Intelligence Hours: The Labor-Time Price of Frontier Artificial Intelligence in 37 Countries, 2023–2025

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Title Page Information

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Version Note

This correction reconciles the 2023–2025 wage references with dated national sources under one disclosed averaging policy. It preserves the original provider inputs and separates ordinary base pay, mandatory extras, regional aggregates and directly notified hourly tariffs. Bulgaria's EUR/BGN mismatch is corrected before wage harmonization; the 2025 bridge in Supplement F distinguishes currency alignment from subsequent rate and scope choices. Japan's January cutoff and Poland's employment category are corrected in the separate snapshot; China's and India's unharmonized national wage ranges are withdrawn. Unmatched Kaitz products are conditional source-ratio scenarios, not measured median earnings. Statistical, tax and payroll results are regenerated. Detailed analysis and the longer author interpretation are preserved in separate supplementary and companion documents.

Abstract

Intelligence Hours expresses specified AI access in wage-reference hours. A fixed pre-tax US$20 benchmark covers 37 countries in 2023–2025, with a qualified January 2026 extension. Country-language sources reconcile effective dates, currency units and pay concepts. Gross benchmarks are accompanied by conditional consumer-tax and employee-income scenarios. Exact identities separate prices, exchange rates and wages; denominator matching limits empirical median-wage claims. A within-plan localization pilot distinguishes reported lists from tax-aligned scenarios. The index documents purchasing power rather than task substitution, adoption or welfare.

Keywords: artificial intelligence pricing; affordability; digital divide; minimum wage; exchange rates; price localization

JEL classification: F16; F31; J38; L86; O33

1. Introduction

A country can raise its nominal minimum wage and still lose purchasing power over dollar-priced intelligence. At a common subscription price, the hours needed for access depend on the exchange rate and the local wage floor together. Intelligence Hours (IH) makes that relationship visible: fewer hours mean a lower labor-time price for the specified access.

The comparison connects ICT affordability to unequal access to generative AI. Earlier work relates communications prices and income to diffusion (Barrantes and Galperin 2008; Chinn and Fairlie 2007; Galperin and Ruzzier 2013). Recent evidence describes unequal AI adoption within countries by earnings and education (Humlum and Vestergaard 2025). An international access-price benchmark can complement those observations, provided its wage population, product, date and tax treatment are explicit.

IH proposes a Big Mac Index for the AI age, with a different measurement contract. A Big Mac comparison uses local prices of a locally produced good; this historical implementation holds an AI-subscription benchmark at pre-tax US$20 and compares it with selected minimum-wage references. It does not estimate exchange-rate misalignment or establish that consumers everywhere face one price. Journalistic conversions of subscription prices into local wages may precede this study. Its proposed contribution is the defined benchmark, documented denominator, exact decomposition and within-plan local-price comparison, rather than the division itself (Ashenfelter 2012; Clements, Lan and Seah 2012).

Three contributions organize the article. A matched minimum-to-median ratio yields an exact denominator identity. A logarithmic identity separates changes in subscription price, exchange rates and nominal wages. A localization ratio separates the local price of a named plan from the wage denominator. These tools remain useful when a common-price cross-section, necessarily a monotone transform of the dollar wage, adds no information to that wage. The evidence comprises a 37-country panel for 2023–2025, a separately qualified 2026 extension and a selected local-price pilot. Source and scope corrections are documented rather than concealed in regenerated estimates.

The policy question is how much purchasing power local labor has over specified AI access and how that purchasing power changes. It is not whether a subscription substitutes for a particular worker. The distinction permits a transparent wage-setting application without interpreting a simple price ratio as a measure of automation, adoption or welfare.

2. Conceptual Framework and Related Literature

2.1 The Index

For economy c, let Pc be the local-currency monthly price of a specified subscription and wc its stated gross minimum-wage reference per hour. Then

$$IH_c = \frac{P_c}{w_c}$$

For a common dollar benchmark P$ and an exchange rate Ec in local currency per dollar,

$$IH_c = \frac{P_\$ \times E_c}{w_c} \qquad (1)$$

The historical P$ is pre-tax US$20. A lower IH means fewer wage-reference hours for that benchmark. The denominator may be a directly notified hourly rate, an explicitly normalized monthly or daily rate, or a provider's documented regional aggregate. Those cases are identified in the source register; the statistic does not represent every worker in an economy.

2.2 Automation and International Prices

Task-based automation theory makes the access price economically interesting: technology can replace some tasks and create or complement others (Acemoglu and Restrepo 2018, 2019; Zeira 1998). Subscriptions provide access, however, while task substitution depends on capabilities, reliability, supervision and output. No task-productivity multiplier is estimated here. Gross wages, employee take-home pay and employer labor cost serve different decisions; they should not be interchanged when interpreting the ratio.

The common-price exercise deliberately pairs one access-price benchmark with unequal wages. It supplies no independent test of the law of one price or factor-price equalization. Market-rate and PPP comparisons address different purchasing-power questions: the former converts the dollars required for a subscription, while the latter uses a domestic purchasing-power conversion factor. A fitted difference between them is descriptive accounting, consistent with a Balassa–Samuelson price-level pattern rather than an identified causal mechanism (Balassa 1964; Samuelson 1964).

2.3 Affordability and the Digital Divide

ICT affordability indicators usually compare prices with national income. Statutory wage references instead identify a defined point in the earnings distribution, conditional on coverage and compliance. A 2% GNI benchmark and a 2% minimum-wage-income benchmark need not select the same economies. Ratio thresholds are useful conventions, not welfare boundaries; residual income after necessities can matter more than a fixed percentage (Hancock 1993; Stone 2006).

Price is also only one component of access. Skills, language, organizational capacity and available devices affect useful adoption (van Dijk 2006; van Deursen and van Dijk 2014). A tokenization cost difference can change delivered output without changing the subscription fee (Ahia et al. 2023). Counting subscriptions across different access tiers can similarly conceal differences in delivered capacity (Hilbert 2016). A continuing series therefore needs dated products and quality definitions alongside wage and price observations.

3. Data and Methods

3.1 Numerator and Tax Basis

The historical panel uses a fixed pre-tax US$20 monthly benchmark in 2023–2025; the 2026 extension carries it forward. ChatGPT Plus launched at US$20 in February 2023 (OpenAI 2023), Claude Pro at US$20 in September 2023 (Anthropic 2023), and Google's AI Premium at US$19.99

in February 2024 (Hsiao 2024). No provider price is entered before its qualifying plan exists. These observations motivate a benchmark rather than an annual reconstructed three-provider median or a claim of globally uniform checkout prices.

The website's separately dated operational basket is the median U.S. list price of its named ChatGPT Plus, Claude Pro and Google AI Pro plans. Provider access labels do not establish equivalent historical capabilities. Lower entry tiers are compared within named plan in Section 4.8, rather than substituted into the historical numerator.

Table 1 applies standard VAT/GST rates to the common benchmark as full-pass-through scenarios. It does not identify actual consumer invoices. Canada and the United States use federal-only references; Colombia's cloud-service exemption requires transaction classification. Brazil has municipal and federal service-tax components with different bases, so a unique all-in scalar is not assumed. Supplement E gives selected payroll and ISS-component sensitivities, with worker, insurance, tax-year and jurisdiction conditions. Employee take-home pay is distinct from gross statutory pay and employer cost.

3.2 Wage References and Source Harmonization

The 37-country panel starts from the OECD MW_CURP nominal minimum-wage dataflow (OECD 2026a). Native-language national notices are used to resolve dated legal rates and documented scope differences. The primary reference is the ordinary adult base rate where available. Separately notified hourly rates are used for their stated employment category; other rates are converted using an explicit legal or comparative divisor. Mandatory annual extra payments are recorded separately. Belgium's RMMMG has its own remuneration definition; Canada and Japan retain documented provider regional aggregates. The register distinguishes these benchmarks from uniform national hourly floors.

Annual harmonization uses equal calendar-month weights. Within a month containing a change, calendar-day fractions weight the hourly equivalents applicable before and after it. This is a disclosed calendar convention, not weighting by worker exposure or observed paid working days. Monthly pay is divided by the chosen weekly hours times 52/12 in each applicable period, unless a named legal divisor is used. The resulting annual reference is an average of period-specific hourly equivalents, not a ratio of independently averaged wages and hours. Normalized monthly income for affordability comparisons always uses $40 \times 52 / 12 = 173⅓$ hours. This normalization is an analytical comparison, not a payroll month or a claim about actual hours worked.

The frozen provider values and all dated-source overrides are preserved. Bulgaria's historical wage and PPP units are aligned with BGN/USD at 1.95583 BGN/EUR. Legal schedules, selected employment populations, mandatory extras and precision are recorded country by country. A copied provider observation can be reproducible while differing from a directly notified legal rate; arithmetic identities alone cannot validate its scope.

The OECD MIN2AVE MEDIAN series supplies provider minimum-to-median ratios (OECD 2026b). Equation 2 applies only when minimum and median refer to the same year, worker population and pay concept. The source-ratio rescaling reported separately is a conditional earnings-

basis comparison; an unmatched ratio is not converted into an observed median hourly wage. Missing same-year ratios remain unavailable, including Chile 2025; its 2024 ratio is preserved as frozen provenance only, without a computed carry-forward scenario.

3.3 Exchange Rates Income and the 2026 Extension

World Bank PA.NUS.FCRF provides annual local-currency-per-dollar rates (World Bank 2026a); PA.NUS.PPP provides GDP PPP factors (World Bank 2026c); NY.GNP.PCAP.CD provides Atlas-method GNI per capita (World Bank 2026b). Russia's 2025 market FX is unavailable and remains missing. Market and PPP slope comparisons use the same country sample. Their underlying provider responses, dimension keys and hashes are bundled.

The 12-economy extension has a January 1 2026 wage cutoff and carries 2025 annual FX forward. It is not a 2026 exchange-rate measurement. Japan uses only prefectural rates effective on the cutoff; later revisions cannot enter that snapshot, and no fully revised fiscal-year weighted average is treated as a date-matched mean. Poland uses the ordinary-employment monthly floor, with its separate civil-contract hourly floor recorded as a different case. China and India retain documented regional illustrations while a harmonized national range remains unavailable. Nigeria's official 70,000/month corroboration is distinguished from an assumed 40-hour-week hourly equivalent and unresolved statutory coverage.

Every output records source date, original unit, worker population, conversion and verification status. Retrieval failure is not evidence of absent public data. A regional case is not promoted into a national maximum or minimum, and a provisional input cannot supply an unqualified cross-country headline.

3.4 Identities and Statistical Inference

For a matched minimum-to-median ratio κc,

$$IH_c^{median} = \frac{P_{\$} \times E_c}{\left(\frac{w_c}{\kappa_c}\right)} = \kappa_c \times IH_c^{min} \qquad (2)$$

Writing W for the nominal hourly wage reference,

$$\Delta \ln IH = \Delta \ln P_{\$} + \Delta \ln E - \Delta \ln W \qquad (3)$$

Both are algebraic identities; the scripts verify them with unrounded quantities where their input contracts apply. Income regressions use OLS on logarithms. Cross-sectional covariance is HC3 with Student t and n − k degrees of freedom. Pooled regressions retain year indicators and use country-clustered CR1 covariance, the finite-sample correction G/(G−1)×(n−1)/(n − k), and t(G − 1). Serial dependence within countries is permitted; common cross-country shocks remain unmodeled.

Rank comparisons report Spearman ρ, Kendall τ and absolute rank-change distributions. FX diagnostics use distinct currency series, counting EUR once rather than once per member. Bulgaria's lev peg is reported separately, with an exclusion sensitivity. Grubbs diagnostics assume approximate normality and independence and remain exploratory. Rollout comparisons use a primary Mann–

Whitney comparison and a tied-wave Jonckheere–Terpstra statistic; the launch sequence is observational and not a randomized treatment.

3.5 Within Plan Localization

For a named plan, let Plocc be its reported local list and PUS its U.S. list:

$$L_c = \frac{P_c^{loc}}{P^{US} \times E_c} \qquad (4)$$

$$IH_c^{loc} = \frac{P_c^{loc}}{W_c} = L_c \times IH_c \qquad (5)$$

$$\Delta \ln IH^{loc} = \Delta \ln P^{US} + \Delta \ln E - \Delta \ln W + \Delta \ln L \qquad (6)$$

L below one denotes a local discount on the stated price basis. The same named plan holds the tier label fixed, not every feature or allowance. Tax and reference dates must be aligned before interpreting L as a provider discount. The U.S. Go reference of US$8 dates from January 16 2026; earlier local observations retain an ex-post label unless concurrent prices are documented. Reported tax-inclusive prices have separate net-of-tax scenarios, and unknown inclusion is not treated as verified.

4. Results

4.1 The 2025 Cross-Section and Tax Sensitivity

Table 1 reports the common-price benchmark and standard-rate tax scenarios together. Across the 36 economies with market FX, gross-wage-reference IH runs from 1.14 hours in Luxembourg to 16.20 in Brazil, a ratio of 14.2. The median country requires 3.00 hours. Russia has a wage reference and PPP factor, but its missing 2025 market exchange rate prevents a market-rate IH. The regional, age and employment qualifications belong to the denominator, rather than to a later interpretation of it.

Table 1

Common US$20 Benchmark and Standard-Rate Full-Pass-Through Scenarios 2025

Economy	Wage reference (US$/h)	Pre-tax IH (h)	Standard rate	Tax-scenario IH (h)	Selected scope
Brazil	1.23	16.20	component only	–	Adult base reference
Peru	1.52	13.13	18.00%	15.50	Adult base reference
Colombia	1.80	11.12	19.00%	13.23	Adult base reference
Mexico	1.81	11.04	16.00%	12.81	General-zone day / 8
Chile	2.88	6.94	19.00%	8.26	Adult base reference
Costa Rica	3.04	6.58	13.00%	7.44	Adult base reference

Economy	Wage reference (US$/h)	Pre-tax IH (h)	Standard rate	Tax-scenario IH (h)	Selected scope
Türkiye	3.38	5.92	20.00%	7.10	Adult base reference
Bulgaria	3.74	5.35	20.00%	6.42	Adult base reference
Hungary	4.73	4.22	27.00%	5.36	Adult base reference
Latvia	4.82	4.15	21.00%	5.02	Adult base reference
Slovak Republic	5.30	3.77	23.00%	4.64	Adult base reference
Romania	5.48	3.65	19.83%	4.37	Adult base reference
Greece	5.66	3.54	24.00%	4.39	Ordinary monthly base
Portugal	5.67	3.53	23.00%	4.34	Mainland monthly base
Czechia	5.69	3.52	21.00%	4.26	Adult base reference
Estonia	6.00	3.33	23.00%	4.10	Adult base reference
Malta	6.27	3.19	18.00%	3.77	Adult base reference
Croatia	6.32	3.16	25.00%	3.95	Adult base reference
Korea	7.05	2.84	10.00%	3.12	Adult base reference
Poland	7.16	2.79	23.00%	3.44	Adult base reference
Japan	7.16	2.79	10.00%	3.07	Provider regional mean
Lithuania	7.18	2.79	21.00%	3.37	Adult base reference
United States	7.25	2.76	0.00%	2.76	Federal floor
Spain	7.72	2.59	21.00%	3.14	Ordinary monthly base
Slovenia	8.33	2.40	22.00%	2.93	Adult base reference
Israel	9.80	2.04	18.00%	2.41	Adult base reference
Canada	11.85	1.69	5.00%	1.77	Provider regional mean
France	13.42	1.49	20.00%	1.79	Adult base reference
New Zealand	13.61	1.47	15.00%	1.69	Adult base reference
Belgium	14.47	1.38	21.00%	1.67	RMMMG remuneration
Germany	14.49	1.38	19.00%	1.64	Adult base reference
Ireland	15.25	1.31	23.00%	1.61	Adult base reference
Australia	15.80	1.27	10.00%	1.39	Adult base reference
United Kingdom	15.82	1.26	20.00%	1.52	Adult base reference
Netherlands	16.08	1.24	21.00%	1.51	Adult hourly floor

Economy	Wage reference (US$/h)	Pre-tax IH (h)	Standard rate	Tax-scenario IH (h)	Selected scope
Luxembourg	17.52	1.14	17.00%	1.34	Adult base reference
Russia	—	—	20%	—	Adult base reference

Note. The annual wage reference follows Section 3.2; all period values, legal dates, original units and conversion choices appear in Supplement F and the source register. Direct hourly tariffs and analytical monthly/day equivalents are not identical legal instruments. Canada and Japan retain provider employment-weighted regional references. The United States is the covered federal FLSA floor, not an effective average across higher state/local floors. Belgium is guaranteed average monthly remuneration, with eligible remuneration components, rather than a strict basic-cash tariff. Taxes are standard-rate full-pass-through scenarios for qualifying taxable services, not verified AI invoices. Canada uses federal GST only; the United States uses the federal zero-VAT component and excludes state/local taxes. Estonia's 23% and Romania's 19.8333% are equal-month purchase scenarios across their 2025 rate changes. Brazil has no matched all-in scalar; Russia's statutory 20% does not restore its missing FX. Colombia's 19% applies only if the service is taxable rather than legally excluded cloud computing.

The tax column changes the interpretation of the headline spread. Luxembourg's 17% scenario gives 1.34 hours. Among the 35 rows with a computable scalar scenario, the longest is Peru at 15.50 hours. This subset excludes Brazil and is not an all-country after-tax range. The Brazil/Luxembourg ratio after tax remains $R_{pre\text{-}tax} \times (1 + t_{BRA}) / 1.17$; setting t_{BRA} to zero would be an assumption, not a source finding. Brazil's municipal ISS 2–5% component has documented law, but cannot stand in for every federal levy or payment-route charge.

Selected employee-income profiles in Supplement E apply $IH_{net} = IH_{gross} / q$. Brazil's ordinary 2025 gross month of R$1,518 yields R$1,404.15 after 7.5% INSS and zero wage income tax, $q = .925$. Luxembourg's selected class-1 regular-payroll model includes statutory refundable employment credits. The 13 factors use specified ages, insurance, jurisdiction, rounding and settlement rules; they do not form a uniform global disposable-income panel. Employee deductions differ from employer contributions, and a provider's consumer tax differs from both. These distinctions are necessary for a labor-versus-subscription cost comparison to refer to a real decision.

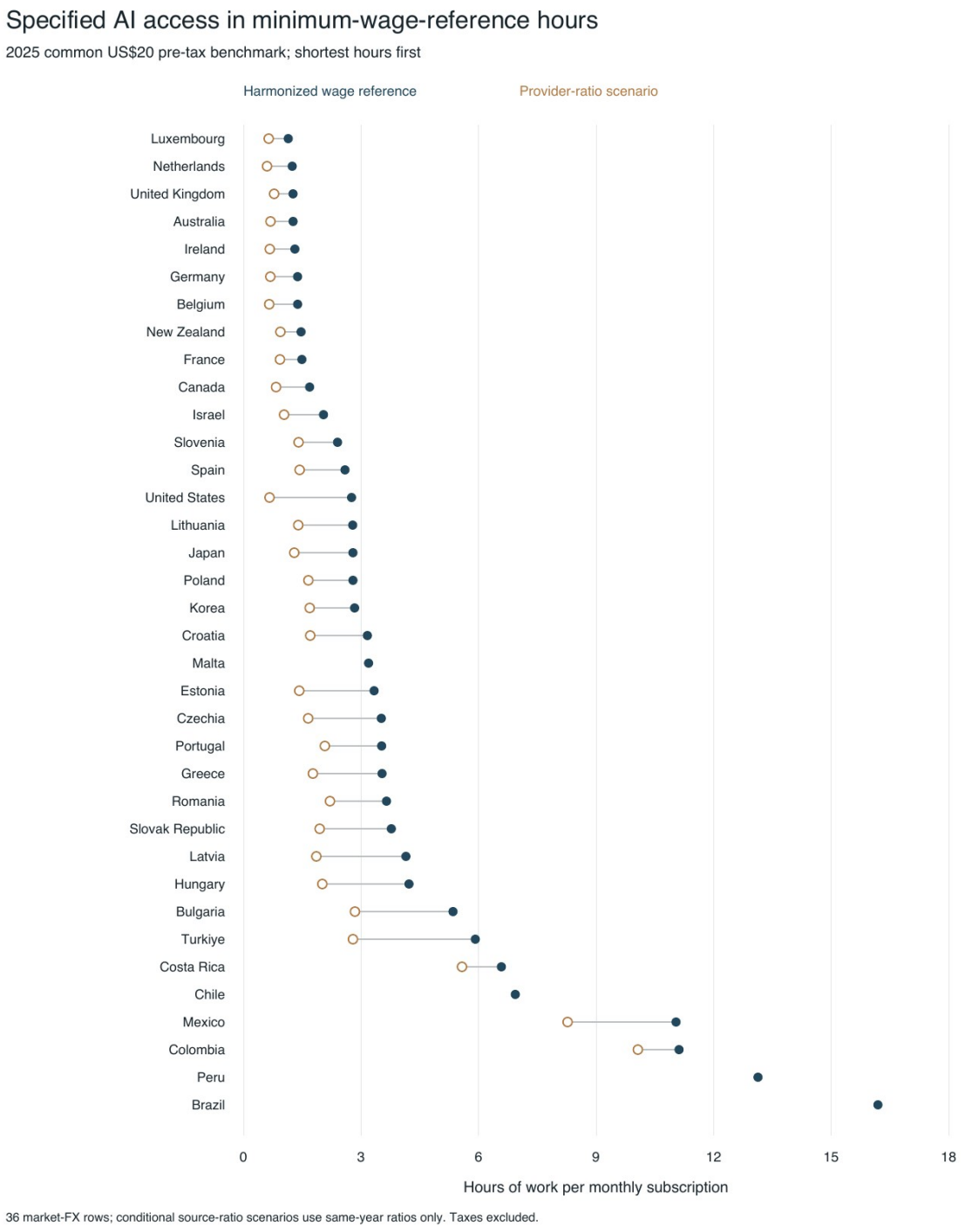
The main comparison therefore reports a defined gross reference, with selected tax and payroll sensitivities visible. A basic monthly-pay benchmark can be lower than annual pay prorated over twelve months in countries with mandatory additional payments. The three explicit 14-payment cases are shown beside their ordinary-base values in Supplement F. Neither convention is hidden in a general assertion that every statutory minimum is comparable. Source uncertainty, legal population and calculation choice remain separate fields in the released data.

4.2 Denominator Matching and Conditional Rank Changes

Equation 2 is exact when κ uses the same minimum, median, pay concept, year and worker population. The harmonized minimum in Table 1 is not automatically the numerator of the OECD MIN2AVE ratio. Dividing it by κ would manufacture an hourly median whose empirical matching has not been demonstrated. The paper consequently withdraws the earlier description of these products as observed median-wage IH. The release keeps original provider ratios and their years, the harmonized wage reference, the reconciliation ratio to the provider reference and a clearly named source-ratio scenario.

Figure 1

Harmonized Minimum-Wage References and Conditional Source-Ratio Scenarios 2025



Note. Filled points show Table 1's pre-tax IH. Open points show IH_min × same-year provider κ as a source-ratio scenario, not an observed median-wage estimate. Missing same-year ratios produce no scenario point. Chile's 2024 ratio is retained as frozen provenance only; no carry-forward product is computed. All rows use the same market FX and price as Table 1.

For the 32-country same-year scenario sample, rank agreement is high: Spearman ρ = 0.95, Kendall τ = 0.82. The median absolute change is 2 places and the 75th percentile is 3 places. These

distributional measures are more informative than counting every one-place movement as a substantive reordering. Supplement A lists the country ranks and the largest changes, including the United States and United Kingdom. The released CSV files also give the provider-reference scenario separately, so numerical changes caused by source reconciliation can be inspected.

A rank movement in this exercise is a consequence of the chosen κ multiplication and the relative position of all countries. It is not itself evidence that minimum-wage policy explains the difference between actual minimum and median purchasing power. Annual extras, geographical aggregation and full-time earnings populations may differ across the two source flows. A usable empirical median variant would require matched country-level median earnings and an appropriate hourly conversion. The algebraic identity remains a contribution of the framework; this version does not claim to have established that matching for the panel.

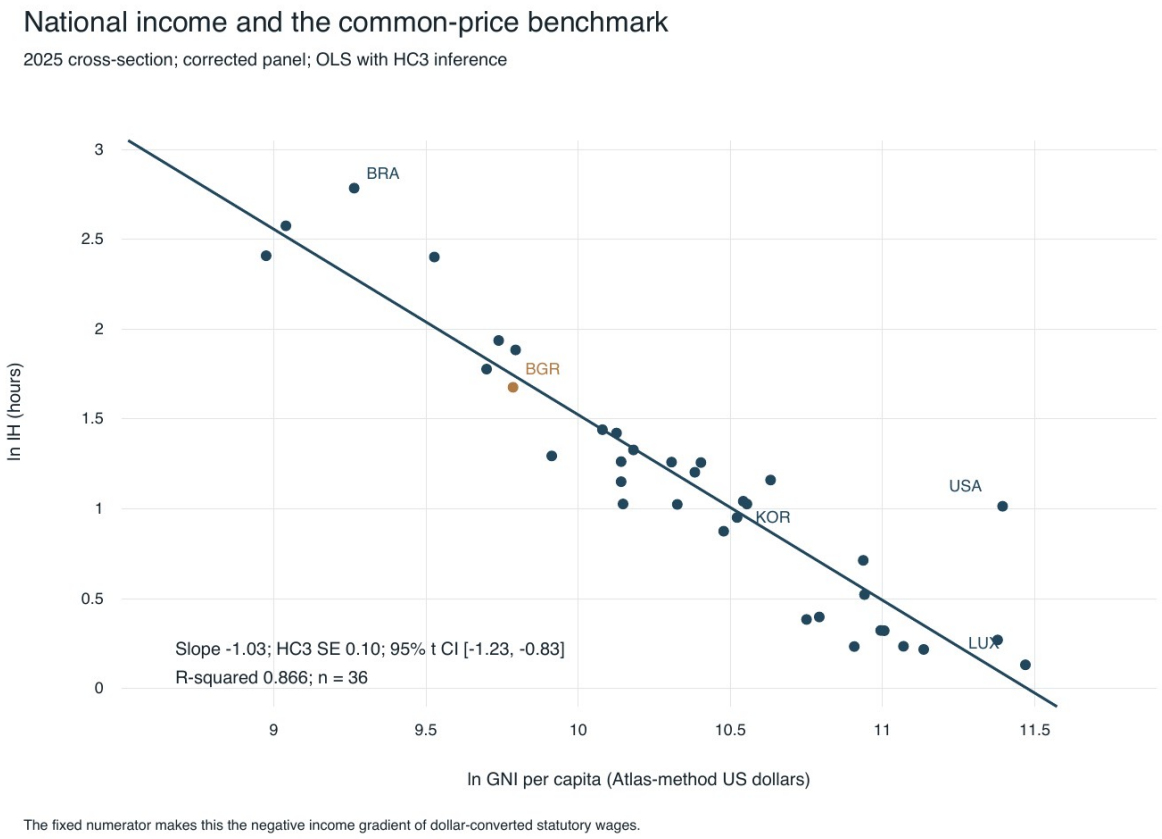
The United States also illustrates the population boundary independently of κ. The federal floor does not describe most workers in states with higher enforceable minima, and tipped, youth or exempt cases require their own rules. Canada and Japan use regional weighted references and do not share that federal-floor interpretation. An effective U.S. employment-weighted floor would require dated state schedules and matched employment weights; no invented weighting is used here. Cross-country rankings should therefore be read as rankings of documented benchmarks, rather than uniform worker-level lower bounds.

4.3 Intelligence Hours and National Income

Figure 2 plots log IH against log GNI per capita. Table 2 gives the principal estimates; the remaining source-ratio, all-country PPP and mirror-wage models are in Supplement A. These are descriptive income gradients of selected wage references at a fixed access price.

Figure 2

National Income and the Common-Price Benchmark 2025



Note. The line is OLS on the 36-country market-FX sample; inference uses HC3 covariance and Student t with 34 degrees of freedom. The fixed US$20 numerator makes the IH slope the negative of the dollar-wage-reference slope, not an estimate of variation in provider pricing.

Table 2

Income Gradients of Harmonized Wage-Reference IH

Model	Conversion	Sample	n	Slope	SE	95% CI	R^2	p: slope = −1
1	Market	2025	36	−1.03	0.10	[−1.23, −0.83]	0.87	0.746
2	Market	2023–2025 pooled	110	−1.06	0.08	[−1.22, −0.89]	0.87	0.513
3 matched	PPP	2025	36	−0.66	0.12	[−0.90, −0.42]	0.66	0.006
4	PPP	2023–2025 pooled	111	−0.67	0.10	[−0.87, −0.47]	0.68	0.002

Note. Regressor: log GNI per capita, Atlas method, current US$. Cross-sections use HC3 covariance and t(n − k). Pooled models include year indicators and use country-clustered CR1 covariance, the correction G/(G − 1) × (n − 1)/(n − k), and t(G − 1); there are 37 country clusters and 36 reference degrees of freedom. The market and matched PPP cross-sections both contain 36 countries. The all-37-country PPP result is supplementary. Pooled market data contain 110 observations and PPP data 111 because Russia lacks only its 2025 market FX. Country clustering permits serial dependence within countries, but shared currency or regional shocks are not modeled.

The 2025 market slope is −1.03, with a 95% interval [−1.23, −0.83]. The pooled slope is −1.06; its interval [−1.22, −0.89] includes −1 (p = 0.51). Failure to reject this value does not establish exact inverse proportionality. The earlier HC1-based inference is superseded by the covariance and degrees-of-freedom rules stated above. Cross-section and pooled uncertainty should not be conflated simply because their point estimates are close.

On the identical 36-country sample, the market slope equals the PPP slope plus the slope of log(E/PPP): −1.032283 = −0.658964 + (−0.373319). The gap is 36.2% of the market slope. It is an exact fitted-slope accounting identity, consistent with an income-related price-level pattern, not a causal Balassa–Samuelson attribution. Market conversion concerns the dollars required to purchase access; GDP PPP is a domestic purchasing-power counterfactual. The two answer different questions.

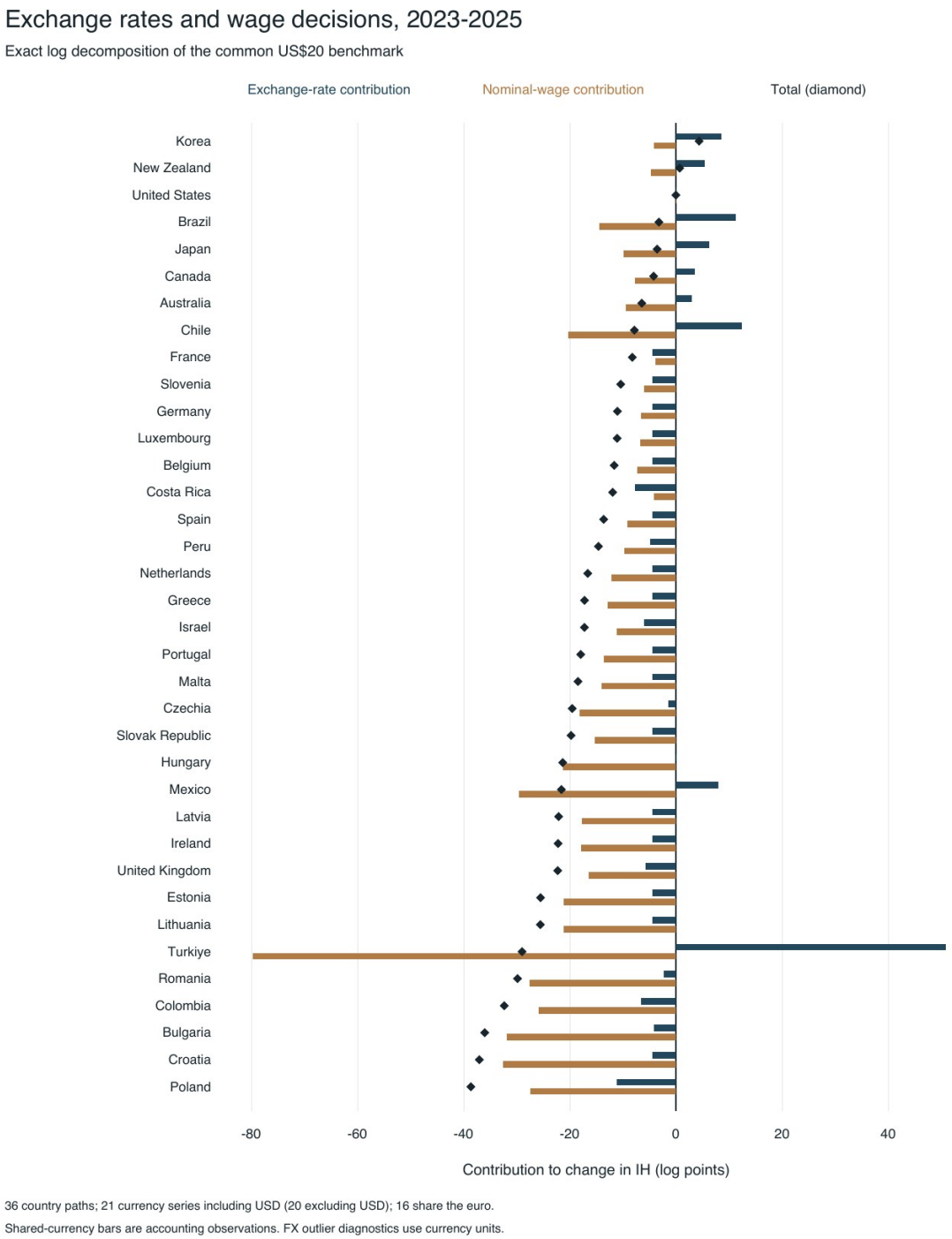
The result also clarifies the indicator's information content. Since ln IH = ln 20 − ln(w/ E), a common-price cross-section supplies no variable independent of the dollar wage reference. A high R^2 does not validate an AI-specific mechanism. The labor-time unit remains useful for communication, temporal accounting and comparison with dated local prices, but empirical adoption or welfare claims require separate outcomes. This interpretation survives the country-source corrections because it follows from the numerator rule, rather than from a particular fitted coefficient.

4.4 Time-Series Decomposition, 2023–2025

Equation 3 partitions the change in the benchmark into price, FX and wage-reference terms. All three panel years use the same harmonization policy; the wage term is not constructed by comparing an audited 2025 rate with a differently defined uncorrected 2023 rate. Because the dollar price is fixed, the price contribution is zero. Figure 3 shows the 36 complete country paths and Supplement B gives every unrounded component.

Figure 3

Exact Decomposition of Wage-Reference IH, 2023–2025



Note. Components are changes in logarithms multiplied by 100, or log points. FX and nominal-wage bars sum to the total before rounding. The continuous axis displays Türkiye's full contributions. The identity is exact for the defined annual references; it does not identify the cause of wage or exchange-rate changes.

IH fell in 33 of 36 countries, rose in 2 and was unchanged in 1. The median change was −17.2 log points, with interquartile range [−22.2, −9.9]. The country wage term has median −13.8. The FX summary instead uses 20 distinct non-dollar currencies: 10 negative and 10 positive, median −0.7.

Sixteen euro observations do not become sixteen independent currency shocks. The lev is reported separately and an exclusion sensitivity accounts for its euro peg.

Exploratory Grubbs diagnostics identify the Turkish-lira FX contribution as unusual, G = 3.64 against a 5% critical value of 2.71, n = 20. Approximate normality and independence are diagnostic assumptions, not established properties of this sample. The country wage diagnostic uses a different observational unit and is reported separately. Removing euro duplicates addresses one inferential error; it does not make exchange rates independent. The exact accounting is useful even where formal outlier inference is weak.

Table 3

Korea's Decomposition With 2026 FX Carried Forward From 2025

Window	IH start (h)	IH end (h)	Total (log points)	Dollar price	FX	Wage reference
2023–2024	2.71	2.77	1.86	0.00	4.33	−2.46
2024–2025	2.77	2.84	2.53	0.00	4.24	−1.71
2023–2025	2.71	2.84	4.39	0.00	8.57	−4.17
2025–2026	2.84	2.76	−2.85	0.00	0.00	−2.85

Note. Nominal hourly minima are ₩9,620, ₩9,860, ₩10,030 and ₩10,320 for 2023–2026. The last rate is the official 2026 notice issued in 2025; the notice date does not change the wage's effective year (Ministry of Employment and Labor 2025). FX values are World Bank annual averages for 2023–2025. The last row carries 2025 FX forward, so its FX term is zero by construction. Display rounding can produce a difference of 0.01 log point; scripts check the unrounded identity.

Korea illustrates the wage-setting use: depreciation outweighed wage growth over 2023–2025. Its 2026 statutory increase lowers the carried-FX benchmark to 2.76 hours. This is a sensitivity to a new wage at the old annual exchange rate, not a prediction of Korea's realized 2026 purchasing power. Appreciation, wage growth and a lower specified subscription price each shorten IH through different terms. Their wider economic effects are not evaluated by the decomposition.

4.5 The January 2026 Extension

Table 4 reports a separate 12-economy extension. The historical panel remains 37 countries; the complete audit covers their union with five additional extension or localization economies: China, India, Nigeria, Indonesia and South Africa. The extension's cutoff is January 1 2026 and its exchange rates and GNI are 2025 values. That cutoff is distinct from the historical annual averaging rule.

Table 4

January 1 2026 Wage References With 2025 Annual FX Carried Forward

Economy	Wage reference (US$/h)	IH US$20 (h)	IH US$200 (h)	% normalized wage income	% GNI	Selected scope
Luxembourg	17.66	1.13	11.3	0.65	0.25	Adult unqualified hourly
United Kingdom	16.08	1.24	12.4	0.72	0.44	Age 21+ hourly
Germany	15.71	1.27	12.7	0.73	0.40	General hourly

Economy	Wage reference (US$/h)	IH US$20 (h)	IH US$200 (h)	% normalized wage income	% GNI	Selected scope
France	13.58	1.47	14.7	0.85	0.49	Adult SMIC outside Mayotte
Poland	7.37	2.71	27.1	1.56	0.94	Employee month / 173⅓
Japan	6.35–8.19	2.44–3.15	24.4–31.5	1.41–1.82	0.63	Dated prefectural range
United States (federal)	7.25	2.76	27.6	1.59	0.27	Federal covered hourly
Korea	7.26	2.76	27.6	1.59	0.63	National hourly
China	—	—	—	—	1.69	Regional cases only
Mexico	2.05	9.77	97.7	5.64	1.75	General-zone day / 8
India	—	—	—	—	8.70	Dated regional case only
Nigeria	0.27	75.20	752.0	43.38	17.65	Monthly; assumed 40 h/week

Note. Normalized monthly wage-reference income is hourly reference × 40 × 52 / 12 = 173⅓ hours; it is not necessarily notified monthly payroll. GNI share is annual subscription price, US$240, divided by 2025 GNI. Sources and separate legal cases appear in Supplement F. Japan's range uses rates effective on the cutoff: Akita ¥951 remained until March 30 2026 and Tokyo ¥1,226 had taken effect in October 2025. The eventual fiscal-year weighted mean is not a date-matched January point and is unavailable here. Poland's employee minimum PLN4,806/month is normalized to PLN27.726923/hour; PLN31.40/hour belongs to qualifying civil contracts and is a separate case. Mexico's general-zone MXN315.04/day divided by eight is comparative, not permission to prorate the legally payable daily minimum. Nigeria's official ₦70,000 monthly amount gives a conditional equivalent at an assumed 40-hour week; statutory coverage and exemptions are not established as a universal national hourly floor.

China's selected regional part-time rates differ in employee and employer contribution treatment, so they cannot define a harmonized national minimum-to-maximum range. India's copied daily floor was not verified as a current national statutory instrument; an official Delhi scheduled-employment case has a documented date, but cannot establish the national maximum or continuity at the 2026 cutoff. Their wage-dependent national burdens remain unavailable while GNI shares remain computable. A failed retrieval does not prove that legislation or payroll data do not exist. Supplement F retains the valid regional cases with the narrower question each can answer.

These decisions change the extension materially. Japan's lower dated endpoint is ¥951 rather than the eventual revised endpoint, Poland uses the ordinary-employee instrument, and the former China/India national ranges are withdrawn. The numerical Nigeria case remains conditional. The public release exposes each original observation beside its correction and reason. An unavailable national estimate should not be represented by zero, a range drawn from incompatible instruments or an unqualified longest-country claim.

4.6 Affordability Thresholds and Earnings Bases

The Broadband Commission's entry-level broadband target uses 2% of monthly GNI per capita, rather than a minimum wage (Broadband Commission for Sustainable Development n.d.; International Telecommunication Union n.d.). Applying that share to AI is an analogy, not adoption of an official AI affordability standard. It selects a different population and denominator from a wage-floor calculation.

In the 2025 panel, 3 of 37 GNI comparisons exceed 2%: Brazil, Colombia, Peru. The normalized minimum-wage-income comparison exceeds 2% in 15 of 36 computable rows. Korea's 2025 shares are 0.63% of GNI and 1.64% of normalized wage-reference income; its 10% VAT scenario gives 1.80% of the latter. The year and earnings base matter when these values are compared with the separate 2026 snapshot.

The extension retains computable GNI shares for all 12 countries, including China and India whose national wage range is withheld. India and Nigeria exceed 2% of GNI. Among the ten rows with a numeric wage reference or dated range, Mexico and the conditional Nigeria case exceed 2% throughout the displayed reference. China and India cannot be counted as national wage-threshold results. Normalized shares are reported consistently; where a notified monthly amount exists, Supplement F gives its separate share rather than treating 173⅓ hours as a legal payroll month.

Mandatory extra payments supply another annual-income basis. A monthly subscriber pays twelve times; annual purchasing power may therefore be better compared with annual base plus statutory extras divided by twelve. The ordinary-base headline answers a narrower regular-pay-period question. The GRC/PRT/ESP annualized sensitivity makes the 14/12 effect explicit: under that pure normalization, ordinary-base IH is 16.7% longer than annual-pay-equivalent IH. This comparison does not certify every worker's total remuneration or timing of cash receipts. Neither calculation measures disposable resources after necessities. A fixed percentage cannot replace a residual-income assessment or show how affordability differs by sex, household composition or compliance (Hancock 1993; Stone 2006).

Likewise, lower-tier lists need a plan definition. A cheaper monthly fee can reduce the price share while changing usage limits and available capabilities. The next section studies when a particular tier reached named countries, and Section 4.8 compares its reported local list with a specified U.S. reference. Neither substitutes it into the historical US$20 numerator or combines different tiers into one quality-adjusted adoption count.

4.7 A Test of the Rollout Prediction

The pricing hypothesis predicts earlier lower-entry-tier launches in lower-income markets. Table 5 documents ChatGPT Go launches from provider statements reported in the press. GNI per capita substitutes for IH because comparable wage-floor data are unavailable for most rollout countries; this is therefore an income comparison, linked to IH through Section 4.3. The primary sample contains 38 individually named economies. A robustness sample adds 51 African economies inferred from the October 15 regional announcement, for 89 in total.

Table 5

Country Sequence of ChatGPT Go Launches and National Income

Launch date	Scope	n	Median GNI per capita (US$)	Range (US$)
2025-08-19	India	1	2,760	2,760–2,760
2025-09-23	Indonesia	1	5,120	5,120–5,120
2025-10-09	16 South and Southeast Asian countries	16	3,575	390–34,790
2025-10-15	54 African countries (51 with GNI data)	51	1,730	240–19,200
2025-10-30	8 European and 5 Latin American countries	13	29,930	2,850–97,310
2025-12-11	Mexico, Argentina, Colombia	3	13,730	7,900–14,650
2026-01-16	Worldwide (US, Korea, Japan, UK named)	4	46,445	37,880–88,810

Note. Country lists and frozen wave dates are preserved from the compiled provider/press chronology (OpenAI 2025, 2026; Mehta 2025a, 2025b; McLeod 2025). OpenAI's dated release notes announce India on August 18 and Indonesia on September 22 2025, one day before the frozen August 19/September 23 dates. No source timezone is established here; this discrepancy changes neither wave order nor either rank statistic. The October 30 and December 11 lists retain their reported provenance. Only individually named countries enter the primary sample. The October 15 Africa-wide announcement adds 51 World Bank African economies with GNI to the expanded sample; unnamed countries in other announced regions are excluded. The final row includes only four economies named in worldwide-launch reports. GNI is the 2025 Atlas-method observation, or 2024 where missing (World Bank 2026b). These income observations are descriptive ex-post covariates, not incomes known at launch. The frozen 2026 income classification is preserved in raw inputs but is not used to claim a launch-time group assignment or a within-group test.

The primary Mann–Whitney comparison finds lower incomes among the 18 economies reached by October 9 (median US$3,575) than among the 20 reached from October 30 onward (US$31,445): $U = 41$, exact one-sided $p < .0001$. The 38-country sample has six tied launch dates; Spearman $\rho = .67$ is descriptive. A Jonckheere–Terpstra trend test across those waves gives $JT = 398$ (null mean 248), one-sided permutation $p < .001$, using 199,999 fixed-seed permutations. The expanded 89-country sample has seven waves, early median US$2,150 and descriptive $\rho = .38$; $JT = 1,648$ (null mean 1,217), permutation $p = .0003$. Both samples support the broad income ordering. Permutation inference assumes income exchangeability under the null; the provider's launch decisions are observational, not randomized or independently assigned to countries.

The chronology also contains richer European economies reached before the later worldwide launch. This variation limits any deterministic reading of income order. The tests compare the selected waves overall; no within-income-group explanation, provider pricing intent or general sequence for competing tiers is estimated. Payment infrastructure, market size and regulation remain possible untested influences. The result concerns one provider's named tier and an observational chronology with disclosed regional inference.

4.8 A Pilot of Within-Plan Localization Ratios

Table 6 compares dated reported lists within named plan. Nine Go market observations, counting the euro area and United States, and three Plus markets plus the U.S. reference form a selected pilot. The named tier is held fixed; this does not certify identical models, feature allowances or delivered quality across time and territory. Prices and announcement months come from the preserved chronology, not an independently audited set of checkout invoices.

Table 6

Reported Lists and Tax-Basis Scenarios Within ChatGPT Plan

Plan	Market	Reported local list	Report date	L: list basis	L: if tax inclusive	Tax evidence	U.S. reference timing
Go	Colombia	20,900 COP	2025-12	0.64	–	Inclusion unknown	Ex post
Go	Euro area	10 EUR	2026-01	1.41	–	Inclusion unknown	Concurrent reference
Go	India	399.0 INR	2025-08-19	0.57	0.48	Provider-stated inclusive	Ex post
Go	Indonesia	75000.0 IDR	2025-09-23	0.57	0.51	Inclusion unknown	Ex post
Go	Korea	13000.0 KRW	2026-04-09	1.14	1.04	Reported inclusive	Concurrent reference
Go	Mexico	110 MXN	2025-12	0.71	–	Inclusion unknown	Ex post
Go	Nigeria	7,000 NGN	2025-10	0.58	–	Inclusion unknown	Ex post
Go	South Africa	149 ZAR	2025-10	1.04	–	Inclusion unknown	Ex post
Go	United States	8 USD	2026-01-16	1.00	1.00	Pre-tax reference	Reference
Plus	India	1999.0 INR	2025-08	1.15	0.97	Inclusion unknown	Concurrent reference
Plus	Indonesia	349000.0 IDR	2025-09-23	1.06	0.95	Inclusion unknown	Concurrent reference
Plus	Korea	29000.0 KRW	2026-04-09	1.02	0.93	Reported inclusive	Concurrent reference
Plus	United States	20 USD	2023-02	1.00	1.00	Pre-tax reference	Reference

Note. L = local list / (U.S. list × 2025 annual FX). Reference lists are pre-tax US$8 for Go and US$20 for Plus. The inclusive scenario divides the reported Indian price by 1.18, Indonesian price by 1.11 and Korean price by 1.10. India Go is provider-stated GST-inclusive in the dated release notes (OpenAI 2025); India Plus and both Indonesian plans retain unverified inclusion. Korean inclusion is press-reported. No checkout invoice was independently observed. Earlier Go reports are compared ex post with its January 16 2026 U.S. reference; continued local lists on that later date are not established. “Concurrent reference” means the U.S. plan price existed then; annual FX still averages a different window from the dated list. The scripts expose exact local-list conversions and matched wage cases separately. Missing China/India national wages are not filled to create local-price IH ranges.

The scale of reported Go variation is substantial: India, Indonesia and Nigeria are about 43% below the later U.S. reference on their reported-list basis. South Africa is close to that reference and the euro-area observation is above it. This is evidence about selected posted lists and timing, not the provider's pricing intent or demand elasticity. On the provider-stated inclusive basis for India Go and the conditional inclusive basis for Indonesia Go, their ratios become 0.48 and 0.51; the two interpretations must not be treated as simultaneously observed prices.

Plus also cannot be described as carrying no local discount. Its reported-list ratios are about 1.15, 1.06 and 1.02 in India, Indonesia and Korea. The stated net-of-tax scenarios yield 0.97, 0.95 and 0.93. The Korean case uses reported inclusion; the Indian and Indonesian cases depend on an unverified inclusion assumption. These three observations do not establish global pre-tax parity, but they invalidate a universal no-discount statement that mixed tax-inclusive and pre-tax bases.

A local-price calculation uses Equation 5 with the same wage as the corresponding U.S.-price calculation. For example, Korea's reported ₩13,000 Go list divided by its 2026 hourly minimum gives 1.26 hours on the reported tax basis, while the US$8 converted reference gives 1.10. Nigeria's ₦7,000 list gives 17.33 hours in the conditional monthly/40-hour scenario; the converted US$8 reference is 30.08. For India, no national wage-dependent local-price range is reported. Supplement C retains the complete pilot arithmetic and narrower regional cases. The localization ratio remains computable even when a national wage denominator is unavailable.

4.9 External Criterion: Summary

An exploratory comparison with 2025 country-level Claude use (Anthropic Economic Index; Anthropic 2025, 2026; n = 36) gives raw Spearman $\rho = -0.73$, but $\Delta R^2 = 0.0001$ after log GNI, partial $r = -0.015$ and approximate 95% interval $[-0.347, 0.320]$. Supplement D gives models, uncertainty and the 2026 check. The interval does not establish zero effect or equivalence. The criterion pools free and paid use and heterogeneous earnings groups, so it cannot identify whether prices constrain paid adoption among minimum-wage workers. IH's close relation to income limits incremental prediction without making the outcome relationship an algebraic necessity.

5. Discussion

5.1 Product Differentiation and Local Prices

Versioning offers one interpretation of the lower-cost regional tier. Quality-discrimination models describe suppliers offering different products to different valuations (Mussa and Rosen 1978; Maskin and Riley 1984; Deneckere and McAfee 1996). The selected Go/Plus observations are consistent with differentiation, but do not identify pricing intent, marginal cost, arbitrage barriers or a welfare

effect. Tax basis, dates and observed-market selection limit the comparison. The defensible result is the scale of reported within-plan price variation, not a finding that full-access plans receive no local discount.

A lower nominal subscription fee can accompany different capabilities or usage limits. Adoption counts that combine those products therefore need a tier definition. Compute capacity and local operating costs can also affect offers, but posted subscription menus do not reveal a shadow price of compute. No provider-capacity event outside the compiled evidence is used to establish that mechanism.

5.2 Purchasing Power and Wage Institutions

For wage-setting institutions, Equation 3 gives a transparent accounting of what a nominal increase buys over a dollar-priced benchmark and how exchange rates can offset it. Korea illustrates that question: currency depreciation outweighed statutory wage growth over 2023–2025. A ranking can also move because another economy changes, so the decomposition is more informative than rank alone.

Labor productivity matters only through inputs the indicator actually observes. If neither the wage reference, exchange rate nor specified access price changes, IH does not change. Whether productivity gains reach low-paid workers is a distributional question requiring earnings and compliance evidence. Appreciation reduces this measured access price but is not a policy recommendation; its wider economic consequences are outside the index.

Domestic provision, competition, negotiated prices and subsidies could change the access price. Comparing them requires delivered capabilities and full costs, including imported compute inputs. IH supplies a purchasing-power benchmark, not a domestic-production threshold or evidence of technological sovereignty.

5.3 Limits of the Indicator and Policy Use

At a common dollar price, IH contains the same cross-sectional information as the dollar wage reference. Its contribution is an accessible unit, an exact temporal accounting and a framework for separating within-plan prices from wages. It does not measure task substitution, productivity, national competitiveness, exchange-rate misalignment, dollar demand, paid adoption, displacement or pricing intent. The external-criterion check adds no behavioral validation of those constructs.

Affordability reporting should state the price basis, product and denominator. Where the benchmark is a small share of GNI, useful adoption can still depend on skills, language and organizational capacity. A short national IH does not establish affordable access for every household, and a longer statutory benchmark does not identify actual subscriber behavior.

5.4 Dollar Priced Intelligence An Interpretation

I read dollar-priced AI access as a reason to watch who supplies intelligence, who can buy it and in which currency providers are paid. The empirical connection here is purchasing power: wage growth can be offset by depreciation at a fixed dollar price. Any conjecture about additional dollar demand

requires expenditure, settlement and competing-currency evidence that this index does not contain. The longer author discussion is preserved as a separate companion note.

6. Limitations

Coverage selects 37 OECD-referenced economies and does not describe all low-paid workers. Wage references differ in population, geography and legal pay concept; the register makes those differences explicit. Regional aggregates do not imply a uniform payable floor. Non-compliance can lengthen IH for workers paid below the selected minimum, while higher actual earnings shorten it (Rani et al. 2013; Kanbur and Ronconi 2018). Without matched earnings, no universal worker-level bound follows from a statutory row.

Annual averaging and hourly conversion are documented benchmark choices. They are not observations of worker exposure or payroll hours. Mandatory extra pay, leave, youth rates, occupational minima and employer contributions can change the relevant decision denominator. Selected take-home sensitivities fix named profiles and do not form a comparable global disposable-wage range. Standard-rate consumer-tax scenarios are also conditional; actual invoices, exemptions, collection rules and payment charges can differ. The net effect on cross-country dispersion cannot be inferred from standard rates alone.

Provider Kaitz ratios must match the minimum's population, year and pay components before Equation 2 becomes an empirical median-wage comparison. Missing or unmatched ratios are retained as unavailable or explicitly conditional. The corrected minimum cannot silently inherit a median estimate made by multiplying it by an unmatched source ratio.

The fixed US$20 numerator does not certify historical product equivalence or local checkout parity. Provider flagship labels can change together, so a three-plan median does not resolve quality change. The selected localization pilot uses reported lists; no checkout was independently verified. India Plus and Indonesian tax inclusion are unknown; India Go is provider-stated GST-inclusive, Korean inclusion is source-reported, and earlier Go observations use a later U.S. reference. Those limitations prevent a causal pricing or adoption interpretation.

The 2026 extension separates verified dated values, hourly assumptions and regional illustrations. It does not use unverified national ranges as measured extrema. The historical panel's provider-weighted regional references retain documented aggregation limits. Frozen responses and scripts permit reproduction of the chosen benchmarks, not independent validation of every underlying statistical micro-observation.

Small samples, shared currency shocks and observational rollout decisions limit inference. The AEI criterion pools free and paid use and does not identify wage-floor workers. Nonsignificance is not equivalence. Gender differences in coverage, compliance and earnings require matched sex-disaggregated data; the statutory rates alone cannot estimate them.

7. Conclusion

Intelligence Hours expresses a specified month of AI access in wage-reference hours. Its motivation is the purchasing power of local labor over globally supplied intelligence priced in dollars. The

common-price cross-section remains a transformation of the dollar wage; the useful additions are the matched-denominator identity, the exact price–exchange-rate–wage decomposition and the within-plan localization ratio.

The historical comparison shows substantial variation in benchmark hours and declining IH in most of the sample as wage references rose against a fixed dollar price. Korea demonstrates how depreciation can offset wage growth. The local-price pilot documents larger reported-list variation in Go than in the three observed Plus markets; modest Plus discounts appear under explicitly conditional tax alignment. These are descriptive findings with specified sources and scope.

A continuing index should improve dated within-plan prices, matched wage populations and transaction tax records together. Its policy value lies in showing the purchasing-power outcome and the components that changed, while keeping adoption, welfare and task productivity as separate empirical questions.

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