COD-PS Colombia
Update Year 2023 / Reference Year 2023

Objective of This Explanatory Technical Note

This explanatory technical note provides supplementary notes on the strengths and limitations of each Common Operational Dataset on Population Statistics (COD-PS) against the projections by the WPP 2022 Revision of the UN to enable informed humanitarian decision-making.

Structure of Supplementary Note

This supplementary note is organized into the following sections:
1. Metadata
2. Methodological Documentation
3. Intrinsic Population Growth Rates (ADM-0 & 1)
4. Population counts by age and sex (ADM-0)
5. Relative population size by age and sex (ADM-1)

1. Metadata

Item	Metadata
Country	Colombia
Source(s)	Departamento Administrativo Nacional de Estadística (DANE) Colombia
Source(s) Link(s)	https://www.dane.gov.co/index.php/estadisticas-por-tema/demografia-y-poblacion/proyecciones-de-poblacion
Population Data Type (Census enumeration, Direct estimate, or Population projection)	Population projection
Baseline Population Year	2018
COD-PS Reference Year	2023
COD-PS Publication Year	2023
ADM-1 Name	Departamento
ADM-1 Number of Units	32
ADM-1 Sex and Age Disaggregation	Sex and age disaggregated by 5-year age groups
ADM-1 Open-ended Age Group	100+

Item	Metadata
ADM-2 Name	Municipio
ADM-2 Number of Units	1122
ADM-2 Sex and Age Disaggregation	Sex and age disaggregated by 5-year age groups
ADM-2 Open-ended Age Group	100+
ADM-3 Name	N/A
ADM-3 Number of Units	N/A
ADM-3 Sex and Age Disaggregation	N/A
ADM-3 Open-ended Age Group	N/A
General Notes	The NSO postcensal population projections, on which this COD-PS is based, were built after the NSO revising its retrospective intercensal projections for the period 1985-2017 by reconciling past demographic indicator estimates with the results of the 2018 census results. Areas of adjustments include: overestimation of mortality in older adults, statistical adjustment for international migration, and switching to top-down appraoches for estimating internal migration.
Data Limitations	First, there exists inherent asymmetry in the quality of the figures from the national population and housing censuses, especially for the component of internal migration, which exacerbated inconsistencies in the treatment of data and the methodological framework for building both retrospective and forward projections. Second, the drastic difference of intrinsic postcensal growth rates of this COD-PS compared to the rates published in the WPP 2022 revision (published mid-2022), particularly for the years 2022 and 2023, stems from the fact that the NSO postcensal projections, on which this COD-PS is based, were built well before the full manifestation of the COVID-19 pandemic and its lasting adverse economic impact.
COD-PS Demographic Data Quality Assessment	The COD-PS was assessed against ADM-0 estimates and projections published by the World Population Prospects (2022 Revision), and found to be generally consistent at the ADM-0 and ADM-1 level.

2. Methodological Documentation

Item	Methodological Documentation
Methodology Used	Cohort component method was applied to the 2018 census at the department (ADM-1) level to produce post-censal projections on which this COD-PS is based. Specifically, the national-level (ADM-0) projections were

Item	Methodological Documentation
	built bottom up from aggregating the ADM-1 projections while the municipal-level (ADM-2) projections were built using logistic growth models.
Baseline Population	2018 census
Post-enumeration survey (PES)	No records of PES can be found online.
Assessment and Adjustment of the Baseline Population	The past censuses from 1951, 1964, 1973, 1985, 1993, 2005, and 2018 were compared against each other as well as against the CRVS data and Demographic and Health Survey data to reconcile and ratify the expected trends within the transitional process.
Fertility (births)	Historical fertility trends were derived based on the 1985, 1993, 2005, and 2018 censuses at the department (ADM-1) level and reconciled against the ministry of health records and projections from the World Population Prospects 2019 Revision.
Mortality (deaths)	Assumptions about the level and trend of future mortality dynamics were calibrated on the assumption that life expectancy is expected to steadily increase in Colombia.
International migration (net migration)	The national international migration registration records were reconciled against international migration data from IMILA (Investigation of International Migration in Latin America) and ECLAC-CELADE (Latin American and Caribbean Demographic Centre).
Internal migration (migration within country)	The magnitude of internal migration from the past was adjusted by reviewing against administrative records, and then compared against the outmigration statistics to establish net migration rates for projecting forward to the future.

3. Intrinsic Population Growth Rates (ADM-0 & 1)

At ADM-0, the implied post-censal (2018-2023) population growth rates of this COD-PS (1.56% per year: female: 1.60%, male 1.51%) are relatively higher than the UN's population projections published in the 2022 revision of the World Population Prospects (WPP) (2019: 1.71%, 2020: 1.23%, 2022: 0.33% and 2023: 0.48%). The drastic difference of rates compared to WPP 2022 revision for the years 2022 and 2023 stems from the fact that the NSO postcensal projections, on which this COD-PS is based, were built prior to the full manifestation of the COVID-19 pandemic and its lasting adverse economic impact.

Since the last census, this COD-PS projects highest growth rates for three regions: Vaupés (4.53%), Cundinamarca (4.06%), and Arauca (3.24%). Cundinamarca houses the national and economic capital of Bogota, Arauca has an active oil industry, and Vaupés has a small population but has experienced rapid growth since early 2000s. In contrast, the three regions with the lowest growth are Nariño (0.01%), Tolima (0.30%), and Valle del Cauca (0.62%) - all of which are south-western departments whose main economic activities are agriculture. Nevertheless, it should be noted again that these projected

postcensal growth rates per region may no longer be close to the actual post-pandemic regional population dynamics.

ADM-1	Last Census, Female	Last Census, Male	CODPS, Female	CODPS, Male	PGR(%), Female	PGR(%), Male	PGR(%), Both
Amazonas	36,678	39,911	40,610	43,198	2.04	1.58	1.81
Antioquia	3,312,943	3,094,159	3,612,147	3,382,645	1.73	1.78	1.75
Arauca	129,655	132,519	154,327	153,974	3.48	3.00	3.24
Archipiélago de San Andrés, Providencia y Santa Catalina	31,685	29,595	34,044	31,619	1.44	1.32	1.38
Atlántico	1,301,073	1,234,444	1,452,742	1,382,767	2.21	2.27	2.24
Bogotá, D.C.	3,868,488	3,544,078	4,152,419	3,815,676	1.42	1.48	1.45
Bolívar	1,042,787	1,027,323	1,139,074	1,119,855	1.77	1.72	1.75
Boyacá	618,083	599,293	643,075	624,303	0.79	0.82	0.80
Caldas	514,517	483,738	540,907	505,511	1.00	0.88	0.94
Caquetá	198,045	203,804	210,935	212,922	1.26	0.88	1.07
Casanare	207,956	212,548	221,233	223,369	1.24	0.99	1.11
Cauca	739,214	725,274	773,792	754,284	0.91	0.78	0.84
Cesar	606,244	594,330	688,635	671,084	2.55	2.43	2.49
Córdoba	896,235	888,548	940,179	927,987	0.96	0.87	0.92
Cundinamarca	1,476,860	1,442,200	1,809,560	1,767,617	4.06	4.07	4.06
Chocó	270,598	264,228	282,939	274,715	0.89	0.78	0.84
Guainía	22,976	25,138	25,442	27,185	2.04	1.57	1.81
Guaviare	38,507	44,260	44,061	48,220	2.69	1.71	2.20
Huila	551,292	549,094	577,115	572,483	0.92	0.83	0.88
La Guajira	449,313	431,247	519,139	496,770	2.89	2.83	2.86
Magdalena	670,227	671,519	738,732	737,933	1.95	1.89	1.92
Meta	513,819	525,903	542,483	546,266	1.09	0.76	0.92
Nariño	832,397	798,195	837,864	793,253	0.13	-0.12	0.01
Norte de Santander	756,196	735,493	840,776	818,059	2.12	2.13	2.12
Putumayo	172,491	175,691	187,329	186,713	1.65	1.22	1.44
Quindio	279,653	260,251	300,016	277,527	1.41	1.29	1.35

ADM-1	Last Census, Female	Last Census, Male	CODPS, Female	CODPS, Male	PGR(%), Female	PGR(%), Male	PGR(%), Both
Risaralda	491,983	451,418	518,432	469,659	1.05	0.79	0.92
Santander	1,115,238	1,069,599	1,195,942	1,144,715	1.40	1.36	1.38
Sucre	449,875	454,988	490,170	491,557	1.72	1.55	1.64
Tolima	670,901	659,286	683,111	666,949	0.36	0.23	0.30
Valle del Cauca	2,349,340	2,126,546	2,461,867	2,160,265	0.94	0.31	0.62
Vaupés	19,372	21,425	24,508	26,625	4.70	4.35	4.53
Vichada	50,566	57,242	55,555	61,389	1.88	1.40	1.64
Total	24,685,207	23,573,287	26,739,160	25,417,094	1.60	1.51	1.56

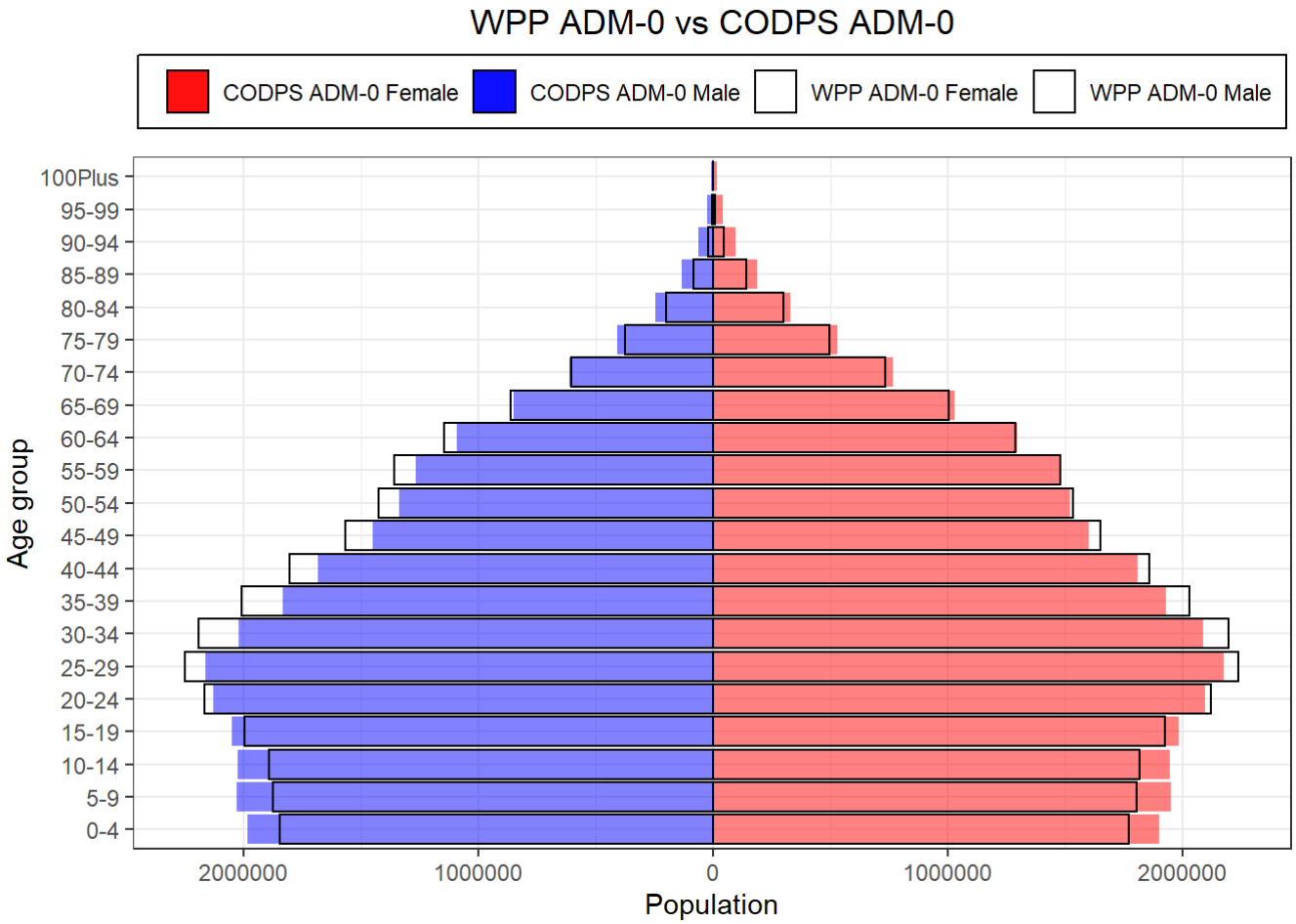
4. Population Counts by age and sex (ADM-0)

Below, we compare the population structure across sex and age groups between the COD-PS and WPP projections at the national level.

The age- and sex-specific population counts of this COD-PS closely follow those of the WPP 2022 Revision projections at ADM-0 level, but with the NSO projections showing higher proportions of 0-14 year olds for both sexes than WPP whereas lower proportions of working-age males (25-59 years).

	CODPS-WPP, Female	Difference(%)	CODPS-WPP, Male	Difference(%)
0-4	128,222	7.24	136,095	7.37
5-9	146,551	8.13	154,640	8.24
10-14	126,966	6.99	133,596	7.07
15-19	58,289	3.03	54,641	2.74
20-24	-24,186	-1.14	-33,810	-1.56
25-29	-60,928	-2.72	-86,680	-3.86
30-34	-109,408	-4.98	-168,300	-7.68
35-39	-100,074	-4.93	-172,832	-8.61
40-44	-48,190	-2.60	-120,134	-6.66
45-49	-46,166	-2.80	-116,055	-7.42
50-54	-10,281	-0.67	-86,502	-6.07
55-59	-6,018	-0.41	-90,656	-6.68
60-64	9,113	0.71	-54,624	-4.77
65-69	25,332	2.53	-12,414	-1.44

	CODPS-WPP, Female	Difference(%)	CODPS-WPP, Male	Difference(%)
70-74	31,089	4.24	7,978	1.32
75-79	33,828	6.83	34,790	9.27
80-84	29,892	9.98	43,548	21.55
85-89	44,672	31.54	50,274	61.33
90-94	47,951	104.59	42,666	201.17
95-99	32,357	370.60	23,914	717.40
100Plus	13,651	1351.58	8,292	2083.42



5. Relative population size by age and sex (ADM-1)

Below, we compare the relative population proportions for 5-year age groups by sex between the CODPS ADM-1 projections and the WPP ADM-0 projection.

While the sex and age proportions of many departments generally follow the WPP ADM-0 projections, Bogota, the capital city, shows relatively high proportions of working age adults, but relatively low proportions of 0-19 year olds - implying a high number of people migrating into the city for opportunities. In contrast, Amazonas, Guainia, La Guajira, and Vichada display high proportions of children and young people in their 20s, but low proportions of working-age adults and older people. It may imply not only high fertility but also shorter life expectancy than other departments, and also

possibly lots of working-age adults out-migrating to other departments in search of economic opportunities. But once again, it should be noted again that these projected postcensal growth rates per region may no longer be close to the actual post-pandemic regional population dynamics.