Daniel Brieba, Mauricio-René Herrera-Marín, Marcelo Riffo, and Danilo Garrido, Inside the Black Box: Uncovering Dynamics and Characteristics of the Chilean Central Government Bureaucracy with a Novel Dataset. *Latin American Politics and Society* vol. 66, no. 3 (Fall 2024).

**Annexes**

Annex 1: Process of data downloading and cleaning.

*Downloading and cleaning*

The data was highly dispersed and found in different formats, so its downloading was a major undertaking of web scraping using Python. Before 2017/2018, each service uploaded its own data in their own links, so we had to track each agency separately. The data for each employment regime is always uploaded separately, so downloading a typical agency’s data for one year usually meant downloading at least 36 different links (12 months x 3 employment regimes), though if the agency was large, it could have dozens of pages per month per employment regime. After 2017/2018, most of the data was centralized in the Transparency Council’s website, downloadable in an Excel file. However, not all agencies joined. Moreover, this created some gaps in the data, as in the transition from the decentralized to the centralized systems, some months of data were nowhere to be found. Figure A.1 shows a typical snippet of the data for an agency (corresponding to the beginning of the list of yearly contract workers for January 2018).

Figure A1: Example of data that was webscraped.



Once the full data was downloaded, we subjected it to a wholesale process of cleaning and standardization, as mistakes and inconsistencies were abundant. We cleaned several fields through different semi-automated processes. For instance, a typical problem that we fixed was one of “mixed columns”, whereby sometimes the data had been uploaded under the wrong headings. We also created a process to classify bureaucrats’ qualifications (which, as free text, were very inconsistently provided) in an additional column, in which professions have been partially standardized (see Annex 5). Another challenge was to clean the downloaded data of unsupported or incompatible characters (e.g. the use of tildes in Spanish often resulted in names being downloaded with mistaken or extra characters). Dates and names of regions, wages, and administrative grades, among others, were also cleaned and/or standardized as necessary.

*Record linkage and name-matching*

The greatest challenge was the process of record linkage, i.e., assigning a unique identification number to each bureaucrat, without which we would not be able to track them over time. The difficulty was given by the inconsistency with which names were written down. This could happen, for instance, by omitting one of the two given names for an individual in some months, or by occasionally misspelling a surname, or by reversing the order of given names and surnames. Indeed, In Chile, all people have two surnames (paternal and maternal, typically in that order), and almost all people have two (or more) given names. According to the electoral roll (which oncludes all adults), about 95% of people have at least four words in their full name. However, in our data, about 15% are registered with only three words, typically because one of the given names was omitted, which creates identification problems. We developed a solution in two stages. In the first, we used algorithms based on fuzzy matching and logical rules to join names that had a high likelihood of belonging to the same person within each public service. This process was then supervised to check for errors (including checking for “false positives” or the joining up by the algorithm of names that in fact belonged to different people). In the second stage, all consolidated names were linked to the national electoral roll and thence to their national identification number. As mentioned in the main text, our final estimate is that the data covers 323,695 individuals, which is a 29% reduction from the 457,688 unique names in the dataset, thus showing the importance of the name-cleaning and name-matching exercise. Moreover, we were able to match 90% of individuals in our data to a unique national ID number, meaning these subjects were unambiguously identified. For a further 6%, we have more than one possible ID number, either because their full name is not unique, or because their name (as it exists in our data) is consistent with more than one full name in the electoral roll. For both these categories we can nevertheless extract the gender from the electoral roll database, meaning we have the gender for over 96% of individuals. Finally, only in about 4% of cases, we were not able to match a name in our data to any name in the electoral roll (and if we exclude the temporary employment category, which is much more volatile, we lack a name match for only 3% of employees). In these cases, we still assign subjects a unique tracking number.

*Job spells and valid data*

The data was mostly in a monthly format, but in some agencies, and particularly in earlier years, the data was in a yearly format. In these cases, we turned it into monthly data (replicating it twelve times).

An important challenge was to calculate individual job spells accurately. For this, a decision had to be taken regarding when a person had entered and left an agency. The data includes columns for the date of entry and date of exit, but both were problematic. The date of entry often referred to the first time an individual had entered the civil service, and not the present job; moreover, sometimes it would change to the present time simply because a person had changed their employment regime or their grade. Indeed, yearly contracts are usually from 1 January to 31 December of each year, and are registered with those dates in the dataset, even if a person has been many years hired under that modality. For its part, the exit date is “undefined” for permanent workers (and therefore useless), and stated as 31 December for yearly workers; however, if these leave unexpectedly in, say, 15 September, we might see that reflected in the September row’s date of exit field but not before (and often not at all – the person just disappears from the record). For these reasons, we based job spells on the month a person is actually entered into the data corresponding to that month – so if a person first appears in the February monthly data and disappears in September, we treat that person as having worked from February to September, regardless of what the date of entry and date of exit columns say. However, because sometimes agencies have partially missing data (e.g. the yearly contract data for an agency is missing for 3 months, but not the data for the other regimes), we only treated a job spell as having ended after a person does not appear for 13 consecutive months as working in an agency, except when there’s a full data gap. For example, if an agency is missing 18 months of data, a person appearing immediately before and after the gap is counted as not having ended their job spell.

We then classified as “invalid” those observations that were inconsistent with the declared dates of entry and exit – for instance, a person might have first appeared in an agency’s data in March 2012, but the respective row of data says the individual began their work in June 2012 (“in the future”). Similarly, some people were reported even after they left (e.g. a person is reported in all months of 2017, but the date of exit states that the individual left on 30 June 2017). In these examples, we would erase or treat as invalid the months from March to May 2012 (in the first example), and from July to December 2017 (in the second example). Careful inspection of the data led us to believe that, though occasional short temporary jobs might be wrongly invalidated by this strategy (eg a 2-month consultancy is reported once in the data and only after it is finished, and we would therefore eliminate it entirely), overall it leads to much greater accuracy.

The very last step was to ensure that every individual appeared only once per month in our data. We used a series of decision rules to try to assign people to their “real”, or at least more important, job. For instance, a yearly worker in agency A might also teach a few hours per month in agency B under a temporary contract; in this case, we assigned him to agency A. Sometimes, a bureaucrat working for agency C as a yearly worker might get to keep in reserve (“in property”) their permanent position in agency D (meaning s/he has a right of return to their position), and both agencies simultaneously report the worker as employed by them – but only agency C reports paying the worker a salary for that month, so we assign her to agency C; and so forth. This entire process meant that 16% of observations were invalidated (though many of those had been artificially created in the first place, through the transformation of yearly into monthly data). The final dataset has almost 15.8 million rows of valid data. No worker is assigned to more than one agency in any month.

Annex 2: The data and its validation

In Figure A2 below, we report the number of agencies we have data for over time. Since data for each agency is published separately for each employment regime type, we also report the disaggregated numbers. As can be seen, there was a large jump in 2009, as more agencies began reporting their data, and a slow, steady increase after that. This is in part due to more agencies being created over time. There was a temporary but noticeable drop around 2019 when many services moved to a central reporting platform. Since 2018-2019, most services (though by no means all) began providing their new data in a unified format directly to the Transparency Council, which made it publicly available on an Excel file. This vastly improved the ease of access to the data, but initially, it came at the cost of less completeness and traceability, as under the new arrangement sometimes services simply replaced last month’s information with the new, leaving some temporal gaps in the data. These migration issues are what explain the temporary drop in data in 2019.

As can be seen, the total number of services peaks at slightly above 140. This follows the way in which the Budget Office reports personnel statistics, but we have disaggregated data for almost all regional and provincial governments and also for the regional housing agencies; if we consider each as a separate entity, we have data for almost 250 agencies. Specifically, we have at least some data for each of the 56 provincial governments (“Gobernaciones”) and 16 executive regional governments (“Intendencias”), all grouped together by DIPRES as “Interior Government”; for 15 administrative regional governments (grouped by DIPRES as “Regional Governments”); and for 15 regional housing services (“SERVIUs”), grouped as “Regional Services of Housing and Urbanization”. The first two groups depend on the Ministry of the Interior, while the latter are under the Ministry of Housing and Urbanization. For “Gobernaciones” and “Intendencias”, we have data only between 2010 and 2018 (inclusive).

It’s important to note that not all agencies have all employment regimes; indeed, some very small agencies may have only fee-for-service employees. Also, police/military institutions have special regulations that exempt them from some transparency requirements, and therefore published only the information of their temporary employees, but not of their core employees (such as policemen, who are under permanent contracts). These factors explain why this employment category is the most prevalent. Occasionally, however, agencies may have published data for some employment regimes but not others during a short period of time (eg some months), and this can also create disparities and small monthly oscillations, such as those observed in Figure A2. As an example of this situation, Figures A3a and A3b show the cases of institutions in which some employment regimes were not reported for some specific months (but others were), temporarily bringing down the total number of employees registered in that service. Finally, Figure A4 shows the reverse case – an extremely large surge in temporary employees. This occurred in the National Statistics Agency (INE) for the preparation and execution of the 2012 census, when the agency hired many thousands of workers (this is why INE is omitted in Figure 4 of the main text, as it would have generated an extremely large spike in the turnover rates of the temporary employment category in 2012).

Figure A2: Number of agencies over time, in total and by contract regime



A3: Total number of employees, from month 552 (January 2006) to month 723 (April 2020), selected agencies



Note: Left-hand panel is the Tax Agency (SII), right-hand panel is the National Council for School Assistance (JUNAEB). The temporary sharp drops indicate missing data.

A4: Total number of temporary employees in National Institute of Statistics (INE), by month



*Validation of the data*

We use two distinct Budget Office data sources to build our comparisons (DIPRES 2011, DIPRES 2020). For the 2006-2010 validation, after cleaning the data and matching agency names (which have shifted, splintered or merged over time – our names for agencies are typically those prevalent around 2020), we have 112 agencies for which to compare aggregate numbers of personnel with the DIPRES data. However, DIPRES reports tiny numbers of temporary employees, so we focus instead on the core agency workers under permanent and yearly contracts. For the years 2011 to 2019, we use a published Excel file available on the DIPRES website. DIPRES data (as they report) are for December of each year between 2011 and 2019, for June between 2007 and 2010, and for May in 2006. We, therefore, use the corresponding month/year in our data to make the relevant comparisons. For 2011-2019, we are able to match 137 agencies with DIPRES (this is mostly because more agencies were created). The data this time includes temporary personnel, but for consistency with the previous period, we focus on the permanent and yearly workers only. Regarding temporary workers, there is more variability in the analysis than with the other categories, but on average, our data registers slightly *more* people than the DIPRES data. Finally, a small proportion of workers in the Chilean government are hired directly under the standard (private sector) labor laws; for a few specific agencies, these might constitute a relevant proportion of workers. Since 2011, DIPRES has reported this category (and others), but our data does not include it, so we ignore it – in any case, it is marginal overall.

In addition to the figures reported in the main text, in Figure A.3 we report the yearly deficit in agency coverage of our data, as compared to DIPRES. To calculate the agency coverage of our data, we need to determine for how many agency/years data “could” have been available. We therefore exclude from the calculation those agency/years for which both our data and DIPRES data agree on reporting zero workers, meaning the agency did not operate in that year (eg an agency that started in 2009 would have 2006 to 2008 without employees). Using these criteria, for the 112 agencies we have for 2006 to 2010, we have a total of 528 agency/years. We find that for 78 of these, or almost 15%, data is missing. This is not surprising, as in initial years not all agencies uploaded their data according to the Transparency requirement. For the years 2011 to 2019, although we have more agencies (137), we find a higher coverage, with only about 7% of agency/years (79 out of 1084) missing. As can be seen in Figure A5, across the whole period there was a decreasing trend in missing data until about 2013. It can also be seen that this line parallels to a significant degree the “No military, no JUNJI” line in Figure 1 of the main text.

Figure A5: Deficit in agency coverage (our data vs DIPRES)



Finally, perhaps the most relevant question is whether the data we do have is reasonably complete. In other words, given that we have data for a given agency-year, is this data to be trusted, in the sense that it approximately matches the employee totals provided by DIPRES? As explained in the mian text, we calculate the percentage of deviation of our data from DIPRES data for each agency/year for which both sources have at least some data. We then classify each agency-year as “Good” if the deviation is within +/- 10% of the DIPRES number, as with “Some problems” if the deviation is between 10 and 30%, “Poor” if it is between 30% and 50%, and as “Very poor” if the deviation is over 50%. As can be seen in Table A1, the overwhelming majority of the data is in the “Good” category for both our time periods.

Table A1: Quality (completeness) of the data

|  |  |  |
| --- | --- | --- |
|  | 2006-2010 | 2011-2019 |
| Very poor  | 4.0 | 3.8 |
| Poor  | 1.8 | 1.2 |
| Some problems | 9.3 | 6.4 |
| Good | 84.9 | 88.7 |
| # of agency/years | 450 | 1005 |

Note: Each number (except in the last row) represents the percentage of agency/years that fall in that category,as explained in the main text.

To gain a sense of the magnitude of the error distribution, Figure A6 plots the histogram of agency-year deviations (in percentage points) for the 2011-2019 period. As can be seen, most cases are very close to zero.

Figure A6: Histogram of deviations (%) of our data from DIPRES data, per agency-year (2011-2019)



Note: Negative percentages mean Transparency data is larger than DIPRES data.

The high degree of correspondence between our data and DIPRES suggests services mostly reported faithfully and completely their employee information according to Transparency requirements. It also means that the name-matching procedure utilized was crucial, as without it, our data would have included around 30% more (spurious) identities, and thus be quite far from the zero-centered distribution we find here.

Finally, in Figure A7 we report scatterplots of DIPRES and our data for each agency-year (Figure 2 in the main text is this same figure, but constrained at 5,000 on the X-axis for ease of visualization). This allows easy visualization of deviations from the diagonal line. We color-coded the data according to the categories above. As can be seen, most points are very close to the diagonal. Red points, representing large deviations, correspond mostly to cases where Transparency has missing data, and are laid out along the X-axis. As was discussed in the main text, just two very large services- the prison guards’ service (“Gendarmería”) and the nursery service (JUNJI) - with partially or fully missing data (see lower right quadrant of Figure A5) are responsible for a large share of the discrepancy in the total or aggregate number of employees between the two sources. In fact, *all* red dots to the right of the 10,000 value on the X-axis belong to these two services. Interestingly, in some cases, our data appears to have slightly more employees than the DIPRES data[[1]](#footnote-1). For instance, for 2015, 2016, 2017, and 2019, JUNJI registered between 16% and 22% more employees in our/Transparency data than in DIPRES data (these are the blue points above the diagonal line in the upper-right-quadrant of Figure A5). However, there are no such differences for earlier years[[2]](#footnote-2).

**Figure A7: Total of employees by agency/year, DIPRES vs. our data (2011-2019)**



Note: Scatterplots of the Budget Office’s official estimates of employees in each agency/year against the same estimates derived from the (cleaned and name-matched) Transparency data. Figure A7 plots all agency/years. Figure 2 in the main text, for ease of visualization, only plots agency/years with 5,000 employees or less in the DIPRES data (X-axis).

Annex 3: Relationship between grades and ranks

 Figure A8: Table showing the distribution of administrative grade according to rank, all job spells, by grade/rank in the final month of the respective job spell.



Note: Permanent and yearly workers only (temporary workers do not have grade or rank). Some outliers may be mistakes in the data (e.g. there are no professionals in grades 2 or 3); however, they are very few. Grades above 28 were eliminated (they were very few as well).

Annex 4: Additional figures.

Figure A9: Turnover by presidential year, all ranks, with JUNJI



Note: This is the same graph as in Figure 5, but with JUNJI included.

Figure A10: Grade progression, by rank, average with 95% confidence intervals.



Annex 5: Standardization of professions

In the original data, the field for qualifications is free text, which resulted in multiple ways of describing the same profession or qualifications. The original data was, moreover, full of errors such as typos. The distinction between male and female also multiplied the ways in which a profession could be written (e.g. abogado, abogada). The procedure consisted first of a cleaning of the data. Then, groups were detected based on root words. In the next step, the official names of degrees and professions were downloaded, according to the 2005-2021 list of degrees registered by the National Council of Education[[3]](#footnote-3).

Informed by this list of degrees, we then created thematic groups based on key words that tended to go together (such as “Engineer” or “Technician” with “Computing”). By refining these groups, we arrived at the official titles of degrees, such as “Civil Engineer in Computing”, “Execution Engineer in Computing” or “Technician in Computing”. This procedure allowed both the standardization of descriptions that in fact corresponded to the same degree and the differentiation between similar-sounding but different degrees. Nonetheless, this process is ongoing and can still be further refined.

**Annex 6: Table of agencies included in Figures 3, 4, 5, 6, 8, 11, and 12 (but see Note at bottom of the table). N=77.**

**Table A2**

|  |  |
| --- | --- |
| Name | Acronym |
| AGENCIA CHILENA DE COOPERACIÓN INTERNACIONAL PARA EL DESARROLLO (AGCID) | agci |
| Agencia de Promoción de la Inversión Extranjera | investchile |
| Caja de Previsión de la Defensa Nacional (CAPREDENA) | capredena |
| Comisión Chilena de Energía Nuclear (CCHEN) | cchen |
| Comisión Chilena del Cobre (COCHILCO) | cochilco |
| Comisión Nacional de Energía (CNE) | cne |
| Comisión Nacional de Investigación Científica y Tecnológica (CONICYT) | conicyt |
| Comisión Nacional de Riego (CNR) | cnr |
| Comisión Nacional del Medio Ambiente\* | conama\_mma |
| Comisión para el Mercado Financiero (CMF ex SVS) | cmf |
| Corporación Nacional de Desarrollo Indígena (CONADI) | conadi |
| Defensoría Penal Pública (DPP) | dpp |
| Dirección de Aeropuertos (DAP) | aeropuertos |
| Dirección de Compras y Contratación Pública (CHILECOMPRA) | chilecompra |
| Dirección de Contabilidad y Finanzas (DCYF) | dcyf |
| Dirección de Obras Hidráulicas (DOH) | doh |
| Dirección de Obras Portuarias (DOP) | dop |
| Dirección de Planeamiento (DIRPLAN) | dirplan |
| Dirección de Presupuestos (DIPRES) | dipres |
| Dirección de Previsión de Carabineros de Chile (DIPRECA) | dipreca |
| Dirección de Vialidad (VIALIDAD) | vialidad |
| Dirección del Trabajo (DT) | dt |
| Dirección General de Aeronáutica Civil (DGAC) | dgac |
| Dirección General de Aguas (DGA) | dga |
| Dirección General de Crédito Prendario (DICREP) | dicrep |
| Dirección General de Obras Públicas (DGOP) | dgop |
| Dirección Nacional del Servicio Civil | serviciocivil |
| Fiscalía MOP | fiscaliamop |
| Fiscalía Nacional Económica (FNE) | fne |
| Instituto Antártico Chileno (INACH) | inach |
| Instituto de Previsión Social (IPS) | ips |
| Instituto Nacional de Estadisticas (INE) | ine |
| Instituto Nacional de la Juventud (INJUV) | injuv |
| Instituto Nacional del Deporte (IND) | ind |
| Junta de Aeronáutica Civil (JAC) | jac |
| Junta Nacional de Auxilio Escolar y Becas (JUNAEB) | junaeb |
| Junta Nacional de Jardines Infantiles (JUNJI) | junji |
| Ministerio de Planificación / Subsecretaría Servicios Scoiales | mideplan\_subseservsoc |
| Oficina Nacional de Emergencia (ONEMI) | onemi |
| Oficinas de Estudios y Políticas Agrarias (ODEPA) | odepa |
| Parque Metropolitano de Santiago | parquemet |
| Presidencia de la República | presid |
| Servicio Agrícola y Ganadero (SAG) | sag |
| Servicio de Impuestos Interno\* | sii |
| Servicio de Registro Civil e Identificación | registrocivil |
| Servicio Médico Legal (SML) | sml |
| Servicio Nacional de Aduanas | aduana |
| Servicio Nacional de la Mujer y la Equidad de Género (SERNAMEG) | sernameg |
| Servicio Nacional de Menores (SENAME) | sename |
| Servicio Nacional de Pesca y Acuicultura (SERNAPESCA) | sernapesca |
| Servicio Nacional de Turismo (SERNATUR) | sernatur |
| Servicio Nacional del Adulto Mayor (SENAMA) | senama |
| Servicio Nacional del Consumidor (SERNAC) | sernac |
| Servicio Nacional del Patrimonio Cultural | patrimoniocultural |
| Subsecretaría de Bienes Nacionales | mbienes |
| Subsecretaría de Economía (MINECON) | subsececonomia |
| Subsecretaría de Educación (MINEDUC) | mineduc |
| Subsecretaría de Hacienda | hacienda |
| Subsecretaría de Justicia | subsecjusticia |
| Subsecretaría de Minería | submin |
| Subsecretaría de Obras Públicas (MOP) | mop |
| Subsecretaría de Pesca y Acuicultura | subpesca |
| Subsecretaría de Telecomunicaciones (SUBTEL) | subtel |
| Subsecretaría de Transportes (MTT) | subtrans |
| Subsecretaría de Vivienda y Urbanismo (MINVU) | subsecminvu |
| Subsecretaría del Trabajo (MINTRAB) | subtrab |
| Subsecretaría General de Gobierno (SEGEGOB) | segegob |
| Subsecretaría General de La Presidencia (SEGPRES) | segpres |
| Subsecretaría para las Fuerzas Armadas (SSFFAA) | ssffaa |
| Superintendencia de Casinos de Juego (SCJ) | scj |
| Superintendencia de Electricidad y Combustibles (SEC) | sec |
| Superintendencia de Insolvencia y Reemprendimiento | superir |
| Superintendencia de Pensiones (SP) | sp |
| Superintendencia de Seguridad Social (SUSESO) | suseso |
| Superintendencia de Servicios Sanitarios (SISS) | siss |
| Tesorería General de la República (TGR) | tgr |
| Unidad de Análisis Financiero | uaf |

Note: These agencies have **data for permanent workers** at least from February 2006 until March 2020, though they may have missing data in between (e.g. JUNJI is missing year 2011), though this is dealt with (see creation of “job spells” in main text and Annex 1). These agencies represent 79.3% of all our data (approximately 12.5 million rows). In each Figure, some services may not be included for reasons explained in the text or because they have other missing data. The exceptions are as follows: Figures 3, 4 and 5: exceptions are noted in the Notes to each Figure. Figures 6 and 8: no exceptions. Figure 11: Three agencies are omitted because of missing data on too many intermediate years: *cne*, *investchile* and *cochilco*. These same three agencies are also excluded from Figure 12.

Table A3: All other agencies (including regional agencies such as SERVIUs, Gobernaciones and Intendencias). Those in **bold** are included in Figure 12 (in addition to those in Table A.2).

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Acronym | Min Time | Max Time |
| Administradora de los Tribunales Tributarios y Aduaneros (ATTA) | **Atta** | **600** | **723** |
| Agencia de Calidad de la Educación | Agenciaeducacion | 702 | 723 |
| Armada de Chile | Armada | 696 | 723 |
| Carabineros de Chile | carabineros | 576 | 720 |
| Centro de Información de Recursos Naturales\* | ciren | 552 | 723 |
| Comisión Administradora del Sistema de Créditos para Estudios Superiores (INGRESA) | ingresa | 552 | 723 |
| Comisión del Sistema Nacional de Certificación de Competencias Laborales (CHILEVALORA) | chilevalora | 598 | 723 |
| Comisión Nacional de Acreditación (CNA) | cnachile | 564 | 723 |
| Consejo de Calificación cinematográfica\* | consejodecalificacioncinematografica | 600 | 707 |
| Consejo de Rectores | consejoderectores | 588 | 723 |
| Consejo Fiscal Autónomo | cfachile | 713 | 723 |
| Consejo Nacional de Educación (CNED) | cned | 588 | 723 |
| Consejo Nacional de Televisión (CNTV) | **cntv** | **588** | **723** |
| Corporación de Asistencia Judicial de la Región Metropolitana (CAJMETRO) | cajmetro | 600 | 718 |
| Corporación de Asistencia Judicial Región Bío Bío (CAJBIOBIO) | cajbiobio | 673 | 723 |
| Corporación de Asistencia Judicial Región Valparaíso (CAJVAL) | cajvalparaiso | 648 | 723 |
| Corporación de Asistencia Judicial Regiones Tarapacá y Antofagasta (CAJTA) | cajta | 600 | 723 |
| Corporación de Fomento Para La Producción (CORFO) | corfo | 605 | 723 |
| Corporación Nacional Forestal\* | conaf | 600 | 723 |
| de Desarrollo Sustentable de la Pesca Artesanal y de la Acuicultura de Pequeña Escala (INDESPA) | indespa\* | 715 | 723 |
| Defensa Civil de Chile | defensacivil | 660 | 707 |
| Dirección de Arquitectura (DARQ) | **arquitecturamop** | **552** | **723** |
| Dirección de Educación Pública | educacionpublica | 696 | 723 |
| Dirección General de Concesiones de Obras Públicas (DGC) | concesiones | 552 | 723 |
| Dirección General de Movilización Nacional (DGMN) | **dgmn** | **552** | **723** |
| Dirección General de Promoción de Exportaciones\* | prochile | 714 | 723 |
| Dirección General de Relaciones Económicas Internacionales (DIRECON) | direcon | 552 | 698 |
| Dirección Nacional de Fronteras y Límites del Estado (DIFROL) | difrol | 552 | 717 |
| Division de Gobierno Interior\* | gobiernointerior | 592 | 707 |
| Estado Mayor Conjunto (EMCO) | emco | 591 | 723 |
| Ex Consejo Nacional de la Cultura y las Artes (CNCA) | excnca | 696 | 699 |
| Fondo de Solidaridad e Inversión Social (FOSIS) | fosis\* | 703 | 723 |
| Fuerza Aérea de Chile (Incluye al Servicio Aerofotogramétrico) | fach | 588 | 723 |
| Fundación de Comunicaciones, Capacitación y Cultura del Agro\* | fucoa | 617 | 623 |
| Fundación para la Innovación Agraria\* | fia | 593 | 606 |
| Gendarmería de Chile | gendarmeria | 588 | 719 |
| Gobernacion de Antartica\* | gobernacionantartica | 600 | 707 |
| Gobernacion de Antofagasta\* | gobernacionantofagasta | 600 | 707 |
| Gobernacion de Arauco\* | gobernacionarauco | 600 | 707 |
| Gobernacion de Arica\* | gobernacionarica | 600 | 707 |
| Gobernacion de Aysen\* | gobernacionaysen | 600 | 707 |
| Gobernacion de Bio Bio\* | gobernacionbiobio | 600 | 707 |
| Gobernacion de Cachapoal\* | gobernacioncachapoal | 600 | 707 |
| Gobernacion de Capitan Prat\* | gobernacioncapitanprat | 600 | 707 |
| Gobernacion de Cardenal Caro\* | gobernacioncardenalcaro | 600 | 707 |
| Gobernacion de Cauquenes\* | gobernacioncauquenes | 600 | 707 |
| Gobernacion de Cautin\* | gobernacioncautin | 600 | 707 |
| Gobernacion de Chacabuco\* | gobernacionchacabuco | 600 | 707 |
| Gobernacion de Chañaral\* | gobernacionchanaral | 600 | 707 |
| Gobernacion de Chiloe\* | gobernacionchiloe | 600 | 707 |
| Gobernacion de Choapa\* | gobernacionchoapa | 600 | 707 |
| Gobernacion de Colchagua\* | gobernacioncolchagua | 600 | 707 |
| Gobernacion de Concepcion\* | gobernacionconcepcion | 600 | 707 |
| Gobernacion de Copiapo\* | gobernacioncopiapo | 600 | 707 |
| Gobernacion de Cordillera\* | gobernacioncordillera | 600 | 707 |
| Gobernacion de Coyhaique\* | gobernacioncoihaique | 600 | 707 |
| Gobernacion de Curico\* | gobernacioncurico | 600 | 707 |
| Gobernacion de Diguillin\* | gobernaciondiguillin | 704 | 707 |
| Gobernacion de Elqui\* | gobernacionelqui | 600 | 707 |
| Gobernacion de General Carrera\* | gobernaciongeneralcarrera | 600 | 707 |
| Gobernacion de Huasco\* | gobernacionhuasco | 600 | 707 |
| Gobernacion de Iquique\* | gobernacioniquique | 600 | 707 |
| Gobernacion de Isla de Pascua\* | gobernacionisladepascua | 600 | 707 |
| Gobernacion de Itata\* | gobernacionitata | 704 | 707 |
| Gobernacion de Limari\* | gobernacionlimari | 600 | 707 |
| Gobernacion de Linares\* | gobernacionlinares | 600 | 707 |
| Gobernacion de Llanquihue\* | gobernacionllanquihue | 600 | 707 |
| Gobernacion de Loa\* | gobernacionloa | 600 | 707 |
| Gobernacion de Los Andes\* | gobernacionlosandes | 600 | 707 |
| Gobernacion de Magallanes\* | gobernacionmagallanes | 600 | 707 |
| Gobernacion de Maipo\* | gobernacionmaipo | 600 | 707 |
| Gobernacion de Malleco\* | gobernacionmalleco | 600 | 707 |
| Gobernacion de Marga Marga\* | gobernacionmargamarga | 602 | 707 |
| Gobernacion de Melipilla\* | gobernacionmelipilla | 600 | 707 |
| Gobernacion de Ñuble\* | gobernacionnuble | 600 | 707 |
| Gobernacion de Osorno\* | gobernacionosorno | 600 | 707 |
| Gobernacion de Palena | gobernacionpalena | 600 | 707 |
| Gobernacion de Parinacota\* | gobernacionparinacota | 600 | 707 |
| Gobernacion de Petorca\* | gobernacionpetorca | 600 | 707 |
| Gobernacion de Punilla\* | gobernacionpunilla | 701 | 707 |
| Gobernacion de Quillota\* | gobernacionquillota | 600 | 707 |
| Gobernacion de Ranco\* | gobernacionranco | 600 | 707 |
| Gobernacion de San Antonio\* | gobernacionsanantonio | 600 | 707 |
| Gobernacion de San Felipe\* | gobernacionsanfelipe | 600 | 707 |
| Gobernacion de Talagante\* | gobernaciontalagante | 600 | 707 |
| Gobernacion de Talca\* | gobernaciontalca | 600 | 707 |
| Gobernacion de Tamarugal\* | gobernaciontamarugal | 600 | 707 |
| Gobernacion de Tierra del Fuego\* | gobernaciontierradelfuego | 600 | 707 |
| Gobernacion de Tocopilla\* | gobernaciontocopilla | 600 | 707 |
| Gobernacion de Ultima Esperanza\* | gobernacionultimaesperanza | 600 | 707 |
| Gobernacion de Valdivia\* | gobernacionvaldivia | 600 | 707 |
| Gobernacion de Valparaiso\* | gobernacionvalparaiso | 600 | 707 |
| Gobierno Regional de Antofagasta | goreantofagasta | 552 | 723 |
| Gobierno Regional de Arica y Parinacota | gorearicayparinacota | 573 | 723 |
| Gobierno Regional de Atacama | goreatacama | 600 | 723 |
| Gobierno Regional de Aysén (GORE Aysén) | goreaysen | 552 | 723 |
| Gobierno Regional de Coquimbo | gorecoquimbo | 552 | 723 |
| Gobierno Regional de La Araucanía (Gore Araucanía) | gorearaucania | 552 | 722 |
| Gobierno Regional de los Lagos\* | goreloslagos | 552 | 683 |
| Gobierno Regional de Los Ríos (GORE de Los Ríos) | goredelosrios | 564 | 723 |
| Gobierno Regional de Magallanes y de la Antártica Chilena (GORE Magallanes) | goremagallanes | 672 | 723 |
| Gobierno Regional de Ñuble | gorenuble | 704 | 723 |
| Gobierno Regional de OHiggins (Gore OHiggins) | goreohiggins | 588 | 723 |
| Gobierno Regional de Tarapacá | goretarapaca | 552 | 723 |
| Gobierno Regional de Valparaíso ( GORE Valparaíso) | gorevalparaiso | 600 | 723 |
| Gobierno Regional del Bío Bío (Gore Bío Bío) | gorebiobio | 708 | 723 |
| Gobierno Regional del Maule (Gore Maule) | goremaule | 564 | 723 |
| Gobierno Regional Metropolitano de Santiago (GORE Metropolitano) | gobiernosantiago | 588 | 723 |
| Instituto de Desarrollo Agropecuario (INDAP) | **indap** | **588** | **723** |
| Instituto de Seguridad Laboral (ISL) | isl | 681 | 723 |
| Instituto Forestal\* | infor | 554 | 723 |
| Instituto Nacional de Derechos Humanos (INDH) | ddhh\* | 684 | 722 |
| Instituto Nacional de Hidraulica\* | **inh** | **588** | **723** |
| Instituto Nacional de Propiedad Industrial (INAPI) | **inapi** | **588** | **723** |
| Intendencia de Antofagasta\* | intendenciaantofagasta | 600 | 707 |
| Intendencia de Arica y Parinacota\* | intendenciaaricaparinacota | 600 | 707 |
| Intendencia de Atacama\* | intendenciaatacama | 600 | 707 |
| Intendencia de Aysen\* | intendenciaaysen | 600 | 707 |
| Intendencia de Bio Bio\* | intendenciabiobio | 600 | 707 |
| Intendencia de Coquimbo\* | intendenciacoquimbo | 600 | 707 |
| Intendencia de la Araucania\* | intendencialaaraucania | 600 | 707 |
| Intendencia de Los Lagos\* | intendencialoslagos | 600 | 707 |
| Intendencia de Los Rios\* | intendencialosrios | 600 | 707 |
| Intendencia de Magallanes\* | intendenciamagallanes | 600 | 707 |
| Intendencia de Maule\* | intendenciamaule | 600 | 707 |
| Intendencia de Ñuble\* | intendencianuble | 704 | 707 |
| Intendencia de Ohiggins\* | intendenciabohiggins | 600 | 707 |
| Intendencia de Tarapaca\* | intendenciatarapaca | 600 | 707 |
| Intendencia de Valparaiso\* | intendenciavalparaiso | 600 | 707 |
| Intendencia Metropolitana\* | intendenciametropolitana | 600 | 707 |
| Policia de Investigaciones\* | pdichile | 552 | 707 |
| Servicio de Cooperación Técnica (SERCOTEC) | sercotec | 648 | 723 |
| Servicio de Evaluación Ambiental (SEA) | **sea** | **600** | **723** |
| Servicio Electoral\* | servel | 552 | 683 |
| Servicio Local de Educación Pública Andalién Sur | slepanalien\* | 714 | 723 |
| Servicio Local de Educación Pública Chinchorro | slepchinchorro\* | 714 | 723 |
| Servicio Local de Educación Pública Costa Araucanía | slepcaraucania\* | 702 | 723 |
| Servicio Local de Educación Pública de Barrancas | slepbarancas\* | 698 | 723 |
| Servicio Local de Educación Pública Gabriela Mistral | slepgmistral\* | 710 | 722 |
| Servicio Local de Educación Pública Huasco | slephuasco\* | 708 | 723 |
| Servicio Local de Educación Pública Puerto Cordillera | sleppcordillera\* | 694 | 723 |
| Servicio Nacional de Capacitación y Empleo (SENCE) | sence | 612 | 723 |
| Servicio Nacional de Geología y Minería (SERNAGEOMIN) | sernageomin | 618 | 723 |
| Servicio Nacional de la Discapacidad\* | senadis | 552 | 723 |
| Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol (SENDA) | senda | 621 | 723 |
| SERVIU Región de Antofagasta | serviuantofagasta | 696 | 723 |
| SERVIU Región de Arica y Parinacota | serviuaricayparinacota | 588 | 723 |
| SERVIU Región de Atacama | serviuatacama | 552 | 723 |
| SERVIU Región de Aysén del General Carlos Ibáñez del Campo | serviuaysen | 552 | 723 |
| SERVIU Región de Coquimbo | serviucoquimbo | 552 | 722 |
| SERVIU Región de la Araucanía | serviuaraucania | 590 | 723 |
| SERVIU Región de Los Lagos | serviuloslagos | 600 | 723 |
| SERVIU Región de Los Ríos | serviulosrios | 588 | 723 |
| SERVIU Región de Magallanes y la Antártica Chilena | serviumagallanes | 607 | 723 |
| SERVIU Región de Tarapacá | serviutarapaca | 552 | 723 |
| SERVIU Región de Valparaíso | serviuvalparaiso | 552 | 723 |
| SERVIU Región del Bío Bío | serviubiobio | 552 | 723 |
| SERVIU Región del Libertador Bernardo OHiggins | serviuohiggins | 552 | 723 |
| SERVIU Región del Maule | serviumaule | 552 | 723 |
| SERVIU Región Metropolitana de Santiago | serviurm | 552 | 723 |
| Sistema de Empresas | sep | 608 | 707 |
| Subsecretaría de Agricultura | **minagri** | **588** | **723** |
| Subsecretaría de Ciencia Tecnología Conocimiento e Innovación | subminciencia | 717 | 723 |
| Subsecretaría de Defensa | ssdefensa | 624 | 723 |
| Subsecretaria de Derechos Humanos | ddhh | 684 | 723 |
| Subsecretaría de Desarrollo Regional (SUBDERE) | **subdere** | **591** | **723** |
| Subsecretaría de Educación Parvularia | parvularia | 672 | 723 |
| Subsecretaría de Educación Superior | educacionsuperior | 715 | 723 |
| Subsecretaría de Energía | **energia** | **600** | **723** |
| Subsecretaria de Evaluación Social | subevalsocial | 624 | 723 |
| Subsecretaria de Interior\* | subinterior | 552 | 707 |
| Subsecretaria de Investigaciones\* | subinvestigaciones | 588 | 623 |
| Subsecretaría de la Mujer y la Equidad de Género | submujeryeg\* | 677 | 723 |
| Subsecretaría de la Niñez | subsecninez\* | 703 | 723 |
| Subsecretaría de las Culturas y las Artes | subculturayarte\* | 698 | 723 |
| Subsecretaría de Prevención del Delito | seguridadpublica | 612 | 723 |
| Subsecretaría de Previsión Social (SPS) | **sps** | **588** | **723** |
| Subsecretaría de Relaciones Económicas Internacionales\* | subrei | 714 | 723 |
| Subsecretaría de Relaciones Exteriores (MINREL) | minrel | 552 | 723 |
| Subsecretaría de Turismo | subturismo | 612 | 723 |
| Subsecretaría del Deporte | mindep | 650 | 723 |
| Subsecretaría del Patrimonio Cultural | subpatrimoniocultural\* | 704 | 723 |
| Superintendencia de Bancos e Instituciones Financieras (SBIF) | sbif | 552 | 716 |
| Superintendencia de Educación | supereduc | 631 | 723 |
| Superintendencia de Educación Superior | sesuperior | 713 | 723 |
| Superintendencia del Medio Ambiente (SMA) | sma | 609 | 723 |
| Tribunal de propiedad Industrial\* | tdpi | 624 | 707 |
| Universidad de Aysén | uaysen\* | 678 | 723 |
| Universidad de Ohiggins | uohiggins\* | 672 | 722 |

Note: The minimum and maximum times reported correspond to “any” availability. For instance, the Foreign Relations Ministry (minrel) is reported here with full data from 552 to 723, but this is true only for temporary workers, as data for permanent and yearly workers is missing after month 698 (March 2018). Also, services may have missing data in between – but this is dealt with (see explanation of “job spells” in main text and Annex 1). These agencies represent 20.7% of our data (3.26 million rows).

1. There is one extreme case, not shown, where the difference for some years is -200% in favor of the Transparency data. This occurs for a military institution, which again, due to their special reporting laws, are best left out of the equation. [↑](#footnote-ref-1)
2. Though we do not yet know the causes of this discrepancy, it seems unlikely that it is due to insufficient name reduction and matching in our cleaning procedure, in which JUNJI was not an outlier in terms of name matching success, and which in any case would not explain why the discrepancy appears only in later years. The success of the name-matching procedure was in fact very stable for JUNJI across all years. [↑](#footnote-ref-2)
3. See <https://www.cned.cl/indices-educacion-superior> [↑](#footnote-ref-3)