

COD-PS Peru

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	Peru
Source(s)	INEI Peru
Source(s) Link(s)	https://www.inei.gob.pe
Population Data Type (Census enumeration, Direct estimate, or Population projection)	Population projection
Baseline Population Year	2017
COD-PS Reference Year	2023
COD-PS Publication Year	2023
ADM-1 Name	Departamento
ADM-1 Number of Units	25
ADM-1 Sex and Age Disaggregation	Sex and age disaggregated by 5-year age groups
ADM-1 Open-ended Age Group	80+
ADM-2 Name	N/A

Item	Metadata
ADM-2 Number of Units	N/A
ADM-2 Sex and Age Disaggregation	N/A
ADM-2 Open-ended Age Group	N/A
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 baseline population of the postcensal projections, on which this COD-PS is based, were assessed thoroughly with a department-level post-enumeration survey (PES) and adjusted accordingly prior to projecting forward.
Data Limitations	The postcensal projections, on which this COD-PS is based, are unable to capture accurately unregistered outmigrations due to the lack of reliable direct source of data.
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 somewhat consistent at the ADM-0 and ADM-1 level, with smaller counts among 0-24 years than WPP 2022 at the ADM-0 level.

2. Methodological Documentation

Item	Methodological Documentation
Methodology Used	Cohort component method was applied to the 2017 census results at the department (ADM-1) level, then the ADM-1 level postcensal projections were harmonised to construct the national (ADM-0) postcensal projections.
Baseline Population	2017 census
Post-enumeration survey (PES)	PES was conducted during December 2017-January 2018 in all 24 departments of Peru and the Constitutional Province of Callao. The omission rate of the population at the national level is 5.94%. In the urban area it is 5.47% and in the rural area it amounts to 8.24%. The department of Madre de Dios has the highest percentage of the population that was not included in the census with 12.48%, followed by the departments of Loreto and Ucayali with 10.01% and 9.56% respectively. The omission rate differentiated by sex was 6.56% for men and 5.34% for women.

Item	Methodological Documentation
Assessment and Adjustment of the Baseline Population	The baseline population from the 2017 census was adjusted at the department (ADM-1) level using the PES results prior to building postcensal projections.
Fertility (births)	During the postcensal projection period up to 2030 the postcensal projections, on which this COD-PS is based, expect the national fertility level to decline steadily. At the end of the projection period, the departments with the lowest fertility, expressed in the TFR, will be: Lima and Tacna (1.5, each), Arequipa (1.6), the Constitutional Province of Callao and Moquegua (1.7 each). On the contrary, higher fertility levels will be present in the departments of: Loreto (2.9), Ucayali (2.6), Amazonas (2.4), Huancavelica, Madre de Dios and San Martín (2.3, each).
Mortality (deaths)	The NSO projects that life expectancy at birth will increase from 70.0 years (1995-2000) to 77.8 years (2025-2030) at the national level, based on the regional (ADM-1) level mortality tables built from the 1993, 2007 and 2017 censuses, the Demographic and Family Health Survey (ENDES) 1996, 2000, and 2009 to 2018, and the death statistics from 1993, 2007 and 2015.
International migration (net migration)	The net international migration was projected based on the historical trends established from the 1993, 2007 and 2017 population censuses at the department (ADM-1) level. Overall, the NSO projects an overall outmigration at the national level.
Internal migration (migration within country)	Net internal migration was projected based on the historical trends established from the 1993, 2007 and 2017 population censuses at the department (ADM-1) level. Based on the historical trends, in general most departments are projected to maintain negative migratory balance, mostly toward Lima and the Constitutional Province of Callao. The departments of Ica, Tacna and Moquegua are projected to maintain positive migratory balances due to the fact that large agro-export companies with a lot of labor requirements are concentrated in Ica and, in the case of Tacna, it has a large free, commercial and service zone, which attracts tourists from various places, mainly from the neighboring country of Chile. On the other hand, the rest of the departments are projected to maintain their role as expellers of population.

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

At ADM-0, the implied postcensal (2017-2023) population growth rates of this COD-PS (1.42% per year: female: 1.39%, male 1.45%) are relatively lower than the UN's population projections published in the World Population Prospects (WPP) 2022 Revision (2017: 1.54%, 2020: 1.29%, 2021: 1.16%, 2023: 0.96%).

Since the last census, the projected growth rates of ADM-1 regions varied widely between -1.76% to 3.52% per year. The NSO projects the highest population growth rates for two border departments Madre De Dios (3.52% - least populated and fast growing) and Ucayali (2.41%), and Ica (2.50%). In

contrast, the NSO projects the lowest population growth rates for Huancavelica (-1.76%, one of the poorest departments in Peru), Pasco (-0.22%, mostly the Amazon forest), and Puno (-0.22%, 70% of which is covered by the Andean mountains and 30% Amazon forest).

ADM-1	Last Census, Female	Last Census, Male	CODPS, Female	CODPS, Male	PGR(%), Female	PGR(%), Male	PGR(%), Both
Amazonas	201,423	214,046	208,615	221,328	0.58	0.56	0.57
Áncash	568,305	572,181	593,753	604,794	0.73	0.92	0.82
Apurímac	207,742	216,975	208,874	219,437	0.09	0.19	0.14
Arequipa	711,041	681,103	802,725	777,350	2.02	2.20	2.11
Ayacucho	320,653	332,448	326,076	344,301	0.28	0.58	0.43
Cajamarca	713,729	713,869	725,573	725,863	0.27	0.28	0.28
Cusco	643,519	656,124	685,893	703,844	1.06	1.17	1.11
Huancavelica	190,016	191,261	169,561	173,465	-1.90	-1.63	-1.76
Huánuco	373,161	381,315	371,379	379,718	-0.08	-0.07	-0.08
Ica	448,283	447,717	519,017	522,295	2.44	2.57	2.50
Junín	663,430	655,782	691,068	686,770	0.68	0.77	0.73
La Libertad	957,196	938,792	1,060,682	1,043,572	1.71	1.76	1.73
Lambayeque	641,219	606,397	693,442	657,221	1.30	1.34	1.32
Lima	5,165,717	4,774,168	5,785,852	5,362,072	1.89	1.94	1.92
Loreto	475,588	509,171	508,925	542,635	1.13	1.06	1.09
Madre De Dios	67,082	87,945	83,639	107,620	3.68	3.36	3.52
Moquegua	85,953	96,883	92,945	106,341	1.30	1.55	1.43
Pasco	131,573	139,463	129,153	138,272	-0.31	-0.14	-0.22
Piura	966,689	967,304	1,055,337	1,071,756	1.46	1.71	1.58
Provincia Constitucional Del Callao	541,179	510,393	612,587	578,273	2.07	2.08	2.08
Puno	624,277	609,399	615,707	602,244	-0.23	-0.20	-0.22
San Martín	399,596	449,314	444,162	491,032	1.76	1.48	1.62
Tacna	171,904	174,007	191,829	198,450	1.83	2.19	2.01
Tumbes	108,747	127,066	121,388	141,776	1.83	1.83	1.83
Ucayali	259,475	283,372	300,644	326,589	2.45	2.37	2.41
Total	15,637,497	15,336,495	16,998,826	16,727,018	1.39	1.45	1.42

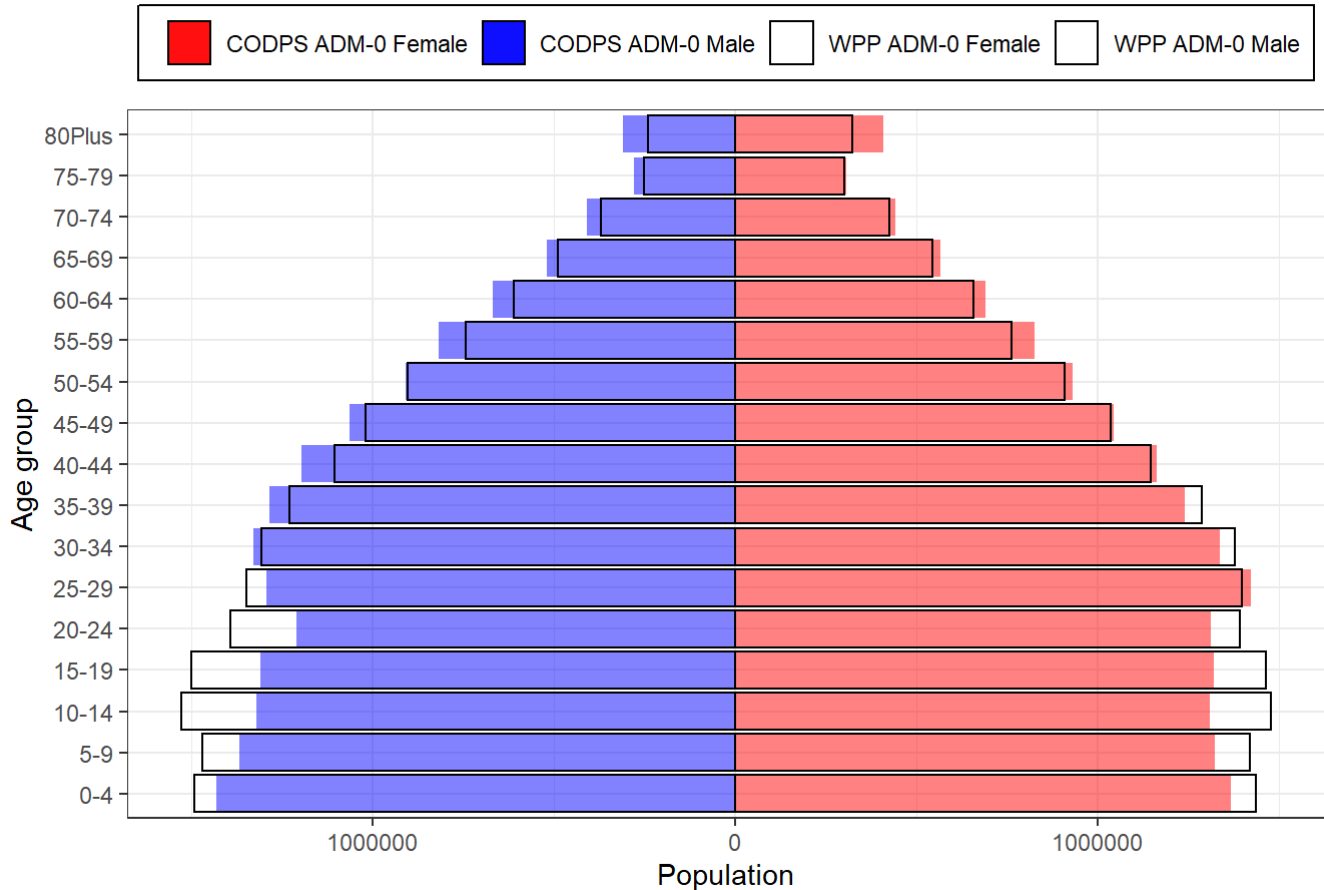
4. Population Counts by age and sex (ADM-0)

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 at ADM-0 are only somewhat consistent with the WPP 2022 Revision projections at ADM-0. The greatest differences between the NSO and WPP projections are found particularly among the young, where the NSO projects smaller counts than WPP among 0-4 years (female: -4.86%, male: -4.03%), 5-9 years (female: -6.66%, male: -6.84%), 10-14 years (female: -11.46%, male: -13.53%), 15-19 years (female: -9.79%, male: -12.76%), and 20-24 years (female: -5.67%, male: -13.07%).

	CODPS-WPP, Female	Difference(%)	CODPS-WPP, Male	Difference(%)
0-4	-69,843	-4.86	-60,108	-4.03
5-9	-94,382	-6.66	-100,476	-6.84
10-14	-169,476	-11.46	-206,727	-13.53
15-19	-143,272	-9.79	-191,688	-12.76
20-24	-78,866	-5.67	-181,910	-13.07
25-29	24,249	1.74	-55,139	-4.09
30-34	-43,561	-3.16	22,250	1.70
35-39	-47,374	-3.68	56,516	4.60
40-44	16,304	1.42	91,358	8.25
45-49	7,008	0.68	43,286	4.24
50-54	22,496	2.48	6,191	0.69
55-59	63,813	8.39	74,348	10.01
60-64	34,580	5.28	58,878	9.65
65-69	22,874	4.21	29,860	6.10
70-74	16,230	3.82	38,892	10.52
75-79	4,536	1.51	27,908	11.12
80Plus	85,911	26.62	68,460	28.30

WPP ADM-0 vs CODPS ADM-0



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.

According to the NSO projections, Lima has relatively high proportions of working-age adults and low proportions of children, like many other capital regions. Moreover, some departments display relatively high proportions of working-age male in comparison to the WPP ADM-0 projection: Madre de Dios, Moquegua, Tacna, and Tumbes. The primary industries of Madre de Dios and Tacna are labour-intensive gold and copper mining, which attracts the male workforce. Moquegua boasts relatively high GDP per capita within Peru, which attracts large volumes of internal migration from other departments.

