

Working Paper

**ADVANCES AND CHALLENGES IN THE
STATISTICAL USE OF ADMINISTRATIVE
RECORDS IN INE CHILE:
Demographic and social statistics**

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The use of language that does not discriminate or mark differences between men and women has been a concern in the preparation of this document.

Resumen

El presente documento aborda los avances y desafíos actuales de la institución en torno al uso de registros administrativos en la producción de estadísticas de población.

En primera instancia, se desarrollan los antecedentes, metodología y resultados publicados de las estadísticas de hechos vitales, específicamente aquellos que marcan el inicio y el final de la vida y los cambios en el estado civil. Por otra parte, se abordan las estadísticas de movilidad internacional y de migración, comentando la complementariedad entre la fuente censal y de registros administrativos para estimar el número de extranjeros residentes habituales en Chile al cierre de cada año.

En segundo lugar, se presenta el proyecto Registro Estadístico de Población (REP) que busca desarrollar el trabajo del uso de registros administrativos en el marco de un enfoque integrado que recopile datos de población que permitan su conteo, ubicación y caracterización demográfica básica.

Finalmente, se desarrollan las principales conclusiones de esta línea de trabajo.

Palabras claves: registros administrativos, personas, nacimientos, defunciones, matrimonios, acuerdos de unión civil, movilidad internacional y estadísticas de migración.

Summary

This document addresses the current advances and challenges of the institution regarding the use of administrative records in the production of population statistics.

The first part covers the background, methodology, and published results of statistics of vital events, specifically those that mark the beginning and end of life and changes in marital status. In addition, international mobility and migration statistics are addressed while commenting on the complementarity between the census data and administrative records in estimating the number of habitual foreign residents in Chile at the end of each year.

The second part discusses the Statistical Population Register project, which seeks to address the use of administrative records with an integrated approach that collects population data for enumeration, location, and basic demographic characterization.

The final part of this document presents the main conclusions drawn.

Keywords: administrative records, people, births, deaths, marriages, civil union agreements, international mobility and migration statistics.

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Acronyms

CUA:	Civil Union Agreement
INE:	National Statistics Institute
Minsal:	Ministry of Health
NSS:	National Statistical System
NSO:	National Statistical Office
PDI:	Investigations Police
Sermig:	National Migration Service
SPR:	Statistical Population Register
SRCel:	Civil Registration and Identification Service

I. Introduction

Statistical production based on administrative records constitutes a growing line of work in statistical institutions around the world. It is possible to observe an increasing demand for disaggregated, timely, and quality statistical information, which has gained even greater relevance in the context of the COVID-19 pandemic. Thus, there is a clear need to move towards complementarity between the traditional means of data collection, such as censuses and sample surveys, and the information collected through administrative data.

The National Statistics Institute of Chile (INE) has considerable experience in statistical use of administrative records for demographic statistics, specifically in the areas of vital events and migration. Collaboration with institutional stakeholders and members of the National Statistical System (NSS) has been crucial to the development of workflows that promote methodologies and successfully achieve the goals of statistical production.

Currently, the importance of using administrative data more intensively has become undeniable, highlighting the need to move towards a direction of complementarity between the traditional means of data collection such as censuses and sample surveys, and the information collected through administrative sources. In that sense, initiatives that integrate information have been recommended by international guidelines on the compilation of official statistics and a master population frame (United Nations, 2022a, pág. 6; United Nations, 2022b, pág. 79) .

The first section of this working paper describes the introduction and motivation regarding this topic, the second section covers the current use of administrative data in INE Chile for social statistics purposes, including the context, methodology, and results of the most recently published data on vital events and migration statistics. The third section discusses the Statistical Population Register project, and initiative that seeks to use administrative records within an integrated approach. The final section, closes the document with some final remarks.

II. Use of administrative records in population statistics

1. Vital Events Statistics

a. Context:

Vital statistics are a compilation of statistics on the vital events that occur throughout a person's life, including the characteristics of the events themselves as well as the person or people who are affected by them. These events can be unique, such as those associated with life and death event (including births, deaths, and fetal deaths) that are the vital events themselves. In addition, vital statistics also include the so-called dual events, that is, those that occur simultaneously in the lives of two people and that can occur more than once in a lifetime, provided that there is a previous change in its previous condition. These events include marriages, civil unions (known as civil union agreements in Chile), separations, divorces, legal dissolution of registered partnerships, and marriage annulments.

Since the promulgation of the Civil Code in 1855, records of vital events that occurred in the Chile have been kept through the Civil Registration and Identification Service (SRCel) and, what was known at the time as the Statistics Office, which is currently known as the National Statistics Institute (INE). The collaboration between SRCel, INE, and the Ministry of Health (Minsal) dates back to 1982 when the Tripartite Agreement for Vital Statistics was signed. The agreement was updated in 2012 and 2018. Thereby, the collaborative work between these institutions through the years made it possible to deliver official statistics on births, marriages, civil union agreements, deaths, and fetal deaths in the country.

Vital events play a preponderant role in the proposal, planning, and evaluation of public policies, both socially and economically. That is the main reason why the importance of improving statistical systems has been prioritized in the Montevideo Consensus on population and development¹ and in Sustainable Development Goals² (SDG). In both instances, countries have been urged to strengthen their data sources and population registration systems.

Even though it is not exempt from errors as any source of statistical information, Chile's vital statistics system has been studied and evaluated on previous occasions by academics and international organizations (CELADE-UNFPA, 2014; Del Popolo & Bay, 2021), and it has been deemed to be of high quality. Continuous improvements and regular evaluation foster the modernization of state systems as do international recommendations.

The next sections discuss how the vital statistics system works and some general results according to vital facts and summarizes the most recent demographic evaluation of its quality.

¹ This point is mentioned in actions 62 and 102 of the Consensus. Document available in https://repositorio.cepal.org/bitstream/handle/11362/21860/15/S20131039_en.pdf

² Several of the indicators can be measured through vital statistics, such as those related to mortality and the conditions of newborns or mothers. See indicators in <https://unstats.un.org/sdgs/metadata/>.

b. Methodology

Every year, INE, SRCel and Minsal collaborate in publishing the Vital Statistics Yearbook, a document that contains information on births, marriages, civil union agreements, deaths, and fetal deaths following this procedure:

- SRCel provides administrative records of births, marriages, union agreements, and general deaths
- For fetal deaths, the information is provided mainly by Minsal and to a lesser extent by SRCel, so they complement one other.
- The health variables of births and deaths are managed by Minsal
- Minsal and INE have the mission of reviewing, analyzing, classifying, coding, and comparing the information on health and sociodemographics (according to the competencies of each institution) as well as detecting any inconsistencies in the data.

In the most recent study on the quality of vital statistics in Chile (INE, 2020b), an analysis of the quality of vital events that are published in the Vital Statistics Yearbook was carried out through the application of analytical evaluation techniques, focusing particularly on births and deaths for the period 1990-2018. Following the principles and recommendations of the United Nations for a vital statistics system (2014), there are 4 dimensions of quality³:

Completeness: “The record is complete when all the vital events that occurred to the members of the population of a country (or zone) in a given period have been registered in the system, that is, they have their corresponding certificate in the civil registration. This means that the system reaches 100% coverage”⁴.

Accuracy: “The civil registration is precise or exact when all the headings related to a vital event have been filled in exactly and completely in the record, that is, when there are no response errors and no data has been omitted”.

Availability: “It is understood that the data collected, filed, processed, and stored in each system (civil registration and vital statistics) are accessible to users who need it in an easy-to-use format”.

Timeliness/Punctuality: “The registration is made within the term when each of the vital events that occurred in the country (or zone) has been notified for registration within the periods established by law”.

The previously mentioned study of quality (INE, 2020b) focused on the analysis of administrative coverage and reporting units as well as on timeliness and completeness.

³ The following quotes were taken from the Spanish version of the aforementioned manual, therefore there may be translation differences from the original English version.

⁴ Usually the term “coverage” has been used, currently the term “completeness” has replaced it. In this working paper, “coverage” will be used, referring to the territory and the population from which the information is collected. The term “completeness” refers to the proportion of events recorded over the totality of events that occurred.

1. Analysis of administrative coverage and reporting units

Administrative coverage in the context of quality assessment of vital statistics can be understood in two ways, the first from a territorial point of view, where the Chilean State has legal and administrative influence within the completeness of all its limits, air, sea, and land, including island territories. Secondly, it refers to the subpopulations that can be legally or administratively included or excluded from the compilation of vital facts.

The coverage of the reporting units refers to the presence or existence of a civil registration and identification service throughout the national territory, which makes access easier for all Chileans and residents in the country and therefore facilitates the registration of vital events throughout the national territory.

Within this administrative framework there is no territorial space that is excluded or outside the administrative scope of the State. At the same time there are no subpopulations in the country that are legally and/or administratively excluded from the collection and registration of vital events. Thus, every live birth, regardless of the nationality, immigration status of the parents, or membership in a group or minority, has the right to be registered in the Civil Registration free of charge. In the same way, there are no legal or administrative limitations for the registration of all deaths that occur in national territory, whose registration is also free. Therefore, **administrative coverage by definition is universal**, that is, it covers the entire national territory and the people who live in it, regardless of their immigration status or ethnic, racial, political, or any other classification.

2. Punctuality and completeness analysis

Completeness is generally difficult to measure and assess, and statistical offices often assess the completeness of vital registration data by estimating the ratio of registered births or deaths to estimated births and deaths in population estimates and projections. It should be noted that the population projections are based on the assumed completeness of Civil Registration data when estimating the fertility and mortality rates used in the construction process of the population projections. In addition, the projected period also involves assumptions of the most plausible evolution of the demographic components of birth, death, and migration.

To assess the quality of Chile's Vital Statistics in terms of its completeness and punctuality, INE uses a battery of indicators, some derived from the records themselves, others from indirect assessment techniques that use inputs from other demographic sources, such as population censuses.

3. Limitations

Although there are methods that seek to provide indications and guidelines to develop these procedures, it is necessary to distinguish the particular situation of each country and adapt the methods to each demographic reality. Thus, some assumptions required by the methods used are not met in Chile, mainly those associated with stability and gradual change in the level and

structure of recent fertility, or those that assume that there is no significant migration in the country, for example, which particularly not the case today in Chile⁵.

Another limitation mentioned in this work and other national demographic studies is the long period between the previous two population censuses (2002 and 2017). The fifteen-year separation makes studies and analysis difficult⁶, and it reinforces the need to conduct surveys in relatively short periods of time, five to ten years maximum, to have the greatest possible availability of sources.

Finally, there are limited sources of information to work with, because, unlike other countries, Chile does not conduct Demographic health surveys (DHS⁷) nor intercensal enumerations that would facilitate contrast with other data sources other than censuses or the vital statistics themselves.

In this context, the possibility of having an integrated system of various records on people would provide a source of contrast for sociodemographic information and subsequently enable editing and imputation processes for variables that require quality improvements⁸.

c. Results

This section is divided into two parts. The first is a summary of the relevant results of the quality study and second provides the subsequent figures from the most recent vital statistics yearbook.

1. Quality study results

- Administrative coverage and reporting units

When analyzing the administrative coverage of the offices that registered births for the years 1990 and 2018, it is worth mentioning certain data that generally contextualize the reality of births in Chile, according to the statistics reported by the SRCel, the Minsal and that made official by INE. The births observed in the country in 1990 reached 292,146 cases, while for the closing year of the analysis in 2018, they reached up to 221,731, that is, in 28 years the difference in births reached 70,415 cases according to the official records nationwide (a decrease of 24.1% compared to 1990). Additionally, births in rural areas have decreased considerably, from 13.9% in 1990 to 7.2% in 2018, with 92.8% of births occurring in urban areas in that year.

⁵ More insight on the topic of migration is provided in the next section.

⁶ The Principles and Recommendations for Population and Housing Censuses (United Nations, 2017) recommends that a national census be conducted at least every 10 years.

⁷ The Demographic and Health Surveys (DHS) Program is responsible for collecting and disseminating nationally representative data on health and population in developing countries. The project is implemented by ICF International and is funded by the United States Agency for International Development (USAID) with contributions from other donors such as UNICEF, UNFPA, WHO, and UNAIDS. See <https://dhsprogram.com/Countries/>

⁸ Such is the case of the variable of the country of origin of the mother. Although it is not part of this document, the yearbooks of vital statistics observe that this variable has a high percentage of omission, information that could be recovered through various strategies, such as the recovery and transcription in the Civil Registration or through the matching of information with other State services that are not part of the tripartite agreement.

Added to the above, the information on the place of births (within health services or outside them), facilitates understanding of the capacity and quality of administrative coverage of births in Chile. Despite the fact that there is a decrease in the number of offices for the registration of childbirth (with the exception of the Metropolitan region) (see Table 1), the percentage of births that occurred within the health services at the country level reached 98.5% in 1990, while in 2018 this figure stood at 99.6%, that is, the institutionalization of childbirth is close to 100% both at the beginning and at the end of the period studied, which is important given that the institutionalization of childbirth is frequently coupled with its registration.

Table 1: Number of offices that registered births and hospital sub-offices at the regional level⁹ together with the percentage of births according to the place of delivery care, Chile 1990-2018.

1990					2018					
Region Name	Total Offices	Sub-offices Hospitals	% Hospital and clinics services	% birth at home or somewhere	Region Name	Total Offices	Sub-offices Hospitals	% Hospital and clinics services	% birth at home or somewhere	% place of birth missing
					Arica y Parinacota	3	0	99.60	0.36	0.04
Tarapacá	12	0	97.20	2.80	Tarapacá	7	0	98.48	1.32	0.20
Antofagasta	12	1	99.02	0.98	Antofagasta	9	1	99.31	0.58	0.11
Atacama	14	2	93.73	6.27	Atacama	9	2	99.61	0.36	0.03
Coquimbo	28	3	98.02	1.98	Coquimbo	16	3	99.62	0.35	0.03
Valparaíso	38	3	99.13	0.87	Valparaíso	27	1	99.60	0.36	0.04
Metropolitan	46	7	99.59	0.41	Metropolitana	54	6	99.60	0.38	0.02
Lib. Gral. B. O'Higgins	33	1	97.87	2.13	Lib. Gral. B. O'Higgins	18	1	99.74	0.23	0.03
Maule	47	2	98.38	1.62	Maule	18	2	99.77	0.18	0.05
					Ñuble	11	1	99.69	0.25	0.06
Biobío	70	4	96.99	3.01	Biobío	31	2	99.61	0.37	0.02
La Araucanía	43	1	96.66	3.34	La Araucanía	27	1	99.69	0.26	0.05
					Los Ríos	10	1	99.74	0.18	0.08
Los Lagos	69	3	97.82	2.18	Los Lagos	22	2	99.68	0.25	0.07
Aysén	9	0	98.69	1.31	Aysén	4	1	99.15	0.68	0.17
Magallanes	6	1	99.68	0.32	Magallanes	2	0	99.94	0.00	0.06
Missing ¹⁰	19									
Total	446	28	98.50	1.50	Total	268	24	99.60	0.36	0.04

Source: INE. Anuario de Estadísticas Vitales 2018. (INE, 2020a, pág. 17)

In relation to deaths, the number of events registered in the SRCel in 1990 reached 78,434 people, while for the year 2018 this count stood at 106,796 deaths. The difference between the start and end period of the analysis confirms an increase of 28,362 people. The distribution

⁹ Differences in the number of regions are explained by administrative updates that increased the number of regions in the country.

¹⁰ It is due to lack of validation and imputation of the variable in 1990.

according to the area of habitual residence in 1990, 83.73% lived in some urban settlement and 16.27% were in rural areas.

Regarding the administrative coverage of the Civil Registration, it maintained its presence throughout the national territory with offices in all regions of the country and persisted with sub-offices within some public hospitals, with a slight decrease from 460 offices for registration of deceased in 1990 to 435 offices in 2018. For the two years analyzed, the main place of death was the home or another place of 54.50% in 1990 and 55.73% in 2018. From those values, the increase in hospitals deaths stands out in the southern regions of the country, especially Ñuble, Biobío, and La Araucanía (Table 2).

Table 2: Number of offices that registered deaths and sub-offices in hospitals at the regional level¹¹ together with the percentage of deceased according to the place of death, Chile 1990-2018.

1990					2018					
Region Name	Total Offices	Sub-offices Hospitals	% Deaths at Hospital - Clinic	% Deaths at home or elsewhere	Region Name	Total Offices	Sub-offices Hospitals	% Deaths at Hospital - Clinic	% deaths at home or somewhere else	%place of death missing
					Arica y Parinacota	4	0	44.80	55.20	0.00
Tarapacá	9	0	51.21	48.79	Tarapacá	6	0	44.79	55.21	0.00
Antofagasta	10	1	54.34	45.66	Antofagasta	9	1	51.02	48.98	0.00
Atacama	15	2	48.63	51.37	Atacama	16	2	45.16	54.84	0.00
Coquimbo	28	3	42.59	57.41	Coquimbo	28	3	44.78	55.15	0.07
Valparaíso	42	2	49.13	50.87	Valparaíso	39	1	43.72	56.28	0.00
Metropolitana	48	6	47.72	52.28	Metropolitana	59	6	41.95	58.05	0.00
Lib. Gral. B O'Higgins	36	1	44.36	55.64	Lib. Gral. B. O'Higgins	34	1	42.04	57.96	0.00
Maule	45	2	47.5	52.50	Maule	40	2	45.71	54.27	0.02
					Ñuble	25	1	48.48	51.52	0.00
Biobío	70	4	43.45	56.55	Biobío	47	2	49.39	50.60	0.01
La Araucanía	45	1	36.49	63.51	La Araucanía	39	1	43.59	55.00	1.41
Lo Lagos	71	3	35.98	64.02	Los Ríos	16	1	43.06	56.87	0.07
					Los Lagos	54	2	44.08	55.79	0.13
Aysén	13	0	49.75	50.25	Aysén	16	1	46.78	53.22	0.00
Magallanes	5	0	55.18	44.82	Magallanes	3	0	51.39	48.61	0.00
Missing ¹²	23									
Total	460	25	45.50	54.50	Total	435	24	44.17	55.73	0.10

Source: INE. Anuario de Estadísticas Vitales 2018 (INE, 2020a, pág. 18)

¹¹ Differences in the number of regions are explained by administrative updates that increased the number of regions in the country.

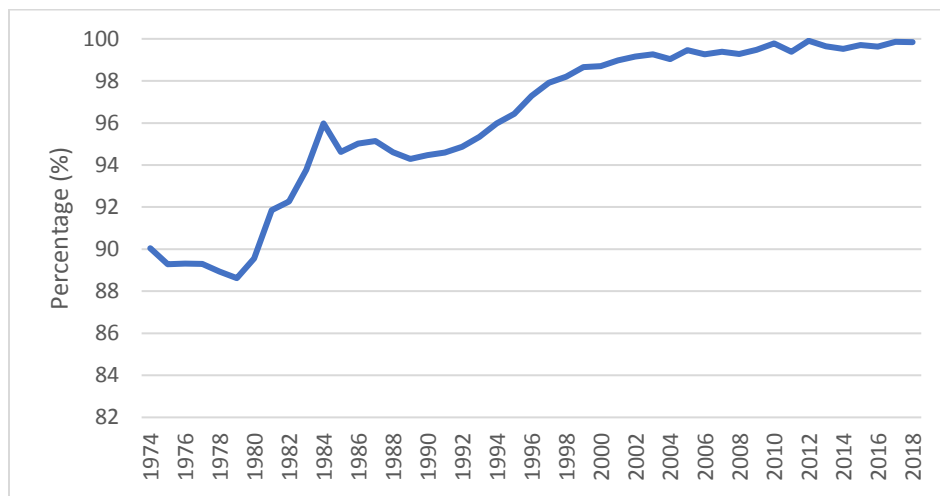
¹² It is due to lack of validation and imputation of the variable in 1990

- Punctuality and completeness analysis

Punctuality, as indicated above, refers to the time elapsed between the fact and its registration, which is expected to be in the closest period to the fact or at least within the period established by law. Thus, long periods of time are avoided that may lead to people to forget information or to a partial/incomplete record of vital events at the time of registration.

Figure 1 shows that the punctuality for birth registration has improved steadily over time. In particular, for the year 1992, punctuality was estimated to be close to 95%, and for 2018 it was estimated at 99.8%. In other words, it is estimated that only 0.2% of all births that occurred this year will be registered in the following 7 years. This accounts not only for an improvement in the punctuality of birth registration, but also in its completeness, as a greater proportion of the births that occur each year are being registered on time.

Figure 1: Punctuality in registering births according to the late registration method. Chile 1974-2018



Note: Punctuality calculated from live births and registered in statistical year on births corrected according to the Estimation of Late Registration of Births method

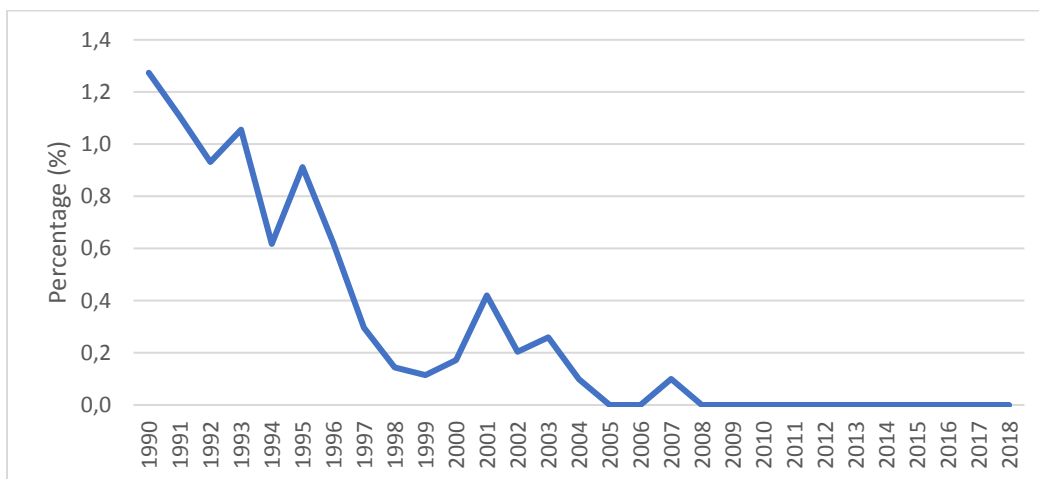
Source: INE. *Anuario de Estadísticas Vitales 2018* (INE, 2020a, pág. 20)

Births follow the same logic and assumptions of the late birth registration method explained in the previous section, but the punctuality and completeness is even higher for deaths, which always have values over 99.7%.

Another way to assess the completeness of the birth registration is through the contrast between the registration of deaths of children under one year of age and the registration of births of these deceased children, by comparing the two databases. Thus, if the completeness of the records were total, it would be expected that all deceased minors would have their births registered.

Based on this analysis, it can be seen that deaths of children under one year of age who do not have a birth record have decreased significantly in the country during the period 1990-2018 (Figure 2), going from 1.3% in 1990 to a 0% in 2008.

Figure 2: Percentage of deaths of children under one year of age without birth registration (1990-2018)



Note: Duplicate, null, "0", dummy and X records are excluded from the study.

Source: INE. Anuario de Estadísticas Vitales 2018 (INE, 2020a, pág. 31)

Regarding the punctuality in the registration of births and deaths, the document analyzing its quality (INE, 2020a) suggests a small delay in the registration of these vital events in the country, especially for the registration of deaths. During the entire period, the average number of days between registration and the event is within the established legal period (30 days for free registration in the case of births and three days for deaths).

In 1990, the punctuality in the registration of births was approximately 27 days, and in 2012 the average fell to approximately 5 days. Between 1990 and 2018, the average number of days register deaths did not show any major fluctuations, averaging between 1.5 and 2 days, which is within the legal norm of three days after the occurrence of the event¹³.

¹³ Other indicators for quality assessment that are not reviewed in this document were studied by INE, such as the annual percentage variation of registered births at the national and regional level, the Masculinity Index of registered births according to the year of the event, the completeness ratio of live births to and from the Brass P/F ratio or from the difference in the official global fertility rate and the rate estimated according to the Synthetic Gompertz Relational Model, for births, as well as the annual percentage variation and the masculinity index of deaths. Application of the difference between registered deaths and estimated deaths based on the Generalized Growth Balanced Method. More information on the topic can be found at https://www.ine.gob.cl/docs/default-source/nacimientos-matrimonios-y-defunciones/documentos-de-trabajo/documentos/indicadores-de-calidad-para-el-an%C3%A1lisis-de-las-estad%C3%ADsticas-vitales.pdf?sfvrsn=8f932884_4

2. Results of the vital statistics yearbook 2019 (Summary)

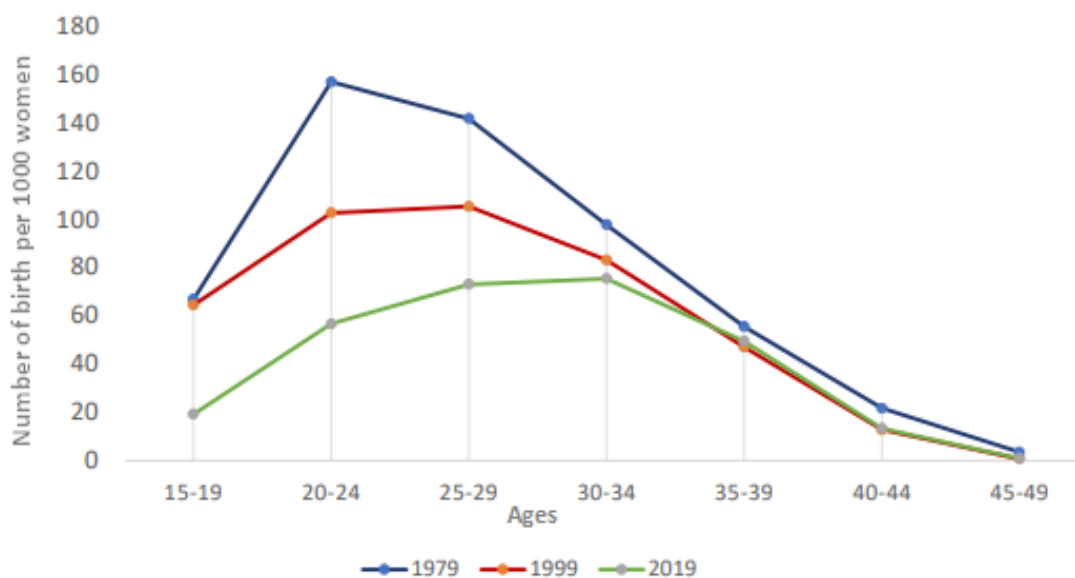
The most recent vital statistics yearbook published to date uses the events that occurred during the year 2019. Below are the main results for each vital event: births, deaths and civil unions, which account for the most recent demographic trends in the country.

Births in 2019 reached 210,188 observed records, of which 51.07% were for to males (107,353), 48.91% for women (102,812), and 0.01% to indeterminate sex (23). This number of births shows a variation of -5.21% compared to 2018, when 221,731 live births were recorded.

The global fertility rate is defined as the average number of children that a woman will have during her fertile life (15-49 years). In 2019, it was 1.44 children, which is below the level of estimated generational replacement of 2.1 average children per woman.

The Chilean fertility structure currently presents itself with a late dilated cusp, with maximum fertility being located in the groups of 25 to 29 and 30 to 34 years of age (see green line in Figure 3).

Figure 3: Age specific fertility rates, Chile 1979, 1999, and 2019



Source: INE. Síntesis de resultados Estadísticas Vitales 2019 (INE, 2021, pág. 5)

In 2019, 16.2 out of every 100 births that occurred in Chile, that is, 34,056 live births were to a mother of foreign origin.

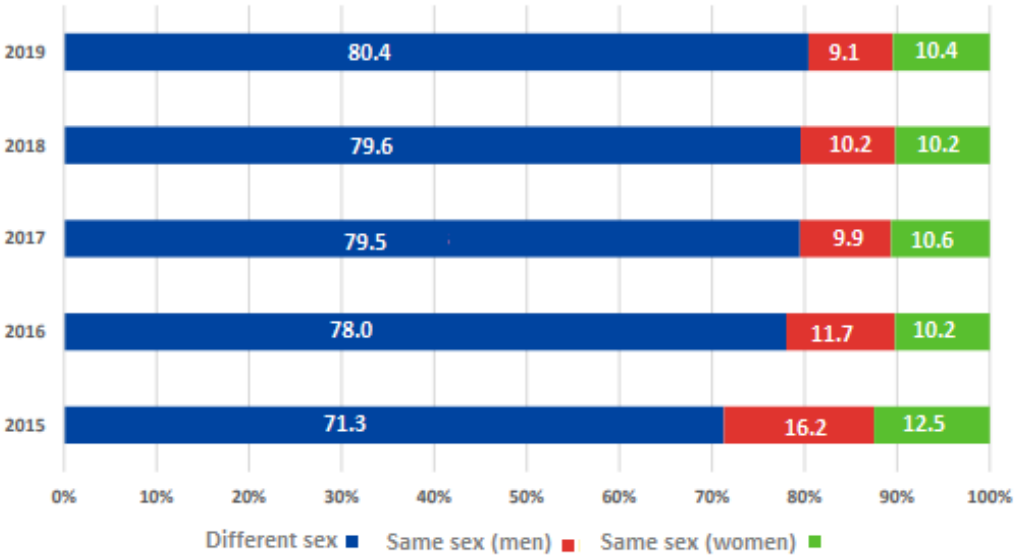
Regarding civil unions, although there is a 9.7% increase in the number of marriages in 2019 (61,596) compared to the marriages observed a decade ago (56,127 in 2009), the number of marriages of the last year are the fourth lowest in the last ten years.

In 2019, the crude marriage rate, which relates the number of marriages to the size of the population, reached its lowest level in the last hundred years with a value of 3.2 marriages per thousand inhabitants.

The Civil Union Agreement (CUA) was established by law that came into force in October 2015. This regulation defines it as “a contract entered into between two people who share a home”, whether they are of the same or different sex. In 2019, the crude CUA rate was 4.3 per 10,000 inhabitants, a total of 8,149 CUAs were registered in the country, which represents an increase of 12.3% compared to 2018 (7,256) and is the highest value since its enactment.

The proportion of CUAs celebrated between heterosexual spouses has increased since 2015, with the highest proportion (80.4%) in 2019 (6,555). On the other hand, although 2019 was the year in which the lowest proportion of CUAs was registered between same-sex spouses, with 1,594 (19.6%), it was also the year in which more women of the same sex registered this type of agreement, with 851 (10.4%), while the number of CUA among men stood at 743 (9.1%) (Figure 4).

Figure 4: Percentage distribution of registered civil union agreements according to the sex of the contracting couple 2019



Note: 2015 includes information only from October, date on which Law 20,830 entered into force.
 Source: INE. Síntesis de resultados Estadísticas Vitales 2019 (INE, 2021, pág. 12)

In the last ten years, deaths, the neonatal mortality rate decreased from 5.4 deaths of children under 28 days per thousand live births in 2009 to 4.8 in 2019, which is one of the lowest rates in Latin America.

The reduction in mortality rates for children under one year of age was greater than those observed in neonatal mortality. The rate went from 7.9 deaths in children under one year of age

per thousand live births in 2009 to a rate of 6.5 infant deaths in 2019, a reduction of 1.4 deaths per thousand births in the last ten years.

In 2019, there were a total of 109,658 general deaths, representing an average of 300 deaths each day, of which 52.6% were deaths of men and 47.4% were deaths of women, which reflects an excess of mortality in men.

In 2019, the main causes of deaths were “tumors (neoplasms)” with 28,492 deaths (26%), followed by “circulatory system diseases” with 28,079 deaths (25.6%), which together make up 50% of the deaths of the year. In third and fourth positions were “respiratory system diseases” with 13,864 deaths (12.6%) and “external causes of morbidity and mortality” with 8,065 deaths (7.4%).

Finally, at the time of preparing this document, INE’s Demography Subdepartment is finishing the 2020 vital statistics yearbook. In addition, a study regarding the impact of COVID-19 on mortality in Chile is also in its final stage¹⁴.

2. International mobility and migration statistics

a. Context

The study of international mobility and migration is one of the most challenging aspects of demography because of its complexity and dynamism. In addition, the available sources of information have various limitations. First, surveys generally present difficulties in measuring the level and diversity of the phenomenon. Second, although population censuses have universal capture and greater geographical scope and periodicity, they are generally conducted every ten years. Third, many administrative records that capture information on migratory flows or movements do not have the necessary characteristics to become statistical data.

In Latin America, the traditional source of information for measuring international migration are the population and housing censuses, followed by household surveys and administrative records. However, given the dynamism of the phenomenon, technological and statistical development, as well as greater local demands for information, administrative records have been increasingly incorporated as sources of study because they have advantages in terms of periodicity, cost, and timeliness for measuring migratory flows when compared to the advantages of censuses and surveys.

In Chile, the most recent population and housing census in April 2017 made it possible to count the number of people born abroad and the habitual residents of the country, which showed a

¹⁴ Both documents will be available in INE’s website for the community to review (content in Spanish) <https://www.ine.gob.cl/estadisticas/sociales/demografia-y-vitales>

clear increase in the proportion of international immigrants over the total habitual resident population, reaching a total of 746,465 international immigrants and representing 4.4% of the total population (a percentage of immigration that had not been observed since 1907). Additionally, the data on migratory flows observed in the administrative records of authorized border crossings has shown a positive balance (that is, more international entries than exits) since 2014. Added to this, most of the increases in the number of requests for residence permits within the national territory occurred after the 2017 Census¹⁵, which led to the assumption that the census had become outdated in its measurement of the total number of immigrants.

Given the recent increase in immigration to Chile, the issue quickly acquired political importance, which made it necessary to initiate institutional coordination between the four institutions involved in the migratory flow and INE. The following list includes the records used and their institutional sources:

- 2017 Census, which is administered by INE
- Visa applications that are processed within the country. These applications are administered by the National Migration Service (Sermig) of the Ministry of the Interior.
- Visa applications that are processed outside the country in consulates and embassies. These requests are administered by the Ministry of Foreign Affairs.
- The entrances and exits of the country through the regular border crossings, which are managed by the Investigative Police (PDI).
- Identification numbers and death certificates, which are administered by SRCel.

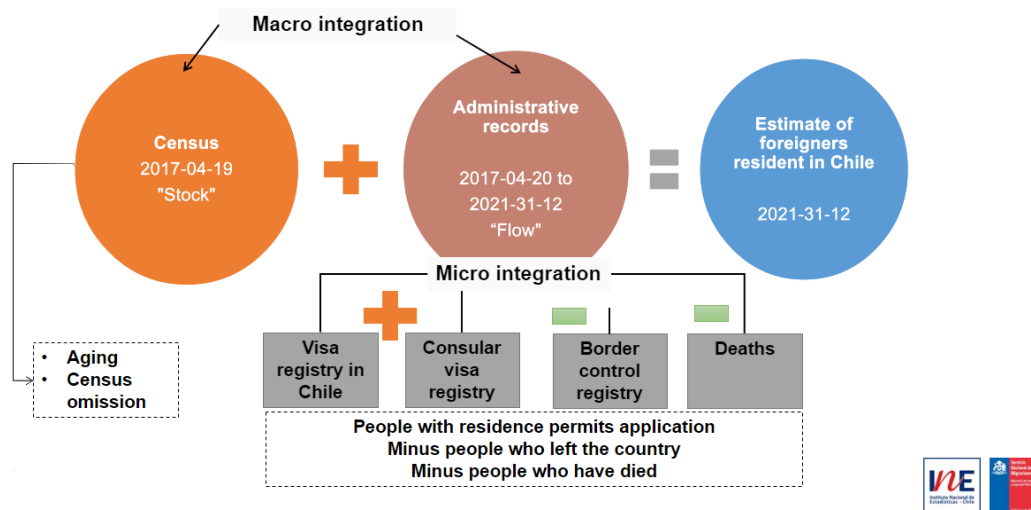
b. Methodology

Every year since 2018, the methodology¹⁶ has maintained the census stock as the basis of the estimate, which is adjusted for census omission and the aging of the population. In addition, information from administrative records that contain data on foreigners who entered the country after the census have been added, while foreigners who left the country and those who died during the period up to the date of the estimate have been subtracted (Figure 5).

¹⁵ At that time many people who entered with tourism purposes stay longer and then applied for a resident permit and changed their status.

¹⁶ More details are in the “*Informe de resultados de la Estimación de Personas Extranjeras Residentes en Chile al 31 de diciembre de 2021*” (INE-Sermig, 2022)

Figure 5: Methodology for estimating foreign residents in Chile (2018-2021)



Source: National Statistics Institute & National Migration Service

This methodology has some limitations. The 2017 Census asked only for country of birth and administrative data asks only about country of nationality, so it is necessary to assume that both refer to the same. Migrants with irregular status often do not report information to the census. It is therefore often assumed that the omission of migrants is greater. But the omission is traditionally calculated for the total population by age and sex (estimates and population projections), and it does not consider other variables like country of birth. Hence, it is assumed that the omission is the same for all people.

Furthermore, there are no administrative records that account for the change in the place of residence of the population. For estimates at the subnational level, the census indicates the place of residence on the day of the census, and administrative records include residence information declared at the time of application. It is therefore assumed that people continue to live in the same location. Additionally, because the census does not ask for a unique identification number nor does it store personal information such as names and surnames, the census cannot be linked with administrative records at a micro level.

For administrative records, a unique national identification¹⁷ is generally available. If not, most of the time, records also include passport information, names and surnames, date of birth, and country of nationality, all of which are usually used in the matching algorithm. It should be noted that each institution performs its own data processing, and each institution's database has a different purpose, level of quality, and legal framework.

In regard to record linking by data processing, first, the information from Sermig and Minrel is linked by two identifiers to rule out duplicates: 1) the key that consists of the variables "names",

¹⁷ Single National Role (RUN for its acronym in Spanish), which is granted to every Chilean, whether or not they reside in Chile, and to every foreigner who stays temporarily or permanently with any visa other than a tourist visa.

“paternal surname”, “maternal surname” and “date of birth”, and 2) the key that consists of the variables “passport”, “sex”, “date of birth” and “country of origin”.

Once this information is consolidated, the database is sent to the PDI and the SRCel. At the PDI, the information is complemented at the microdata level with information from the last trip (in order to identify whether it was a movement into or out of the country and its date) from the border control database of the PDI. At the SRCel, the information is complemented with the date of death from the death register if the person died during the estimation period.

Table 1Table 3 shows the linking of Sermig data for residence permits originating inside the country with PDI border control data. The percentage of matching has been around 93% in all years of estimation. When matching visa information outside the country by Minrel with PDI border control data, the matching percentage is lower; it was 72% in 2021.

Table 3. Percentages of linkage of SERMIG and MINREL data with PDI border data, by year.

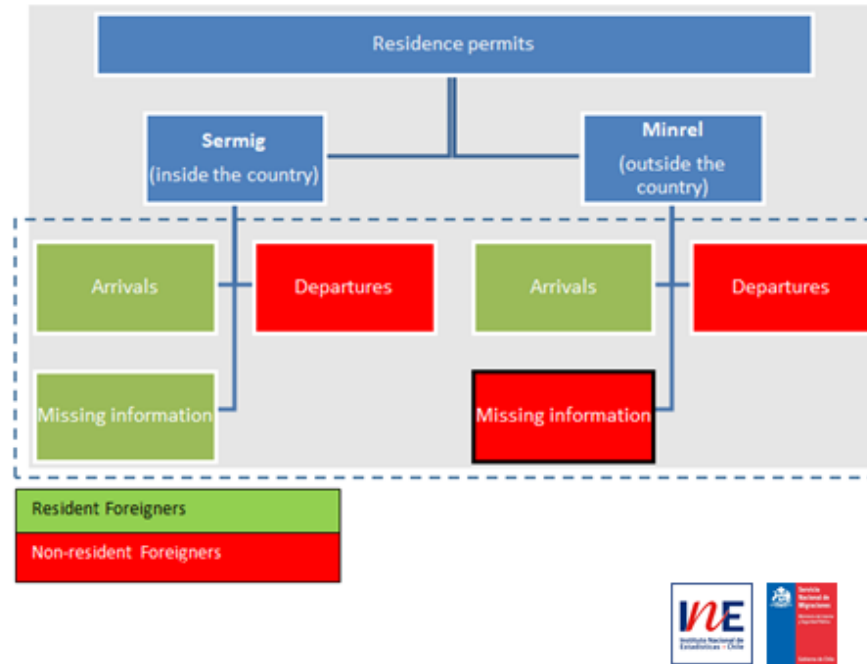
Year	Sermig	Minrel	Total
2021	93.7%	72.2%	91.1%
2020	94.0%	75.6%	91.7%
2019	93.7%	47.7%	88.5%
2018	92.6%	78.9%	91.8%

Source: National Migration Service

In this regard, it should be noted that in the previous estimates all the cases of Minrel were added. In 2020, improvements were made to the quality, the standardization of the information, and the algorithm used to link information with information of the PDI. As a hypothesis, it is more likely to find cases that do not match between the Minrel and PDI databases because these residence permits were requested abroad and there was thus a delay between the request and approval of the permit whether or not the trip was taken. For this reason, we do not add the cases of Minrel that do not also have information in PDI (Figure 6).

When the visas are requested at Sermig within the country, but do not match border control, they are added because the visa application itself is an indication that the person was in the country. When Minrel visa data does not coincide with the information from the PDI border control, they are not added to the estimate, because there would be no evidence that those who applied for a residence permit outside of Chile have entered the country.

Figure 6: Processing criteria for cases in absence border control records



Source: National Statistics Institute & National Migration Service

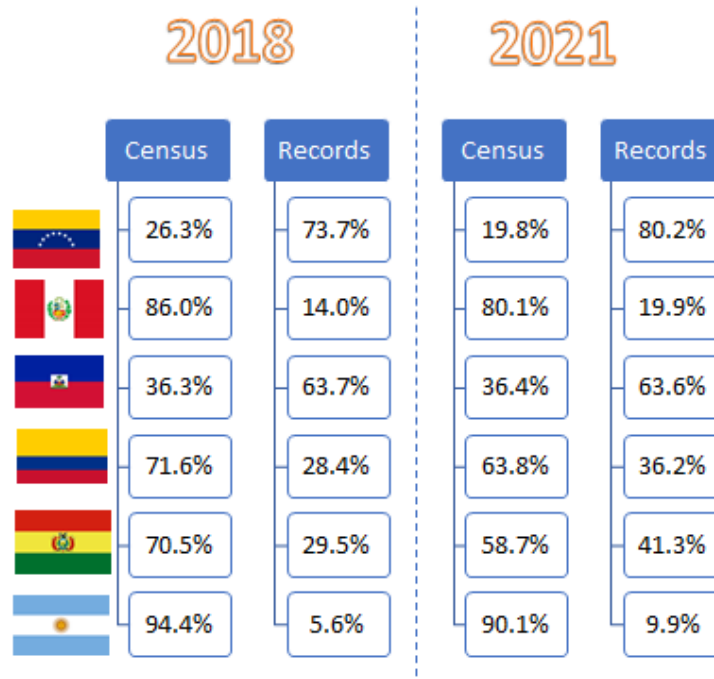
c. Results

The consolidated information from administrative records is added to information from the census at a macro level, according to the variables of sex, age group, country of birth or nationality, and place of residence. Table 4 shows that for 2021, the administrative records component included nearly 700,000 people, making up 47% of the total estimate. In 2021, there were an estimated total of 1.5 million foreign residents in Chile, representing about 7% of the total resident population.

When analyzing the results by component, we can see the changes in the distribution by adding the post-census administrative records. For the variable of sex, census data show that the majority of the immigrants were female, but later the post-census administrative records indicated that there were a greater number of men, representing 54% of the total information in the records. However, by the fourth year of estimation, the proportion of women had increased, reaching 49%.

Meanwhile, the 2017 census revealed new countries in the immigration flow with the appearance of countries such as Colombia, Haiti, and Venezuela, following the main historical flows from border countries such as Peru, Bolivia, and Argentina. However, the post-census administrative records captured a significant increase in Venezuelan immigration. Approximately 80% of the information on migrants from Venezuela came from administrative records (Figure 7). By adding information in the census with the information in administrative records, the Venezuelans became the largest migrant group in the country, representing 30% of the estimated total in 2021 (Map 1).

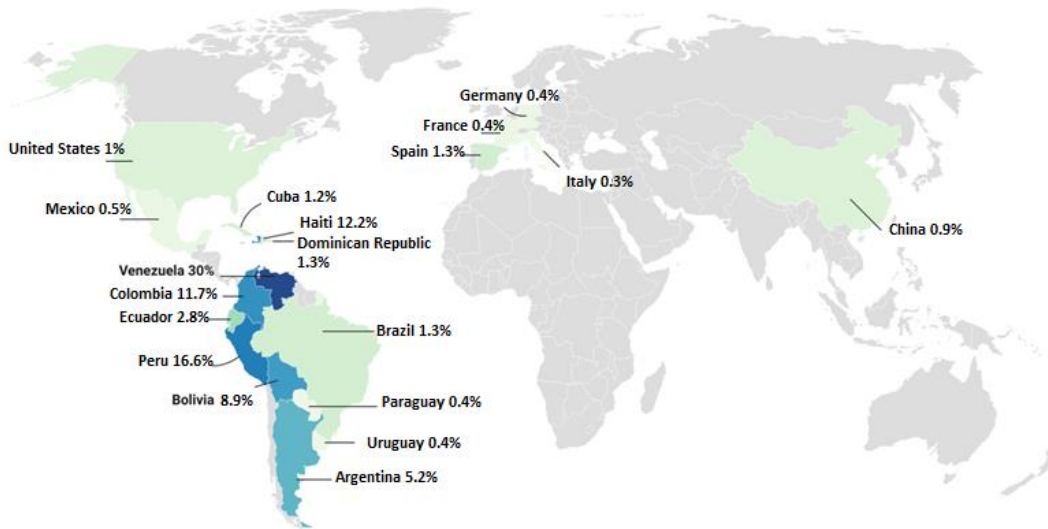
Figure 7: Distribution of country of birth or nationality according to source of information



Note: for visual purposes other countries (with fewer cases) were left out of this graph

Source: National Statistics Institute & National Migration Service

Map 1: Percentage distribution of the foreign population estimated in 2021



Source: National Statistics Institute & National Migration Service

As for region of habitual residence, despite the fact that the majority of migrants continue to be concentrated in the Metropolitan Region and in the north of the country (Table 4), the

information from the administrative records showed an increase in the proportion of migrants in regions of the center and south of the country.

Table 4: Distribution of the foreign population according to region of habitual residence, estimated as of December 31, 2018-2021.

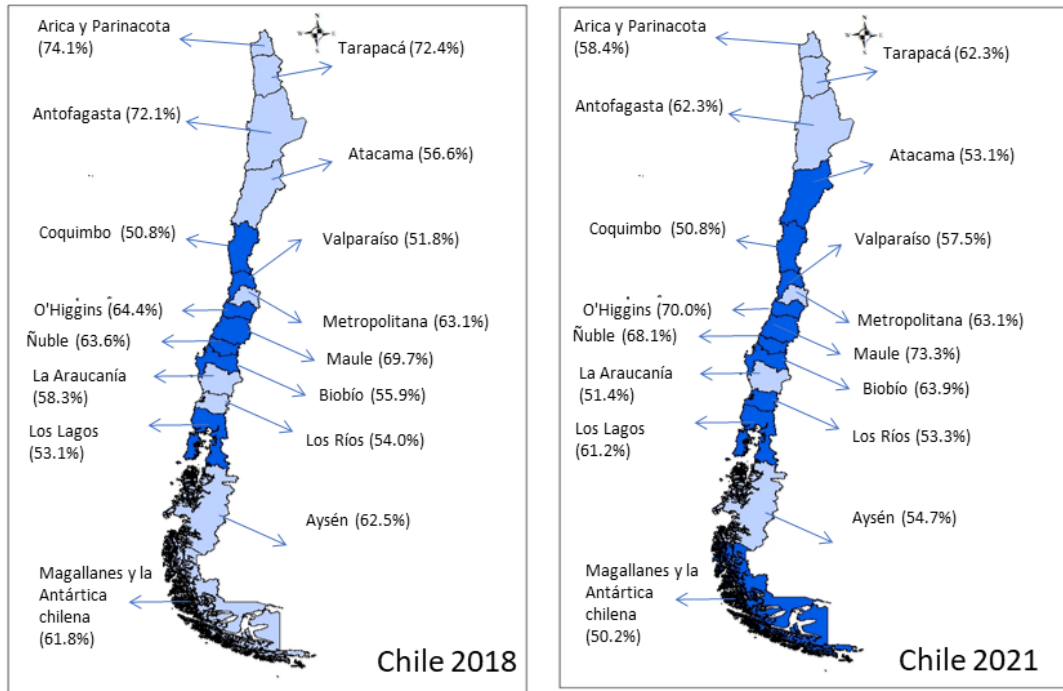
Region	2018		2019		2020		2021	
	Total	%	Total	%	Total	%	Total	%
Total	1,299,432	100	1,448,391	100	1,460,047	100	1,482,390	100
Arica y Parinacota	25,670	2.0	27,883	1.9	30,077	2.1	32,571	2.2
Tarapacá	62,852	4.8	68,243	4.7	69,329	4.7	73,030	4.9
Antofagasta	91,823	7.1	100,785	7.0	101,948	7.0	106,274	7.2
Atacama	16,166	1.2	18,920	1.3	18,979	1.3	19,526	1.3
Coquimbo	30,864	2.4	34,253	2.4	34,024	2.3	34,871	2.4
Valparaíso	85,515	6.6	97,601	6.7	96,664	6.6	97,058	6.5
Metropolitana	812,950	62.6	897,692	62.0	904,025	61.9	909,414	61.3
O'Higgins	38,157	2.9	43,553	3.0	42,991	2.9	45,200	3.0
Maule	36,338	2.8	40,989	2.8	40,672	2.8	41,173	2.8
Ñuble	10,449	0.8	11,465	0.8	11,172	0.8	11,959	0.8
Biobío	28,167	2.2	34,996	2.4	34,888	2.4	34,398	2.3
La Araucanía	18,747	1.4	21,283	1.5	21,256	1.5	21,270	1.4
Los Ríos	7,143	0.5	8,160	0.6	8,115	0.6	8,260	0.6
Los Lagos	21,943	1.7	26,715	1.8	26,869	1.8	26,519	1.8
Aysén	3,396	0.3	3,853	0.3	3,898	0.3	3,883	0.3
Magallanes	8,007	0.6	9,951	0.7	10,017	0.7	9,956	0.7
Missing	1,245	0.1	2,049	0.1	5,123	0.4	7,028	0.5



Source: National Statistics Institute & National Migration Service

In Map 2, the regions in light blue represent those where the census information has the greatest weight over the estimated total, while the regions painted in dark blue are those where the post-census records have a greater proportion of information. In 2018, regions such as Valparaíso, O'Higgins, Maule, and Los Lagos began to have more information from administrative data than from the census, and by 2021 the population of migrants in Maule who arrived after the census was three times greater than the census population. But new regions such as Ñuble also appeared, which by 2021 the information from records was two times greater than the population of immigrants whose information comes from the census. So, using an estimation methodology that combines census data and records, it was possible to have updated information on migrants for dates after the census¹⁸.

¹⁸ For more results, see "Informe de resultados de la Estimación de Personas Extranjeras Residentes en Chile al 31 de diciembre de 2021" (INE- Sermig, 2022)

Map 2: Estimate of foreigners by component according to region of habitual residence. 31 December, years 2018 – 2021



Legend:
 Regions with a greater proportion of census data.
 Regions with greater proportion of administrative data.

Source: National Statistics Institute & National Migration Service

III. The challenge of building a Statistical Population Register

As presented in Section II, INE has developed different lines of work based on the use of administrative data for demographic statistics. This section of the document discusses the challenge of building a Statistical Population Register, whose purpose is to promote the use administrative data in an integrated and transversal manner. The motivation and benefits of the initiative are shown in the context section, while the working plan to achieve the goal is outlined in the last section.

a. Context

Designing, building, and implementing a SPR statistical population register (SPR) is considered both a necessity and a challenge for the national statistical offices (NSOs). Indeed, this initiative

was promoted during the 53rd United Nations Conference on Statistics (March 2022)¹⁹, where the importance of administrative records of population and the use of census data as a frame of reference was highlighted in Decision 7 (United Nations, 2022a). It should be noted that building a SPR does not contravene the Fundamental Principles of Official Statistics²⁰, provided that the protection of confidentiality and privacy of individual records is guaranteed under clear and unequivocal legal conditions that make explicit the purpose of compiling aggregate statistics.

According to the definition proposed by the United Nations, the SPR is “a systematized and indexed collection of individual records of each resident (including national and foreign citizens) of the country” (United Nations, 2022b). When the SPR is developed and operational, it represents the backbone of the compilation of social official statistics and a master population frame that can be used in the design and execution of statistical surveys. Likewise, the SPR must be updated periodically and have a legal framework that enables its establishment, maintenance, and use for statistical purposes.

The motivation to build a SPR is explained by the benefits it generates for national statistical production. Indeed, it is considered the first step towards a census based on administrative records, which highlights long-term benefits of this type of system, including the principle benefit of reducing associated costs. The reduced cost is mainly due to the absence of field enumeration and lower burden on the enumerators in charge of collecting information. In Spain, for example, the resources to manage the census were drastically reduced in approximately 20 years, going from 50,000 people in 2001, to 5,000 in 2011 and only 15 in the 2021 census working team (United Nations, 2022b, pág. 20). When the system is operational, processing costs can also be reduced because information does not need to be changed; it just needs to capture and code data elements that have changed from the previous census (update). Of course, it also has implications in the reduction of the reporting burden on the respondents.

Furthermore, having an installed and functional SPR provides access to disaggregated, timely, and quality population data, which in turn serve as input to other statistical processes. Indeed, the regular collection of information from administrative institutions that cover entire populations according to their administration purposes is carried out faster and more frequently than in traditional collection operations such as censuses (de facto or de jure), making possible a greater disaggregation of data while maintaining its quality. The foregoing has important implications for the progress of the report and compliance with the 2030 Sustainable Development Goals Agenda. The SPR has a potential impact on population projections given its continuous nature, as well as improving the updating and monitoring of vital and migration

¹⁹ The subject was discussed according to the Report of the Secretary General “Execution of the World Program of Population and Housing Censuses of 2020” (<https://unstats.un.org/unsd/statcom/53rd-session/documents/2022-8-Censuses-S.pdf>), which led to Conference Decision 7 (<https://unstats.un.org/unsd/statcom/53rd-session/documents/decisions/AnnexIII-Draft-resolution.pdf>).

²⁰ The Fundamental Principles of Official Statistics regulate official statistics and good statistical practices at the international level (https://unstats.un.org/unsd/dnss/hb/S-fundamental%20principles_A4-WEB.pdf).

statistics, the generation of geo-referenced indicators, updating sampling frames of people in addition to its use as an input for contrast and complementarity with sample surveys.

Prior to the transition to fully censuses based on administrative records, the SPR enables the implementation of a combined approach, either (i) generating questionnaires with pre-filled fields that require less effort in the survey, as in Estonia, Latvia, and Lithuania, or (ii) implementing ad-hoc surveys designed to complete and correct data derived from the administrative data for certain groups and geographic areas, as occurs in Germany, Israel, Poland, Spain, Switzerland, and Turkey (United Nations, 2022b, pág. 23).

Meanwhile, the consolidation of the SPR also implies an improvement in the inter-institutional coordination of the National Statistical System (NSS) within the scope of the articulating role that INE has. In this framework, improvement in methodological processes, quality, efficiency, technology, and personal data security aspects of the statistics production process would result in greater access to key information for public policy decision-making.

In this scenario, it is necessary to highlight the long-term commitment required not only by the NSO but of the State, as this transition process in using administrative records more intensively or even exclusively for censuses requires, investment, developments, and adaptations.

As mentioned in the Conclusions and Recommendations presented and approved in the Chilean National Conference - Towards the Next Chapter of Building Official Statistics: Use of administrative records for the production of population statistics²¹, “7. The Conference noted a number of preconditions and outlined important investments needed in order to establish the SPR. Examples refer to the lack of complete and continuously updated address register, the lack of interoperability among administrative register operators and INE, and the need to harmonize definitions, classifications and coding schemes, to name a few. 8. The Conference paid particular attention to the issue of the legal framework for supporting the transition and modernization of the NSS. In particular, the Conference expressed concern that the proposed Statistics Law has not yet been adopted, which would be a critical component for giving INE the authority to access administrative nominated individual public and private information and which is a major precondition for the successful establishment of the SPR. In that context, the Conference urged the relevant authorities, Ministries, and other stakeholders to accelerate this legislative process” (INE & United Nations, 2022).

Regulatory framework and statistical purpose that promotes the building of the SPR

The statistical use is the most important goal in the development of the SPR. In the case of Chilean regulations, in accordance with Organic Law 17,374 of the National Statistics Institute, INE is responsible for carrying out the process of compilation, technical preparation, analysis, and

²¹ The Conference took place in Santiago de Chile during October 2022, and it was organized collaboratively between INE Chile and the United Nations Statistics Division (UNSD). The links to recordings of all three days of meetings are available in Annex 1.

publication of official statistics and censuses, as well as for preparing a register of natural or legal persons that constitute a “Source of Statistical Information” (Article 2, letters a and l) (Ministerio de Economía, 1970).

A “Source of Statistical Information” is defined as any medium that provides relevant information for statistical production, whether from administrative records, censuses, or surveys. The SPR is especially relevant as population information that would be used for production of official demographic and social statistics of INE, according to its functions of compilation, technical preparation, analysis, and publication of official statistics.

On the other hand, confidentiality and protection of personal data is guaranteed through statistical secrecy of Law 17,374, which states that in the exercise of these functions INE “may not divulge the facts that refer to certain persons or entities that they have become aware of in the performance of their activities. The strict maintenance of these facts constitutes the “Statistical Secrecy” (Article 29), which does not admit administrative or judicial exceptions, as the right to secrecy is total and absolute regarding the information INE collects or receives in carrying out its duties.

Nonetheless, as mentioned in the Conclusions and Recommendations of the Conference, updating the current statistical legal framework and making explicit the authority of INE to access administrative information identified individual public and private information would not only endorse but also set in motion all the conditions and efforts of the NSS in successfully establishing an SPR²². In this sense, the benefit of providing legal tools that allow access information and its sources and that recognize the mechanisms the NSO uses to fulfill its mandate would cover not only the NSS but the State in general promoting informed decision making (Clark, Zaror, & Mejía, 2020).

b. Outlining the Statistical Population Register

Given the relevance of this line of work, INE’s strategic planning for 2022-2026 within the strategic axis “Innovation in statistical production”, which promotes the strategic objective of “installing new methods of statistical production prioritizing innovation” for the development of the strategic project of the statistical population register. In turn, between 2022 and 2024, this initiative will be supported by expert advice from the United Nations Department of Economic and Social Affairs (DESA) as part of its initiative DA13: Administrative data for disaggregated Sustainable Development Goals indicators²³.

²² At present, a bill is pending approval in Senate that gives INE recognition in the law and hence with administrative entities on its mandate to require information for the preparation of official statistics.

²³ DA13 seeks to strengthen the capacities of the national statistical systems of selected countries for the use of administrative records.

The objective of the project is to design, build, and implement the initial Statistical Population Register, and to enhance statistical production based on the statistical use of administrative population records. It is important to emphasize that the expected product in 2026 will be considered an initial version of the SPR because it is understood that perfecting this line of work will take time, investment, and commitment of not only INE but also the State in order to be fully developed. In addition, the SPR is considered to be the first step towards the implementation of combined or register-based censuses (INE & United Nations, 2022), which would reinforce the importance for a successful and effective modernization of the system.

UNSD (2022b) proposes a Generic model for the transition from a traditional census to register-based approaches (Figure 8) in which one of the intermediate products is the SPR. In spite of its intermediate nature compared to the census, the previous steps are fully applicable and it is recommended to take them into account for the project planning. In general terms, the phases are as follows:

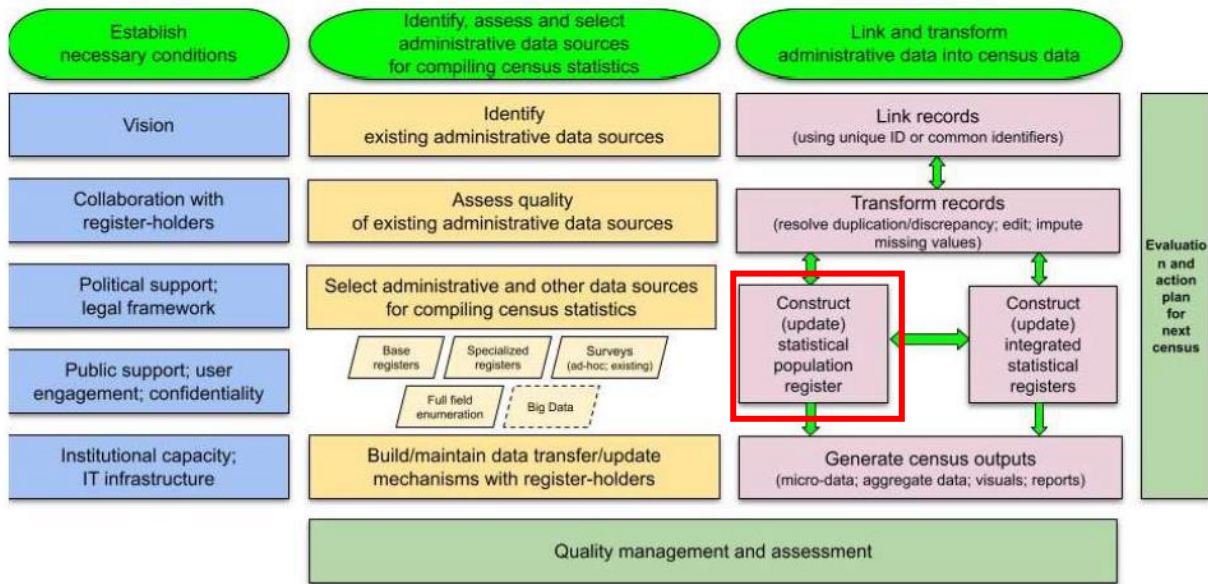
- i. **Establishing/maintaining necessary conditions**
Commit to the vision to modernize statistical production as well as ascribe to a legal framework that enables using individual data for statistical purposes. Promote institutional capacity and establish effective and continuous communication with stakeholders.
- ii. **Identifying administrative data sources and other sources**
Identify administrative data sources through the assessment of existing registers and analyze their quality and relevance for finally making the decision to include them in the process. It is important as well to analyze and compare concepts and definitions of population and related variables from the administrative data sources.
- iii. **Transforming administrative data into statistical registers**
If the country has an existing population register²⁴, it could be the starting point to build an SPR. In other scenarios—depending on the conditions—countries may have to conduct a full field enumeration or ad-hoc surveys. The phase of transformation usually covers the linkage of data sources through common identifiers (unique or not) and the data processing activities for checking duplication, updating administrative data (such approaches as ‘signs of life’), resolving conflicts between administrative records, and finally, implementing the editing and imputation procedures. The transformation phase also includes checking and improving the quality of databases.

²⁴ Referring to a population register with an administrative purpose.

iv. Quality management and assessment

Quality management and assessment is considered to be an overarching process, so it is important to apply it throughout whole phases and develop a system for continuous monitoring. Accordingly, quality must be used measured for the data source, input data, and then for the process and outputs.

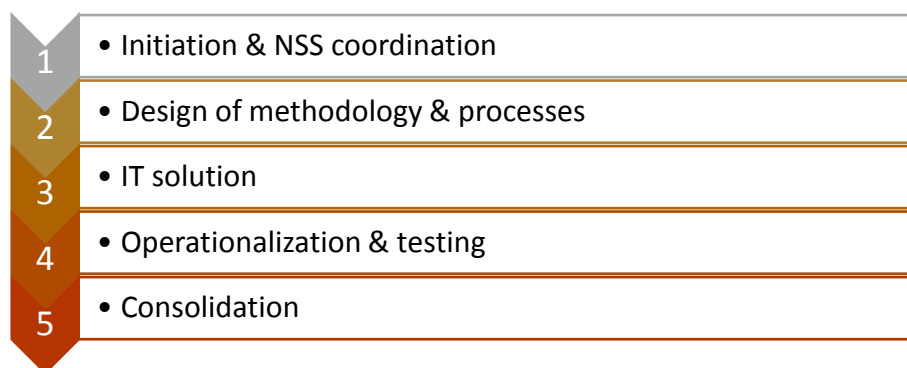
Figure 8: Generic model for the transition from a traditional census to register-based approaches



Source: United Nations. (2022). Handbook on Register-Based Population and Housing Censuses. (United Nations, 2022b, pág. 32)

In view of the UNSD proposed general model, the scope of the SPR project of INE Chile includes five phases of work as shown in Figure 9, which uses to a matrix-work mode because different capabilities are needed to implement the modernization.

Figure 9: SPR project phases (period 2022-2026)



Source: Own elaboration

1. Initiation & NSS coordination

First, the phase covers the planning of activities, definitions of institutional sponsors, and establishment of the work team. Secondly, it covers both identifying the necessary conditions and identifying/prioritizing administrative data sources related to demographic statistics to be studied in the SPR.

As mentioned in Section II, it is important to emphasize in the collaborative work that is already in place with some data providers, especially the Civil Registration and Identification Service and the National Migration Service. Both institutions would become strategic allies for the project because all developments will have statistical value for public policy in their areas of expertise. Besides these institutions, some others would become relevant as well. Thus to ensure long-term sustainable cooperation, it is recommended to work at a practical level by creating frameworks of cooperation such as task teams and at a formal level by establishing agreements which ensure institutional commitment^{25, 26}.

2. Design of methodology and processes

Because design is considered to be a starting point to implement the SPR, it covers the initial stages of both the transformation of administrative data into statistical registers (including conceptual harmonization, methodological design, and processes dimensions) and quality management. It is important to highlight the role of the processes dimension

²⁵ In scenarios where collaboration is already in place, it should be evaluated if addendums are necessary for using the administrative data in the SPR.

²⁶ The latter has more relevance when a comprehensive legal statistical framework ensures continuity of data provision from data holders to the NSO for statistical purposes (United Nations, 2022c).

and the workflow plays in planning and implementing new procedures. Development of new capacities is also required. An example of this is matching methodologies, both the deterministic (using the RUN as an integration key) method and the probabilistic method²⁷.

3. IT solution

Developing a technological solution tailored to the project is crucial in order to achieve the goals of the SPR. In this sense, it is a binding challenge to evaluate and implement the IT infrastructure, software, and technological tools that make the project possible.

4. Operationalization and testing

This phase will employ the previous definitions in order to operationalize, test, evaluate, and correct what has already been developed. Thus, it also covers the transformation of administrative data into statistical registers as well as the quality management proposed in the general UNSD model, in this case in an implementation stage.

5. Consolidation

Finally, consolidation is considered to be a closure milestone. It updates deliverables from previous stages and defines the path to follow for the next years because the SPR in its initial version should still be perfected in order to lead statistical production to a census based on administrative records (the ultimate goal).

v. **Final considerations**

The use of administrative records for statistical production has a long tradition in INE Chile, evidenced in the case of demographic statistics in the production of Vital Statistics since the tripartite agreement between SRCel, Minsal and INE was signed in 1982. The collaborative work during the years has proven to be successful, and improvements both in the coordination and the quality of statistical production have shown results. An example of this is the commitment to continuously improve the partnership framework, which led to updates of the original agreement in 2012 and 2018. Furthermore, it is important to highlight the quality of administrative data sources as it is shown in the quality study results that analyzed administrative coverage, reporting units, punctuality, and completeness.

Nonetheless, there is still room for improvement in the statistical use of administrative records because the possibility of integrating them into a system complemented with information from other sources would enable even more completeness, quality studies, and precision in variables of interest such as country of origin in the case of mothers registered in the births record.

²⁷ The probabilistic method identifies links between data sets by comparing and quantifying relative similarities, thus arriving at approximate matches and not one-to-one as in the case of deterministic integration.

For migration, there is also evidence of integration of administrative records from different sources. This integration, both by deterministic and probabilistic methods, showed that there is a high percentage of matching and has enabled migration estimates to be updated. Because a significant increase in immigration in Chile has taken place in recent years, these estimates are considered to be key elements for public policy.

However, further characterization of the foreign population is still a major concern for Sermig, which will be addressed by the National Registration of Foreign Residents, which is currently being developed as mandated on article 165 of the Law 21.325: Migration and Foreign Resident Law (2022). The development of a centralized administrative register of foreigners would be an important input for a statistical population register. Thus, the efforts of institutional allies such Sermig would benefit the NSS and thus, public decision-making.

Throughout the document, the role of collaborative work between institutions has highlighted, both for the provision of administrative records and in the generation and maintenance of working groups that enable and promote the production of demographic statistics that intensively use administrative records. Nevertheless, the importance of having a statistical law that provides the legal framework for making explicit the role of the INE regarding the statistical use of administrative records is also highly relevant for ensuring a successful outcome for this effort in the long run.

The construction of the SPR was recommended by United Nations because it would represent the backbone of the compilation of official statistics and a master population frame that can be used in the design and execute statistical surveys. In addition, it is considered to be the first step towards combined or register-based censuses. Furthermore, the SPR does not contravene the Fundamental Principles of Official Statistics because protection of confidentiality and privacy of individual records must be guaranteed, and it would have to operate under unequivocal legal conditions that make explicit the purpose of compiling aggregate statistics. In this sense, a fully functional SPR would enable enumeration with a new sources of information for the production of continuous population statistics and at the same time, it would compare, contrast, and complement or provide inputs to other statistical processes.

Building a SPR is not considered to be an easy task. The initiative requires investment and commitment from different areas of the statistical office, and it should be part of the institutional vision. Also, new capacities should be developed and different areas should participate in the planning, implementation, and evaluation because it is considered to be a transversal and strategic project.

In that scenario, INE Chile has decided to face the challenge of designing and developing a SPR through a strategic project with an institution commitment to innovate in the statistical production of the country. To achieve this, collaborative work with data providers within the NSS, support from international organizations, and learning from experiences of other statistical offices are the keys to achieve the goal.

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vii. Annexes

Annex 1: Recording links of Chilean National Conference - Towards the Next Chapter of Building Official Statistics: Use of administrative records for the production of population statistics

Day 1 (October 18, 2022)

<https://www.youtube.com/watch?v=vkOOPsOLh9s>

Day 2 (October 19, 2022)

<https://www.youtube.com/watch?v=oWyYxIHxNXY>

Day 3 (October 20, 2022)

<https://www.youtube.com/watch?v=xAGdFFgvvKU>

Conference Abstracts

https://www.linkedin.com/posts/instituto-nacional-de-estad-sticas-de-chile_ine-unstats-activity-6988574225980604416-8qb9?utm_source=share&utm_medium=member_desktop

https://www.linkedin.com/posts/instituto-nacional-de-estad-sticas-de-chile_ministerio-salud-sermig-activity-6989291910305611776-Ls65?utm_source=share&utm_medium=member_desktop