Beyond the

Headline Number

Why Human Potential Maximisation Should Be the Organising Objective of Development Policy in the Caribbean

Policy Paper

Companion to “Comparative Advantage, Cheap Consumption, and Poor Development Outcomes in the Caribbean”

Abstract

Every Caribbean Budget reports what the economy produced. None reports what the population became. The macroeconomic instruments a finance ministry relies on — output, prices, balances, reserves — describe those things well and were never designed to describe the capability of a population. This paper does not re-argue their limits, which others have set out at length. It specifies the missing measure.

This paper argues that the organising objective of development policy should instead be human potential: the present value of what a population can expect to earn across its working lives. The measure is not rhetorical. It has an established methodology, it is the largest single component of global wealth, and it can be decomposed by cohort and by sex.

Measured this way, the region is losing most of what it forms. Formation multiplied by utilisation gives a conversion rate — the share of a cohort’s potential a society both develops and uses. It stands at 36.0 per cent in Jamaica, 32.8 in Trinidad and Tobago and 24.8 in Guyana, which converts the least while growing fastest in the hemisphere.

The margin for waste is closing. Cohorts are shrinking across the region, and a country that cannot add people has no way to offset poor conversion. Most of the remedy is inexpensive and available within one Budget cycle, from data these countries already collect. The paper also sets out what raising that conversion rate requires in practice, across a single life and across government, household and firm, and the strongest evidence for it is Caribbean: a Jamaican early-childhood programme that raised adult earnings by 25 per cent, tracked over twenty years.

The question is not whether GDP is a useful statistic. It is. The question is whether small, unequal, resource-depleting and highly exposed economies should organise their entire policy apparatus around a measure that is structurally incapable of registering their central problem.

Justin Ram

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A note on terminology. Throughout this paper, I use human potential where the economics literature says human capital. The measurement apparatus is the same, and I cite it under its proper names — the Jorgenson–Fraumeni accounts, the World Bank's Changing Wealth of Nations, the Human Capital Index. The change in language is deliberate. Capital is something a firm owns and depreciates; potential is something a person has and a society either realises or wastes. In a region whose economic history begins with the treatment of people as capital, the distinction is not merely rhetorical.

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Executive Summary

Every Caribbean Budget reports what the economy produced. None reports what the population became. This paper proposes an objective for development policy that does: human potential, the value of what a population can expect to earn across its working lives, and the conversion rate — the share of a cohort's capability that a society both develops and uses. Existing macroeconomic instruments measure output, prices, and balances competently and were never designed to answer this question. The purpose here is not to reargue their limitations, which others have set out at length, but to specify the missing measure precisely enough to publish.

The measure is not rhetorical. Human potential has an established methodology in the World Bank's wealth accounts, is the largest single component of global wealth, and can be broken down by cohort and sex so distributional questions are answerable.

The region is losing most of what it forms. Multiply formation by utilisation to get a conversion rate — the share of a cohort's potential that a society both develops and uses. It is 36.0 per cent in Jamaica, 32.8 per cent in Trinidad and Tobago, and 24.8 per cent in Guyana, which converts the least while growing fastest in the hemisphere. For scale: the United States converts about 44 per cent, the OECD average is nearer 47, and Singapore, the best performer anywhere, reaches 60. No country in the world converts even two-thirds of what a cohort could become.

The losses compound at every stage. Forty-four per cent of candidates passed five CSEC subjects including mathematics and English in 2025 — but measured against the age cohort rather than those who sat, Jamaica has recorded roughly 19 per cent. Participation is below its own historical peak in every economy measured. Some 70 per cent of the region's labour force with more than twelve years of schooling has migrated to OECD countries. Around 40 per cent of nursing posts stand vacant.

And the margin for waste is closing. Live births in Trinidad and Tobago fell from 18,261 in 2015 to 12,768 in 2023. A country with growing cohorts can offset poor conversion by adding people; one with shrinking cohorts cannot. Each remaining person has to carry more, which is precisely when losing any of them becomes intolerable — to violence, to emigration, or to poor schooling.

Most of the fix is cheap. The paper proposes an eight-indicator account published annually and reported ahead of the growth figure. Cohort-basis attainment needs only existing exam results divided by an already published population number. The fiscal split needs the Estimates tagged once. The living-wage share needs a threshold set — quickly from existing poverty-line data, or even better; properly through a benchmark study, as Annex B sets out — and then applied to

survey data already collected. Only the potential stock itself requires new capability. Most of it could be published within eighteen months.

Two conditions. Potential has value only if it is used, so this complements the argument for prioritising domestic production, and for treating the CARICOM Single Market as the smallest market in which regionally formed capability can be regionally employed. And retention must never be pursued by restricting exit. A nurse maximises her own earnings by leaving; the national interest and her interest genuinely diverge, and the only legitimate instrument is what the work pays at home. Capital is owned. Potential is not.

It has been done. Mauritius, which Meade in 1961 judged hopeless at ninety-nine per cent sugar exports, built the workforce that let it climb from low-skill assembly into finance, manufacturing and technology. Its GDP per capita is below several Caribbean states — and unlike them, it has no gas, oil or bauxite rents, only a tourism sector that accounts for some 40 per cent of its foreign exchange earnings — yet it builds more of each cohort's capability than any comparator here.

None of this is hypothetical about what to do next. In 1986, Jamaican researchers gave a small group of growth-stunted toddlers eighteen months of home visits by community health workers. Twenty years later, the treated group's adult earnings were 25 per cent higher, closing the entire gap with children who had never been stunted. This paper sets out what that finding requires in practice, across a single life course from conception to retirement, and what government, households and firms each owe one another to make it hold.

If a Minister of Finance had to open the Budget with the change in the national human potential stock, the expected lifetime earnings of the poorest decile, and the share of last year's graduates still resident — and only then mention GDP — the debate would change within one cycle. Projects would have to justify themselves against a child's prospects.

1. The question we do not ask

Every Budget Statement in the Caribbean reports what the economy produced. None reports what the population became. A finance minister will tell the House the rate of growth, the fiscal balance, the reserve position and the debt ratio, and will be questioned closely on each. He or she will not be asked, and has no number with which to answer, what share of the children born in his country this year can expect to be schooled well enough to earn a living, or what share of the adults he already has are earning one.

That is the question this paper is about. Stated formally: how much of a population's productive capability does a society develop, and how much of what it develops does it actually use? Call the answer the conversion rate. It is a quantity rather than a metaphor or an index of wellbeing, and it can be estimated from existing data; for most Caribbean countries, it lies somewhere around a third.

The proposition of this paper is that this quantity should be the organising objective of development policy in the region, and that a government which adopted it would find its priorities reordered — not because the argument is rhetorically compelling, but because the arithmetic of the measure points at different projects, different budget lines and a different definition of a good year.

The case for it is strongest here for reasons set out in Section 5. The primary assets of these economies are finite, exhaustible, or exposed; populations are shrinking; a large share of what capability is formed subsequently leaves; and the one asset that can appreciate indefinitely is the one nobody counts. In a region with those characteristics, a measure of what people can earn across their working lives is not an alternative accounting convention. It is the only measure that describes the constraint the region is actually under.

2. What our current indicators do not tell us

Gross domestic product measures the market value of what is produced within a territory in a year. It does that well, and a finance ministry needs to know it. The foreign exchange reserve position, months of import cover, the fiscal balance and the debt ratio are likewise indispensable, and nothing in this paper argues for abandoning any of them.

The limitation is narrower, and it is a limitation of scope rather than of accuracy. None of these indicators was designed to say anything about a population's capability, and none of them does. They describe output, prices, balances and flows. They say nothing about whether a child born this year will be schooled well enough to earn a living, whether an adult who was schooled will find work that pays one, or whether either of them will still be in the country at thirty. A government can watch all these instruments closely, respond to each competently, and learn nothing about the question this paper is concerned with.

That silence has been widely observed, and the literature examining it is substantial: the Stiglitz–Sen–Fitoussi Commission, the capability tradition running from Sen, and the

comprehensive wealth accounting developed by El Serafy and Hartwick and now implemented in the World Bank's wealth accounts. This paper does not attempt to add to that critique, which is well made and can be read elsewhere, and a companion note takes up the specific case of how the national accounts treat resource depletion and remedial expenditure.

What follows instead is constructive. If the condition of a population is the thing a Caribbean government most needs to know and least often measures, then the useful contribution is not another account of why the existing instruments cannot supply it. It is a measure that can — defined precisely enough to be computed, cheaply enough to be published, and on a basis comparable enough to be argued about.

3. Human potential: the concept and how it is measured

The objection to any "beyond GDP" argument is that the alternatives are soft.[1] That objection no longer holds. What I am calling human potential has a rigorous, internationally standardised definition and an established measurement methodology.

Following Jorgenson and Fraumeni, and as implemented in the World Bank's Changing Wealth of Nations accounts, a nation's human potential is valued as the discounted stream of what its labour force can be expected to earn over the remainder of their working lives — with health, schooling, skill, accumulated experience and age-specific participation probabilities all entering the calculation.[2] It is an asset valuation, directly comparable to the valuation of a gas reserve, an oil block, a hotel stock or a bond portfolio. Measured this way, human potential is the single largest component of global wealth—about 60 per cent of it in the 2024 accounts, and close to two-thirds in earlier editions—and the largest asset class at every income level.[3]

This matters for the argument in three ways. First, it is commensurable: human potential and hydrocarbon reserves can be placed on the same balance sheet for the purposes of comparison — the reserve is a national asset in the ordinary sense, owned by the state; a population's capability is placed alongside it only as a statistical device, not as a claim of ownership over the people it describes — which is exactly what a Hartwick-rule approach to a depleting resource requires. Second, it is decomposable: the aggregate can be broken down by cohort, sex, education level, and island or parish, so distributional questions are answerable rather than assumed away. Third, it is forward-looking: a fall in cohort educational attainment shows up immediately as a fall in the national human potential stock, decades before it shows up in GDP.

[1] The canonical statement of the case is Stiglitz, Sen and Fitoussi (2009); the underlying conception of development as the expansion of capability is Sen (1999).

[2] Jorgenson and Fraumeni (1989, 1992), as operationalised in the World Bank wealth accounts.

[3] The Changing Wealth of Nations (World Bank), 2024 edition. The share was closer to two-thirds in the 2018 and 2021 editions; the definitional and coverage changes between editions mean the series should not be read as a decline in the importance of human potential.

Alongside the stock measure, the World Bank's Human Capital Index provides a flow measure of formation: how far a child born today is likely to get by age eighteen if the health and schooling conditions around her hold steady. The 2020 regional picture is uncomfortable and should be stated plainly. Trinidad and Tobago scored 0.60, the highest in the independent Caribbean, up from 0.55 in 2010 on the World Bank's backwards-comparable series. Jamaica scored 0.53, Saint Vincent and the Grenadines 0.53 and Guyana 0.50.[4] On that scale, a Jamaican child born today should be expected to realise only about half of what full health and a complete education would have allowed her to realise. Between a third and a half of the potential of every incoming cohort is being written off before that cohort enters the labour market — and none of that loss appears anywhere in the national accounts.

A second, sharper point is buried in those numbers. When the Index was first published, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Saint Lucia and Suriname could not be scored at all, for want of internationally comparable data on the quality of education.[5] We can all report GDP to one decimal place each quarter. Most of us cannot say what a child born this year can expect to become. That asymmetry is not an accident of statistics; it reflects a choice about what we have decided to manage.

4. Conversion rates: the idea Gladwell borrowed

There is a version of this argument that does not require national accounts at all, and it has been sitting in a popular book for nearly twenty years. In Outliers, Malcolm Gladwell set out to dismantle the idea that exceptional achievement is explained by exceptional individual talent. The people we call outliers, he argued, benefit from accumulated advantage: an arbitrary cut-off, a well-timed birth, a culture of practice, a parent who knew how to work an institution. His most quoted example is Canadian junior hockey, where a disproportionate share of elite players are born in the first months of the year because the selection cut-off falls on 1 January.[6] A trivial early edge in size and coordination attracts better coaching, which produces better players, which confirms the original selection. The sorting mechanism manufactures the evidence that justifies it.

Following that work, Gladwell took up a term from the psychometrician James Flynn: the capitalisation rate.[7] Flynn's question is how much of a population's latent ability a society

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[4] World Bank (2021), The Human Capital Index 2020 Update, and the World Bank country brief for Trinidad and Tobago (October 2020). Scores are on a 0–1 scale, and the 2010 and 2020 figures come from the update's backward-consistent series. Readings published in the 2018 first edition are calculated differently and are not comparable with these.

[5] World Bank (2018), the first edition of the Index, which omitted a number of Caribbean states for want of internationally comparable learning-outcome data. Those omitted included Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada and Saint Lucia; several have since been added.

[6] Gladwell (2008), chapter 1 on the relative age effect in Canadian junior hockey.

[7] The capitalisation concept is James Flynn's, and Gladwell credits him for it; Gladwell has developed it chiefly in lectures and interviews rather than in Outliers itself. Flynn (2008) sets out the underlying account of how societies draw on latent ability.

actually draws on — of all those who could do a given thing well, what fraction ever ends up doing it. Sub-Saharan Africa, on Gladwell's illustration, is badly undercapitalised in physics; Canada is almost fully capitalised in hockey, because a country that wants hockey players will find them. His conclusion is the one that matters here: what presents itself as a shortage of talent is very often a shortage of opportunity to use it, and that should encourage rather than depress us, because a shortfall a society manufactures is one it can stop manufacturing. Call it a conversion rate: the proportion of latent capability a society converts into realised capability, and then into work that pays.

This is the same quantity this paper has been describing in the language of national accounts, and the two framings need each other. Flynn and Gladwell give us the intuition and no measurement; the wealth accounts give us the measurement and no intuition. Put together, they say something a Caribbean Minister of Finance can act on. The Human Capital Index measures formation — how much of a child's potential the health and education systems allow to develop. The utilisation and retention indicators proposed below measure conversion — whether what was formed is used, and used here. A country can fail at either stage, and Caribbean countries characteristically fail at both: we form roughly six-tenths of the potential of each cohort, and then export a large share of what we did form. The conversion rate is the product of the two, and it is the number that ought to open the Budget.

The Caribbean application is uncomfortably direct, and Gladwell, whose mother is Jamaican, made it himself: the epilogue of Outliers is an account of his own family, in which the whole subsequent trajectory turns on a scholarship examination sat by a girl in rural Jamaica. He has elsewhere described his mother and aunt as one in five hundred and one in five thousand of their generation to reach a high school diploma and a university degree, respectively.[8] Two things follow. The first is that the colonial-era eleven-plus, still operating in this region as the SEA, the Common Entrance and their equivalents, is precisely the hockey cut-off: an early, coarse, largely arbitrary sort whose consequences compound for life and which then produces the stratified outcomes offered as proof that the sort was necessary. The second is that the region has spent a century celebrating its scholarship winners — and a scholarship system is, by construction, a device for identifying the few whose potential will be converted while accepting that a high percentage of the rest will not be. A high-conversion society does not need to be spectacularly good at finding its exceptional children. It needs to stop losing its ordinary ones.

Two caveats, since this is a policy paper and not a book review. Gladwell popularised these ideas rather than establishing them, and the best-known claim in Outliers — that expertise requires ten thousand hours of deliberate practice — has been substantially qualified by

[8] Malcolm Gladwell, address to the 95th convention of the American Association of Community Colleges, San Antonio, April 2015, as reported by Ronald Holmes, "What is the human capitalization rate?", The Holmes Education Post, 27 April 2015. Speaking of his Jamaican-born mother and aunt in the 1940s, Gladwell is quoted as saying that they were one of five hundred and one of five thousand respectively to gain a high school diploma and a college degree. The account is a convention write-up rather than a text published by Gladwell himself. In the same address he put the capitalisation rate for football talent in the community of the American footballer Michael Oher at about sixteen per cent, and gave three reasons why such rates are low: that talent is assumed to be scarce, that it is assumed to be innate, and that it is defined too narrowly. The family history is set out in the epilogue to Outliers.

subsequent research, including by the scholar whose work it drew on.[9] Nothing here rests on it. What survives the criticism, and what matters for this argument, is the structural claim: that measured achievement in any population reflects the opportunity structure at least as much as the underlying distribution of ability, and that the gap between the two is a policy variable rather than a fact of nature.

5. Why the case is stronger here than almost anywhere

Several features of Caribbean economies make human potential the natural organising objective rather than a fashionable one.

- **The primary asset is finite, exhaustible or exposed.** Trinidad and Tobago's gas reserves, once projected to last to around 2070, are now a binding constraint on the fiscal accounts, and the search for replacement volumes — including cross-border volumes is a national preoccupation.[10] Guyana and Suriname are at the opening of the same cycle and should study its ending, and Section 14 gives the trade-economics reason why a traditional FDI-led transformation of the export structure is not the same thing as development. Jamaica has already lived through the bauxite version. For the tourism economies, the asset is a coastline and a climate, and it is being drawn down by forces largely outside their control. Human potential is the only major national asset that can be made to appreciate indefinitely. A development objective anchored to a depleting or exposed asset guarantees the treadmill; one anchored to an appreciating asset does not.
- **The measured formation failure is severe and specific.** CXC reports a regional benchmark — five or more CSEC subjects including mathematics and English — of 41 per cent in 2024, recovering to 44 per cent in 2025. Mathematics is the binding constraint: the regional pass rate fell from 43 per cent in 2023 to 36 per cent in 2024, recovering only to 39 per cent in 2025, against English A at about 75 per cent.[11] Even Trinidad and Tobago, which outperforms the regional average, saw the share of its

[9] Macnamara, Hambrick and Oswald (2014) find deliberate practice accounts for a far smaller share of performance variance than the popular claim implies; see also Ericsson, Krampe and Tesch-Römer (1993), the study from which the ten-thousand-hour figure was drawn and whose authors have disputed the popular rendering.

[10] Ram (2025). Reserve-life estimates depend on the utilisation ratio assumed and have been revised repeatedly; the 2070 figure reflects the position and assumptions of the late 1990s.

[11] Caribbean Examinations Council, May/June 2024 and 2025 CSEC results, as reported in regional press coverage of the Council's releases rather than read from the Council's own reports. English A passes were 76 per cent in 2024 and about 75 per cent in 2025.

candidates attempting and passing five or more subjects including mathematics and English fall from 51.5 per cent in 2023 to 45.6 per cent in 2024.[12]

- **And the true denominator is worse than the reported one.** Those percentages are calculated on candidates who registered and sat the examination, not on the age cohort. A substantial share of every Caribbean cohort never reaches the examination hall at all, and is therefore invisible to the headline. Where the cohort denominator has been used, the numbers collapse: Jamaica's Task Force on Educational Reform set a target of about 60 per cent of the age cohort passing five subjects including mathematics and English by 2015, and reported achievement of roughly 19 per cent.[13] We report our education results the way we report GDP — on a denominator that flatters us. Under a GDP objective, this is a matter for a Ministry of Education. Under a human potential objective, it is the largest single annual destruction of national wealth on the books, and it belongs in every Ministry of Finance's fiscal risk statement, measured on the cohort.[14]

- **The formed potential leaves**. This is the Caribbean-specific fact that the rest of the world does not face at our scale. Mishra's IMF study found that 70 per cent of the region's labour force with more than twelve years of schooling had migrated to OECD member countries, and that most Caribbean states rank in the top twenty in the world for skilled emigration. Guyana had lost 89 per cent of that group and Jamaica 85 per cent. Mishra also reached, from the other direction, the conclusion this paper argues for: the losses from high-skill migration outweigh the official remittances the region receives in return.[15] Those figures describe the position at the 2000 census round, and no comparable regional estimate has been published since, which is itself part of the problem; the health sector data in Section 9 suggest nothing has reversed. In the national accounts, the remittance appears simply as an inflow, so the transaction is recorded as a gain and the formation cost that produced it is recorded nowhere. On a

[12] Trinidad and Tobago Ministry of Education, analysis of the 2024 CSEC and CAPE results, as reported in national press coverage.

[13] Task Force on Educational Reform, Jamaica (2004), setting a target of about 60 per cent of the age cohort. The reported achievement of roughly 19 per cent is drawn from secondary commentary on performance against that target rather than from a Ministry release.

[14] The cohort-based figure is the one that matters, and it is not published for most of the region. The Jamaican target and outturn above are the clearest available illustration of the gap between the two denominators.

[15] Mishra (2006), IMF Working Paper WP/06/25, subsequently published in the B.E. Journal of Economic Analysis and Policy. Note the definition: Mishra measures the labour force with more than twelve years of completed schooling, which is broader than the holders of a university degree, and defines the skilled as those with twelve or more years. The figures are stocks resident in OECD countries as recorded at the 2000 census round, expressed as a share of the labour force born in each country — not flows over a period. Mishra separately estimates the public education expenditure embodied in those who left, which is highest for Barbados, Jamaica and Trinidad and Tobago, and concludes that the losses from high-skill migration exceed official remittance receipts. Comparable current estimates are not published consistently, which is itself part of this paper's argument.

potential-stock measure, it is what it is: the Treasury bears the formation cost and another jurisdiction captures the return, in perpetuity, with interest.

- **The fiscal problem is a human potential** problem in disguise. The transfers and subsidies line exists because wages are too low to sustain households. Wages are low because the marginal product of labour is low. The marginal product of labour is low because the economy produces little of what it consumes. Every attempt to fix the deficit by trimming transfers treats the symptom; every increase in the productive capability of the labour force and the creation of a resilient, competitive, and productive economy attacks the cause and permanently reduces the transfer and subsidy requirement. Human potential formation is, in this framing, the highest-return fiscal consolidation instrument available to a Caribbean government — it simply operates on a horizon longer than an electoral cycle.

6. The window is closing

Everything above would still be true if these populations were growing. They are not, and that converts the argument from correct into urgent. Registered live births in Trinidad and Tobago fell from 18,261 in 2015 to 12,768 in 2023, with 9,794 recorded from January to November 2024.[16] On ECLAC's independent estimate, Trinidad and Tobago's total fertility rate fell from 2.39 in 1990 to 1.53 in 2024, crossing the replacement rate of 2.1 as early as 1994—three decades of sub-replacement fertility, not a recent shock. Median age in Trinidad and Tobago has passed thirty-seven and is rising by roughly half a year annually; the population is projected to be smaller in 2050 than it is today, and net migration remains negative.[17]

The pattern is regional, not particular to Trinidad and Tobago. Barbados crossed the same replacement threshold earlier still, in 1978, and now sits at 1.71. Jamaica crossed it in 2006 and reached low-fertility status (1.35) by 2024; its total population, not merely its birth rate, is now among the few in the Caribbean recorded as shrinking outright.[18] Guyana is the exception that

[16] Trinidad and Tobago Ministry of Health, as reported in national press coverage of ministerial statements: 9,794 live births recorded over January–November 2024. The Ministry's own derived fertility figures — 1.8 in 2015 falling to 1.2 in 2023 — are below the UN World Population Prospects estimate of roughly 1.5 to 1.7, and the two are computed differently; the birth counts are the robust series and are used here. ECLAC, Demographic Observatory 2025: Low Fertility in Latin America and the Caribbean — Emerging Trends and Dynamics (Santiago: ECLAC, 2025), Table II.1: Trinidad and Tobago's total fertility rate fell from 2.39 (1990) to 1.61 (2010) to 1.53 (2024), crossing the replacement level of 2.1 as early as 1994.

[17] Trinidad and Tobago 2024 age structure: 18.7 per cent aged 0–14, 67.2 per cent aged 15–64, 14.1 per cent aged 65 and over. Median age 37.2 in 2024, rising to 38.2 by 2026. Net migration of −0.9 per 1,000. On the UN World Population Prospects 2024 revision, medium variant, the population stands at about 1.51 million at mid-2026, plateaus at roughly that level to around 2030, and then falls to about 1.40 million by 2050 — a decline of some seven per cent. Note that older series put the population near 1.37 million before an upward revision, and the two should not be compared with each other.

[18] ECLAC (2025), Table II.1. Barbados's total fertility rate: 1.84 (1990), 1.78 (2010), 1.71 (2024); replacement level crossed in 1978. Jamaica's: 2.95 (1990), 1.79 (2010), 1.35 (2024); replacement level crossed in 2006, low-fertility level (1.5) crossed in 2016. Guyana's: 3.18 (1990), 2.68 (2010), 2.39 (2024); replacement level not yet crossed. Separately, ECLAC (2025), p. 12, reports that by 2024 total population growth had turned negative in eight Caribbean countries and territories — Dominica,

proves the point: at 2.39 in 2024 it remains the one economy examined here still above replacement, which is consistent with the argument made elsewhere in this paper that its formation problem, unlike the others', is not yet a demographic one.

The arithmetic of this is unforgiving, and it runs in exactly the direction this paper is concerned with. A country whose labour force is growing can compensate for poor conversion by adding people: from six-tenths of a larger cohort and the absolute stock still rises. A country whose cohorts are shrinking has no such margin. Each remaining person must carry more, which is precisely the condition under which the waste of any one of them becomes intolerable.

This also disposes of the most common reply to arguments like this one: that we will grow out of the problem. The demographic dividend that made that plausible for the region in the 1980s and 1990s has been spent. What is arriving instead is a rising old-age dependency ratio in economies that have neither funded their pension liabilities nor built the productive base to service them. The choice is no longer between raising conversion now and raising it later. It is between raising conversion and managing decline.

One consolation is real. A shrinking cohort is cheaper to educate well. The fiscal cost of a genuine whole-cohort standard—smaller classes, better-paid teachers, universal early years provision—falls every year births fall. Demography is handing the region the fiscal space to do what it has always said it could not afford. That window will close when the current cohorts reach the labour market, and it will not reopen.

7. Utilisation: what the participation data actually show

The utilisation indicator proposed in this paper carries the weight of the Caribbean argument rather than decorating the dashboard: formation without utilisation is simply an expensive way of subsidising other countries' labour markets. And the participation data, once assembled, are far more alarming than the growth data beside them.

Labour force participation rates, most recent available readings against their own historical peaks:[19]

Guadeloupe, Jamaica, Martinique, Montserrat, Puerto Rico, Saint Vincent and the Grenadines, and the United States Virgin Islands — alongside Cuba and Uruguay in Latin America.

[19] Sources: STATIN Labour Force Survey, July 2025 (Jamaica); Central Bank of Trinidad and Tobago, Annual Economic Survey 2024, and Central Statistical Office Continuous Sample Survey of Population; ILO modelled estimates as reported in World Bank World Development Indicators (Barbados, Guyana, world average). A comparability warning is required: the Jamaican and Trinidadian figures are national survey estimates while the Barbados and Guyana figures are modelled, and definitions of the working-age population differ across series. The levels should therefore be read against each country's own history rather than against each other; the direction of travel is the robust finding.

Table 1. Labour force participation, latest readings against historical peaks

Country	Latest (ILO modelled)	Own series peak (ILO)	Detail
Jamaica	68.0% (2024)	71.2% (1990)	National survey (Jul 2025) 69.1%; male 75.0%, female 63.4%; unemployment 3.3%
Barbados	63.0% (2024)	70.2% (2004)	Lowest reading in the series
Trinidad and Tobago	54.6% (2023)	63.9% (2006)	National survey (2024) 55.1%; female 49.0%, male 60.1% (2025)
Guyana	49.6% (2024)	60.1% (1993)	Lowest reading in the series, recorded during the oil boom
World average	60.6% (2024)	—	For reference

Sources: ILO modelled estimates as reported in World Bank World Development Indicators, latest year available per country. National survey figures in the final column: STATIN Labour Force Survey (Jamaica); Central Bank of Trinidad and Tobago and Central Statistical Office; IMF Article IV consultation 2025 (Trinidad and Tobago sex disaggregation). Columns two and three are on a single consistent ILO basis (population aged 15+) so that levels and peaks are comparable; national estimates differ in definition and are shown separately rather than mixed in.

Four things follow, and each of them is invisible in a GDP series.

Participation is falling where output is rising

Trinidad and Tobago's participation rate has fallen roughly nine percentage points from its 2006 peak.[20] Barbados is at the lowest reading in its series.[21] And Guyana — the finding that ought to stop the regional conversation — recorded the lowest participation rate in its available series in 2024, amid the fastest output growth in the hemisphere and possibly the world.[22] An economy can multiply its GDP per capita several times over while a smaller share of its working-age population is engaged in producing anything at all. That is not a paradox to be explained away. It is the enclave structure of resource extraction operating exactly as the theory predicts: a capital-intensive sector generating enormous rents and very little employment, with the rents distributed through channels that do not require the population to work.

[20] Central Bank of Trinidad and Tobago, Annual Economic Survey, as reported in domestic financial commentary: participation fell to 55.1 per cent in 2024 from 55.6 per cent in 2023. The series peaked at 63.9 per cent in 2006 and reached its low of 54.3 per cent in 2021.

[21] ILO modelled estimates as reported in World Bank World Development Indicators: 63.0 per cent in 2024 against a 2004 peak of 70.2 per cent, the lowest reading in the available series.

[22] ILO modelled estimates as reported in World Bank World Development Indicators: 49.6 per cent in 2024 against a 1993 peak of 60.1 per cent — the lowest reading in the available series, recorded in the same years as the fastest output growth in the hemisphere.

The unemployment rate is measuring the wrong thing

A Caribbean country can have an unemployment rate of around 4 to 5 per cent. On its face, this is full employment, and this would regularly reported as evidence of a healthy labour market. Set it beside the participation data, and it means something close to the opposite. In some countries, slightly more people are employed than are outside the labour force altogether.[23] Not all of them should be in it — students, carers and retirees are properly outside — but a low unemployment rate is arithmetically compatible with mass non-participation, because people who have stopped looking are not counted as unemployed. A country can achieve a very low unemployment rate by discouraging people from the labour market entirely. Under a human potential objective, this is not a statistical curiosity; it is the largest single margin of unused national asset, and it is currently reported as good news.

High participation is not the same as high utilisation

Jamaica provides the mirror-image case and is why this section cannot end with a call for higher participation. Jamaican participation is 68.0 per cent on the ILO modelled series and 69.1 per cent on its own labour force survey — high by any standard, well above the world average — with unemployment at a record low of 3.3 per cent.[24] On the utilisation indicator alone, Jamaica looks like a success. Its Human Capital Index score is 0.53. The country is putting a large share of its people to work in an economy that has not formed their capabilities and does not pay wages sufficient to sustain a household. This is why the dashboard proposed here specifies participation and the share of employment paying above a living-wage threshold. Participation alone measures whether people are working. It does not measure whether the work is worth doing, and a region with high participation, low pay and high emigration is not converting its potential — it is exporting the people who can leave and underpaying those who cannot.

The gender pattern runs backwards

Female participation in Trinidad and Tobago was 49 per cent in 2025, compared with male participation of 60.1 per cent, and both fell over the year.[25] Jamaica shows the same gap in less extreme form, at 63.4 against 75.0 per cent. Set this against the fact noted in the objections below, that female educational attainment across the region now exceeds male attainment at almost every level, and the result is perverse: the group in which the region forms the most

[23] Central Statistical Office, Continuous Sample Survey of Population, as reported in domestic financial commentary. Employment averaged 569,900 in Q4 2025 with unemployment at 4.3 per cent; roughly 485,300 working-age people were outside the labour force. Not all of them should be in it — students, carers and retirees are properly outside — but the ratio is the point.

[24] STATIN Labour Force Survey, July 2025: participation of 69.1 per cent, male 75.0 per cent and female 63.4 per cent, with unemployment at 3.3 per cent. Jamaica's 2020 Human Capital Index score was 0.53. On the ILO modelled series used in Figure 2, Jamaica stood at 68.0 per cent in 2024 against a 1990 peak of 71.2 per cent and a 2010 trough of 60.5 per cent — the shallowest decline of the four economies shown, and the only one to have substantially recovered from its own low.

[25] IMF Article IV consultation for Trinidad and Tobago, as reported in domestic financial commentary. Female participation of 49 per cent in 2025 against 50 per cent in 2024, and male participation of 60.1 per cent against 60.9 per cent. Both fell; the gap did not close.

potential is the group in which it utilises the least. On a lifetime earnings measure this shows up directly as a lower valuation of women's human potential, and it will be read — wrongly — as a statement about capability rather than about the structure of care work, transport, safety and sectoral opportunity that produces it. This is precisely why the aggregate must never be published without its decomposition.

Informality is the gap between the two indicators

There is a category the participation rate counts and the living-wage measure would not, and in the Caribbean it is very large. The ILO puts informal employment at 54.6 per cent in Jamaica and 62.0 per cent in Barbados, against 91.0 per cent in Haiti.[26] Informal work means no wage floor, no social protection, no recorded earnings history and, decisively for this argument, no progression: it is work that does not accumulate. On a lifetime earnings measure, it registers as a flat line where a career should be a rising one.

What this implies for the framework

Participation is the denominator of the conversion rate. A country that forms six-tenths of the potential of each cohort and then engages a little over half of its working-age population is converting, very roughly, a third of what it has — before accounting for those who emigrate and those whose work does not pay a living wage[27]. No Caribbean government publishes that number. Every Caribbean government could, from data it already collects. The three components — participation, the living-wage share of employment, and retention — should be reported together and quarterly, because separately each of them can be made to tell a flattering story and together they cannot.

8. What violence takes

The paper has so far treated crime as expenditure — a cost the accounts record as output. That understates it, and three findings are needed to see how. The first is hemispheric: across the Americas, those killed are overwhelmingly young men, with those aged fifteen to twenty-nine facing an estimated 53.6 victims per 100,000 in 2021, roughly twice the male rate for the Americas as a whole and more than five times the global male rate.[28] The second is that several

[26] International Labour Organization, "The Caribbean labour market paradox: what the 2026 ILO report reveals," ILO News, Port of Spain, 23 February 2026, reporting the ILO's Employment and Social Trends 2026. Informal employment stands at over 91.0 per cent in Haiti, 62.0 per cent in Barbados and 54.6 per cent in Jamaica; across Latin America and the Caribbean more than 51 per cent of workers have been informally employed since 2015, with virtually no progress in a decade. Within-sector formalisation delivered only a 2.5 percentage point fall in overall informality between 2005 and 2015, and the youth NEET share reversed its downward trend in 2024 and is expected to rise further.

[27] See Annex B for the recommended method of calculating a living wage.

[28] UNODC, Homicide and Organized Crime in Latin America and the Caribbean (2023), a regional research brief excerpted from the Global Study on Homicide 2023. In 2021 men aged 15–29 in the Americas faced an estimated 53.6 victims per 100,000 males in that age group, against an average male rate of 27 for the Americas and 9.3 globally. Note the geography: this is a

Caribbean states sit at the extreme of the global distribution: eight of the ten highest national homicide rates recorded anywhere in 2021 were in Latin America and the Caribbean.[29] The third is specific to this region — the IMF's Caribbean work finds victims here disproportionately aged eighteen to thirty-five, and concentrated among men and among the poorest quartile.[30] Taken together they say something every family in this region already knows: the people we are losing are young, they are poor, and they are dying at the age when a life is just beginning to be built.

Think about what that means for the country that raised them. Eighteen or twenty years of care, schooling and health services go into a young person before they earn anything at all. That is not spending in the ordinary sense; it is a society investing in someone it expects to grow old among it. When that life ends at twenty-two, what is lost is not the funeral, the investigation or the prison place, though those are counted. It is forty years of work never done, a household never supported, and children never raised — none of which appears in any figure the country reports.

That loss can be estimated, and it ought to be. It needs only the count of victims by age and sex, which every police service in the region already holds, and a profile of what people typically earn at each age, which the measurement framework in this paper requires anyway. No Caribbean government publishes such a figure. In the worst-affected countries I would expect it to approach or exceed what is spent on educating the whole population in a year. If that is right, then violence is not only a matter for the security ministries. It is among the largest single losses the country sustains, and it belongs in a conversation that includes Finance, Planning, Economic Development, Health and Education — which is a different conversation, with different people in the room.

Something similar, if less final, happens with long pre-trial detention. A young man held on remand for years before his case is heard is not simply waiting for justice. He is out of school or out of work through the years when people build the skills and the record that carry them for the rest of their lives, and a substantial share of those held are eventually released without conviction. Those years do not come back. They appear in the public accounts only as the cost of holding him, which the accounts then record as output.

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hemispheric figure, weighted by Central and South America, and is cited here for the age-and-sex concentration rather than as a Caribbean rate.

[29] UNODC, Homicide and Organized Crime in Latin America and the Caribbean (2023): eight of the ten countries recording the highest homicide rates worldwide in 2021 were in Latin America and the Caribbean.

[30] Sutton, Jaitman and Khadan, "Violence in the Caribbean: Cost and Impact," chapter 15 in Alleyne, Ötker, Ramakrishnan and Srinivasan, eds., Unleashing Growth and Strengthening Resilience in the Caribbean (Washington, DC: IMF, 2017), drawing in turn on Sutton and Ruprah, eds., Restoring Paradise in the Caribbean (IDB, 2017): homicide victims in the region are disproportionately aged 18–35, and victimisation rates for assault and threat are markedly higher for men, for those aged 18–30, and for the poorest quartile.

9. Remittances: what they repay, and what they cannot

Remittances are treated across the region as an unambiguous good, and for the household receiving them they are exactly that — school fees paid, a roof repaired, a parent cared for. Nothing here disputes that, and nothing here criticises the people who send them, who are doing a generous and difficult thing. The question is what the country as a whole is receiving, because the accounts record only the money arriving and not what had to leave for it to be sent.[31]

Jamaica receives remittances worth roughly a fifth of its national income. Consider how that money comes to exist. A child is raised and schooled here, at public expense, over eighteen years. The skills that follow are put to work in the United States, Canada or the United Kingdom, where they are paid at those countries' wages and taxed by those countries' governments. Part of what is earned is sent home — and, as the companion paper argues, is spent largely on goods made elsewhere, so much of it leaves again almost immediately. The country paid to raise her. Another country benefits from her working life. What comes back is a share of her wages, and much of that share does not stay either. Mishra tested this for the region as a whole and found that the losses from high-skill migration outweigh the remittances that come back — a finding the IMF published two decades ago and which has never, so far as I can establish, been acted upon.

Health is where this is hardest to look at directly. Estimates of nurse vacancy rates across the region run between thirty and forty per cent, largely because the nurses have left. It is not difficult to see why: a Jamaican nurse's starting salary was about US$8,000 in 2015, compared with roughly US$65,000 in the United States. No one should be asked to refuse that. PAHO surveyed health workers across fourteen Caribbean countries and found that almost sixty per cent of those still at home would migrate if the opportunity arose. Two further findings sit either side of that one, and they point in opposite directions. Of those who have already gone, seventy-four per cent said they would not seriously consider returning even if salaries, working conditions and promotional opportunities improved significantly. But of those still at home, ninety-two per cent said they would migrate less if promotional opportunities and career advancement were available to them.[32] Read together, those two say something a health

[31] World Bank remittance data and ILO commentary: Jamaica's receipts are equivalent to roughly 18–20 per cent of GDP, and are described by the ILO as exceeding 20 per cent. The two characterisations differ slightly and the underlying series should be cited directly. Guyana received 3.27 per cent of GDP in 2023, against a 2005 peak of 24.4 per cent — the decline being arithmetic, since the denominator has multiplied. Latin America and the Caribbean received about US$161 billion in 2024, more than official development assistance.

[32] PAHO, Health Workers Perception and Migration in the Caribbean Region (December 2019; issued January 2020), reporting surveys conducted between December 2017 and August 2018: 11,200 members of the general public across 26 countries and territories, 573 health workers across 14 countries, and 88 members of the health-worker diaspora. Of health workers still resident, 59.5 per cent said they would migrate if they had the means and opportunity, and 91.7 per cent said they would migrate less if promotional opportunities and career advancement were more available. Of the diaspora, 74 per cent said they would not seriously consider returning even if salaries, working conditions and promotional opportunities improved significantly; about 26 per cent said they would. The World Bank's World Development Report 2023 Caribbean background paper, International Migration in the Caribbean, reports the same finding as about 25 per cent. PAHO notes that the diaspora sample of 88 is too small to generalise. Nurse vacancy rates are estimated at between 30 and 40 per cent (World Bank, The

ministry can act on. Roots put down abroad are deep, and emigration is largely irreversible; the diaspora will not be recalled by an improvement in conditions. But the people still here can be kept, and what would keep them is not the weather or the crime rate but what the work offers — which is something a country can decide to change.

None of this is an argument for making it harder to leave, and Section 15 explains why it must never become one. It argues for being honest about what is happening. When a country educates nurses who then care for other countries' patients, and receives money home in return, it is making a substantial contribution to somebody else's health system — and it has never once totalled what that contribution costs it, or set it against what comes back. It should. Not so that anyone can be held to account for leaving, but so that the country can see plainly what it is giving away, and decide whether it wants to keep doing so.

10. What changes when the objective changes

Changing the headline number is not a presentational exercise. It changes project rankings, the design of the tax system, and the definition of a good year.

Public expenditure appraisal

Every significant programme would be appraised against its estimated effect on the lifetime earnings of the cohort it touches, discounted to present value. A universal fuel subsidy and an early childhood development programme of equal fiscal cost would be compared on a single metric. So would a hotel incentive package and a technical institute. I expect the ranking would be brutal, and that is the point.

Education

The objective shifts from selection to cohort-wide formation. The value of the national asset depends on the median child, not the top decile — which is the analytical case against the SEA, the Common Entrance and every other eleven-plus sorting mechanism still operating in this region, and the case for compulsory, funded education to age 22 with parity of esteem for technical and vocational qualifications. A regionally harmonised measure of what each cohort actually attains, published annually, would do more for Caribbean education than another decade of curriculum review.

There is a political economy here that the region rarely states aloud. An examination that sorts children at eleven creates a market for preparing them for it, and that market has customers, providers and revenues. Private tuition is not a fringe activity in the Caribbean. Jamaica's Survey of Living Conditions recorded extra lessons as the third-largest item of household education spending, behind only transport and lunch money — which is to say it is the largest item parents actually choose to buy. And for many teachers the fees are a material part of household

Nurse Labor and Education Markets in the English-Speaking CARICOM, 2009, and later work). The Jamaican and United States starting salaries are for 2015.

income.[33] A sorting mechanism with a paying constituency is far harder to abolish than one without, which is part of why the eleven-plus has survived every review it has faced. Barbados is the one Caribbean state currently attempting to abolish its eleven-plus.[34] Any reform strategy that treats this as a curriculum question rather than an interest-group question will fail, and the households paying for tuition are behaving entirely rationally given the system they face.

Health

Under a lifetime earnings measure, health is not welfare spending. Survival to working age, and years of healthy working life, enter the asset valuation directly. Chronic non-communicable disease — for which this region carries one of the heaviest burdens in the hemisphere — is a balance sheet item.

Fiscal and resource policy

The Hartwick rule becomes operational: rents from depleting natural capital must be converted into other assets at a rate sufficient to keep comprehensive wealth constant. This is the single most urgent point for Guyana and Suriname, where the conversion decisions of the next five years will determine the position in thirty. A Public Investment Fund is one vehicle for that conversion; expenditure on education and health is another, and under this framework the two are the same kind of transaction.

Labour market, production and regional integration

This is the binding complementarity, and it is the reason this paper is a companion to the comparative advantage argument rather than a substitute for it. Human potential only has value if it is used. Forming skills in an economy that offers no demand for them produces an emigration subsidy. Prioritising the domestic market for domestic production is therefore not a separate policy agenda — it is the demand-side condition without which investment in people does not pay. For the smaller economies of the region, the domestic market alone is too thin to generate that demand, which supplies the strongest argument yet made for taking the CARICOM Single Market and Economy seriously: not as a trade formality, but as the minimum

[33] Jamaica Survey of Living Conditions 2009, which recorded extra lessons as the third-highest item of household education expenditure after transportation and lunches, as reported in University of the West Indies School of Education research on supplementary tutoring and CSEC performance. On Trinidad and Tobago see Dorian A. Barrow and Samuel N. Lochan, "Supplementary Tutoring in Trinidad and Tobago: Some Implications for Policy Making," International Review of Education 58, no. 3 (2012): 405–422. The wider phenomenon is set out in Mark Bray's work on shadow education for UNESCO's International Institute for Educational Planning, which documents that in many systems teachers provide fee-paying tutoring, in some cases to pupils they already teach. No current, regionally comparable estimate of household spending on tutoring exists, and producing one would be an inexpensive addition to any national statistical programme.

[34] The Ministry of Education Transformation has moved from an initial 2025 target to phasing the Barbados Secondary School Entrance Examination out after the 2027 sitting, with a hybrid placement system — a national written exam and continuous assessment weighted equally — due from September 2028. The announced timeline has shifted more than once since the reform was first proposed in 2023, and it has drawn criticism from the parliamentary opposition and from the teachers' union over the pace of consultation. Candidate numbers have fallen in parallel, from 2,933 in 2024 to 2,764 in 2026. Sources: Barbados Today, 12 and 15 August 2025, 22 June 2026; Caribbean Broadcasting Corporation, 5 May 2026.

viable market in which regionally formed potential can be regionally employed. Free movement within the region is, on this reading, a human potential retention policy. The CARICOM Secretariat, with member states and social partners, is developing a regional labour migration policy and action plan, framed around balancing mobility with retention and improving conditions at home.[35] That framing is right, and the machinery already exists. What it lacks is a number. Unless the policy includes a retention indicator that each country reports annually—the share of each qualified cohort still resident five and ten years on—it will produce coordination without accountability, and the region will keep losing what it forms while holding meetings about it.

11. From Conception to Retirement: What Maximising Human Potential Requires

Everything so far has argued that the conversion rate — formation multiplied by utilisation — should be the number a Caribbean government reports first. This section answers the question that follows immediately from accepting that: what, concretely, does raising it require a society to do, for a single person, from before they are born until after they stop working? And who is responsible for which part? The framework below draws on Minouche Shafik's account of the social contract as a set of obligations organised around the stages of a life,[36], adapted to a region whose starting point — fiscal capacity, demographic trajectory, emigration exposure — differs from the mainly high-income societies her book addresses.

The life course

Formation runs, on this paper's own measure, to about age eighteen, though in practice it often continues into the early twenties. What is formed is then drawn on for the working decades that follow, conventionally to a fixed retirement age — though this paper has already argued that age should track life expectancy rather than convention. Each stage below corresponds to a point at which capability is either built or lost, and each is already implied by the indicators proposed earlier in this paper — this section makes explicit what those indicators are indicators of. It is worth being explicit, too, about what this life course is not repeating. Caribbean social policy has its own history, and it is not a benign one: obligations to the young, the sick and the old were historically calibrated to keep a labouring population productive and reproducing, not

[35] International Labour Organization, "The Caribbean labour market paradox: what the 2026 ILO report reveals," ILO News, 23 February 2026, which reports that the CARICOM Secretariat, member states and social partners are developing a regional labour migration policy and action plan, and frames the objective as balancing mobility with retention, improving working conditions at home, and facilitating skills recognition and targeted mobility within the region.

[36] Minouche Shafik, What We Owe Each Other: A New Social Contract for a Better Society (Princeton, NJ: Princeton University Press, 2021). The book is organised, deliberately, around the stages of a life — children, education, health, work, old age — and argues for what she calls an architecture of security and opportunity: a floor of protection guaranteed to everyone, investment in people's capability throughout life, and a redrawing of which risks are pooled collectively and which are borne individually.

to secure its wellbeing for its own sake.[37] A framework organised around what a population can produce has to be explicit that it inverts that history rather than continues it — the obligation set out below runs to the person, and what is produced follows from that, not the reverse.

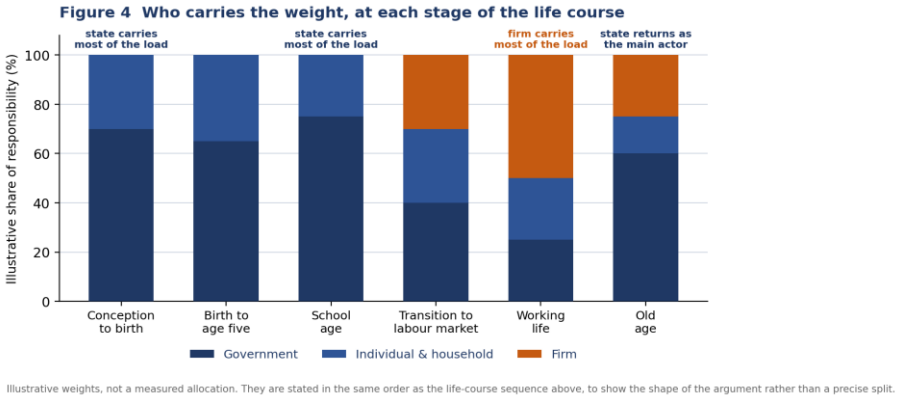


Figure 4. Illustrative allocation of responsibility across the life course. Weights are indicative, not measured, and are stated to show the shape of the argument set out below.

Conception to birth

Formation begins before schooling, and before birth. Maternal nutrition, antenatal care, and exposure to violence or extreme stress during pregnancy measurably affect birth weight, cognitive development and lifetime health — the biological floor on which every later intervention in this section is built. The Human Capital Index component for survival to age five, and the adult survival probability used elsewhere in this paper, are both downstream of what happens in this period. A society that under-invests here is not deferring a cost; it is fixing a ceiling on everything that follows.

- **What this requires:** universal, adequately staffed antenatal care; maternal nutrition support for low-income households; and parental leave generous enough that a mother is not returned to work, or to unpaid domestic labour, before her own recovery and her infant's earliest development are secure. The international floor is fourteen weeks of maternity leave at no less than two-thirds of previous pay, with six weeks compulsory after birth; the recommended standard is eighteen.[38] Paternity leave belongs alongside it as its

[37] Jessica Byron and Aldrie Henry-Lee, "Notes on the Development of Social Policy in the Caribbean" (Institute of International Relations and Sir Arthur Lewis Institute of Social and Economic Studies, University of the West Indies). The authors trace the origins of Caribbean social policy to the plantation economy, in which the economic value of enslaved and later indentured labour took priority over social need, and health and welfare provision extended only so far as was required to keep a population productive and reproducing. A framework organised around the same objective — what a population can produce — must therefore be explicit that it inverts rather than repeats that history: the state's obligation here runs to the person, not to the output the person can be made to yield.

[38] International Labour Organization, Maternity Protection Convention, 2000 (No. 183), Article 4: a minimum of fourteen weeks' maternity leave, including six weeks' compulsory leave after childbirth, with cash benefits of at least two-thirds of previous

own entitlement, not an afterthought — the evidence linking a father's early, protected time at home to a mother's recovery, a child's development and the durability of the parenting partnership is now substantial, and no state in this region yet legislates it as a matter of course. WHO and UNICEF recommend that a child stay exclusively on breastmilk for six months; perhaps maternity leave should also align with this timeline (see below).

Birth to age five

This is the highest-return period in the entire life course, and the region already holds the best evidence for that claim anywhere in the world. In 1986–1987, Jamaican researchers enrolled 129 growth-stunted toddlers in Kingston and randomly assigned half to eighteen months of weekly home visits by community health workers, who taught parenting skills and play-based cognitive stimulation.[39] Twenty years later, the treated group's earnings were 25 per cent higher than the untreated group's — enough to close the entire earnings gap with children who had never been stunted at all. The intervention cost a fraction of the return it produced. This is not a general claim about early childhood investment borrowed from elsewhere; it is a Caribbean finding, about Caribbean children, that this paper's framework has no need to import.

Feeding in this period is not incidental to the argument; it draws on the same evidence base. The World Health Organisation and UNICEF jointly recommend exclusive breastfeeding for six months and continued breastfeeding, alongside complementary feeding, to two years or beyond, and estimate that close to 400,000 deaths of children under five could be prevented each year if that standard were met globally.[40] The case rests most safely on that survival and

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earnings. Recommendation No. 191 (2000) urges extension to eighteen weeks. The global average duration of paid maternity leave has risen from 12.8 to 17.6 weeks over the past three decades, but only around a third of the 185 countries and territories reviewed meet the Convention's standard on all three counts — duration, wage replacement, and financing that does not fall on a single employer. No ILO convention yet sets a minimum for paternity leave specifically, though a resolution of the International Labour Conference has called for its expansion.

[39]Paul Gertler, James Heckman, Rodrigo Pinto, Arianna Zanolini, Christel Vermeersch, Susan Walker, Susan M. Chang and Sally Grantham-McGregor, "Labor Market Returns to an Early Childhood Stimulation Intervention in Jamaica," Science 344, no. 6187 (2014): 998–1001. In 1986–87 the study enrolled 129 growth-stunted toddlers, aged 9 to 24 months, in Kingston, and randomly assigned half to eighteen months of weekly home visits by community health workers, who taught parenting skills and encouraged play-based interaction to develop cognitive and socio-emotional skills. A matched group of non-stunted children was followed in parallel. Researchers relocated 105 of the original 129 participants twenty years later, at about age 22, and found that the intervention had raised average earnings by 25 per cent — enough for the treated group to close the earnings gap with the non-stunted comparison group entirely. The cost of the intervention was a fraction of its measured return.

[40]World Health Organization and UNICEF jointly recommend exclusive breastfeeding for the first six months of life and continued breastfeeding, alongside complementary feeding, to two years or beyond; WHO estimates that close to 400,000 deaths of children under five could be prevented each year if that standard were met globally, chiefly through reduced infection and improved nutrition. The evidence for a direct cognitive benefit from breastfeeding specifically, distinct from the broader package of nutrition, stimulation and maternal contact it typically accompanies, is weaker and more contested than is often assumed — a large 2026 cohort analysis in Germany, for instance, found no measurable cognitive advantage from meeting the six-month exclusive-breastfeeding standard once other factors were accounted for. This paper accordingly rests the case on the well-established survival and health channel, which feeds directly into the child-survival component of the

health channel, which feeds directly into the child-survival component of the Human Capital Index already used in this paper, rather than on a claimed cognitive dividend from breastfeeding specifically, which recent evidence has made considerably less certain than is commonly assumed. What is well established is that a mother's return to full-time work is one of the strongest predictors of early breastfeeding cessation — which means the leave provisions above and the feeding standard here are not two policies but one, described from two ends of the same household.

The Jamaican study also points to something the region has not yet built on. A trained paraprofessional workforce, visiting households routinely in this age band, has already been shown in this region to change outcomes twenty years out. The same workforce, extended and trained for a second purpose, is the most realistic route to catching a developing crisis — neglect, abuse, a caregiver's own mental health emergency — before it becomes a case file rather than a prevented one. On the region's own account, most crises are still being caught late. Trinidad and Tobago's Children's Authority introduced a shared case-management system in 2022 for the stated purpose of stopping children in crisis from falling through the cracks between services;[41] an assessment of Jamaica's child guidance clinics, the country's principal child mental health service, found them staffed at under a third of the capacity current demand requires.[42] Early identification is not a soft addition to the case for investing in this age band. It is the difference between the Jamaican result this paper has already cited recurring, and a preventable crisis being paid for, at far greater cost, later in the same life course.

- **What this requires:** universal, affordable, quality-assured early childhood care and stimulation — not merely custodial daycare; routine screening for growth faltering and developmental delay, with a funded pathway to intervention when it is found; parental leave and workplace support long enough, and flexible enough, to sustain breastfeeding to the recommended standard; parenting support delivered at the household level, on the Jamaican model, rather than assumed to occur without support in households under economic stress; and a paraprofessional home-visiting and social work workforce funded to

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Human Capital Index, rather than on the more contested cognitive claim. What is well established is that a mother's return to full-time work is one of the most consistent predictors of early breastfeeding cessation, and ILO Convention No. 183 accordingly entitles nursing mothers to paid breastfeeding breaks counted as working time, with Recommendation No. 191 encouraging workplace nursing facilities where practicable — provisions that few employers in the region currently meet.

[41] Children's Authority of Trinidad and Tobago and UNICEF, launch of the Primero case-management system, June 2022, developed under the UN Spotlight Initiative. The stated purpose of the rollout was explicitly to reduce the number of children in crisis who fall through the cracks between services, by giving caseworkers a shared, holistic record rather than fragmented ones held separately across agencies.

[42] Caribbean Policy Research Institute, cited in "Safeguarding children from abuse," Jamaica Gleaner, 9 May 2026: Jamaica's child guidance clinics, the country's principal child mental health service, are staffed at roughly 30 per cent of the clinical capacity required to meet existing demand, with the shortfall most severe outside the capital.

the level current demand requires, not the level current budgets happen to allow, since a crisis identified early costs a fraction of one identified late. A single coordinating body across health, education and welfare agencies is itself part of the requirement, not an implementation detail — Jamaica has run one since 2003.[43]

School age

This is where the paper's existing argument about the eleven-plus and whole-cohort formation lives in full. A system that sorts capability at eleven and then invests disproportionately in the sorted-in minority is, on this paper's own accounting, destroying measurable national wealth every year it continues, and the CSEC figures set out earlier in this paper are the annual scorecard of how much. The requirement is not new pedagogy; it is a change in whom the system is built to serve. The early identification described in the previous stage does not end at five: a teacher sees a child daily and is often the first adult outside the household to notice that something has changed, but only if trained to recognise it and only if a functioning referral path leads back to the services described above.

- **What this requires:** funded, high-quality education to age eighteen or twenty-two for the whole cohort rather than a selected share of it; parity of esteem and of funding between academic and technical-vocational tracks; and a measured, published attainment rate on a cohort basis — not a candidates-who-sat basis — so that the gap this paper has identified cannot continue to hide inside a flattering denominator.

Transition to the labour market

The years from roughly sixteen to twenty-four are where formation either converts into utilisation or is wasted at the threshold. This is precisely where the region's NEET rate — the young people neither in education, employment nor training — does its damage, and where the first labour-market experience shapes wage trajectories for a decade or more afterwards.

- **What this requires:** funded apprenticeships and structured work placements that connect schooling directly to employers, rather than leaving the transition to chance; active tracking and re-engagement of young people who fall out of both education and work, since this group is disproportionately represented in the violence data set out earlier in this

[43]María Caridad Araujo, Florencia López-Boó and Juan Manuel Puyana, Overview of Early Childhood Development Services in Latin America and the Caribbean (Washington, DC: Inter-American Development Bank, Social Protection and Health Division), reviewing ECD service coverage and quality across the region. Jamaica's Early Childhood Commission, established in 2003 as a statutory body coordinating early childhood policy, regulation and quality assurance across health, education and welfare agencies, is the clearest existing Caribbean example of the coordinating institution this stage requires — evidence that the requirement below is administratively achievable in the region, not only in principle.

paper; and career guidance that treats technical and vocational pathways as first choices, not fallback options.

Working life

This is where utilisation is decided, year on year, and where the region's labour market institutions have not kept pace with how work actually happens. Shafik's proposed remedy — a flexicurity model, in which labour markets remain flexible for employers, but workers carry portable, individually owned entitlements to health cover, retirement saving and unemployment protection between jobs — speaks directly to a region where informal employment exceeds half the workforce in more than one of the countries examined in this paper, and where a benefits system tied to a single formal employer excludes exactly the workers most exposed to risk.[44]

- **What this requires:** a living wage, defined and applied as set out in the annex to this paper, rather than a minimum wage that has never been benchmarked against the cost of a decent life; portable benefits that follow the worker rather than the job, so that informality does not mean total exclusion from health cover or old-age saving; funded, continuing reskilling, since a labour market now expects several changes of skill across a working life rather than one qualification that lasts it; and childcare and eldercare support sufficient to close the gap between male and female participation identified earlier in this paper — a gap this framework has already shown to be a waste of formed capability, not a preference freely exercised. A 2025 regional study covering fifteen Caribbean states found male participation declining even as women's educational attainment overtakes men's, unpaid care work still absent from the labour statistics this paper relies on, and several states with no legislation guaranteeing equal pay or protection from employment discrimination at all — gaps that sit upstream of the utilisation figures already presented.[45]

Old age

The region is ageing while its labour force shrinks — the demographic finding set out earlier in this paper is the fiscal problem this section addresses. Shafik's proposals here are two: that

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[44] Shafik (2021); see also her account of the proposal in the Institute for Fiscal Studies Annual Lecture (2021): a flexicurity model, combining labour-market flexibility for employers with portable, individually owned benefit entitlements — health cover, retirement saving, unemployment protection — that a worker carries between employers, on the model already used for portable pensions in several countries.

[45] Caribbean Development Bank, Labour Market Differentials in the Caribbean: Gender, Age, Indigeneity (2025), covering fifteen borrowing member countries. Among its findings: labour force participation among men has been declining even as women's educational attainment has overtaken men's; unpaid care work and informal-sector activity are not captured in national labour statistics, understating both the scale of the utilisation gap and the work already being done to close it; and Montserrat, Belize, Grenada, Saint Kitts and Nevis, and Saint Lucia have no legislation guaranteeing equal pay or protection against employment discrimination. The Bank frames the reforms as an economic rather than only a social imperative.

pension ages be linked to life expectancy rather than fixed by convention, and that old-age income security be funded substantially through general taxation rather than solely through a lifetime of employment-linked contributions, with automatic enrolment in pension and care insurance so that saving is the default rather than a choice each individual must actively make.[46] Applied to a labour market in which a majority of workers may never have held a single formal-sector job for long enough to accumulate a conventional pension, the case for a taxation-funded floor is stronger here than in the economies the proposal was designed for.

- **What this requires:** a non-contributory old-age income floor, since contribution-based pensions systematically miss informal workers; pooled, not individually priced, health and long-term care insurance for older age, since the alternative prices exactly the people least able to pay; and pension parameters — age, contribution rate — reviewed against the demographic reality set out in this paper rather than fixed by inherited convention. Caribbean pension coverage in high-informality states runs at roughly half of the eligible population, and moving repeatedly between formal and informal work further erodes the chance of qualifying for a pension at all — which is why the floor above cannot be contribution-based alone. Barbados has already raised both its retirement age and its contribution rate to OECD-comparable levels; the review recommended here is therefore already underway in part of the region, not a novel proposal.[47]

Who is responsible for what

None of the above is solely the state's obligation, and treating it as such is the single most common reason such programmes fail to sustain themselves politically. Shafik's framing is explicitly reciprocal: society invests in the individual's capability, and the individual is expected, in turn, to contribute according to that capability once it is formed.[48] The same reciprocity holds for the firm, which both draws on formed capability and is one of the few actors positioned to

[46] Shafik (2021) proposes indexing pension ages to life expectancy, funding old-age income security substantially through general taxation rather than solely through employment-linked contributions, and automatic enrolment in pension and old-age care insurance so that saving is the default rather than a choice that must be actively made.

[47] Inter-American Development Bank, "Seven Considerations in Reforming Pension Systems in the Caribbean," Caribbean Development Trends blog; and IDB, Caribbean Pension Systems Face Challenges, But Solutions Are Within Reach, covering six Caribbean countries. Pension coverage in high-informality Caribbean states runs at roughly half of the eligible population, and switching repeatedly between formal and informal work over a career further reduces the likelihood of qualifying for a pension at all. Barbados has already raised both its retirement age and its contribution rate to levels comparable with OECD countries, which have considerably higher old-age dependency ratios — an existing regional precedent for the review this paper recommends elsewhere.

[48] Shafik (2021) sets out three organising principles: that a minimum floor of dignity — health care, education, and protection against destitution in sickness, unemployment and old age — should be guaranteed to everyone; that society should invest in raising the collective capability of its members, since talent that is never developed is a loss to everyone, not only to the person; and that individuals should be given the conditions to remain productive and should be expected, in turn, to contribute according to their capacity. The obligation runs in both directions throughout the book, not from the state to the citizen alone.

keep forming it across a working life. What follows sets out what each of the three owes, matched stage by stage against the life course above.

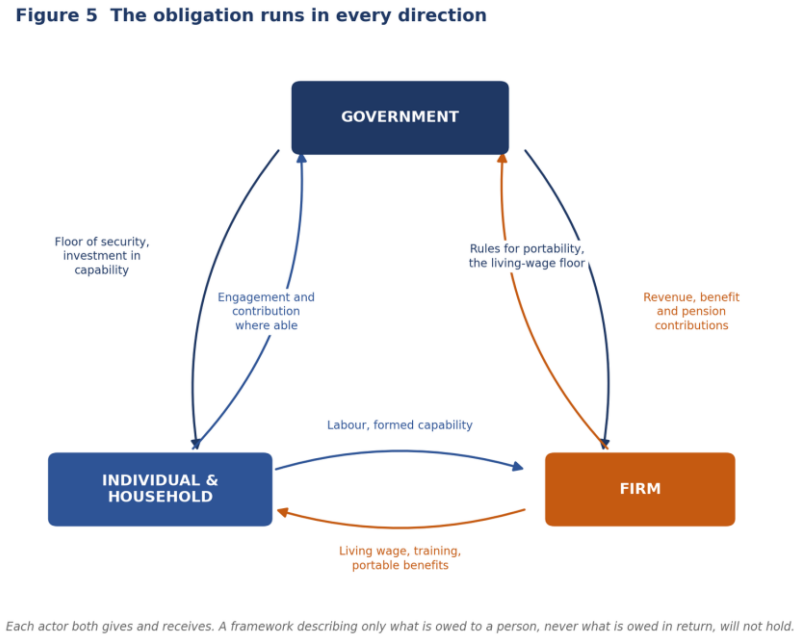


Figure 5. Each relationship among the three actors runs in both directions; what follows sets out each side of it in turn.

What government must do

Government carries the heaviest load at the two ends of life — early childhood and old age — because these are precisely the periods in which neither the individual nor the firm has the standing or the incentive to act alone. A toddler cannot demand stimulation; a market will not spontaneously supply a non-contributory pension. In between, government's role shifts from direct provision to setting the floor: the living wage benchmark, the minimum standard a school must meet, the portability of a benefit between employers, the rules that make risk-pooling possible at all. Government is also the only actor positioned to publish the account this paper proposes—the conversion rate and the eight indicators beneath it—since only government holds the administrative data across health, education, and the labour market that the account requires.

What the individual and the household owe in return

The obligation runs both ways, and a framework that describes only what is owed to a person, never what a person owes in return, will not survive contact with a finance ministry. What a household owes is engagement: presenting a child for antenatal care, growth screening, and the schooling offered; a young person's own effort in the transition from school to work; and, for an adult of working age who is able to work, participation in it. None of this claims that

poverty is a product of insufficient effort — this paper has spent its length arguing the opposite: that the constraint is structural. It claims that a social contract is a contract: the state's obligation to form and insure capability is matched by an obligation, where circumstances allow it, to use what has been formed.

What the firm owes

The firm is the site where formed capability is actually converted into earnings, and it has, across this region, offloaded a great deal of the risk involved in that conversion onto the individual worker — through informal engagement, through wages benchmarked to nothing, through job design that extracts a skill rather than building one. What a firm owes, in this framework, is a wage benchmarked to a living standard rather than to a statutory minimum below it; contribution to portable benefit and pension systems in place of the assumption that a worker's security is someone else's problem; investment in training and apprenticeship, since a firm that trains a worker and a firm that merely hires one already trained are not contributing to national conversion in the same way; and job design and scheduling stable enough that a worker can plan a household, a course of study, or an old-age saving contribution around it.

What this section is not

- **The model here is adapted, not imported unmodified.** Shafik's architecture assumes a fiscal capacity, and a starting floor of nutrition, shelter and basic security, that already exists in the mainly high-income economies her book addresses.[49] Every requirement above has therefore been matched to a Caribbean condition already established in this paper — the CSEC denominator, the informality rate, the demographic trajectory — rather than asserted as a universal prescription.
- **The fiscal cost here is mixed, not uniform.** Several of the requirements above — cohort-basis attainment reporting, portable benefit rules, pension parameter review — are regulatory or administrative changes with little fiscal cost. Others, principally the early-childhood and old-age floors, are the two places where new public spending is genuinely required, and this paper has argued elsewhere that a shrinking cohort is, for the first of these, becoming steadily cheaper to fund.
- **This section and the measurement framework serve different jobs.** This section describes what raising the conversion rate requires of society. Section 12 describes how a

[49] A fair critique of Shafik's book, made among others in a 2023 review in a special issue on the social contract, is that its proposed floor assumes a fiscal capacity — and a starting distribution of nutrition, shelter and basic security — that already exists in the OECD economies she writes mainly about, and engages less with what the same architecture requires in a state that cannot yet fund it from general taxation. That caveat applies directly here, and is addressed rather than assumed away in the sequencing set out below.

government would know whether it was doing it. The two are meant to be read together: a roadmap without a dashboard cannot be checked, and a dashboard without a roadmap has nothing to explain the number it reports.

A Caribbean government that took only one page from this section would take this one: the return on a child is highest before that child can walk, it is measured in decades rather than budget cycles, and this region has already proved it, in Kingston, in 1986. Everything else in this section follows from taking that finding as seriously as its own evidence warrants.

12. A proposed measurement framework

Each country would publish the following annually, alongside and with precedence over the GDP series, and compile it regionally to enable comparison.

Table 2. A proposed measurement framework

Domain	Proposed headline indicator	What it disciplines
Aggregate	National human potential stock: present value of expected lifetime earnings of the resident labour force	Replaces GDP growth as the single headline number reported at Budget
Distribution	Ratio of median to 10th-percentile expected lifetime earnings	Makes dignity inequality visible; GDP per capita cannot see it
Formation	Human Capital Index, and share of each cohort reaching a recognised qualification by age 22	Holds the education system to a whole-cohort standard, not a top-decile one
Utilisation	Labour force participation rate, reported against its own historical peak, and share of employment in jobs paying above a living-wage threshold	Detects potential that is formed but not used, and prevents a low unemployment rate from concealing mass non-participation
Retention	Share of each qualified cohort resident in the country, and in the region, five and ten years after qualification	Prices the emigration subsidy: the formation cost we bear and the return another jurisdiction captures
Conversion	National conversion rate: share of each birth cohort reaching a recognised qualification and holding employment above a living-wage threshold by age 30	Operationalises the Flynn–Gladwell capitalisation rate: formation multiplied by use
Sustainability	Comprehensive wealth per capita: produced, human, natural and financial capital, net of depletion	Prevents the sale of the patrimony from being recorded as income

Domain	Proposed headline indicator	What it disciplines
Fiscal	Share of expenditure classified as human potential formation versus consumption support	Reframes the transfers and subsidies question as an investment question

Source: Author's proposal. The Human Capital Index is the World Bank series; the remaining indicators would be compiled nationally from labour force survey, examination and Estimates data.

What this framework does not measure

It is worth being explicit about the limits of what is proposed here, because the framework is a starting point and not a finished instrument, and its weaknesses are easier to defend than to conceal.

The conversion rate is not, strictly, a rate. It multiplies a projection by an observation. The Human Capital Index describes what a child born today might attain if present conditions hold;[50] The participation rate describes the labour market as it stands. The two refer to different cohorts, and the product is an index rather than a proportion of anyone. A properly specified rate would follow a single birth cohort through formation, entry into work, the wage that work pays, and residence at thirty. That is what the indicator is reaching for and what it does not yet reach.

Formation is measured more narrowly than the concept requires. The Index captures survival, schooling and health, which is a great deal, but it says nothing about whether what was learned is what the economy needs. A country could raise its score while producing graduates for occupations that do not exist at home, and the number would improve as the underlying problem worsened. That is precisely the failure this paper attributes to the region, and the formation indicator cannot see it.

Utilisation is measured more crudely still. The participation rate counts the informally employed, the underemployed and the badly matched on the same terms as the productively engaged. In a region where informal employment exceeds half the workforce in Jamaica and Barbados, that is not a small qualification. This is why the living-wage indicator sits beside participation rather than behind it, and why the unfiltered conversion figure should be read as a ceiling.

The aggregate the framework actually wants is the stock. The present value of expected lifetime earnings, estimated on the Jorgenson–Fraumeni basis, is the theoretically correct measure and is the first row of the table above.[51] It requires earnings microdata by age, sex and

[50]The Human Capital Index is explicitly a projection: it measures what a child born today can expect to attain by age eighteen if current health and schooling conditions persist. It is therefore a statement about institutions today, not an observation of any cohort's realised outcomes.

[51]Jorgenson and Fraumeni (1989, 1992), as operationalised in the World Bank wealth accounts. The stock is the aggregate indicator proposed in Section 12; the conversion rate is a proxy for the direction it is moving in, not a substitute for it.

education that most of the region does not collect. Until it exists, the conversion rate is a serviceable indicator of which way the stock is moving, and no more than that.

None of this is a reason to wait. A measure that requires five years of statistical investment before producing its first number will never displace GDP, because GDP is available every day. Any government can compute the conversion rate today from two indicators already published—and, as Annex C shows, computed on the same basis for the United States, the OECD, and the world. It is directionally right, comparable, cheap, and it points to the levers that matter: whether children are formed, whether adults are used, and whether the people a country educates remain in it.

A precedent exists, and it works in this measure's favour. Gross domestic product is itself a crude aggregate, and the people who built it understood it as such; a companion note sets out where its accounts fall short in a Caribbean economy specifically. It reorganised the economic policy of every government on earth within a generation, not because it captured everything that mattered but because it was computable, comparable and available on time.[52] A better measure that cannot be produced will not displace it. A rough measure that can be produced next Budget might.

13. What can be measured now, and what cannot

Frameworks are easy to assent to and hard to picture, so it is worth setting out what a Caribbean government could publish tomorrow. The four economies used here span the region's development models: a services and tourism economy with unusually high participation, a mature hydrocarbon economy, a new hydrocarbon economy, and a mature tourism economy. Everything reported below is observed and sourced. Nothing has been estimated to fill a gap.

Three indicators can be assembled today from published data, shown in the figures that follow: formation, measured by the Human Capital Index; utilisation, measured by labour force participation against each economy's own history; and their product, which this paper calls the conversion rate. Everything else the framework asks for is missing, and the pattern of what is missing is the most instructive thing in this section. It is not random. The data thin out precisely as the indicators move from what is easy to count towards what determines whether a Caribbean citizen can build a life at home.

Each of the three figures is worth seeing rather than reading. Figure 1 shows formation across the region; Figure 2 shows utilisation against each economy's own history, on a single consistent series; Figure 3 puts the two together. One further published figure deserves

[52] The point is not that GDP's defects are excusable, but that crudeness has never been what disqualified a statistic from organising policy. What disqualifies a statistic is being unavailable.

mention because only one of the four countries reports it: Trinidad and Tobago records 9.1 learning-adjusted years of schooling against 12.4 years of expected attendance, meaning that three and a half years of every child's education produce nothing measurable.[53] There is no reason to think it is the worst case in the region; it is simply the only case we can see.

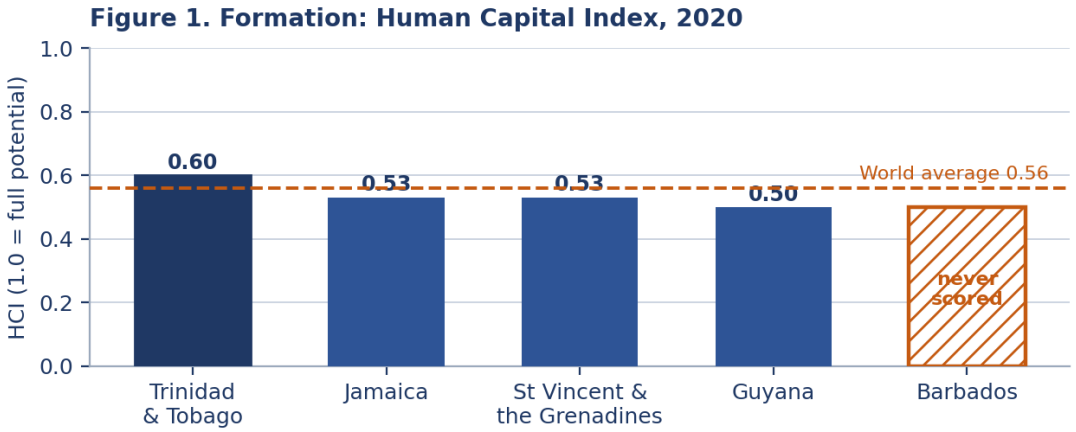


Figure 1. Formation across CARICOM, 2020. Even the regional leader forms only three-fifths of the potential of an incoming cohort, and three of the four scored economies sit below the world average. Barbados has never been scored. Sources: World Bank, Human Capital Index 2020 Update. Barbados, The Bahamas, Belize and most of the OECS are not scored for want of internationally comparable learning-outcome data.

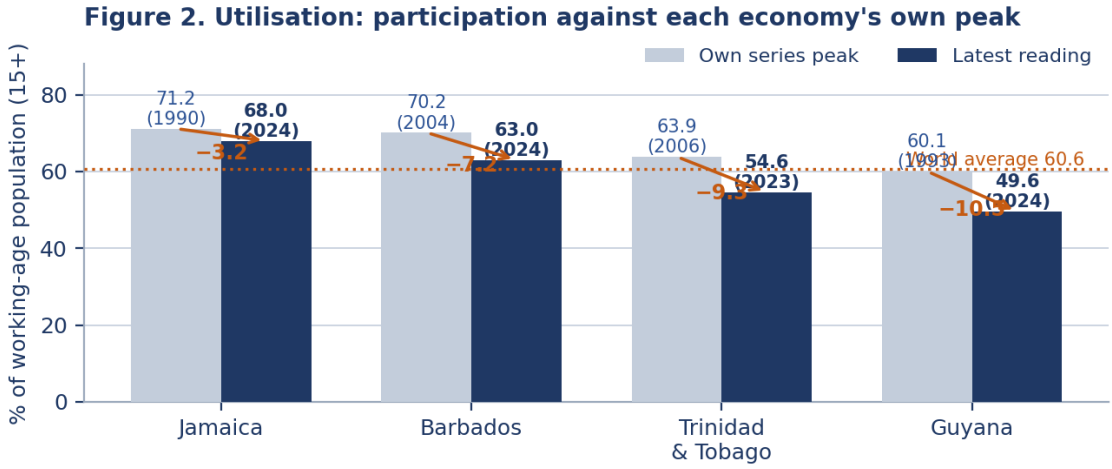


*Figure 2. **Utilisation** against each economy's own history, on a single consistent series. All four sit below their own peaks, and the size of the fall tracks the development model: shallowest in the services economy, deepest in the two resource economies. Guyana has fallen furthest and*

[53] World Bank, Human Capital Index country brief for Trinidad and Tobago, October 2020. Expected years of school of 12.4 against learning-adjusted years of 9.1; harmonised test score of 458 (boys 445, girls 471); adult survival to age 60 of 85 per cent. The brief also reports learning poverty of about 21 per cent, on an observation now more than a decade old.

recorded its lowest reading during the fastest output growth in the hemisphere. Source: ILO modelled estimates as reported in World Bank World Development Indicators; latest year shown per country.

Sources: ILO modelled estimates as reported in World Bank World Development Indicators, population aged 15+, latest year available per country. A single consistent series is used so that levels, peaks and changes are comparable across the four economies.

Figure 3. Conversion: formation × utilisation, four Caribbean economies

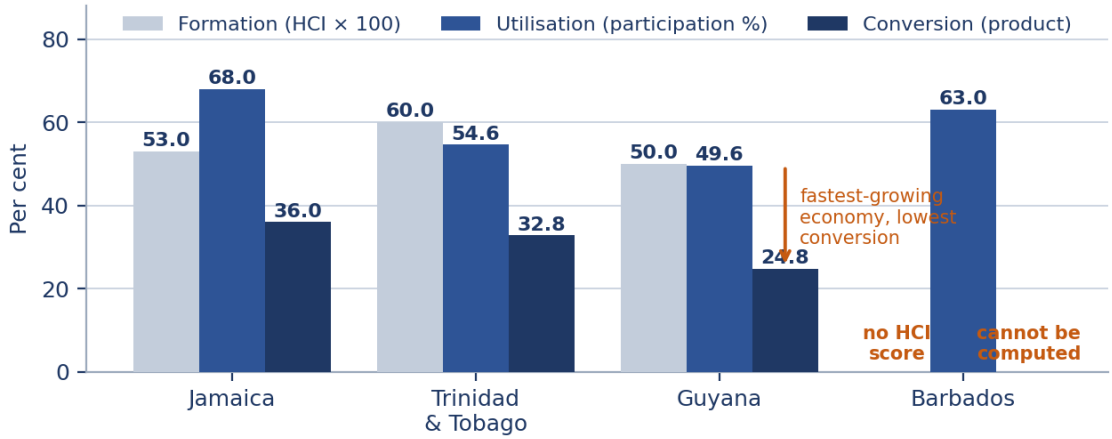


Figure 3. Conversion across four Caribbean economies. Guyana, the fastest-growing economy in the hemisphere, converts the least. Jamaica converts the most on participation alone, not formation. Barbados cannot compute the figure because it has no Index score. Sources:

Sources: World Bank Human Capital Index 2020 Update (formation); ILO modelled estimates via World Bank World Development Indicators (utilisation); author's calculation (conversion). Barbados cannot be computed because it has no Index score.

How the headline number is built

The conversion figures are the only new arithmetic here, and they are deliberately crude: formation, taken as the Human Capital Index, multiplied by utilisation, taken as the labour force participation rate. Jamaica converts 36.0 per cent, Trinidad and Tobago 32.8 per cent, Guyana 24.8 per cent. Read plainly: somewhere between a quarter and a little more than a third of a Caribbean cohort's productive potential is both developed and engaged in the domestic economy. The rest is lost — some before age eighteen to health, crime and schooling, the rest afterwards to non-participation.[54]

[54] The multiplicative form is a simplification and is presented as such. The Human Capital Index is a projection for a child born today while the participation rate describes the current labour force, so the two refer to different cohorts; a properly specified conversion rate would follow a single cohort through formation, entry and retention. The point of the arithmetic here is to show the shape of the indicator and the order of magnitude of the loss, not to offer an estimate.

Three observations follow, and none of them is available from a growth rate.

- **Guyana converts the least while growing the fastest.** A quarter. The economy recording the highest output growth in the hemisphere is engaging the smallest share of its people's formed capability of the four, and its participation rate is the lowest reading in its own series. Whatever the oil is doing, it is not yet being converted into the population's capacity to earn. This is the enclave structure rendered as a single number, and it is the strongest argument in this paper for building the account before the boom ends rather than after. This is also what Lectard and Rougier describe. They estimate their model separately for resource exporters and conclude that such countries should defy their comparative advantage strongly, precisely because their exports are locked into sectors requiring few capabilities—which is an argument for Guyana doing more with its oil revenues, not less. But they also find that when foreign investment, rather than domestic capability, drives the defiance, the manufacturing share of value added falls even as manufacturing exports rise. Guyana's export statistics have already changed beyond recognition. Its conversion rate has not.[55]

- Jamaica converts the most, and this is not a success story. Jamaica leads on conversion because it leads overwhelmingly on participation, not because it forms capability well — its formation score is among the lowest here. A country can raise this indicator by putting more people into low-paid work, which is precisely why the crude figure must never be the published headline. The fully specified rate, applying a living-wage threshold and counting only those who stay, would tell a very different story about Jamaica in particular, given that Mishra found 85 per cent of its labour force with more than twelve years of schooling resident in OECD countries. That rate cannot be computed in any Caribbean country today.

- **Barbados cannot compute its headline number at all.** It has no Human Capital Index score, because the learning-outcome data required to produce one have never been supplied. A country cannot manage what it has not measured, and Barbados is presently unable to state what share of a child's potential its own systems develop. It is not alone, and in some states the gap runs the other way. Saint Vincent and the Grenadines does have a formation score of 0.53, but its most recent household survey is the population census of 2001, so its participation rate is a model estimate resting on data a quarter of a century old. One country cannot measure what it builds; the other cannot reliably

[55] Lectard and Rougier (2017/2018) estimate their model separately for countries whose natural resource exports exceed 10 per cent of GDP, and find that for that group defying comparative advantage both diversifies and sophisticates exports, across a wide range of defiance. Their recommendation is addressed to economies in exactly this position: resource exporters should challenge their factor endowment heavily, and the case is strongest where exports are locked into sectors that require few capabilities. Set against that is their finding that where the defiance is delivered by vertical FDI, the manufacturing share of domestic value added falls even as manufacturing exports rise — the export statistics improve while the productive base does not.

measure what it uses. Between them, they describe the position across most of the OECS, The Bahamas and Belize — and these are the cheapest gaps in the region to close.

Those figures invite an obvious question — whether a third is a bad number — and Annex C sets out the answer. The United States converts about 44 per cent of a cohort's potential. Germany converts 45 per cent and the United Kingdom 49. Across the OECD the figure is somewhere near 47, and Singapore, the best performer anywhere, reaches 60. The world average is 34 per cent.[56] No country in the world converts even two-thirds of what a generation could become. The Caribbean is failing worse at something everybody fails at — and nobody measures.

Two features of that comparison are worth carrying forward. The gap between a Caribbean economy and a rich one is far narrower on this measure than on output per head, because GDP per capita is flattered by capital and by rents while conversion is not. And relative to Jamaica, formation is where the United States pulls ahead rather than falls short: participation in the United States is 62 per cent, below Jamaica's 68, and what compensates is that the United States forms 0.70 of each cohort against Jamaica's 0.53. A country can employ a smaller share of its people than its neighbour and still convert more, because it built more of them to begin with.

These are floors, and generous ones. Each counts a person as converted if they are in the labour force at all, whatever they earn, and wherever they subsequently go. Apply the living-wage filter and every figure falls. Apply the retention filter, and they fall again, by an amount the region has not measured since 2006. A properly specified conversion rate for most Caribbean countries would likely be very low. That number does not exist anywhere in the regional statistical apparatus, and its absence is not an oversight; it is the consequence of deciding, decades ago, that the thing worth counting was output.

A Proposal for the Caribbean: A CXC-anchored regional formation index

Six Caribbean states have never been scored on the Human Capital Index: Antigua and Barbuda, Belize, Dominica, Grenada, Saint Lucia and Suriname.[57] The reason is specific: the classic HCI

[56] Annex C sets out the full table, the sources and the qualifications. Conversion rates are the author's calculation from the World Bank Human Capital Index 2020 Update and ILO modelled estimates of labour force participation, applied on the same basis as the Caribbean figures above. The OECD figure is an approximation: the World Bank publishes no OECD average Human Capital Index, so it combines the OECD average participation rate of 61.6 per cent with an unweighted mean of member scores. Singapore is not an OECD member. Differences of one or two percentage points between countries should not be read as meaningful; differences of ten should.

[57] World Bank, Human Capital Index 2020 Update. Antigua and Barbuda, Belize, Dominica, Grenada, Saint Lucia and Suriname could not be scored for want of internationally comparable learning-outcome data — the PISA- or TIMSS-type assessments the

requires an internationally comparable learning-outcome assessment — PISA or TIMSS — that these states do not sit. This is not a data problem the region is failing to solve. It is a mismatch between what HCI asks for and what a group of small states that already run a shared examinations system actually produce.

The construction

The Caribbean Examinations Council administers one regional, harmonised assessment across every Anglophone Caribbean territory that sits it, scored to a single standard and published annually. A formation index built on CXC results, chained with the survival and retention data every territory already collects, could score the states HCI cannot reach, on the same multiplicative logic HCI itself uses.

For each sex s, in a given territory:

Formation(s) = Survival_{0-5}(s) × Survival_{5-16}(s) × Retention_{16}(s) × CXC-Standard_{16}(s)

Why multiplication, not addition. If the four factors were added rather than multiplied, a country could compensate for a catastrophic outcome in one factor with strength in another — a collapse in survival averaged against a strong exam result could still look like a middling score. Formation is sequential rather than additive: a child who does not survive to 16 cannot sit CSEC at all, and a child who never sits CSEC cannot be scored on it. Each factor is a precondition for the next, not a substitute, and multiplication forces every factor toward zero to pull the whole score down—which is the mechanism by which a shortfall in one stage limits what the following stages can achieve. Addition would let a country hide a failure in one stage behind success in another; multiplication will not.

- **Survival_{0-5}(s).** The probability of surviving from birth to age 5, by sex. This is the floor the rest of the formula sits on: nothing that follows matters if a child does not reach age 5. It is also the least contested figure in the chain, since every territory's vital registration system already tracks infant and under-5 mortality — the same category of data the classic HCI itself draws on for its own survival component.
- **Survival_{5-16}(s).** The probability of surviving from age 5 to CSEC-sitting age, by sex. This is kept as a separate factor from survival to age 5, not a longer version of the same thing, because the causes of death differ sharply between the two age bands: under-5 mortality is dominated by perinatal complications, infectious disease and malnutrition, largely outside a school system's reach, while mortality between 5 and 16 in this region is disproportionately shaped by accidents and, moving into the years just beyond this band,

classic HCI requires, which these states do not sit. The Bahamas is a distinct case: it does not sit CSEC at all, running its own national examination, the Bahamas General Certificate of Secondary Education (BGCSE), so a CXC-anchored construction does not extend to it either. A regional formation index of the kind proposed here would need a separate BGCSE-based construction for the Bahamas, not the one below.

violence — which this paper's own account of violence as asset destruction treats as a major, uncounted loss concentrated in exactly this age range. Keeping the two survival stages distinct lets a future version of this index show whether a territory's formation losses are concentrated in early childhood, in adolescence, or in both.

- **Retention$_{16}$(s).** The share of each sex reaching age 16 who are actually registered and sit CSEC, rather than having left school, repeated out of the cohort, or never enrolled at the secondary level at all. This factor has no equivalent in classic HCI, which measures expected years of school as a modelled projection rather than an observed outcome, and so cannot distinguish a child who enrols and is later lost from the system from one who stays through to sit the exam. Retention here is a hard, observed number: survived to 16, and still in the system to be tested.
- **CXC-Standard$_{16}$(s).** The share of each sex's CSEC sitters reaching the matriculation benchmark this paper already uses elsewhere — five or more subjects, including mathematics and English, at Grades I–III. This plays the same role HCI's harmonised test score plays: the check that formation was not merely nominal but reached a meaningful standard. Retention and CXC-Standard are kept as separate factors rather than combined into one, because they capture two different and separately addressable failures — never reaching the exam room, and reaching it but not clearing the bar — and collapsing them into a single figure would blur which problem a given territory actually has.

A national formation score is the sex-weighted average of Formation(male) and Formation(female), weighted by each sex's share of the birth cohort — and reporting the two separately, before averaging, is where the exercise earns its keep. A blended national figure can conceal a formation collapse concentrated in one sex behind an aggregate that merely looks mediocre. This is not a hypothetical risk in this region: Barbados's own 2026 CAPE results already show a 1.1 percentage point gap between female and male pass rates, and CXC has described female candidates outnumbering male candidates in CAPE entries region-wide as a persistent pattern rather than a one-year anomaly.[58] Averaging by sex from the start, rather than reporting one blended number and disaggregating only if asked, is what makes a gap like this visible rather than quietly cancelled out.

Jamaica, worked as far as public data allows

The CXC-Standard component is the easy quarter of this formula, because ministries release it directly in results briefings. Jamaica's rate has moved from 18 per cent in 2024 to 19.2 per cent

[58]Barbados Ministry of Education, Technological and Vocational Training, 2026 CAPE results briefing: an overall pass rate of 93.8 per cent, with female candidates at 94.3 per cent against 93.2 per cent for males. Caribbean Examinations Council, 2026 regional results briefing: female candidates were 62 per cent of CAPE entries against 38 per cent male, a gap officials described as a persistent regional pattern rather than a one-year anomaly.

in 2025, both measured against students who actually sat the exam.[59] A more demanding version of the same statistic exists: measured against the full Grade 11 cohort rather than only those who sat — 31,321 students rather than 28,654 — the rate falls to 21.38 per cent, since the sitters-basis figure already excludes everyone who never made it to the exam hall at all.[60] Both figures are real, both are usable, and the gap between them is itself informative: it is the share of a cohort this construction should be counting that a sitters-only measure quietly drops.

The remaining three-quarters of the formula could not be completed. Survival by sex from birth to age 5 and from age 5 to age 16, and the age-16 population by sex against which to set CSEC sitters and compute a genuine retention rate, were both sought and not found in a form usable here.[61] This is not the same kind of gap as Barbados's and Guyana's missing CXC-Standard figures, which may simply not be released as a standalone statistic. It is a different kind of gap: the data almost certainly exist, in STATIN's and the UN's own published tables, but require direct extraction from those tables rather than a review of results reporting. That is the concrete task this section leaves for whoever takes it further — not a reason to doubt the construction, but the actual price of completing it.

What this is not

- **It is not internationally comparable.** CXC covers the Anglophone Caribbean and nowhere else. A score built this way cannot be placed alongside HCI or HCI+ figures for Singapore or the OECD. For a paper whose entire audience is Caribbean finance ministries, that is an acceptable trade, stated here as a design choice rather than left for a reader to discover.
- **It is not a substitute for HCI where HCI already exists.** Jamaica itself is already scored on the classic HCI, along with Trinidad and Tobago, Guyana and Saint Vincent and the Grenadines. This construction is a gap-filler for the six states HCI cannot reach, not a proposed replacement for the index this paper otherwise relies on throughout — Jamaica is used

[59] Jamaica Ministry of Education, Skills, Youth and Information, CSEC results briefings: 18 per cent of students achieved five or more subjects including Mathematics and English in 2024 (a 3-point fall from 2023); 19.2 per cent in 2025, from 28,654 students who sat having 30,514 registered. Jamaica Gleaner, "Only 18 per cent of students got five or more subjects…" (26 August 2024) and "2025 Mathematics and English Language CSEC passes improve" (15 August 2025).

[60] Damion Crawford, "Crisis in the classroom," Jamaica Gleaner, 13 September 2026. Against the full Grade 11 cohort of 31,321 students — not just those who sat — 6,696 attained five or more subjects including Mathematics and English, a cohort-basis rate of 21.38 per cent. This is a columnist's recalculation from the Ministry's own released figures, not a Ministry-published cohort statistic, and is included here because it applies exactly the sitters-versus-cohort distinction this paper already draws elsewhere in the Caribbean's case.

[61] What was sought and not found: Statistical Institute of Jamaica (STATIN) publishes population by five-year age group, sex and parish, and UN World Population Prospects publishes life tables with survival probabilities by sex; both exist and are cited elsewhere in this paper's broader source base. Neither surfaces the specific single-year, sex-disaggregated figures this formula needs — survival from birth to age 5 and from age 5 to age 16, and the age-16 population by sex against which to set CSEC sitters — through general search. Assembling them requires direct extraction from STATIN's and the UN's own tables, not a literature review. That is the concrete, named task this section leaves undone.

above only because its CXC reporting happens to be the most complete, not because it needs this alternative measure.

- **It is not yet validated, and one quarter of it is not yet computed.** Whether a CXC-anchored score predicts what classic HCI predicts is untested. The survival and retention data the formula needs have been named, not assembled. Both are the actual research agenda this section proposes.

What Budget Day would sound like

Any finance minister in the region could open this way next cycle. The figures below are those of a country in the middle case above; the form is what matters.

"Mr Speaker, the national conversion rate stood at 32.8 per cent in the year under review, barely changed on the year and more than five points below where it stood a decade ago. Formation is improving slowly: our Index score has risen by five points in a decade, though we still lose three and a half years of every child's schooling to what is not learned in it. Utilisation is deteriorating: participation fell again, and female participation fell to 49 per cent, meaning that the half of our population in which we now form the most capability is the half we use the least. Of the measures this House requires me to report, nine cannot yet be computed, and I will set out the timetable for closing that gap. Real GDP grew by 1.2 per cent."

The rhetorical effect is the policy effect. A minister who must report those numbers first, and GDP last, faces different questions from the Opposition, the press and the multilaterals, and cannot answer them with a gas find or a record arrival season. That reordering is the entire proposal of this paper, and any Caribbean government can adopt it in a single Budget cycle, without waiting for anyone's permission.

What is missing, and what it would cost to find it

Nine of the measures this paper proposes cannot presently be computed in any Caribbean country from any published source. They are: attainment on an age-cohort rather than a candidate basis; the share of each cohort holding a recognised qualification by age 22; the share of employment paying above a living wage (Annex C); retention of qualified people five years on; a fully specified conversion rate; the national human potential stock itself; the ratio of median to tenth-percentile lifetime earnings; comprehensive wealth per head net of depletion; and the split of public expenditure between forming people and supporting consumption. That list is the real finding of this section.

They are not equally hard to supply, and a regional work programme would sequence them. Three are close to free. Cohort-basis attainment requires only that existing examination results be divided by a population number the statistical offices already publish. The living-wage share requires a benchmark to be set once and applied to labour force survey data already collected.

The fiscal classification requires tagging the Estimates once into formation and consumption support. Two are moderate: retention needs a graduate tracking survey, and comprehensive wealth needs the depletion adjustment the World Bank already computes for most of these countries. One — supplying the learning-outcome data that would let Barbados, The Bahamas, Belize and most of the OECS onto the Index at all — is a matter of joining an assessment exercise that already exists. Only the potential stock itself requires genuinely new capability: earnings microdata by age, sex and education, which most of the region has not collected consistently. Every Caribbean government could publish most of this within eighteen months, and CARICOM could publish the comparative version.

14. Building the people before the industries: what worked, and what it did not fix

Everything so far in this paper has been diagnosis. A paper that only diagnoses invites an obvious reply: nothing can be done, because small, once-colonised economies are simply dealt a bad hand. Mauritius was dealt a similarly bad hand. It played it differently, and a large body of cross-country research explains why that was not just luck.

In 1961, the economist James Meade studied Mauritius and concluded it was in serious trouble. Sugar made up about ninety-nine per cent of its exports. Unemployment was close to twenty per cent. And the society was ethnically divided, in a way a later study treats as a real handicap in its own right.[62] By independence in 1968, income per person was somewhere between two and four hundred US dollars. A Caribbean reader will recognise this picture.

Real GDP growth then averaged more than five per cent a year for the next thirty years. By 2024, income per person had reached roughly US$11,872 — actually lower than in several Caribbean countries, which is exactly why this comparison should not be made using output per person. Mauritius has no gas, no oil and no bauxite. Its one large sector that behaves like a natural-resource windfall is tourism, which still accounts for roughly 40 per cent of its foreign exchange earnings,[63] but the rest of its economy — finance, manufacturing, export processing — is what this comparison is really about. On the measures this paper actually uses, Mauritius

[62]Meade (1961), as characterised in Frankel (2012). Meade surveyed the island in 1961 and was pessimistic about the prospects of an economy overwhelmingly dependent on sugar; Frankel treats the ethnic divisions Mauritius carried at independence as a structural handicap in their own right, and notes the parallel with Trinidad and Tobago's own ethnic composition.

[63]World Travel & Tourism Council, Mauritius Travel & Tourism Economic Impact Research (2024/2025), and Economic Development Board Mauritius, "Driving Sustainable Tourism Growth in Mauritius" (April 2024): the sector's direct contribution to GDP is estimated at 9 to 13.6 per cent depending on methodology and year, and at roughly 40 per cent of foreign exchange earnings. This is comparable in kind, though not in degree, to the coastline-and-climate dependence this paper describes elsewhere for Barbados, the Bahamas and the OECS.

scores 0.62 on the World Bank's 2020 Human Capital Index, with a labour force participation rate of roughly 60 per cent. Multiply the two, and you get a conversion rate of about 37 per cent.[64]

The point is not that Mauritius found a policy the Caribbean can simply copy. Its actual path ran through export processing zones, special access to European markets, and two currency devaluations — a specific set of circumstances, most of which no longer exist anywhere. But two underlying features do generalise, and the second one in particular was not just luck: a large body of cross-country research explains why it worked.

It built the people to climb the ladder it had already started on. Mauritius's first wave of manufacturing jobs arrived fast — over 14,000 of them by 1973, overwhelmingly low-skill garment assembly — three years before free secondary education existed at all.[65] What formation changed was not whether Mauritius could attract investment, but what kind: as universal education and training expanded through the 1980s and 1990s, the country moved from assembling other people's designs into higher-value manufacturing, finance and technology. The Caribbean has usually skipped that second step: training only as many people as the jobs that already exist require, then wondering why investors cannot find enough workers for anything more demanding.

It also ignored standard trade theory — and ignored it the right way. Standard comparative-advantage theory said Mauritius should keep producing sugar in 1968 and import everything else. It refused. Instead, it protected and subsidised its way into industries where, on paper, it had no real advantage. Two economists, Lectard and Rougier, actually tested whether this kind of defiance pays off. They studied 137 countries over twenty years, from 1992 to 2012, and instead of asking simply whether a country ignored its comparative advantage, they measured how much it did so.[66] They found four things. First, the more a country defies its comparative

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[64]World Bank, Human Capital Index 2020 Update, country brief for Mauritius: a score of 0.62, up from 0.60 in 2010. Statistics Mauritius, Labour Force Survey, as reported by CEIC: a labour force participation rate of 59.8 per cent in the fourth quarter of 2025, against a 2004–2025 average of 60.4 per cent. Conversion computed on the same basis as every other country in this paper: formation multiplied by utilisation.

[65] Mauritius Export Processing Zone Act, December 1970; UNIDO reports over 14,000 jobs created and 34 factories established by March 1973. Free secondary education was introduced in 1976, three years later. From the outset, 80 to 90 per cent of EPZ activity was concentrated in textile and garment assembly — low-skill, labour-intensive work; the shift toward higher-skill manufacturing occurred over subsequent decades, not from the start.

[66]Pauline Lectard and Éric Rougier, "Can Developing Countries Gain from Defying Comparative Advantage? Distance to Comparative Advantage, Export Diversification and Sophistication, and the Dynamics of Specialization," World Development 102 (2018): 90–110; working paper version, Cahiers du GRÉTHA no. 2017-14. Panel of 137 countries — 23 low-income, 69 middle-income and 45 high-income — over 1992–2012. Defiance is measured continuously by the Technological Choice Index,

advantage, the more sophisticated its exports become, at every income level. Second, the effect on how varied a country's exports become depends on how rich it already is: defiance widens the range of goods that middle-income and resource-rich countries export — the Caribbean's group — but narrows it for the poorest countries, so it is not true to say defiance always diversifies an economy; it depends on where a country starts. Third, the benefit runs out: past a certain point, more defiance stops helping, and that point arrives sooner for middle-income countries than for poor ones, meaning the room for error is smallest exactly where this strategy looks most attractive. Fourth, and most important: if defiance is achieved mainly by inviting in foreign-owned factories, a country's manufactured exports go up, but the domestic value they add goes down.[67]

That last finding is the whole problem in one sentence: a country's trade numbers can show an industrial transformation that never actually happened inside the country. Lectard and Rougier call this a fake, or "artefact," industrialisation — it shows up in the export statistics, but the country can get stuck permanently doing only the low-skill assembly step of someone else's supply chain, with none of the real capability the statistics seem to suggest. Mauritius avoided this trap because its defiance of comparative advantage was built on skills the country had actually developed at home, not skills rented from a foreign company's books — which is exactly this paper's own argument, arrived at from a completely different body of research. None of this argues against foreign investment. It argues for foreign investment that includes a real, deliberate transfer of skills and know-how, not foreign investment used as a substitute for building that capability at home.

Mauritius is also a warning, and that warning needs a date attached. The transition took twenty years, and it cost two different governments the political price of a currency devaluation and a fiscal adjustment. "Build the people before the industries" describes what Mauritius did between the 1970s and the 1990s — it does not describe the country today. More than half of Mauritians say they have thought about leaving the country, rising to seven in ten among young people and the most educated.[68] Recent reporting finds that pay is no longer the main reason people want to leave: young Mauritians increasingly point to career progress, recognition, and

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extending Lin (2009): the ratio of the capital-labour ratio embodied in a country's exports to the capital-labour ratio of the country itself.

[67]The heterogeneity and non-linearity results, and the vertical-FDI finding, are all reported in Lectard and Rougier (2018), section 5. The turning-point estimates are derived from their quadratic specification; the FDI result compares the manufacturing share of exports against the manufacturing share of value added across the same panel.

[68]Afrobarometer, "Mauritians Divided on Cross-Border Mobility for Southern Africans, Want Fewer Immigrants" (dispatch AD1117, 2024): 53 per cent of respondents said they had considered leaving Mauritius, rising to 70 per cent among the most educated and 71 per cent among youth. The most common reason cited was economic, led by the search for work.

the sense that better opportunities exist elsewhere.[69] The government has been honest about this, in its own way: the Finance Minister has said that people who leave are not a loss, since no one is irreplaceable — and by his own account, the government has not made it a priority even to measure how many people leave and how many come back.[70] So Mauritius supports a narrower claim than it is usually given credit for. It shows that building capability before the industries exist to use it can work, and there is now real cross-country evidence behind that claim. It does not show that a country which does this has solved the problem of keeping its people, and its own numbers, thin as they are, suggest it has not. Building capability before demand exists is necessary. It is not enough on its own. And right now, Mauritius is living proof of that second half of the sentence, just as much as the first.

15. Objections worth taking seriously

Eight objections seem serious to me, and they are set out in full in Annex A. Four concern the measure itself. It is valued at market wages, so it inherits the labour market's injustices — undervaluing unpaid care work and embedding wage discrimination, which is why the aggregate must always be published with a distributional decomposition. It is not a complete welfare measure, capturing capability to provide but not environmental quality, safety or civic life, which is an argument for a small dashboard rather than a single replacement number. It can be gamed by expanding a public payroll, by wage-setting in protected sectors, or simply by not counting the people who left. And it cannot yet be computed properly anywhere in the region, which is a reason to fund national statistical offices and a common regional methodology rather than a reason to keep optimising a number we can calculate but should not be targeting.

The remaining four are harder and go to the framework rather than the arithmetic. The lags run to decades while electoral cycles run to five years, and the losers from any shift away from an import-distribution economy are concentrated, well organised and personally known to those who would have to legislate against them. The region is not one economy, and Guyana in a boom, Barbados in a restructuring and Dominica after a hurricane face different immediate problems even where the structural problem is shared. Most seriously, the measure and the person can point in opposite directions: a nurse maximises her own lifetime earnings by emigrating, which lowers the national stock at the same moment it raises her realised potential.

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[69] Le Défi Media Group, "Youth Emigration: A Search for Freedom, Opportunity and Fulfilment" (2025), reporting that salary is no longer the primary driver and that career progression, recognition and perceived opportunity now weigh at least as heavily; and quoting the view that a small, open economy will always be vulnerable to wage and opportunity gaps with the Gulf, Europe and Australia, however solid its education pipeline.

[70] L'Express, "The Mauritian Brain Drain" (2024), citing the Finance Minister's remark that those who leave are not a loss to the country, since no one is irreplaceable, and his acknowledgement that the government has not prioritised measuring how many leave and how many return.

I do not think that can be dissolved, only stated honestly — and it carries the strict corollary that retention may never be pursued by restricting exit, only by changing the wage the domestic market offers. This raises the last objection: treating a population's capability as a national asset might imply some claim by the state over the person. It does not, and the framework must say so: capital is owned, potential is not. The obligation runs the other way.

16. Provocations

We know how to raise output in this region. Find the gas, sell the gas. Find the oil, sell the oil. Sell the bauxite, sell the beach, spend the proceeds. We have done it repeatedly, in one commodity after another, and each cycle has left the country with a smaller resource base, a larger subsidies and transfer bill, and a labour force whose capability has not materially changed. What we have never known, because we have never measured it, is whether any of it made the population more able to earn a living. On the evidence assembled here, it did not, and a great many of them left.

If a Minister of Finance anywhere in the Caribbean were required to open the Budget by reporting the change in the national human potential stock, the expected lifetime earnings of the bottom decile, and the share of last year's graduating cohort still resident — alongside the growth figure — the entire structure of the debate would change within one cycle. Projects would have to justify themselves against a child's prospects. Subsidies would have to justify themselves against an early years programme. None of this is abstract: Section 11 sets out what it requires across a single life, from before birth to after retirement, and what government, households and firms owe one another to deliver it. And the depletion of the reserve, the reef and the coastline would appear where it belongs: on the other side of the balance sheet.

One further point follows from the comparison in Annex C, and it cuts the other way. Annex C computes the conversion rate for every economy shown, from two indicators that no government anywhere combines. The measurement gap this paper identifies in the Caribbean is global; the region simply has less margin to absorb it. This suggests a modest ambition and a larger one. The modest ambition is that a Caribbean government should publish its conversion rate because it needs to know it. The larger one is that a Caribbean government could be the first in the world to publish it at all.

This paper makes a narrow claim. A small, unequal, resource-dependent economy with shrinking cohorts and high emigration has one asset that can appreciate indefinitely, and it is the only asset for which no government in the region publishes a figure. That is a strange omission; it is cheap to correct, and correcting it would change what a Budget is for. The conversion rate stands at roughly a third. Nobody in the Caribbean is asked about it, because nobody computes it. The first government to do so will find that the question answers much more.

If Human Potential becomes our policy north star, the moment a child is conceived, that child becomes a policy priority to help build the child's human formation, and then our policymaking must ensure that we have a robust economy that allows the human formation to be converted

at its maximum and ensure that we keep much more of what we form, whether by a reduction in crime or making staying more attractive than emigrating, for example.

Annex A. Objections worth taking seriously, in full

The following expands Section 15. Each objection is stated at the strength I think it deserves rather than at the strength most easily answered.

- **A lifetime earnings measure inherits the labour market's injustices**. Because it is valued at market wages, it undervalues unpaid care work and mechanically embeds existing wage discrimination — globally, women account for under 40 per cent of measured human capital.[71] In a region where female educational attainment now exceeds male attainment at almost every level while male labour market outcomes deteriorate,[72] this cuts in more than one direction. The measure must therefore be reported alongside a distributional decomposition, not as a single aggregate.

- **The measure stops short of complete welfare.** Lifetime earnings capture capability to provide, which is the Lewis concern with the conditions under which people live.[73] They do not capture environmental quality, safety, or civic life. This is an argument for a small dashboard, not for a single replacement number.

- **The lags are long and the political economy is hostile.** Returns arrive over twenty to forty years; electoral cycles run to five, and in several Caribbean states to less. Worse, the beneficiaries are diffuse while the losers from any shift away from an import-distribution economy are concentrated, well organised and, in small societies, personally known to those who would have to legislate against them. Any implementation strategy that does not name the losers explicitly will fail.

- **Measurement will be imperfect at first.** Labour force and earnings data across most of the region are not currently adequate for a rigorous Jorgenson–Fraumeni estimation, and several countries cannot yet be scored on the Human Capital Index at all. That is a reason to invest in national statistical offices — and to fund a common regional methodology through CARICOM, the CDB and the UWI rather than nineteen incompatible ones — not a reason to keep optimising a number we can calculate but should not be targeting.

- **The measure can be gamed.** Any indicator that becomes an objective invites manipulation, and a lifetime earnings stock is no exception: it can be flattered by a public payroll expansion, by wage-setting in protected sectors, or by simply not counting the people who left. That is why the framework is a small dashboard rather than a single

[71] World Bank (2024). The gap reflects lower measured lifetime earnings, arising from participation rates, hours, occupational segregation and wage discrimination, not from any difference in underlying capability.

[72] The reversal in educational attainment by sex is long-standing and widely documented across CARICOM states, and is not matched by a corresponding reversal in labour market outcomes. UNESCO Institute for Statistics education data are the source for country-level figures, which are not reproduced here.

[73] Lewis (1950). The formulation — that economics is the study of the conditions under which people live — is quote d in the companion paper.

number, why retention is reported separately from formation, and why the underlying microdata must sit with an insulated statistical office. An upcoming paper argues for focusing on non-monocrop (Oil, gas, tourism) net exports as a driving economic imperative.

- **The measure and the person can point in opposite directions.** This is the paper's sharpest objection, and it deserves to be stated at full strength. If human potential is valued at market wages, then a Jamaican nurse maximises her own lifetime earnings by leaving. Emigration raises her realised potential and lowers the national stock at the same time. A framework that treats retention as an indicator of success is therefore, on its face, a framework that counts an individual's best available decision as a national loss. I do not think this can be dissolved, only stated honestly: the national stock and individual welfare are different quantities, and they genuinely diverge here. What follows is that retention must never be pursued by restricting exit. It can only be pursued by changing the wage the domestic market offers — which is why the retention indicator and the living-wage indicator or purchasing power parity have to be read together, and why this paper is a companion to an argument about domestic production rather than a standalone measurement proposal.

- **If a citizen is a national asset, what claim does the state acquire?** None, and the framework must say so explicitly, because the language invites the opposite reading. This is the substantive reason for preferring human potential to human capital: capital is owned, potential is not. A person is not a national asset in the sense that a gas field is; the accounting treats the aggregate of a population's capability as an asset to compare it against other assets, which is a statistical device, not a property claim. Bonded scholarships, exit taxes and service obligations do not follow from this framework and are inconsistent with it. What follows is an obligation running the other way: a state that has formed a citizen's capability has a reason to make staying worth their while, and no standing to require it.

- **The region is not one economy.** Guyana is in an oil boom, Barbados recently did a debt restructuring, and Dominica, after a hurricane, does not face the same immediate problem. But they face the same structural one: an asset that will not last or cannot be controlled, a population whose capability is not being formed or not being used, and a measure of progress that cannot see either. The framework is common; the calibration is national.

Annex B. Defining and calculating a living wage

This measurement framework proposes reporting the share of employment paying above a living-wage threshold, alongside the participation rate. That indicator is only as good as the threshold behind it, and no CARICOM state currently publishes one. This note sets out a definition, three routes to a number, the parameters to be settled by convention, and how to apply the threshold to labour force survey data.

B.1 Two definitions, and why the paper needs both

The international standard is the Anker formulation, adopted by the Global Living Wage Coalition. It sets the test as whether a full working week's pay, in that place and at that time, buys a decent life for the worker *together with her dependants* — not bare survival, and not for the worker alone. What counts as decent is enumerated rather than left to judgement: enough food and clean water, housing fit to live in, schooling, medical care, the means to get to work, clothing, and something set aside for the things that go wrong.[74]

Two features of that definition govern everything that follows. It is anchored to a household but paid to an individual, so the number of earners assumed per household determines the answer. And it is a normative floor rather than an observed average: it is not the median wage, not a multiple of the minimum wage, and not the poverty line.

For the purposes of this paper, I would add a second definition, narrower and more useful to a finance ministry: the living wage is the wage at which a household no longer requires state transfers to reach a decent standard of living. The two definitions should converge if both are computed honestly, but the second does analytical work the first does not. It makes the indicator fiscal. On that reading, the share of employment below the living wage is not a social statistic but a predictor of the transfers-and-subsidies line, and the gap between the prevailing wage and the threshold is the size of the subsidy the wage structure imposes on the Treasury. That is Section 5's argument, restated as a measurement.

B.2 The calculation

The Anker method builds the household cost of decency from the bottom up, then converts it to an individual wage. Five steps.

[74] Richard Anker and Martha Anker, Living Wages Around the World: Manual for Measurement (Edward Elgar, 2017). The methodology underpins the Global Living Wage Coalition and is the reference standard for benchmark studies. The sentence above restates the Coalition's formal definition in different words; where precision matters the definition should be quoted exactly and attributed, not paraphrased.

1. Food. Build a diet that keeps a household properly nourished — adequate energy, protein, and micronutrients — from foods people in that country actually eat, choosing the cheapest combination that does the job. Price it where workers shop, not at national average prices.

2. Housing. Define a local standard for decent housing—durable construction, a minimum floor area per person, water, sanitation, and electricity—then cost rent and utilities for a dwelling that meets it. This is the step most often fudged, and in the Caribbean it is the step where urban and rural costs diverge most sharply.

3. Everything else. Estimate non-food, non-housing costs from the household budget survey by taking the ratio of such expenditure to food expenditure among households near the relevant income level, and applying that ratio to the food cost derived in step one. Then post-check the result: if the implied provision for health and education is below what the country's own standards require, raise it.

4. A margin for the unexpected. Add approximately five per cent for illness, funerals, appliance failure and similar shocks. Without it the standard is not decent but merely survivable.

5. Convert to a wage. Divide the household cost by the assumed number of full-time-equivalent earners per household to obtain the net wage, then gross up for income tax and National Insurance contributions to obtain the gross living wage.

B.3 Three routes to a number

Table 3. Three routes to a living-wage threshold

Route	What it requires	Assessment
A. From the national poverty line	Survey of Living Conditions data every Caribbean country already holds; an uplift from subsistence to decency; household size and earner assumptions	Crude but immediate. Can be published this year. Weakest on the decency uplift, which is a judgement rather than a measurement.
B. Anker Reference Values	Nothing locally; the values are derived by regression from completed benchmark studies and updated annually	Internationally comparable and cheap. Carries a confidence interval that must be reported. Best used to cross-check Route A.
C. Full Anker benchmark study	Market price collection, housing survey, nutritionist input; six to twelve months per location	The defensible standard. No CARICOM state has one. Appropriate for two or three regional anchor countries, funded jointly.

My recommendation is to publish on Route A immediately, cross-check against Route B, and propose Route C as a regional work programme through the Caribbean Development Bank and

CARICOM. The absence of any Anker benchmark in an independent CARICOM state[75] is itself the measurement gap this paper addresses, and closing it for even two countries would anchor the rest of the region.[76]

B.4 The parameters that decide the answer

Three conventions must be fixed and defended in public, because each moves the threshold materially and each will be attacked.

- **Household size.** Take the mean from the national household budget survey, for households containing children. Caribbean household composition is heterogeneous and a single national mean conceals a great deal, but a transparent convention is better than a contested estimate.
- **Earners per household.** This is the consequential one. The convention is to use the observed number of full-time-equivalent earners, derived from participation and unemployment rates. In a region where participation runs between fifty and seventy per cent, that figure is low, and the resulting threshold is correspondingly high. Expect this parameter to carry the whole argument.
- **Urban and rural.** Housing and transport costs diverge sharply in Guyana and Jamaica and barely at all in Barbados. Report separate thresholds where the divergence is material, and say so where it is not.

[75] The Global Living Wage Coalition lists roughly forty quality-assured benchmark studies worldwide, covering locations in Africa, Asia and Latin America. None is in an independent CARICOM state; the nearest is the Caribbean coast of Colombia.

[76] Anker Living Wage and Living Income Reference Values. Where no full study exists, the Anker Institute predicts a value statistically from the benchmark studies already completed. The predictions are refreshed each year and are built to be comparable between countries, but because they are predicted rather than measured they come with a stated margin of error, which should be published whenever the value is.

B.4.1 How much the earner assumption matters

The table below runs a single illustrative household cost through different earner assumptions. The figures are invented; the sensitivity is not.

Table 4. Sensitivity of the living wage to the earners-per-household assumption

Full-time-equivalent earners	Gross living wage (LCU/month)	Relative to the 1.6 convention
1.0	6,257	160%
1.2	5,214	133%
1.4	4,469	114%
1.6	**3,911**	**100%**
1.8	3,476	89%
2.0	3,129	80%

Moving from 1.6 earners to 1.0 raises the threshold by sixty per cent. No other decision in the calculation comes close. A country wishing to flatter its performance on this indicator need only assume more earners per household—which is why the assumption must be published alongside the result, and why it should be set regionally rather than nationally.[77]

B.5 Applying the threshold to survey data

The indicator is the share of employed persons whose earnings equal or exceed the threshold. Four practical points determine whether the resulting number means anything.

Use hourly, not monthly, earnings. Otherwise, part-time workers on perfectly adequate hourly rates fall below the line, and the indicator conflates low pay with short hours — two different problems requiring two different remedies.[78]

Report two versions. Report the share of all employment above the threshold and the share of full-time employment above it. The gap between them measures underemployment, which no Caribbean country currently reports well.

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[77] The figures in this table are illustrative and expressed in unspecified local currency units. They are chosen to show the shape of the calculation and the weight of each parameter, not to estimate a living wage for any country.

[78] Standard working week conventions differ across the region and the paper should state which is used. Forty hours is assumed here. Where the labour force survey records hours actually worked, the hourly conversion should use contracted or usual hours rather than hours worked in the reference week, which are distorted by absence and overtime.

Handle the self-employed explicitly. A large share of Caribbean employment is own-account, and most labour force surveys capture net earnings from self-employment poorly. Report the employee share and the total separately rather than pretending the survey measures both equally well, and read the result alongside the informality rate.

Where earnings are collected in bands, as they are in most of the region, use band midpoints and state that this is what has been done. This introduces error at the threshold, and you should acknowledge it rather than conceal it with a decimal point.

B.6 What not to do

- **Do not use the minimum wage as a proxy.** It is a political number set by a different process for a different purpose, and in most of the region it sits well below any defensible living wage. Comparing the two is useful; substituting one for the other is not.
- **Do not use the poverty line unadjusted.** Poverty lines measure subsistence. A living wage measures decency, which is a higher standard by construction, and the uplift between them is the whole point.
- **Do not report a single figure without its parameters.** Household size, earners per household, the standard working week and the reference year should appear with the number every time it is published. A living wage quoted bare invites dispute.

Finally, the threshold should be reviewed annually against the consumer price index and re-estimated from first principles every five years. A living wage that is not maintained becomes, within a few years of inflation, exactly the subsistence measure it was designed to replace.

Annex C. The comparison nobody makes

Conversion rates for the United States, the high-income economies and the OECD

Why this annex exists. A Caribbean minister presented with the conversion rates in Section 13 will reasonably ask what the number looks like in a rich country. The answer is not reassuring for anybody. No country in the world converts even two-thirds of a cohort's productive potential. Singapore, the best performer anywhere, converts three-fifths; the strongest OECD member shown here converts a little over half. The Caribbean is worse, but it is worse at something everyone is bad at — and nobody measures.

Table 5. Annex C: conversion rates for the United States, the high-income economies and the OECD

	Formation (HCI)	Utilisation (LFPR)	Conversion
Singapore	0.88	68.5%	60.3%
Sweden	0.80	66.5%	53.2%
Canada	0.80	65.0%	52.0%
Korea, Republic of	0.80	63.9%	51.1%
Japan	0.80	62.6%	50.1%
United Kingdom	0.78	62.5%	48.8%
Germany	0.75	60.5%	45.4%
United States	**0.70**	**62.3%**	**43.6%**
France	0.76	55.5%	42.2%
Italy	0.73	49.7%	36.3%
OECD (38 members)	**0.77 mean**	**61.6%**	**c. 47**
High-income average	**0.71**	**c. 60%**	**c. 42.6%**
World average	**0.56**	**60.6%**	**33.9%**
Jamaica	0.53	68.0%	36.0%
Trinidad and Tobago	0.60	54.6%	32.8%
Guyana	0.50	49.6%	24.8%

Sources: World Bank Human Capital Index 2020 Update; ILO modelled estimates of labour force participation, population aged 15+; author's calculation. Caribbean rows as in Section 13.

C.1 The figures

The table applies the Section 12 framework to the economies Caribbean policymakers are most often invited to emulate. Formation is the Human Capital Index;[79] utilisation is the labour force participation rate;[80] conversion is their product.[81] The OECD line is an approximation and is explained separately.[82]

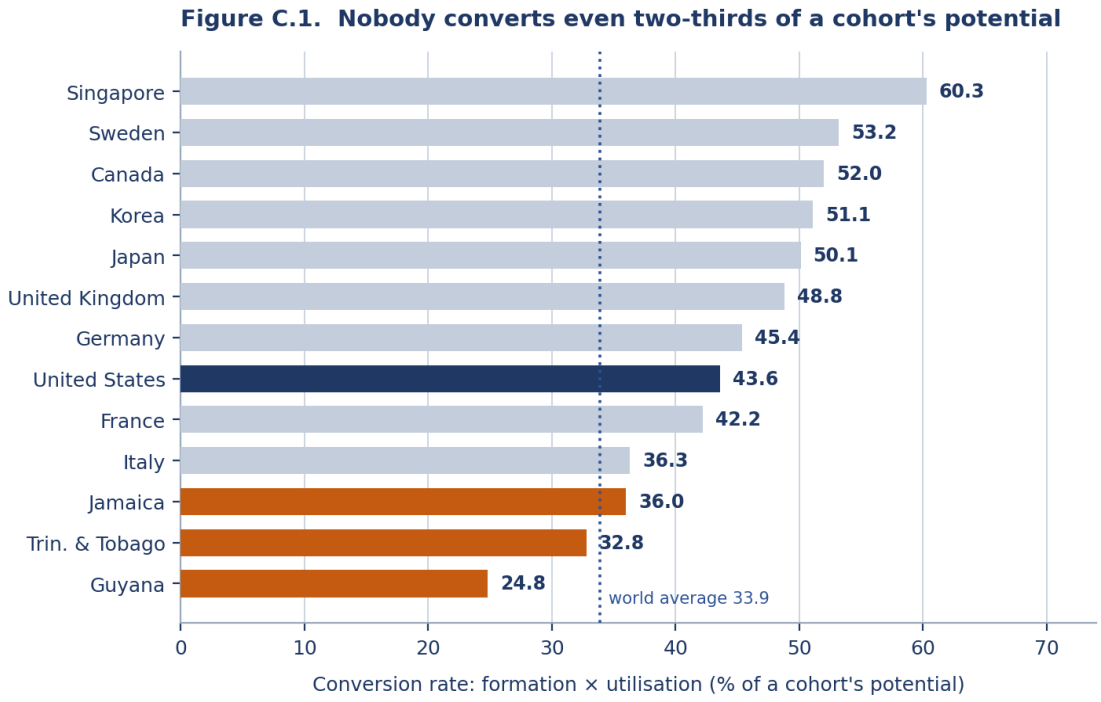


Figure C.1. Conversion rates on a single consistent basis. Orange denotes Caribbean economies, navy the United States, grey other high-income economies. The dotted line is the world average of 33.9 per cent. Sources as above.

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[79] World Bank, Human Capital Index 2020 Update. Scores are on a 0–1 scale and are the most recent globally comparable edition; the classic HCI remains a 2010–2020 database rather than an annually refreshed series.

[80] ILO modelled estimates of the labour force participation rate, population aged 15 and over, most recent available year. National definitions differ — the United States series is compiled on a 16+ basis by the Bureau of Labor Statistics, which raises the measured rate slightly relative to a 15+ series. The figures here are used for order of magnitude and rank, not for fine distinctions.

[81] Author's calculation. The multiplicative form is the same simplification used in Section 13 and carries the same caveat: the Index is a projection for a child born today while the participation rate describes the current labour force, so the two refer to different cohorts. A properly specified rate would follow one cohort through formation, entry, pay and retention.

[82] OECD average labour force participation of 61.6 per cent in 2024, the mean across the 38 member states, ranging from 74.7 per cent in Iceland to 49.7 per cent in Italy (ILO modelled estimates via World Bank World Development Indicators). The World Bank does not publish an OECD average Human Capital Index; the 0.77 shown is the unweighted mean of the nine OECD members listed above and is indicative only. The OECD conversion figure should therefore be read as an approximation of the order of magnitude, not as a published statistic.

C.2 Four observations

The gap is real, and smaller than the rhetoric suggests. The United States converts about 44 per cent of a cohort's potential, compared with Trinidad and Tobago's 33 per cent — roughly a third more, not several times more. The best performer in the table, Singapore at 60 per cent — not an OECD member — is not twice the Caribbean average. The distance between a rich country and a Caribbean one on this measure is a good deal narrower than the distance between them on GDP per capita, which is itself the point: output per head is flattered by capital and by rents, while conversion measures something closer to how well a society uses the people it has.

Every country fails this test. This observation matters most, and it is why the annex is here. Not one economy in the world converts two-thirds of what a cohort could become. The United States loses more than half. Germany, France and Italy lose more than half. The world average is 34 per cent, meaning roughly two-thirds of the productive potential of every generation alive is either never formed or never used.[83] A framework that only indicts poor countries would be a poverty measure wearing a new name. This one indicts everybody, which makes it a measure of development rather than income.

The direction of the American shortfall depends on the comparison. This is a useful corrective to any reading of this paper that treats participation as the main lever. Relative to Jamaica, American labour force participation is the weaker figure — 62.3 per cent against Jamaica's 68 — and what compensates is formation: the United States forms 0.70 of each cohort where Jamaica forms 0.53, a large enough gap to more than offset the lower participation rate. Measured instead against its own high-income peers, the picture reverses: the United States scores below the high-income average on the Human Capital Index, and its own score moved only from 0.69 to 0.70 across the decade to 2020, so against that comparison group the shortfall is genuinely in formation.[84] A rich country can put a smaller share of its people to work than a poorer one and still convert more — but only if its formation lead is large enough, and against its actual peers, the United States' lead is not.

Italy and Jamaica converge from opposite directions. Italy converts 36.3 per cent; Jamaica converts 36.0. The two economies arrive at almost the same figure by opposite routes. Italy forms a great deal — 0.73 — and then uses very little of it, with participation at under 50 per cent. Jamaica forms 0.53 and puts almost seven in ten of its working-age population into the labour market. One country builds people and does not employ them; the other employs people it has not built. Their GDP per capita differs by a factor of about five. Their conversion

[83] World average Human Capital Index of 0.56 and world labour force participation of about 60.6 per cent, giving a world conversion rate of approximately 33.9 per cent.

[84] World Bank, Human Capital Index country brief for the United States (2020): a score of 0.70, up from 0.69 in 2010, below the average for high-income countries. Expected years of school 12.9; harmonised test score 512 on a scale where 625 is advanced attainment.

rates differ by less than a third of a percentage point, and no statistic either government currently publishes would tell you so.

C.3 What the ranking reveals

Rank these economies by GDP per capita and the ordering is familiar and uninformative: the rich countries are at the top, the Caribbean at the bottom, and the ranking tells a minister nothing he did not already know and nothing he can act on. Rank them by conversion, and three things appear that the output ranking conceals.

- **Italy sits with Jamaica rather than with Germany.** Its problem is not that it is poor — it is not — but that it does not employ what it educates. That is a diagnosis, and it points at a policy.
- **The United States sits below Korea and Japan.** On output per head, the ordering is reversed. The conversion measure is registering something about the formation of the American population that GDP records nowhere, because a cohort poorly educated today shows up in output only twenty years later, and by then it is attributed to something else.
- **Guyana sits last while growing fastest.** This is the finding the main paper is built on, and it survives the comparison with rich countries intact. Guyana's output growth is the highest in the hemisphere and its conversion rate is the lowest in this table. No amount of GDP growth has moved it yet.

The point is this. GDP measures what was produced in a territory in a year, a fact about capital, resources, prices, and hours worked. Conversion measures what share of a generation's capability a society develops and then uses, which reflects schools, clinics, wages, and whether people stay. The two can move in opposite directions for decades, and in a resource economy they routinely do. Every country in this table publishes the first number quarterly to one decimal place. None publish the second at all.

C.4 How this should and should not be used

- **The comparison is indicative, not precise.** The participation series are ILO modelled estimates on a 15+ basis, while several national statistical offices — the United States among them — publish on a 16+ basis, which raises the measured rate. Differences of one or two points between countries in this table should not be read as meaningful. Differences of ten points should.
- **The crude rate flatters high-participation economies.** As Section 13 argues for Jamaica, a country can raise this indicator by putting more people into low-paid work. Applying a living-wage threshold would move some of these economies more than others, and would very likely move the Caribbean figures the furthest, since informal employment exceeds half the workforce in Jamaica and Barbados. The ordering here is therefore a floor and not a verdict.

- **No country in this table publishes the figure.** That is the last and most useful observation. The conversion rate is not a Caribbean statistic that rich countries have and we lack. We compute it here, for every economy shown, from two published indicators that no government combines. The measurement gap this paper identifies in the Caribbean is global; the Caribbean simply has more to lose from it.

Which suggests a modest ambition and a larger one. The modest ambition is that a Caribbean government should publish its conversion rate because it needs to know it. The larger one is that a Caribbean government could be the first in the world to publish it at all.

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