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Population registers in different countries

Design and developments in relation to The Netherlands

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Executive summary

Background and study objectives

The Dutch Ministry of the Interior and Kingdom Relations (BZK) is developing a policy vision for the future of the Dutch system Basic Registrations of Persons (BRP). The functioning of the BRP, its role in identity management for citizens, and the role of digitisation all form areas which the Dutch Ministry is currently exploring. In this context, the Ministry commissioned this study to learn more about the different types of registers and approaches to population registration in the world in place today. This executive summary provides an overview of the approach and main findings collected during this international study on population registration systems.

The overall aim of this study is to conduct an inventory of the different types of population registers in place today, and to explore the degree to which the Dutch government could adopt lessons from these other approaches in the future should it wish to. In practice the study examines all EU Member States and a selection of non-European countries and investigates the following study objectives:

1. the content and coverage of population registers in place, the definitions of population register systems, and approaches to population registration;
2. the degree to which a PIN is used across the systems;
3. the extent of information sharing from population registers with domestic and foreign users;
4. the type of quality control procedures used within systems;
5. recent developments in population registers in Europe and globally, the main challenges today regarding population registers, and how countries address those challenges,
6. An assessment of key trends in place and degree to which lessons from other countries could be hypothetically transferable to the Dutch situation?

Methodological approach

The overall study involved several main phases: a literature review, followed by an international survey in a series of European and third countries, a case study phase, and a reporting phase.

The **literature review** was conducted by examining internationally comparative literature on population registers. Both policy and academic literature was consulted.

The **international survey** had the objective of establishing the existence of a population register in a country, their contents, the approach used to collect and store personal information in the register, who was covered, and to collect information on specific themes and developments. A three pronged approach was used here, by first approaching foreign embassies in the Netherlands to fill in the survey. Where this was not feasible, Dutch representations in the relevant countries were approached. Where this too was not possible, Panteia's external network of researchers (the European Network for Social and Economic Research) and some of Panteia's own international colleagues filled in the survey. Where Panteia's internal teams filled in surveys, this was indicated in the survey analyses. In total, the EU28 were approached, as well as 11 non-European countries, yielding a total of 36 survey responses in total.

The third, **case study stage** of the study was to select 6 countries with especially interesting developments of themes in their population register systems. This was done based on desk research and the survey responses. The selection yielded 6 countries which were examined in more depth in order to understand how and why these approaches to population registration came to be, as well as exploring the success and challenges of those approaches.

The final stage involved drawing these three sources of information together into one, holistic **research report**. Although the study was commissioned by the Dutch government, this report is written in English. Given the international character of the study, the research objectives and definitions were phrased in English, as was the collected information. Therefore, a report written in English will provide the best possible reflection of the study. Furthermore, this makes the final report readable for all countries included in the study, which may have served as an incentive to participate. Finally, this report may help to accommodate the wish of the Dutch Ministry of BZK to exchange information about population registration between countries.

Methodological notes

Some observations are that the survey responses were very diverse. While within this broader study, classification systems exist for population registers which cluster regions of countries together, these classification groups are more difficult to recognize when one looks more closely at the systems in question. Amongst European systems for instance there is substantial diversity in the approach to collecting and storing and managing details, as well as in the coverage and content of registers. It should also be added that a number of countries do not have one central population register, and that most in these cases, use their civic registers. Identifying trends in population registers amongst different types of countries is therefore challenging.

A further observation is that in an effort to make it possible to collect more detailed information about different national registers, the questions and answers in this survey were formulated in a relatively open manner. This was done to allow room for different approaches and systems to be reported on. However, in allowing for more breadth in the questions and answer categories, and more room for interpretation, this means that analysis at some stages was difficult. Some responses become less comparable as they become more detailed.

Definitions, content, coverage, approaches to population registers

Definition of a population register

As a starting point it is necessary to first outline the definition of a population register. Various international authorities and sources have presented definitions and understandings as to what a population register is. The common features of these elements have led to a definition for this study:
A population register in the context of this study is the most important and commonly used system for registering the basic personal details about a population for a country.

Different types of population registers

Population registers in the sense of monitoring identity, civil status, residence, as well as life events, are by no means universal. Many attempts at classifying systems have been made. One such attempt defines five different types of population registers. These different traditions are described briefly below, though this categorisation is by no means exhaustive.

Traditionally there are five forms of population registers, such as:

1. Commonwealth system based on social foot printing: this system is based on establishing the identity of a citizen through a series of other sources. By combining the information from multiple organisations, a social footprint is created for a resident.
2. A community model based on personal details collected and maintained at the community level at the local or regional level.
3. Central population register with personal details maintained at a central level in a country, though the collection of details can be carried out locally, regionally, or centrally.
4. Biometric model where biometric details are stored for residents by a public institution. The biometric details stored are used as proof of identity for a resident, identifying themselves through a biometric photo or finger print for instance.
5. Limited public registration model which can vary substantially. Countries with limited public registration are characterised by less developed or less structured and systematic collection of information on residents.

The register which a country has in place depend on the **national tradition and history** in a country on issues such as the **purpose of the register**. In some countries for instance, a civic register is maintained instead of a general national population register.

There is also substantial variation in the **organisation of the processes** within population registers. When describing the organisation of a population register, a distinction is often made between centralised and decentralised systems. However, in practice, categorizing population systems along these dimensions is difficult and there is no universally agreed upon definition of centralised and decentralised systems. Some systems collect and store personal information with combinations of actors across administrative levels. Categorising population systems in such a binary fashion will therefore not be done to avoid labelling national population registers inaccurately.

Presence and approaches of registers

Based on further analysis of open answers which name and describe the main register in place, it appears that of the 29 countries which indicate they have a population register, 2 of these systems resemble a census register (this was the case in Croatia and in South Korea). Other registers can be in place besides a population register. Based on the survey responses, the most common other types of registers in place are civic registers (94%), which record the life events of individuals, and tax registers (60%), which collect the necessary identification and income details to monitor and coordinate taxation and benefits in a country

The processes involved in administrating population registers are separated into three main processes in centralised or decentralised systems for population registration:

- Collecting information for the register.
- Storage of personal details (in one central register or in several decentral ones) and systems for access to the register(s).
- Final responsibility for the register.

Survey results indicate that the majority of detail collection takes place at the local or municipal level (69%), or the national or federal level (44%). Storing and managing personal details takes place predominantly at the national or federal level (69%), followed by the municipal or local level (42%). The final responsibility is, in the vast majority of cases, the responsibility of a national or federal level institution (94%).

Content and coverage of population registers

Population registers vary substantially in their content and coverage. A long list of 22 possible details was developed based on desk research and an examination of what is used in other countries in their registers. The data of birth and name are present in all registers, unsurprisingly. Gender and sex, and place of birth are also common details, stored in 97% and 94% of the country registers respectively. Depending on the length of stay for an individual in the country in question, residence permits may be necessary. Of the 36 countries surveyed, most retain details on the date of immigration (53%), which often goes paired with acquiring a residence permit. Some countries however, do monitor the date of the expiry of the residence permit in their population register system. This was the case for 13 (36%) of the countries surveyed.

Taking the possible survey responses, countries with the most details included Croatia and Finland, with 18 out of the 22 possible details. Luxembourg and Norway collect 17 out of these 22 details, and the Netherlands, Slovenia, and Sweden collect 16 out of the 22 personal details listed.

In all registers, the citizens living in a country are covered, and in the vast majority (80%) of countries, the citizens living abroad are registered as well. Those countries where these citizens living abroad were not registered were relatively diverse. These included Germany and Austria within Europe. Outside of Europe, based on desk research collected, it appears that India, Japan, Canada, New Zealand and Namibia do not. The most common detail to not cover for these countries were the non-citizens working but not living in the country. In practice this category can contain individuals who cross-the border from their country of habitation on a daily or weekly basis to work in a neighbouring country.

Specific challenges to coverage

Over coverage typically occurs in cases of migration: when citizens fail to report emigration or when immigrants return to their home country without reporting their departure. The former will mostly be the case in countries with high emigration figures, especially when there is no incentive for emigrated citizens to deregister.
Under coverage in the population register can have several causes. First, within the European Union there is free movement and employment EU citizens, and those that move may not have registered themselves in their country of destination. These individuals are considered usual residents by the definition of the European Union but contribute to the under coverage of the population registers. Second, population registers can also be incomplete due to immigrants coming from outside the European Union without a work or residence permit, thereby residing illegally in the country.

Migrant registration

The issues of over and under-coverage of people in a population registration system have been covered above as challenges. Over and under-coverage, is often tied with people migrating in and out of the country and not registering. Looking more closely at migration in literature and in survey responses yielded some further insights on how population registers define and record migrants.

Many of the countries examined in this survey record detail on individuals who immigrate to and emigrate from their countries. Depending on the length of stay for an individual in the country in question, residence permits may be necessary. Of the 36 countries surveyed, most retain details on the date of immigration (53%), which often goes paired with acquiring a residence permit. Countries organise the handing out and monitoring of residence permits in different manners, using different services or registers beyond the national population register. Some countries however, do monitor the date of the expiry of the residence permit in their population register system. This was the case for 13 (36%) of the countries surveyed.

Degree to which a PIN is used across the systems

Personal Identification Numbers are used as identifiers for public services in several sectors (e.g. taxation, social security, healthcare). Such a number helps institutions to identify citizens. In addition, a Personal Identification Number (PIN) can make it easier to link between information from several registers. PINs can be universal, or be used in specific sectors, or specific institutions may generate numbers for citizens using their services. The use of a PIN by tax authorities to identify citizens is not unheard of, and in countries such as the Netherlands, health insurers assign a number to individuals insured with them, and this number is then used by other health and care services an individual makes use of.

A distinction can be therefore be made between two types of Personal Identification Numbers: a "Universal" one, which can be used as an identifier for all public services in a country, or sectoral PINs, used for one specific sector (e.g. tax number). It is possible that one person has several sectoral PINs, one for each sector.

The use of Personal Identification Numbers is widespread among European countries. Typically, countries with a centralised population register have adopted a Universal PIN, as well as some countries without a population register. Other countries only use sectoral PINs.

Out of the 36 countries examined, the majority, 24 (or 67%) have a universal Personal Identification Number with which a citizen or inhabitant can be identified for various governmental and public services. Multiple answers were possible here, because those countries who do not have a universal number (14%), may well have other specific identification numbers for specific public services and responsibilities. Some countries have specific personal tax numbers, or numbers for social security access, or even to vote. The survey responses indicate that 14 countries (39%), use PINs for specific services.

Quality control procedures and use of personal information

Quality control

There can be several quality issues which can affect the accuracy of the population register. The most common quality issues include over coverage, under coverage and incorrect address registration. It should be noted however that the quality control and verification processes are comparatively under studied compared to other aspects of a population register. The subject of quality control processes within a national register may therefore require further attention. For instance, address registration in population registers can be incorrect for several reasons. Citizens can fail to report address changes, addresses may be miss-spelled or numbers may be registered incorrectly.

Information from case studies on quality control procedures is relatively difficult to come by and those procedures identified can be diverse in nature. Some of the countries studied attempt to embed quality control checks in the population registration system from the moment a person first registers themselves, while others place responsibility of quality control with the body collecting personal information for in the population register

Privacy and citizen access

When speaking of privacy and personal details, the issue quickly boils down to data protection of citizens. The degree to which other parties can make use of citizen data is a key issue in this context and is also examined in this study.

Population registers contain sensitive personal information about individuals. When personal data are collected and stored, the effects on the privacy of the person involved should be considered. Privacy can be defined as the ability of an individual to be left alone, out of public view, and in control of information about oneself. With respect to personal information, such as the data stored in population registers, privacy refers to the ability to control the collection and sharing of information about oneself.
Digital technology provides opportunities to provide services in a more effective and efficient way by making information available to more users, connecting databases and making processing of information easier. However, the digital availability of data also raises concerns about privacy and the security of personal data.

To address data protection issues in the digitalised world, the EU adopted the General Data Protection Regulation (GDPR), which became fully effective in May 2018. The GDPR regulates the processing by an individual, a company or an organisation of personal data relating to individuals in the EU. Given the nature of the information stored in population registers, the privacy policy is an important issue in the design of a population registration system.

Citizens' control over personal data

Population registers contain basic information about citizens. Some personal details must be communicated by a citizen themselves to the organisation responsible for collecting and storing such details. However the level of accessibility of personal details is another aspect which differs across countries and their systems. The level of accessibility of personal details can differ across countries and their systems. In countries with a high degree of digitisation, citizens may be able to access and view their details online, with comparative ease like in the Nordic countries and Estonia. In other countries citizens may have to request an extract from the register on paper.

The degree to which citizens have access to their data has an impact on the level of autonomy which a citizen holds over their personal identity on record. Another aspect of citizens' control over their data is if and how they can demand a correction of their data. Especially when data from the population register is used to make decisions about services like social security, it can be very important for citizens to be able to ensure that the correct data are registered.

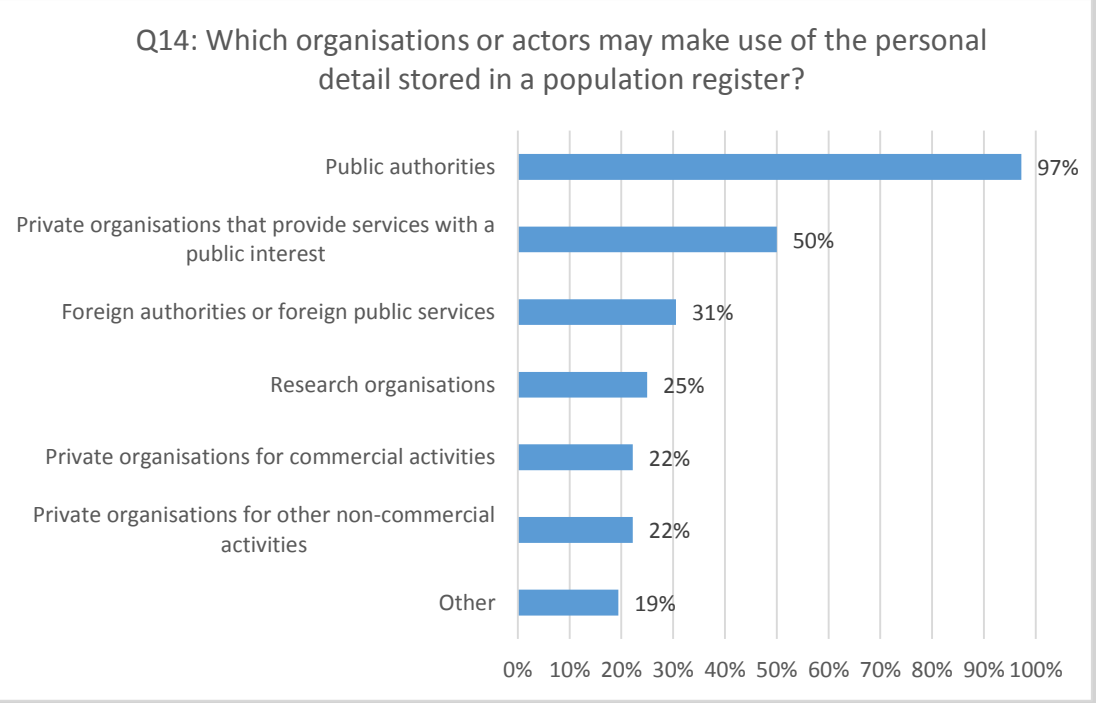
Privacy and use of personal information by others

Users of register data

Besides personal access by citizens, another dimension of a population system is what use can be made of personal details by organisations. Variation can exist in the type of organisations that can use register data and in the purposes for which register data may be used. To categorise users of population register data, we looked at the type of organisation (public or private) and for which purposes data are used. See following Table A. In the vast majority of countries public authorities are the main organisations making use of details from the population register (97%).

The rules which a country or authority has for the use of personal details are another distinctive dimension of population registers. The rule for accessing personal data can again vary across national systems.

Table A Which organisations and actors may make use of personal details in the population register?



Use of details by foreign authorities

In connection with the discussion concerning users of data, is the issue about information sharing between countries. The exact arrangements for sharing data differ per sector, and per geographic area. The EU for instance, through bodies like Europol, is likely to share certain personal data when it comes to tracing and detecting crimes and suspects. A similar arrangement may exist of the global police organisation,

Interpol. When it comes to social security for workers who travel and move around within Europe, there are agreements in place to a certain degree which coordinate the sharing of personal information to promote good coordination of social security.

Making use of information from registers

Based on survey results the vast majority of countries are public authorities making use of details from the population register (97%). The provision of public services may be arranged differently across countries. In some cases, private organisations may be involved in the provision of public services for example. In 50% of the countries examined, details from the population registers were used by such organisations. Foreign authorities made use of personal details in 31% of the cases.

Recent developments and challenges in population registers

Digitisation and use of biometric details

Digital technology is most commonly used to communicate between organisations which collect and/or receive personal information (74%), and organisations which store and manage personal information, and to deliver services to citizens (76%). In the survey we asked for the role of/or use of biometric technologies in the register. Biometric data can be include finger prints, iris scanning, facial recognition, etc. Out of the 36 responses, the most common use of biometric details was to identify citizens when handing out passports or identity cards. This was the case for 58% of the respondents (21 countries). In several countries stored biometric data in the population register (33%), and 12 countries (33%) indicated they did not make any use of biometrics. The top user of biometric information as it was operationalized in this survey was Portugal, making use of biometrics in each of the 6 usage forms outline in the survey.

Presence of non-binary gender registration options

In any case, the 36 countries for which information was collected show that in the majority (57%) allow for individuals to change their gender registration from one sex to the other in the national population register. Some countries provide a third gender option, often a neutral gender option for those who do not feel they fit entirely in either the male or female category. These individuals may prefer a non-binary or more neutral representation of their gender in official state registrations. In 14% of countries (5 in absolute numbers), a third gender option could be used. These 5 countries were Austria, Luxembourg, Portugal, India, and Canada.

Stillborn children

Another recent trend has been for countries to register the births of stillborn children. The reasoning for this is to allow parents to register their child, even if they did not live long or were still-born, so that the appropriate medical and personal affairs can be arranged. For instance, having a funeral or ceremony as an outlet for a family's grief and thereby allowing some semblance of closure, is one of the reasons the registration of stillborn children has been made easier in the Netherlands. It appears that other countries have also it possible to allow for still-born children to be registered, though the survey does not indicate since when this has been the case and what the underlying reason is for this option in the national population register. The results for the survey show that 16 countries (44%) allow for the registration of still-born children.

Concluding remarks and lessons from other countries

The overall goal of this study has been to examine the approaches, use of, and developments in population registration systems. The focus of this inventory has been on EU Member States, though several non-EU countries were also examined in order to collect a richer and more diverse sample of approaches to population registration systems.

Overall observations and developments in population registers

Globally speaking, the results gathered from the literature review and survey indicate that the vast majority of countries covered in this research have a population register of some kind in place. It should be reiterated here that **population registers can vary substantially** in how they are set-up and managed; collecting personal details, storing these details, and using these details can be conducted locally, regionally, or at the state or federal level. The nature and scope of the details contained in a population register can vary substantially as well, along with the coverage of different types of citizens and inhabitants of a country. Along these dimensions of scope and content, coverage of people, and approach to the register, a variety of types of registers can be identified. As indicated however, most countries have a population register of some kind, as well as a civic register. Most countries also make use of a universal Personal Identification Number (PIN), though here again there are many exceptions which do not.

Looking more broadly at the **use of personal details** from population registers, in the vast majority of cases national public authorities can make use of the details stored there to carry out social and public services for citizens. Some countries, notably smaller (in terms of either geographical size or population size) and neighbouring countries tend to have more arrangements in place for use of data between foreign public authorities. While certain sectoral EU-wide arrangements exist for using and exchanging data (such as the Electronic Exchange of Social Security Information, EESSI), several groups of countries have developed multilateral and bilateral information exchange agreements. This is the case for the Scandinavian countries, as well as the Nordic Baltic countries, given the high levels of labour migrants passing across the borders of these countries.

When considering important developments in the world of population registration systems, several themes and trends quickly become apparent. Based on desk research and the survey conducted, as well as insights from the case studies, it appears that digitization is an important topic. Digitization and the way in which it can make public administration and the provision of services to citizens more effective and efficient have been discussed and implemented in the Netherlands in recent years, and this seems to be the case in other countries as well. The survey results demonstrate **that many countries use digital technology in their population registers**. Digital technology is used at a relatively basic level to communicate between collection, storing, and usage levels in a register. It is also used very commonly to help deliver services to citizens, and to allow citizens access to view their own personal details stored in their national register.

Several countries are front runners when it comes to the **use of digital technology in population registers**. While the Netherlands is a digitised society with high degrees of internet penetration, concerning the role of digital technology within the population register, countries such as Estonia take the lead. Indeed, Estonia has had a

holistic, long term commitment to digital technology and security since the early 1990s. An apparent secret to success for the Estonian system is the holistic, government-wide commitment to effective, but especially, secure cyber-systems. Designated legal acts have been implemented and updated since the early 1990s, and a designated Data Protection Authority set up as early as 1999. The Estonian register is also quite expansive in terms of its content and coverage, comparable in this sense to the system of the Netherlands. A noteworthy approach here is that the Estonian government saw a universal commitment to an integrated and digital approach to government services, including the population register system, which also integrates access to citizen services such as voter registration.

Other important themes which relate to the growing use of digital technology in government relate to privacy and data protection. In a government context this relates to the **privacy of citizen data and the protection** of their information and digital identities. Citizen access to their details are also relevant topics in this context. As illustrations, the Luxembourgian and Estonian systems both make citizen access and privacy important concerns within their systems. In Luxembourg, the National Data Protection Commission (CNPD), was established in 2002, is an independent agency tasked with the control of processing of personal data in Luxembourg and ensuring compliance with data protection regulations, and the powers of this authority were expanded with the entrance of the GDPR in 2018. In Estonia, as in the Netherlands, citizens can request insight into their details which the government stores in the designated population register. Indeed, the topic of citizen access to their own details also appears prevalent amongst countries in that, out of the countries surveyed, 61% of respondents used digital technology to allow citizens to access and view their own information. Though citizen access is an important issue, the **approaches to data protection and security** are avenues for further research as this information was not requested in detail form the survey conducted. EU countries are subject to GDPR requirements as of 2018, but the precise manner in which this regulation has been implemented varies across Member States. As indicated, some countries have made data protection and security a more dominant priority since before the GDPR, such as Luxembourg and Estonia.

Other recent developments in population registers include the **role of biometric information** in population registers. It should be noted that biometric information is often used to verify the identity of individuals in a country, and this identification is often in view of providing citizens with access to the right services. As such biometric information can be seen as an auxiliary tool which helps to carry out and deliver public services which rely on data from population registers. As biometric information is often also embedded in identity cards and passports, which are in turn often tied to data in population registers, the use and stored of personal biometric information has been a recent, much discussed theme in governmental services and population registers. That being said, many countries do not use much biometric information in their registers, with most having separate registers for biometric information which are secured to safeguard this type of information.

A final issue which as gained increasing salience and traction in societal debates across the world concerning **non-binary gender identification**. There has been increasing attention in recent years for transgender and intersex individuals, non-binary gender forms, and how these individuals can be made to feel more at home in societies across the world. India for instance moved to allow transgender individuals to vote in 2019. The German population register allows for a gender neutral gender

description on identification documents. On the whole however, in many countries, this issue is discussed more in society than in the political sphere and in governmental service provision. In most countries a transgender person can declared their new preferred gender identity, but this change is subject to many external and institutional requirements. For individuals from the LGTB community or not, who do not feel male or female, a non-binary gender option may be more preferable for their official registration in a register. However, a third gender option is far from the norm in this regard. Countries such as the Netherlands, by starting to discuss this issue in the political sphere, appear to be amongst the front-runners.

Overall, in terms of coverage of people and scope of details registered, in terms of use of digital technology and citizen access to details, the Netherlands appears to have one of the more expansive population registers examined. That being said, certain themes, including the further improvement data protection and security, are areas in which other countries may provide interesting lessons should the Netherlands wish to adapt its system in the future.

Dutch summary

Achtergrond en doel van het onderzoek

Het Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (BZK) ontwikkelt een beleidsvisie op de toekomst van de Basisregistratie Personen (BRP). Het functioneren van de BRP, de rol van de BRP in het identiteitsmanagement voor burgers en de rol van de digitalisering vormen gebieden die het Nederlandse ministerie momenteel onderzoekt. In het kader daarvan heeft het ministerie opdracht gegeven aan Panteia om de verschillende soorten van bevolkingsregistratie in andere landen te onderzoeken. Deze samenvatting geeft een overzicht van de aanpak en de belangrijkste bevindingen van dit internationale onderzoek naar systemen voor bevolkingsregistratie.

Het algemene doel van dit onderzoek is om een inventarisatie te maken van de verschillende soorten bevolkingsregisters die gebruikt worden en om na te gaan in hoeverre de Nederlandse overheid, indien gewenst, in de toekomst lering zou kunnen trekken uit deze andere systemen. De studie onderzoekt alle EU-lidstaten en een selectie van niet-Europese landen op de volgende terreinen:

- de inhoud en dekking van de bestaande bevolkingsregisters, definities van de systemen van bevolkingsregisters en de aanpak van de bevolkingsregistratie;
- de mate waarin een persoonlijk identificatienummer in alle systemen wordt gebruikt;
- de mate waarin informatie uit bevolkingsregisters wordt uitgewisseld met binnen- en buitenlandse gebruikers;
- het type kwaliteitscontroleprocedures dat binnen de systemen wordt gebruikt;
- de recente ontwikkelingen in de bevolkingsregisters in Europa en in de wereld, de belangrijkste uitdagingen voor de bevolkingsregisters vandaag de dag en de wijze waarop landen deze uitdagingen aanpakken;
- een beoordeling van de belangrijkste trends en de mate waarin lessen uit andere landen in theorie overdraagbaar zijn op de Nederlandse situatie.

Methodologische benadering

De studie omvatte verschillende hoofdfasen: een literatuuroverzicht, gevolgd door een internationale enquête in een reeks Europese en derde landen, een casestudiefase en een rapportagefase.

Voor het **literatuuroverzicht** werd internationaal vergelijkende literatuur over bevolkingsregisters bestudeerd. Daarbij werd zowel beleids- als academische literatuur geraadpleegd.

De **internationale enquête** had tot doel de aanwezigheid van een bevolkingsregister in een land vast te stellen, de inhoud ervan, de aanpak om persoonlijke informatie te verzamelen en op te slaan in het register, wie er geregistreerd werd en om informatie over specifieke thema's en ontwikkelingen te verzamelen. Hierbij is een drieledige aanpak gehanteerd, waarbij eerst buitenlandse ambassades in Nederland zijn benaderd om de enquête in te vullen. Waar dit niet mogelijk was, zijn Nederlandse vertegenwoordigingen in de betreffende landen benaderd. Waar ook dit niet mogelijk was, is de enquête ingevuld door onderzoekers uit het externe netwerk van Panteia (European Network for Social and Economic Research, ENSR) en door internationale onderzoekers van Panteia zelf. Waar Panteia's interne team de enquêtes heeft ingevuld, is dit in de enquêteanalyses aangegeven. In totaal werden de 28 EU-

lidstaten benaderd, evenals 11 niet-Europese landen, wat een totaalrespons van 36 enquêtereacties opleverde.

De derde fase van de studie, **de casestudies**, bestond uit een selectie van 6 landen die interessante ontwikkelingen kennen op onderdelen van hun bevolkingsregistersystemen. De selectie vond plaats op basis van deskresearch en de antwoorden op de enquête. De selectie leverde zes landen op die nader werden onderzocht om te begrijpen hoe en waarom deze benaderingen van bevolkingsregistratie tot stand kwamen en om het succes en de uitdagingen van deze benaderingen te onderzoeken.

De laatste fase bestond uit het samenbrengen van deze drie informatiebronnen in één **onderzoeksrapport**. Hoewel het onderzoek in opdracht van de Nederlandse overheid is uitgevoerd, is dit rapport in het Engels geschreven. Gezien het internationale karakter van het onderzoek zijn zowel de onderzoeksdoelstellingen als de definities en de verzamelde informatie in het Engels geformuleerd. Een Engelstalig rapport biedt daarom de best mogelijke weergave van het onderzoek. Bovendien is het eindrapport daardoor leesbaar voor alle landen die in het onderzoek zijn opgenomen, wat een stimulans kan zijn geweest om deel te nemen. Ten slotte kan dit rapport een basis zijn om informatie over bevolkingsregistratie tussen landen uit te wisselen naar de wens van het Ministerie van BZK.

Methodologische noties

Ten eerste waren de antwoorden op de enquête zeer uiteenlopend. Vaak worden landen ingedeeld in regio's waarbinnen landen een vergelijkbare benadering hanteren, maar in praktijk is deze samenhang moeilijk te herkennen als de systemen in kwestie nader bestudeerd worden. Zo zijn er in de Europese systemen grote verschillen in de aanpak van het verzamelen, opslaan en beheren van gegevens en in de dekking en inhoud van de registers. Hieraan moet worden toegevoegd dat een aantal landen niet over één centraal bevolkingsregister beschikt en dat de meeste landen in deze gevallen gebruikmaken van hun register voor de burgerlijke stand. Het is daarom een uitdaging om trends in de bevolkingsregisters van de verschillende soorten landen in kaart te brengen.

Een andere opmerking is van methodologische aard. Om het mogelijk te maken gedetailleerdere informatie over de verschillende nationale registers te verzamelen, zijn de vragen en antwoorden in de enquête op een relatief open manier geformuleerd, zodat er ruimte is voor verschillende benaderingen en systemen. Doordat de vragen en antwoordcategorieën ruim zijn en er meer ruimte is voor interpretatie, werd de analyse in sommige gevallen bemoeilijkt. Sommige antwoorden worden minder vergelijkbaar naarmate ze gedetailleerder worden.

Definities, inhoud, dekking en aanpak van bevolkingsregisters

Definitie van een bevolkingsregister

Als uitgangspunt is het noodzakelijk om eerst de definitie van een bevolkingsregister te schetsen. Diverse internationale autoriteiten en bronnen hebben definities en inzichten gegeven over wat een bevolkingsregister is. De gemeenschappelijke kenmerken van deze omschrijvingen hebben geleid tot een definitie voor deze studie:

Een bevolkingsregister in het kader van deze studie is het belangrijkste en meest gebruikte systeem voor de registratie van de basisgegevens van de bevolking van een land.

Verschillende soorten bevolkingsregisters

Bevolkingsregisters die de identiteit, burgerlijke staat, het woonadres en de belangrijkste gebeurtenissen in het leven registreren zijn zeker niet in alle landen universeel. Er zijn veel pogingen gedaan om systemen te classificeren. Een van die pogingen omvat een indeling in vijf verschillende soorten bevolkingsregisters. Deze verschillende tradities worden hieronder kort beschreven, maar deze indeling is geenszins uitputtend:

1. Commonwealth-systeem gebaseerd op de 'sociale voetafdruk': dit systeem is gebaseerd op het vaststellen van de identiteit van een burger via een reeks andere bronnen. Door de informatie van meerdere organisaties te combineren, wordt een sociale voetafdruk gecreëerd voor een inwoner.
2. Een gemeenschapsmodel dat gebaseerd is op persoonlijke gegevens die op lokaal of regionaal niveau worden verzameld en bijgehouden worden op het niveau van een gemeenschap.
3. Een centraal bevolkingsregister met persoonsgegevens dat op centraal niveau in een land wordt bijgehouden, hoewel het verzamelen van gegevens lokaal, regionaal of centraal kan worden uitgevoerd.
4. Biometrisch model, waarbij biometrische gegevens voor inwoners worden opgeslagen door een openbare instelling. De opgeslagen biometrische gegevens worden gebruikt als identiteitsbewijs voor een ingezetene, waarbij zij zich identificeren door middel van bijvoorbeeld een biometrische foto of vingerafdruk.
5. Overige, vaak beperkte, registratiemodellen. Deze modellen kunnen sterk verschillen. Deze landen kenmerken zich door een minder ontwikkelde of minder gestructureerde en systematische verzameling van informatie over ingezetenen.

Het register dat een land heeft, hangt af van de **nationale benadering en geschiedenis** in een land, bijvoorbeeld wat betreft het doel van het register. In sommige landen wordt bijvoorbeeld alleen een register van de burgerlijke stand bijgehouden en geen algemeen nationaal bevolkingsregister.

Ook de **organisatie van de processen** binnen de bevolkingsregisters loopt sterk uiteen. Bij het beschrijven van de organisatie van een bevolkingsregister wordt vaak een onderscheid gemaakt tussen centrale en decentrale systemen. In de praktijk is het echter moeilijk om de bevolkingssystemen langs deze lijnen in te delen en bestaat er geen algemeen aanvaarde definitie van centrale en decentrale systemen. In sommige systemen vindt het verzamelen en bewaren van persoonlijke gegevens plaats door partijen op alle bestuursniveaus. Een dergelijke binaire indeling van de bevolkingssystemen is daarom niet gemaakt, om te voorkomen dat de nationale bevolkingsregisters op onjuiste wijze worden geëtiketteerd en gegroepeerd.

Aanwezigheid en aanpak van registers

Uit een analyse van de antwoorden in de enquête over de naam en beschrijving van het belangrijkste register blijkt dat van de 29 landen die aangeven een bevolkingsregister te hebben, dat er twee zijn met een volkstelling (dit was het geval in Kroatië en in Zuid-Korea). Naast een bevolkingsregister kunnen er nog andere registers bestaan. Op basis van meerdere antwoorden die mogelijk waren op de enquête zijn de meest voorkomende andere soorten registers: registers voor de burgerlijke stand (94%), waarin de levensgebeurtenissen van personen worden geregistreerd, en belastingregisters (60%), die de benodigde identificatie- en inkomensgegevens verzamelen om de belastingen en uitkeringen in een land te controleren en te coördineren.

De processen voor het beheer van de bevolkingsregisters zijn onderverdeeld in drie hoofdprocessen in centrale of decentrale systemen voor bevolkingsregistratie:

- Verzamelen van informatie voor het register.
- Opslag van persoonsgegevens (in één centraal of in meerdere decentrale registers) en systemen voor toegang tot het (de) bevolkingsregister(s).
- Eindverantwoordelijkheid voor het register.

Uit de enquêteresultaten blijkt dat het grootste deel van de verzameling van gegevens plaatsvindt op lokaal of gemeentelijk niveau (69%), of op nationaal of federaal niveau (44%). De opslag en het beheer van persoonsgegevens gebeurt voornamelijk op nationaal of federaal niveau (69%), gevolgd door het gemeentelijke of lokale niveau (42%). De eindverantwoordelijkheid is in de overgrote meerderheid van de gevallen de verantwoordelijkheid van een nationale of federale instelling (94%).

Inhoud en dekking van de bevolkingsregisters

Bevolkingsregisters verschillen aanzienlijk in inhoud en dekking. Op basis van deskresearch en bestudering van praktijken in andere landen is een lijst van 22 mogelijke gegevens samengesteld. De naam en geboortegegevens zijn in alle registers aanwezig, wat niet verwonderlijk is. Geslacht en geboorteplaats zijn ook veel voorkomende gegevens, die respectievelijk in 97% en 94% van de landenregisters zijn opgeslagen. Afhankelijk van de duur van het verblijf van een persoon in het land in kwestie kunnen verblijfsvergunningen nodig zijn. Van de 36 onderzochte landen registreert de meerderheid gegevens over de datum van immigratie (53%), die vaak gepaard gaat met het verkrijgen van een verblijfsvergunning.
Sommige landen houden in hun bevolkingsregister de vervaldatum van de verblijfsvergunning in de gaten. Dit was het geval voor 13 van de onderzochte landen (36%).

Uitgaande van de mogelijke antwoorden op de enquête zijn Kroatië en Finland de landen die de meeste gegevens registreren, met 18 van de 22 mogelijke gegevens. Luxemburg en Noorwegen verzamelen 17 van deze 22 gegevens en Nederland, Slovenië en Zweden verzamelen 16 van de 22 genoemde persoonsgegevens.

In alle registers worden de staatsburgers die in het land wonen opgenomen en in de overgrote meerderheid (80%) van de landen zijn de staatsburgers die in het buitenland wonen ook geregistreerd. De landen waar deze burgers die in het buitenland wonen niet geregistreerd waren, waren relatief divers. Binnen Europa waren dat onder meer Duitsland en Oostenrijk. Buiten Europa blijkt uit deskresearch dat India, Japan, Canada, Nieuw-Zeeland en Namibië dat niet doen. De groep die het minst vaak in het bevolkingsregister wordt opgenomen zijn de niet-staatsburgers die

in een land werken maar er niet wonen. In de praktijk zal deze categorie voornamelijk bestaan uit grensarbeiders, die dagelijks of wekelijks de grens vanuit hun woonland oversteken om in een buurland te werken.

Specifieke uitdagingen voor de dekking

Overregistratie komt vooral voor in gevallen van migratie: wanneer burgers geen melding maken van emigratie of wanneer immigranten naar hun thuisland terugkeren zonder hun vertrek te melden. Het eerste zal meestal het geval zijn in landen met hoge emigratiecijfers, vooral wanneer er geen stimulans is voor geëmigreerde burgers om zich uit te schrijven.
Onderregistratie in het bevolkingsregister kan verschillende oorzaken hebben. Ten eerste is er binnen de Europese Unie sprake van vrij verkeer van personen. Personen die verhuizen hebben zich misschien niet in hun land van bestemming geregistreerd. Deze personen worden volgens de definitie van de Europese Unie als gewone ingezetenen beschouwd, en zijn dus deel van de onderregistratie van bevolkingsregisters. Ten tweede kunnen de bevolkingsregisters ook onvolledig zijn als gevolg van het feit dat immigranten van buiten de Europese Unie zonder werk- of verblijfsvergunning illegaal in het land verblijven.

Registratie van migranten

De problematiek van over- en onderregistratie is vaak verbonden met mensen die naar en uit het land migreren en zich niet laten registreren. Een nadere bestudering van migratie in de literatuur en in de antwoorden op enquêtes leverde meer inzicht op in de manier waarop bevolkingsregisters migranten definiëren en registreren.

Veel van de onderzochte landen registreren details over personen die migreren naar en emigreren uit hun land. Afhankelijk van de duur van het verblijf van een persoon in het land in kwestie kunnen verblijfsvergunningen nodig zijn. Van de 36 onderzochte landen hebben de meeste gegevens over de datum van immigratie (53%), die vaak gepaard gaat met het verkrijgen van een verblijfsvergunning. De landen organiseren de afgifte van en het toezicht op verblijfsvergunningen op verschillende manieren, met gebruikmaking van verschillende diensten of registers buiten het nationale bevolkingsregister. Sommige landen houden in hun bevolkingsregister echter wel toezicht op de vervaldatum van de verblijfsvergunning. Dit was het geval voor 13 (36%) van de onderzochte landen.

Gebruik van een persoonlijk identificatienummer

Persoonlijke identificatienummers worden gebruikt als identificatiemiddelen voor openbare diensten in verschillende sectoren (bijvoorbeeld belastingen, sociale zekerheid, gezondheidszorg). Een dergelijk nummer helpt instellingen om burgers te identificeren. Daarnaast kan een persoonlijk identificatienummer (PIN) het gemakkelijker maken om informatie uit verschillende registers aan elkaar te koppelen. Er kan één nummer bestaan dat gebruikt kan worden voor alle sectoren, of specifieke instellingen kunnen nummers genereren voor burgers die van hun diensten gebruikmaken. Het gebruik van een PIN door de Belastingdienst om burgers te identificeren is gebruikelijk. In sommige landen kennen zorgverzekeraars een nummer toe aan personen die bij hen verzekerd zijn, en dit nummer wordt vervolgens gebruikt door zorginstellingen waarvan een persoon gebruik maakt.

Er kan dus een onderscheid worden gemaakt tussen twee soorten persoonlijke identificatienummers: een algemeen nummer, dat kan worden gebruikt als

identificatiemiddel voor alle openbare diensten in een land, of sectorale nummers die voor een specifieke sector worden gebruikt (bijvoorbeeld een fiscaal nummer). Het is mogelijk dat één persoon meerdere sectorale identificatienummers heeft, één voor elke sector.

Het gebruik van persoonlijke identificatienummers is wijdverbreid in Europese landen. Landen met een centraal bevolkingsregister hebben doorgaans een algemeen geldend nummer ingevoerd, evenals enkele landen zonder bevolkingsregister. Andere landen gebruiken alleen sectorale nummers.

Van de 36 onderzochte landen hebben de meeste 24 (of 67%) een algemeen persoonlijk identificatienummer waarmee een burger of inwoner kan worden geïdentificeerd voor verschillende overheids- en openbare diensten. Meerdere antwoorden waren hier mogelijk, omdat de landen die geen algemeen nummer hebben (14%), mogelijk ook andere specifieke identificatienummers voor specifieke openbare diensten en verantwoordelijkheden hebben.
Sommige landen hebben specifieke persoonlijke belastingnummers, of nummers voor toegang tot sociale zekerheid, of zelfs om te stemmen. Uit de antwoorden op de enquête blijkt dat 14 landen (39%) voor specifieke diensten gebruik maken van pincodes.

Procedures voor kwaliteitscontrole en gebruik van persoonlijke informatie

Kwaliteitscontrole

Er kunnen verschillende kwaliteitsproblemen zijn die de nauwkeurigheid van het bevolkingsregister kunnen beïnvloeden. De meest voorkomende kwaliteitskwesties zijn onder meer overregistratie, onderregistratie en onjuiste adresregistratie. Kwaliteitscontrole en gegevensverificatie worden echter relatief weinig belicht in vergelijking met andere aspecten van een bevolkingsregister. Het is daarom mogelijk dat er meer aandacht moet worden besteed aan de kwaliteitscontroleprocedures binnen een nationaal register. Zo kan bijvoorbeeld de adresregistratie in bevolkingsregisters om verschillende redenen onjuist zijn. Burgers kunnen nalaten om adreswijzigingen te melden, adressen kunnen verkeerd gespeld zijn of huisnummers kunnen onjuist worden geregistreerd.

Informatie uit casestudies over kwaliteitscontroleprocedures is relatief moeilijk te verkrijgen en de vastgestelde procedures kunnen van uiteenlopende aard zijn. Sommige van de bestudeerde landen proberen kwaliteitscontroles in het bevolkingsregistratiesysteem in te bedden vanaf het moment dat iemand zich voor het eerst registreert, terwijl andere de verantwoordelijkheid voor de kwaliteitscontrole leggen bij de instantie die persoonlijke informatie verzamelt voor het bevolkingsregister.

Privacy en toegang voor de burger

Als we het over privacy en persoonlijke gegevens hebben, gaat het al snel om de bescherming van de gegevens van de burgers. De mate waarin andere partijen gebruik kunnen maken van de gegevens van burgers is in dit verband van groot belang en wordt ook in dit onderzoek onderzocht.

Bevolkingsregisters bevatten gevoelige persoonlijke informatie over individuen. Bij het verzamelen en opslaan van persoonsgegevens moet rekening worden gehouden met

de gevolgen voor de persoonlijke levenssfeer van de betrokkene. Privacy kan worden gedefinieerd als de mogelijkheden van een persoon om met rust te worden gelaten, buiten de openbaarheid te blijven en informatie over zichzelf onder controle te houden. Met betrekking tot persoonsgegevens, zoals de gegevens die zijn opgeslagen in bevolkingsregisters, heeft privacy betrekking op de mogelijkheid tot controle over de verzameling en uitwisseling van informatie over zichzelf.
Digitale technologie biedt mogelijkheden om op een effectievere en efficiëntere manier diensten te verlenen door informatie aan meer gebruikers beschikbaar te stellen, databases met elkaar te verbinden en de verwerking van informatie te vergemakkelijken. De digitale beschikbaarheid van gegevens biedt echter ook reden tot bezorgdheid over de privacy en de veiligheid van persoonsgegevens.

Om problemen met de gegevensbescherming in de gedigitaliseerde wereld aan te pakken, heeft de EU de Algemene Verordening inzake Gegevensbescherming (AVG) aangenomen, die in mei 2018 volledig van kracht is geworden. De verordening regelt de verwerking van persoonsgegevens van personen in de EU door een persoon, een bedrijf of een organisatie. Gezien de aard van de informatie die in de bevolkingsregisters is opgeslagen, is het privacybeleid een belangrijk punt bij de opzet van een bevolkingsregistratiesysteem.

Controle van de burgers over persoonsgegevens

Bevolkingsregisters bevatten basisinformatie over burgers. Sommige persoonsgegevens moeten door de burger zelf worden meegedeeld aan de organisatie die verantwoordelijk is voor het verzamelen en opslaan van deze gegevens. De toegankelijkheid van persoonsgegevens is echter een ander aspect dat van land tot land en van systeem tot systeem verschilt. In landen met een hoge mate van digitalisering kunnen de burgers hun gegevens gemakkelijk online raadplegen en bekijken, zoals in de Noordse landen en Estland. In andere landen moeten burgers een uittreksel uit het register op papier aanvragen. De mate waarin burgers toegang hebben tot hun gegevens is van invloed op de mate van autonomie die een burger over zijn of haar persoonlijke identiteit heeft. Een ander aspect van de controle van de burgers over hun gegevens is of en hoe zij een correctie van hun gegevens kunnen eisen. Vooral wanneer gegevens uit het bevolkingsregister worden gebruikt om beslissingen te nemen over diensten zoals de sociale zekerheid, kan het voor burgers van groot belang zijn om ervoor te kunnen zorgen dat de juiste gegevens worden geregistreerd.

Privacy en gebruik van persoonlijke informatie door anderen

Gebruikers van registergegevens

Naast de persoonlijke toegang van burgers is het gebruik dat organisaties van persoonlijke gegevens kunnen maken een ander belangrijk aspect van bevolkingsregisters. Tussen landen kan variatie bestaan in het soort organisaties dat gebruik kan maken van registergegevens en in de doeleinden waarvoor registergegevens kunnen worden gebruikt. Om de gebruikers van bevolkingsregistergegevens te categoriseren, kijken we naar het type organisatie (publiek of privaat) en voor welke doeleinden gegevens worden gebruikt. Op deze manier kunnen de volgende categorieën worden gedefinieerd:

- Overheden kunnen gegevens uit het bevolkingsregister gebruiken om openbare diensten aan te bieden. Voorbeelden van deze organisaties zijn nationale en lokale overheden, belastingdiensten en sociale zekerheidsinstellingen.

- Onderzoeksorganisaties kunnen registergegevens gebruiken voor onderzoeksdoeleinden, zoals wetenschappelijke medische studies, het opstellen van bevolkingsstatistieken, genealogie en historische studies.
- Private organisaties vanuit algemeen belang kunnen persoonsgegevens gebruiken om diensten van algemeen belang uit te voeren en te verlenen (zoals ziekenhuizen en andere zorginstellingen, pensioenfondsen, banken, verzekeringsmaatschappijen en justitiële organisaties).
- Private organisaties vanuit niet-commerciële taken kunnen persoonlijke gegevens gebruiken. Werkgevers kunnen bijvoorbeeld bevolkingsregistergegevens gebruiken voor hun personeelsadministratie.
- Private organisaties vanuit commerciële taken hebben in sommige landen de mogelijkheid om gegevens uit het bevolkingsregister te gebruiken voor commerciële doeleinden, zoals direct marketing.

De regels die een land of autoriteit heeft voor het gebruik van persoonsgegevens zijn een ander onderscheidend aspect van de bevolkingsregisters. De regel voor de toegang tot persoonsgegevens kan ook hier van land tot land verschillen.

Gebruik van gegevens door buitenlandse autoriteiten

In verband met de discussie over de gebruikers van gegevens, is de kwestie van het delen van informatie tussen landen van belang. De exacte regelingen voor het delen van gegevens verschillen per sector en per geografisch gebied. De EU zal bijvoorbeeld, via instanties als Europol, waarschijnlijk bepaalde persoonsgegevens delen wanneer het gaat om het opsporen van misdrijven en verdachten. Een soortgelijke regeling kan bestaan voor de wereldwijde politieorganisatie Interpol. Op het gebied van de sociale zekerheid voor werknemers die reizen en zich binnen Europa verplaatsen, bestaan er afspraken die de uitwisseling van persoonsgegevens tot op zekere hoogte mogelijk maken om een goede coördinatie van de sociale zekerheid te bevorderen.

Gebruik maken van informatie uit registers

Op basis van de enquêteresultaten maken in de overgrote meerderheid van de landen overheidsinstanties gebruik van gegevens uit het bevolkingsregister (97%). In sommige gevallen kunnen particuliere organisaties betrokken zijn bij het verlenen van openbare diensten. In 50% van de onderzochte landen maken deze organisaties gebruikgemaakt van gegevens uit de bevolkingsregisters. Buitenlandse autoriteiten maakten in 31% van de gevallen gebruik van persoonsgegevens.

Recente ontwikkelingen en uitdagingen in de bevolkingsregisters

Digitalisering en gebruik van biometrische gegevens

Digitale technologie wordt het meest gebruikt om te communiceren tussen organisaties die persoonlijke informatie verzamelen en/of ontvangen en organisaties die persoonlijke informatie opslaan en beheren (74%), en om diensten te verlenen aan burgers (76%). In de enquête hebben we gevraagd naar de role n/of het gebruik van biometrie in het register. Biometrische gegevens kunnen slaan op vingerafdrukken, iris scanning, gezichtsherkenning etc. Van de 36 landen was het meest voorkomende gebruik van biometrische gegevens de identificatie van burgers bij de afgifte van paspoorten of identiteitskaarten. Dit was het geval voor 58% van de respondenten (21 landen). In verscheidene landen werden biometrische gegevens in het bevolkingsregister opgeslagen (33%) en 12 landen (33%) gaven aan geen gebruik te maken van biometrische gegevens. De belangrijkste gebruiker van biometrische

informatie zoals die in de enquêteresultaten naar vorenkwam, was Portugal, dat gebruik maakte van biometrische gegevens op elk van de zes manieren die in de enquête werden geschetst.

Aanwezigheid van niet-binaire genderregistratiemogelijkheden

Uit de enquête blijkt dat in de meeste gevallen (57%) personen de registratie van geslacht in het nationale bevolkingsregister kunnen wijzigen. Sommige landen bieden een derde genderoptie, vaak een neutrale genderoptie voor degenen die zich niet volledig in de categorie mannen of vrouwen thuis voelen. Deze personen kunnen de voorkeur geven aan een niet-binaire of meer neutrale registratie van hun geslacht in officiële overheidsregistraties. In 14% van de landen kan een derde genderoptie worden gebruikt. Deze 5 landen waren Oostenrijk, Luxemburg, Portugal, India en Canada.

Doodgeboren kinderen

Een andere recente trend is dat landen de geboorte van doodgeboren kinderen registreren. De redenering hierachter is dat ouders de mogelijkheid krijgen hun kind te registreren, ook als het niet lang heeft geleefd of doodgeboren is, zodat de juiste medische en persoonlijke zaken kunnen worden geregeld. Het houden van een begrafenis of plechtigheid kan helpen bij verwerking van het verdriet van een gezin en kan daarmee een manier bieden om het af te sluiten, een van de redenen waarom de registratie van doodgeboren kinderen in Nederland gemakkelijker is gemaakt. Ook in andere landen is het mogelijk om de registratie van doodgeboren kinderen toe te staan, hoewel uit het onderzoek niet duidelijk blijkt wanneer dit het geval is en wat de achterliggende reden is voor deze mogelijkheid in het nationale bevolkingsregister. Uit de resultaten van het onderzoek blijkt dat 16 landen (44%) de registratie van doodgeboren kinderen toestaan.

Slotopmerkingen en lessen uit andere landen

Het algemene doel van deze studie is het onderzoeken van de opzet, het gebruik en de ontwikkelingen in bevolkingsregistratiesystemen. Deze inventarisatie was toegespitst op de EU-lidstaten, maar er werd ook een aantal niet-EU-landen onderzocht om een rijker en meer uiteenlopend beeld van benaderingen van bevolkingsregistratiesystemen te verzamelen.

Algemene opmerkingen en ontwikkelingen in de bevolkingsregisters

Globaal gezien blijkt uit de resultaten van het literatuuronderzoek en de enquête dat de overgrote meerderheid van de landen die bij dit onderzoek betrokken is, over een soort bevolkingsregister beschikt. Wel **kunnen de bevolkingsregisters aanzienlijk verschillen** in de wijze waarop zij worden opgezet en beheerd; het verzamelen van persoonlijke gegevens, het opslaan van deze gegevens en het gebruik van deze gegevens kan plaatselijk, regionaal of op deelstaat- of federaal niveau worden uitgevoerd. Ook de aard en de omvang van de gegevens in een bevolkingsregister kunnen aanzienlijk verschillen, evenals de dekking van de verschillende categorieën inwoners van een land. Aan de hand van deze kenmerken kunnen verschillende soorten registers worden geïdentificeerd. Zoals aangegeven hebben de meeste landen een bevolkingsregister en een register van de burgerlijke stand. De meeste landen maken ook gebruik van een algemeen persoonlijk identificatienummer, maar ook hier zijn er uitzonderingen die dat niet doen.

Als we meer in het algemeen kijken naar het **gebruik van persoonsgegevens** uit bevolkingsregisters, kunnen de nationale overheden in de overgrote meerderheid van de gevallen gebruik maken van de gegevens die daar zijn opgeslagen om sociale en openbare diensten voor burgers te verlenen. Sommige landen, met name kleinere landen (in termen van geografische omvang of bevolkingsomvang) en buurlanden, hebben regelingen getroffen voor de uitwisseling van gegevens met buitenlandse overheden. Hoewel er bepaalde sectorale regelingen voor de hele EU bestaan voor het gebruik en de uitwisseling van gegevens (zoals de elektronische uitwisseling van gegevens over de sociale zekerheid, EESSI), hebben verschillende groepen landen multilaterale en bilaterale overeenkomsten voor de uitwisseling van informatie ontwikkeld. Dit is het geval voor de Scandinavische landen en de Baltische staten, gezien het hoge aantal arbeidsmigranten dat de grenzen van deze landen overschrijdt.

Bij bestudering van belangrijke ontwikkelingen binnen systemen voor bevolkingsregistratie worden al snel verschillende thema's en trends zichtbaar. Op basis van deskresearch en de uitgevoerde enquête en inzichten uit de casestudies blijkt dat digitalisering een belangrijk onderwerp is. Digitalisering en de wijze waarop digitalisering het openbaar bestuur en de dienstverlening aan burgers effectiever en efficiënter kan maken zijn de afgelopen jaren in Nederland besproken en geïmplementeerd, en dit lijkt ook in andere landen het geval te zijn. Uit de onderzoeksresultaten blijkt dat **veel landen digitale technologie in hun bevolkingsregister gebruiken**. Digitale technologie wordt op relatief basaal niveau gebruikt bij het verzamelen, opslaan en gebruiken van gegevens in een register. Het wordt ook vaak gebruikt om diensten te verlenen aan burgers en om burgers toegang te geven tot hun eigen persoonlijke gegevens die zijn opgeslagen in hun nationale register.

Verschillende landen lopen voorop als het gaat om het **gebruik van digitale technologie in bevolkingsregisters**. Hoewel Nederland een gedigitaliseerde samenleving is met een hoge mate van internetgebruik, neemt een land als Estland het voortouw wat betreft de rol van digitale technologie binnen het bevolkingsregister. Estland heeft sinds het begin van de jaren negentig een holistische, langdurige aanpak ingezet op het gebied van digitale technologie en veiligheid. Een duidelijk geheim voor het succes van het Estse systeem is de holistische, overheidsbrede aanpak voor effectieve, maar vooral veilige cybersystemen. Sinds het begin van de jaren negentig van de vorige eeuw zijn de wetteksten ten uitvoer gebracht en geactualiseerd, en al in 1999 is een autoriteit voor gegevensbescherming opgericht. Het Estse register is ook behoorlijk uitgebreid qua inhoud en dekking, in dat opzicht is het vergelijkbaar met het Nederlandse systeem. Een belangrijk aspect is dat de Estse regering zich heeft ingespannen voor een geïntegreerde en digitale aanpak van overheidsdiensten, waaronder het bevolkingsregistersysteem, waarbij ook de toegang tot diensten zoals kiezersregistratie wordt geïntegreerd.

Andere belangrijke thema’s gerelateerd aan het toenemende gebruik van digitale technologie door de overheid hebben betrekking op **privacy en gegevensbescherming**. In overheidsverband gaat het hier om de privacy van persoonsgegevens en de bescherming van hun informatie over burgers en hun digitale identiteit. Ook de toegang van burgers tot hun gegevens is in dit verband een relevant onderwerp. Ter illustratie: de Luxemburgse en Estse systemen maken van de toegang van burgers en privacy belangrijke aandachtspunten binnen hun systemen. In Luxemburg is in 2002 de nationale commissie voor gegevensbescherming (CNPD) opgericht, een onafhankelijk agentschap dat belast is met de controle op de

verwerking van persoonsgegevens in Luxemburg en het toezicht op de naleving van de voorschriften inzake gegevensbescherming. In Estland kunnen, net als in Nederland, burgers inzage vragen in de gegevens die over hen worden opgeslagen in het bevolkingsregister. Het bieden van toegang aan de burgers tot hun eigen gegevens blijkt in veel landen voor te komen, aangezien 61% van de respondenten van de onderzochte landen gebruik maakt van digitale technologie om burgers toegang te geven tot hun eigen informatie en deze te kunnen bekijken. De **benadering van gegevensbescherming en -beveiliging is** een onderwerp voor verder onderzoek, aangezien informatie hierover niet in detail werd opgevraagd in het huidige onderzoek. Alle EU-landen zijn vanaf 2018 gebonden aan de vereisten van de AVG, maar de precieze wijze waarop deze verordening ten uitvoer is gelegd, verschilt van lidstaat tot lidstaat. Zoals aangegeven, hebben sommige landen, zoals Luxemburg en Estland, sinds de tijd vóór de invoering van de AVG, van gegevensbescherming en -beveiliging een hogere prioriteit gemaakt.

Een andere recente ontwikkeling in bevolkingsregisters is de **rol van biometrische informatie**. Biometrische informatie wordt vaak gebruikt om de identiteit van personen in een land te verifiëren, en deze identificatie is vaak bedoeld om burgers toegang te geven tot de juiste diensten. Als zodanig kan biometrische informatie worden gezien als een hulpmiddel dat helpt bij de uitvoering en levering van openbare diensten op basis van gegevens uit bevolkingsregisters. Biometrische informatie is vaak ook opgenomen in identiteitskaarten en paspoorten, die op hun beurt vaak gekoppeld zijn aan gegevens in bevolkingsregisters. Het gebruik en de opslag van persoonlijke biometrische informatie is een recent, veelbesproken thema in de diensten van overheden en de opzet van bevolkingsregisters. Veel landen gebruiken echter niet veel biometrische informatie in hun registers, de meeste landen hebben aparte registers voor biometrische informatie die beveiligd zijn om dit soort informatie te beschermen.

Een laatste kwestie die steeds meer in het oog springt, zijn maatschappelijke discussies over non-binaire genderidentiteit. Er is de laatste jaren steeds meer aandacht gekomen voor transgender- en interseksuele personen, non-binaire geslachtsvormen en hoe deze personen zich meer thuis kunnen voelen in samenlevingen over de hele wereld. India staat bijvoorbeeld sinds 2019 transgenderpersonen toe om te stemmen. Het Duitse bevolkingsregister maakt een genderneutrale registratie op identiteitsdocumenten mogelijk. Over het algemeen wordt deze kwestie in veel landen echter meer besproken in de samenleving dan in de politiek en in de overheidsdienstverlening. In de meeste landen kan een transseksuele persoon zijn of haar nieuwe voorkeur voor een genderidentiteit kenbaar maken, maar deze verandering is onderhevig aan veel externe en institutionele vereisten. Voor personen die zich niet mannelijk of vrouwelijk voelen, kan een non-binaire genderoptie de voorkeur genieten bij hun officiële geslachtsregistratie in een register. Een derde genderoptie is in dit opzicht echter verre van de norm. Landen als Nederland lijken, door dit thema op de politieke agenda te zetten, tot de koplopers te behoren.

Over het geheel genomen beschikt Nederland over een van de meer uitgebreide bevolkingsregisters, wat betreft de dekking van personen en de omvang van de geregistreerde gegevens, wat betreft het gebruik van digitale technologie en de toegang van burgers tot gegevens. Toch zijn bepaalde thema's, waaronder de verdere verbetering van de gegevensbescherming en -beveiliging, gebieden waarop andere landen interessante lessen kunnen bieden als Nederland in de toekomst zijn systeem wil aanpassen.

1 Introduction

This chapter provides the background and policy context to this study and sketches the main goal and study objectives for this study. The objectives are presented, followed by the methodological approach adopted, ending with an overview of the report structure.

1.1 Relevance and background of the study

In today's digitising and globalising society, public administration systems are also evolving. The Dutch national population register, the Basic Registrations of Persons or BRP, has also faced changes during the last decade or so. Now, the Ministry of the Interior and Kingdom Relations is at a crossroads, reflecting on how best to proceed regarding population registration. In this context, the Ministry commissioned this study to learn more about the different types of registers and approaches to population registration in place today.

The Dutch Ministry of the Interior and Kingdom Relations (BZK) is currently reflecting on a strategy to further develop the national population register in the Netherlands. Specifically, the Ministry is developing a policy vision for the future of the Dutch system Basic Registrations of Persons (BRP). The policy vision for the BRP should address the position of the population register with regards to privacy and the electronic identity of its citizens, as well as how the BRP fits into to the government's digital strategy and digital service provision, as laid down in the Digital Government agenda (NL DIGIbeter).

To develop a strategy for population registration in the Netherlands, the Ministry seeks to gain insight regarding the different approaches to population registration in and outside of Europe. The way in which countries have dealt with themes such as digitisation are also areas of interest and have also been covered in this study. In this way, this study provides input for the policy discussions regarding a new possible strategy for the Dutch BRP.

Although the study was commissioned by the Dutch government, this report is written in English. Given the international character of the study, the research objectives and definitions were phrased in English, as was the collected information. Furthermore, this makes the final report readable for all countries included in the study. Finally, this report may help to accommodate the wish of the Dutch Ministry of BZK to exchange information about population registration approaches with other countries.

1.2 Aim and scope of the study

The overall study aim is provide an inventory of different types of population registration approaches in place today. In pursuit of this aim, The study poses the following research objectives:

- the content and coverage of population registers in place, the definitions of population register systems, and approaches to population registration;
- the degree to which a PIN is used across the systems;
- the extent of information sharing and exchange from population registers with domestic and foreign users;
- the type of quality control procedures used within systems;

- recent developments in population registers in Europe and globally, the main challenges today regarding population registers, and how countries address those challenges,
- An assessment of key trends in place and degree to which lessons from other countries could be hypothetically transferable to the Dutch situation?

1.3 Methodological approach

The study involved an orientation phase, including several exploratory interviews and a **literature review**. This was followed by a **survey amongst embassies** in European and third countries, and a **case study phase**, where a number of interesting national approaches are examined in further detail. This was analysed and reported on, and presented to the Dutch Ministry of the Interior. The main methodological steps are outlined in more detail below.

Literature review

The Literature Review is one of the deliverables in the context of this internationally comparative study on population registers, as requested by the Dutch Ministry of the Interior and Kingdom Relations. This literature review was conducted by examining internationally comparative literature on population registers. Both policy and academic literature was consulted.

- At first internationally comparative literature was collected and examined. Sources from the OECD, OESC, the EU, the UN, and from academics all provided useful points of departure. Certain studies came from specific countries and compared a handful of registers. Where relevant, such literature was adopted, mentioned and used for in the report.
- As the terminology for population registers can differ, a series of search terms were used to cover and collect as much relevant literature as possible.
- Following this collection, the literature was analysed in a first screening for its relevance to the subject areas under study.
- Based on this first screening, information was analysed and reported upon, using the study objectives as guideline for what to investigate and discuss.
- After a meeting with the Steering Committee, key areas lacking information were identified, and more information was collected to try to fill these information gaps.
- During the literature review, several semi-structured expert interviews were conducted, and in searching, the snowball effect approach adopted. The snowball effect being where a reference to an interesting case of issue in one source, leads the reviewer to search further on that issue, and in so doing, encountering new material through a snowball approach.

In practice the comparative literature and the snowball effect approach, as well as the interviews, led to findings on developments or practices relating to population registers in particular countries.

Survey to inventory population register approaches abroad

The following phase was to develop a survey template (please see Annex 3), with a series of questions which operationalise the study objectives. The main aims here were to establish the existence of a population register, their contents, the approach used to collect and store personal information in the register, who was covered, and to collect information on specific themes and developments.

The approach adopted here was to develop a survey template and to send this to respondents to be filled in. The survey was first sent to foreign embassies in the

Netherlands. However as the nature and division of responsibilities within an embassy can vary per embassy, a three pronged approach was used.

- In the first case foreign Embassies in the Netherlands were approached.
- In cases where an Embassy was unable to participate, the Dutch representative in that country was approached.
- In cases where this second option was also not feasible, Panteia's international partners and own international colleagues collected the information based on desk research.

For those countries filled in internally by Panteia, this has been indicated in the Annex to this survey report. The EU28 countries were approached, as well as a series of non-European countries who were shown to have seen interesting developments since 2014 in their population registers. These countries were Norway, Canada, New Zealand, Georgia, Israel, Japan, South Korea, India, Mexico and Namibia. The Netherlands in this case was filled in internally as well given the team's expertise for this country.

An important methodological note here concerning the international survey is that in order to allow room for respondents to report on their national approaches, definitions for key concepts have been framed relatively broadly. This has been done consciously to allow for the reporting on very different population registers. It does also mean that interpretations and responses to questions in the survey may differ as well. Therefore, the survey results should be viewed as an indication of what we know is present in population registers, but should not be used to draw definitive conclusions as to which features of a population register are not present.

Case studies

Topics which cannot feasibly be asked in a questionnaire and collected through a survey were included in the case study stage for this study, where several national systems are examined in greater detail. The selection of countries for the case study stage was based on several characteristics of the country, such as size, population density and approach to population registration. In addition, countries which had undergone changes or large-scale developments to their systems have also been examined and a selection was made using this criteria as well.

The following **six countries** were selected for the case study phase: Denmark, Estonia, Israel, Luxembourg, Portugal and Namibia. The information collected through the case studies is used throughout the report along with national insights from desk research. The insights from the case studies are framed in yellow boxes, to provide more detailed illustrations of national practices in population registration.

1.4 Structure of the report

The **second chapter** examines the main type of population registers in place across Europe and other countries. The chapter first summarises academic and policy research on national population registers and summarises the different types which have been identified to date in terms of collecting, storing and updating. In addition, the content and coverage of population registers are considered.

Following this the **third chapter** moves to present more detailed insights on the content and processes involved in administering a national population register. These sections highlight how content and processes such as the collection, storage and quality control of personal details in national registers can differ. Issues such as the

citizen access to their own details, as well as the use by other parties are discussed. Where relevant, national examples of practices are presented.

The **fourth** chapter provides an overview of the prevalence of different trends and developments at work in the area of population register systems which have been identified throughout the study phases. Examples of such trends include digitisation and the use of biometric information in relation to population registers.

The **fifth chapter** in turn addresses the other trends and developments in the world of population registers, and presents examples of how such trends and developments have been addressed in different countries.

The **sixth chapter** provides a summary and concluding remarks.

The appendices provide an overview on EU/EFTA population registers (Annex 1), the country responses of the survey (Annex 2) and the questionnaire template of the survey (Annex 3).

2 Different types of population registration systems

This chapter describes the population registration systems in place today, followed by a discussion on which different approaches to registers exist in terms of collecting, storing, managing and access to details. In addition this chapter discusses the content of population registers in, the coverage of population registers, and the presence of Personal Identification Numbers in registers.

2.1 Population registration systems in place today

Population registers can take different shapes and be designed to satisfy different functions. As a starting point it is therefore necessary to first outline the definition of a population register. Various international authorities and sources have presented definitions and understandings as to what a population register is. A few definitions include, for instance:

*The **United Nations (UN)** for example, defines population registers as "an individualised data system, that is, a mechanism of continuous recording, and/or of coordinated linkage, of selected information pertaining to each member of the resident population of a country in such a way to provide the possibility of determining up-to-date information concerning the size and characteristics of that population at selected time intervals"[1].*

*The **Organisation for Security and Co-operation in Europe (OSCE)** in turn defines population registers as "the system provided for in a consistent legal framework setting out terms and conditions to continuously register eligible persons within a specific area of a public authority with the purpose of establishing their identity, civil status (including vital life events) and place of residence, and to provide them with proof thereof on the basis of documental evidence."[2]*

*The **UNECE** understands population registers as "a systematic collection of unit-level data in such a way that updating is possible".*

As is evident from these definitions, the idea of a **continuous recording** of selected information on residents in a country is common across definitions. In this spirit and given the breadth of these definitions it is perhaps not surprising that population registers can take many different forms.

Some countries do not have a population register, but a civic or civil register instead, which monitors and tracks the main life events in a citizen's life. In practice this means that the birth, marriage, (divorce or annulments), children born, and deaths are the main details which an authority tracks. Besides this, institutional registers also exist, which collect information with a view to carrying out certain institutional functions, such as providing social insurance, or for providing travel documents such as identity cards of passports.

[1] UN, (2017), *Population registers*, [online], webpage, available at: https://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm.
[2] OSCE ODIHR, (2009), *Guidelines on Population Registration*, [online], available at: https://www.osce.org/odihr/39496 .

There does not appear to be one universally agreed upon understanding for a population register. Some countries do not have a population register beyond the civic register. As such, and in order to consider a diverse range of approaches to a national population register, this study takes the following, expansive understanding of a national population register:

*A **population register** in the context of this study is the most important and commonly used system for registering the basic personal details about a population for a country*

2.2 Different types of registers across countries

Population registers in the sense of monitoring identity, civil status, residence, as well as life events, are by no means universal. To illustrate the different types of shapes and forms which a central register can take, this section examines how population registers work in practice.

A leading expert interviewed in the context of this study defines 5 main approaches or models of population registers. What becomes evident is that similar models for population registers are often, though not always, found in certain geographical regions. One reason for this is that countries in similar geographical areas, have seen similar historical developments in their administrative and institutional systems.

The 5 different traditions are described briefly below, though this categorisation is by no means exhaustive. Its use here serves to **illustrate some main types of approaches** to collecting and recording information on a population. These different traditions of registers can be described as follows:

1. **Commonwealth system based on Social Foot printing**: this system is based on establishing the identity of a citizen through a series of other organisational sources: social security registers, taxation, credit card and banking institutions can all be used to collect personal information about a person. By combining the information from multiple organisations, a social footprint is created for a resident. Their personal details are collated and proof of identity is made as the resident indeed exists and makes use of different public and commercial services. Such systems may be present in countries including the USA, Canada, United Kingdom, Ireland, Australia and New Zealand.
2. **A community based model**: this tends to be dominant in Russia and many Asian countries. This does not constitute a central national population register. Personal details are collected and maintained at the community level, which may be at the local or regional level depending on the country in question.
3. **Central population register:** this is the case in Europe and in some parts of Middle and South America. The personal details are maintained at a central level in a country, though the collection of details can be carried out locally, regionally, or centrally.
4. **Biometric model**: this is the case in India, where biometric details are stored for residents by a public institution. The biometric details stored are used as proof of identity for a resident, identifying themselves through a biometric photo or finger print for instance.
5. **Limited public registration model:** which can vary substantially. Countries with limited public registration are characterised by less developed or less structured and systematic collection of information on residents. Historically having national registers for residents has been absent in, for example, African countries. In some countries, under coverage of citizens (notably for children and child mortality), is a real challenge.

However, there have also been several African countries which have made great strides in further developing their population registration systems by using digital technologies (Kenya and Namibia have made strides in setting up a national register).

As indicated above, this is one of various approaches to categorising population registration systems. However, this is a rather general categorisation based on regional administrative traditions. An important note here is that once one starts to look at the different types of population registers in place in more detail, classification becomes increasingly difficult. As such this study does not adhere or use this categorisation but presents it as a demonstration of approaches.

The register which a country has in place depend on the **national tradition and history** in a country on issues such as the **purpose population registration**. In some countries for instance, a civic register is maintained instead of a general national population register.

In certain Member States, such as **France** for instance, the Second World War left a legacy of aversion to the systematic collection of information on every resident in a country. After networks of spies and prejudice, and ensuing danger to certain groups of the population France have been historically reluctant since this time to adopt a full population register, instead opting for civic registers which document the main life events of their residents. For different reasons, a number of countries have civic registers as well as other registers which are designed to help a country provide its citizens with key public services or civil rights. In **Austria**, a series of registers exist to track the taxation and social security contributions and access to social services amongst citizens.

The **national tradition** and aim behind a register play a role in the way a country approaches citizen registration. Indeed across the globe the systems in place vary and categorising them into types is difficult.

Centralised versus decentralised registers: challenges to categorising population registers

As mentioned before, population registers exist in many forms and there can be large variation in the information included in different registers. There is also substantial variation in the organisation of the processes within population registers. When describing the organisation of a population register, a distinction is often made between centralised and decentralised systems. Despite this common categorisation, there is no universally agreed upon definition of centralised and decentralised systems.

A country can collect personal details at the local level, and store these at the national level. This could be referred to as a decentralised system. However, if the collecting and storing organisations are regional, such as in Spain, or if these are state organisations (such as the Länder in Germany), and stored nationally, are these still decentralised? Or is this a national process, given that a national, state or federal level government body holds the final responsibility for a system? These questions mean that making a distinction between centralised and decentralised systems is very difficult. Categorising population systems in such a binary fashion will therefore not be done to avoid labelling national population registers inaccurately. More detail on this issue is provided in chapter 2.3, as well as on how this discussion and challenge has been incorporated in the international survey on population registers.

Population registers and other national administrative systems

Population registers do not usually exist in a vacuum. Instead they are often connected with, or reliant on, information from other registers and databases in a country, making these population registers **part of a broader population information system**. In the United Kingdom for instance, there is a civil register, and citizens are identified through a process resembling social foot printing; other sources of information from separate systems are used to identify and track down individuals[3].

It is important to note the connection of a population registers with other systems. In the Netherlands in the other hand, the national population register, the BRP, is one of 10 other national databases which together, form a system of connected information in a broader sense. Countries have different combinations of other national registers, which are fed by or feed into national registers to create and their population registration systems.

Presence of population registers: survey outcomes

The preceding sections summarise the literature available on population registers and their different forms. In order to inventory which types of population registers are in place today, the survey conducted during this study contained several questions on the presence of population registers, their names, and on which other types of registers were included.

Formulating these first questions in an open manner was deemed important as the exact nature of population registration can vary substantially across countries. Furthermore, the understanding and definition of a population register can also vary. To mitigate the strong possibility of different understandings of and types of registers in a country, the questionnaire indicated to respondents that the questions referred: *to "population register" we mean the most important and commonly used system for registering the basic details about a population for your country.*

As a first observation, it appears that of the 36 country inputs collected during the survey, 29 countries had a national population register in place, and 7 did not. These countries who do not appear to have a national register in place, or use a civic or other type register as their main source of information regarding citizens and inhabitants in the country.

The survey posed questions on whether a population registers was present (question 4) and on whether other types of registers were present as well (question 5). This means that respondents could indicate the presence of a population register as well as other registers. As in some countries the population registration and monitoring activity occurs through the civic or tax register, the team phrased question 5 in a more open manner. This does mean however, that based on these two questions alone it is not always clear to what degree the national population register in country is their civic register, tax register, or other type of register.

Based on further analysis of the open answers provided which name and describe the main register in place, it appears that of the 29 countries which indicate they have a population register, two of these systems resemble a census register (this was the case in Croatia and in South Korea). These list of countries can be viewed in Table 1 below.

[3] Input from interviews.

Table 1 Presence of a national population register in a country

Presence of a national population register		
Country	**yes**	**no**
Austria	X	
Bulgaria	X	
Croatia	X	
Cyprus	X	
Czech Republic	X	
Denmark	X	
Estonia	X	
Finland	X	
Germany	X	
Greece	X	
Hungary	X	
Italy	X	
Latvia	X	
Lithuania	X	
Luxembourg	X	
Netherlands	X	
Poland	X	
Portugal	X	
Slovenia	X	
Spain	X	
Sweden	X	
Mexico*	X	
Namibia*	X	
Israel	X	
France		X
Ireland*		X
Malta		X
United Kingdom*		X
Canada**		X
New Zealand*		X
Georgia		X
Total	**29**	**7**

Other types of registers

Besides population registers, countries may also have other registers in place used to monitor the population, help identify individuals, and provide government or public services to those individuals. Based on the survey responses, the most common other types of registers in place are civic registers, which record the life events of individuals, and tax registers, which collect the necessary identification and income details to monitor and coordinate taxation and benefits in a country.

Type of registers in place	***Percentage***
Civic register	94%
Tax payers register	60%
Other	40%

N = 36, multiple answers were possible.

It should be noted that within the survey, multiple responses where possible. Besides the two main other types of registers, respondents were also given the opportunity to indicate which **other types** of registers where in place in their countries. Out of the

35 respondents (Lithuanian respondents left this question blank in the survey), 14 countries indicated "other" registers in place. This is indicated in Table 2.

The array of registers in place can vary. The **Czech Republic** for instance, has a series of other registers, just as the Netherlands does. The Czech system includes legal registers for business, a national health information system, a system for work and social affairs, and a system for travel documents. At least two countries have other registers in place for voters and to monitor the electorate of a country. Furthermore, several countries have separate registers for storing biometric data and monitoring and handing out identification documents and passports. Such a separate register was in place in five countries.

There is some variety in the nature of how different registers and data from other governmental institutes are connected, and these connections lead to varied constellations of national systems, including population registers. Furthermore, the role and importance of different registers beyond a country's main population register may vary as well, with some registers and governmental organisations playing a more dominant role in population registration than others.

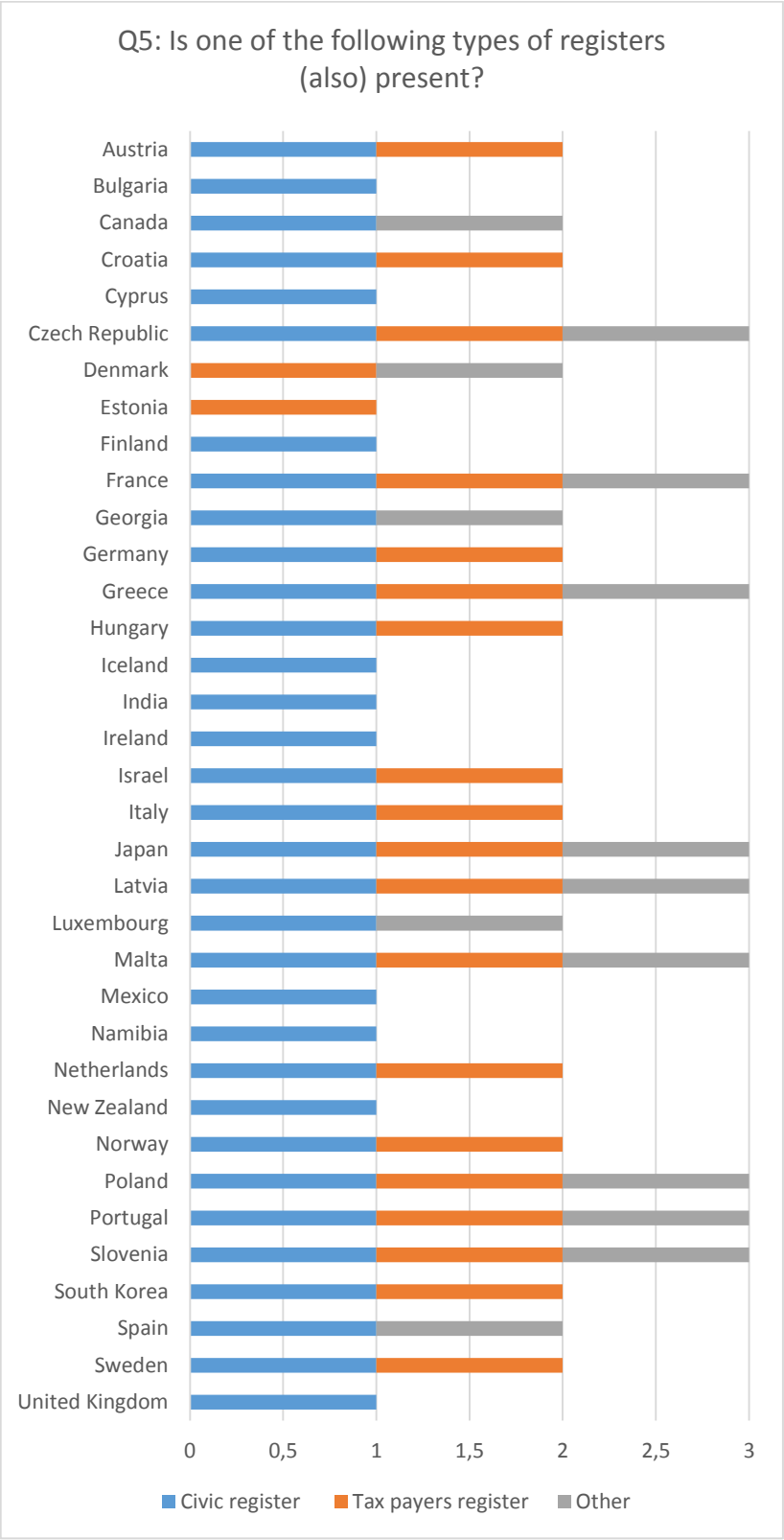
To illustrate the different approaches taken within countries in more detail, some examples of practices from the case studies have been presented in the box below.

Relationships between different national registers in the Portuguese BDIC

In Portugal, the connection between different national registers has been made more efficient for the Portuguese citizens. Different registers exist, but accessing a citizen's records across those registers has been simplified by embedding access into one single Citizen Card.
*The main population register in operation in Portugal is **BDIC**, the civil identification register (Base de Dados de Identificação Civil) created long time ago (see section "National background and context" below) to support the issuance of the identity card of Portuguese citizens (Bilhete de Identidade). This was replaced by the Citizen Card (Cartão do Cidadão) in February 2007[4] and enable the replacement of other identity documents: the social security card, the national health service card, the taxpayer card and voter registration card (discontinued meanwhile).*
Despite the specific registers for these several purposes still being used by the issuing administrations (tax administration, the social security system, and the national health system) the new Citizen Card groups them together into a single secure card. In this way different the registers relevant to a citizen can be accessed easily by public and other necessary services.

[4] Government of Portugal, (20017), *Law No. 7/20017*, [online], available at: https://dre.pt/web/guest/pesquisa/-/search/518073/details/maximized .

Table 2 Presence of other registers in a country



N = 35 (and not 36, as Lithuania did not provide a response to this question)

2.3 Different approaches in collecting, storing, managing and updating

The typical content collected and stored in a register are examined, in this section as well as the web of procedures involved in collecting, storing, and maintain personal details for the residents or citizens of a country.

Framing population registers: key aspects of the process

While the details which are collected and stored in a register are often quite similar within a population register (though less so compared to civil registers), the form of population registers is subject to more diversity. The processes involved in administrating population registers are separated into three main processes in centralised or decentralised systems for population registration:

- Collecting information for the register.
- Storage of personal details and systems for access to the register(s).
- Final responsibility for the register.

These three phases as well as related aspects have been captured in the study. This serves to help conceptualise population registers and their scope. A central question for each of these three aspects is: "who does what?" Which authorities are involved, how do they conduct activities necessary for collection, verification, storage, and adjustments to details? Below, the possibilities for each of these activities are discussed using the literature collected and the case studies conducted on different national systems as examples.

Collecting information for the register

A population register should cover the entire territory and population of a country. To achieve this goal, it is necessary that citizens have a legal obligation to be registered in the population register. However, this does not mean that citizens have to provide all information themselves.

Personal details can be collected for a population register using multiple types of sources. Collecting personal details can take place at different administrative levels to boot. For instance, personal information can be recorded on the basis of documentary evidence: those concerning birth (including name, sex, date and place of birth, parentage), marriage, divorce and widowhood (including the identity of the late spouse), citizenship and death. In these cases, the information can be obtained from official documents and the information in the population register should be quite reliable. Furthermore, this means that there is not necessarily a role for citizens in providing this information.

Professionals and/or institutions involved in certain life events can also be responsible for providing information (e.g. a hospital can report cases of birth and death). Other information relies more on reports by citizens themselves. Those include residential address and cases of migration.

An example from the Danish and Luxembourgian systems is presented below to highlight the diversity in approaches to collecting information for use in population registers.

Collecting personal details for the Danish Central Population Register (CPR)

The 'CPR Administration' working under the Ministry of Social Affairs and the Interior is responsible for storing the information. There are multiple public authorities collecting personal details.
The local authority (municipality) registers anyone under their residence, residence means the place (accommodation) where a person regularly sleeps when not temporarily absent owing to holiday, business travel, illness or similar, and where such person has his or her possessions. Further information is collected by the organisation that is involved in the (life) event to be recorded in the CPR. For example, the church and/or municipal marriage authority will collect and record information about marriages.

There is an array of organisations which contribute to collecting information connected with the CPR:

- *All municipalities in Denmark and Greenland (addresses and removals, including to and from abroad, personal identification number when moving from abroad, and any protection information, marriages and registration of partnership)*
- *Multiple state agents – among others:*
- *All tax authorities*
- *Hospitals*
- *Immigration authorities*
- *Agency for determination of custody, etc.*
- *The Courts (guardianship and more)*
- *The Churches (births, naming and name changes, marriages, deaths, enrolment and cancellation of the national church)*
- *Funeral directors*
- *The Ministry of Foreign Affairs (i.e. embassies)*
- *Government Administration (Adoptions, Divorces, Termination of Partnership, Separation, Paternity Cases, Citizenship Relations)*

The CPR Administration, part of the Ministry of Social Affairs and the Interior, maintains the system and acts as a central data supplier to public and private organisations. It is, however, important to note that it is not the CPR office that records the information in the CPR. Each of the organizations mentioned above is responsible for the information they have collected for the CPR. Whenever a citizen has a question regarding information in the CPR, including amendments to that information, those questions must be addressed to the authorities involved in collecting that information.[5]

[5] CPR, (no date), *What and who is registered in CPR and who updates information about you in CPR,* [online], available at: https://cpr.dk/borgere/hvad-staar-der-om-mig-i-cpr-registerindsigt/hvad-og-hvem-er-registreret-i-cpr-og-hvem-opdaterer-oplysninger-om-dig-i-cpr/

Multiple collectors of personal details in the Luxembourgian population registration system

In Luxembourg there are two main register active which form the population register. The national administration CTIE (Centre des technologies de l'information de l'Etat) collects information for the RNPP, which is responsible for storing and managing the population register and personal details at the national level. At the local level, the communes collect information for in the RCPP (Registre Communal des Personnes Physiques) on local level. Beyond these two entities, other national administrations like Administration des Contribution directes (tax administration), Administration de l'Enregistrement et des Domaines (registration administration), administrations relating to social security, the Luxembourg Business Registry (RNPP, Registre National des Personnes Physiques), and other national and local administrations all contribute to the collection of information for in the overall population registration system.
The ultimate responsibility for the two registers comprising the overall system lie with the Ministry of Digitalisation's CTIE (for the RNPP) and the Ministry of internal affairs - Communes (for the RCPP)

To make sure information is collected in an efficient way and to reduce the possibility for inaccuracies, states can elect to follow the principle of "one person, one record". This means that each piece of information about an individual should be registered in one place and one place only. However, this does not imply that different public authorities cannot keep records related to their specific tasks. It does mean that all authorities should obtain all available general information from the authority overseeing the population register. Another advantage of sharing of information is that citizens have to provide the same information only once. A proper framework for information sharing and division of responsibilities between authorities is essential to create a system where citizens only have to provide information once, for multiple uses.

To remain accurate, population registers need to be updated continuously. Whenever a change occurs in the personal information recorded in the register, the organisation maintaining the register should be notified. Again, this can be the responsibility of the citizens themselves, but it is also possible that institutions using the register possess or providing information for in the register take responsibility for updating information as well.

Information may be collected by one central authority, or the responsibility to receive and register may be delegated to several local authorities. In most countries, there are several local or regional offices involved in collecting the information for a population register. Usually, there is a role for municipalities in collecting information. This is the case in Denmark, Germany, The Netherlands and Spain. In Sweden however, the (national) Tax Agency collects all information, albeit through their regional offices.

Storage and management of personal details

The total population of a country can be covered by one central register, or local authorities (e.g. provinces, regions, municipalities) can all maintain their own separate registers. In most cases, discussions about centralised or decentralised registers refer to this aspect of the organisation of population registration. Denmark and Sweden maintain what they consider to be a central national register, while in

Germany, The Netherlands and Spain local authorities (municipalities) maintain a register of their residents.

System for access to the register(s): Where registers are kept at a local level, central access to all registers in the country may still be possible, if there is a centralised facility to access the information stored in local registers. In this way, there is a system of central access to decentral registers. In Germany and The Netherlands, municipalities mirror their register to create a regional and national register respectively. In this way, the separate registers of municipalities are accessible through a central access system.

Organisations responsible for the register

States use several types of public authorities to maintain the population registry. The final responsibility for the registration system could be another aspect of centralisation. The organisation executing the processes mentioned above can be responsible for (part of) the population registration system, but it is also possible that there is one central authority which is ultimately responsible for the functioning of the system (e.g. the Ministry of the interior). Even in in the case where collection, storage and access are all decentral, it is still possible that the responsible central authority provides regulations to which all decentral registers need to comply. This is the case in Spain, where the national statistics bureau is responsible for otherwise completely decentralised registers. In Germany final responsibility for registers is organised at state level, there is no national/federal authority involved. In Sweden, the Swedish Tax Agency is responsible for keeping the national population register. Changes in the population register are administered by local Tax Offices.

The Annex 1 provides a table with an overview of population registers in European countries, including information on the name of the register, centralised or decentralised system and responsible authorities.

Establishing degrees of centralisation

The challenge of avoiding ready categorisations of centralisation and decentralisation mean that another approach is required for grouping types of population registers. Therefore, this research separates three main key activities involved in a population register and seeks to discover at which administrative level those activities are carried out. This approach has been operationalised in the international survey by asking respondents at which administrative level the three key activities sketched above take place (namely, collecting, managing and storing, and access to details in a population register).

We can define the degree of centralisation of a population register using the processes mentioned above. In case information is collected by a central authority, it is likely that the storage of information is also centralised and that there is a system for central access to the register. In case information is collected in a decentralised way but is stored in a central register, access to the register is probably centralised. In case collection and storage are decentralised, there are two options: there is a centralised facility to access the information all the decentral registers or there is no system for central access to all registers. This leads to four degrees on a scale of centralisation:

1. Centralised collection, central storage and central access.
2. Decentral collection, central storage and central access.
3. Decentral collection, decentral storage and a central access system.
4. Decentral collection, decentral storage and decentral access.

This categorisation demonstrates that rather than having a simple definition of decentralised or centralised, it might be more prudent for the purposes of this study to think in terms of degrees of centralisation of a system. The centralisation of responsibility is not included in our classification, because it does not describe a process that is part of the system, but the managing of the entire system. To avoid confusion, we will not use the terms centralised or decentralised in the context of responsibility for the system.

Approaches to population registration: survey outcomes

The following section examines the actual state of affairs regarding approaches to population registers by presenting survey responses regarding these issues. Looking at the population registers used most predominantly in a country to monitor their populations, the distribution of collecting, storing, managing, and ultimate responsibility for the registers was examined. Respondents were asked whether these activities were conducted locally or at the community level, at the regional or provincial or state level, or at the national or federal level.

The questions have been formulated in this way instead of in terms of centralised and decentralized approaches because here, as with the definition of a population register, some conceptual confusion may arise. Some countries for instance consider themselves decentralised while some may consider them federal (Spain and Germany for instance), A country such as the Netherlands, which in many respects is considered a decentralized governance model as well, even though it works with two levels of administration in population registration, as opposed to three which is the case with a federal state.

To limit conceptual confusion relating to different understandings of centralised and decentralised, the questionnaire asks respondents about the administrative level at which certain administrative activities take place.

The distribution of the responses is presented in Table 3. In some countries, both national and local level organisations were active in different aspects of the population register, and as such, multiple answers were possible in the survey.

It is important to note that this table provides inputs on all the main registers described by the 36 country inputs. It does not differentiate between national population registers and other types of registers in order to highlight the full variety of approaches to collecting information on a population.

Table 3 Approaches to population registration in countries

Questions from survey (n = 36) *(Multiple answers possible)*	***Local, municipal, or community level***	***Regional, provincial, or state level***	***National or Federal level***
*At which level does **collection** of details take place?*	69%	31%	44%
*At which level does **storage and management** of details take place?*	42%	22%	69%
*At which level does **final responsibility** for the register lie?*	6%	8%	94%

The results above show that the majority of detail collection takes place at the local or municipal level (69%), or the national or federal level (44%). Storing and managing personal details takes place predominantly at the national or federal level (69%), followed by the municipal or local level (42%). The final responsibility is, in the vast majority of cases, the responsibility of a national or federal level institution (94%).

To illustrate the different approaches taken within countries in more detail, some examples of practices from the case studies have been presented in the boxes below.

Luxembourg: two interoperable registers form the population registration system

*The smallest administrative entity in **Luxembourg** is a "commune". These communes manage their own interests, assets, and details of inhabitants in their territorial area on behalf of the Ministry of Home Affairs. Information in the citizen public registers is collected and maintained by commune secretaries under supervision of the Ministry.[6] The communes help to maintain the population registration system, which consists broadly speaking of two main registers: RNPP (registre national des personnes physiques) and the RCPP (registre communal des personnes physiques. The main population register was described by survey respondents as consisting of the RNPP (national level) and RCPP (local commune level) contain the same data and are interconnected. For this reason the data collection activities for in the population register system is said to take place at both the local and at the national level.*

Namibian approaches to collecting and managing details in the population register

An e-birth notification system was developed and implemented in May of 2017. This was done in collaboration with UNICEF in order to make birth registration more accessible in Namibia[7]. That when a child is born, health care practitioners in the hospital register this and make the request for the birth certificate. A similar

[6] Guichet.lu, Communes (communal administrations), available at: https://guichet.public.lu/en/organismes/organismes_entreprises/administrations-communales.html .
[7] UNICEF, (2017), Innovative e-Birth Notification System Launched in Namibia, available at: https://www.unicef.org/namibia/media_20171.html .

approach is taken to death notifications. The rationale for better coverage of both birth and death at the local level, and these developments being linked into the national population register, was to help improve citizen access to social services (health care, education, as well as pension and life insurance payments) and public rights.

2.4 Content of population registers

Information collected from interviews showed that some registers are set up with specific goals in mind, such as population monitoring, or the provision of passports and other identification documents. This in turn affects the content and coverage of a population register. The rationale and target use of a register has an impact on the content and processes of a register. One designed to provide identification documents for example is likely to contain those details required to provide a passport; information on the languages and education of an individual, and identification of parents, spouses or siblings may not be included in a register.

A person's address however is likely to be registered for elections. Details to help verify a person's identity, such as biometric information for example, when a person comes to collect their identification document may also be included. Therefore, establishing the rationale and aim of a register in concrete terms is important as it has a direct effect on the scope of information which is collected about a population. Before looking at how a population register is arranged, the following types of details are often included. In its guidelines on setting up registers, OSCE indicates that there are some details which should always be included in good population registers, as does the UN Security Division (UNSD).

According to the **OSCE** the following are the core date and life events that should be included in the register.[8]	United Nations Security Division (**UNSD**)[9]:	According to research by **Poulain and Herm** (2013) the following details tend to be stored in population registers:
• First name • Family name • Date and place of birth • Date and place of death • Parent's name • Marriage • Divorce, judicial separations • Annulment of marriage • Adoption	• Name • Sex • Date of birth • Place of birth • Date of arrival/departure • Citizenship • Parents • Spouse • Children	• Name, • Sex, • Date of birth • Place of birth, • Parents • Marriage, • Identity of spouse • Divorce • Widowhood • Citizenship • Death

The following sections examine different aspects and components of population registers, and present some of the main findings from the survey regarding these

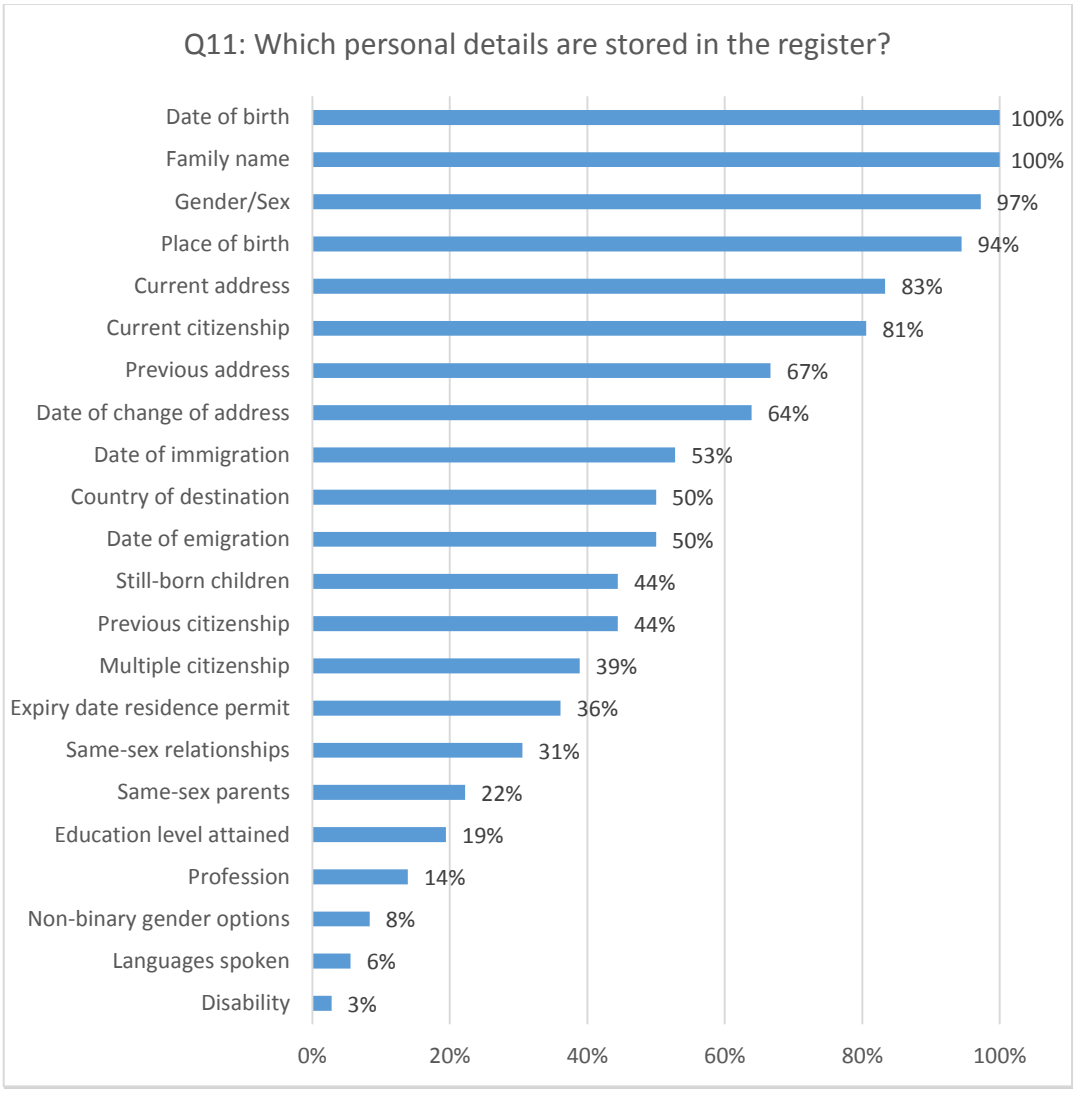
[8] OSCE ODIHR, (2009), *Guidelines on Population Registration*, [online], available at: https://www.osce.org/odihr/39496 .
[9] UNSD (2015), *Population registers as source of vital statistics*, [online], available at: https://unstats.un.org/unsd/demographic/meetings/wshops/Turkey/2015/docs/Presentations/Session6-Population-registers.pdf

aspects. These procedures can be implemented in different ways across different national registers.

Which details are included in the national population register

Population registers vary substantially in their content and coverage. A long list of 22 possible details was developed based on desk research and an examination of what is used in other countries in their registers. Using the most common as well as some of the more elaborate register systems, 22 information items were selected, and survey respondents asked to select which featured in their own main register.
The results of the distribution can be seen below in Table 4. The data of birth and name are present in all registers, unsurprisingly. Gender and sex, and place of birth are also common details, stored in 97% and 94% of the country registers respectively.

Table 4 Details stored in population registers



Addresses and citizenship status were registered often, though changes to these, and information on migration were much less often recorded.

An important methodological observation here is that the information contained in population registers depend on various factors, including the type of population registers in question. The respondents were asked to provide information on whether they had a population register or not (please see Chapter 2.3, section on Presence of Population Registers for the overview). However, to understand the full variety of approaches to population registration across 38 countries, respondents were asked to provide information for the most dominant, important register in place in their countries. In some countries the most important register could resemble a civic register, or the final responsibility is held by a tax agency. Regardless, the details stored in the main dominant, register have been collected and presented in this section. Table 5 summarises the countries which record the most details in their dominant population register.

Several countries collected many of the details listed here (and in some cases, more). Taking the possible survey responses (22 personal details were presented), countries with the most details included Croatia and Finland, with 18 out of the 22 possible details. Luxembourg and Norway collect 17 out of these 22 details, and the Netherlands, Slovenia, and Sweden collect 16 out of the 22 personal details listed. The inclusions of details per country are summarised in Table 5.

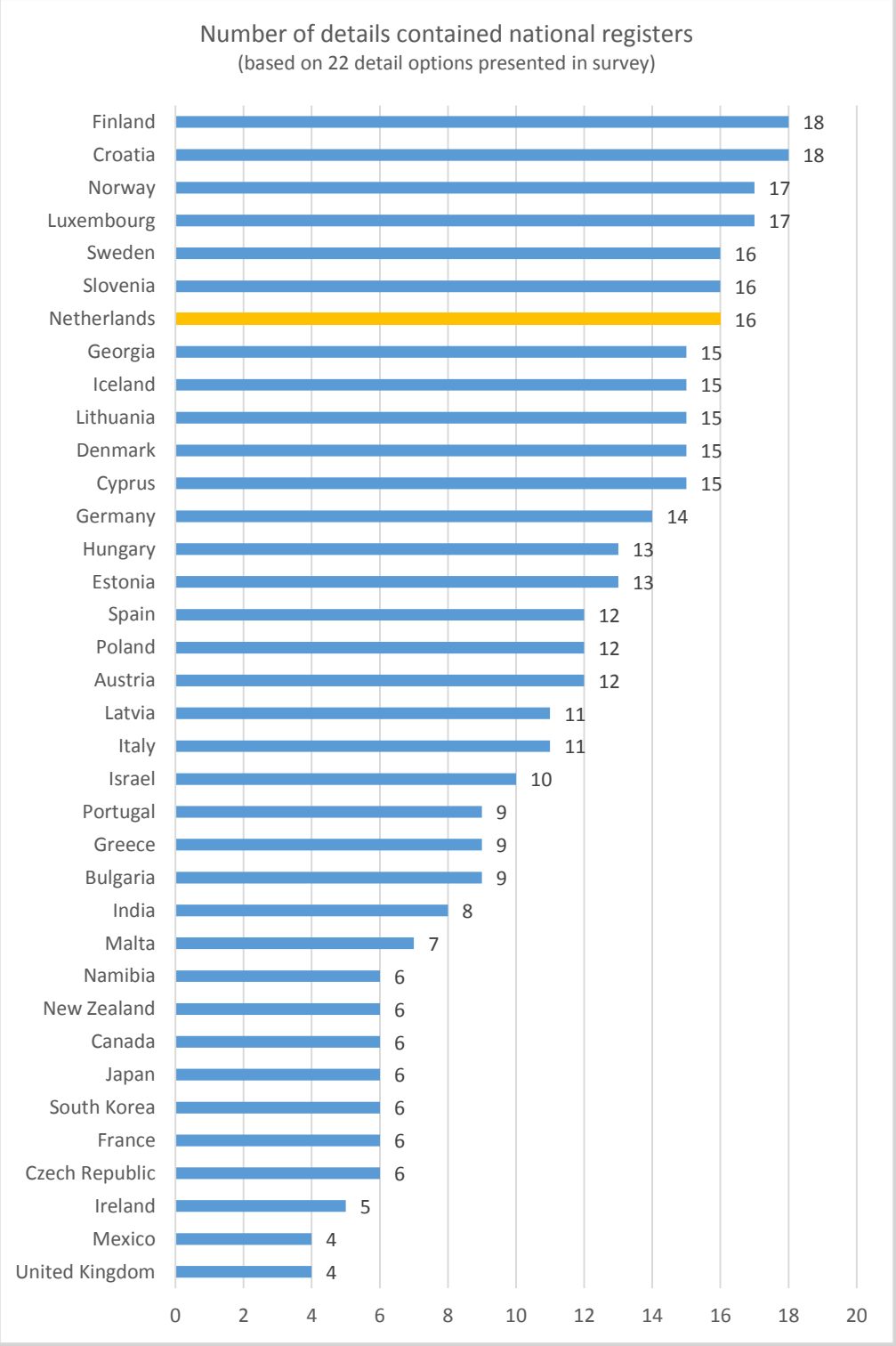
It should also be noted here that some population registers collect more or different details than those listed in the survey. The list of possible details presented in the survey was developed based on literature review and some first examination of other national registers, to get an impression of more and less common personal details stored in national registers. For instance, Finland has an expansive population register which covers many details in one, central register. It contains details on guardianship, information on the care being given to a child, information on the local registration authority, information on the right to vote that is necessary with respect to conducting elections and referendums, and information on the membership of a religious community as referred to in Act on Freedom of Religion (453/2003). Most of these details are often recorded in various national registers, but in the Finnish case, these seem to be stored within one single register. In Latvia on the other hand, details are also stored in the register regarding a childcare institution, information regarding an adjudication, and information regarding establishment or revocation of adoption. Furthermore the register also contains information regarding the status of a politically repressed person or participant of the national resistance movement.
A more in-depth example for Israel demonstrates how national contexts influence the content and coverage in a given population registration system.

Other types of details covered in population registers: Israel

As with population register coverage, what is covered about an inhabitant or citizen of a country is connected to a country's administrative history as well as the rationale behind its population register. As such the details contained in a register may vary across countries. In Israel for instance religion is amongst the details registered, as is the case in some Scandinavian and Baltic states. The State of Israel officially recognizes only a limited number of religious communities – Judaism, Christianity (several recognized denominations), Islam, the Druze religion, and a number of other religions, such as the Samaritans, the Baha'is, and the Karaites. Adherents of other religions are officially registered as having "no religion".[10]

[10] Pex, J., (no date), *"No religion" registration in the Israeli Population Registry*, [online], available at: https://lawoffice.org.il/en/no-religion-registration/

Table 5 Number of personal details stored in population registers - per country



2.5 Coverage of population registers: who is included?

The coverage of a population register is also subject to variation. Common approaches are for inhabitants of a country to be registered, regardless of whether an individual is a national citizen or not. However, variation arises in when an individual is considered to be living in a country. Some countries indicate that after 3, or 6 months, an individual is considered to be living in a country and a formal resident. The status of

inhabitants in a country has an impact on whether or not they are covered in a population system. Who is covered is often a reflection of political choices and societal values in a country. Some countries opt for a broader registration of individuals, and keep these individuals in their systems after those individuals die as well.

In the Netherlands, the population registration system makes a distinction between residents (people living in the Netherlands for at least 4 months per year) and non-residents. There is a variety of possible reasons for initial registration. Once an individual is included in the system, this individual will always remain registered.

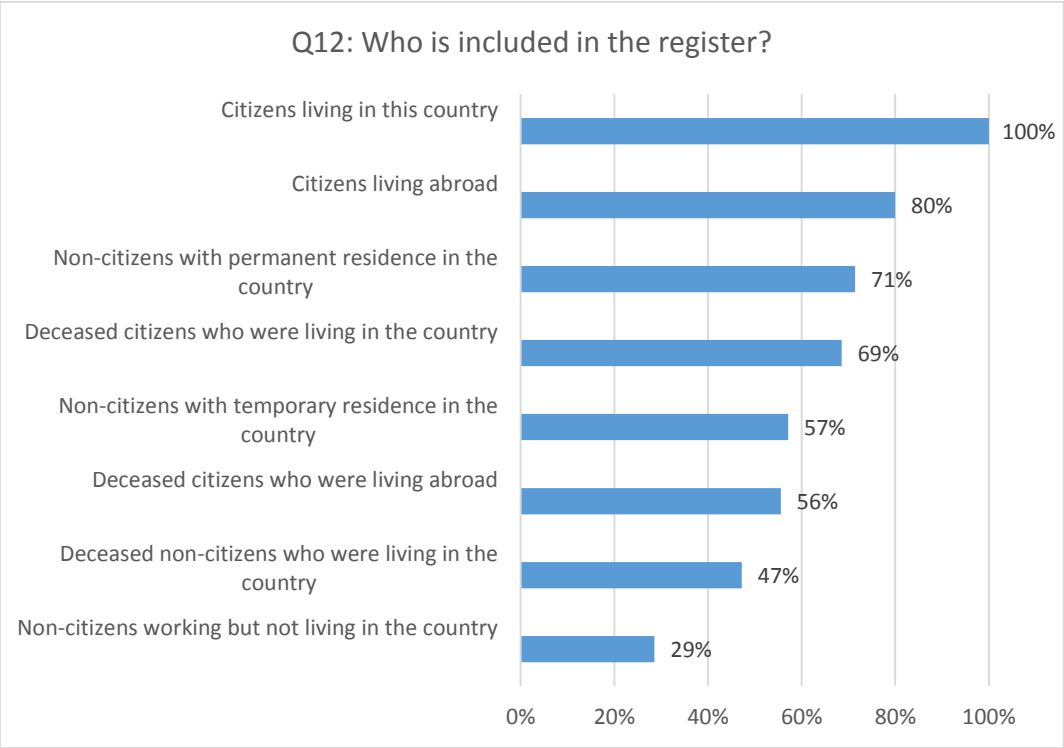
The degree to which people are included in population registers can vary. For instance, cross-border workers who travel across the border on weekly or daily basis to another country for work may not be included in a population register, despite having an administrative relationship with their country of work for social security reasons.

Coverage of the population registers across countries

In all registers, the citizens legally living in a country are covered, and in the vast majority (80%) of countries, the citizens living abroad are registered as well, as is evident from Table 6 . Those countries where these citizens living abroad were not registered were relatively diverse. These included Germany and Austria within Europe. Outside of Europe, based on desk research collected, it appears that India, Japan, Canada, New Zealand and Namibia do not.

As with other questions in this survey, the team developed a series of options for which types of individuals are covered by a country's population register. Eight categories of people and their statuses were identified. Table 6 illustrates the degree of coverage for each of these eight types of status.

Table 6 Coverage of individuals within population registers



There is quite some variation in the degree of coverage of different systems. Seven countries covered all the eight types of individuals described in the survey, while a further six countries covered seven of the types of individuals listed in the survey. The most common detail to not cover for these countries were the non-citizens working but not living in the country. In practice this category can contain individuals who cross-the border from their country of habitation on a daily or weekly basis to work in a neighbouring country. Coverage of these types of individuals is likely to be common in the EU due to shared rules across Member States regarding the build-up of social security benefits; an EU citizen can build up social security contributions such as unemployment benefits or pensions across countries and employers. EU rules allow such individuals to reclaim their benefits across all these countries if the time comes.

Interestingly, there is a mix of EU and non-EU countries with relatively low coverage of types of people in their registers. While Canada, New Zealand and the United Kingdom are less surprising in this group (due to the fact that they do not have one, unified, national register but several registers, also at different administrative levels, common to Commonwealth countries), countries such as Portugal and Italy are more surprising. For the most part, it seems that EU countries have higher levels of coverage than non-EU states.

To illustrate the different approach to coverage of inhabitants and citizens in more detail, some examples of practices from the case studies have been presented in the boxes below.

Luxembourg approach to coverage of inhabitants in the population register

In Luxembourg, everybody, regardless of nationality, who becomes an ordinary resident within a Luxembourg municipality must, upon arrival in the municipality, declare their presence to the population office of the administration of the municipality where they reside. Foreign nationals must also carry out the formalities required for the entry and residence of foreigners. On one hand, European Union nationals have the benefit of being subject to extremely simplified provisions regarding residence, as they enjoy freedom of movement within the EU. On the other, third country nationals must produce a visa and a residence permit in addition to their travel documents. Foreigners holding a residence permit and intending to stay in the country for at least 3 months need to be added to the register.[11]

Namibian approach to coverage of inhabitants in the population register

Residents who are not Namibian nationals can get an identification document Namibia also has a separate status and identification document for refugees. Indeed refugees receive an identity card of a different colour to the colours of cards held by registered migrants, and by citizens. In 2018, Namibia has some 7,600 refugees, mostly coming from the Democratic Republic of Congo[12]*.*

Danish approach to coverage of inhabitants in the population register

Danish citizens living in Denmark and abroad (citizens living abroad can be erased if they wish to), non-citizens who are or have been living in Denmark for a minimum of three months. If a non-citizen has registered and move abroad, they are only removed from the register if they wish to. Deceased citizens are also included in the registers. Furthermore, in Denmark, if a person is registered to an address, they are registered in the CPR. This therefore also applies to temporary or seasonal workers, as long as they have accommodation registered in the CPR.

Specific challenges to coverage

Over coverage typically occurs in cases of migration: when citizens fail to report emigration or when immigrants return to their home country without reporting their departure. The former will mostly be the case in countries with high emigration figures, especially when there is no incentive for emigrated citizens to deregister. The latter may the case in countries where immigrants typically come to work on a temporary basis[13].

Under coverage in the population register can have several causes. First, within the European Union there is free movement and employment for individuals with an EU nationality. EU citizens moving to another EU country may not have registered themselves in their country of destination, even though they have a legal obligation to do so. These individuals are considered usual residents by the definition of the European Union but belong to the under coverage of the population registers. Secondly, the population registers can also be incomplete due to immigrants without a working or residence permit. These individuals become illegally residing

[11] www.oecd.org/migration/48334383.xls

[12] New Era Reporter, (2018), Home Affairs drowning under fake marriages, available at: https://neweralive.na/posts/home-affairs-drowning-under-fake-marriages

[13] Bengtsson, T. and Rönning, S. Å. (2016), Over coverage in the Total Population Register, Paper presented at the Nordisk Statistikermöte, Stockholm 22-24 August 2016, [online], available at: http://www.scb.se/Upload/NSM2016/theme1/Tor%20Bengtsson%20-%20Stina%20%C3%85sling%20R%C3%B6nning.pdf

undocumented immigrants. These undocumented immigrants are also considered as residents, but are part of the under coverage of the population registers[14].

Denmark and the Nordic countries, as well as Namibia, have both taken strides to combat the challenges of over and under coverage in their registers, as evidenced in the boxes below.

Denmark and the Nordics agreement on information sharing on migration

The Nordic countries – Denmark (including the Faroe Islands and Greenland), Finland, Iceland, Norway and Sweden – have applied the inter-Nordic agreement on population registration. Persons moving from one Nordic country to another have to inform the registration authority of the destination and personal details will be transferred electronically from the registration authorities of the country of origin to the authorities of the destination country. The purpose of the agreement is to ensure that those moving within the Nordic countries are registered in the population register of only one country at a time and to prevent movers from not being included in any Nordic population register.

Namibian approaches to improving population registration coverage

In Namibia under-coverage in the register is a challenge for which the government continues to takes steps to mitigate. The main form of under-coverage comes from birth-registration not happening in a timely fashion, or not happening at all. At present, the rate of birth registrations has been increased annually since 2011, when 78% of children under 5 years old were registered. The government has made strides to make birth registration more accessible and Namibia currently has one of the highest birth registration rates in the continent. One of the reasons for this under-coverage relate to the fact that not all births take place in hospitals, and in the cases where this does happen, cultural traditions and the geographical distances to hospitals mean that the registration cannot be completed.[15] One main example are the naming ceremonies, which take place after the birth of a child. However, if a woman has left a hospital (where the birth registration takes place) with her child, the chances of her coming back after a naming ceremony are relatively slim. The time and cost of travelling back to a hospital (which can be quite far), can be relatively high[16]. This means that a percentage of children are still not registered in Namibia.

Many of the countries examined in this survey record detail on individuals who migrate to and from their countries. Depending on the length of stay for an individual in the country in question, residence permits may be necessary. Of the 36 countries surveyed, most retain details on the date of immigration (53%), which often goes paired with acquiring a residence permit. Countries organise the handing out and monitoring of residence permits in different manners, using different services or registers beyond the national population register. Some countries however, do monitor the date of the expiry of the residence permit in their population register system. This was the case for 13 (36%) of the countries surveyed.

[14] Gerritse, S. C., Bakker, B. F. M., de Wolf, P.-P., & van der Heijden, P. G. M. (2016). Under coverage of the population register in the Netherlands 2010, CBS Discussion Paper 2016/02.

[15] UNICEF, (2017), Innovative e-Birth Notification System Launched in Namibia, available at: https://www.unicef.org/namibia/media_20171.html .

[16] Information from interview.

2.6 Personal Identification Number (PIN)

Personal Identification Numbers are used as identifiers for public services in several sectors (e.g. taxation, social security, healthcare). Such a number helps institutions to identify citizens. In addition, a Personal Identification Number (PIN) can make it easier to link between information from several registers. PINs can be universal, or be used in specific sectors, or specific institutions may generate numbers for citizens using their services. The use of a PIN by tax authorities to identify citizens is not unheard of, and in countries such as the Netherlands, health insurers assign a number to individuals insured with them, and this number is then used by other health and care services an individual makes use of.

A distinction can be therefore be made between two types of Personal Identification Numbers: a "universal" one, which can be used as an identifier for all public services in a country, or sectoral PINs, used for one specific sector (e.g. tax number). It is possible that one person has several sectoral PINs, one for each sector.

The use of Personal Identification Numbers is widespread among European countries. Typically, countries with a centralised population register have adopted a Universal PIN, as well as some countries without a population register. Other countries only use sectoral PINs.

Table 7 Use of Universal or Sectoral PIN in EEA countries

Countries with Universal PIN	*Countries without Universal PIN (with one or more Sectoral PIN)*	*Unknown*
Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Iceland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Slovenia, Sweden	Ireland, Italy , Spain, Switzerland,	Cyprus, Germany, Greece, Liechtenstein, Malta, Portugal, Slovakia*, United Kingdom

**At the time of writing Slovakia's system was being replaced, hence it has been classified as unknown for now.*

Table7 has been developed based on information from various sources and literature. This overview provides insights into which countries appear to have universal PINs, sectoral PINs, and for which countries this is still unknown.

Based on the survey carried out, more current information was collected on the presence of PINs across countries. Out of the 36 countries examined, the majority, 24 (or 67%) have a universal Personal Identification Number with which a citizen or inhabitant can be identified for various governmental and public services. Multiple answers were possible here, because those countries who do not have a universal number (14%), may well have other specific identification numbers for specific public services and responsibilities. Some countries have specific personal tax numbers, or numbers for social security access, or even to vote. The survey responses indicate that 14 countries (39%), use PINs for specific services.

Historical legacy of PIN use in Denmark

The current CPR, a centralized national population registration system, was set up in 1968. The need for information about personal data, especially addresses, and the need for general identification of individuals were the main reasons for this central register. A personal identification number was especially necessary for the introduction of a pay-as-you-earn income tax. The Personal identification number was introduced in 1968 and consists of the birthday (six digits) and a unique identification key (four digits). The central population register together with the personal identification number help to collect and process personal information in an efficient and accurate way. The same PIN is used to access citizen information across different entities and registers, as well as in the CPR.

3 Quality control and use of personal information

This chapter addresses several objectives relating to quality control (section 3.1), privacy and citizen access (section 3.2), making use of information form registers (section 3.3), and privacy and use of personal information (section 3.4).

3.1 Quality control procedures regarding personal details

There can be several quality issues which can affect the accuracy of the population register. The most common quality issues include over coverage, under coverage and incorrect address registration. It should be noted however that the quality control and verification processes are comparatively under studied compared to other aspects of a population register. The subject of quality control processes within a national register may therefore require further attention. For instance address registration in population registers can be incorrect for several reasons. Citizens can fail to report address changes, addresses may be miss-spelled or numbers may be registered incorrectly[17].

Information from case studies on quality control procedures is relatively difficult to come by and those procedures identified can be diverse in nature. Denmark and Namibia however have mechanisms in place for checking quality of data stored in registers. Given the various actors involved in the Danish case, the quality control takes a more diffuse form with each entity involved in the register checking the details it provides. In the case of Estonia, quality control is promoted by virtue of citizens being able to view their own details in the population registration system.

Quality control is embedded in the Namibian National Population Registrations System (NPRS)

The Namibian NPRS contains information about key life events of people such as birth, marriage and divorce details, ID registration details, details of parents' particulars, etc.[18]
In the case of Namibia, the e-birth registration means that children are registered and linked to the parental details in the national register. This means that there is an awareness from the very beginning of a person's life of their existence without having the development of a formal birth certificate yet. Namibia also makes use of a PIN and biometric details (10 finger prints are stored). The rationale here is that over-coverage as well as quality control is embedded in the system from the very start of a person's registration. As soon as an individual comes to a governmental or administrative office, and the recorded details do not match the person or the realities they are confronted with, the electronic records are drawn up and information history traced back before any further steps are taken. In this way, Namibia embeds quality control within the national population registration system.

[17] Hokka, P., & Nieminen, M. (2008), Measuring the Quality of the Finnish Population Register with a Survey, Paper presented at the European Conference on Quality in Official Statistics, Rome, Italy
[18] Namibia Statistics Agency, (2014), Comprehensive Assessment of the Civil Registration and Vital Statistics System in Namibia, page 11, available at: https://cms.my.na/assets/documents/CRVS_Comprehensive_Assessment_Report_Final.pdf

Quality control procedures in the Danish Central Population Register (CPR)

There are multiple public authorities who provides data to the register. The municipalities and the Ministry of Ecclesiastical affairs are the main bodies to provide data, but other public bodies like the foreign ministry, the Police, the health authorities also provide data.

The public authorities have the responsibility for the quality of the data, they deliver. The CPR office also runs analysis of the quality of the data and react if they find mistakes in the data. Some mistakes can be found by logical tests e.g. persons being married to more than one person or having to current addresses. If the CPR-office finds a mistake, they address the relevant responsible authority.
In 2012 the parliament passed a bill setting up a new system for collection and use of basic data. The Basic Data program (Grunddataprogrammet). The system is set up to give an overview on how data is gathered and to mainstream the data collection to ensure a good data quality. As Explained on the website:

With the Basic data Program, basic registrations about Denmark and its citizens are combined under the common term Basic Data. This means that data is standardized so it can be combined and used coherently. Relations between various Basic Data are clear, so it is, for example, possible to see that a person owns a house, which is located on a street. Along with the combining of registers, the quality of data is improved, and new data is added. This way you can be sure that the data you use is correct, complete and up to date.
On top of this, Basic Data is made easily available and is, as a guiding rule, free to use, for everyone – authorities, businesses, citizens. Data is distributed via the shared distribution platform, the Data Distributor, from where it can safely and easily be used – with respect for personal and sensitive information.[19]

With the Basic data program, the responsibilities of the authorities collecting data has been restructured. A long list of authorities can provide data and check the personal details. The list of actors with access to the register includes

- *Parishes*
- *Municipalities*
- *Courts*
- *The general election office (Under the Ministry of Internal Affairs)*
- *The Government administration office*
- *Ministry of Justice*
- *Nationality office (under the Ministry of Integration)*
- *Danish Immigration Service*
- *Recognised religious communities*
- *The Police*
- *The CPR-office*
- *Regions*
- *Citizens (only their own details)*
- *The Tax authorities*
- *Ministry of health*
- *Ministry of foreign affairs*
- *Ministry of ecclesiastical affairs*

[19] Digitaliseringsstyrelsen, (no date), *Basic Data – digging into Denmark's digital resource,* [online], available at: http://grunddata.dk/english/

The above-mentioned actors do not run systematic check-ups, but they will check if the personal details are equivalent to the information, the actors have registered themselves when they have to use a citizen's personal details. If the personal details don't match what is in the register the authorities (most likely the municipalities) will change the information in the CPR-register.

Quality control through citizen access to details in the Estonian Population Registration System

*An adult person has the **right to access** his or her information in the population register. A parent or a guardian has the right to access information regarding a minor child; in the case of a person with restricted active legal capacity, the right of access is granted to the guardian. Access to the personal information entered in the population register is made possible through the information portal **eesti.ee**[20] by using the e-services of the population register, by identifying yourself using an ID-card[21], Mobile-ID[22], Smart-ID[23] or through the websites of banks (internet bank)[24].*

Upon discovering a mistake in the data, an individual can notify the authorised administrator of the register, SMIT, or use the information portal eesti.ee or the e-services of the population register by identifying him or herself using an ID-card or through an internet bank. In addition, depending on the mistake discovered, it is possible to notify the local government of his or her residence.

If a person wishes to change their own vital statistics information or that of their minor children or persons under their guardianship entered in the population register, they need to submit an application to the local government of the county centre. The data concerning the place of residence entered in the population register are generally changed by the local government. In exceptional cases, the data can be changed by the authorized administrator of the population register.

3.2 Privacy and citizen access

Another way in which countries can differ is the manner in which they safeguard citizen privacy through data protection, and the degree of access which citizens have to their own personal data. When speaking of privacy and personal details, the issue quickly boils down to data protection of citizens. The degree to which other parties can make use of citizen data is a key issue here, and as such, third party users are also discussed in this section. The degree of access to data by citizens, and use by others are key areas in which population registers may differ across countries.

20 https://www.eesti.ee/en/

21 ID-cards are compulsory for all citizens and they are equally valid for digital and physical identification. By using a smart card reader and a computer connected to the internet, citizens can use two core functionalities provided by the ID-card, both of which are essential to the development of e-government – personal authentication (related to the PIN1) and digital signature (related to PIN2). See https://www.id.ee/index.php?id=30470

22 Mobile-ID allows people to use a mobile phone as a form of secure digital ID. Like the ID-card, it can be used to access secure e-services and digitally sign documents, but has the added advantage of not requiring a card reader.
The system is based on a special mobile SIM card, which the customer must request from the mobile phone operator. Private keys are stored on the mobile SIM card along with a small application delivering the authentication and signature functions. See https://www.id.ee/index.php?id=36882

23 Smart-ID is a new mobile application that works as an identification solution for anyone that does not have a SIM card in their smart device but needs to securely prove their online identity. As a simple, easy to use and convenient alternative to bank code cards, with it you can log in to financial sector e-services and confirm transactions and agreements. See https://www.smart-id.com/

24 It is possible to enter to the portal by bank's authentication service (PIN calculator). Until 2019 also code cards were used to enter to the e-services of banks.

Privacy protection issues

Population registers contain sensitive personal information about individuals. When personal data are collected and stored, the effects on the privacy of the person involved should be considered. Privacy can be defined as the ability of an individual to be left alone, out of public view, and in control of information about oneself[25]. With respect to personal information, as with the data stored in population registers, privacy refers to the ability to control the collection and sharing of information about oneself.

Digital technology provides opportunities to provide services in a more effective and efficient way by making information available to more users, connecting databases and making processing of information easier. However, the digital availability of data also raises concerns about privacy and the security of personal data.

To address data protection issues in the digitalised world, the EU adopted the General Data Protection Regulation[26] (GDPR), which became fully effective in May 2018. The GDPR regulates the processing by an individual, a company or an organisation of personal data relating to individuals in the EU.
This regulation gives citizens the right to:

- to be informed about the processing of their personal data;
- obtain access to the personal data held about them;
- ask for incorrect, inaccurate or incomplete personal data to be corrected;
- request that personal data be erased when it's no longer needed or if processing it is unlawful;
- object to the processing of their personal data for marketing purposes or on grounds relating to their particular situation;
- request the restriction of the processing of their personal data in specific cases;
- receive their personal data in a machine-readable format and send it to another controller ('data portability');
- request that decisions based on automated processing concerning are made by natural persons, not only by computers.

Consequently, public administrations in the EU must respect key principles, such as: fair and lawful processing, purpose limitation, data minimisation and data retention. This can also affect the registration of personal data in population registers and the use of this data. However, since the personal data in population registers is used to perform governing tasks and provide public services, the regulation allows for some exemptions. For instance, there does not have to be a limitation on the retention period of data stored in a population register.

Given the nature of the information stored in population registers, the privacy policy is an important issue in the design of a population registration system.

Citizens' control over personal data

Population registers contain basic information about citizens. Some personal details must be communicated by a citizen themselves to the organisation responsible for collecting and storing such details. A change of address is such an example. However, the level of accessibility of personal details is another aspect which differs across countries and their systems. In the Nordic countries, and in Estonia, citizens can access and view their details (though not alter them), with comparative ease. The

[25] Definition of the European Data Protection Supervisor, https://edps.europa.eu/
[26] Regulation (EU) 2016/679

degree to which is the case in other countries is something which ought to be further investigated; this has an impact on the level of autonomy which a citizen holds over their personal identity on record.

Within the context of a citizen's control over personal information, and access to data, the General Data Protection Regulation (GDPR) has been an important development for EU countries. The GDPR lists various ways for citizens to have control over their personal data. Not all of those will apply to the data in a population register. It is unlikely, for example, that citizens can request that personal be erased from the register. Two main questions are definitely applicable to population registers:

- Do citizens have access to their personal data in the population registers?
- Can they demand correction of inaccurate data?

The level of accessibility of personal details can differ across countries and their systems. In countries with a high degree of digitisation, citizens may be able to access and view their details online, with comparative ease. In other countries citizens may have to request an extract from the register on paper. The degree to which citizens have access to their data has an impact on the level of autonomy which a citizen holds over their personal identity on record. Another aspect of citizens' control over their data is if and how they can demand a correction of their data. Especially when data from the population register is used to make decisions about services like social security, it can be very important for citizens to be able to ensure that the correct data are registered. In **Mexico**, for instance, a one stop shop is being set-up for citizens to organise some of their personal details online. Certain documentation is also being digitised, and can be requested using this citizen access portal.[27]

To illustrate the different approaches taken within countries in more detail, some examples of practices from the case studies have been presented in the boxes below.

Citizen access and privacy in the Estonian population register

In Estonia, there is a strong commitment to strong and safe information societies, as reflected by multiple national and cross-sectoral information society strategies. In order to make the whole economy and government more efficient, the Estonian government has made important strides in setting up an institutional and legal architecture to safeguard the governmental ICT structures[28].

One element of this institutional and legal architecture, which relates to the use of personal information, is the Personal Data Protection Act, which entails that personal data within the population register be protected and the private life of citizens ensured. This Act complements some of the stipulations in the Population Register Act, which contains provisions on which information can be stored in the register, the rights and duties of the organisations processing those details, and on the data processing involved in the register. The new Personal Data Protection Act came into force in 15.01.2019[29]. The Data Protection Inspectorate enforces the compliance with the Personal Data Protection Act.

[27] Government of New Zealand, (no date), *The Digital 9*, [online], available at: https://www.digital.govt.nz/digital-government/international-partnerships/the-digital-9/

[28] European Commission, JoinUp, (2017), eGovernment in Estonia, available at: https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment_in_Estonia_March_2017_v1_00.pdf

[29] Personal Data Protection Act (in force from 15.01.2019) – available at https://www.riigiteataja.ee/en/eli/ee/Riigikogu/act/523012019001/consolide

Data protection and citizen access of data in Luxembourg:

The RNPP was introduced on July 1st 2013 and with it a new principle was introduced, allowing every person registered to take notice of the administrations that consulted his/her data in the register during the last six months. By signing into electronic, governmental platform, MyGuichet.lu people registered in the RNPP can see the data held on them by the Luxembourg administration (under tab "My data") and can also access a list of different administrations that have accessed or updated that data over the past six months (under tab "Summary of consultations and updates")[30]. These changes come as a result of the Government Council's approval, under the scope of the "Digital Luxembourg" initiatives, of five principles for the implementation of an efficient digital administration[31] (July 24, 2015). The five principles, in short, are: digital by default, OOP (only once principle), transparency, data protection and centralisation of e-services. In accordance with the transparency principle, the public authorities hold certain responsibility towards the civils society and therefore, citizens and businesses can consult data about them that administrations hold and manage, and also check which administration has accessed their data.[32]

With the entry into force of the GDPR in 2018, the already existing CNPD acts as a data controller to fulfil certain requirements regarding the form and content of personal data and its protection.[33] In the same year, the government of Luxembourg presented the guidelines for the 3rd national cybersecurity strategy 2018-2020. This mapped the government's response to the challenges and transformations which characterise the constant changes in the digital environment. The central guidelines of this strategy are: public confidence in building the digital environment, digital infrastructure protection, and promotion of economic place.[34]

3.3 Making use of information from registers

Within population registration systems, information collected is invariably used by authorities and other organisations to carry out services aimed at inhabitants and citizens of a country. However, other organisations can make use of these details as well, including foreign authorities in the context of bilateral agreements for different policy areas. For instance, for cross-border movement and travel, as well as criminal investigation can involve agreements regarding the sharing of details.

Users of register data

Besides personal access by citizens, another dimension of a population system is what use can be made of personal details by organisations. Variation can exist in the type of organisations that can use register data and in the purposes for which register data may be used. To categorise users of population register data, we look at the type of

[30] Guichet.lu, (2018), *View your data recorded in the National Registry of Natural Persons*, [online], available at: https://guichet.public.lu/en/actualites/2018/02/15-actu-thematique-2.html .

[31] Government of Luxembourg, (2015), *Résumé des travaux du 24 juillet 2015 (Summary of work of July 24, 2015),* [online], available at: https://gouvernement.lu/en/actualites/toutes_actualites.gouvernement%2Bfr%2Bactualites%2Btoutes_actualites%2Bcommuniques%2B2015%2B07-juillet%2B24-conseil-gouvernement.html

[32] European Commission, JoinUp, (2018), *OOP of Luxembourg*, [online], available at: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/document/oop-luxembourg .

[33] European Commission, JoinUp, (2018), *OOP of Luxembourg*, [online], available at: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/document/oop-luxembourg

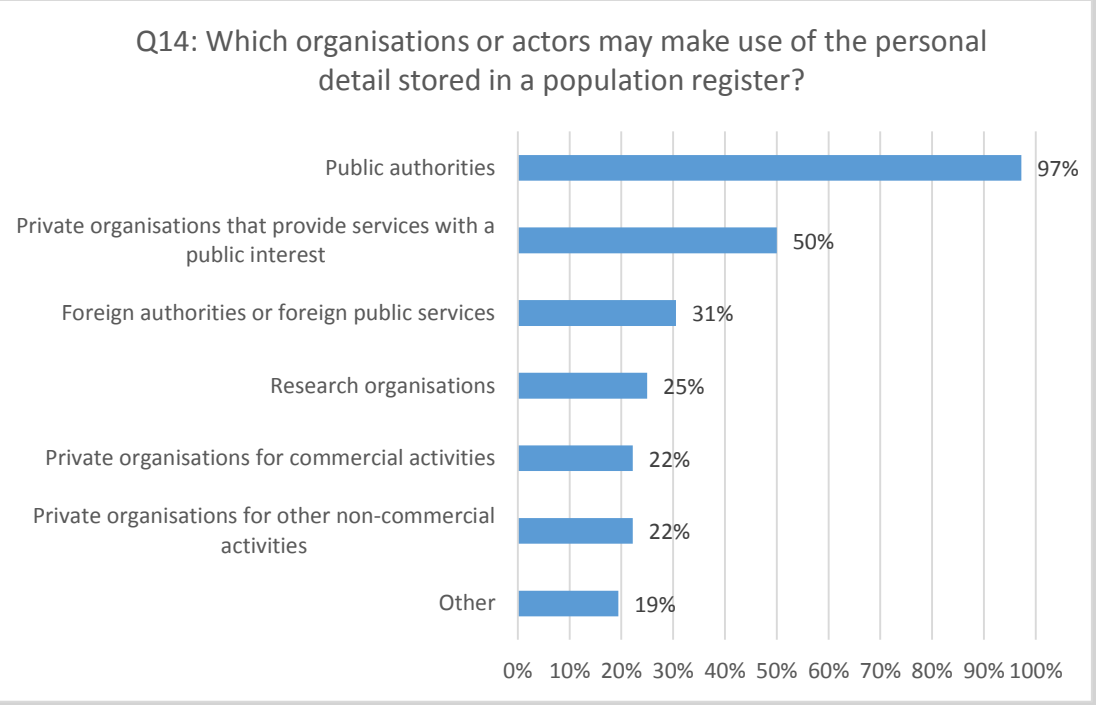
[34] European Commission, JoinUp, (2018), *OOP of Luxembourg*, [online], available at: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/document/oop-luxembourg

organisation (public or private) and for which purposes data are used. Along these lines, the following categories can be defined:

- Public authorities can use data from the population register to provide public services. Examples of these organisations are national and local governments, taxation bodies and social security organisations.
- Private organisations can use personal details to conduct and provide services with a public interest (such as hospitals and other health care organisations, pension funds, banks, insurance companies and judicial organisations)
- Research organisations can use register data for research purposes, like scientific medical studies, compiling population statistics, genealogy and historical studies.
- Private organisations can use personal details for other non-commercial tasks. For example, employers can use population register data for their personnel administration.
- In some countries private organisations have the possibility to use data from the population register for commercial purposes, such as direct marketing.

The survey posed a question on who could make use of details. Multiple answers were possible here. The outcome are presented in the Table 8 below.

Table 8 Which organisations and actors may make use of personal details in the population register?



In the vast majority of countries public authorities are the main organisations making use of details from the population register (97%). The provision of public services may be arranged differently across countries. In some cases, private organisations may be involved in the provision of public services for example. In 50% of the countries examined, details from the population registers were used by such organisations. Foreign authorities made use of personal details in 31% of the cases. This is surprising as certain EU agreements exist for sharing information, which would imply a higher proportion of foreign authorities making use of personal details, namely 28 out of 36 countries.

Access to and use of personal details by other organisations and authorities can vary, as evidenced by the examples below from Estonia and Portugal.

Making use of personal details form the Estonian population register

Population register data have a legal meaning in Estonia and local governments and central government agencies are obliged to use the population register data when providing public services. Additional collection of personal data from individuals is not permitted. Thus, the use of population register data in Estonia is very widespread. Access to the data contained in the population register is granted to institutions, legal entities and natural persons for the performance of public duties and in case of a legitimate interest. The interest is considered legitimate, first and foremost, in the following cases (the list is not exhaustive):

- *for the protection of the applicant's or other person's life, health, rights and freedoms;*
- *for the performance or securing the performance of a contract concluded with the applicant;*
- *for scientific purposes (on the basis of the conditions established in the Personal Data Protection Act)*[35]*.*

Releasing data from the population register in the case of a legitimate interest is subject to fees.

The data in the population register may be accessed by means of the following:

- *the data exchange layer for information systems (X-tee);*
- *the processing software of the population register;*
- *the secure web environment;*
- *transferring data through a secure data communication network;*
- *encrypted on digital media; encrypted by e-mail, by registered mail or in person on paper or on digital media.*[36]

Making use of personal details from the Portuguese BDIC

The BDIC Register in ***Portugal:*** *In general access to the information of the* ***BDIC*** *database by public services are regulated by law and must be governed by bi-lateral conventions between the database manager (****IRN****) and specific authority. Such convention must be approved by the National Commission for the Protection of Data (CNPD), an independent body (see last section below).*

State departments and agencies that have access to ***BDIC*** *information under this approach are the tax, social security and health departments, police authorities such as SEF (foreign and customs affairs), PJ (criminal police), PSP (urban police), GNR (rural police), courts of law, electoral services and commissions, medicine doctors and coroners.*

[35] Ministry of the Interior (2019). *Access to information in the case of legitimate interest* – available at https://www.siseministeerium.ee/en/access-information-case-legitimate-interest

[36] Ministry of the Interior (2019), *Population Register* – available at https://www.siseministeerium.ee/en/population-register

Making use of personal details from the Israeli Population Register

According to the Israeli law, there are four options for transferring personal information or using personal details from the National Population Registry.

First, according to the Population Registry Law (1965), a person can make an application to obtain information from the Population Registry regarding the name and address of any other person listed in the registry, and if he can prove an alleged interest in a matter, he can obtain additional details such as: date of birth, parents names, marital status, gender, nationality, death certificate, ID number.

Second, according to this law, information can be obtained through a direct and computerized connection to the population registry by an institution (such as a bank, insurance company, capital market entity, etc.) that is required by legislation to verify a person's identification information, or where the law explicitly requires that the identity must be verified directly with the population registry. For example, orders concerning the prohibition of money laundering require financial organizations to verify identity directly with the Population Registry.

Third, according to the Privacy Protection Law (1981) and the Privacy Protection Order (1986), information is transferred to public organizations such as government offices and local authorities where they have proven that the information is necessary for their duties and tasks. Applications for transfer of information to such bodies are reviewed and determined by the Information Transfer Committee.

Fourth, anyone who is not eligible to receive information according to the criteria mentioned above, can receive the information if the court determines that he is allowed to receive it.

3.4 Privacy and conditions of use of personal information by others

The conditions which a country or authority has for the use of personal details are another distinctive dimension of population registers. These conditions for accessing personal data can again vary across national systems.

In **Sweden** non-public organisations and authorities must formally apply to make use of personal details. In Sweden, the tax authority administers the registers. Requests to use personal information, including the anonymised data maintained by Statistics Sweden, must be approved by the authority and reviewed by a regional ethical board[37]. In **Finland**, information from the population register (names, addresses) can be disclosed for direct advertising. The personal data is not disclosed directly to the advertising company, but a postal service approved by the Population Register Centre handles the request. Citizens can prohibit the use of their personal data by filling in a non-disclosure form. **Portugal** too has an interesting, cross-sectoral and policy-wide approach to safeguarding the protection of citizen data.

[37] Comparative Migration Studies, (2017), Using population registers for migration and integration research: examples from Denmark and Sweden, available at: https://comparativemigrationstudies.springeropen.com/articles/10.1186/s40878-018-0076-4

Protection of personal information in the Portuguese BDIC:

*In the Portuguese population register, the **National Commission for the Protection of Data (CNPD)** is an "independent body, with powers of authority throughout national territory", responsible for overseeing the personal data protection in Portugal. CNPD is entitled to require information on personal data processing activities from any public or private bodies and hold rights of access to the computer systems supporting these processes, as well as to all documentation relating to the processing and transmission of such data. The public agencies and departments that collect and use the personal data pertaining to the **BDIC** system are fully responsible for their safety and security and are liable (as well as their agents) for any misuse, negligence or offence before the law and regulations.*

Use of details by foreign authorities

In connection with the discussion concerning users of data, is the issue of information sharing between countries. The exact arrangements for sharing data differ per sector, and per geographic area. The EU for instance, through bodies like Europol, is likely to share certain personal data when it comes to tracing and detecting crimes and suspects. A similar arrangement may exist of the global police organisation, Interpol. When it comes to social security for workers who travel and move around within Europe, there are agreements in place to a certain degree which coordinate the sharing of personal information to promote good coordination of social security.

EU Social security coordination

The EU provides common rules to protect the social security rights of citizens when moving within Europe (EEA-countries). The rules on social security coordination do not replace national systems with a single European one. All countries are free to decide who is to be insured under their legislation, which benefits are granted and under what conditions.

To accommodate the (digital) exchange of information between national institutions on cross-border social security files, the EU has developed the Electronic Exchange of Social Security Information (EESSI) system. EESSI is an IT system that helps social security institutions across the EU exchange information more rapidly and securely[38]. The use of structured electronic documents and commonly agreed procedures should lead to:

- *Faster and more efficient message exchange between social security institutions.*
- *More accurate data exchange between national authorities.*
- *Secure handling of personal data.*

Outside of Europe customs and border authorities may also share personal information on individuals travelling in and out of countries. Many such arrangements are set up bilaterally between countries, and providing an inventory of data sharing agreements here goes beyond the scope of this study. That being said, the issue of use of data by foreign governments is a topic for further examination. Some in-depth examples for Estonia and Portugal are presented below.

[38] European Commission, (no date), *Electronic Exchange of Social Security Information (EESSI)*, [online], available at: https://ec.europa.eu/social/main.jsp?catId=869&langId=en .

Use of personal data by foreign authorities in Estonia

According to the Population Register Act (§44)[39], agencies and persons of a foreign state can access the data in the population register if such a right is provided for in an agreement entered into under the Foreign Relations Act or ensured at the decision of the controller if there is legitimate interest. Foreign organizations may use the information for the same purposes as Estonian organizations.
As with the use of details by national authorities, the access to the data depends on whether the interest is considered legitimate or not. The right to access the population register data is granted by the Population Register Act (§44)[40]. The new Population Register Act was adopted in 25.10.2017 and entered into force in 01.01.2019 (partially 01.01.2020).

In addition, Estonia has concluded population register data exchange agreements with neighbouring countries Finland, Lithuania and Latvia. The first bilateral agreement was concluded with Finland already in 2005 and data exchange started in 2006. An interstate agreement with Finland is currently being prepared. Estonians are the largest group of foreign citizens in Finland as more than 70,000 Estonians live permanently in Finland. The number of Finns living in Estonia is around 7 600. [41]

An agreement with Lithuania was signed in 2013 and data exchange started in 2014.
A bilateral agreement with Latvia was signed in January, 2019. A technical solution is under way and data exchange should start in 2020.

Use of personal data by foreign authorities in Portugal

Although foreign and international authorities are not specifically excluded from being allowed to access the BDIC by the regulations in place, the fact is that there are not foreign or international authorities with direct access to the BDIC and its contents. However, there are many exchanges of information with foreign and international organisations involving databases of different Portuguese government departments and agencies. These include ***bilateral and multilateral co-operation protocols,*** *typically with reciprocal arrangements, managed by the foreign affairs, justice, finance, health, defence, and other Ministries, as well as some law enforcement agencies. Some of the information that is exchanged under the cooperation agreements may include information from the BDIC because many of the databases concerned partially replicate individual information from this register. All of these protocols and agreements* ***must be accepted by the National Commission for the Protection of Data (CNPD),*** *whenever personal data exchange is involved.*

[39] Population Register Act (in force from 01.01.2019) – available at https://www.riigiteataja.ee/en/eli/ee/522032019005/consolide/current
[40] Population Register Act (in force from 01.01.2019) – available at https://www.riigiteataja.ee/en/eli/ee/522032019005/consolide/current
[41] Finland. Ministry of Foreign Affairs (2019). Available at https://vm.ee/en/countries/finland?display=relations

4 Degree of digitisation and use of biometrics on population registers

This chapter describes the prevalence of digitisation (section 4.1) and the use of biometric information (section 4.2) in the population registers studied.

4.1 Prevalence of digitisation

The following sections discuss some of the main trends and developments encountered during the research which relate to digitisation in population registers.

Degree of digitisation of population registers

Most population registers were established in a time when all records had were kept manually. With the development of digital technology, it has become possible to maintain a population register digitally. Although all countries are moving towards a more digitalised system, the degree of digitisation differs between countries.

Digitisation of population registers has some clear advantages:

- It becomes easier to share information between different registers.
- When new entries are processed digitally, the register can be updated immediately.
- Digital solution can make it easier for citizens to provide information.

Although the possible advantages of digitisation are clear, there are a number of potential issues with respect to the successful use of digitalised registers. To share information between different registers, systems need to be interoperable. The European Interoperability Framework defines four layers of interoperability[42]:

- **Legal** interoperability is about ensuring that organisations operating under different legal frameworks, policies and strategies are able to work together.
- **Organisational** interoperability refers to the way in which public administrations align their business processes, responsibilities and expectations to achieve commonly agreed and mutually beneficial goals.
- **Semantic** interoperability ensures that the precise format and meaning of exchanged data and information is preserved and understood throughout exchanges between parties.
- **Technical** interoperability covers the applications and infrastructures linking systems and services.

The role and function of digital technologies in a population register can differ across national systems. Digital technologies can be used to make population registers more accessible to citizens for instance, or can be used for more efficient communication and connection between other administrative systems linked to a population register, or for storing source documents digitally. Indeed, literature research demonstrates that promoting better citizen access and the digitisation of source documents are more recent trends in population registers.

Storage and management of source documents

Furthermore, internal processes such as the storage of source documentation can be carried out more efficiently and securely using digital technologies. Birth certificates, marriage licenses and other important source materials used to verify identity can be

[42] European Commission (2017), European Interoperability Framework - Implementation Strategy, [online] available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0134&from=EN

made digital and efficiently stored and backed-up. Belgium has recently been taking steps to digitise the source documents contained in its civic register. Marriage licenses and birth certificates will start to become digitised from March 31st 2019 onwards. Citizens will now sign marriage licenses using digital identity cards, and the local civil servant handling the marriage license signs the document electronically. At the same time the national level population register is automatically updated with changes in the marriage status for the citizens concerned. This is to save time, space, and the costs of storing these documents[43].

Citizen access to personal details and public services

Digital technologies can be used to make registers more accessible to citizens. This in turn can make a system more flexible and efficient; a citizen or resident makes use of an online system to communicate changes or developments in their personal information. In the Netherlands address changes can be made using the system DigiD. This saves a citizen having to go down to a public authority branch charged with collecting or storing personal details.

Citizen access to public services in Estonia

*After regaining independence in 1991, **Estonia** had to develop its own population register and identity management system. This resulted in an integrated population registration and ID management system. Citizens can access digital public services using their eID card with digital authentication. The information in the population register is digitally linked with information from several other registers. The interconnection between the population register and other databases is operationalised by a data exchange platform called X-road.*

As such, currently, the population register is tied to other systems, such as i-Voting[44], through which citizen can vote in public elections. The system retrieves information from the national population register without citizens having to fill in or provide extra documents or information. The accessibility to public services is greatly enhanced by using digital technologies which connect population registers with other services.

At a more basic level, digital technologies can also be used to improve the communication between administrative levels in a country. In the context of population registers this means that in decentralised or federal systems, the organisations collecting and storing information can more accurately and efficiently share and centralise the information at a national level[45].

The Digital 9

The trend of digitising public and governmental services has also led to the fact that a series of countries have made especially strong commitments to digitising their services. A collection of countries started working on improving the quality of government services for their citizens using digital technologies. These countries formed the original Digital 5, a collection of countries committed to better citizen access to quality governmental services. Estonia, Israel, New Zealand, South Korea and the United Kingdom formed the original members, with Canada and Uruguay

[43] De Standaard, (2019), *Burgerlijke stand gaat digitaal vanaf 31 maart*, http://www.standaard.be/cnt/dmf20190214_04175948

[44] E-Estonia, (no date), Interoperability services, https://e-estonia.com/solutions/interoperability-services/population-registry/.

[45] OSCE, (2009), *Guidelines on Population Registration, OSCE (ODIHR),* https://www.osce.org/odihr/39496?download=true .

joining in February of 2018, and Mexico and Portugal in November of 2018, to form the Digital 9.[46]

Use of digitisation in Israel

As part of a number of government decisions, collaboration between organizations was instituted aimed at enabling residents to receive services online. This allows the government to reduce bureaucracy. A "Personal Area" has recently been digitally developed on the government website (https://my.gov.il/). This website allows residents to look up information that the organizations have about them, and to receive services.

Moreover, a government decision was adopted aimed at reducing the documents that a resident is required to submit in order to receive services. This is done by sharing information between organizations through the "Transmission of Information" and under the Privacy Protection law.

In addition, the Population and Immigration Authority (PIBA) works to provide diverse services, such as change of address, naming a baby born, request for personal documentation, etc. PIBA also allows electronic documentation to be obtained online.

Role of digitisation within the population register

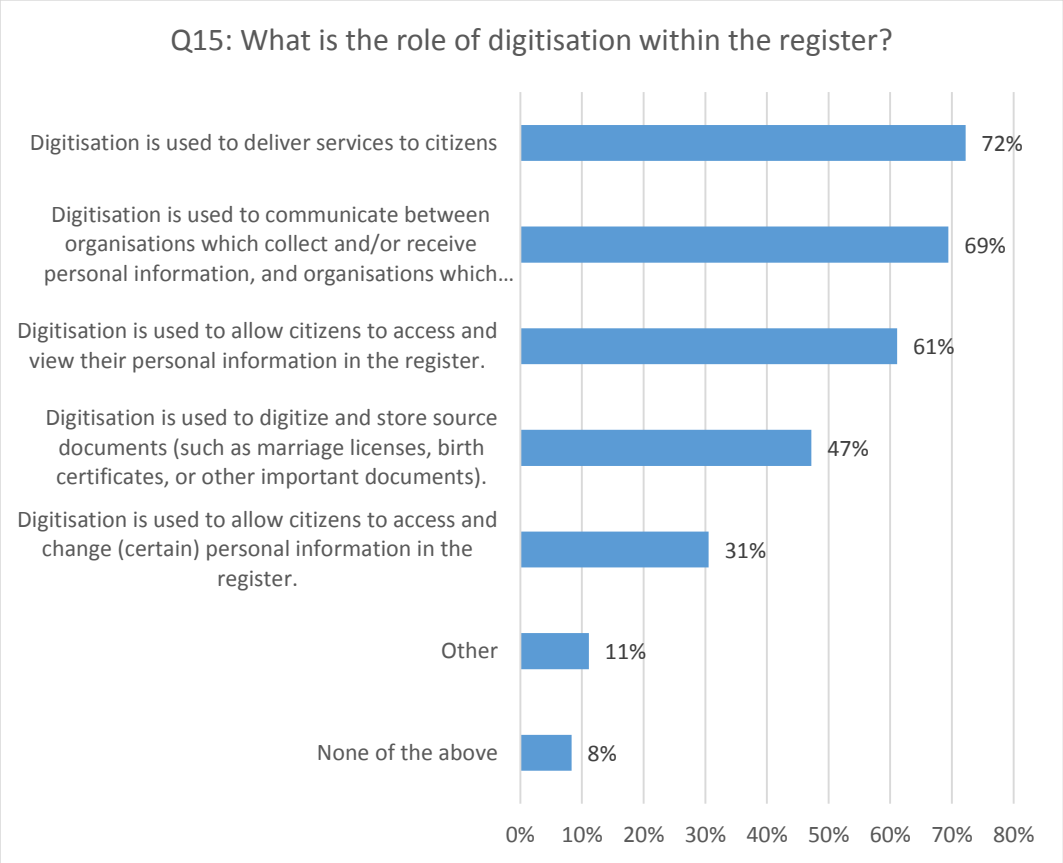
With digital technology being as pervasive as it is, used in private and public life, across sectors, one of the areas of questioning in the survey related to the degree of digitization of the population registers.

The use of digital technology in a population register can take many forms, from having digital technology so that organisations which collect and those which store personal details can be connected, to having technology whereby citizens can access, view, and even change their personal details online. The pace of digitisation varies per country, as the results below demonstrate.

Digital technology is most commonly used to communicate between organisations which collect and/or receive personal information (74%), and organisations which store and manage personal information, and to deliver services to citizens (76%). The other results are presented in Table 9.

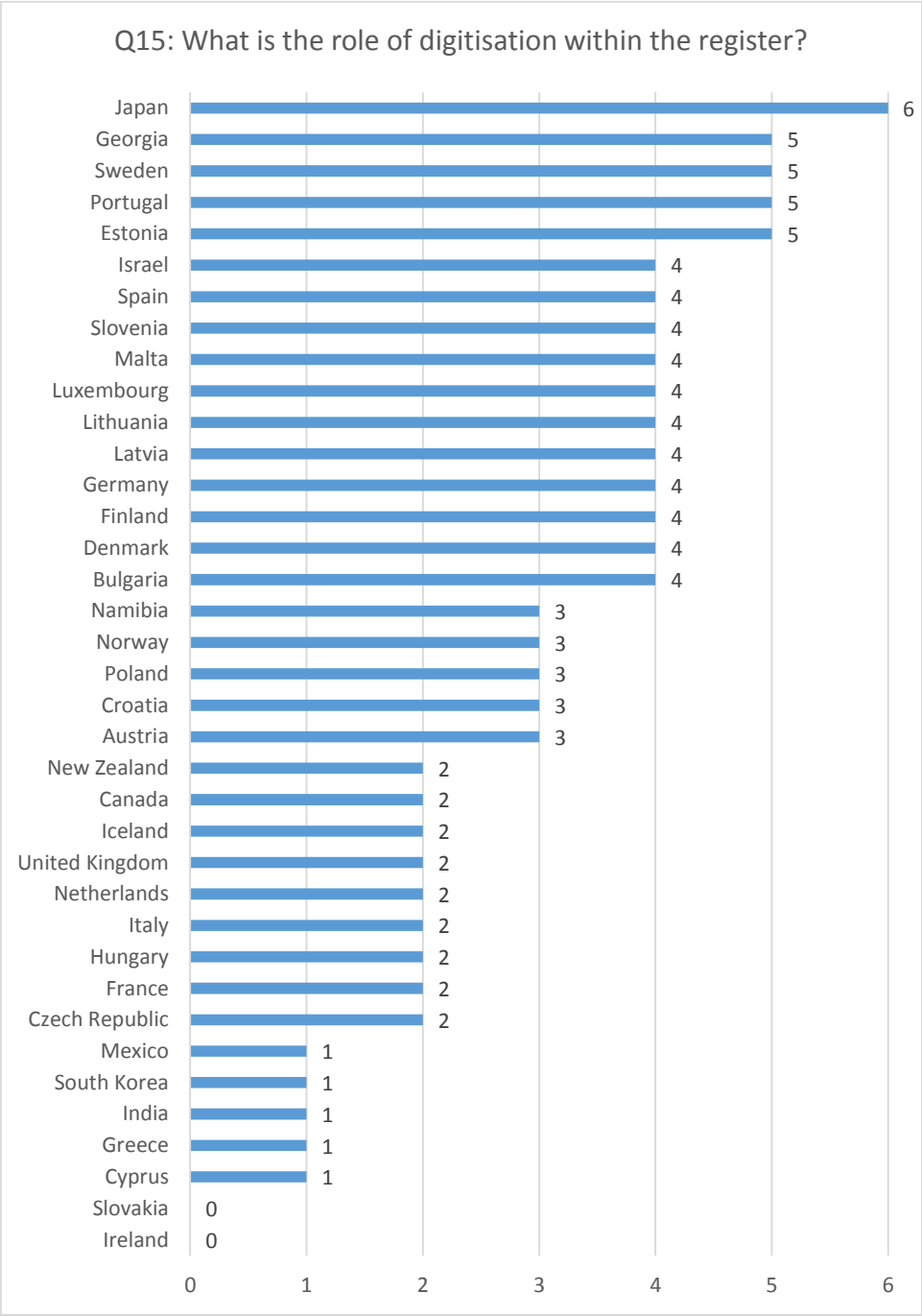
[46] Government of New Zealand, (no date), *The Digital 9*, [online], available at: https://www.digital.govt.nz/digital-government/international-partnerships/the-digital-9/ .

Table 9 Role of digitisation within the registers



Countries which showed the highest levels of digitisation (based on the 6 criteria used in this survey (the table excludes the category "None of the above"), include Portugal, Sweden, and Estonia within Europe (Table 9). Outside of Europe, Georgia makes relatively intense use of digital technology in this population register system, as does Japan.

Table 10 Role of digitisation in the population register per country



The 6 point scale refers to 6 different ways in which digitization is used in a system

While Estonia has an evidently integrated, digitised system, other countries too have developed interesting and efficient approaches to digitising population registers. Namibia has made steps in not only linking authorities and institutions with the NPRS, but also digitising source documentation and registration

Digital source documentation and registration in Namibia

The e-birth notification system links hospital maternity wards with the e-National Population Register System (NPRS) based at the Ministry of Home Affairs and Immigration. Nurses who attend to the birth of a child, will immediately capture

the details of the child and the mother on touchscreen computer boards, strategically placed within the maternity ward. This information is instantly uploaded to the NPRS database for verification and linked to the parents' ID profiles.

Namibia also recently introduced an e-Death Notification System in 2018. This system entails that mortuaries and the Ministry of Health and Social Services to act as the first official points of contact with the deceased. These organisations may electronically verify the identity of the deceased and classify the case of death. They are also entitled to notify the Ministry of Home Affairs and Immigration of the death, so that this can be processed within the NPRS.[47]

4.2 Use of biometric information

Role or use of biometrics in population registers

Defining biometrics can vary across countries and regions. When speaking of biometrics people often think of details such as fingerprints and facial recognition; these are thought to be unique characteristics of an individual, and nearly impossible to replicate. However, hair and eye colour may also be considered biometric details, as well as height and even an individuals' signature. As testing for some of these biometric details is rather impractical, common biometrics used tend to be finger prints and facial recognition as these are visible, more easily testable, and unique to the individual.

Biometrics refer broadly speaking measurements relating to human characteristics. In practice, biometrics are often used for authentication purposes. However, which features are considered to be biometric can differ across countries. Furthermore, the degree to which biometric details are used and stored in a population register system can also vary.

Biometrics in population registers

In an age where digital identity is increasingly prevalent, and where public authorities as well as private enterprises store increasing amounts of information about individuals, new technologies are being implemented to combat fraud, identity theft, and cybercrime. One approach in combatting fraud and identity theft are the use of biometric authentication technologies[48]. Individuals can quickly be identified based on biometric information, and authenticate themselves.

While biometrics are often not used directly within a population register, they can play an important instrumental role in quality control surrounding the administration of a population register and its outputs. Biometrics are included here in this report on population registers as such details can be used to identify a citizen, and in so doing, prove they have rights to certain public services. Biometrics can be used to pick-up personal documents such as passports, validate identity when travelling, or act as proof of identity to gain access to social services, or to vote. The use of biometric information is usually not part of the population register itself, these details can play a

[47] New Era, (author: Nakale, A.), (2018), Namibia introduces e-Death notification system, available at: https://neweralive.na/posts/namibia-introduces-e-death-notification-system .

[48] Gemalto, (no date), *Biometrics: authentication and identification (2018)*, https://www.gemalto.com/govt/inspired/biometrics

functional role in verifying identities of citizens and granting them access to certain services.

As countries use population registers to organise access to other services, such as getting a passport, receiving social services, or voting[49], having a biometric identification step can help reduce identity theft and fraud. France and the United Kingdom both have had biometric steps included in its border control for example, and India uses biometric identification to administer social welfare services and benefits to its sizeable population[50]. Canada also engages in scanning irises as part of its border control[51]. In African countries, such as Nigeria, biometric authentication is actually being considered as an instrument within population censuses. The idea is to use biometric identification to prevent multiple counts within a census and to get more accurate information on the population[52].

The degree to which biometric technology is used in population registers and the processes involved in administering a register require further examination however. At present it appears that the main focus and use of biometric technology is for authentication and identification in aid of accessing civil rights (such as movement between countries and the right to vote), and in accessing social services. These are all aspects which are auxiliary to population registers; related and reliant on registers, but not actually part of population registers.

As these are very personal details, the degree to which countries record these in national administrations, and how and where these details are stored are all subject variation across countries. As such the survey looks at different degrees of use of biometrics to understand how prevalent its use is in the countries studied within the survey. The results are presented below in Table 11.

Out of the 36 responses, the most common use of biometric details was to identify citizens when handing out passports or identity cards. This was the case for 58% of the respondents (21 countries). In several countries stored biometric data in the population register (33%), and 12 countries (33%) indicated they did not make any use of biometrics.

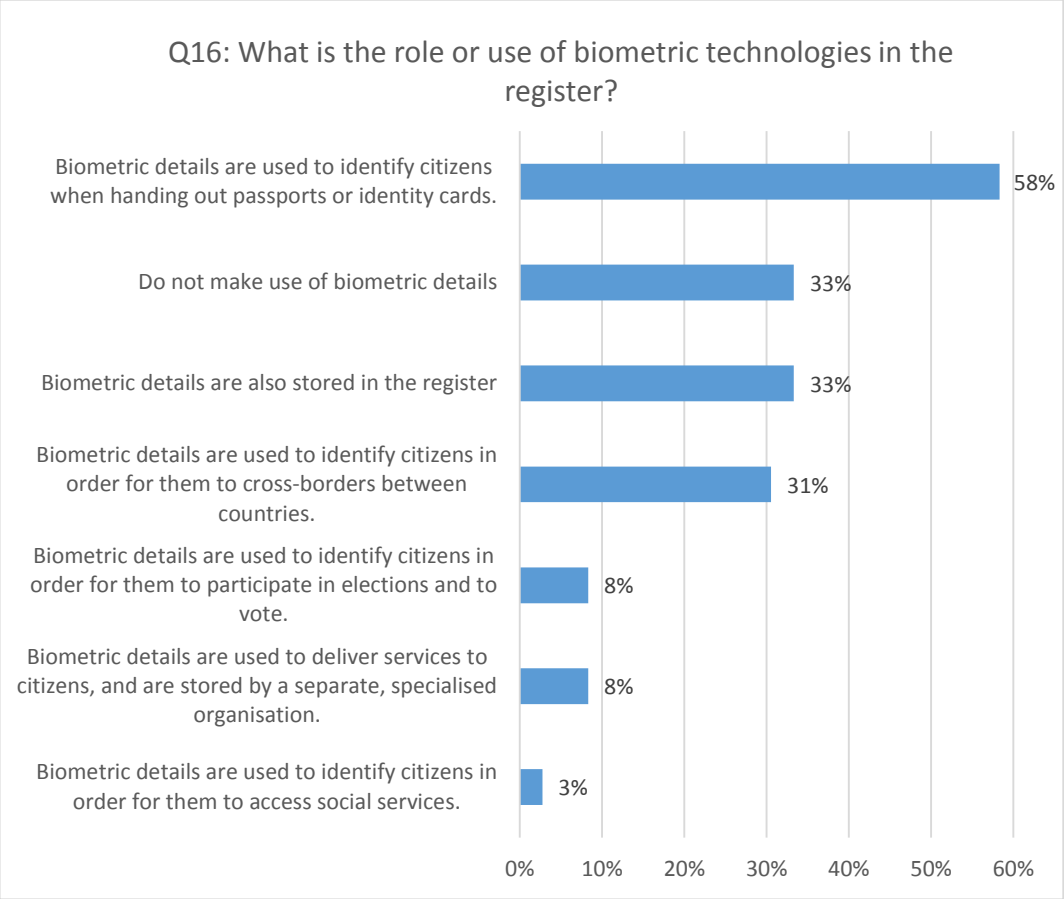
[49] IDEA International Institute for Democracy and Electoral Assistance, (2017), *Introducing Biometric Technology in Elections*, available at: https://www.idea.int/sites/default/files/publications/introducing-biometric-technology-in-elections-reissue.pdf .

[50] Technology and Society, (2017), *Social Implications of Biometric Registration: A Database Intended for Every Citizen in India*, https://technologyandsociety.org/considering-social-implications-of-biometric-registration-a-database-intended-for-every-citizen-in-india/

[51] Government of Canada (no date), Canada Border Services Agency: Nexus Air, http://www.cbsa-asfc.gc.ca/prog/nexus/air-aerien-eng.html#sup

[52] T. F. Owuye, I. O. Awoyelu, S. O. Bamiwuye, (2017), Development of a Multimodal Biometric Model for Population Census, *American Journal of Signal Processing 7(1),* available at: http://article.sapub.org/10.5923.j.ajsp.20170701.03.html

Table 11 Role or use of biometrics within population registers



The top user of biometric information as it was operationalized in this survey was Portugal, making use of biometrics in each of the 6 usage forms outline in the survey, as illustrated in Table 12.

Table 12 Top users of biometric details in population registers

Country	Biometric details are also stored in the register	Biometric details are used to deliver services to citizens, and are stored by a separate, specialised organisation	Biometric details are used to identify citizens when handing out passports or identity cards	Biometric details are used to identify citizens in order for them to access social services	Biometric details are used to identify citizens in order for them to participate in elections and to vote	Biometric details are used to identify citizens in order for them to cross-borders between countries
Portugal	X	X	X	X	X	X
Israel	X		X		X	X
Croatia		X	X			X
France	X		X			X
Lithuania	X		X			X
Namibia	X		X		X	

To illustrate how countries incorporate biometric details in their governmental administrations and/or their population registers, several examples have been provided below.

Role of Biometrics in the Portuguese BDIC Register

Portugal has a long history of recording different combinations of biometric information. The civil register in ***Portugal*** *dates back to the middle ages when the parish priests of the Roman Catholic Church maintained a registry of the marital status of parishioners, including related sacramental events, such as baptisms and marriages, as well as births and deaths.*

In the beginning of 1911 the scope of the information recorded was expanded to include: the name of the holder´s ascendants, signature, birth date and place, profession, photo, fingerprint, the colours of eyes, skin, hair, beard (males), skin signs and scars. In the next decades several changes to the registry requirements were introduced to accommodate constitutional and family law changes. During this period the following information stopped being recorded: profession, colour of eyes, skin, hair, and beard, skin signs and scars.

Most of the details required in the early versions of the national register have been removed over the years (e.g.: skin colour and other features). More recently, the introduction of the citizen card in 2008 concerning basically changing the used for recording the information and the addition of electronic functionalities, did not change the content of the information. As mentioned before, there are no relevant records in Portugal of incidents related to the collection of biometric details for civil registry purposes. Currently, the biometric information of the ***BDIC*** *system includes sex, age (indirectly though the birth date), height, face photo, signature, fingerprints.*

Use and storage of biometric data in the Namibian system

Finger prints are collected in Namibia. This has been a practice since 2004, where all 10 finger prints were recorded and stored in the Automated Fingerprint ID System or AFIS. The AFIS allows for finger print search and verification functionalities, in combination with the national identification numbers issued to Namibian citizens and inhabitants of the country.[53]

[53] van Staden, S., (2017), Moving the Namibia Civil Registration and Identity System towards an Unified and Federated Service Oriented Population and Identity Management Platform – Presentation, Office of the Prime Minister, Republic of Namibia.

Use and storage of biometric data in the Estonian system

Within the Estonian system, fingerprints, a facial image, a signature or image of signature, and iris images are biometric details which are recorded and stored in microchips in passports. Estonian citizens must give their permission for the recording of these biometric details and the use and processing of these details is organized by the Identity Documents Act[54]. Biometric details are stored in the Register of Identity Documents. The processor of the database is the Police and Border Guard Board.

If necessary, data (incl. biometric data) from different registers and databases can be exchanged through Data Exchange Layer X-tee[55]. There's no plan to store biometric details in the population register[56].

Use and storage of biometric data in the Israeli system

The Biometric Database is a computerized and secured database that contains unique data for every individual. The database was established by the State following legislation, and contains images of facial features of all residents of the State of Israel. The database also contains images of fingerprints of all residents who consent to storage of their fingerprints in the database. The database is managed by a separate authority – the Biometric Database Management Authority (BDMA), which is separate from the Population and Immigration Authority.

According to the law, should the individual consent to inclusion in the database, the police and the security authorities will be able to receive information from the database (identification results or images of facial features and fingerprints stored in the database) under certain conditions set forth in the law. It is prohibited to use the images of facial features and fingerprints stored in the database for any purpose that is not otherwise specified in the law.[57]

The BDMA was established in August 2011. The Authority was set up as an independent unit in the Ministry of Interior as part of the preparations for the issuance of new smart biometric national documentation, i.e. ID cards and passports. Smart documentation based on a biometric database prevents identity theft and impersonation. A combination of highly secure documentation and systems for matching biometric data in the database ensure that every citizen holds one unique identity document, with a genuine identity.[58]

54 GV, (2012), Data Protection, Consent and Biometric Data in Estonia: requirements and categories, available at: http://www.gencs.eu/news/view/793

55 https://www.ria.ee/en/state-information-system/x-tee.html

56 Interview with the representative of the Ministry of the Interior.

57 Government of Israel, (2017), *Information Leaflet - Mandatory Biometric Documentation*, [online], available at: https://www.gov.il/en/departments/publications/reports/bio_documents_info

58 Government of Israel, (no date), *National Biometric Database Authority*, [online], available at: https://www.gov.il/en/departments/about/1about

5 Developments in other key thematic areas

This chapter summarises findings on several key thematic areas. After first discussing gender registration in population registers (section 5.1), the chapter moves to discuss the registration of still born children (section 5.2). Finally the chapter discusses some expected developments to come (section 5.3).

5.1 Gender registration in population registers

Transgender people and population registers

In recent years the transgender movement has gained more attention in societies in different regions of the world. Although transgender people are a frequent subject of conversation amongst policy makers and civil society, a universally agreed upon definition of transgender does not appear to be held by different national public authorities. However, what most definitions across countries and organisations have in common is that **transgender** individuals identify with a different gender than the one suggested by the biological sex they were born with[59]. This understanding captures different degrees of different, internal, non-binary gender identities. In practice the word transgender is often used to describe people born physically as men, who identify as women, and people who were born as women, who identify as men.

Intersex individuals in turn differ from transgender people in that their biological, sexual anatomy does not firmly place them in either the female or the male gender[60]. These physical irregularities may appear at birth or later in life during puberty, but mean that a person's anatomy does not place them clearly in either biological sex. Having said that, most intersex individuals tend to identify with the gender suggested by their (dominant) biological sex, making their experience different from transgender people. Should an intersex individual be biologically more male, but identify more strongly as a female, this would likely be considered a transgender person in the LGTBI community. The intersex experience is sometimes referred to as more of an external experience, whereas being transgender has a more internal dimension as a person's experienced gender identity does not align with their physical anatomy[61].

Transgender people are becoming increasingly recognised and this has effects on public administration and population registers as well. The process of registering a new gender can be lengthy. The degree to which countries have made the registration of transgender people more accessible is an area of further study. The actual registration and categorisation of intersex or transgender individuals is also an issue for public administration debate. Some countries, have opted to include a third gender in official forms and birth certificates; this third gender can be "indeterminate" or "other" for example.

[59] Sociaal Cultureel Planbureau, (2017), Transgender personen in Nederland, [online], available at: https://www.scp.nl/Publicaties/Alle_publicaties/Publicaties_2017/Transgender_personen_in_Nederland .

[60] Sociaal Cultureel Planbureau, (2017), Transgender personen in Nederland, [online], available at: https://www.scp.nl/Publicaties/Alle_publicaties/Publicaties_2017/Transgender_personen_in_Nederland .

[61] It should also be noted here, that sexual orientation, and being transgender or intersex are not related; a man may for instance identify as a woman who is a lesbian.

On the issue of representing transgender and intersex individuals in their population registry systems, countries are moving at different paces. Some countries have made recent steps in this area:

- In some countries, such as the UK, the process of acquiring and registering a new birth certificate is very lengthy, and is considered as an indirect form of discrimination and bigotry. A public consultation was held to reconsider the process in July of 2018[62].
- In Germany, a law change in 2013 made it so that parents could opt to define the gender of a new born baby as "indeterminate" by not selecting either a male or female gender option on the baby's birth certificate. Intersex individuals can be registered using an "X" in either of the gender fields[63].
- In the Netherlands, debates are currently taking place across countries as to the importance of registering gender for public administration purposes. Dutch municipal governments have questioned the degree to which gender need be registered for certain public service delivery[64]. In the Netherlands, as of 2014, a Law came into force on changing the gender on birth certificates[65]. However in the national population register, the BRP, a binary description and categorisation of genders is still in use[66].
- Other countries, such as Sweden, are working to improve the rights of LGTBI people in the country. One of the various measures being undertaking from a public administration perspective is to renew the legislation on gender changes in the population register. Two laws were drafted and circulated for consultation in 2018, one of which moved for changing the gender in a population register should be reliable, quick, and simple[67].
- In other countries the process is less accepting. In Japan for instance the law indicates that if a person wishes to change their gender and register with that new gender in the national population register, they must be sterilised first[68].

Gender neutral or non-binary gender options

The survey conducted also contained two questions regarding transgender individuals and individuals with an intersex, or DSD conditions. Transgender individuals are those who were born with the biological body one sex (male or female), but psychologically feel they belong to the opposite gender. While there can be some variation in the degree to which a transgender person feels entirely part of one gender or the other, with some transgender people identifying as a non-binary gender, this is not the norm. In most cases, a transgender person feels they belong to the opposite sex and gender[69], compared to the one they were born with.

This means that in national registration systems, a country can opt to allow transgender individuals to have their originally registered sex changed; an adult man could for instance change sex to be officially registered as a woman. This topic is one

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62 The Guardian, (2018), Trans people to be able to register new identities more easily, https://www.theguardian.com/society/2018/jul/03/trans-people-to-be-able-to-register-new-identities-more-easily .

63 United Nations, (2015), Gender identity: Developing a statistical standard, [online], available at: https://unstats.un.org/unsd/classifications/expertgroup/egm2015/ac289-Bk2.PDF .

64 Gemeente.nu, (2019), *Kabinet: ophouden met onnodige sekseregistratie*, [online], available at: https://www.gemeente.nu/dienstverlening/privacy/ophouden-onnodige-sekseregistratie/

65 Transvisie, (2019), *Juridisch,* [online], available at: https://www.transvisie.nl/transitie/algemeen/juridisch/#1524686416948-5f1e9e67-1b8a .

66 The BRP system allows to register people with gender "O", for *Onbekend* (Unknown). However, such a registration only indicates that information on the gender is absent, it does not constitute a third gender category. Therefore, the Dutch categorization of gender should still be considered as binary.

67 Government of Sweden, (2018), *Equal rights and opportunities for LGBT persons in Sweden*, [online], available at: https://www.government.se/4a0326/contentassets/b9aa1c9ecc4d4cc6899409d75bcb1a70/equal-rights-and-opportunities-for-lgbt-persons-in-sweden.pdf .

68 AP, (2019), *Japan court upholds sterilization to register gender change*, [online], available at: https://www.apnews.com/9ef16f52e9b94b9a838b17a63c6c1e8d .

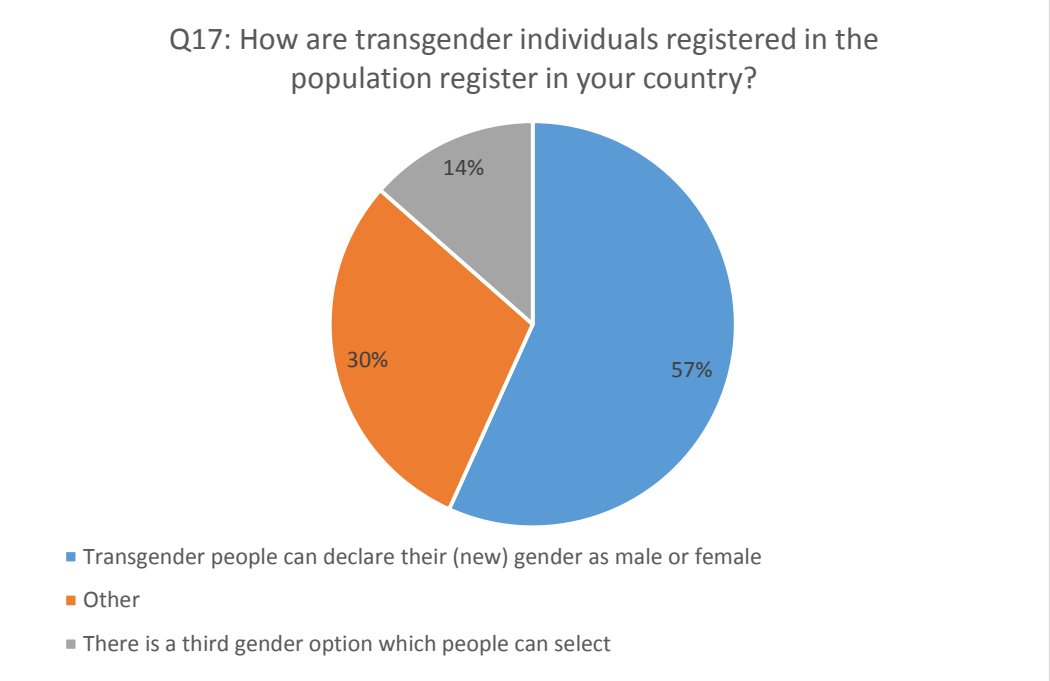
69 Another important note to make is that "sex" in this context refers to the biological sex of a person, while "gender" refers more to the psychological, mental, and emotional aspects tied to the sexes. Gender is very often framed in terms of social expectations tied to being a man or a woman.

that has gained more policy and societal attention in recent years. Indeed the ease with which a person can change their sex in registration systems has come under discussion as a result.

A similar issue holds for individuals born with an intersex condition. In this case, a person is born with different degrees and combinations of both male and female physical characteristics. Different degrees exist, with some intersex conditions being easier to identify than others. For instance, for children born with visible genitalia for both sexes it is evident there is an intersex condition. One other hand, a male person may have internal female reproductive organs and not realise until they go to the doctor or hospital. In any case, the procedure for changing registered sex, if a person wishes, is usually quite similar to the procedure for a transgender person, despite the fact that the rationale and reality of a person's change in their gender registration may differ substantially.

In any case, the 36 countries for which information was collected show that in the majority (57%) allow for individuals to change their gender registration from one sex to the other in the national population register. Some countries provide a third gender option, often a neutral gender option for those who do not feel they fit entirely in either the male or female category. These individuals may prefer a non-binary or more neutral representation of their gender in official state registrations. In 14% of countries (5 in absolute numbers), a third gender option could be used. These 5 countries were Austria, Luxembourg, Portugal, India, and Canada.

Figure 13 Registration of transgender individuals in countries



In most of the countries examined, changing gender in population registers is not a very salient issue for most national governments. Different requirements apply should a person wish to change their gender.

Changing gender in the Luxembourg population register

In Luxembourg, currently, any qualified Luxembourgish person may ask to change the mention of sex and one or more first names, by sending a request to the Minister having Justice in his attributions.
The person concerned demonstrates by a sufficient meeting of facts that the reference to his sex in the civil status records does not correspond to the one in which he appears and in which he is known.
Luxembourg is also starting to engage in political and societal discussions regarding a third, non-binary gender option.

Changing gender in the Danish population register

In Denmark, a change was made in this context. In 2014 juridical gender change was introduced. It gives a female born citizen the right to change gender. This was implemented into the CPR-system by having the opportunity to change the gender in the register as well. The term second mother (medmor) has been introduced as an alternative category for parents. Originally the register only included information on father and mother.

5.2 Still-born children

Another recent trend has been for countries to register the births of stillborn children. The reasoning for this is to allow parents to register their child, even if they did not live long or were still-born, so that the appropriate medical and personal affairs can be arranged. For instance, having a funeral or ceremony as an outlet for a family's grief and thereby allowing some semblance of closure, is one of the reasons the registration of stillborn children has been made easier in the Netherlands.

It appears that other countries have also it possible to allow for still-born children to be registered, though the survey does not indicate since when this has been the case and what the underlying reason is for this option in the national population register. The results for the survey show that 16 countries (44%) allow for the registration of still-born children.

5.3 Continuous and expected developments

When considering important developments in the world of population registration systems, several themes and trends quickly become apparent. Based on desk research and the survey conducted, as well as insights from the case studies, it appears that digitisation is an important topic. Digitisation and the way in which it can make public administration and the provision of services to citizens more effective and efficient have been discussed and implemented in the Netherlands in recent years, and this seems to be the case in other countries as well. The survey results demonstrate **that many countries use digital technology in their population registers**. Digital technology is used at a relatively basic level to communicate between collection, storing, and usage levels in a register. It is also used very commonly to help deliver services to citizens, and to allow citizens access to view their own personal details stored in their national register.

Several countries are front runners when it comes to the **use of digital technology in population registers**. While the Netherlands is a digitised society with high degrees of internet penetration, concerning the role of digital technology within the

population register, countries such as Estonia take the lead. An apparent secret to success for the Estonian system is the holistic, government-wide commitment to effective, but especially, secure cyber-systems. The Estonian register is also quite expansive in terms of its content and coverage, comparable in this sense to the system of the Netherlands. A noteworthy approach here is that the Estonian government saw a universal commitment to an integrated and digital approach to government services, including the population register system, which also integrates access to citizen services such as voter registration.

Other important themes which relate to the growing use of digital technology in government relate to privacy and data protection. In a government context this relates to the **privacy of citizen data and the protection** of their information and digital identities. As illustrations, the Luxembourgian and Estonian systems both make citizen access and privacy important concerns within their systems. In Luxembourg an independent agency is tasked with the control of processing of personal data in Luxembourg and ensuring compliance with data protection regulations, and the powers of this authority were expanded with the entrance of the GDPR in 2018. In Estonia, as in the Netherlands, citizens can request insight into their details which the government stores in the designated population register. EU countries are subject to GDPR requirements as of 2018, but the precise manner in which this regulation has been implemented varies across Member States. As indicated, some countries have made data protection and security a more dominant priority since before the GDPR, such as Luxembourg and Estonia.

Other recent developments in population registers include the **role of biometric information** in population registers. It should be noted that biometric information is often used to verify the identity of individuals in a country, and this identification is often in view of providing citizens with access to the right services. As such biometric information can be seen as an auxiliary tool which helps to carry out and deliver public services which rely on data from population registers. As biometric information is often also embedded in identity cards and passports, which are in turn often tied to data in population registers, the use and stored of personal biometric information has been a recent, much discussed theme in governmental services and population registers. That being said, many countries do not use much biometric information in their registers, with most having separate registers for biometric information which are secured to safeguard this type of information.

A final issue which as gained increasing salience and traction in societal debates across the world concerning **non-binary gender** identification. There has been increasing attention in recent years for transgender and intersex individuals, non-binary gender forms, and how these individuals can be made to feel more at home in societies across the world. India for instance moved to allow transgender individuals to vote in 2019. The German population register allows for a gender neutral gender description on identification documents. On the whole however, in many countries, this issue is discussed more in society than in the political sphere and in governmental service provision. In most countries a transgender person can declared their new preferred gender identity, but this change is subject to many external and institutional requirements. For individuals from the LGTB community and outside it, who do not feel male or female, a non-binary gender option may be more preferable for their official registration in a register. However, a third gender option is far from the norm in this regard. Countries such as the Netherlands, by starting to discuss this issue in the political sphere, appear to be amongst the front-runners.

Overall, in terms of coverage of people and scope of details registered, in terms of use of digital technology and citizen access to details, the Netherlands appears to have one of the more expansive population registers examined. That being said, certain themes, including data protection and security, are areas in which other countries may provide interesting lessons should the Netherlands wish to adapt its system in the future.

6 Concluding remarks and lessons from other countries

The Dutch Ministry of the Interior and Kingdom Relations commissioned this study to gain insight regarding different, current approaches to national population registers. Findings from literature, surveys, and case studies have been brought together in this report to highlight main types of registers in place across the globe, as well as the main developments, trends, and challenges to population registration. This chapter draws together the study findings and provides several closing remarks to on possible lessons and areas for future research which could be considered by Dutch policy makers in the event that the BRP is to be adjusted.

6.1 Concluding remarks

The overall goal of this study has been to examine the approaches, use of, and developments in population registration systems. The focus of this inventory has been on EU Member States, though several non-EU countries were also examined in order to collect a richer and more diverse sample of approaches to population registration systems.

Overall observations and developments in population registers

Globally speaking, the results gathered from the literature review and survey indicate that the vast majority of countries covered in this research have a population register of some kind in place. It should be reiterated here that **population registers can vary substantially** in how they are set-up and managed; collecting personal details, storing these details, and using these details can be conducted locally, regionally, or at the state or federal level. The nature and scope of the details contained in a population register can vary substantially as well, along with the coverage of different types of citizens and inhabitants of a country. Along these dimensions of scope and content, coverage of people, and approach to the register, a variety of types of registers can be identified. As indicated however, most countries have a population register of some kind, as well as a civic register. Most countries also make use of a universal Personal Identification Number (PIN), though here again there are many exceptions which do not.

Looking more broadly at the **use of personal details** from population registers, in the vast majority of cases national public authorities can make use of the details stored there to carry out social and public services for citizens. Some countries, notably smaller (in terms of either geographical size or population size) and neighbouring countries tend to have more arrangements in place for use of data between foreign public authorities. While certain sectoral EU-wide arrangements exist for using and exchanging data (such as the aforementioned Electronic Exchange of Social Security Information, EESSI), several groups of countries have developed multilateral and bilateral information exchange agreements. This is the case for the Scandinavian countries, as well as the Nordic Baltic countries, given the high levels of labour migrants passing across the borders of these countries.
Outside of Europe customs and border authorities may also share personal information on individuals travelling in and out of countries. Many such arrangements are set up bilaterally between countries, and providing an inventory of data sharing agreements here goes beyond the scope of this study. That being said, the issue of use of data by foreign governments is a topic for further examination.

When considering important developments in the world of population registration systems, several themes and trends quickly become apparent. Based on desk research and the survey conducted, as well as insights from the case studies, it appears that digitisation is an important topic. Digitisation and the way in which it can make public administration and the provision of services to citizens more effective and efficient have been discussed and implemented in the Netherlands in recent years, and this seems to be the case in other countries as well. The survey results demonstrate **that many countries use digital technology in their population registers**. Digital technology is used at a relatively basic level to communicate between collection, storing, and usage levels in a register. It is also used very commonly to help deliver services to citizens, and to allow citizens access to view their own personal details stored in their national register.

Several countries are front runners when it comes to the **use of digital technology in population registers**. While the Netherlands is a digitised society with high degrees of internet penetration, concerning the role of digital technology within the population register, countries such as Estonia take the lead. Indeed, Estonia has had a holistic, long term commitment to digital technology and security since the early 1990s. An apparent secret to success for the Estonian system is the holistic, government-wide commitment to effective, but especially, secure cyber-systems. Designated legal acts have been implemented and updated since the early 1990s, and a designated Data Protection Authority set up as early as 1999. The Estonian register is also quite expansive in terms of its content and coverage, comparable in this sense to the system of the Netherlands. A noteworthy approach here is that the Estonian government saw a universal commitment to an integrated and digital approach to government services, including the population register system, which also integrates access to citizen services such as voter registration.

Other important themes which relate to the growing use of digital technology in government relate to privacy and data protection. In a government context this relates to the **privacy of citizen data and the protection** of their information and digital identities. Citizen access to their details are also relevant topics in this context. As illustrations, the Luxembourgian and Estonian systems both make citizen access and privacy important concerns within their systems. In Luxembourg, the National Data Protection Commission (CNPD), was established in 2002, is an independent agency tasked with the control of processing of personal data in Luxembourg and ensuring compliance with data protection regulations, and the powers of this authority were expanded with the entrance of the GDPR in 2018. In Estonia, as in the Netherlands, citizens can request insight into their details which the government stores in the designated population register. Indeed, the topic of citizen access to their own details also appears prevalent amongst countries in that, out of the countries surveyed, 61% of respondents used digital technology to allow citizens to access and view their own information. Though citizen access is an important issue, the **approaches to data protection and security** are avenues for further research as this information was not requested in detail form the survey conducted. EU countries are subject to GDPR requirements as of 2018, but the precise manner in which this regulation has been implemented varies across Member States. As indicated, some countries have made data protection and security a more dominant priority since before the GDPR, such as Luxembourg and Estonia.

Other recent developments in population registers include the **role of biometric information** in population registers. It should be noted that biometric information is often used to verify the identity of individuals in a country, and this identification is often in view of providing citizens with access to the right services. As such biometric information can be seen as an auxiliary tool which helps to carry out and deliver public services which rely on data from population registers. As biometric information is often also embedded in identity cards and passports, which are in turn often tied to data in population registers, the use and stored of personal biometric information has been a recent, much discussed theme in governmental services and population registers. That being said, many countries do not use much biometric information in their registers, with most having separate registers for biometric information which are secured to safeguard this type of information.

A final issue which as gained increasing salience and traction in societal debates across the world concerning **non-binary gender** identification. There has been increasing attention in recent years for transgender and intersex individuals, non-binary gender forms, and how these individuals can be made to feel more at home in societies across the world. India for instance moved to allow transgender individuals to vote in 2019. The German population register allows for a gender neutral gender description on identification documents. On the whole however, in many countries, this issue is discussed more in society than in the political sphere and in governmental service provision. In most countries a transgender person can declared their new preferred gender identity, but this change is subject to many external and institutional requirements. For individuals from the LGTB community or not, who do not feel male or female, a non-binary gender option may be more preferable for their official registration in a register. However, a third gender option is far from the norm in this regard. Countries such as the Netherlands, by starting to discuss this issue in the political sphere, appear to be amongst the front-runners.

6.2 Suggestions for further research

Overall, in terms of coverage of people and scope of details registered, in terms of use of digital technology and citizen access to details, the Netherlands appears to have one of the more expansive population registers examined. That being said, certain themes, including the further improvement data protection and security, are areas in which other countries may provide interesting lessons should the Netherlands wish to adapt its system in the future.

The study covers a wide range of topics, which limits on the detail of the collected information. Some topics may be especially interesting for further research. This section concludes with some suggestions.

- **Use of digital technology** is widespread, but there are large differences between countries in the degree of digitisation. A more detailed study of the best practices may provide useful insights for the further development of digital technologies.
- **The role of biometrics** in population registration has been growing quickly in recent years. Further development of the use of biometrics is expected in years to come, which makes this another interesting area for further research.
- With the increasing use of digital technology and biometrics, **data protection and security** becomes even more relevant. This too could be an interesting topic for further research or bilateral discussion with countries such as Estonia and Portugal, who have taken especially far reaching measures to safeguard data.
- The **sharing of data between countries** is another topic for further research and one which ties closely with the issue of data protection and security.

- Recently, the discussion regarding **gender registration** has been growing. Some countries have already included a third gender option to their population register. It may be interesting to monitor the ongoing discussions about this topic in different countries and to evaluate the experiences with non-binary gender registration in the countries where this option exists.

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Appendices

Annex 1: overview on EU/EFTA population registers

Country	Name of register	Collecting and administering authority	Responsible Authority	Type of register	Central/Decentral
Austria	Zentrales Melderegister (ZMR)	Municipalities	Ministry of the Interior	Population register	Central
Belgium	Rijksregister van Natuurlijke Personen	Municipalities	Ministry of the Interior	Population register	Central
Bulgaria	ESGRAON	(information needed)	Ministry of Regional Development and Public Works	Population register	Central
Croatia	Sredisnji Registar	(information needed)	Ministry of the Interior (AZOP agency)	(information needed)	(information needed)
Cyprus		(information needed)			
Czech Republic	Registr Obyvatel (ROB)	(information needed)	Ministry of the Interior	Population register	Central
Denmark	Centrale Person Register (CPR)	(information needed)	Ministry for Economic Affairs and the Interior	Population register	Central
Estonia	Rahvastikuregister	(information needed)	Ministry of the Interior	Population register	Central
Finland	Väestötietojärjestelmä	Population Register Centre and local register offices	Ministry of Finance	Population register	Central
France	Répertoire national d'identification des personnes physiques (RNIPP)	Municipalities	The National Institute of Statistics and Economic Studies (INSEE)	Civil register	Central
Germany	Melderegister	Municipalities, Länder	Municipalities, Länder, Ministry of the Interior	Population register	Decentral

Greece	(information needed)	(information needed)	(information needed)	(information needed)	(information needed)
Hungary	A polgárok személyi adatainak és lakcímének nyilvántartása	Municipalities (275 of 3177)		Population register	Central
Iceland	Þjóðskrá Íslands	Registers Iceland	Ministry of Transport and Local Government	Population register	Central
Ireland	Civil Registration Service (CRS)	Health Service Executive	Department of Employment Affairs and Social Protection - General Register Office	Civil register	Central
Italy	Anagrafe della Popolazione Residente (APR)	Municipalities		Population register	Decentral
Latvia	Iedzīvotāju reģistrs		Ministry of the Interior (Office of Citizenship and Migration Affairs)	Population register	Central
Liechtenstein	(information needed)	(information needed)			
Lithuania	Gyventoju registras	Centre of registers	Ministry of Transport and Communications	Population register	Central
Luxembourg	Registre National des Personnes Physiques (RNPP)	Municipalities		Population register	Central
Malta	*Public Registry*	(information needed)	(information needed)	*Civil register*	(information needed)
Netherlands	BasisRegistratie Personen (BRP)	Municipalities	Ministry of the Interior	Population register	Central
Norway	Folkeregister	The Norwegian Tax Administration	The Norwegian Tax Administration	Population register	Central

Poland	Powszechny Elektroniczny System Ewidencji Ludnosci (PESEL)	(information needed)	Ministry of Digitization	Population register	Central
Portugal	*Registro de Identificação Civil*	(information needed)	(information needed)	*Civil register*	*Decentral*
Romania	Registrul Permanent de evidenta populatei	(information needed)	Ministry of Internal Affairs	Population register	Central
Slovakia	*Register obyvatel'ov Slovenskej republiky (REGOB)*	(information needed)	*Ministry of the Interior*	*Population register*	*Central*
Slovenia	Centralni Register Prebivalstva (CRP)	(information needed)	Ministry of the Interior	Population register	Central
Spain	Padrón	Municipalities	National Statistics Institute (INE)	Population register	Central
Sweden	Registret över Totalbefolkningen	Tax offices	Swedish Tax Agency	Population register	Central
Switzerland	-	Communes and cantons	Communes and cantons	Population register	Decentral
UK	-	-	-	-	-

Annex 2: country responses survey

Summary of responses survey

Overview	Count
Surveys received from Embassies	22
Surveys filled in by Panteia's external European network of research organisations (ENSR)	4
Internally filled in based on desk research (as discussed with the Ministry)	10
No response	3

Survey responses per country

Country	Status
Austria	Received survey
Bulgaria	Received survey
Cyprus	Received survey
Czech Republic	Received survey
Denmark	Received survey
Estonia	Received survey
Finland	Received survey
Germany	Received survey
Greece	Received survey
Hungary	Received survey
Latvia	Received survey
Lithuania	Received survey
Luxembourg	Received survey
Poland	Received survey
Portugal	Received survey
Slovenia	Received survey
Spain	Received survey
Sweden	Received survey
Norway	Received survey
Iceland	Received survey
Israel	Received survey
Georgia	Received survey
Belgium	No survey received
Mexico	Internal
Croatia	ENSR Partner
France	ENSR partner
Italy	ENSR partner
Malta	ENSR partner
Romania	No survey received
Slovakia	No survey received
Ireland	Internal
United Kingdom	Internal
India	Internal
South Korea	Internal
Japan	Internal
Canada	Internal
New Zealand	Internal
Namibia	Internal

Annex 3: questionnaire template survey

Questionnaire introduction

Dear sir or madam,

Thank you for taking the time to fill out this questionnaire.

As indicated in the Letter of Recommendation accompanying this survey, this overall research project has been commissioned by the Dutch Ministry of Internal Affairs. The project has the overall aim of gathering information and interesting practices concerning population registers in different countries. This survey forms and important part of this overall aim. The survey has been designed to collect factual information on the different types of approaches in place for registering a population and citizens within and outside of the EU.

The final report will be written in English and can be sent to you or your organisation at the close of the study should you be interested in receiving it. We hope to collect international information on the different approaches to population registers in Europe and outside of Europe, with a view to being able to learn from our international peers.

Before starting, please read the following points carefully:

- Population registers differ per country. Some countries do not have national population registers, but instead have a civic register in place, or other registers.
- We would like to ask you to fill in this questionnaire for the main, most important system in your country which registers basic personal details about the people living in and/or registered in your country.
- The questionnaire consists of a combination of multiple choice and open answer questions. In most cases, multiple responses are possible for a given question.
- The questionnaire will take between 30 and 45 minutes to fill in.
- The responses provided will be anonymously cited in the report, no personal names of those people filling in the questionnaire will be listed.

An **important note** regarding the filling in of questionnaires: as the desired approach to filling in the questionnaire may vary across national organisations, we would hereby like to remind you that several options exist for how to fill in the questionnaire:

1. Filling the questionnaire out in written form yourselves.
2. Filling in the questionnaire via telephone with the member of the research team for this project. This will resemble an interview in practice as the researcher goes through the questions with you.
3. If feasible, the researcher travels to your location in The Hague to fill in the questionnaire with you in person.

If you prefer to fill in the questionnaire via phone or in person, please contact the research team as soon as possible.

Questionnaire template

Question	*Response categories*	
❖ *For most questions we would like you to **write down** your responses in the answer fields below.* ❖ *Some questions are **multiple choice**, as indicated. Please use an **"X"** to indicate your choice.*		
1. Name and position of individual filling in survey		
2. Organisation		
3. For which country are you filling in this survey?		
4. Is there a population register in your country? Please select from the list below by adding an "X" to the relevant fields.		Yes
		No
5. Is one of the following types of registers (also) present? Please select from the list below by adding an "X" to the relevant fields.		Civic register (registering life events such as birth, marriage, divorce or annulment, etc.).
		Tax payers register
		Other: (please fill in what type of register your country has)
6. Name of population register or of the main register used in your country:		
***Note:** Henceforth, when the questionnaire refers to "population register" we mean the most important and commonly used system for registering the basic details about a population for your country.*		
7. What type of population register is in place in your country? (Population register here refers to *the most important and commonly used* register is in place in your country).		
8. Which organisation collects and/or receives personal information for in the register?		
a. Name		
b. What type of organisation is this? (For example, local government body, national government body, other public authority, tax authority, social service, other).		
c. At which level does collection of details take		Local/ municipal/ community level
		Regional/provincial/state level

place? Please select from the list below by adding an "X" to the relevant fields.		National/ Federal level
9. Which organisation is responsible for storing and managing the personal information for in the register?		
a. Name		
b. What type of organisation is this? (For example, local government body, national government body, other public authority, tax authority, social service, other).		
c. At which level does storage and management of details take place? Please select from the list below by adding an "X" to the relevant fields**.**		Local/ municipal/ community level
		Regional/provincial/state level
		National/ Federal/ level
10. Which organisation is ultimately responsible for the register? Responsibility can be understood as the highest organisation in charge of governing the register, the organisation which finances the register, such as a national ministry or other organisation.		
a. Name		
b. Please indicate the level of this organisation. Please select from the list below by adding an "X" to the relevant fields.		Local/ municipal/ community level
		Regional/provincial/state level
		National/ Federal/ level
11. Which personal details are stored in the register? Please select from the list below by adding an "X" to the relevant fields.		Family name
		Gender/Sex
		Date of birth
		Place of birth
		Current citizenship
		Previous citizenship
		Multiple citizenship
		Current address
		Date of change of address
		Previous address
		Date of immigration
		Date of emigration
		Country of destination

		Expiry date residence permit
		Same-sex relationships
		Same-sex parents
		Still-born children
		Non-binary gender options
		Profession
		Languages spoken
		Disability
		Education level attained
		Other: *please indicate in the field below.*
12. Who is included in the register? Please select from the list below by adding an "X" to the relevant fields**.**		Citizens living in this country
		Citizens living abroad
		Non-citizens with permanent residence in the country
		Non-citizens with temporary residence in the country
		Non-citizens working but not living in the country
		Deceased citizens who were living in the country
		Deceased citizens who were living abroad
		Deceased non-citizens who were living in the country
		Other: *please indicate in the field below.*
13. Does the population register in your country make use of a universal Personal Identification Number (PIN)? Please select from the list below by adding an "X" to the relevant fields.		Yes this is a universal PIN number
		No, there is not such number
		A PIN number is used for certain types of services (for example: a tax identification number, of a social service number, etc.)
14. Which organisations or actors may make use of the personal detail stored in a population register? Please select the responses which apply. Please select from the list below by adding an "X" to the relevant fields.		Public authorities (for example national and local governments, taxation bodies and social security organisations).
		Private organisations that provide services with a public interest (such as hospitals and other health care organisations, pension funds, banks, insurance companies and judicial organisations)
		Foreign authorities or foreign public services
		Research organisations

		Private organisations for other non-commercial activities
		Private organisations for commercial activities (for instance direct advertising)
		Other: *please indicate in the field below.*
The following questions concern several specific themes related to population registers.		
15. What is the role of digitisation within the register? Please select the responses which apply. Please select from the list below by adding an "X" to the relevant fields.		Digitisation is used to communicate between organisations which collect and/or receive personal information, and organisations which store and manage personal information.
		Digitisation is used to allow citizens to access and view their personal information in the register.
		Digitisation is used to allow citizens to access and change (certain) personal information in the register.
		Digitisation is used to digitize and store source documents (such as marriage licenses, birth certificates, or other important documents).
		Digitisation is used to deliver services to citizens
		None of the above
		Other: *please indicate in the field below.*
16. What is the role of/or use of biometric technologies in the register in your country? Biometric data can be include finger prints, iris scanning, facial recognition, etc. Please select the responses which apply. Please select from the list below by adding an "X" to the relevant fields.		Biometric details are also stored in the register
		Biometric details are used to deliver services to citizens, and are stored by a separate, specialised organisation.
		Biometric details are used to identify citizens when handing out passports or identity cards.
		Biometric details are used to identify citizens in order for them to access social services.
		Biometric details are used to identify citizens in order for them to participate in elections and to vote.
		Biometric details are used to identify citizens in order for them to cross-borders between countries.
		None of the above

17. Concerning transgender people: how are transgender individuals registered in the population register in your country? Please select from the list below by adding an "X" to the relevant fields.		Transgender people can declare their (new) gender as male or female
		There is a third gender option which people can select, such as, for example "indeterminate", or "other".
		Other: *please indicate in the field below which situation holds in your country.*
18. Concerning intersex people: how are intersex individuals registered in the population register in your country? Please select from the list below by adding an "X" to the relevant fields**.**		Intersex people must declare themselves as either male or female
		Intersex individuals can fill out an "X" in a male or female box in the population registration process.
		There is a third gender option which people can select, such as, for example "indeterminate", or "other".
		Other: *please indicate in the field below which situation holds in your country.*
19. To you knowledge, have there been any major developments regarding privacy in the main population register used in your country since 2013? If so, please summarise in a few sentences what changes or developments have taken place.	*Open answer, please write your response in this field:*	
20. To you knowledge, have there been any major changes or developments to the population register in place in your country since 2013? If so, please summarise in a few sentences what changes or developments have taken place.	*Open answer, please write your response in this field:*	
21. To you knowledge, are any future changes or developments currently being discussed concerning the population register in your country? If so, please summarise in a few sentences what changes or developments are expected to take place.	*Open answer, please write your response in this field:*	
22. Do you wish to receive the final report?		Yes
		No