs:

- One-off costs:
  - Administrative costs: EUR 2,111,179
  - IT costs: EUR 3,704,262
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 1,519,285
  - Enforcement costs: EUR 360,945
  - Administrative costs: EUR 1,450,227
  - IT costs: EUR 3,635,085

Table 16 – Overview of incremental costs of policy option B.1 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION B.1 Limited harmonisation, separate statistical processes, limited update of statistical outputs	Regulatory costs	93 – 103	N/A	N/A	N/A
	Administrative costs - training, guidance and support	N/A	N/A	2,006 – 2,217	N/A
	Compliance costs	N/A	N/A	N/A	1,443 – 1,595
	Enforcement costs - monitoring and reporting	N/A	92 – 102	N/A	343 – 379
	Administrative costs - design and implementation of new procedures	N/A	N/A	N/A	1,378 – 1,523
	IT costs	92 – 102	0	3,519 – 3,889	3,453 – 3,817

Table 17 – Overview of incremental costs of policy option B.1 (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION B.1 Limited harmonisation, separate statistical processes, limited update of statistical outputs	Direct adjustment costs	93 – 103	N/A	2,006 – 2,217	N/A
	Direct administrative costs	N/A	N/A	N/A	1,378 – 1,523
	Direct enforcement costs	N/A	92 – 102	N/A	1,786 – 1,974
	IT costs	92 – 102	0	3,519 – 3,889	3,453 – 3,817
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.1.4. 1.1.3. Policy option B.2 - Limited harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility

In policy option B.2, similarly to Option B.1, the status quo remains for the harmonisation of population definition (limited), as well as for the statistical processes (separate resp. up to Member States). However, the more expansive upgrade of statistical outputs can be expected to accelerate indirectly the current transition towards integrated register-based systems at national levels.

The incremental costs of this option, relatively to the baseline, are incurred by an **update of the statistical outputs** (more expansive update of requirements for census, demography, and migration statistics compared to option B.1 and Option C.1) which also includes to make mandatory some of the existing voluntary statistics data.

Under policy option B.2, the European Commission would incur the following incremental costs due to the more important upgrade of statistical outputs:

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 288,602
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 304,618
  - IT costs: EUR 65,425

All 27 Member states (NSIs) would incur the following incremental costs due to the more important upgrade of statistical outputs:

- One-off costs:
  - Administrative costs: EUR 6,929,358
  - IT costs: EUR 10,841,743
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 9,668,179
  - Enforcement costs: EUR 2,381,134
  - Administrative costs: EUR 9,087,189
  - IT costs: EUR 12,839,075

Table 18 – Overview of incremental costs of policy option B.2 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION B.2 Limited harmonisation, separate statistical processes, upgrade of statistical outputs and flexibility	Regulatory costs	93 - 103	N/A	N/A	N/A
	Administrative costs - training, guidance and support	N/A	N/A	6,583 - 7,276	
	Compliance costs		N/A		
	Enforcement costs - monitoring and reporting	N/A	N/A	N/A	9,185 – 10,152
	Administrative costs - design and implementation of new procedures	N/A	289 – 320	N/A	2,262 – 2,500
	IT costs	N/A	N/A	N/A	8,633 – 9,542

Table 19 – Overview of incremental costs of policy option B.2 (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION B.2 Limited harmonisation, separate statistical processes, upgrade of statistical outputs and flexibility	Direct adjustment costs	93 – 103	N/A	6,583 – 7,276	N/A
	Direct administrative costs	N/A	N/A	N/A	8,633 – 9,542
	Direct enforcement costs	N/A	289 – 320	N/A	11,447 – 12,652
	IT costs	274 – 303	62 – 69	10,300 –11,384	12,197 – 13,481
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.1.5. 1.1.4. Policy option C.1 - Improved harmonisation, separate statistical processes, limited upgrade of statistical outputs

In policy option C.1, the **status quo** remains with regards to the **statistical processes**.

An **improvement of the harmonisation of population definitions** is however introduced.

The incremental costs associated with a better harmonisation of population definition are estimated to be the following for the European Commission (Eurostat):

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: N/A
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 513,322
  - IT costs: N/A

The incremental costs incurred by Member States (NSIs)[109] to meet the requirements of an improved harmonisation of population definitions are estimated to be the following:

- One-off costs:
  - Administrative costs: EUR 2,627,940
  - IT costs: EUR 4,015,460
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 6,241,425
  - Enforcement costs: EUR 6,241,425
  - Administrative costs: EUR 6,510,559
  - IT costs: N/A

In terms of **statistical outputs**, the incremental costs of this option, relatively to the baseline, are incurred by the limited upgrade of these. Similarly to Option B.1, updated statistical requirements are introduced in demography, migration and housing census statistics.

Under this Option the European Commission would incur the following incremental costs due to the limited upgrade of statistical outputs:

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 97,116
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 97,072
  - IT costs: N/A

Under this Option, all 27 Member states (NSIs) would incur the following incremental costs:

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[109] It was assumed that the Member States that replied to the NSIs survey question 'Which population definition(s) is used in your NSI?' with 'Combined' or other' would be most likely to transition to the use of a population definition based on the strict usual residence concept, should the regulation restrict the extent to which NSIs can be exempt from using this population definition. Those NSIs are: AT, CZ, DE, EE, ES, LV, PL, SI.

- One-off costs:
    - Administrative costs: EUR 2,111,179
    - IT costs: EUR 3,704,262
- Recurrent (over 10 years) costs:
    - Compliance costs: EUR 1,519,285
    - Enforcement costs: EUR 360,945
    - Administrative costs: EUR 1,450,227
    - IT costs: EUR 3,635,085

Table 20 – Overview of incremental costs of policy option C.1 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION C.1 Improved harmonisation, separate statistical processes, limited update of statistical outputs	Regulatory costs	186 – 205	N/A	N/A	N/A
	Administrative costs - training, guidance and support	N/A	N/A	4,502 – 4,976	N/A
	Compliance costs	N/A	N/A	N/A	7,373 – 8,149
	Enforcement costs - monitoring and reporting	N/A	582 – 643	N/A	6,272 – 6,932
	Administrative costs - design and implementation of new procedures	N/A	N/A	N/A	7,563 – 8,359
	IT costs	92 – 102	0	7,334 – 8,106	3,453 – 2,817

Table 21 – Overview of incremental costs of policy option C.1 (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION C.1 Improved harmonisation, separate statistical processes, limited update of statistical outputs	Direct adjustment costs	186 – 205	N/A	4,502 – 4,976	N/A
	Direct administrative costs	N/A	N/A	N/A	7,563 – 8,359
	Direct enforcement costs	N/A	582 – 643	N/A	13,645 – 15,081
	IT costs	92 – 102	0	7,334 – 8,106	3,454 – 3,817
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.1.6. 1.1.5. Policy option C.2 – Improved harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility

In policy option C.2, the **status quo** remains with regards to the **statistical processes**. However, the more expansive upgrade of statistical outputs can be expected to accelerate indirectly the current transition towards integrated register-based systems at national levels.

An **improvement of the harmonisation of population definitions** is introduced, similarly to Option C.1. Therefore, the costs incurred by both the European Commission (Eurostat) and NSIs for harmonising better population definitions are the same than those estimated in policy option C.1.

The incremental costs associated with a better harmonisation of population definition are estimated to be the following for the European Commission (Eurostat):

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: N/A
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 513,322
  - IT costs: N/A

The incremental costs incurred by NSIs to meet the requirements of improved harmonisation of population definitions are estimated to be:

- One-off costs:
  - Administrative costs: EUR 2,627,940
  - IT costs: EUR 4,015,460
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 6,241,425
  - Enforcement costs: EUR 6,241,425
  - Administrative costs: EUR 6,510,559
  - IT costs: N/A

The incremental costs of this option C.2, relatively to the baseline, are also incurred by an **update of the statistical outputs** (more expansive update of requirements for census, demography, and migration statistics compared to option B.1 and Option C.1) which also includes to make mandatory some of the existing voluntary statistics data. These costs incurred by the more expensive upgrade of statistical outputs are the same than those estimated in Option B.2.

Under policy option C.2, the European Commission would incur the following incremental costs due to the more important upgrade of statistical outputs:

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 288,602
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 304,618
  - IT costs: EUR 65.425

All EU-27 (NSIs) would incur the following incremental costs due to the more important upgrade of statistical outputs:

- One-off costs:
    - Administrative costs: EUR 6,929,358
    - IT costs: EUR 10,841,743
- Recurrent (over 10 years) costs:
    - Compliance costs: EUR 9,668,179
    - Enforcement costs: EUR 2,381,134
    - Administrative costs: EUR 9,087,189
    - IT costs: EUR 12,839,075

Table 22 – Overview of incremental costs of policy option C.2 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION C.2 Improved harmonisation, separate statistical processes, upgrade of statistical outputs and flexibility	Regulatory costs	186 – 205	N/A	N/A	N/A
	Administrative costs – training, guidance and support	N/A	N/A	9,079 – 10,035	N/A
	Compliance costs	N/A	N/A	N/A	15,114 – 16,705
	Enforcement costs – monitoring and reporting	N/A	779 – 861	N/A	8,191 – 9,054
	Administrative costs – design and implementation of new procedures	N/A	N/A	N/A	14,818 – 16,378
	IT costs	274 – 303	62 – 69	14,114 – 15,600	12,197 – 13,481

Table 23 – Overview of incremental costs of policy option C.2 – BRG format

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION C.2 Improved harmonisation, separate statistical processes, upgrade of statistical outputs and flexibility	Direct adjustment costs	186 - 205	N/A	9,079 – 10,035	N/A
	Direct administrative costs	N/A	N/A	N/A	14,818 – 16,378
	Direct enforcement costs	N/A	N/A	N/A	23,305 – 25,759
	IT costs	274 - 303	62- 69	14,114 – 15,600	12,197 – 13,481
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.1.7. 1.1.6. Policy option D.1 – Full harmonisation, separate statistical processes, major upgrade of statistical outputs

In policy option D.1, statistical processes remain separated. This option however introduces the full harmonisation of population definitions based on the usual residence concept, as well as a major upgrade of statistical outputs. Similar to Option B.2, requirements are more important compared to those in policy option B.2 and C.2, covering existing and new topics of demography, migration, and population and housing census statistics. Some of census outputs will be available more frequently than every 10 years. With regards to the **full harmonisation** of population definitions, the incremental costs to the Commission (Eurostat) associated with this measure are estimated as:

- One-off costs:
  - Regulatory costs: EUR 97,658
  - IT costs: N/A
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 515,322
  - IT costs: N/A

The **full harmonisation** of population definitions will incur incremental costs to Member States. NSIs which are currently not using the definition based on the strict usual residence concept to define their population are expected to incur the following incremental costs:

- One-off costs:
  - Administrative costs: EUR 7,470,299
  - IT costs: EUR 8,532,8541
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 4,949,187
  - Enforcement costs: EUR 4,949,187
  - Administrative costs: EUR 14,661,584
  - IT costs: N/A

Regarding the **major upgrade of statistical outputs**, the following incremental costs are expected to be incurred by the Commission (Eurostat):

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 388,463
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 514.821
  - IT costs: EUR 151.197

It was estimated that all 27 Member states (NSIs) would incur the following incremental costs due to the more detailed and new requirements in terms of statistical outputs:

- One-off costs:
  - Administrative costs: EUR 11,400,365
  - IT costs: EUR 14,003,918
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 14,916,619
  - Enforcement costs: EUR 4,139,822
  - Administrative costs: EUR 16,043,674
  - IT costs: EUR 15,942,196

Table 24 – Overview of incremental costs of policy option D.1 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION D.1 Full harmonisation, separate statistical processes, major upgrade of statistical outputs	Regulatory costs	186 – 205	N/A	N/A	N/A
	Administrative costs - training, guidance and support	N/A	N/A	17,972 – 19,814	N/A
	Compliance costs	N/A	N/A	N/A	18,873 – 20,859
	Enforcement costs - monitoring and reporting	N/A	979 – 1,082	N/A	8,635 – 9,543
	Administrative costs - design and implementation of new procedures	N/A	N/A	N/A	29,170 – 32,241
	IT costs	369 – 408	144 – 159	21,410 – 23,664	15,145 – 16,739

Table 25 – Overview of incremental costs of policy option D.1 (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION D.1 Full harmonisation, separate statistical processes, major upgrade of statistical outputs	Direct adjustment costs	186 – 205	N/A	17,972 – 19,814	N/A
	Direct administrative costs	N/A	N/A	N/A	29,170 – 32,241
	Direct enforcement costs	N/A	979 – 1,082	N/A	27,508 – 30,402
	IT costs	369 – 408	144 – 159	21,410 – 23,664	15,145 – 16,739
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.1.8. 1.1.7. Policy option D.2 – Full harmonisation, redeveloped and integrated statistical processes in a single and flexible framework, major upgrade of statistical outputs

Policy option D.2 introduces the development of integrated statistical processes in a single and flexible framework. Under this option, NSIs are required to set up **national statistical registers**. It also introduces the **full harmonisation** of population definitions based on the usual residence concept. There is also a **major upgrade of statistical outputs** (requirements are more important than those in policy options B.2 and C.2), covering existing and new topics of demography, migration, and population and housing census statistics. Some of census outputs will be available more frequently than every 10 years.

For the implementation of **national statistical registers**, the incremental costs for the European Commission (Eurostat) are estimated to be:

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 145,673
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 172,573
  - IT costs: EUR 476,510

This measure, specific to policy option D.2, would also incur incremental costs for all Member States (NSIs) without a national statistical register in place or planned[110]. The incremental costs related to the implementation of **national statistical registers** are estimated to be:

- One-off costs:
  - Administrative costs: EUR 7,401,716
  - IT costs: EUR 3,011,595
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 27,623,368
  - Enforcement costs: EUR 19,796,747
  - Administrative costs: EUR 4,842,327
  - IT costs: EUR 1,970,236

With regard to the **full harmonisation** of population definitions, the incremental costs to the Commission (Eurostat) under policy option D.2 are estimated to be:

- One-off costs:
  - Regulatory costs: EUR 97,658
  - IT costs: N/A
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 512,322
  - IT costs: N/A

[110] NSI survey responses (Q. '*Does your NSI maintain a national statistical register?*' The following responded 'No and not planned': Germany, Ireland, Luxembourg, Poland, Romania, Slovenia).

Full harmonisation of population definitions will incur incremental costs to Member States. NSIs not currently using the definition based on the strict usual residence concept to define their population are expected to incur the following incremental costs:

- One-off costs:
  - Administrative costs: EUR 7,470,299
  - IT costs: EUR 8,532,854
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 4,949,187
  - Enforcement costs: EUR 4,989,187
  - Administrative costs: EUR 14,661,584
  - IT costs: N/A

For the **major upgrade of statistical outputs**, the following incremental costs are expected to be incurred by the Commission (Eurostat):

- One-off costs:
  - Regulatory costs: EUR 97,698
  - IT costs: EUR 388,463
- Recurrent (over 10 years) costs:
  - Enforcement costs: EUR 514,821
  - IT costs: EUR 151,197

EU-27 (NSIs) would incur the following incremental costs, due to the more detailed and new requirements in terms of statistical outputs:

- One-off costs:
  - Administrative costs: EUR 11,400,365
  - IT costs: EUR 14,003,918
- Recurrent (over 10 years) costs:
  - Compliance costs: EUR 14,916,619
  - Enforcement costs: EUR 4,139,822
  - Administrative costs: EUR 16,043,674
  - IT costs: EUR 15,942196

Table 26 – Overview of incremental costs of policy option D.2 (Detailed format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION D.2 Full harmonisation, redeveloped and integrated statistical processes in a single and flexible framework, major upgrade of statistical outputs	Regulatory costs	278 – 308	N/A	N/A	N/A
	Administrative costs - training, guidance and support	N/A	N/A	24,959 – 27,586	N/A
	Compliance costs	N/A	N/A	N/A	45,115 – 49,864
	Enforcement costs - monitoring and reporting	N/A	1,143 – 1,263	N/A	27,441 – 30,330
	Administrative costs - design and implementation of new procedures	N/A	N/A	N/A	33,770 – 37,325
	IT costs	507 – 561	596 – 659	24,271 – 26,826	17,017 – 18,808

Table 27 – Overview of incremental costs of policy option D.2 (BRG format in thousands of 2021 EUR)

		European Commission		NSIs/Member States – all 27	
		One-off	**Recurrent (over 10 years)**	**One-off**	**Recurrent (over 10 years)**
POLICY OPTION D.2 Full harmonisation, redeveloped and integrated statistical processes in a single and flexible framework, major upgrade of statistical outputs	Direct adjustment costs	278 – 308	N/A	24,959 - 27,586	N/A
	Direct administrative costs	N/A	N/A	N/A	33,770 – 37,325
	Direct enforcement costs	N/A	1,143 – 1,263	N/A	72,556 – 80,194
	IT costs	507 – 561	596 - 659	24,271 – 26,826	17,017 – 18,808
	Direct regulatory fees and charges	Not estimated	Not estimated	Not estimated	Not estimated
	Indirect costs	Not estimated	Not estimated	Not estimated	Not estimated

14.2. 1.2. Detailed qualitative scoring by policy option

14.2.1. 1.2.1. A – Baseline

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fail)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Under the baseline, no further EU action would be taken. There is no risk that the option will go beyond what is necessary to achieve the policy objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Pass	Under the baseline, no further EU action would be taken. Current EU action is limited to those aspects that Member States cannot achieve satisfactorily on their own, such as statistical population frames fulfilling certain common criteria. Member States have the flexibility to use a national population definition and to provide additional data on a voluntary basis. Results from the evaluation show that current EU action provides added value.
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	Under the baseline, no further EU action would be taken. Thus, costs for data producers would be minimised. However, data users will incur costs because the population base is not harmonised, for example costs associated with obtaining data directly from NSIs and additional data processing.
Is the form of action (choice of instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Pass	Under the baseline, no further EU action would be taken. Each statistical domain would continue to be implemented as a separate statistical process based on its own EU legislation. Thus, a patchwork of legislation would remain. The choice of action may not be as simple as possible.
Effectiveness in achieving policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and comparable European population statistics	0	Under the baseline, no further EU action would be taken to improve completeness, comparability or coherence of ESOP. The baseline fails to meet SO1.
SO2: To ensure the availability of timely and frequent	0	Under the baseline, no further EU action would be taken to improve timeliness and frequency of statistics outputs.

population statistics to meet users' needs		The baseline fails to meet SO2.
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	0	Under the baseline, no further EU action would be taken to enhance the detail and scope of population statistics in terms of characteristics and breakdowns. The baseline fails to meet SO3.
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	0	Under the baseline, no further EU action would be taken and no new frameworks to ensure flexibility would be proposed. The baseline fails to meet SO4.
Impacts on fundamental rights	0	All criteria were scored '0' at the baseline to set a meaningful reference for the subsequent policy options. Nonetheless, stakeholder consultations revealed shortcomings in European statistics in relation to fundamental rights protection. Several respondents highlighted the lack of disaggregated data across population subgroups at risk of inequality or discrimination, including disaggregated and comparable data on all grounds in Article 21 of the Charter[111]. The lack of a legal obligation of equality data collection on all Charter grounds was noted as a factor preventing systematic collection of data to regularly assess the situation of individuals and groups of individuals at risk of inequality and discrimination. Equality bodies and public institutions would benefit from such statistics in their decision-making. The lack of equality data was highlighted in the EU Gender Equality Strategy 2020-2025, the LGBTIQ Equality Strategy, the EU Roma Strategic Framework and the EU Anti-racism Action Plan 2020-2025.
Social impacts	0	All criteria were scored '0' at the baseline to set a meaningful reference for the subsequent policy options. Population statistics are the backbone of all social statistics as they provide reference information on the entire population and its basic demographic characteristics. Many of the proposed measures in subsequent policy options are expected to contribute to modernising social statistics, thus maintaining the status quo is suboptimal. Modernisation of social statistics is needed to support various Union actions, such as the promotion of social inclusion and the monitoring of social cohesion at national and regional level. Demographic changes

[111] Sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation.

		such as ageing, increasing life expectancy, declining fertility and depopulation of some areas have social and economic impacts. European statistics on population were crucial for the Commission's report on the impact of demographic change and the Green Paper on Ageing; population data are equally crucial for the Long-Term Vision for Rural Areas initiative, to monitor the changes in the age structure of the agricultural population, population density and rural access to services.
Environmental impacts	0	All criteria were scored '0' at the baseline to set a meaningful reference for the subsequent policy options. The European Green Deal envisages a new growth strategy that will transform the Union into a modern, resource-efficient and competitive economy where no person and no place is left behind. Improving the population and housing data with sufficient regional detail, and in particular grid data, is essential to understanding relevant issues such as the spatial dimension of exposure to water, air and soil pollution or access to smart mobility.
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	0	Maintaining the status quo would mean that some shortcomings of the current framework would not be resolved (e.g. lack of harmonisation and flexibility, insufficient data to support the development of EU legislation on politically relevant groups or topics, such as equality, the Green Deal, rural population characteristics). A 'no action' approach would have a somewhat negative effective on effective legal coherence between the ESOP and new EU legal instruments.
Efficiency		
		The baseline has a neutral overall effect on efficiency, as no incremental impacts are incurred by definition of the baseline. All stakeholders will continue to incur the current level of baseline costs. Baseline benefits, including improved quality, timeliness and availability of statistical outputs across the EU relative to the situation in which data were provided voluntarily, will also be sustained. Overall baseline efficiency may be relatively high – analysis from the evaluation suggests that the current legal framework delivered benefits efficiently.
Overall assessment		
Under the baseline, there will be no specific policy changes at EU level and all measures represent a continuation of the status quo. However, it is assumed the Demography Regulation will be amended to extend its application. This option may fail the proportionality principle if the legislative framework remains overly complex and gives rise to an unnecessary cost burden for data users.		

This option would not be effective in addressing the problems identified with the current EU legal framework. Population statistics would continue to lack comparability and countries would continue to provide statistics covering different characteristics and at different levels of spatial and temporal disaggregation. Data users, including policymakers, would continue to lack access to the datasets and breakdowns they need, which may (indirectly) negatively impact fundamental rights policymakers would lack the information required to support Union actions to protect groups at risk of inequality and discrimination. It would also have indirect negative social impacts, as modernisation of social statistics is needed to support Union actions, such as the promotion of social inclusion and the monitoring of social cohesion at national and regional level. Demographic changes such as ageing, increasing life expectancy, declining fertility and depopulation of some areas have social and economic impacts.

In terms of coherence with other EU instruments, the results from the evaluation show that the policy landscape has evolved considerably since the current legislation came into force. Several new synergies have emerged in recent years due to an increased focus on policy areas such as non-discrimination and equality, the Green Transition and digitalisation. As it stands, the current legal framework fails to capture characteristics and details of politically relevant groups and topics.

Feedback from the public consultation revealed that the current legislative framework is perceived as enabling the efficient production of statistics in a manner that generates greater value than burden. Given that the same level of ongoing costs will continue to be incurred, the overall expected efficiency of this option is neutral, assuming no net change.

In summary, maintaining the baseline would not be effective in addressing the problems identified with ESOP framework, as population statistics would continue to lack comparability and the necessary disaggregation required by policymakers and requested by other data users.

14.2.2. 1.2.2. Policy option B.1 - Limited harmonisation, separate statistical processes, limited upgrade of statistical outputs

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Policy option B.1 entails marginal changes compared to the baseline, and the measures under this option do not go beyond what is necessary to satisfactorily achieve the objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Pass	Policy option B.1 would only marginally extend statistical requirements compared to the baseline, and no new statistical topics would be implemented. The scope of the option is limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (e.g. updated statistical requirements and increased quality of outputs).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to be minimal when compared to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Pass	The updated statistical requirements will be introduced in demography, migration, and population and housing census statistics to meet user needs on statistical topics covered by the current EU legislation, therefore the form of action (choice of instrument) is as simple as possible, and coherent with satisfactory achievement of the objective and effective enforcement.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and comparable European population statistics	1	In policy option B.1, similar to policy option B.2 and the baseline, harmonisation of population definitions remains limited. NSIs would not be required to implement national statistical registers for processing population statistics. However, policy options B.1 and B.2 still improve overall completeness and coherence relatively to the baseline (A). By failing to harmonise the population definition (measure 2), there is a risk that this option does not go far enough in improving the comparability of European population statistics.

SO2: To ensure the availability of timely and frequent population statistics to meet users' needs	1	In policy option B.1, legal deadlines for census outputs are shortened (measure 9.2) and in topic 8 on timeliness, measure 8.2 'quality first' is chosen over 8.3 'timeliness first'. Policy option B.1 does not improve the frequency of data availability (measure 6.2 makes geo-referenced data mandatory every 10 years but this is expected to impact more on comprehensiveness rather than frequency of data availability). Policy option B.1 performs better in meeting SO2 than the baseline (A), and equal to policy option C.1.
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	1	In policy option B.1 (and similar to policy option C.1), data on current statistical output are more detailed than the baseline (more characteristics on migration statistics; improved disaggregation of annual population data and migration statistics). In terms of comprehensiveness of relevant topics, policy option B.1 does not bring new statistical topics and voluntary datasets and breakdowns are not made mandatory. Overall, policy option B.1 (like policy option C.1) scores better than Policy the baseline (A) but does not perform as well on SO3 as policy options B.2, C.2 and D.1 and D.2. Detail of statistics is increased slightly, but no new topics are added. By omitting any changes under measures 12, 13 and 14, there is also a high risk that this option will not address user needs sufficiently (e.g. policymakers and NGOs concerned with equality).
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	1	Policy option B.1 improves the framework flexibility compared to the baseline by introducing limited flexibility to adapt outputs (measure 15.2) as well as enabling better use of administrative and new sources for statistical purposes (measures 17.2 and 17.3).
Impacts on fundamental rights	0.5	Policy option B.1 represents a marginal improvement in fundamental rights impacts. The ten measures under this option (3.2, 4.2, 6.2, 8.2, 9.2, 10.2, 11.2, 15.2, 17.2, 17.3) would collectively improve fundamental rights only marginally and indirectly, as the measures are mostly aimed at timeliness and detail of demographic statistics already collected. The individual impact of each measure on fundamental rights is difficult to establish. Nevertheless, the collective improvement and modernisation of population statistics envisaged is likely to have indirect impacts on fundamental rights by improving the quality and availability of the relevant data of specific vulnerable and at-risk groups. For example, measure 10.2 'define migrant groups in more detail' would help to better understand the integration of third-country nationals and thereby inform integration policies.
Social impacts	1	Policy option B.1 represents an improvement in social impact and, more specifically, provision of social statistics for informed evidence-based policy-making at EU and national level. The total of the seven measures

		would collectively improve social impacts only marginally and indirectly, as they are aimed at timeliness, harmonisation and quality of population statistics collected. Nevertheless, the collective improvement and modernisation of population statistics envisaged is likely to have a slight indirect positive impact by improving the quality and availability of the relevant data of specific issues of interest to policy-making.
Environmental impacts	1	In the consultation, public authorities and NGOs highlighted that they rely on population statistics for formulating and monitoring environmental policies. Policy option B.1 would have only a small positive environmental impact. This impact would be indirect, resulting from the marginal improvement in the statistics needed for evidence-based environmental policymaking. Nevertheless, the collective improvement and modernisation of statistics envisaged is likely to have a slight indirect positive impact by improving the quality and availability of the relevant data of specific issues of interest to environmental evidence-based policy-making. The measures under policy option B.1 are not anticipated to drive any direct environmental impacts.
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	1	Relative to the baseline, policy option B.1 represents a marginal improvement in the coherence of the ESOP framework with the overarching objectives of EU policies. The ten measures included under this option (3.2, 4.2, 6.2, 8.2, 9.2, 10.2, 11.2, 15.2, 17.2, 17.3) are expected to bring about only a relatively small improvement in the coherence of the ESOP framework compared to the measures proposed under subsequent policy options. Although a slight improvement over the baseline, the measures included under this option may be insufficient to meet forthcoming EU policy needs. For example, policymakers and NGOs require better data on individuals and groups at risk of inequality and discrimination. This lack of data has been highlighted as problematic, for instance, in the EU Gender Equality Strategy 2020-2025, the LGBTIQ Equality Strategy, the EU Roma Strategic Framework and the EU Anti-racism Action Plan 2020-2025. Policy option B.1 therefore scores lower than B.2, C.2, D.1 and D.2 which all include targeted measures (under measures 12-14) aimed at improving the topical coverage of EU population statistics.
Efficiency		

Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR	Eurostat		MS/NSIs	
	One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)

	148 - 222	74 – 110	4,420 – 6,630	5,294 – 7,940
	Policy option B.1 entails a limited upgrade of statistical outputs and as such would generate relatively minor additional costs to Member States and Eurostat/the Commission, associated with developing, implementing, monitoring and enforcing compliance with these more complex and detailed outputs. The additional costs to Eurostat are mainly driven by minor regulatory and enforcement costs associated with the new measures, as well as one-off IT costs. For MS/NSIs, additional costs are driven by one-off IT investment and administrative costs as well as recurrent costs associated with enforcement, compliance and administration of the new requirements and procedures. It would also preserve the benefits generated by the current legal framework. Additional benefits would be generated for Member States, the Commission and data users in line with further improvements in the quality, detail and understanding of European statistics on population, as well as the quality and accuracy of evidence and media reporting. This would likely lead to improvements in Member States' ability to make decisions, as well as the effectiveness/accuracy of policy at a local and EU level, with associated economic and social benefits for citizens, Member States and the EU as a whole. Eurostat would benefit from improvements in its ability to meet changing policy needs and reputational gains associated with improvements in the quality, detail and quantity of data published. Administrative burdens may also be reduced for data users, including non-institutional data users, in line with the increased availability of data from a single reliable source (Eurostat). Finally, a more flexible framework should generate efficiency gains in administrative burden to adapt to evolving needs or new sources.			

Overall assessment

Under policy option B.1, there will be limited changes to the status quo, including limited harmonisation, separate statistical processes and limited update of statistical outputs.

In terms of its compliance with the proportionality principle, policy option B.1 is similar to the baseline (A) and does not go beyond what is necessary to satisfactorily achieve the objectives.

This option would not be effective in addressing the problems identified with the current EU legal framework. Differences in who is counted in European population figures will persist and statistical processes will remain fragmented as in the baseline. While policy option B.1 makes improvements in terms of the ten measures proposed, it does not make changes remarkable enough to be assigned a high comparative score, given the broader effectiveness of more ambitious options in achieving the four specific objectives.

Regarding coherence with other EU policy objectives, policy option B.1 is expected to bring about relatively minor positive impacts. Slightly positive impacts are expected on fundamental rights, as some of the measures will indirectly contribute to the quality and availability of socio-demographic characteristics of specific vulnerable and at-risk groups. Similarly, the measures under policy option B.1 are expected to bring about relatively minor positive regulatory, environmental, and social impacts.

Concerning efficiency, this option is associated with relatively minor additional costs while upgrading the statistical outputs produced. A limited upgrade may minimise the additional burden imposed while generating added benefits by increasing, improving and rendering timelier the available European population data available from Eurostat.

In summary, although a marginal improvement from the baseline, policy option B.1 would be suboptimal and ineffective in addressing the problems identified in the current legislation. Both NSIs and non-NSIs identified policy option B.1 as realistic (i.e. feasible to implement) in the validation workshops.

14.2.3. 1.2.3. Policy option B.2 - Limited harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Option B.2 is similar to policy option B.1 in that it does not address harmonisation of population definitions or statistical processes and entails marginal changes compared to the baseline. The measures under this option do not go beyond what is necessary to satisfactorily achieve the objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Pass	This option would only moderately extend statistical requirements compared to the baseline, and some existing voluntary statistical topics will become mandatory. The scope of the option is limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (e.g. updated statistical requirements and increased timeliness).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to increase slightly, although they will remain minimal in relation to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Pass	The updated statistical requirements will be introduced in demography, migration, and census statistics to meet user needs on statistical topics covered by the current EU legislation. The form of action (choice of instrument) is thus as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and comparable European population statistics	1.5	Policy option B.2 is expected to have only a small positive impact on SO1. The completeness of statistical outputs would be slightly improved relative to the baseline (mostly as some voluntary statistics would become mandatory under measures 12.2 and 13.2). However, this option would not help to harmonise the population definitions or statistical processes used by Member States. Option B.2 therefore scores slightly better than Option B.1, but less well than Options C.1 to D.2.
SO2:	2	Policy option B.2 (like policy option C.2) performs better in ensuring the availability of timely and frequent population statistics than policy options

To ensure the availability of timely and frequent population statistics to meet users' needs		B.1 and C.1. Legal deadlines for census outputs are shortened (measure 9.2) and in topic 8 on timeliness, 8.3 'timeliness first' is chosen over 8.2 'quality first.' Moreover, measure7.3 introduces infra-annual (quarterly) data. Policy option B.2 (as well as policy option C.2, D.1, and D.2) makes geo-referenced data mandatory annually. Policy option B.2 performs better in meeting SO2 than policy option B.1 (largely by introducing annual georeferenced data in measure 6.3 and quarterly data in measure 7.3, and by prioritising timeliness in measure 8.3), but scores less well than policy options D.1 to D.2 (which go further in providing annual LAU data in measure 5.2, detailed monthly data in measure 7.2 and shorter census deadlines in measure 9.3). Overall, policy option B.2 is expected to have a moderate positive impact on the timeliness and frequency of population statistics.
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	3	In policy option B.2 (similar to policy options C.2, D.1, and D.2), data on current statistical output are significantly more detailed than the baseline or either policy option B.1 or C.1 (more characteristics on migration statistics through measures 10.3 and 11.3; improved disaggregation of annual population data and migration statistics through measures 3.4 and 4.3). In terms of comprehensiveness of relevant topics, policy option B.2 brings new statistical topics including on equality and non-discrimination (measure 14.2), and voluntary datasets and breakdowns are made mandatory. Overall, policy option B.2 (like policy options C.2, D.1 and D.2) scores significantly better than the baseline and either policy option B.1 or C.1. It is thus expected to have a strong positive impact against SO3.
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	2	Policy option B.2 (similar to policy option C.2) brings flexibility to the overall framework and a legal mechanism for emerging needs is put in place. Policy option B.2 (like policy option C.2) performs better than B.1 and C.1 due to introducing basic interoperability of statistical population registers. Overall, policy option B.2 is expected to have a moderate positive impact in terms of SO4. By introducing a limited flexibility mechanism, this option also reduces the risk of decreasing relevance of population statistics compared to B.1 and C.1.
Impacts on fundamental rights	1	Policy option B.2 represents a substantial improvement compared to the baseline and policy option B.1 in respect of fundamental rights, as it introduces equality data under measure 14.2. The other 13 measures under this option would collectively indirectly improve fundamental rights, as the measures are aimed at timeliness, completeness and more detail of population statistics. For example, measure 4.3 aims for NSIs to provide migration data at NUTS 3 level and measure 10.3 aims to define migrant groups in more detail, including socioeconomic details. These measures would facilitate evidence-based policy-making in respect of vulnerable and at-risk groups at local administrative level.

		However, it also poses a potential risk to fundamental rights (data privacy) if sensitive data are collected and processed. Despite all necessary safeguards[112], the feedback from consultees indicates that there is a trade-off between increasing the availability of data that can be used to protect groups at risk of inequality and discrimination, and the need to protect citizens' personal data, especially where sensitive topics are affected. This is reflected with a score discount on net impact on fundamental rights.
Social impacts	2	Policy option B.2 represents an improvement over the baseline and policy option B.1 in respect of social impacts, specifically the provision of social statistics for informed evidence-based policy-making at EU and national levels, by including statistics on migrant populations and flows (measures 10.3 and 11.3), on relevant societal topics currently only provided voluntarily by the Member States (measures 12.2 and 12.3) and on the size and demographic characteristics of particular groups (measure 14.2). The collective improvement and modernisation of population statistics envisaged is likely to have an indirect positive impact also by improving the quality and availability of data for specific issues of interest to policy-making, like equality or housing. Given the increased ambition in the level of update of statistical outputs, associated benefits would be incrementally higher than under policy options B.1 and C.1.
Environmental impacts	2	Policy option B.2 represents an improvement compared to the baseline or to policy option B.1 in respect of environmental impact, specifically the annual grid data on housing (measure 6.3). Some of the measures (e.g. 3.2, 4.3 and 6.3) aim to improve the geographic disaggregation of the statistics, which may indirectly benefit decision-making on environmental issues at regional and local levels. Given the increased ambition in the level of update of statistical outputs, associated benefits would be incrementally higher than under policy options B.1 and C.1. This option is not anticipated to have any direct environmental impacts. Overall, this option is expected to have a moderate (indirect) positive environmental impact.
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	2	The measures under policy option B.2 will bring about updated statistical requirements in demography, migration, and population and housing census statistics to better meet user needs on statistical topics covered by the current EU legislation (e.g. supporting rural areas development, the Green Deal, equality). A limited flexibility mechanism will allow the framework to adapt to emerging needs, while basic interoperability among Member States increases statistical coherence. The collective measures

[112] For instance, the most sensitive data would be certain self-declared characteristics on grounds for discrimination such as gender identity, race/ethnicity or sexual orientation. These would have to be collected through anonymised voluntary surveys in which respondents cannot be in any way individually identified and that cannot be used for any other purposes than statistics.

		could be seen as a moderate improvement towards effective legal coherence between the ESOP and new EU legal instruments.			
Efficiency					
Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR		Eurostat		MS/NSIs	
		One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)
		294 – 440	282 - 422	13,506 – 20,260	25,822 – 38,732
		Costs generated by policy option B.2 would be incrementally higher than those in policy option B.1, as it entails a more ambitious upgrade of the statistical outputs required of Member States. This assumes that most processes/equipment required to deliver these requirements would be more complex and therefore resource-intensive or costly. Additional administrative, IT and compliance and enforcement costs will also be incurred by MS/NSIs. For Eurostat, key cost drivers include more costly one-off and recurring IT costs as well as additional enforcement/monitoring costs associated with the additional requirements. The inclusion of measures associated with gathering socio-economic data on migrant populations as well as equalities data would also likely mean all activities associated with data gathering are more costly. It is possible that additional minor administrative burden would be imposed on citizens in line with the requirement to respond to additional surveys (e.g. on equality, see section 8.3.1). However, the overall effect is unclear, given the potential for alignment/streamlining with other data-gathering processes. Benefits generated would be incrementally higher than those under policy option B.1, including benefits from increased access to higher quality, more detailed and timely data, as well as the associated improvements in decision-making and policy-making. NSIs and Eurostat may benefit from further increases in staff skills related to the production of population statistics and related reputational gains. Additional benefits would be generated, for example in access to accurate equality and non-discrimination data (leading to associated economic and social benefits) and an updated time series (leading to improvements in the quality and efficiency of research studies). Eurostat (and to some extent NSIs) might draw significant cost savings through reductions in the administrative burden relating to coordination, review and quality assurance of voluntary statistics (associated with relatively limited additional costs to NSIs and Member States, as many already provide data voluntarily), as well as adaptation to changing policy needs. Overall, the expected efficiency is higher than for policy option B.1, as the additional benefits generated are expected to add value (based on stakeholder feedback, see Annex 2).				
Overall assessment					
Under policy option B.2, limited harmonisation and separate statistical processes will remain and an upgrade of statistical outputs and more flexibility is proposed.					

It is coherent with the proportionality principle. It does not go beyond what is necessary to satisfactorily achieve the objectives, as the scope is limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (e.g. updated statistical requirements and increased timeliness). The 14 measures would moderately extend statistical requirements and some existing voluntary statistical topics would become mandatory. Differences in who is counted in European population figures will persist and statistical processes will remain fragmented, as in the baseline.

The measures under policy option B.2 are expected to bring about a moderate positive impact on the overall coherence of the ESOP framework with wider EU legislation, but with a somewhat limited harmonisation and extent of changes compared to other options.

Positive impacts on fundamental rights are expected, as equality data are introduced and some other measures will add socio-demographic characteristics of specific vulnerable and at-risk groups, while some NSIs also raised concerns about data protection despite all necessary safeguards that would be put in place (footnote 112). Similarly, the measures under policy option B.2 are expected to bring about moderate positive environmental and social impacts.

Looking at efficiency, based on the stakeholder feedback, the measures included in policy option B.2 are preferable to those under B.1 and could generate added value, although incrementally higher costs would also be incurred. The feedback from both option validation workshops was mixed: A majority of NSIs stated that the measures under policy Option B.2 would be unrealistic, while the opposite view was broadly expressed during the non-NSI validation workshop.

14.2.4. 1.2.4. Policy option C.1 – Improved harmonisation, separate statistical processes, limited update of statistical outputs

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Although policy option C.1 goes further than policy options B.1 or B.2 in addressing harmonisation of population definitions, statistical processes and flexibility of the ESOP framework, it does not go beyond what is necessary to satisfactorily achieve the objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Pass	Policy option C.1 would only moderately extend statistical requirements compared to the baseline, and some existing voluntary statistical topics will become mandatory. Its scope is limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (e.g. extending the range of statistical topics required and improved harmonisation).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to increase slightly, although remain minimal in relation to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Pass	The updated statistical requirements will be introduced in demography, migration, and population and housing census statistics to meet user needs on statistical topics covered by the current EU legislation. The form of action (choice of instrument) is as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and comparable European population statistics	2	Policy option C.1 introduces a harmonised population base and otherwise performs the same as policy option B.1. The harmonisation will lead to substantially more coherent and comparable EU level data, therefore this option performs better on SO1 than B.1 and also B.2 and would create overall moderate positive impacts on SO1. This also reduces the risk that this option does not go far enough in improving the comparability of European population statistics.
SO2:	1	The single measure distinguishing this policy option from B.1 (measure 2.2. 'harmonisation of the population definition') is not expected to

To ensure the availability of timely and frequent population statistics to meet users' needs		improve achieving SO2, thus this option is ranked as equal to policy option B.1 (see part 1.2.2 of this Annex).
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	1	The single measure distinguishing this policy option from B.1 (measure 2.2. 'harmonisation of the population definition') is not expected to improve achieving SO3, thus this option is ranked as equal to policy option B.1 (see part 1.2.2 of this Annex).
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	1	The single measure distinguishing this policy option from B.1 (measure 2.2. 'harmonisation of the population definition') is not expected to improve achieving SO4, thus this option is ranked as equal to policy option B.1 (see part 1.2.2 of this Annex).
Impacts on fundamental rights	1.5	Policy option C.1 introduces a harmonised population base and otherwise performs the same as policy option B.1. The harmonisation will lead to improved accuracy of the demographic representation of the EU population in qualified majority voting of the Council, therefore this option performs better on fundamental rights impact than B.1, but less well than C.2 and D.1 to D.2.
Social impacts	1	The single measure distinguishing this policy option from B.1 (measure 2.2. 'harmonisation of the population definition') is not expected to have any social impact, thus this option is ranked as equal to policy option B.1 (see part 1.2.2 of this Annex).
Environmental impacts	1	The single measure distinguishing this policy option from B.1 (measure 2.2. 'harmonisation of the population definition') is not expected to have any social impact, thus this option is ranked as equal to policy option B.1 (see part 1.2.2 of this Annex).
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	2	Policy option C.1 introduces a harmonised population base and otherwise performs the same as policy option B.1. The harmonisation will lead to improved coherence and comparability of information on the EU population, therefore this option performs better on EU coherence than B.1. On the other hand, C.1 scores the same as B.2 overall on coherence, because the lack of harmonisation in B.2 is balanced by the more comprehensive data detail addressing EU policy priorities (rural

		development, non, discrimination) and by a more powerful flexibility mechanism.			
Efficiency					
Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR		Eurostat		MS/NSIs	
		One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)
		222 – 334	466 – 698	9,469 – 14,203	19,729 - 29,593
		The costs and benefits generated by policy option C.1 mirror those of policy option B.1, aside from the costs and benefits associated with increased harmonisation of population definitions. Several Member States would have to switch to a strict usual residence definition and therefore incur additional costs, particularly one-off IT costs and costs associated with the provision of training/guidance as well as recurring compliance, enforcement and administrative costs. Eurostat would also incur minor additional regulatory and enforcement costs. Policy option C.1 would generate additional benefits compared to policy option B.1, in line with the improved comparability across Member States. This might improve the accuracy and efficiency of research conducted and thus policy decisions based on population data. However, harmonisation will not be achieved for all datasets and challenges in respect of comparability of data will persist. Overall, it remains unclear if the incremental benefits of improved harmonisation would outweigh the incremental costs compared to B.1, and thus if C.1 would be considered more efficient than B.1 or not. Nonetheless, the public consultation suggested that allowing justified exceptions in harmonisation may be preferable, despite its limiting effects on achieving the benefits of full harmonisation.			
Overall assessment					
Policy option C.1 would see improved harmonisation, separate statistical processes, update of statistical outputs and some flexibility improvements. It is coherent with the proportionality principle. Although policy option C.1 goes further than policy options B.1 or B.2 in addressing harmonisation of population definitions, statistical processes and flexibility of the legal framework, it does not go beyond what is necessary to satisfactorily achieve the objectives, as the scope is limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (e.g. extending the range of statistical topics required and improved harmonisation). Policy option C.1 fails to adequately improve on the baseline on statistical outputs regarding frequency and detail, which has a high impact on overall effectiveness in achieving the specific objectives. The measures under policy option C.1 are expected to have a moderate positive impact on the overall coherence between the ESOP framework and wider EU legislation, with improved harmonisation of the processes involved in the collection of population statistics overall. Positive impacts on fundamental rights are expected, as some of the measures will indirectly contribute to the quality and availability of socio-demographic characteristics of specific vulnerable and at-risk groups. Similarly, the improved harmonisation under policy option C.1 are expected to bring about relatively minor					

positive indirect regulatory, environmental and social impacts.

Concerning efficiency, the expected costs and benefits generated by the implementation of policy option C.1 mirror those of policy option B.1, aside from costs and benefits associated with the harmonisation of population definitions. Feedback from NSIs, data users and the Commission's Statistical Correspondents indicates that policy option C.1 is feasible to implement.

14.2.5. 1.2.5. Policy option C.2 – Improved harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Although policy option C.2 goes further than policy options B.1 or B.2 in addressing harmonisation of population definitions, statistical processes and flexibility of the ESOP framework, it does not go beyond what is necessary to satisfactorily achieve the objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Pass	Policy option C.2 would only moderately extend statistical requirements, and some existing voluntary statistical topics will become mandatory. The scope is limited to those aspects that Member States cannot satisfactorily achieve on their own, and where the Union can do better (e.g. extending the range of statistical topics required and improved harmonisation).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to increase slightly, although remain minimal in relation to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Pass	The updated statistical requirements will be introduced in demography, migration, and population and housing census statistics to meet user needs on statistical topics covered by EU legislation. The form of action (choice of instrument) is as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and comparable European population statistics	2.5	Policy option C.2 introduces a harmonised population base and otherwise performs the same as policy option B.2, including as regards its prevalence over C.1. The harmonisation will lead to substantially more coherent and comparable EU level data, therefore this option performs better on SO1 than B.2 and would create overall strong positive impacts on SO1. This also reduces the risk that this option does not go far enough in

		improving the comparability of European population statistics.
SO2: To ensure the availability of timely and frequent population statistics to meet users' needs	2	The single measure distinguishing this policy option from B.2 (measure 2.2. 'harmonisation of the population definition') is not expected to improve achieving SO2, thus this option is ranked as equal to policy option B.2 (see part 1.2.3 of this Annex).
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	3	The single measure distinguishing this policy option from B.2 (measure 2.2. 'harmonisation of the population definition') is not expected to improve achieving SO3, thus this option is ranked as equal to policy option B.2 (see part 1.2.3 of this Annex).
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	2	The single measure distinguishing this policy option from B.2 (measure 2.2. 'harmonisation of the population definition') is not expected to improve achieving SO4, thus this option is ranked as equal to policy option B.2 (see part 1.2.3 of this Annex).
Impacts on fundamental rights	2	The single measure distinguishing this policy option from B.2 (2.2. 'harmonisation of the population definition') is expected to have beneficial impact on fundamental rights due to more accurate demographic representation in qualified majority voting of the council. Therefore, C.2 scores higher than B.2, but less well than D.1 to D.2.
Social impacts	2	The single measure distinguishing this policy option from B.2 (measure 2.2. 'harmonisation of the population definition') is not expected to affect social impacts, thus this option is ranked as equal to policy option B.2 (see part 1.2.3 of this Annex).
Environmental impacts	2	The single measure distinguishing this policy option from B.2 (measure 2.2. 'harmonisation of the population definition') is not expected to affect environmental impacts, thus this option is ranked equal to policy option B.2 (see part 1.2.3 of this Annex).
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	3	Policy option C.2 combines the benefits of an expansive upgrade of statistical outputs and flexibility from B.2 with an improved harmonisation of the population base firstly introduced in C.1 and thus ranks better than B.2 and C.1 with an overall strong positive impact on

		coherence.
Efficiency		
Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR	Eurostat	MS/NSIs

One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)
368 – 552	673 – 1,009	18,555 – 27,833	40,257 – 60,385

Similar to policy option B.1 in relation to C.1, the costs and benefits generated by policy option C.2 are expected to be the same as those of policy option B.2, aside from the costs and benefits associated with increased harmonisation of population definitions. Measure 2.3 (on harmonisation) would likely lead to additional costs for Eurostat and NSIs (specifically one-off IT costs and costs associated with the provision of training/guidance as well as recurring compliance, enforcement and administrative costs for MS/NSIs and minor additional regulatory and enforcement costs for Eurostat).

Applying the same logic again here, it remains unclear if the incremental benefits of improved harmonisation would outweigh the incremental costs compared to B.2, and thus if C.2 would be considered more efficient than B.2 or not.

Overall assessment

Policy option C.2 would see improved harmonisation, separate statistical processes, upgrade of statistical outputs and improved flexibility. Differences in who is counted in European population figures will be partially reduced and statistical topics covered by EU legislation will be extended in line with users' needs.

Policy option C.2 is coherent with the proportionality principle and a 'Pass' score is justified.

The relatively strong performance of policy option C.2 in achieving the specific objectives is compounded by evidence from the stakeholder consultations. The proposal for a flexible harmonised population definition attracted strong support across all user groups, meaning that despite retaining the status quo on population registers, policy option C.2 performs well on SO1. It also performs strongly on SO2, SO3 and SO4, thus can be highly scored overall in achieving the specific objectives.

Positive impacts on fundamental rights are expected, as equality data are introduced and some other measures will add socio-demographic characteristics of specific vulnerable and at-risk groups, while some NSIs also raised concerns about data protection despite all necessary safeguards that would be put in place (footnote 112). Similarly, the measures under policy option C.2 are expected to bring about relatively positive indirect regulatory, environmental and social impacts.

Looking at efficiency, the costs and benefits generated by implementing policy option C.2 are expected to be the same as those generated by policy option B.2, aside from costs and benefits associated with increased harmonisation of population definitions. The net effect on efficiency compared to B.2 remains unclear.

Although this option scores relatively well in terms of effectiveness (surpassed only by Options D.1 and D.2), a large majority of NSIs indicated that policy option C.2 is not realistic due to heavily increased burden and resource needs. In contrast, non-NSIs and the Commission's Statistical Correspondents indicated during their respective workshops that policy option C.2 is realistic.

14.2.6. 1.2.6. Policy option D.1 – Full harmonisation, separate statistical process (no requirement for statistical population registers), major upgrade of statistical outputs, and flexible framework

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to achieve the objectives satisfactorily?	Pass	Policy option D.1 goes further than all previous policy options in how it addresses harmonisation of population definitions, statistical processes and flexibility of the legal framework. However, this policy option does not go beyond what is necessary to achieve the objectives satisfactorily.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Uncertain	This option would significantly extend statistical requirements when compared to the baseline, and all existing voluntary statistical topics will become mandatory. The scope of the option might not be limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (extending the range of statistical topics required and full harmonisation).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to slightly increase although remain minimal in relation to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Uncertain	The updated statistical requirements will be introduced in a new, single framework, and statistical processes will be redeveloped, therefore the form of action (choice of instrument) is not as simple as possible, and coherent with satisfactory achievement of the objective and effective enforcement, as the introduction of an entirely new integrated legal instrument can be expected to entail additional adjustment efforts for some of the stakeholders involved.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and	3	Compared to policy option C.2, policy options D.1 and D.2 introduce full harmonisation of population definitions (based on the strict usual residence concept, measure 2.2). Moreover, all voluntary data are regulated under measures 12.2, 13.2 and the time series is fully updated

comparable European population statistics		(measure 16.3). However, going the maximum ambition in terms of SO1 without similarly strong facilitation measures increases the risk that many Member States would not be able to fulfil these new requirements. This could lead to excessive use of derogations or even dragging compliance issues. This is accounted for with a small score discount on SO1. Despite these risks, policy option D.1 would still entail strong positive impacts under SO1, which justifies the second highest score on achieving SO1, falling short only of the added value from statistical population registers included only in option D.2.
SO2: To ensure the availability of timely and frequent population statistics to meet users' needs	3	Policy options D.1 and D.2 perform the best in ensuring the availability of timely and frequent population statistics. Legal deadlines for census outputs are shortened (measure 9.2) and in topic 8 on timeliness, 8.3 'timeliness first' is chosen over 8.2 'quality first.' Policy option D.1 (as well as policy option B.2, C.2, and D.2) also makes georeferenced data mandatory annually and measure 7.2 introduces population statistics on a quarterly basis. Policy option D.1 (similar to policy option D.2) also introduces population statistics at LAU level annually. Nevertheless, the risk discount discussed under SO1 also applies to SO2. Collectively, the measures under policy option D.1 would still deliver a strong positive impact on the timeliness and frequency of population statistics, surpassed only by Option D.2.
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently details in terms of characteristics and breakdowns	3.5	In policy option D.1 (and similarly to policy option B.2, C.2, and D.2), data on current statistical output are more detailed compared to the baseline and compared to both policy options B.1 and C.1 (more characteristics regarding migration statistics under measures 10.3 and 11.3, and improved disaggregation of annual population data and migration statistics under measures 3.2, 3.4, 4.3 and 6.3). In terms of comprehensiveness of relevant topics, policy option D.1 brings new statistical topics including extensive equality data (measure 14.3), and voluntary datasets and breakdowns are made mandatory (measures 12.2, 13.2). Nevertheless, the risk discount discussed under SO1 also applies to SO3. Overall, policy option D.1 introduces strong positive impacts under SO3 and thus scores better than the baseline and policy options B.1, B.2, C.1, and C.2, falling slightly short of D.2 only due to the risk discount.
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from	3.5	Policy option D.1 (like policy option D.2) offers highly flexible legal frameworks around data collection and seeks mechanisms to adapt statistics more quickly and efficiently (e.g., to meet emerging user needs, exploit new data sources or methods). Moreover, strong enablers on improved use of administrative and new sources as well as full EU level interoperability of existing statistical population registers are introduced.

new sources		
Impacts on fundamental rights	3	Policy option D.1 will bring about full harmonisation and differences in who is counted in European population figures will be removed by the introduction of a single, harmonised population definition. New statistical topics, particularly regarding equality, will cover comprehensively present and emerging user needs. This will contribute to improving the quality and availability of the relevant data of specific vulnerable and at-risk groups and lead to better informed policy making. However, considering the significant ambition entailed in these measures, risks presented under SO1 and SO3 apply here too. Moreover, as noted previously, despite all necessary safeguards to be put in place (see footnote 112) there is a trade-off between increasing the availability of data that can be used to protect groups at risk of inequality and discrimination, and the need to protect citizens' anonymity, especially where sensitive data are to be collected and processed. Overall, including a risk discount policy option D.1 would introduce strong positive impacts on fundamental rights.
Social impacts	3	Policy option D.1 represents an improvement in comparison to option C.2 concerning social impacts – and more specifically, provision of social statistics for informed evidence-based policy making at EU and national level. The measures under this option, and increased level of ambition of the upgrade of statistical outputs across measures would collectively improve social impacts since the measures are aimed at inter alia timeliness, harmonisation and detail of population statistics collected. Overall this option is expected to have strong positive social impacts. However, considering the significant ambition entailed in these measures, risks presented under SO3 apply here too. Overall, including a risk discount policy option D.1 would introduce strong positive social impacts.
Environmental impacts	3	Policy option D.1 represents an improvement in comparison to the baseline and option C.2 concerning environmental impact. The measures, and in particular the increased level of ambition of the statistical output associated with certain measures (particularly measure 6.3) under this option would collectively improve environmental impacts. However, considering the significant ambition entailed in these measures, risks presented under SO3 apply here too. Overall, Option D.1 is expected to have a strong positive environmental impact.
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	4	The measures under policy option D.1 are expected to bring about mostly positive impacts to the overall coherence of the ESOP framework within

		the wider EU landscape by means of full harmonisation and a major upgrade of statistical outputs in comparison to the measures proposed under previous policy options. The measures under this policy option will ensure that statistical topics will cover comprehensively present and emerging user needs. Moreover, flexibility mechanisms will allow the ESOP framework to easily adapt to emerging needs as well by allowing to embrace new data sources as they emerge. Finally, full interoperability is in line with wider aims for efficiency gains through digitalisation. Therefore, the collective measures would create very strong positive impacts towards an effective legal coherence between the ESOP and other new EU legal instruments.
Efficiency		
Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR		Eurostat / MS/NSIs

Eurostat		MS/NSIs	
One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)
444 – 666	898 – 1,346	31,470 – 47,204	57,458 – 86,186

Option D.1 is significantly more ambitious than option C.2 regarding statistical outputs, harmonisation and flexibility and as such generates higher costs and benefits. All benefits generated in B.2 and C.2 would also be incrementally higher in line with these improvements.

Costs in relation to the requirement for strict harmonisation, though significant, would only be incurred by those Member States that do not currently apply the usual residence definition. Member States would also generate higher costs relative to options B.2 and C.2, in line with the added complexity and requirements from the upgraded statistical output. In particular, the added detail required within measures associated with gathering socio-economic data on migrant populations as well as equality data would also likely mean all activities associated with data gathering are more costly activities. Therefore, costs to MS are driven by higher costs in all cost categories relative to policy options B.2 and C.2.

Relative to baseline situation, Eurostat would incur costs associated with the preparation and development of measures, IT investment to cope with both the receipt of upgraded statistical outputs across all Member States. Enforcement costs were estimated to be relatively minor in relation to the harmonisation of population definitions, however. Additional burden are likely to be incurred by citizens, in line with the increased burden associated with responding to new surveys.

Benefits generated by this option are also likely higher than those in all other options, given the increased level of ambition and number of measures included. Achieving full harmonisation would likely lead to improvements in the accuracy of policy and budgetary decisions regarding the population (or reduced costs based on inaccuracies of those decisions) and improved efficiency and accuracy of comparative research produced across Member States. It might also reduce the administrative burden to Eurostat associated with adjusting non-harmonised data as well as in conducting checks on data provided voluntarily (as in B.2 and C.2).

	Although it has not been possible to quantify the benefits of this option, the available anecdotal evidence from the consultation seems to suggest that it is unlikely that the benefits will outweigh the very high additional costs associated with this option.

Overall assessment

Under policy option D.1, there will be full harmonisation of the population definition and improvements made to the flexibility of the EU legal framework. A major upgrade of statistical outputs will also be provided. However, unlike Option D.2, there will not be any requirement for Member States to adopt statistical population registers. In terms of its compliance with the proportionality principle, policy option D.1 goes further than other policy options in addressing the harmonisation of population definitions, increasing statistical outputs and enhancing the flexibility of the legal framework. However, the expected costs are expected to be much higher than for the previous policy options. Thus, this level of EU action may not be proportionate to the objectives of the ESOP initiative and thus, it is uncertain whether this option fully complies with the proportionality principle. Indeed, policy option D.1 was not viewed very favourably by NSIs during the options validation workshop even by NSIs that already use administrative or statistical population registers. In the workshop, NSIs voted unanimously that policy option D.1 is unrealistic due to very heavily increased burden and resource needs, despite potential benefits expected for NSIs (see Table 6). However, the Commission Statistical Correspondents and non-NSIs, in their respective validation workshops, generally stated that the option is realistic.

Policy option D.1 is expected to have a very strong positive impact on coherence. In particular, the flexibility to be provided under Option D.1 will help to ensure that European population statistics and the EU legal framework governing their collection can be adapted, as needed, to align with users' needs as well as new data sources, and with wider EU policy and legislation in the years to come.

In terms of effectiveness, policy option D.1 scores second highest just below D.2. The theoretical effectiveness under every specific objective is very high, and the results of the consultation tend to corroborate this predicted effectiveness by returning strong endorsements from a variety of statistical users.

Very positive impacts are expected on fundamental rights as extensive equality data are introduced and the other measures will indirectly contribute to the quality and availability of socio-demographic characteristics of specific vulnerable and at-risk groups and consequently to a better informed policy making. However, despite all necessary safeguards (see footnote 112) the benefits of improved data available are also offset to some extent by concerns over data privacy. Similarly, the measures under policy option D.1 are also expected to bring about positive indirect environmental and social impacts within improved harmonisation.

Concerning efficiency, the high costs and burdens associated with option D.1 especially during an extended adjustment phase are clear, yet, despite associated benefits being present (see Table 6), the extent to which the benefits outweigh these costs are less certain.

14.2.7. 1.2.7. Policy option D.2 – Full harmonisation, redeveloped and integrated statistical processes in a single and flexible framework, major upgrade of statistical outputs

Assessment criterion	Score	Brief description
Consistency with proportionality principle	(Pass / Uncertain / Fall)	
Does the option go beyond what is necessary to satisfactorily achieve the objectives?	Pass	Policy option D.2 goes further than any other policy options in addressing harmonisation of population definitions, statistical processes and flexibility of the ESOP framework. However, it does not go beyond what is necessary to satisfactorily achieve the objectives.
Is the scope of the option limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better?	Uncertain	Policy option D.2 would significantly extend statistical requirements compared to the baseline, with all existing voluntary statistical topics becoming mandatory. The scope might not be limited to those aspects that Member States cannot achieve satisfactorily on their own, and where the Union can do better (extending the range of statistical topics required and full harmonisation).
Are costs for the Union, national governments, regional or local authorities, economic operators or citizens commensurate with the objectives of the initiative?	Pass	The expected costs for the Union, national governments, regional or local authorities, economic operators or citizens, are expected to slightly increase, although remain minimal in relation to the objectives to be achieved.
Is the form of action (choice or instrument) as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement?	Uncertain	Statistical processes will be redeveloped and integrated. The form of action (choice of instrument) is not as simple as possible and coherent with satisfactory achievement of the objective and effective enforcement, as the introduction of an entirely new integrated legal instrument can be expected to entail additional adjustment efforts for some stakeholders.
Effectiveness in achieving the policy objectives:	(-4 to +4)	
SO1: To ensure complete, coherent and	4	Policy option D.2 (like policy option D.1) introduces the full harmonisation of population definitions (based on a strict usual residence concept). Going beyond policy option D.1, In policy option D.2, NSIs are also required to implement national statistical registers which should

comparable European population statistics		further improve coherence and comparability. Moreover, the EU wide introduction of efficient integrated statistical production systems ultimately reduces risks of compliance issues in the long term. Therefore, policy option D.2 performs best on SO1, creating very strong positive impacts.
SO2: To ensure the availability of timely and frequent population statistics to meet users' needs	4	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving SO2 compared to policy option D.1 (as for SO1 above), thus this option will introduce very strong positive impacts on SO2 and thus score higher than policy option D.1 (see part 1.2.6 of this Annex).
SO3: To provide statistics that are sufficiently comprehensive in terms of relevant topics and sufficiently detailed in terms of characteristics and breakdowns	4	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving SO3 compared to policy option D.1 (as for SO1 above), thus this option will introduce very strong positive impacts on SO3 and thus score higher than policy option D.1 (see part 1.2.6 of this Annex).
SO4: To promote frameworks that are sufficiently flexible to adapt to evolving policy needs and opportunities from new sources	4	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving SO4 compared to policy option D.1 (as for SO1 above), thus this option will introduce very strong positive impacts on SO4 and thus score higher than policy option D.1 (see part 1.2.6 of this Annex).
Impacts on fundamental rights	3	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving the relevant measures (in particular 14.3) compared to policy option D.1. On the other hand, according to NSI opinions, the introduction of a statistical population register creates itself sizeable additional fundamental rights concerns (voiced e.g. by NSIs in the stakeholder consultation) in those countries that do not have such a system yet, mostly around the proportionality of compiling and/or interlinking such amounts of personal data even if solely for statistical purposes. This is accounted for with a risk discount on this score. Overall, this option will introduce very strong positive impacts on SO4 and thus score higher than policy option D.1 (see part 1.2.6 of this Annex), but the risk discount is estimated to roughly balance this.
Social impacts	3	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving the relevant measures to improve evidence for policies on labour market integration, social inclusion and equality (measures 3.2, 3.3,

		6.3, 7.2, 11.3, 12.2, 14.3) compared to policy option D.1. On the other hand, according to some NSI opinions, introducing a statistical population register may likely be perceived as a very sensitive issue in some of the Member States where no such system exists yet, especially when combined with EU level interoperability elements. In the worst case, this might trigger sizeable negative public attention that may question the social license of producing official population statistics overall. This is accounted for with a risk discount on this score. Overall, this option will introduce very strong positive impacts on SO4 and thus score higher than policy option D.1 (see part 1.2.6 of this Annex), but the risk discount is estimated to roughly balance this.
Environmental impacts	4	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is expected to reduce the risks in achieving the relevant measures (in particular 6.3) compared to policy option D.1. Moreover, the introduction of statistical population registers would greatly reduce the efforts compared to traditional censuses, and thus minimise the environmental footprint of the census. Overall, this option will introduce very strong (indirect) positive environmental impacts and thus score higher than policy option D.1 (see part 1.2.6 of this Annex).
Coherence with overarching objectives of EU policy	(-4 to +4)	
Coherence	4	The single measure distinguishing this policy option from D.1 (measure 2.2. 'statistical population registers') is not expected to improve coherence with EU policy objectives beyond the goals already in option D.1, thus this option is ranked as equal to policy option D.1 (see part 1.2.6 of this Annex).
Efficiency		

Incremental costs over the baseline with range +/- 20%, in thousands of 2021 EUR	Eurostat		MS/NSIs	
	One-off (over 3y)	Recurrent (over 10 years)	One-off (over 3y)	Recurrent (over 10 years)
	629 – 943	1,391 – 2,087	38,323 – 57,485	97,981 – 146,971
	Policy option D.2 is the most ambitious option and differs from D.1 only in the added requirement to use statistical population registers. While significant, costs related to the establishment of statistical population registers would only be incurred by those Member States that do not and are not already planning to develop a population register. Eurostat would incur additional costs associated with the preparation and development of this additional measure relative to D.1, as well as IT investment to create the necessary infrastructure for a European framework of statistical population registers including interoperability			

	mechanisms. The use of population registers would likely lead to further improvements in the accuracy of policy and budgetary decisions and improved efficiency and accuracy of research. The use of population registers would lead to benefits, including to Eurostat and the wider EU, through increased flexibility and ease of access to up-to-date data, as well as to Member States (those that do not or are not planning to implement a population register) and citizens, for example, associated with reduced long-term costs and administrative burdens associated with the production of data, including more efficient delivery of censuses. Overall, all types of statistics under this initiative, and many other social statistics products beyond population statistics, are expected to profit in the form of higher statistical quality at EU level (such as through better sampling frames for social surveys based on samples). As with measure D.1, however, despite these clear benefits, the extent to which they outweigh the very high additional costs associated with this option remains uncertain. Nevertheless, even in absence of a more robust efficiency benchmark against the B – C options, the long-term efficiency gains introduced by the statistical registers clearly lead to a relatively better efficiency performance than D.1: All incremental costs and benefits except entailed by the statistical registers are exactly the same, but the sizeable upfront investment required in such statistical registers in the affected Member States (group 3 in section 6.1) will very likely create sustainable long-term efficiency gains in producing all kinds of ambitious statistical outputs.
Overall assessment	
Policy option D.2 differs from D.1 in that it mandates the use of statistical population registers. Therefore, it goes further than the other policy options in addressing the coherence and flexibility of the ESOP framework. It also goes further than all the other options in addressing the four specific objectives and is thus scored as the most effective option overall However, the expected costs would be higher, and the mandatory introduction of statistical population registers might not be simple or coherent with satisfactory achievement of the objective and effective enforcement. It is therefore uncertain whether this option is coherent with the proportionality principle. Indeed, despite the potentially significant long-term benefits expected, the NSIs that participated in the validation workshop unanimously agreed that policy option D.2 is unrealistic, largely due to the costs involved in transitioning to national statistical population registers. Conversely, this option was largely viewed positively by data users. The measure on establishing statistical population registers was viewed particularly positively by the data users who responded to the public consultation. In terms of coherence, policy option D.2 is expected to have very strong positive impacts on the overall ESOP framework relative to the baseline within the wider EU landscape by means of a full harmonisation and redeveloped and integrated statistical processes. Such a framework would represent the state of the art in flexibility to adapt as users' needs change and as new sources of data and methods become available. Positive environmental impacts are also expected, in line with likely simplifications of processes and reductions in burden, as well as greening the data collection procedures by using statistical population registers. Fundamental rights and social impacts are stronger than in option D.1 through the statistical population registers, but this is balanced by specific risk concerns around data protection and a sufficient social license for such endeavours. Looking at efficiency, as with D.1 the high costs and burdens associated with policy option D.2 especially during an extended adjustment phase are clear, as are the benefits, but the extent to which the benefits	

outweigh the costs is less certain. The overall efficiency of this option is therefore judged qualitatively as negative compared to other B – C options (that are less ambitious in delivering on the objectives but also have more modest – and less uncertain – incremental cost estimates). Nevertheless, the long-term efficiency gains introduced by the statistical registers lead to a better efficiency performance than D.1 (introducing most ambitious statistical outputs and flexibility mechanisms without any action to foster efficiency improvements).

Overall, if the subsidiarity and proportionality concerns around statistical population registers are considered less tangible, option D.2 prevails overall due to very strong positive impacts despite question marks remaining around its efficiency.

15. 2. SUMMARY OF COSTS AND BENEFITS

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Direct benefits		
Better information on own local/regional environment	Not quantified	People (citizens and migrants)
Reduced response burden	Not quantified	
Better EU level timeliness and completeness of statistics across all Member States	Not quantified	EU level institutional users
Better EU level comparability and coherence of statistics across all Member States	Not quantified	
More accurate and comparable total population counts for Council voting	Not quantified	
Improved inputs to demographic change monitoring and projecting the long-term budget sustainability in relation to population ageing	Not quantified	
Better data evidence for monitoring and policy-making	Not quantified	
Better comparability with other Member States and EU regions	Not quantified	Other institutional users (national and sub-national levels)
Better data evidence (through grids) for policy-making in border regions and local crisis response	Not quantified	
Better research/analysis incl. improved comparability across the EU	Not quantified	Other professional users
Reduced administrative burden (through ability to find all needed statistics on Eurostat website)	Not quantified	
Economic benefits from better European statistics available	Not quantified	
Improved comparability of statistics with other Member States	Not quantified	Statistics producers (NSIs)
Improved accuracy and coverage of statistics due to interoperability with other Member States	Not quantified	
Reduced administrative burden (through simplified statistics transmission processes)	Not quantified	
Reduced administrative burden (through integrated statistics production process)	e.g. between EUR 141 million and EUR 563 million per EU census round	
Reduced administrative burden (through improved use of administrative and/or other data sources)	Not quantified	
Reduced administrative burden (relating to regulatory changes to adapt to evolving policy needs)	Not quantified	
Reduced administrative burden through streamlined data exchange with NSIs	Not quantified	Administrative data providers
Increased value added from own data through improved reuse	Not quantified	
Improved legal base of statistical cooperation through clear mandate	Not quantified	

Better data evidence for other European statistics (e.g. sample surveys, national accounts)	Not quantified	Eurostat
Improved collaboration with ESS partners due to EU wide interoperability	Not quantified	
Reduced administrative burden (relating to regulatory changes to adapt to evolving policy needs)	Not quantified	
Reduced administrative burden (related to coordination/ quality assurance for voluntary data)	Not quantified	
Indirect benefits		
Benefits from improved policy-making	Not quantified	People
Reputational gains from improved policy-making and EU decision-making in general	Not quantified	EU level institutional users
Reputational gains from improved visibility and transparency in a European context	Not quantified	Other institutional users (national and sub-national levels)
Increased ability to meet legal requirements	Not quantified	Statistics producers (NSIs)
Increased staff skills	Not quantified	
Improvements in administrative registers thanks to closer collaboration with NSI	Not quantified	Administrative data providers
Reputational gains from improved reuse of administrative registers	Not quantified	
Advancement of Eurostat mission 'to provide high quality statistics and data on Europe'	Not quantified	Eurostat
Improved collaboration with EU level policy users	Not quantified	
Reputational gains from enhanced international standing of European statistics free for all	Not quantified	

*(1) Estimates are gross values relative to the baseline for the preferred option as a whole (i.e. the impact of individual actions/obligations of the preferred option are aggregated together); (2) Please indicate which stakeholder group is the main recipient of the benefit in the comment section;(3) For reductions in regulatory costs, please describe details as to how the saving arises (e.g. reductions in adjustment costs, administrative costs, regulatory charges, enforcement costs, etc.;); (4) Cost savings related to the 'one in, one out' approach are detailed in Tool #58 and #59 of the 'better regulation' toolbox. * if relevant*

II. Overview of costs – Preferred option (in thousands of 2021 EUR with a +/- 20% uncertainty margin)							
		Citizens/Consumers		**Businesses**		**Administrations**	
		One-off	**Recurrent**	**One-off**	**Recurrent**	**One-off**	**Recurrent**
Policy option D.2	Direct adjustment costs	-	-	-	-	20,537 – 30,807	N/A
	Direct administrative costs	-	-	-	-	N/A	27,970 – 41,956
	IT costs	-	-	-	-	20,464 – 30,679	14,569 – 21,854
	Direct regulatory fees and charges	-	-	-	-	Not estimated	Not estimated
	Direct enforcement costs	-	-	-	-	N/A	62,062 – 92,793
	Indirect costs	-	-	-	-	Not estimated	Not estimated

(1) Estimates (gross values) to be provided with respect to the baseline; (2) costs are provided for each identifiable action/obligation of the preferred option otherwise for all retained options when no preferred option is specified; (3) If relevant and available, please present information on costs according to the standard typology of costs (adjustment costs, administrative costs, regulatory charges, enforcement costs, indirect costs;). (4) Administrative costs for offsetting as explained in Tool #58 and #59 of the 'better regulation' toolbox. The total adjustment costs should equal the sum of the adjustment costs presented in the upper part of the table (whenever they are quantifiable and/or can be monetised). Measures taken with a view to compensate adjustment costs to the greatest extent possible are presented in the section of the impact assessment report presenting the preferred option.

16. 3. RELEVANT SUSTAINABLE DEVELOPMENT GOALS

The preferred policy option D.2 covers various measures to improve the EU level data evidence relevant for several sustainable development goals (SDGs). However, impacts in terms of actual progress towards any of the SDGs stemming from improved data evidence are naturally indirect and hard to assess. For instance, if used for improved SDG policy-making, actual progress would largely depend on dispersed contextual factors and on the sensitivity of policy impacts on the availability and quality of data evidence. Therefore, the table below lists the relevant SDGs including improved data evidence expected under the relevant measures included in the preferred option (cf. Figure 9 and

Table 2), but does not analyse the indirect policy impacts further, in line with the general approach taken in section 6.2.

III. Overview of relevant Sustainable Development Goals – Preferred Option(s)		
Relevant SDG	**Expected progress towards the Goal**	**Comments – new/improved collection of**
1 – No poverty	Better data evidence for monitoring and relevant policies	• annual housing data incl. homelessness (measure 6.3) • socio-economic details of migrants (measures 10.3, 11.3) • equality data incl. on vulnerable groups based e.g. on race/ethnicity (measure 14.3)
3 – Good health and well-being		• more frequent and detailed demographic incl. mortality data for better indicators like regional or local life expectancy (measures 3.2, 3.3, 5.2, 7.2, 12.2) • socio-economic details of migrants (measures 10.3, 11.3)
4 – Quality education		• mandatory annual data on education details of population stocks (measure 13.2)
5 – Gender equality		• equality data incl. on gender identity (measure 14.3)
9 – Industry, innovation and infrastructure		• annual georeferenced housing data incl. energy efficiency characteristics (measure 6.3)
10 – Reduced inequalities		• equality data incl. on vulnerable groups (measure 14.3)
11 – Sustainable cities and communities		• annual population data for cities and FUAs (measure 3.3) • annual georeferenced population and housing data (measure 6.3)
13 – Climate action		• annual georeferenced housing data incl. energy efficiency characteristics (measure 6.3)
15 – Life on land		• annual population data by DEGURBA (measure 3.3) • infra-annual population data (measure 7.2) • annual georeferenced population and housing data (measure 6.3) • migration data at NUTS 3 regional level (measure 4.3)
16 – Peace, justice and strong institutions		• equality data incl. on vulnerable groups based e.g. on race/ethnicity (measure 14.3)

ANNEX 3: ANALYTICAL METHODS

The contract support study on this impact assessment has assessed a total of seven options, namely:

- A – Baseline scenario
- policy option B.1 – Limited harmonisation, separate statistical processes, limited upgrade of statistical outputs
- policy option B.2 – Limited harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility
- policy option C.1 – Improved harmonisation, separate statistical processes, updated statistical outputs
- policy option C.2 – Improved harmonisation, separate statistical processes, more expansive upgrade of statistical outputs and flexibility
- policy option D.1 – Full harmonisation, separate statistical processes and flexible framework, major upgrade of statistical outputs
- policy option D.2 – Full harmonisation, redeveloped and integrated statistical processes in a single and flexible framework, major upgrade of statistical outputs

Costs and benefits have been considered for four main stakeholder groups, namely 1) Member States and their National Statistical Institutes (NSIs), 2) the European Commission, including Eurostat specifically 3) employers / businesses / non-institutional data users and 4) EU citizens and third-country nationals. Whereas cost and benefit items were identified and considered for all four groups, costs estimates could only be quantified for the first two and benefits were generally not appropriate for quantification. This was in part due to a lack of available data, for example on the costs to citizens of participating in census rounds. More generally this was due to their effects being more ambiguous and variable across Member States and stakeholder groups. For example, the benefits to non-institutional data users from increased access to high quality European statistics on population would be challenging to quantify since this would depend on several additional factors, such as how this data would be used or the cost of accessing data through alternative sources. Therefore, estimates for benefits are not available. For the same reason, cost estimates should be considered with caution: it is likely that these costs have been underestimated and represent a minimal figure of overall costs incurred by the different groups of stakeholders.

17. 1. OVERALL APPROACH

Our overall approach to the estimation of costs and benefits consisted of the following key steps:

Firstly, the cost and benefit items associated with each policy measure were identified and itemised, considering the type of cost (i.e., one-off or recurrent costs, overall cost categories), the stakeholder group impacted and, in the case of Member States, the proportion and/the extent to which these Member States were likely to be impacted by the different measures. This itemisation was reviewed and refined in cooperation with Eurostat.

As noted above, it was determined, and agreed with Eurostat, that benefits were not possible to quantify. These have however been qualitatively defined in the main report, as well as in more details in Annex 2.

In consultation with Eurostat, it was agreed to assess the costs and benefits associated with each of the seven policy options. The quantification of these costs has been carried out considering the impact of each policy option as a whole rather than assessing the impact of each measure individually to then aggregating these into options.

Overall, estimates and assumptions were based on a combination of several factors or criteria, including:

- The implementation of statistical registers;
- The introduction of more harmonised population definition based on the usual residence concept; and,
- The different level of ambitions of each option in terms of upgrade of statistical outputs

Costs and costs savings for each cost item and (group of) policy measures were then aggregated across Member States, where relevant.

Finally, estimated costs and cost savings were aggregated for each policy option and estimated by stakeholder group (Member States and the European Commission) and cost type (i.e. one-off and recurrent. Details of what this aggregation process consisted of, as well as specific calculations and assumptions applied to estimate costs for each stakeholder group and limitations of the model are set out below.

18. 2. SOURCES

The assessment of the costs and the benefits was carried out using multiple sources and triangulating data when possible. The main sources used have been:

1. Inputs provided by Eurostat, including through regular meetings/feedback requests as well as data around administrative, grant, IT/infrastructure and contract-related costs to Eurostat associated with the three in-scope regulations, a review of the completeness of voluntary and mandatory statistics over time and a survey of Member States' regarding costs associated with population statistics.

2. Data gathered throughout the research study, including the workshops, literature review, NSI survey and Open Public Consultation

3. The study team members' experience of conducting similar quantification exercises, in particular on the cost of reporting to the EU, training of staff, familiarisation with EU legislation, transposition, and compliance costs. The approach is similar to one used most recently for a DG HOME Study assessing the impacts of possible revisions to the Long Term Residency and Single Permit Directives in 2021 (positive opinion of the RSB in October 2021), DG JUST Study on the impacts of a possible revision of the Consumer Credit Directive (CCD) in 2020-2021 (positive opinion of the RSB in May 2021), and DG

HOME Evaluation of the Counter-Terrorism Directive (positive opinion of the RSB in July 2021), among others in previous years.

19. 3. General Assumptions

19.1. 3.1. Costs itemisation

The IA study assesses the impact of seven policy options, including the baseline, on different cost types.

Costs likely to be borne by the Commission (Eurostat) were itemised as follow:

- **Regulatory costs:** Costs required to prepare and draft the new regulation, including adopting implementing acts, communication, and provision of training, working group meetings managing the overall delivery of the intervention. These are *one-off costs*, occurring over a 3-year transition period

- **Enforcement costs:** Resources required to monitor MS alignment to, and compliance with the requirements of the new regulation (including around data protection, data quality and transparency) and to receive and publish data provided. These are *recurrent costs*, occurring over the 10-year period

- **IT costs:** Costs associated with new software/application/IT update necessary for implementing the new measure (*one-off costs*), as well as the maintenance of IT equipment (*recurrent costs*)

The following cost items were identified as being the main costs likely to be borne by the Member States and their respective NSIs:

- **Administrative costs**: these are the costs associated with any resources required to develop, implement, and communicate any training required (*one-off costs*), as well as any costs associated with the design, implementation and running of (new) procedures (*recurrent costs*)

- **Compliances costs:** these are the costs with resources required to ensure compliance with requirements, including adopting national arrangements or legislation to ensure cooperation with relevant source data holders (*recurrent costs*)

- **Enforcement costs:** these are the costs associated with resources required to monitor and ensure compliance to the regulation in the MS (*recurrent costs*)

- **IT costs:** Costs associated with new software/application/IT update necessary for implementing the new measure (*one-off costs*), as well as the maintenance of IT equipment (*recurrent costs*)

19.2. 3.2. Assessment period and social discount rate

The study considers the impact of the various policy options considered over a 10-year period from Year 0 to Year 10.

For this impact assessment, it was assumed that all adjustment costs (or otherwise so-called "one-off" costs) would occur over a 3-year transition period, from Year 0 to Year 2 included. All on-going (also so-called "recurrent") costs have been accounted for the whole 10-year period.

Costs are all estimated in today's value (2021 EUR) and as incremental, relative to the estimated baseline costs. The baseline costs are the costs likely to be incurred in the absence of a new regulation, or in the continuation of the current situation, assuming all aspects of the current legal framework of European population statistics remain unchanged.

A 3% social discount rate has been applied, in line with the recommendations of the Better Regulation Guidelines.

19.3. 3.3. Labour costs

With regards to the NSIs, estimations of the different labour costs across each Member State were made using the 2016 labour cost of the public administration sector[113]. Annual labour costs have been estimated up to 2021 in line with the HICP AARoC[114]. Between 2021 and 2023 included were estimated in line with the OECD HICP forecast. Annual labour costs from 2024 onwards were estimated based on the average of the annual rate of change applicable between 2021 and 2023 for each Member States and assumed constant over for the remaining of the study period. In order to obtain daily labour costs projections across each member States, it was assumed that 1 FTE corresponds to 215 working days per year, as follows:

Estimated Daily NSIs staff labour costs = {PA estimated annual labour costs /215}.

Eurostat labour costs were estimated on the assumption that a monthly salary of an AD10 official was EUR 9,000 and using 215 working days per year (equivalent to 17,9 working days per month), as follows:

Estimated Daily Eurostat staff labour costs = {AD10 officials monthly salary /17.9}.

19.4. 3.4. Costs estimation

Most of the cost estimates were produced using the following formula:

N. of FTEs * Level of effort (person days) *Daily Labour Costs,

based on data points and costs estimates provided through the consultation process (feedbacks from Eurostat, interviews and NSIs surveys, Public Consultation).

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[113] Labour cost, wages and salaries, direct remuneration (excluding apprentices) by NACE Rev. 2 activity) - LCS surveys 2008, 2012 and 2016 [lc_ncost_r2], available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lc_ncost_r2&lang=en

[114] HICP - annual data (average index and rate of change) [PRC_HICP_AIND__custom_1686993], available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind

20. 4. IMPACT ASSESSMENT

20.1. 4.1. Baseline scenario

In the baseline scenario A, limited harmonisation of population definition will remain, statistical processes will remain separate, and the current requirements in terms of statistical outputs will continue as they are.

The cost assessment of the baseline scenario was carried out based on the evaluation results. For all sub-measures included in policy option A, the status quo will remain. Notwithstanding the sunset clause in Regulation (EU) No 1260/2013, policy option A assumes that a replacement legal act on demography statistics will be proposed when it expires in 2028.

It is important to note that the costs estimated for policy option A (the baseline scenario) are **not** the same as the costs associated with the current legal framework. Indeed, all recurrent costs incurred by Regulation (EC) No 862/2007 (on migration statistics), No 763/2008 (the Census Regulation) and Regulation (EU) No 1260/2013 (demography) were estimated to remain constant and calculated over a 10-year period for both the European Commission (Eurostat) and the 27 Member States (EU-27) and their respective NSIs.

However, in addition to these costs, costs associated with the provision of voluntary statistics, maintaining statistical population registers (for those Member States that currently have or are planning to implement one regardless of this initiative) and maintaining a strict Usual Residence definition of population (for those Member States that currently adopt this definition) are also included in the baseline costs. The rationale for the inclusion of these costs in the baseline is that:

- It was assumed that those Member States with a population register[115] have incurred and will continue to incur costs relating to keeping these registers up-to date. These costs were therefore accounted for in policy option A. Similarly, some NSIs are planning to transition to a register-based system[116] in the near future and will therefore incur costs. As these Member States are planning to use national statistical registers regardless of a potential new regulation, the forthcoming costs cannot be attributed to a new regulation that would include a provision requiring for NSIs to set up and maintain national statistical registers.

- Some Member States are already strictly using the population definition based on the usual residence concept[117]. Those Member States are already incurring costs relating to the use of this definition and will continue to do so. These costs cannot therefore be attributed to a new regulation that would include a provision requiring NSIs to either strictly use the usual residence definition or to restrict their possibilities to use the legal or registered population definitions.

- Some Member States are already providing data on a voluntary basis. Data currently collected on a voluntary basis incur costs to both the European Commission (Eurostat) and

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[115] NSIs survey responses (Q. '*Does your NSI maintain a national statistical register?*'. The following NSIs responded 'Yes': Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Italy, Latvia, Netherlands, Slovakia, Slovenia, Spain, Sweden).

[116] NSIs survey responses (*Q. 'Does your NSI maintain a national statistical register?'*. The following NSIs responded 'No, but planned': Croatia, Cyprus, France, Hungary, Lithuania, Malta, Portugal).

[117] NSI survey responses (*Q. 'Which definition(s) of the population is used by your NSI?*'. The following NSIs responded 'strict usual residence': Bulgaria, Croatia, France, Hungary, Ireland, Lithuania, Malta, Portugal, Romania).

NSIs. These costs are likely to remain irrespective of whether a new regulation makes the existing voluntary data mandatory

Therefore, the costs attributable to the baseline scenario and incurred by both the Commission (Eurostat) and the NSIs can be categorised as follow:

- Costs of mandatory migration statistics
- Costs of mandatory demography statistics
- Costs of mandatory Census (population and housing statistics)
- Costs of maintaining Statistical Registers
- Costs of maintaining harmonised population definitions
- Costs of Voluntary Statistics

The costs and benefits estimated as part of this impact assessment (qualitatively and quantitatively) are incremental costs/benefits, and therefore presented as additional costs/benefits relative to the baseline scenario A.

Details and values of the estimated costs for the baseline are included in the main report.

20.2. 4.2. Policy options and factors considered for assessing costs

As mentioned earlier, the policy options have been built and therefore assessed considering three main factors or criteria: national statistical registers, levels of further harmonisation in population definitions and the level of statistical outputs.

20.2.1. 4.2.1. National statistical registers

The requirement for NSIs to implement national statistical registers of measure 1.2[118] is only introduced in policy option D.2 (the status quo being maintained under all other options). Therefore, for all options except D.2, no incremental (additional relative to the baseline) costs will be incurred due to this factor.

Under policy option D.2, all Member States that do not currently have a register and are not planning on having one[119], will incur costs resulting from the obligation of setting up a statistical register.

Details and values of the costs incurred by these Member States and the Commission are included in the main report.

[118] Measure 1.2: NSIs establish national statistical registers.
[119] NSIs survey responses (Q. '*Does your NSI maintain a national statistical register?*'. The following NSIs responded 'No, and not planned': Germany, Ireland, Luxembourg, Poland, Romania, Slovenia).

20.2.2. 4.2.2. Costs savings for the NSIs due to integrated statistical processes

An estimate of the cost savings to Member States in the long run associated with the delivery of register-based censuses, relative to traditional or combined censuses, was estimated for those Member States that currently do not and are not planning already to implement a population register. Costs saving are expected to occur because of integrating statistical processes through the implementation of statistical population registers. In this analysis, costs saving were estimated based on data on the total cost of delivering the 2000/01 and 2010/11 census rounds by census methodology available from the UNECE[120]. Costs provided for Member States were converted into 2021 EUR and then the average and median per capita cost of delivering each census round across all Member States for which data was available were calculated, by census methodology. The difference between the cost of delivering a census overall (i.e. across all census methodologies), and the cost of delivering a register-based census was then calculated[121]. Based on this, the per capita cost saving associated with a register-based census was estimated to be EUR 4.52 in 2000 and EUR 5.05 in 2011. Adopting a conservative approach, the lowest figure was selected, and a 10% error range applied to this[122]. Maintaining this conservative approach, the lower range figure for the per capita cost saving was then used to estimate total savings to Member States[123].

To estimate the cost savings per capita over time, national population in the EU as of 1st January 2021[124], and population projections[125] for 2025, 2030, 2035 from Eurostat have been used. To have yearly projections, a simple linear trend function has been applied to cover for the years missing between 2021-2025, 2025-2030, and 2030.

The total estimated costs savings for the relevant NSIs are around **EUR 575 million.**

20.2.3. 4.2.3. Harmonisation of population definition

The options are introducing two different levels of further harmonisation of population definitions relative to the Baseline (Policy option A)

In policy Option B.1 and B.2, like in the baseline, the harmonisation of population definitions remains fragmented. There are therefore no incremental costs associated with this factor for policy option B.1 and policy option B.2.

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[120] UNECE (2014) Measuring population and housing - Practices of UNECE countries in the 2010 round of censuses; available at https://unece.org/DAM/stats/publications/2013/Measuring_population_and_housing_2010.pdf and UNECE (2008) Measuring population and housing - Practices of UNECE countries in the 2000 round of censuses, available at: https://unece.org/DAM/stats/publications/Publication_on_2000_censuses.pdf.

[121] The median was selected as the preferred metric since it is less sensitive to outliers.

[122] i.e. to allow a margin of error, the per capita cost saving was estimated to range from between EUR 4.07 to EUR 4.97 (+/- 10% of 4.52).

[123] This was estimated as a figure of EUR 4.07 per capita. In addition, it was noted that three Member Stated appeared to have changed census methodology between the two rounds, of which two changed to a register-based census. The cost difference between the delivery of the 2000/01 and 2010/11 census rounds for those Member States was also calculated, as a possible proxy/ further check on the estimate of per capita cost savings associated with switching to a register-based census. This cost saving associated with a register-based census, relative to a traditional or combined census, was estimated to be EUR 6 per capita. Note, however, that this result must be interpreted carefully: the estimate was calculated based on data from only 2 Member States and does not account for other factors that may have affected costs over time (i.e. between the two census rounds).

[124] https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en

[125] https://ec.europa.eu/eurostat/databrowser/view/PROJ_19NP/default/table?lang=en

In policy options C.1 and C.2, harmonisation of population definition is improved (measure 2.3)[126]. Due to the limitation in the definitions of what "justified exemptions" entail, it was assumed that all Member states currently not already using a definition strictly based on the usual residence concept, and/or not using the legal or registered residence would have to completely switch to using the usual residence concept for defining their population base[127]. This is based on the assumption that those 8 Member States (using either combined or other definitions) are likely to no longer be eligible for the justified exemptions.

Policy options D.1 and D.2 introduce a full harmonisation through the measure 2.2[128]. The costs of fully harmonising the population definitions based on the strict usual residence concept are going to be borne by all 17 Member States[129] that are not currently using this definition for all datasets.

Details and values of costs associated with the different levels of harmonisation of population definitions are set out in the main report.

It should be noted that for this factor, the Commission (Eurostat) and the Member states will incur similar costs in policy options C.1 and C.2, associated with the harmonisation improvement.

Similarly, costs associated with the full harmonisation will be equal under policy options D.1 and D.2.

Limitation should be noted around the costs' estimation and the feasibility for certain Member states to use the strict usual residence concept to define their population base. For the purpose of this study, it was assumed that the level of effort and number of days required for such a transition would be the same across all Member States and that transitioning to a strict definition was possible for every Member States in terms of technical and operational feasibility. However, a review of the feasibility studies carried out by the Member States in 2016 has demonstrated that this would not necessarily be the case for all Member States[130]. Nevertheless, methodological work has progressed in the meantime, for instance some Member States have advanced on more sophisticated register-based methods around 'signs of life' that could ultimately allow efficient adjustments of the population base at microdata (person record) level.

20.2.4. *4.2.4. Statistical outputs*

The options are introducing three different levels of ambition relative to the baseline (policy option A) regarding statistical outputs requirements.

- Policy option B.1 and policy option C.1 introduce the smallest update in terms of statistical outputs. Updated statistical requirements will be introduced in demography, migration, and

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[126] Measure 2.3: harmonised population definition (based on usual residence concept) with stricter and justified exceptions.

[127] NSI survey responses (*Q. 'Which definition(s) of the population is used by your NSI?'*. The following NSIs responded 'combined or other': Austria, Czechia, Estonia, Germany, Latvia, Poland, Slovenia, Spain).

[128] Measure 2.2: Strictly harmonised population definition (based on usual residence) for all datasets.

[129] NSI survey responses (*Q. 'Which definition(s) of the population is used by your NSI?'*. The following NSIs responded 'legal residence', 'registered residence', 'combined' or 'other': Austria, Belgium, Czechia, Denmark, Estonia, Finland, Germany, Italy, Latvia, Luxembourg, Netherlands, Poland, Slovakia, Slovenia, Spain, Sweden).

[130] Feasibility studies on the use of strict usual residence concept for population definitions carried out according to Article 8 of Regulation (EC) No 1260/2013. Denmark mentioned that such a transition would be very costly, while Germany assessed this measure as not feasible.

population and housing census statistics on statistical topics that are covered by the current EU legislation. No new statistical topics and outputs will be implemented.

- Policy option B.2 and C.2: Statistical topics covered by the current EU legislation will be further extended relative to requirements in policy options B.1 and C.1. Some existing voluntary statistical topics will become mandatory. Upgraded statistical requirements will be introduced in demography, migration, and population and housing census statistics. New statistical topics will be added

- Policy options D.1 and D.2: Statistical topics covered by the current EU legislation will be even further extended relative to requirements in policy options B.2 and C.2. Some of the voluntary statistical topics will become mandatory. In addition, new statistical topics will be added. Statistical output will reach most ambitious level by covering existing and new topics of demography, migration, and population and housing census statistics. Some of census outputs will be required more frequently than every 10 years

Analysis of these three levels of ambitions in terms of statistical outputs requirements has been carried out to understand which policy option contain measures on statistical outputs that simply entail an incremental level of effort relative to the baseline (i.e. the current regulation) by requiring the same type of datasets but in more details and/or characteristics and which policy option, instead would require the introduction of entirely new datasets and/or making voluntary dataset mandatory.

Depending on each of these levels of ambition, incremental levels of effort were estimated proportionately and relative to the baseline by estimating the additional days and FTE required for meeting the different requirements brought by the various measures and their level of ambitions.

Incremental costs were estimated based on the same assumptions and data drawn upon to estimate costs in the evaluation. These costs were associated with administrative costs to Member States, and enforcement costs to Eurostat, since it is assumed, these are the only cost items that will increase relative to the baseline.

Details and values of estimated costs incurred by both the Commission (Eurostat) and the Member states and resulting from these different levels of ambition in terms of statistical outputs are set out in part 1.1 of Annex 2. It should also be noticed that these costs borne by the Commission (Eurostat) and the Member States due to the least ambitious upgrade are therefore equal in policy options B.1 and C.1; Cost incurred by a more extensive upgrade of statistical outputs are similar in policy options B.2 and C.2; and costs incurred due to a major and most ambitious upgrade of statistical outputs are equal in policy options D.1 and D.2.