FAND Country Brief — Bolivia

Part I starts with a balance sheet as in the World Bank's 1995 Monitoring Environmental Progress (MEP, page 65), and its bottom line: Net Worth. It details the Four Types of Capital (see Epilogue here) generating income, and how much that benefits residents. It shows the bond to income statements, where Atlas GNI is the base for a 'vase' of global financial preference mechanisms. It deals with the realities of changing production possibilities and consumer preferences by taking the US as a benchmark. It is about *relative* progress.

Part II picks cherries from Wheel of Wealth data underlying Atlas GNI. It is about *absolute* progress.

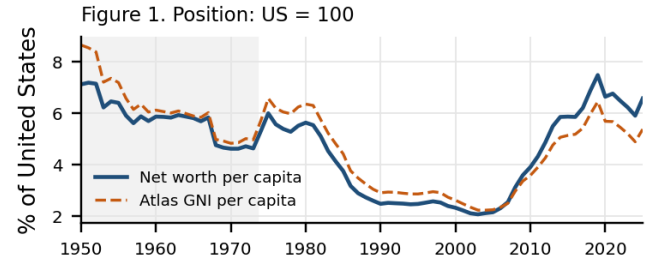
Part III assesses the fitness of nation-level analyses, given information available by subnational units. And Part IV documents identified issues in data sources and methods.

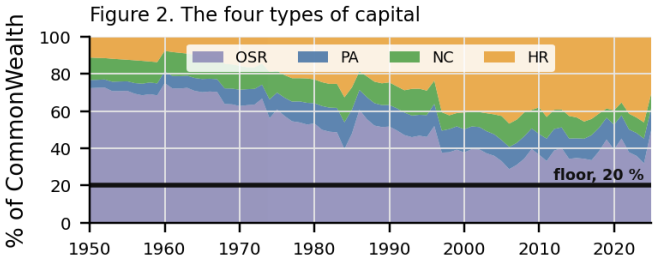


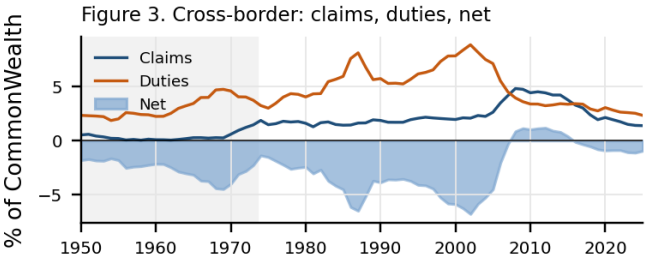
*Mnemonic of eight indicators**

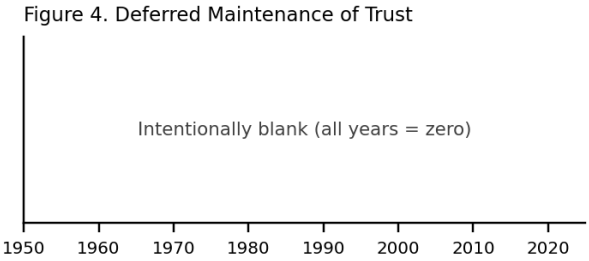
Part I. CommonWealth balance sheets and relative progress

Reading status: Vetted by JOC, 11/8/26 (cross-border highlight: vetting in progress)









Net worth per capita, 7.1 % of the US figure in 1950, steadily lost ground under the Bretton Woods system. It recovered a bit in the 1970s but sank in the 1980s, to 3.8 % after the external debt crisis and hyperinflation. It reached its nadir in 2005 (2.2 %), recovered to 7.5 % just before COVID hit, and has since given back a bit of ground (6.6 % on the provisional 2025 column). Each turn on this sheet has a political date — 1952, 1964, 1982, 1985, 2006 — and a reading of Bolivia's prospects that skips its path is not a serious one.

- The demographic dividend — which applies relatively more to Bolivia than to the US — helped swing the net-worth line above the income line. Those of working age were 42–43 % of Bolivia's population from 1950 to 1990 and 54 % in 2025, while the US share swung between 50 % (1965) and 59 % (2010). The net-worth ratio went from 15 % below the income ratio (1950 and 1990) to 22 % above (2025, provisional): the ratio of the two lines rose 1.48-fold. Demography relative to the US is a factor of 1.33 in that — 1.24 for the working-age share times 1.08 for the longer working life ahead of Bolivia's younger workers (28 years to age 65 for the average worker, against 24 in the US); the US turning net debtor, with the GDP/GNI ratio, is the remaining 1.11.
- Cross-border duties before 1970 were about the same share of CommonWealth as in recent years. They had risen gradually to 4.7 % in 1969 before settling there in the 1970s; then climbing to 5.9 % of CommonWealth, or nearly 100 % of GDP, in the 1980s, during the hyperinflation period. After a decade of respite, duties rose to 8.8 % of CommonWealth in 2002 but fell to 3.4 % by 2010 mostly because CommonWealth doubled. The composition changed: multilateral loans fell about $2.3 billion in 2006–07 with the MDRI relief, while direct investment liabilities (book value) rose from $5.1 to $10.6 billion by 2013.
- The external debt of the 1980s was near 100 % of GDP but 5.9 % of CommonWealth. Against the stock, it was not a big solvency issue. The flows that had to service it — a year's income, exports, the budget — made it a liquidity problem. The same seems true now. Duties are 2.3 % of CommonWealth in 2025, the lowest share since the 1960s; at 2,108 dollars per capita they are about the 1985 level in real terms (2,014 in 2025 dollars) and below the 2019 peak (2,612) — CommonWealth grew faster.
- The parallel market is a 1980s story before it is a 2020s one. It opened with the Cocaine Coup of 1980 and widened after dollar contracts were converted into pesos in November 1982, after Siles Zuazo assumed the Presidency. By August 1985 the street rate stood 1,080 % above the official one and most of the economy was effectively dollarized — FAND's 1985 reading puts two thirds of transactions at the parallel price. By 1991, after stabilization, over 80 % of bank deposits were again in dollars. The parallel market reemerged in 2023 at a premium over the rate held since 2011; the peg ended on 26 June 2026 (9.73 bolivianos per dollar, past 12 within weeks); the 2025 column still carries the official price.
- Natural capital is where Bolivia is least poor — 45 % of the US level per capita in 2023 — and the largest mover of the last fifteen years is agricultural land, not Fossil Fuels: 781 to 4,062 dollars per capita on the published rents of the soy expansion in Santa Cruz.
- Other Substantive Rights (OSR) are 36 % of CommonWealth in 2023, far above the 20 % floor (the United States: 41 %). Coca pulls two ways: its land, priced at the generic cropland rate, leaves rent in OSR that belongs in natural capital — a small amount, the whole leaf crop being about 1 % of GDP — while the illicit export share, outside the accounts, leaves out CommonWealth and OSR alike. Human resources priced at the stipulated labor share, above INE's measured bound (Part II), hold OSR down further. Net, OSR is understated, and deferred maintenance stays zero.

* The face: eight indicators, six of them at five levels (1 = the fifth of world population with the lowest values, 5 = the highest; 2023). Width — people per km², level 1; height — people per Roots unit, 2; eyes — other substantive rights as % of CommonWealth, 5; nose — CW/NW − 1, 3 (longer = residents owe more abroad than they are owed); mouth curve — drift of net worth per capita relative to the US since 1955, 1 (flat = the fifth containing zero); mouth width — net worth per capita as % of the US, 3; brow — FAND risk premium, zero (flat); freckles — 8 exceptions to expectations (Figure 9). A dotted feature is missing.

Caution: FAND is AI-generated and so far vetted only by one expert in substance and one on systems. Every number carries its NUSAP-lite honesty badge (oconeco.com/methodology/nusap); this balance sheet carries the Experimental badge. © OconEco.

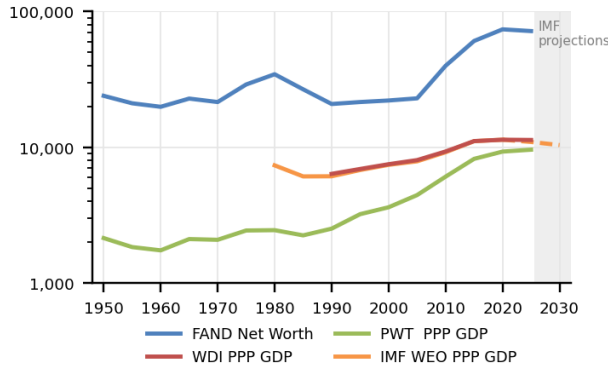
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DISCOVERING LOCAL WEALTH

Part II. Income statements and getting ‘real’

Reading status: Vetted by JOC, 11/1/26

Figure 5. Gauging “absolute” progress

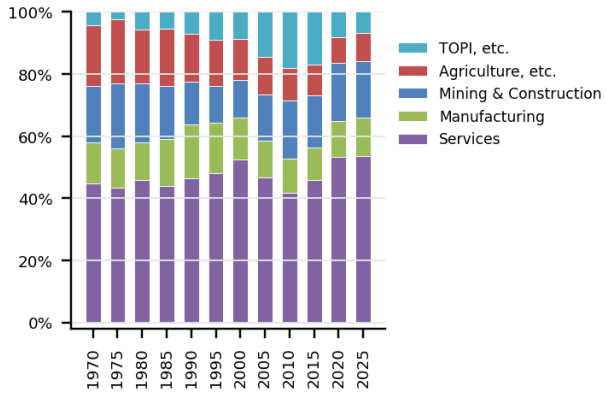
(Deflated US$ per capita, centered 5-year average, semi-log)



Sources: OconEco (FAND), World Bank (WDI), Groningen (PWT), IMF (WEO)

Figure 6. Industrial Activity

(%GDP, 5-year centered average)



Source: WDI

Figure 5 shows three ways to mitigate intractable index number problems in estimating ‘purchasing power’ in a world of change. FAND keeps it simple, applying the US GDP deflator to a country's net worth per capita — as if all purchases were at US prices and of what it prices. Changes in production possibilities and consumer preferences appear ‘real’ in this construct. They are smoothed out in the two leading sources for purchasing power parities (PPP): Bretton Woods institutions, with the IMF WEO extending the World Bank (WDI) construct; and the University of Groningen (PWT). Showing five-year centered averages makes the fundamental difference more obvious. Figure 6 considers how much of this has to do with the mix of income-generating industries (and hence production possibility frontiers and such).

- FAND and PWT tell a similar story over the long haul and over the decades covered by WDI. That is because PWT's chained PPPs reassess ‘reality’ with each global pricing exercise (ICP cycle), and its expenditure-side measure counts terms-of-trade gains as purchasing power. Bretton Woods finds little improvement since 1980 because it applies growth rates in locally priced GDP to results from the latest (2021) ICP exercise. The further one goes back from that date, the more the choice of PPP measure is the finding.
- The IMF's World Economic Outlook (WEO), on WDI's method, follows WDI to within 2 % from 1990, adds the 1980s — the hyperinflation slump Penn smooths, the 1980 level not regained until 2006 — and a turn now: GDP per capita at PPP peaked at 11,931 dollars in 2019; the projections, the first since the peg ended in June 2026, take it to 10,158 in 2028 and back only to 10,455 by 2030, 12 % of the US level against 14 % in 2025. On the IMF's line, Figure 5's leveling-off turns into a decline.
- The back story, beyond the ken of WDI, is that Bolivia's economy just grew with population over 1950–90, and the hysteresis FAND sees before and after hyperinflation is smoothed out in PWT. FAND then sees a decade plus of return to earlier realities, just population growth, followed by a clear takeoff that seems to have leveled off. PWT argues for a smoother takeoff and an earlier plateau.
- Measured against the US, the takeoff is mostly a terms-of-trade adjustment. Bolivia's net worth per capita rose 3.5-fold relative to the US in 2005–19: 1.3-fold had its prices, relative and absolute, stayed as in the 2021 ICP benchmark — what WDI counts as real — times 2.2 for the terms of trade (oil-linked gas prices strengthened the boliviano abroad; pump prices frozen for twenty years passed the gain to fuel users at home) times 1.2 for the capitalization multiple. Such gains run through capital as well as current accounts: PPPs extrapolated on national growth (WDI, WEO) cannot admit them, PWT admits them on current account only; FAND counts them, leaving open how much was windfall and how much forward-looking investment. Natural capital did not follow: its CommonWealth share fell from 13 % in 2005 to 5 % in 2019, and Natural Gas from 832 to 377 dollars per capita by 2014. FAND prices gas at Henry Hub, the one series for every economy; US shale halved it while Bolivia's oil-indexed contracts tripled, so the page understates what Bolivia was paid. Output nearly doubled against the gas known, in hindsight, to be there — reserve life fell from 38 to 15 years: the decade drew down the gas that paid for it.
- Figure 6 is where the hydrocarbon decade shows: mining, utilities and construction rose from 12.1 % of GDP around 2000 to 18.8 % around 2010. TOPI, etc. — GDP less the four industries' value added, mostly taxes on products net of subsidies — rose from 8.8 to 18.1 % and was back to 6.8 % by 2025. The direct hydrocarbon tax of 2005 (a 32 % production tax on wellhead value, not an export tax) is most likely booked there: it yielded 15.6 billion bolivianos at its 2014 peak and some 2 % of GDP in 2020, INE leaving only half a percent of GDP for other production taxes. Agriculture fell from 20.6 % in the mid-1970s to 9.1 %; manufacturing has stayed between 10 and 17 %.
- The coca-cocaine circuit is carried as an enclave: its domestic transactions flow into GDP like any sector's, only the illicit export share is outside the accounts — a coverage gap narrower than a simple exclusion, missing from the top line in every year it was large. About 13 % of world coca area, third after Colombia and Peru, 36,400 hectares in 2025 against a legal ceiling of 22,000.
- Bolivia's INE estimates GDP in all three spokes of Knight's Wheel of Wealth; its income approach (reference 2017) separates mixed income, 20–22 % of GDP in 2017–24. FAND counts it all as labor's (ideally it would be split with capital), so labor's take runs 56–60 % of GDP, an upper bound. FAND's stipulated labor share, about 0.8 of GDP since 2000, sits above that bound — human resources overstated, other substantive rights understated.

Caution: FAND is AI-generated and so far vetted only by one expert in substance and one on systems. Every number carries its NUSAP-lite honesty badge (oconeco.com/methodology/nusap); this balance sheet carries the Experimental badge. © OconEco.

Part III. Why subnational: the country's units among their income group

Reading status: Vetting in progress by JOC (his 11/1/26 text; one clause corrected on the corpus, 11/8/26)

Vetting includes digging deeper into data sources and methods. In general, that starts by comparing FAND's Global Roots (GR) exercise with its nearest equivalent, key indicators reported by the Global Data Lab. For Bolivia, that included a deep dive into the national statistical institute (INE), which in this case flagged a full set of UNSNA accounts, down to sources and uses of funds. This suggests directions for further work, notably updating Global Roots estimates of economic size of Bolivia's TL2 units.

Figure 7. Among all lower-middle-income Roots units



Figure 8. Key subnational indicators

Unit	GR density (/km²)	GR income pc ($k)	GDL income index	GDL mean years of schooling	GDL life expect. (years)	INE GDP pc 2024 ($k)
Tarija	13.6	5.25	0.693	9.4	68.8	5.50
Santa Cruz	8.5	4.20	0.720	11.5	69.2	5.36
La Paz	23.4	3.66	0.651	10.3	64.3	4.80
Cochabamba	35.7	3.55	0.669	9.2	63.8	4.34
Chuquisaca	11.5	3.45	0.615	7.5	67.7	4.38
Beni	10.9†	3.22	0.627	10.8	67.6	4.65
Pando	2.2	3.01	0.660	11.8	66.9	4.18
Potosi	6.9	2.93	0.598	7.2	59.1	4.75
Oruro	10.6	2.70	0.654	10.1	65.9	4.05

Figure 8: Global Roots (GR) TL2 units; GDL Subnational HDI v8.4, 2022; INE GDP per capita 2024 at 6.91 per US$, on Census population. † land area analog-inferred: density not informative. Where to start vetting: Global Roots land area is analog-inferred for 1 of 9 units (Beni): their density is not informative. Income rank, Global Roots against GDL, differs by 3 or more places for Oruro (GR 9, GDL 5); La Paz (GR 3, GDL 6); Chuquisaca (GR 5, GDL 8); Pando (GR 7, GDL 4). Against INE GDP per capita (2024), Global Roots income ranks differ by 3 or more places for Potosi (GR 8, INE 4); Cochabamba (GR 4, INE 7). GDL's subnational pattern rests on the 2008 DHS, carried forward on national trends to 2022.

Among the 1,259 lower-middle-income units (LMIU) in the Global Roots (GR) exercise, Figure 7 shows most of Bolivia's nine Departments (TL2) are in the top fifth on income per capita. Oruro, the poorest, is just below it in the fourth. All are on the quintile row for least densely populated places.

Figure 8 shows diversity within rather than between countries. Economic size in Global Roots, the Global Data Lab's 2020 income pattern scaled to the national total rather than departmental GDP, runs from Oruro at $2,700 per capita, the traditional mining capital, to Tarija at $5,300, the gas Department. Santa Cruz, the soy Department, is second; tin Departments last. The spread is two to one (1.4 to one on INE's 2024 departmental GDP), across 2 of the group's five income quintiles. The 47 lower-middle-income nations occupy 5 fifths and spread 2.9 to one between the tenth and ninetieth percentile.

The Global Data Lab reports a subnational human development index (HDI) for the same TL2 units. The HDI ordering is broadly similar — Santa Cruz 0.758, Potosí 0.612, national 0.698 — but the HDI places Tarija below Santa Cruz, contrary to income per capita: Tarija's life expectancy matches Santa Cruz's (68.8 and 69.2 years, 2022), its adults have two fewer years of schooling (9.4 against 11.5), and GDL's own income measure also ranks it second. INE's departmental GDP for 2024 sides with Global Roots (Tarija first at $5,505 per capita, Santa Cruz second at $5,360, on 2024 Census population); GDL's income for Bolivia is not output but household assets, last surveyed in 2008, scaled to the national total. Where the two orderings differ, the gap suggests income produced in a place is not accruing to its households — Tarija's government is rich in royalties and its share of the hydrocarbon tax, its households less so, the departmental counterpart of CommonWealth over net worth — and then rent not yet turned into schooling.

INE publishes GDP by economic activity for all nine Departments, 2017–2024, and the 2024 Census counts their people. The Global Data Lab's departmental life expectancy and schooling go back to the 2008 DHS, carried forward on national trends; INE's demographic and health surveys of 2016 and 2023 (EDSA, representative by department) and the 2024 Census are the better source. With these, FAND can complete the departmental (TL2) balance sheets — CommonWealth from Departmental GDP, human resources from each department's own health and schooling, and the gas, soy and coca rents where they are earned. Source: INE, PIB departamental.

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Part IV. Where to go next: sources and methods, NUSAP-lite, exceptions to expectations

Sources and methods. Every line of the balance sheet and the income statement is built from a posted method — which source, which price, which conversion, which carry — and every departure from it is listed as an Exception to Expectations. The methods, with hyperlinks to the databases FAND draws on, are at oconeco.com/methodology/sources.

NUSAP-lite. Every number carries a five-part pedigree — Numeral, Unit, Spread, Assessment, Pedigree — and an honesty badge (Production, Experimental, Prototype) that travels with it into every chart. What FAND carries today is the numeral, the unit and the pedigree on nearly every cell and a spread and an assessment on a few; the blanks are shown, not filled. The badge taxonomy is at oconeco.com/methodology/nusap.

Exceptions to Expectations. FAND does not correct official statistics; where a series does what its posted method says it should not, the case is documented with its direction and a status (noted, open, ruled). The full Statements of Expectations for this economy — posted method, what the series show, the exception, the status — with Figures E1–E3 and the Addendum on how the brief was made, are Part 4 of the Country Analysis: FAND Country Analysis — Bolivia.

Figure 9. Exceptions to Expectations, one line each

Component	Exception to Expectations? — with its direction	Status
CommonWealth	regime: the sheet carries the government's price in 1982–85 and 2023–25 (flag and memo direction ruled 09-15; the 2023–25 extension open)	ruled
CommonWealth	the Atlas GNI input is spliced end to end onto the World Bank's series at 1976 with no overlap year (the splice rule's no-overlap case): against the author's own history the series steps 3.9 % where the history moves 18.7 % — a level break of about 14 % hidden by the 1974–75 surge, direction to be checked; the position relative to the US is struck against BEA GDP per capita, which carries no seam of its own	open
Produced assets	no — stated method; the 1950s carry-back is a pedigree	noted
Natural capital	coca pricing and the forest-cover rule (P1, P2 built; P6 approved; P5 open); the Natural Capital line and the branch rows beneath it do not add up in 1980–2005 (the line 2–7 % below the sum of the rows; exact before, within 1 % after) — restored at the next natural-capital rebuild	open
Natural capital	Natural Gas priced at Henry Hub, the one series for every economy, not Bolivia's oil-indexed pipeline contracts: contract prices tripled while Henry Hub halved, so the page understates what Bolivia was paid across the gas decade; no bespoke pricing (ruled 11-02)	ruled
Natural capital	Agricultural Land 2019–21: FAOSTAT carries no dollar producer price for any Bolivian item in 2019 and none for soya, cattle, sugar cane and maize in 2020–21, so the crop revenue behind the rent is a partial sum — the leaf and the 2019 natural-capital share understated (about 7 % of CommonWealth at interpolated item prices, 5 % on the page); a class of 22 economies, the input fill ticketed	open
Human resources	the stipulated labor share (about 0.8 of GDP since 2000) sits above INE's measured upper bound (56–60 %, 2017–24) — overstated; and the P7 tail artifact (2025)	open
OSR and DM	no — far above the 20 % floor; coca mispricing lowers OSR a little, coca coverage and the stipulated labor share understate it more	noted
Cross-border	the 1950–69 method is a Statement of Expectations (ruled 11-07); outside it the sheet misses the tin companies' compensation after 1952, non-US direct investment and the Export-Import Bank before 1959, and claims before 1970 carry reserves and the banks' foreign assets only — duties and claims understated, by little against the stock	open
Generation of income	the international series omits mixed income; INE publishes it from 2017 (20–22 % of GDP) — the series to carry	open
Conversion	no alternative factor was ever applied; the 2025 column carries the official price the June 2026 float ended	open

Status: noted (a property of the method), open (awaiting an expert's ruling), ruled (decided by the author, dated). The posted method and what the series show: Part 4 of the Country Analysis.

Metadata

Balance sheet: Bolivia country page v8 20261029 (current US dollars per capita, GDP basis, 1950–2025); Part II: net worth per capita deflated by the BEA GDP price index (NIPA Table 1.3.4, 2021 = 100), WDI GDP per capita at PPP (constant 2021 international dollars) and industrial origin (NV.AGR, NV.IND, NV.IND.MANF, NV.SRV; TOPI, etc. = the remainder), Penn World Table 11.0 (rgdpe / pop); labor shares UNSD Table 4.1; INE Bolivia, GDP by the income approach (Cuadro 2.3.2, reference 2017) and departmental GDP (2017–2024); FAND Q-Matrix 2023 and Roots index; Global Data Lab subnational HDI. Reading: partly vetted: 6 sections of the Country Analysis carry the initials and date of the expert who checked them, and this brief distills them; the rest are AI-drafted; the balance sheet carries the Experimental badge. Text: four-page text revision 11, 2026-11-10, distilled from the Country Analysis text (text revision 7, 2026-11-05); every paragraph traces to its source paragraphs in the pipeline. **Side of the numbers:** every series is from the author's workbench (John's side), none from fand-etl, the production system FAND's GitHub team runs — series by series below.

Figure 10. Side of the numbers

Series	Side	Artifact	Filed to move it
GNI (Atlas), population, GDP/GNI ratio, CommonWealth	John	tl1_basis_panel_P1 (ship 09-12e)	D33 copy-with-manifest
PA	John	P1 tiers × Route 1 own-currency factor, on the page	D33 (BT-PA03 Part A)
NC	John	P1 roll-up; AgLand on the Route 1 rent path, on the page	fand-etl #1640
HR	John	Exhibits/HR_PIM_TL1_20260910	fand-etl #934
OSR, DM, premium	John	residual and D1 floor, on the page	D33
CBA / CBL	John	P1 EWN/IIP tier + patches 10-09, 10-10, 10-21	#1288 adopted; #1391 open
Part II: real net worth, WDI, PWT, IMF WEO, industrial origin	John	part2_cache.json from Data_Extracts (part2_data.py)	none filed