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The Great Decoupling: Human Capability Without Political Freedom, 1800–2025

A Long-Run Empirical Challenge to Modernization Theory

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ABSTRACT

We document a secular decline in the correlation between political freedom and human development capability over two centuries. Using a composite Human Capabilities Index (HCI) comprising 15 indicators across seven domains grounded in the Sen-Nussbaum capability approach—matched to political liberty scores for 91 countries over 225 years (808 country-year observations with complete HCI data; 3,479 total data points)—we show that the Pearson correlation between liberty and capability fell from $r = 0.79$ in the pre-1900 era to $r = 0.57$ in the post-1990 period. By 2023, 39 "Capable Autocracies" (HCI ≥ 70, Liberty < 60) exist—equaling the number of "Free and Capable" states for the first time in recorded history. This decoupling undermines modernization theory's core prediction that economic and social development leads to political liberalization. Cross-country regressions confirm that HCI gains no longer predict improvements in liberty once we control for authoritarian institutional capacity and state resource wealth. Country trajectory analysis reveals four archetypal paths through capability-liberty space: the diagonal ideal (South Korea), the vertical miracle (China), the leftward collapse (Venezuela), and democratic retrenchment (the United States post-2020). We propose a revised framework: capability is necessary but not sufficient for political freedom, and authoritarian regimes have learned to deliver material welfare without political opening. The implications for development theory, foreign aid policy, and democratic promotion are substantial.

Keywords: modernization theory, capability approach, autocracy, human development, political freedom, decoupling, development economics

JEL Codes: O10, P16, P51, I31

1. Introduction

For more than half a century, the dominant framework in political economy has held that economic development and political freedom are tightly coupled. Seymour Martin Lipset's (1959) seminal observation that "the more well-to-do a nation, the greater the chances that it will sustain democracy" launched a research tradition that linked industrialization, urbanization, education, and rising incomes to the inevitable spread of democratic governance. This "modernization theory" became the intellectual architecture for Cold War-era development policy, post-Soviet transition programs, and the optimistic declarations of the 1990s that liberal democracy represented the "end of history" (Fukuyama, 1992).

The empirical record of the twenty-first century presents a fundamental challenge to this framework. China has raised its Human Capabilities Index (HCI) from 19 to 86 over seven decades while its political liberty score has moved from 4 to 5—a gain of one point on a 100-point scale. The United Arab Emirates achieves an HCI of 92 with a liberty score of 22. Saudi Arabia, Russia, Belarus, Cuba, and Vietnam all demonstrate that high levels of human capability—measured by life expectancy, literacy, infrastructure access, and material living

standards—can be sustained under authoritarian governance. These are not isolated cases; they constitute a structural phenomenon.

This paper provides the first long-run quantification of the declining correlation between political freedom and human development capability. Using a novel composite index grounded in the Sen-Nussbaum capability framework (Sen, 1999; Nussbaum, 2011), we track the relationship across 91 countries, 13 benchmark years, and 225 years of history. Our central finding is stark: the correlation between liberty and capability has declined from r = 0.79 in the pre-1900 era to r = 0.57 in the post-1990 period, and by 2023, the number of Capable Autocracies equals the number of Free and Capable states.

We make four contributions. First, we construct and validate a 15-indicator Human Capabilities Index that operationalizes Sen's capability approach across seven domains with deep historical coverage. Second, we provide the first systematic time-series documentation of the freedom-development correlation decline. Third, we develop a quadrant classification that identifies and catalogs 39 Capable Autocracies—states that have achieved high human capability without political liberalization. Fourth, we use country trajectory analysis to demonstrate that modernization theory's predicted diagonal path (rising capability producing rising freedom) is only one of several observed patterns, and no longer the most common one.

The remainder of this paper proceeds as follows. Section 2 reviews the modernization theory literature and its critiques. Section 3 introduces the Human Capabilities Index. Section 4 describes our data and methods. Sections 5 through 7 present results: the declining correlation, the quadrant analysis, and country trajectories. Section 8 discusses why modernization theory fails. Section 9 proposes a revised framework. Section 10 notes limitations, and Section 11 concludes.

2. Literature Review: Modernization Theory and Its Discontents

2.1 The Classical Formulation

Lipset (1959) established the theoretical foundation with his observation that democratic stability correlated with national wealth, industrialization, urbanization, and education. The mechanism was straightforward: economic development creates a large middle class, increases education, generates demands for political participation, and weakens the capacity of elites to maintain autocratic control. This framework was formalized by subsequent scholars who identified thresholds—typically around $6,000–$8,000 GDP per capita in PPP terms—above which democratic transitions become likely (Przeworski and Limongi, 1997; Boix, 2003).

Huntington (1991) extended the framework with his analysis of the "third wave" of democratization, arguing that economic growth in Southern Europe, Latin America, and East

Asia had created the social preconditions for democratic transition. Inglehart (1997) and Inglehart and Welzel (2005) added a cultural mechanism, arguing that economic security produces a shift from "survival values" to "self-expression values," which in turn generates demand for democratic governance.

Fukuyama's (1992) triumphalist synthesis declared liberal democracy the final form of human government, combining the economic logic of capitalism with the political logic of modernization. This was not merely academic theorizing; it became the operational assumption of the World Bank, USAID, the European Union's enlargement process, and the broader post-Cold War development consensus. Build schools, hospitals, and infrastructure, the logic ran, and democracy will follow.

2.2 The Critical Turn

Challenges to modernization theory emerged from multiple directions. Przeworski and Limongi (1997) drew a crucial distinction between the "endogenous" and "exogenous" versions of the theory. The endogenous version holds that development *causes* democratization; the exogenous version holds merely that development helps *sustain* democracies once they are established. Using data from 135 countries between 1950 and 1990, they found strong support for the exogenous version but much weaker evidence for the endogenous one. Democracies that become wealthy rarely revert to autocracy, but autocracies that become wealthy do not reliably democratize.

Boix and Stokes (2003) revisited this finding with extended historical data and more sophisticated econometric techniques. They found that development does increase the probability of democratic transition, but the effect weakens substantially after 1950, precisely the period when authoritarian regimes began developing institutional capacity for economic management. This temporal qualification is consistent with our finding of a declining correlation.

Acemoglu, Johnson, Robinson, and Yared (2008) mounted the most comprehensive econometric challenge. Using a panel of countries from 1875 to 2000, they showed that the cross-sectional correlation between income and democracy was driven almost entirely by long-run historical factors—particularly colonial institutions and early state formation. Once country fixed effects were included, the within-country effect of income on democracy was "at best weak." Their conclusion was unambiguous: "increases in income do not lead to improvements in democracy" (p. 808).

Treisman (2015, 2020) offered a partial rehabilitation. While acknowledging that modernization is not inevitable, he argued that development does increase the *probability* of democratization over long time horizons—perhaps 20 to 40 years. His analysis suggested that the effect operates not through a smooth threshold but through periodic "windows of opportunity" during which economic crisis or leadership succession creates possibilities for

regime change that are more likely to result in democracy in developed than in undeveloped societies.

2.3 The Authoritarian Learning Literature

A parallel literature has documented the mechanisms by which authoritarian regimes have learned to sustain economic growth without political opening. Bueno de Mesquita et al. (2003) formalized the "selectorate theory," showing how autocrats can optimize public goods provision to maintain elite coalitions without extending political participation. Nathan (2003) described "authoritarian resilience" in the Chinese context, arguing that the Chinese Communist Party had institutionalized mechanisms for elite succession, policy learning, and controlled economic reform that stabilized one-party rule.

Haber (2006) demonstrated that authoritarian regimes with access to natural resource revenues face fundamentally different institutional incentives, enabling "crony capitalism" that delivers growth without building the institutional infrastructure that modernization theory assumes leads to democratic demand. Ross (2001, 2012) extended this analysis to oil states, showing that resource wealth is a robust predictor of democratic failure.

More recently, Guriev and Treisman (2022) documented the rise of "spin dictators"—authoritarian leaders who maintain power not through overt repression but through information manipulation, co-optation of elites, and performance legitimacy based on economic delivery. This mechanism is directly relevant to our finding: capable autocracies maintain power precisely because they deliver material welfare, making the capability-freedom link endogenous.

2.4 The Democratic Recession

A growing literature documents what Diamond (2015) terms the "democratic recession"—a global decline in the quality and extent of democratic governance since approximately 2006. Levitsky and Way (2010) described the rise of "competitive authoritarianism," in which regimes maintain democratic facades while hollowing out substantive political competition. V-Dem data show that the number of countries democratizing has been exceeded by the number autocratizing in every year since 2012 (Coppedge et al., 2023).

The democratic recession literature is typically framed in political terms: as a failure of democratic institutions, a rise in populism, or an expansion of authoritarian influence. Our contribution is to situate the recession in developmental terms. The Great Decoupling suggests that the democratic recession is partly a consequence of successful authoritarian development: as more countries demonstrate that capability can be achieved without freedom, the normative pressure for democratization weakens. Levitsky and Ziblatt (2018) describe how democracies die from within; our framework shows how the external

environment—the visible success of capable autocracies—contributes to the erosion of democratic norms globally.

2.5 Gaps in the Literature

Despite this rich theoretical and empirical debate, the literature lacks three things that this paper provides. First, there is no long-run time-series quantification of how the freedom-development *correlation itself* has changed. Studies typically test whether development causes democratization at a given point in time; we test whether the *strength of the association* has evolved over two centuries. Second, the literature overwhelmingly uses GDP per capita as the development measure. We replace this with a multidimensional capability index grounded in a well-established normative framework. Third, no study systematically catalogs and characterizes the "Capable Autocracy" category—states that have fully decoupled capability from freedom—as a structural phenomenon rather than a set of individual cases.

3. The Human Capabilities Index

3.1 Theoretical Foundation

Our Human Capabilities Index (HCI) is grounded in Amartya Sen's (1999) capability approach, as extended by Martha Nussbaum (2000, 2011). Sen argued that development should be understood not as the expansion of income or output but as the expansion of human "capabilities"—the substantive freedoms that allow people to live lives they have reason to value. Nussbaum (2011) operationalized this framework with a list of ten "central capabilities," including life, bodily health, bodily integrity, practical reason, affiliation, and control over one's environment.

We map these philosophical foundations to 15 measurable indicators organized in seven empirical domains. The design philosophy follows three principles: (i) breadth across the capability space, ensuring that material, health, educational, psychological, and agency dimensions are all represented; (ii) historical depth, prioritizing indicators available from 1800 where possible; and (iii) commensurability, normalizing all indicators to a 0–100 scale for aggregation.

3.2 Domains and Indicators

Table 1 presents the full HCI architecture. Seven domains capture distinct dimensions of human capability, each containing two to three indicators.

Table 1: Human Capabilities Index — Domain Architecture

Domain	#	Indicator	Unit	Coverage	Source
D1: Survival & Longevity	1	Life Expectancy at Birth	Years	1800–2023	Gapminder / UN WPP
	2	Infant Mortality Rate	Per 1,000 births	1800–2023	Gapminder / UN IGME
D2: Maternal & Child Health	3	Maternal Mortality Ratio	Per 100,000 births	1990–2023	WHO/UNICEF/UNFPA
	4	Under-5 Stunting Prevalence	%	2000–2022	WHO/UNICEF/World Bank
D3: Knowledge & Education	5	Adult Literacy Rate	% age 15+	1800–2023	UNESCO / OWID
	6	Mean Years of Schooling	Years (25+)	1950–2023	Barro-Lee / UNDP
	7	Expected Years of Schooling	Years	1970–2023	UNESCO UIS
D4: Material Living Standard	8	GDP per Capita (PPP)	2017 intl $	1800–2023	Maddison / World Bank
	9	Extreme Poverty Rate	% <$2.15/day	1981–2022	World Bank PIP
D5: Psychological Well-being	10	Life Satisfaction	0–10 scale	2005–2023	Gallup / WHR
	11	Suicide Mortality Rate	Per 100,000	1950–2023	WHO
D6: Basic Infrastructure	12	Safe Water Access	%	2000–2022	WHO/UNICEF JMP
	13	Electricity Access	%	1990–2022	World Bank / IEA
D7: Agency & Equality	14	Gender Development Index	Ratio	1990–2023	UNDP HDR
	15	Voter Turnout	% eligible	1945–2023	IDEA

Note: Indicators 2, 3, 4, 9, and 11 are inverted during normalization (higher raw values indicate worse outcomes). A minimum of 3 available indicators is required for a country-year observation to receive a composite HCI score.

3.3 Normalization and Aggregation

Each indicator is normalized to a 0–100 scale using min-max normalization across the full cross-country, cross-temporal sample. For indicators where higher values indicate worse outcomes (infant mortality, maternal mortality, stunting, extreme poverty, suicide rate), we invert the normalization:

$$HCI_i = [(x_{max} - x_i) / (x_{max} - x_{min})] \times 100 \quad (1)$$

For indicators where higher values are better (life expectancy, literacy, GDP, etc.):

$$HCI_i = [(x_i - x_{min}) / (x_{max} - x_{min})] \times 100 \quad (2)$$

The composite HCI for each country-year is the arithmetic mean of all available normalized indicators, subject to a minimum of three indicators. We adopt equal weighting within and across domains as our baseline specification, following the precedent of the UNDP's Human Development Index. Section 5 reports sensitivity tests using geometric mean aggregation and domain-weighted alternatives.

3.4 Comparison with the Human Development Index

Our HCI differs from the UNDP's HDI in three respects. First, it is broader: 15 indicators across seven domains versus three indicators across three domains. Second, it includes a psychological well-being domain (life satisfaction, suicide rates) and an agency domain (gender development, voter turnout) that the HDI omits. Third, it has deeper historical coverage, with four indicators available from 1800. These differences matter analytically: the HDI's reliance on income as one of three components makes it partly tautological as a predictor of economic outcomes; our broader index is less susceptible to this circularity.

4. Data and Methods

4.1 Sample and Coverage

Our panel comprises 91 countries observed at 13 benchmark years (1800, 1850, 1900, 1913, 1929, 1945, 1960, 1975, 1990, 2000, 2010, 2020, 2023), yielding a theoretical maximum of 1,183 country-year cells. After applying the three-indicator minimum, the working sample contains 808 country-year observations with complete HCI scores and 3,479 individual indicator-level data points. Coverage improves substantially over time: approximately 20% of the potential sample is observed in the pre-1850 period, rising to 92% by the 1990–2023 era.

The 91 countries span all world regions and collectively account for over 95% of the world's population in 2023. The sample includes 38 states classified as "Free and Capable," 39 as "Capable Autocracies," 6 as "Free but Struggling," and 8 as "Neither Free nor Capable" under our quadrant classification.

4.2 Political Liberty Measurement

Political liberty scores are drawn from the Political Topology Index (PTI), which synthesizes Freedom House ratings, V-Dem indices, and qualitative assessments of institutional constraint on a 0–100 scale. For pre-1972 periods (before Freedom House coverage), scores are estimated from historical records of electoral participation, civil liberties protections, and executive constraint using the Polity IV and V-Dem historical datasets. The PTI updates more rapidly than annual indices, incorporating institutional developments within the current year.

A methodological note is warranted regarding the United States. The PTI score for the US in 2023–2025 ($L \approx 48$) reflects a real-time institutional assessment that incorporates executive action patterns through early 2026. Published indices score the US higher: Freedom House assigns 83/100 (2024 report), and V-Dem's Liberal Democracy Index yields approximately 65–72 on a rescaled 0–100 measure. We report results under both the PTI assessment and alternative specifications to ensure robustness, and discuss this divergence further in Section 10.

4.3 Econometric Framework

Our empirical strategy employs three complementary approaches.

Correlation time-series. We compute Pearson correlations between HCI and Liberty for each era (pre-1900, 1900–1945, 1945–1990, post-1990) and test the significance of the declining trend using Fisher's z-transformation for comparing correlation coefficients across independent samples.

Cross-country regression. We estimate panel regressions of the form:

$$Liberty_{it} = \alpha + \beta_1 HCI_{it} + \beta_2 X_{it} + \mu_i + \varepsilon_{it} \tag{3}$$

where X_{it} includes controls for resource wealth (oil rents as % of GDP), authoritarian institutional capacity (years of continuous autocratic rule), regional fixed effects, and era fixed effects. We also estimate the reverse specification with HCI as the dependent variable.

Quadrant analysis. We classify all 91 countries into four quadrants defined by thresholds of HCI = 70 and Liberty = 60, track quadrant membership over time, and compute mean outcome differences across quadrants.

$$Quadrant = f(HCI \geq 70, Liberty \geq 60) \quad (4)$$

5. Results: The Declining Correlation

5.1 Era-by-Era Correlation Decline

Table 2 presents our central finding: the Pearson correlation between HCI and Liberty has declined monotonically across the four eras of our sample.

Table 2: HCI–Liberty Correlation by Historical Era

Era	N (country-years)	Pearson *r*	95% CI	Spearman *ρ*	*p*-value
Pre-1900	78	**0.791**	[0.69, 0.87]	0.76	<0.001
1900–1945	156	**0.740**	[0.66, 0.80]	0.71	<0.001
1945–1990	303	**0.607**	[0.53, 0.67]	0.59	<0.001
Post-1990	453	**0.566**	[0.50, 0.63]	0.55	<0.001

Note: Pearson r computed on matched HCI–Liberty pairs. Confidence intervals via Fisher z-transformation. All correlations significant at $p < 0.001$. The decline from $r = 0.79$ to $r = 0.57$ is statistically significant ($z = 2.83$, $p < 0.005$).

> **Result 1:** The HCI–Liberty correlation declined from $r = 0.79$ (pre-1900) to $r = 0.57$ (post-1990), a drop of 0.22 correlation points. The decline is monotonic across all four eras and statistically significant.

The decline is not driven by sample composition. We conduct a constant-panel test using only those countries present in all four eras (Section 5.3) and find that the decline persists. Nor is it an artifact of the particular development measure: when we replace HCI with GDP per capita alone, the decline is of similar magnitude (from $r = 0.73$ to $r = 0.52$), consistent with earlier findings by Acemoglu et al. (2008).

5.2 Regression Analysis

Table 3 presents cross-country regression results estimating the relationship between HCI and Liberty with progressively richer controls.

Table 3: Cross-Country Regressions — Liberty as Dependent Variable

Variable	(1) Bivariate	(2) + Era FE	(3) + Region FE	(4) + Resource & Institutional Controls
HCI	0.84*** (0.05)	0.72*** (0.06)	0.58*** (0.07)	0.31** (0.09)
Oil Rents (% GDP)	—	—	—	−0.62*** (0.11)
Years Autocratic Rule	—	—	—	−0.28*** (0.06)
Post-1990 × HCI	—	−0.18** (0.08)	−0.21*** (0.07)	−0.15* (0.08)
Constant	−18.5***	−9.2**	3.4	22.6***
R^2	0.32	0.38	0.48	0.61
N	808	808	808	624

*Note: OLS with robust standard errors clustered by country in parentheses. *** p<0.01, ** p<0.05, * p<0.10. Column (4) loses observations due to resource rent data availability.*

Three patterns emerge. First, the bivariate HCI coefficient declines from 0.84 to 0.31 as controls are added, indicating substantial confounding. Second, the Post-1990 × HCI interaction is consistently negative and significant, confirming that the HCI-Liberty relationship has weakened over time even in a regression framework. Third, oil rents and accumulated years of autocratic rule are powerful negative predictors of liberty, with oil rents showing the largest standardized coefficient in the full specification.

5.3 Robustness: Constant Panel and Aggregation Method

We conduct three robustness tests. First, we repeat the era-by-era correlation analysis using only the 24 countries present in at least three of four eras (the "constant panel"). The decline is preserved: r = 0.82 (pre-1900) to r = 0.61 (post-1990), ruling out sample composition as the driver.

Second, we replace the arithmetic mean aggregation with geometric mean aggregation (shifting by +1 to handle zeros). The Spearman rank correlation between arithmetic and geometric HCI scores is ρ = 0.97, and the era-by-era correlation decline is virtually identical under both methods.

Third, we implement a leave-one-domain-out jackknife. Removing any single domain changes the HCI-Liberty correlation by no more than 0.04 points, and the count of Capable Autocracies varies by no more than 3. The results are robust to domain composition.

Table 4: Robustness — Leave-One-Domain-Out Sensitivity (Post-1990 Era)

Domain Removed	*r*(HCI, Liberty)	Δ*r*	Capable Autocracies	Δ Count
None (Baseline)	0.566	—	39	—
D1: Survival & Longevity	0.553	−0.013	38	−1
D2: Maternal & Child Health	0.571	+0.005	39	0
D3: Knowledge & Education	0.538	−0.028	40	+1
D4: Material Living Standard	0.590	+0.024	37	−2
D5: Psychological Well-being	0.542	−0.024	41	+2
D6: Basic Infrastructure	0.560	−0.006	39	0
D7: Agency & Equality	0.601	+0.035	36	−3

Note: The largest deviation is $\Delta r = 0.035$ when D7 (Agency & Equality) is removed, which mechanically increases the correlation since agency indicators are partially endogenous to political freedom. No single domain drives the overall result.

6. Results: The Quadrant Analysis

6.1 The Four Quadrants

We classify each country into one of four quadrants defined by the thresholds HCI = 70 and Liberty = 60. These thresholds are chosen to approximate the 60th percentile on each dimension and to yield substantively interpretable groups. Table 5 presents the quadrant distribution and mean outcomes for the 2023 cross-section.

Table 5: Quadrant Classification and Mean Outcomes (2023)

Quadrant	N	Mean GDP/capita	Mean Life Exp.	Mean HCI	Mean Liberty	Mean Life Satisfaction	Mean GDI
I: Free & Capable	38	$35,700	81.2 yrs	88.9	85.4	6.5/10	0.99
II: Capable Autocracy	39	$17,600	74.8 yrs	81.7	20.3	5.4/10	0.93
III: Free but Struggling	6	$4,100	67.3 yrs	66.8	64.2	4.5/10	0.89
IV: Neither	8	$1,900	62.1 yrs	55.4	12.8	3.6/10	0.80

Note: GDP per capita in 2017 PPP dollars. Life satisfaction on Cantril ladder (0–10). GDI = Gender Development Index (female/male HDI ratio). All means computed over countries with available data.

The most consequential finding is that Quadrant II—the Capable Autocracies—now contains 39 countries, equaling or exceeding the 38 countries in Quadrant I (Free and Capable). This parity is historically unprecedented. In 1960, Free and Capable states outnumbered Capable Autocracies by 18 to 6. In 1990, the ratio was 28 to 14. The crossover occurred in the early 2020s.

6.2 The Quadrant Evolution, 1900–2023

Table 6 traces the evolution of quadrant membership over the twentieth and twenty-first centuries.

Table 6: Quadrant Membership Over Time (Number of Countries)

Year	Free & Capable	Capable Autocracy	Free but Struggling	Neither
1900	5	2	8	14
1945	8	4	10	20
1960	18	6	8	24
1975	20	10	6	22
1990	28	14	4	20
2000	36	22	2	16
2010	40	28	1	14
2023	38	39	1	13

Note: Classification uses HCI = 70 and Liberty = 60 thresholds. The Capable Autocracy category has grown from 2 countries in 1900 to 39 in 2023. Free & Capable peaked at 40 in 2010 and has since declined to 38.

> **Result 2:** Capable Autocracies overtook Free and Capable states in the early 2020s. From 2 countries in 1900 to 39 in 2023, the Capable Autocracy category has grown at an accelerating rate, while the Free and Capable category peaked in 2010 and has since declined.

6.3 What Capable Autocracies Deliver—and What They Do Not

Capable Autocracies deliver measurable gains in healthcare, education, and infrastructure that approach democratic standards. Mean life expectancy in Capable Autocracies is 74.8 years versus 81.2 in Free and Capable states—a gap that has narrowed from 18 years in 1960 to 6.4 years in 2023. Adult literacy rates are 93% versus 99%. Electricity access is 97% versus 100%. Infrastructure access is 94% versus 100% for safe water.

However, three outcomes systematically diverge. Life satisfaction is 1.1 points lower in Capable Autocracies (5.4 vs. 6.5 on a 10-point scale), a gap that has not narrowed over two decades. Gender development is 0.06 points lower (0.93 vs. 0.99), reflecting systematic constraints on women's participation. And GDP per capita is $18,100 lower ($17,600 vs. $35,700), suggesting that authoritarian growth models, while effective at catching up, may face ceilings that democratic market economies do not.

Table 5b: Capable Autocracy vs. Free & Capable — Outcome Gaps

Outcome Dimension	Free & Capable (n=38)	Capable Autocracy (n=39)	Gap	Significance
GDP per capita (PPP)	$35,700	$17,600	−$18,100	***
Life expectancy (years)	81.2	74.8	−6.4	***
Infant mortality (per 1,000)	4.1	12.8	+8.7	***
Adult literacy (%)	98.8	92.6	−6.2	***
Mean years schooling	11.9	9.2	−2.7	***
Life satisfaction (0–10)	6.5	5.4	−1.1	***
Gender Dev. Index	0.99	0.93	−0.06	***
Safe water access (%)	99.5	93.8	−5.7	**
Electricity access (%)	100.0	97.4	−2.6	*

*Note: Welch two-sample t-tests. *** $p<0.01$, ** $p<0.05$, * $p<0.10$. Infrastructure gaps (water, electricity) are narrowing and may not be significant in future data.*

The outcome gap table reveals a pattern: Capable Autocracies can match democracies on binary outcomes (electricity access: 97% vs. 100%) and basic health indicators (life expectancy gap narrowing from 18 years to 6.4 years) but consistently underperform on outcomes that reflect individual agency, subjective well-being, and economic complexity. The life satisfaction gap of 1.1 points is particularly notable because it persists even among high-income Capable Autocracies: the UAE (life satisfaction 6.9) and Saudi Arabia (6.5) approach but do not exceed democratic averages despite per-capita incomes comparable to Western European democracies. This suggests that what democracies provide beyond material capability—political voice, accountability, freedom of expression—contributes independently to subjective well-being.

7. Results: Country Trajectories

The aggregate patterns described above mask substantial heterogeneity in how individual countries move through capability-liberty space over time. We identify four archetypal trajectories, each with distinct implications for modernization theory.

7.1 South Korea: The Diagonal Ideal

South Korea's trajectory most closely matches modernization theory's prediction. From a starting point as a Japanese colony (L = 5, HCI = 14 in 1900), Korea moved through autocratic modernization under Park Chung-hee (L = 8, HCI = 67 by 1975)—building an industrial economy, achieving near-universal literacy, and extending life expectancy—before undergoing

democratic transition in 1987. Liberty jumped from 8 to 62 between 1975 and 1990, eventually reaching 83 by 2023, with HCI at 86.

The Korean case demonstrates that modernization theory *can* work—but only under specific conditions. The 1987 transition required a sustained democracy movement, a military that chose not to suppress it, Cold War geopolitical pressures from the United States, and a specific economic structure (export-oriented manufacturing) that made the middle class both large and economically autonomous from the state. These conditions are not generalizable.

7.2 China: The Vertical Miracle

China's trajectory is the most dramatic repudiation of modernization theory in the dataset. HCI rose from approximately 19 (1900) to 86 (2023)—a gain of 67 points encompassing near-universal literacy (97%), life expectancy of 78 years, GDP per capita of $19,100, and world-class infrastructure. Liberty, meanwhile, moved from 4 to 5 over the same period—effectively zero change.

China achieves maximum decoupling: an HCI-Liberty gap of 81 points. No other country in history has achieved human development at this scale (1.4 billion people) with so little political change. The Chinese case proves, at scale, that a state can build world-class infrastructure, achieve near-universal literacy, extend life expectancy by decades, and lift 800 million people out of poverty—all without political liberalization. The Chinese Communist Party's capacity for "authoritarian upgrading" (Heydemann, 2007) has been more effective than modernization theorists anticipated.

7.3 The United Arab Emirates: Petro-Capability

The UAE represents a distinct pathway: resource-funded capability without either democratic demand or economic diversification pressures. With an HCI of 92 and Liberty of 22, the UAE demonstrates that a rentier state can purchase world-class health systems, educational infrastructure, and material living standards through the redistribution of hydrocarbon revenues. The UAE ranks among the top 10 globally on life expectancy (79 years), literacy (98%), and infrastructure access (100%), yet maintains a monarchical political system with no competitive elections.

The UAE model differs from China's in that capability is not built through industrialization and mass education but through imported expertise and redistributed resource wealth. This makes the UAE case less portable as a development model but highly illustrative of the decoupling phenomenon: political freedom plays no necessary role in achieving measured human capability when resource wealth can substitute for institutional capacity.

7.4 Venezuela: The Leftward Collapse

Venezuela demonstrates that decoupling works in reverse. Once Latin America's wealthiest democracy (L = 72, HCI = 71 by 1975), Venezuela experienced a catastrophic erosion of political liberty beginning in the late 1990s. Liberty fell from 72 to 8—a drop of 64 points—while HCI initially held steady and then began to decline, reaching 79 by 2023 after peaking at 84 in 2010.

The Venezuelan case reveals an important asymmetry: capability degrades after freedom is lost, but with a lag of approximately 5–10 years. Healthcare systems, educational infrastructure, and economic institutions built during the democratic period continue to function under autocratic rule for some time before gradually eroding. This lag explains why cross-sectional data can show high-capability autocracies that may be on a downward trajectory not yet reflected in their HCI scores.

7.5 The United States: Democratic Retrenchment

The United States traced a textbook modernization trajectory for 220 years, moving steadily northeast through the capability-liberty space from L = 42, HCI = 42 (1800) to L = 94, HCI = 88 (2010). It was the paradigmatic case for the theory that freedom and capability reinforce each other.

Beginning around 2016 and accelerating dramatically after 2020, the US experienced what is, by the PTI measure, the fastest horizontal collapse in the dataset: Liberty fell from 86 to 48 while HCI barely moved (88 to 91). Even under the more conservative Freedom House assessment (L = 83), the trajectory represents an unprecedented leftward shift for an established democracy. The American case demonstrates that the modernization process is not unidirectional: democratic retrenchment can occur even in the world's oldest and wealthiest democracy without immediate consequences for measured human capability.

7.6 Singapore: The Benevolent Autocracy Thesis

Singapore occupies a unique position in capability-liberty space. With an HCI of 92—one of the highest in the world—and a Liberty score of 47, Singapore is the most capable country in the Capable Autocracy quadrant. Its trajectory is distinctive: unlike China, which achieved capability through rapid industrialization of a continental economy, Singapore built capability through a deliberate developmental state model combining trade openness, meritocratic bureaucracy, public housing, and universal healthcare within a framework of constrained political competition.

The Singapore model is often invoked by proponents of "benevolent autocracy" who argue that effective governance does not require democratic accountability. Our data partially support and partially challenge this claim. Singapore's HCI of 92 exceeds most democracies,

and its GDP per capita ($87,900) is the highest in the sample. However, Singapore's life satisfaction score (6.5) is comparable to Free and Capable democracies rather than exceeding them, suggesting that material capability alone does not produce the subjective well-being premium that democratic voice provides. The Singapore model may represent an upper bound on what authoritarian governance can achieve—high material capability but not superlative life satisfaction.

Table 7: Country Trajectory Summary

Country	Trajectory Type	Start (L, HCI)	End (L, HCI)	ΔLiberty	ΔHCI
South Korea	Diagonal Ideal	(5, 14)	(83, 86)	+78	+72
China	Vertical Miracle	(4, 19)	(5, 86)	+1	+67
UAE	Petro-Capability	(5, 30)	(22, 92)	+17	+62
Venezuela	Leftward Collapse	(72, 71)*	(8, 79)	−64	+8
United States	Democratic Retrenchment	(94, 88)**	(48, 91)	−46	+3

*Note: Start position is circa 1900 for South Korea, China, and UAE; *1975 peak for Venezuela; **2010 peak for the United States. End position is 2023. US Liberty score reflects PTI assessment; see Section 4.2 for methodological note.*

8. Discussion: Why Modernization Theory Fails

8.1 The Bundle Assumption

Modernization theory's fundamental error was treating human capability and political freedom as a bundle—as components of a single process of "development" that moved in lockstep. The evidence presented here demonstrates that the bundle can be unbundled. States can deliver healthcare, education, infrastructure, and economic growth while maintaining authoritarian political systems. The mechanisms through which they do so illuminate why the theory fails.

8.2 Three Mechanisms of Decoupling

Authoritarian learning. The twentieth century provided a series of demonstrations that autocratic states could deliver economic growth: the Soviet Union's rapid industrialization, the East Asian developmental states, and China's reform era. Each generation of authoritarian regimes learned from its predecessors, developing increasingly sophisticated tools for economic management without political opening. Nathan's (2003) "authoritarian resilience" concept captures this: modern autocracies do not merely suppress dissent; they co-opt it by delivering material improvements.

Technology transfer without institutional transfer. In the pre-1900 era, capability required homegrown institutions: a functioning civil service, a tax system, public health infrastructure, and educational institutions. Building these institutions required political negotiation, which created pressure for democratic participation. In the modern era, technology and organizational templates can be imported. China did not need to develop pharmaceutical research capacity to extend life expectancy; it could purchase vaccines and medical equipment. Saudi Arabia did not need to develop an educated workforce to build hospitals; it could hire foreign doctors. The globalization of technology allowed capability to be imported without the institutional development process that historically produced democratic demand.

Resource-funded capability. Natural resource wealth provides an alternative financing mechanism for capability that bypasses the taxation-representation link at the heart of modernization theory. Ross (2001, 2012) demonstrated that oil wealth inhibits democratization; our data show that it simultaneously enables capability accumulation. The Gulf states represent the purest case: hydrocarbon revenues fund world-class health systems, educational infrastructure, and material living standards without any need for the social contract that modernization theory assumes connects taxation to political representation.

8.3 The Information Control Dimension

A fourth mechanism, emphasized by Guriev and Treisman (2022), deserves special attention. Modern authoritarian regimes have developed sophisticated tools for information control that break the link between education and democratic demand. Lipset (1959) assumed that educated citizens would demand political participation; this assumption was reasonable in an era when education also produced access to uncensored information. In the digital age, authoritarian states can provide excellent technical education while controlling the information environment, channeling educated populations toward economic productivity rather than political activism.

China's "Great Firewall," Russia's media consolidation, and the Gulf states' managed information environments all demonstrate that education and information access are separable in ways that modernization theorists did not anticipate. The HCI captures educational attainment (literacy, years of schooling) but cannot capture the content and freedom of information that those educational capabilities produce—a limitation that is itself informative about the decoupling phenomenon.

8.4 What Modernization Theory Gets Right

The theory is not entirely wrong. Three findings from our data are consistent with a modified version of the modernization hypothesis. First, the correlation between HCI and Liberty, while declining, remains positive and statistically significant. Capability and freedom are not independent; they are merely less tightly coupled than they once were. Second, the South Korean trajectory demonstrates that capability *can* produce democratic transition under the right conditions. Third, Capable Autocracies systematically underperform Free and Capable states on subjective well-being (life satisfaction), gender equality, and per-capita income, suggesting that the authoritarian growth model has ceilings that the democratic model does not.

The revised interpretation is not that development is irrelevant to democratization but that it is insufficient. Capability is a necessary but not sufficient condition for political freedom. The additional conditions—autonomous civil society, military restraint, geopolitical pressure, economic structures that create independent middle classes—are contingent rather than automatic products of economic development.

9. A Revised Framework: Capability as Necessary but Not Sufficient

We propose the following revision to modernization theory, formalized as three propositions.

Proposition 1 (Capability Threshold): Below a minimum level of human capability (approximately HCI = 50), sustained democracy is extremely unlikely. Capability is necessary for freedom.

This proposition is consistent with Przeworski and Limongi's (1997) exogenous version of modernization theory. In our data, only one country with HCI below 50 (Somalia, HCI = 49) has a Liberty score above 10, and no country below HCI = 60 maintains Liberty above 40. The threshold effect is robust.

Proposition 2 (Institutional Contingency): Above the capability threshold, the probability of political freedom depends on institutional factors that are not products of capability itself: military autonomy, civil society density, media pluralism, resource dependence, and geopolitical alignment.

This proposition explains the wide variance in liberty among high-capability states. At HCI levels above 80, liberty ranges from 5 (China) to 98 (Norway). The institutional factors that separate these cases—China's Leninist party-state versus Norway's parliamentary tradition, China's state-directed economy versus Norway's market economy, China's information control versus Norway's press freedom—are not themselves products of the capability indicators we measure.

Proposition 3 (Authoritarian Learning): The probability that capability leads to freedom has declined over time because authoritarian regimes have learned to deliver material welfare without political opening. The decoupling is partly endogenous: successful authoritarianism teaches other authoritarians that the bundle can be unbundled.

This proposition accounts for the temporal decline in correlation. Each successful Capable Autocracy—Singapore, China, the UAE—provides a template for others. The diffusion of authoritarian governance techniques (Ambrosio, 2010; Tansey, 2016) means that the probability of decoupling increases over time, producing the declining correlation we observe.

9.1 Implications for Development Policy

If capability is necessary but not sufficient for freedom, development policy faces a dilemma. Building schools and hospitals—the material components of human capability—does not automatically produce democratic citizens. It can equally produce capable subjects of authoritarian regimes. Development agencies that assume a linear path from capability to

freedom must reckon with the evidence that this path is one of several and is becoming less common.

The implication is not that capability-building should be abandoned but that it must be accompanied by explicit attention to institutional architecture: independent judiciaries, media pluralism, civil society space, and security sector reform. Capability without institutions is the formula for Capable Autocracy.

9.2 Implications for Democratic Promotion

The existence of 39 Capable Autocracies housing approximately 4.5 billion people means that the utilitarian case for democracy must be made on grounds other than material welfare. Capable Autocracies deliver healthcare, education, and infrastructure. What they do not deliver is life satisfaction (the 1.1-point gap), gender equality (the 0.06 GDI gap), and the intrinsic goods of political voice, accountability, and dignity that cannot be captured by capability indices.

The democratic argument must shift from "democracy delivers prosperity" to "democracy delivers voice, dignity, and accountability that prosperity alone cannot provide." This is a harder argument to make in material terms but may be more honest and ultimately more durable.

9.3 The Sustainability Question

A critical question for the revised framework is whether Capable Autocracies represent a stable equilibrium or a transitional state. Three considerations bear on this question.

First, the historical evidence is mixed. Singapore (L = 47, HCI = 92) has sustained high capability under limited political freedom for over 60 years, suggesting that capable autocracy can be a durable configuration. Conversely, the Soviet Union collapsed after approximately 70 years of capable autocratic rule, suggesting that authoritarian capability models eventually encounter contradictions they cannot resolve. The sample period may be too short to determine which model generalizes.

Second, the economic evidence suggests that authoritarian growth models may face diminishing returns. China's debt-to-GDP ratio has risen from 140% in 2008 to over 300% in 2023, and total factor productivity growth has decelerated. The "middle-income trap" literature (Eichengreen, Park, and Shin, 2012) argues that the transition from catch-up growth to innovation-driven growth requires institutional flexibility that authoritarian systems may lack. If this is correct, the current cohort of Capable Autocracies may face capability stagnation or decline in coming decades, which could eventually reopen the question of political reform.

Third, the demographic evidence introduces an additional pressure. Many Capable Autocracies—China, Russia, Thailand, Cuba—face rapidly aging populations. Maintaining high

HCI scores in the face of rising dependency ratios will require sustained fiscal commitment to healthcare and pensions. Authoritarian regimes that derive legitimacy from economic performance may find this commitment increasingly difficult to sustain, particularly if growth decelerates simultaneously.

These considerations suggest a qualified conclusion: Capable Autocracy is more durable than modernization theory predicted but may not be permanently stable. The relevant time horizon, however, extends well beyond any policy-relevant planning period. For the 4.5 billion people currently living under capable autocracies, the condition is likely to persist for decades even if it proves unstable over centuries.

9.4 The Autocratic Diffusion Effect

An underappreciated consequence of the Great Decoupling is the demonstration effect of successful capable autocracies on other regimes. When China achieves HCI = 86 without political reform, it provides a template for other authoritarian governments to point to as evidence that democracy is unnecessary for development. This "authoritarian diffusion" (Ambrosio, 2010) is both ideational—changing what political elites believe is possible—and practical—providing concrete governance models, technology, and financing through institutions like the Belt and Road Initiative.

The diffusion effect creates a positive feedback loop that accelerates decoupling. As more autocracies achieve high capability, the empirical case for modernization theory weakens further, which reduces international pressure for political reform, which makes it easier for autocracies to maintain their model, which produces more successful capable autocracies. This dynamic may account for the accelerating growth of the Capable Autocracy category in the 2000s and 2010s, from 14 countries in 1990 to 39 in 2023.

9.5 Implications for International Order

The Great Decoupling has consequences for the international order that extend beyond individual countries. The post-1945 liberal international order was premised in part on the assumption that economic integration would produce political convergence toward democracy. If capable autocracies are a stable category, this assumption fails, and the international system must accommodate a permanently pluralistic political landscape in which democracies and autocracies coexist at similar capability levels but with fundamentally different political values.

This has practical implications for international institutions. The World Bank, IMF, and regional development banks operate under governance frameworks that assume a convergence toward democratic market economies. If the decoupling is permanent, these institutions may need to develop governance frameworks that engage constructively with

capable autocracies while maintaining normative commitments to political freedom—a balance that the current institutional architecture does not adequately address.

10. Limitations

Several limitations warrant discussion.

Pre-1900 sample composition. The pre-1900 sample is dominated by European powers and their settler colonies, which were disproportionately both wealthy and democratic by the standards of the era. This selection bias may inflate the early correlation. We address this through constant-panel tests and bootstrap analysis (Section 5.3), but the concern cannot be fully eliminated. The pre-1900 $r = 0.79$ should be interpreted with a wider confidence interval than the post-1990 $r = 0.57$.

Data quality for historical indicators. Pre-1950 values for most indicators are scholarly estimates with wider confidence intervals than modern data. Life expectancy estimates for 1800 rely on demographic reconstructions; literacy rates depend on proxy measures such as book production and signature rates. We follow the principle that "the gap is the data" and do not interpolate, but the precision of early observations is necessarily lower.

Equal weighting. Our baseline HCI uses equal weighting across all available indicators. This treats literacy and life expectancy as equally important to human capability, which is a substantive assumption. Sensitivity tests with geometric mean aggregation and domain-weighted alternatives suggest that our results are robust to plausible alternative weighting schemes, but the choice of weights is ultimately normative.

Liberty measurement for the United States. The PTI assessment of US Liberty ($L \approx 48$ for 2023–2025) diverges substantially from Freedom House (83/100 for 2024) and V-Dem (approximately 65–72 on a rescaled basis). This divergence reflects the PTI's faster update cycle and greater weight on executive constraint erosion. Readers should evaluate our US-specific findings under both assessments. Under the Freedom House score, the US remains in the Free and Capable quadrant; under the PTI, it has moved to Capable Autocracy. The broader finding of the Great Decoupling does not depend on the US classification: even excluding the US, 38 Capable Autocracies remain, still exceeding or equaling the Free and Capable count.

Threshold sensitivity. The quadrant classification depends on the HCI = 70 and Liberty = 60 thresholds. Alternative thresholds would reclassify some borderline cases. However, the qualitative result—that Capable Autocracies are now roughly as numerous as Free and Capable states—is robust to reasonable threshold variation. At HCI = 65 and Liberty = 55, the Capable Autocracy count increases to 43; at HCI = 75 and Liberty = 65, it decreases to 31. In no specification do Free and Capable states substantially outnumber Capable Autocracies.

Endogeneity. The HCI includes Domain 7 (Agency and Equality), which contains voter turnout and gender development—indicators that are partially endogenous to political freedom. We report robustness tests excluding D7 (Section 5.3), which reduce the correlation

slightly but do not change the qualitative findings. A fully exogenous capability measure would require excluding all indicators potentially influenced by political regime type, which would also exclude education (state-controlled in authoritarian systems) and health (state-funded in many contexts). The boundary between capability and freedom is inherently blurred, which is itself a finding of substantive interest.

11. Conclusion

For two centuries, a powerful assumption governed political economy: that as societies become wealthier, healthier, and better educated, they inevitably become freer. This paper documents the empirical decline of that assumption. Using a 15-indicator Human Capabilities Index matched to political liberty scores for 91 countries over 225 years, we show that the correlation between capability and freedom has fallen from $r = 0.79$ (pre-1900) to $r = 0.57$ (post-1990). By 2023, 39 Capable Autocracies—states combining high human capability with low political freedom—equal the number of Free and Capable states.

The Great Decoupling is not gradual noise in a fundamentally stable relationship. It reflects a structural transformation in the global political economy. Authoritarian regimes have learned to deliver the material components of human welfare—healthcare, education, infrastructure, economic growth—without political opening. Technology transfer, natural resource wealth, and sophisticated information control have broken the links that modernization theory assumed were indissoluble.

The implications are threefold. For development theory, the finding demands a revision of modernization theory: capability is necessary but not sufficient for freedom, and the probability that capability leads to freedom has declined over time as authoritarian regimes have learned from each other. For development policy, the finding implies that building schools and hospitals without attending to institutional architecture may produce capable subjects of authoritarian rule rather than democratic citizens. For the normative case for democracy, the finding shifts the ground from material welfare—which capable autocracies can deliver—to intrinsic values of voice, dignity, and accountability that no capability index can measure.

The 4.5 billion people living under Capable Autocracies today face a historically novel condition: material welfare without political voice. The Great Decoupling means that the question of the twenty-first century is no longer whether autocracies can deliver prosperity—they can. The question is what freedom provides that capability indices cannot capture, and whether that uncaptured remainder is worth defending.

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Appendix A: HCI Construction Details

A.1 Data Ethics and Missing Data Policy

We follow a strict no-interpolation policy. Missing values are left blank; they are not estimated, imputed, or interpolated. The gap *is* the data. All pre-1950 values carry wider confidence intervals than modern observations and should be interpreted as scholarly estimates. The minimum indicator threshold (3 out of 15) ensures that composite scores are not computed on inadequate data, though it necessarily means that early-period HCI scores are less precisely estimated than modern ones.

A.2 Normalization Parameters

Min-max normalization is computed over the full cross-country, cross-temporal sample for each indicator. The observed ranges are: Life Expectancy (23.5–85.4 years), Infant Mortality (1.5–453 per 1,000), Adult Literacy (2%–100%), GDP per capita ($400–$87,900 PPP), Life Satisfaction (1.9–7.7), and similar ranges for remaining indicators. These ranges determine the 0–100 scaling and are fixed for the entire analysis.

A.3 Coverage by Era

Table A1: Data Coverage by Era

Era	Indicator Coverage	N Countries	Key Limitations
1800–1850	~20%	15–25	Sparse: select European powers, US, Japan
1850–1900	~35%	25–35	Expanding: colonial records, Latin America
1900–1950	~50%	40–55	Fair: major powers plus colonies
1950–1990	~75%	60–80	Good: Cold War-era statistical infrastructure
1990–2023	~92%	85–91	Excellent: modern international data systems

Appendix B: Full Country Classification by Quadrant (2023)

B.1 Free and Capable (38 countries)

HCI ≥ 70, Liberty ≥ 60. Argentina, Australia, Austria, Belgium, Botswana, Brazil, Bulgaria, Canada, Chile, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ghana, Greece, Hungary, India, Ireland, Israel, Italy,

Japan, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, United Kingdom, Uruguay.

B.2 Capable Autocracies (39 countries)

HCI ≥ 70, Liberty < 60. Algeria, Armenia, Bangladesh, Belarus, Cambodia, China, Colombia, Cuba, Egypt, Georgia, Guatemala, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Lebanon, Libya, Malaysia, Mexico, Moldova, Morocco, Myanmar, Nicaragua, Philippines, Russia, Saudi Arabia, Serbia, Singapore, Sri Lanka, Thailand, Tunisia, Turkey, UAE, Ukraine, United States*, Uzbekistan, Venezuela, Vietnam.

*US classification under PTI assessment (L=48). Under Freedom House assessment (L=83), the US would be classified as Free and Capable.

B.3 Free but Struggling (6 countries)

HCI < 70, Liberty ≥ 60. Senegal, and select small states near the thresholds.

B.4 Neither Free nor Capable (8 countries)

HCI < 70, Liberty < 60. Afghanistan, DRC Congo, Ethiopia, Haiti, Mali, Nigeria, Somalia, Sudan, and borderline cases including Kenya, Pakistan, Rwanda, Syria, Zimbabwe.

Appendix C: Robustness of Correlation Decline

C.1 Bootstrap Test for Pre-1900 Sample Size Effect

To test whether the high pre-1900 correlation (r = 0.79) is an artifact of small sample size, we drew 10,000 random samples of size N = 78 (matching the pre-1900 sample) from the post-2006 data. The bootstrap distribution has mean r = 0.56 and standard deviation 0.08. The observed pre-1900 r = 0.79 falls above the 97.5th percentile of the bootstrap distribution (p < 0.025), confirming that the high early correlation is not merely a small-sample artifact.

C.2 Alternative HCI Year Matching

The era-by-era correlation results are robust to alternative year-matching protocols. Testing with multiple HCI benchmark years per era (e.g., 1800, 1850, and 1900 for the pre-1900 era) produces correlations within 0.04 of the primary specification. The declining trend is preserved under all alternatives tested.

Author Note. This paper is part of the Political Topology Project at Cambridge Governance Labs. The complete dataset, including all 15 HCI indicators for 91 countries at 13 benchmark years, is available at the project repository. The analysis code is written in Python and is available upon request. We thank two anonymous referees for helpful comments on an earlier draft. All remaining errors are our own.

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Data Availability. The HCI dataset draws on publicly available sources: Gapminder, UN World Population Prospects, WHO, UNESCO UIS, World Bank WDI, Maddison Project, Barro-Lee educational attainment data, Gallup World Poll, and Freedom House. The composite dataset and replication code will be deposited in a public repository upon publication.

Conflict of Interest. The author declares no conflict of interest.