U.S. Chamber of Commerce
Global Innovation
Policy Center

2026 Fourteenth Edition

International IP Index

Statistical Annex

Introduction

The Economic Rationale for IP Rights

Since 2015, the Index has included a Statistical Annex that examines a series of correlations, that is statistical likelihood that two variables occur together. These correlations assess the relationship between the strength of national IP environments, as measured by the Index scores, and economic activity, including rates of R&D investment, innovation, technology creation, and creative output. The first Annex, published with the third edition of the Index, analyzed the relationships between the Index scores of 30 economies and 15 economic variables. This year's Annex reflects the continued expansion of the Index and surveys the relationship between the Index scores of 55 economies and a set of 33 economic variables, including three new variables:

1. UNCTAD's Frontier Technology Readiness Index, overall score;

2. UNCTAD's Frontier Technology Readiness index, R&D category; and

3. clinical research related to oncology treatments.

This represents an increase of over 75% in the number of economies covered and a doubling of the number of economic variables included since the first edition.

As the Annex has expanded to include more economies and social and economic variables, the evidence becomes clearer: IP protection is a critical instrument for economies seeking to enhance access to innovation, grow domestic innovative output, and enjoy the dynamic growth benefits of an innovative economy. Conversely, weak IP protection undermines long-term strategic aspirations around innovation and high-tech economic development.

The 2026 Statistical Annex

This year's Annex demonstrate a strong, direct, and statistically significant relationship between robust IP protection and improved economic outcomes, including greater rates of innovation, growth, and high-tech economic activity. Below Table 1 presents the main findings of the analysis in this year's Annex.

Table 1: Economic Benefits of Improving IP Protection: Findings from 33 Correlations

	2018	2019	2021	2022	2023	2024	2025	2026	Economies with robust IP protection (scoring above 50% on the Index) on average tend to experience the following benefits compared with economies scoring below 50%
	(strength of correlation)								
Readiness for the Fourth Industrial Revolution and Future of Growth									
Future of growth	NA	NA	NA	NA	NA	.86	.86	.87	97% more likely to be prepared for the future of growth
Drivers of production	NA	.85	.83	.84	.83	.83	.82	.83	43% more likely to adapt to the Fourth Industrial Revolution and secure new growth opportunities
Technology & innovation	NA	.87	.85	.85	.84	.84	.83	.84	59% more likely to be able to transform their economies using sophisticated, state-of-the-art technologies
Global trade & investment	NA	.71	.70	.71	.70	.70	.70	.70	44% more open for business and attractive to foreign investment
Frontier technology readiness, overall	NA	NA	NA	NA	NA	NA	NA	.77	46% more likely to be ready for frontier technologies
Frontier technology readiness, R&D	NA	NA	NA	NA	NA	NA	NA	.61	42% more likely to be ready for frontier technologies, R&D activity
Resources to innovate									
Innovation capability	NA	.88	.87	.87	.85	.85	.86	.86	66% more likely to maintain sophisticated environments capable of producing innovative outputs

	2018	2019	2021	2022	2023	2024	2025	2026	Economies with robust IP protection (scoring above 50% on the Index) on average tend to experience the following benefits compared with economies scoring below 50%
	(strength of correlation)								
Enabling infrastructure	NA	.79	.79	.82	.82	.82	.82	.82	63% more likely to experience the benefits of an innovation-driven economy, ranging from high-skilled and high-paid workers to increased R&D activity
Availability of R&D funding	.71	.71	.69	.70	.69	.69	.69	.69	35% more likely to see private-sector investment in R&D activity
Access to venture capital and private equity funds	.79	.78	.75	.79	.78	.79	.78	.78	53% more likely to attract venture capital and private equity funds compared with economies whose IP regimes lag behind
Availability of skilled researchers	.82	.81	.80	.84	.83	.82	.82	.82	Over five times more likely to have highly skilled researchers in a given labor force
Talent competitiveness	NA	.82	.82	.86	.85	.85	.85	.85	45% more competitive human capital
Quality of local scientific and technical knowledge	NA	.85	.83	.84	.82	.82	.80	.80	Over four times more knowledge output in terms of scientific and technical journal articles
Growth of knowledge-based economies	.83	.83	.85	.82	.85	.81	.82	.82	32% more likely to fully leverage information and communications technology (ICT)
Global networking impact	NA	.84	.84	.82	.80	.58	.56	.58	17% more likely to support a dynamic ICT sector and experience the indirect benefits it generates
	Outputs of a competitive knowledge-based economy								
Global competitiveness – IMD ranking	NA	NA	NA	NA	.69	.70	.61	.63	Economies host enterprises that are 50% more competitive
Global competitiveness – World Economic Forum ranking	NA	.86	.86	.85	.84	.84	.85	.85	Economies are 27% more competitive
Digital Competitiveness	NA	NA	NA	NA	.75	.72	.72	.73	Economies are 60% more digitally competitive

	2018	2019	2021	2022	2023	2024	2025	2026	Economies with robust IP protection (scoring above 50% on the Index) on average tend to experience the following benefits compared with economies scoring below 50%
	(strength of correlation)								
Economic complexity – trade-related	NA	.82	.77	.70	.69	.74	.75	.77	Significantly more likely to produce and export complex, knowledge-intensive products
Economic complexity – technological complexity	NA	NA	NA	NA	NA	.63	.63	.63	Have almost four times the levels of complex technology
Economic complexity – research complexity	NA	NA	NA	NA	NA	.70	.70	.70	Produce over nine times the complex research
Innovation	.86	.85	.85	.76	.84	.83	.83	.84	Almost double the innovation output as measured by the Global Innovation Index
Triadic patenting	.68	.65	.64	.65	.64	.64	.64	.64	Over 500 more high-value inventions per million population
Employment in knowledge-intensive sectors	.67	.69	.73	.75	.70	.72	.73	.73	Share of workforce employed in knowledge-intensive sectors is 87% higher
Growth of high-tech sectors	.75	.79	.76	.74	.78	.76	.75	.76	Produce 85% more knowledge and technology outputs
Biomedical activity	.72	.73	.74	.74	.74	.74	.73	.73	Over eight times more clinical trial activity
Cutting-edge clinical trials	.73	.76	.77	.78	.77	.77	.76	.76	Over 15 times more early-phase clinical trials
Development of biotech therapies	.76	.77	.77	.77	.76	.76	.76	.75	Over 10 times more clinical research on biologic therapies
Oncology clinical research	NA	NA	NA	NA	NA	NA	NA	.77	Over 14 times more oncology clinical trials

	2018	2019	2021	2022	2023	2024	2025	2026	Economies with robust IP protection (scoring above 50% on the Index) on average tend to experience the following benefits compared with economies scoring below 50%
	(strength of correlation)								
	Value added and creativity								
Creative outputs	.84	.82	.79	.80	.78	.75	.76	.78	82% more likely to benefit from the growth in both volume and value of the dynamic content and media sectors
Online creativity	.84	.81	.81	.81	.79	.78	.77	.77	Generating more than double the amount of online and mobile content
Global reach of local brands	NA	.86	.76	.77	.76	.76	.75	.75	41% higher levels of international trademark applications
Access to licensed music outlets	.79	.75	.75	.74	.75	.73	.68	.68	Two-thirds more access to new music through legitimate and secure platforms

Methodology

The Pearson Correlation Coefficient is the statistical analysis used to test the relationship between the Index's scores and other economic variables in this *Annex*. The Pearson Correlation Coefficient is a widely used statistical method of establishing whether two variables are related to each other. This statistical test provides a value between -1 and 1, which represents the strength of this correlation. Thus, the Pearson Correlation Coefficient tells us whether a linear relationship exists between two variables and if it is positive or negative.

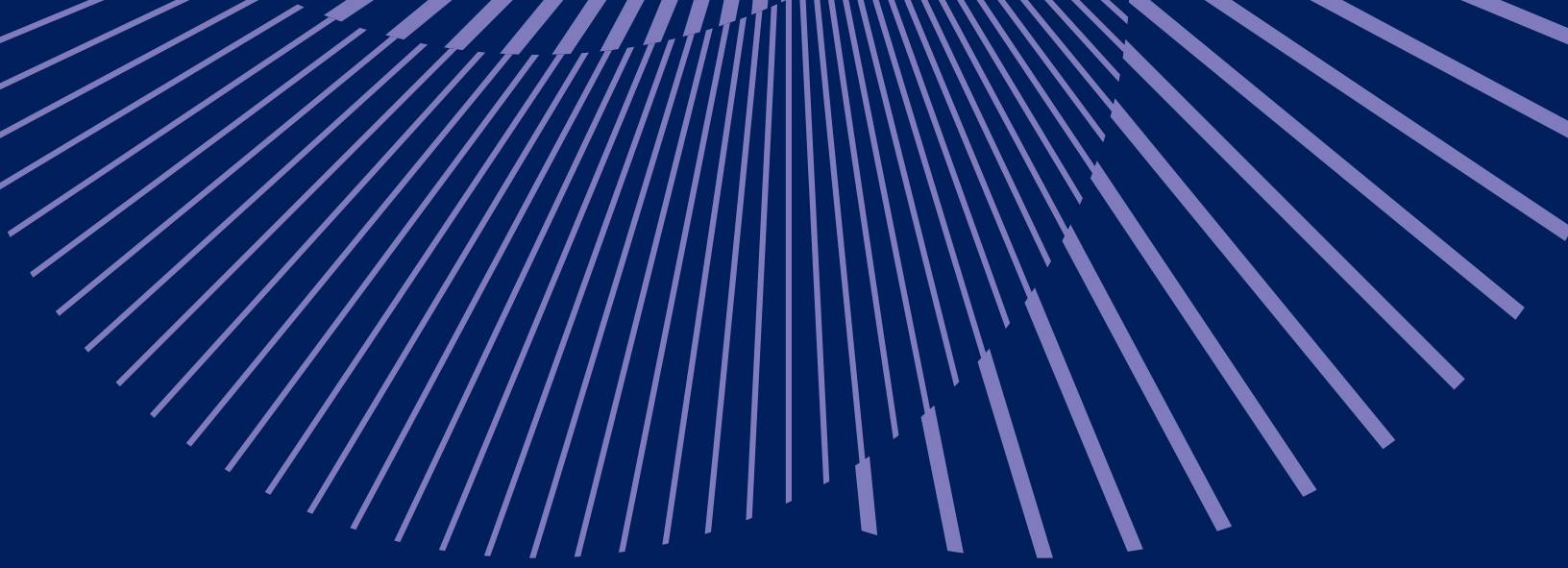
In this *Annex*, the strength of a given positive correlation follows this legend:

- .00 to .19: "very weak"
- .20 to .39: "weak"
- .40 to .59: "moderate"
- .60 to .79: "strong"
- .80 to 1.0: "very strong"

Each individual test of the correlation between two variables was performed under a confidence level of 0.95, which means that if this procedure was repeated on multiple samples, the calculated confidence interval (i.e., a range estimation that is calculated from the observation, and therefore would be different for each sample) would encompass the true parameter 95% of the time. In other words, the confidence interval represents values for the parameter, for which the difference between the parameter and the observed estimate is not statistically significant at the 5% level.

However, it is important to note that correlation—a statistical test of the existence of a linear relationship between two variables—does not imply causation (i.e., the fact that two variables are very strongly correlated does not mean that one has caused the other). That said, a strong to very strong correlation does imply that a linear relationship exists between the two variables, the nature of which depends on the variables.

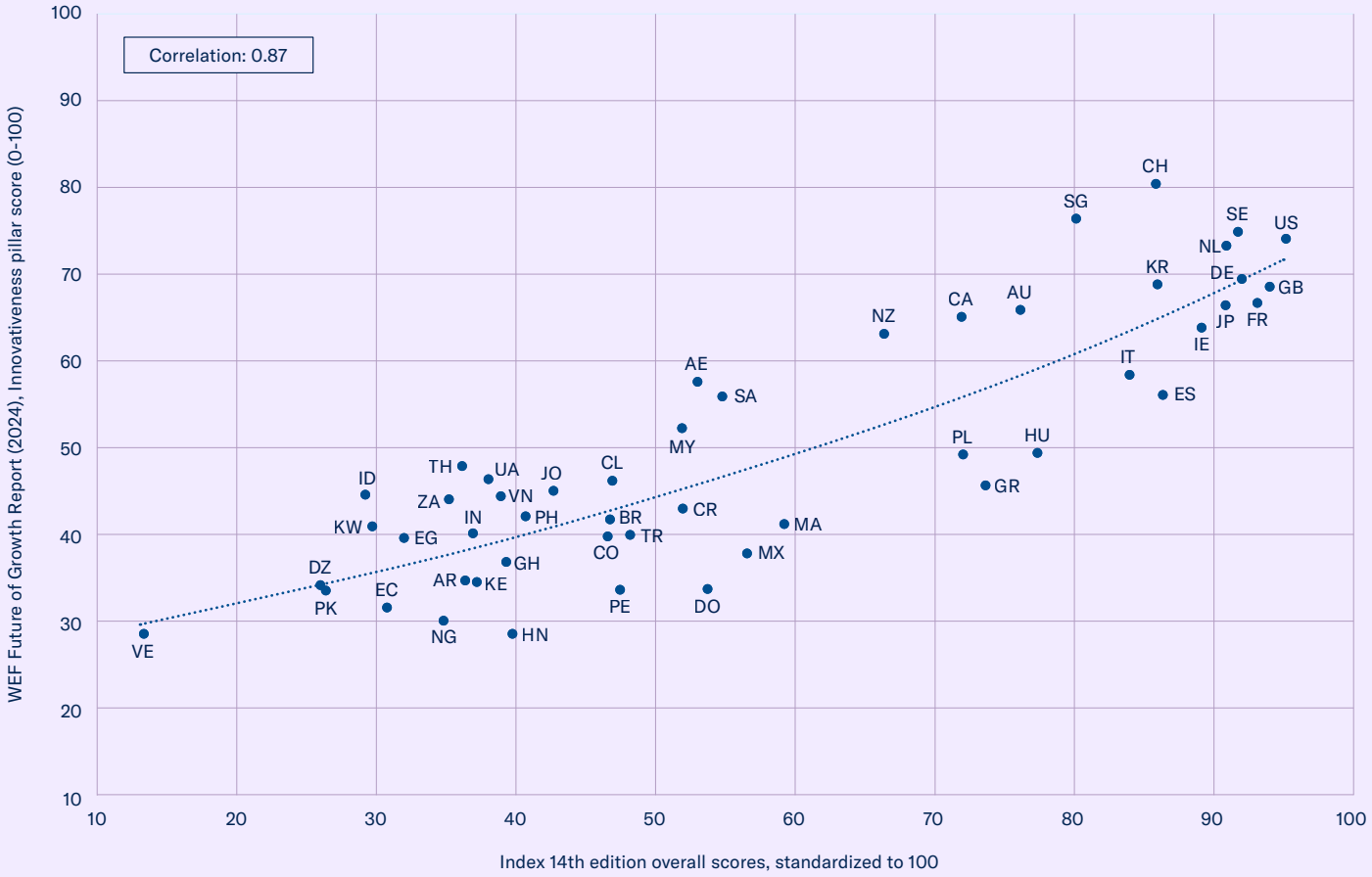
In addition to a numerical value testing the strength of the relationship between the Index's scores and the sampled economic variables, each correlation also includes a comparison of the socio-economic impact of these variables between Index economies with robust IP protection (such as those scoring above 50% on the Index) with economies scoring below. These comparisons help illustrate the extent to which economies with stronger national IP environments – as measured by the Index – are more likely to also achieve positive socio-economic outcomes as measured by the sampled economic variables.



Readiness for the Fourth Industrial Revolution and Future of Growth

Economies with Robust IP Environments are More Likely to be Prepared for the Future of Growth

Association between the Index scores and the Future of Growth Report, Innovativeness pillar score[1]

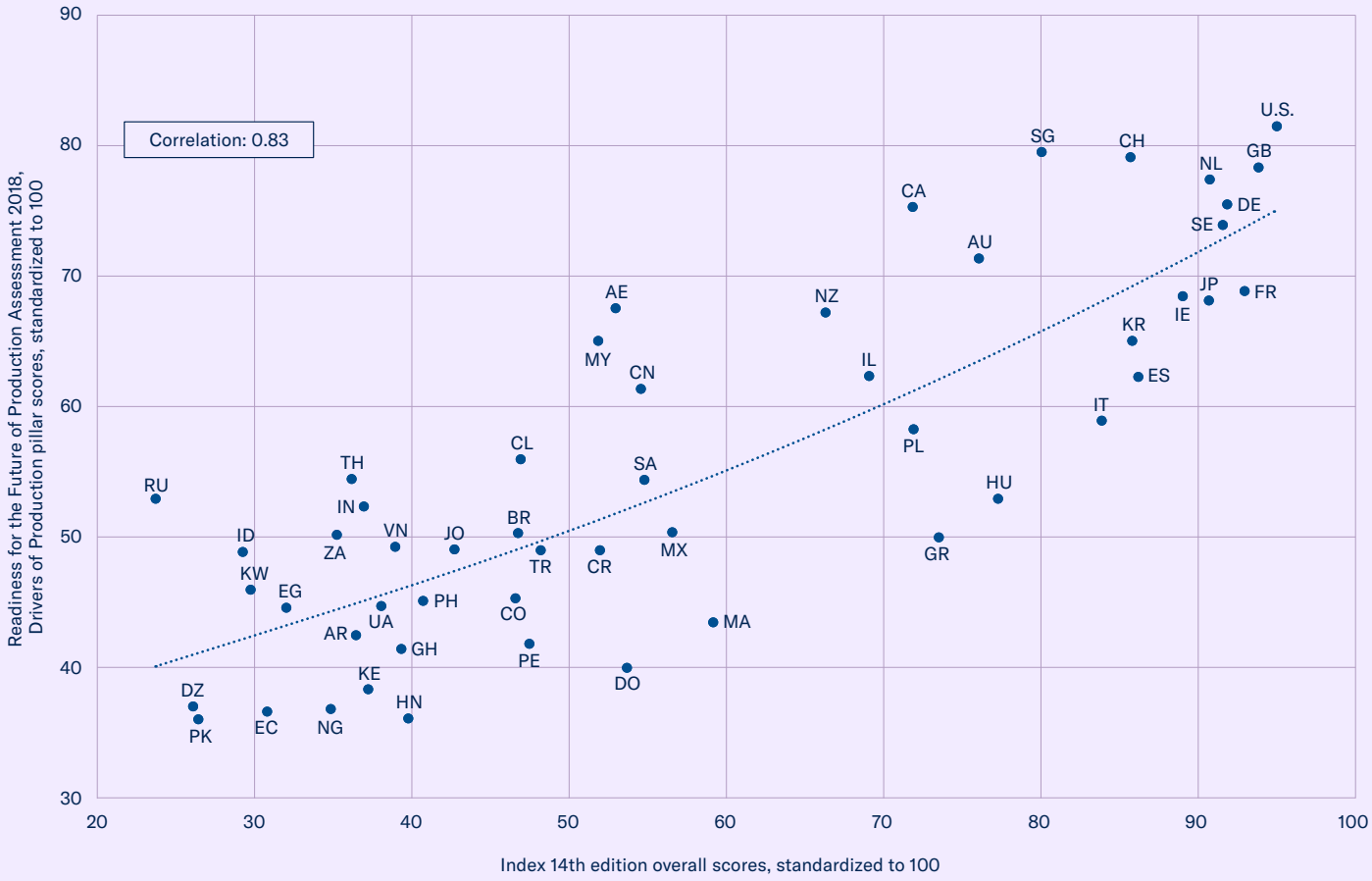


Data NA for Brunei, China, Israel, Russia, Taiwan

- The Future of Growth Report, Innovativeness pillar is defined by the World Economic Forum as evaluating the "extent to which an economy's trajectory can absorb and evolve in response to new technological, social, institutional and organizational developments to improve the longer-term quality of growth."[2]
- The Innovativeness pillar displays a very strong correlation (.87) with the Index scores.
- Economies with robust IP environments are 97% more likely to be prepared for the future of growth.

Economies with Robust IP Environments are Significantly Better Positioned to Capitalize on the Fourth Industrial Revolution

Association between the Index scores and the Readiness for the Future of Production Assessment, Drivers of Production pillar scores[3]



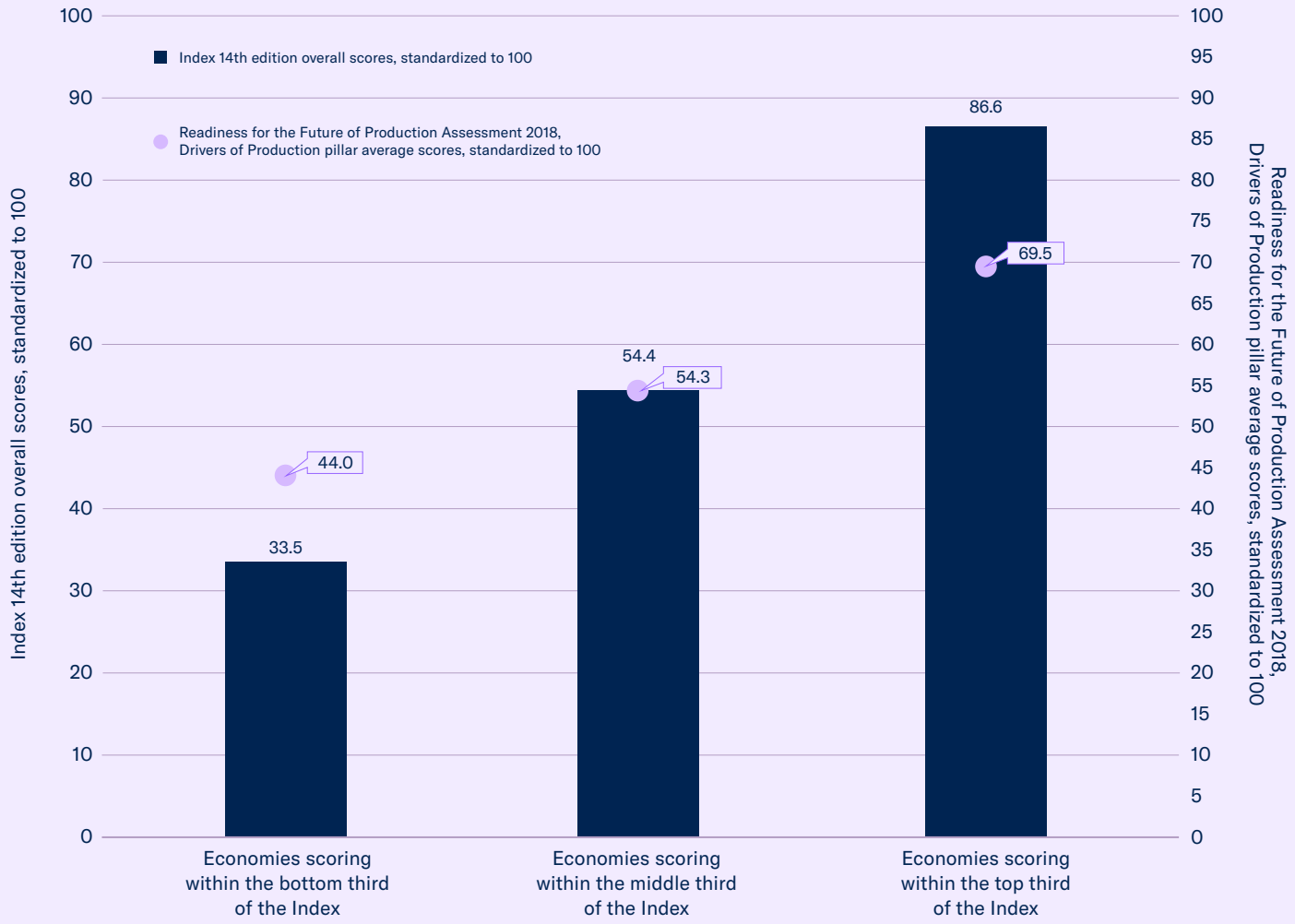
Data NA for Brunei, Taiwan and Venezuela

- The Readiness for the Future of Production Assessment's Drivers of Production pillar scores gauge performance in key sectors and themes that enable economies to capitalize on emerging technologies to compete in future production systems.

Those Readiness Assessment scores display a very strong correlation (.83) with the Index scores.

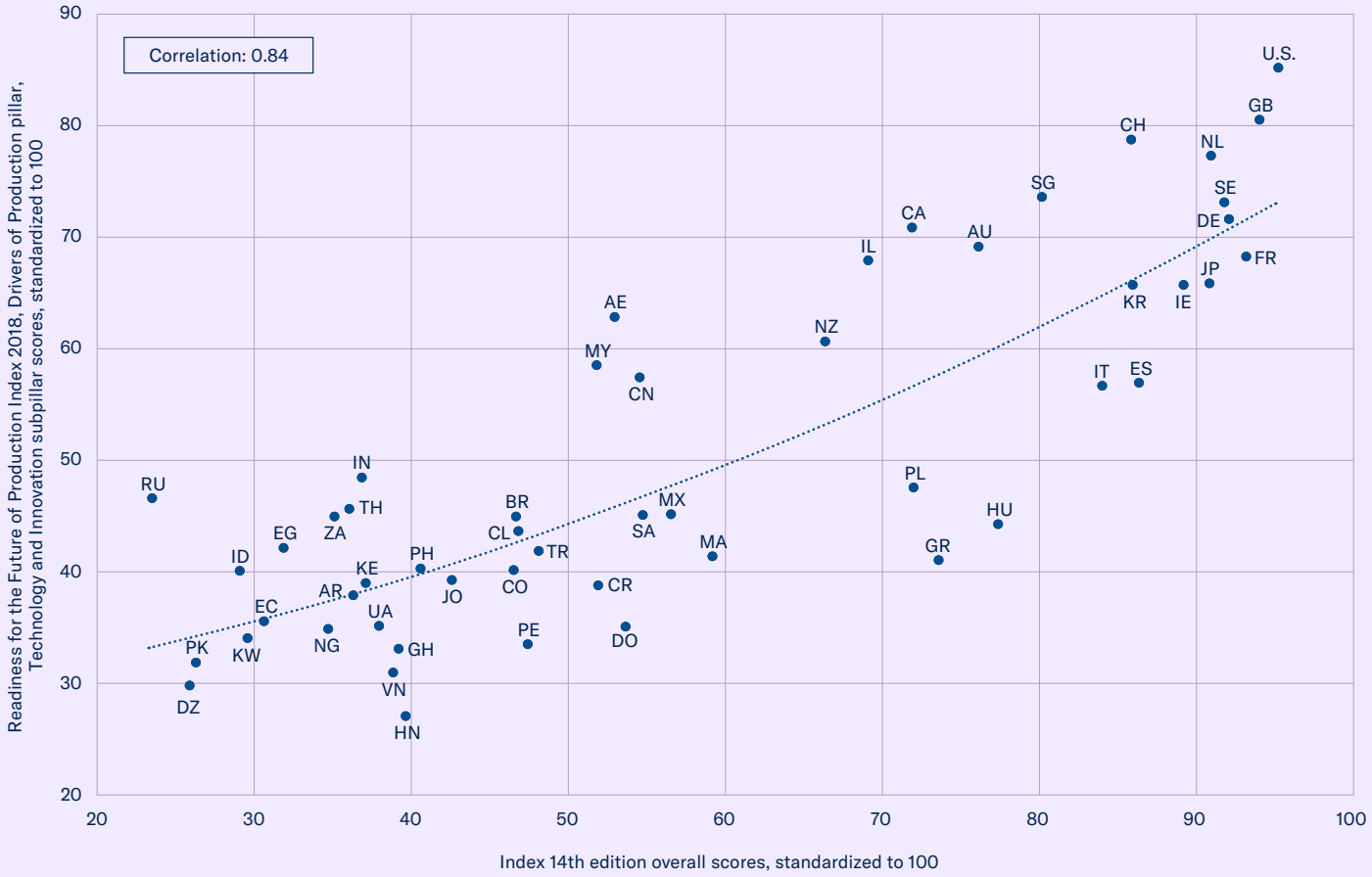
- This relationship adds to the strength of the overall findings of the Statistical Annex to date – namely, that robust IP protection is a critical component of the 21st century knowledge-based economy.
- In fact, a positive stepwise improvement can be seen across both measures: Economies with robust IP environments are 43% more likely to adapt to the Fourth Industrial Revolution and secure new growth opportunities.

Association between the Index scores and the Readiness for the Future of Production Assessment 2018, Driver of Production pillar scores: Division by thirds in Index scores, average scores per third



A Strong IP Framework Equals Greater Capacity for Innovation and Technological Absorptive Capacity

Association between the Index scores and the Readiness for the Future of Production Assessment, Drivers of Production pillar, Technology & Innovation subpillar scores[4]

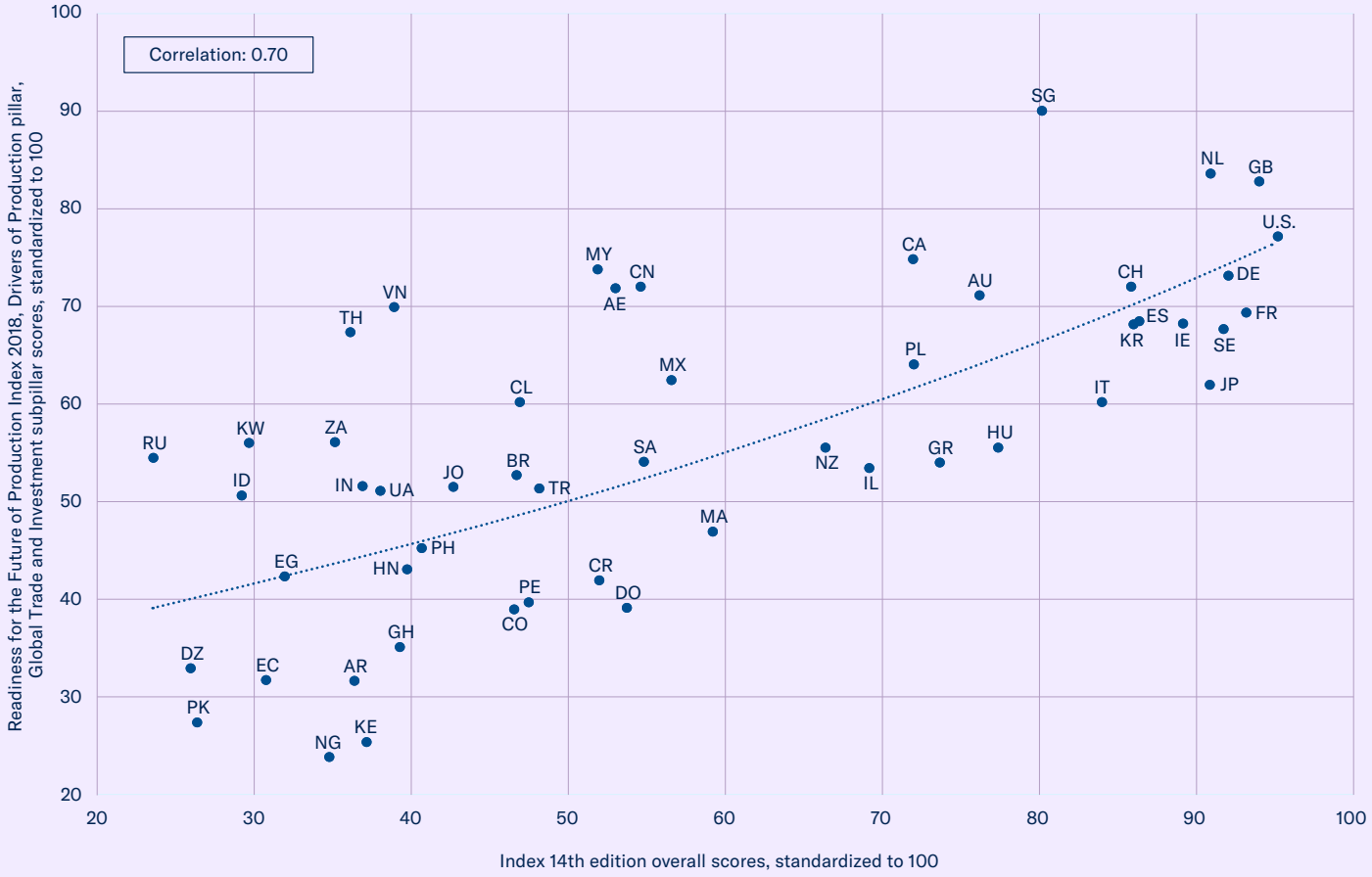


Data NA for Brunei, Taiwan and Venezuela

- The Readiness for the Future of Production Assessment's Technology & Innovation subpillar measures the extent to which economies have advanced, digitally secure, globally connected, and interoperable economic production systems – a critical element for economies' ability to foster and commercialize new and innovative technologies.
- The Index exhibits a very strong correlation (.84) to the Technology & Innovation subpillar scores.
- In fact, economies with strong IP systems are 59% more likely to be able to transform their economies using sophisticated, state-of-the-art technologies compared with economies whose IP systems require improvement.

Favorable IP Regimes Promote Trade Openness and Attractiveness to Foreign Investments

Association between the Index scores and the Readiness for the Future of Production Assessment, Global Trade & Investment subpillar scores[5]



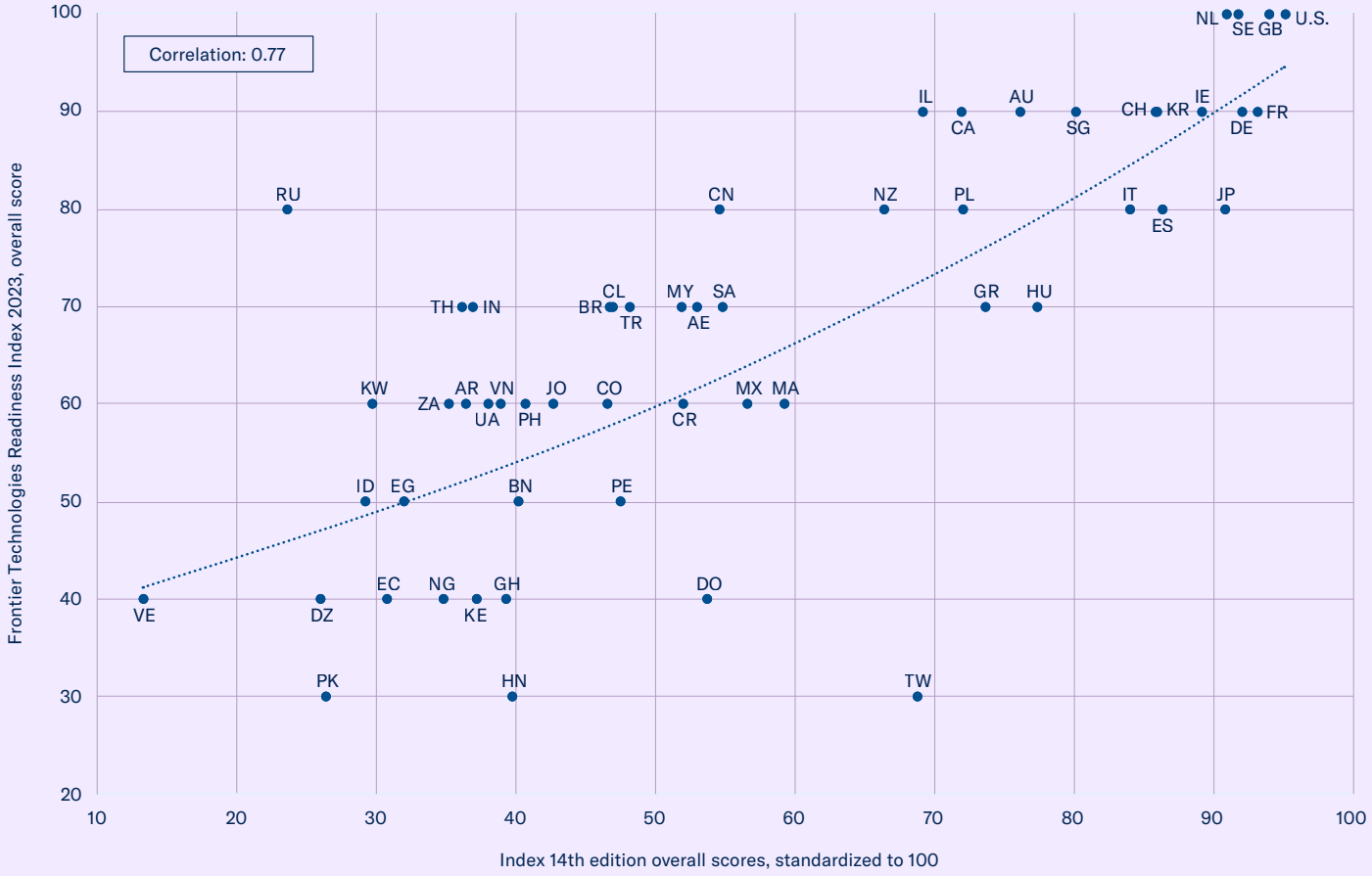
Data NA for Brunei, Taiwan and Venezuela

- The Readiness for the Future of Production Assessment's Global Trade & Investment subpillar measures economies' levels of openness to international trade and the availability of capital directed to production-related development. There is a strong correlation (.70) to the Index scores, suggesting that the strength of a national IP environment is a contributing factor to economies' ability to bolster knowledge and skill attainment, increase technology transfer, and boost productivity and competitiveness.

- Economies with fair to strong IP environments are 44% more open for business and attractive to foreign investments in their production systems compared with weaker economies.

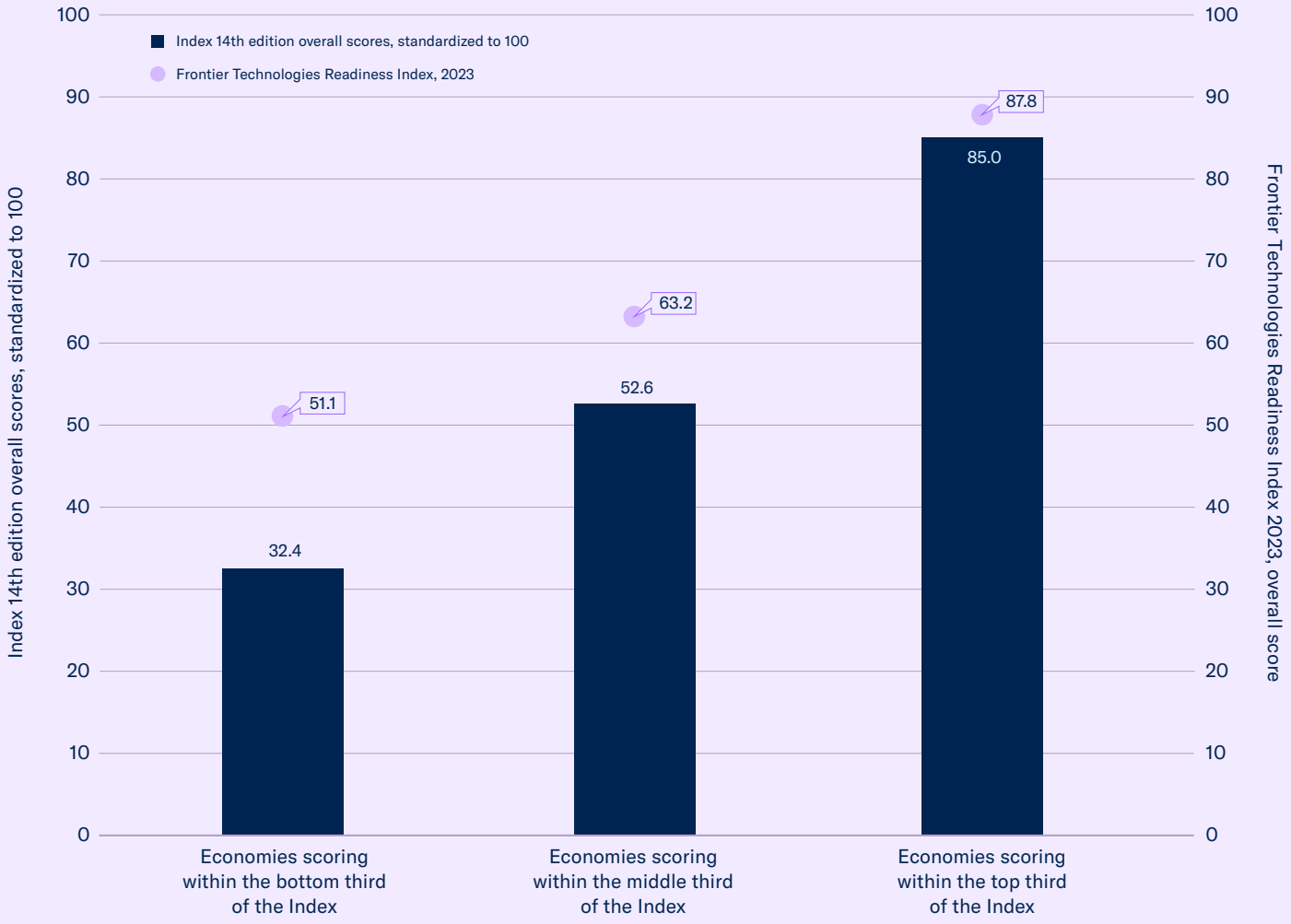
A Strong IP Environment Equals Greater Capacity to Utilize the Cutting-edge Technologies of the Future

Association between the Index scores and UNCTAD's Frontier Technologies Readiness Index, overall scores[6]



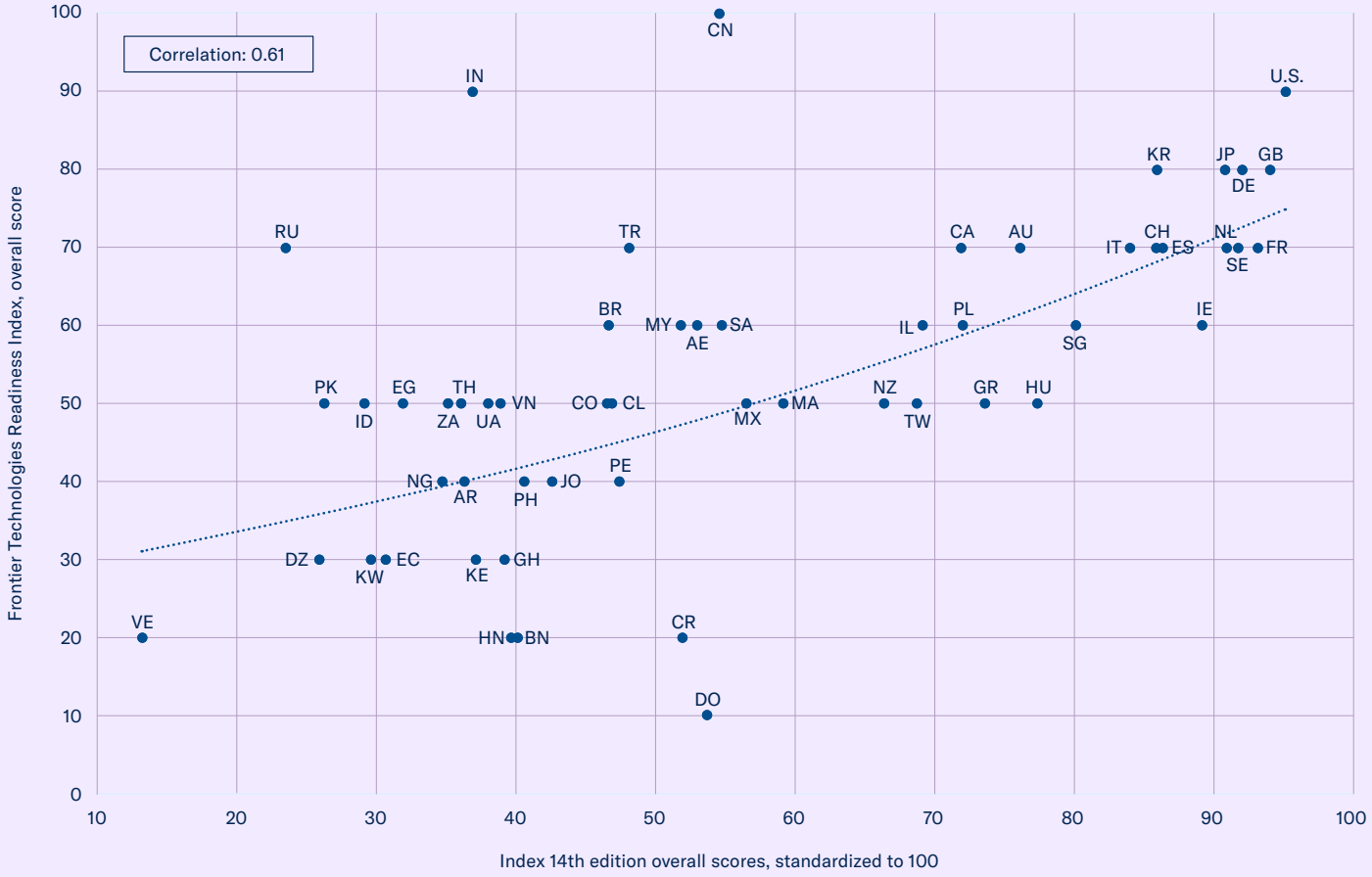
- The Frontier Technologies Readiness Index measures economies "capacity to use, adopt and adapt frontier technologies" across 17 different technological areas including AI, Internet of Things, big data, blockchain, 5G, 3D printing, nanotechnology, biofuels etc.
- There is a strong correlation (.77) to the Index scores, suggesting that the strength of a national IP environment is a contributing factor to economies' ability to utilize these cutting-edge technologies.
- Economies with fair to strong IP environments are 46% more likely to be ready for frontier technologies compared with weaker economies.

Association between the Index scores and UNCTAD's Frontier Technologies Readiness Index, overall scores: Division by thirds in Index scores, average scores per third



Favorable IP Regimes Promote R&D Capacity with Respect to the Cutting-edge Technologies of the Future

Association between the Index scores and UNCTAD's Frontier Technologies Readiness Index, R&D category scores[7]

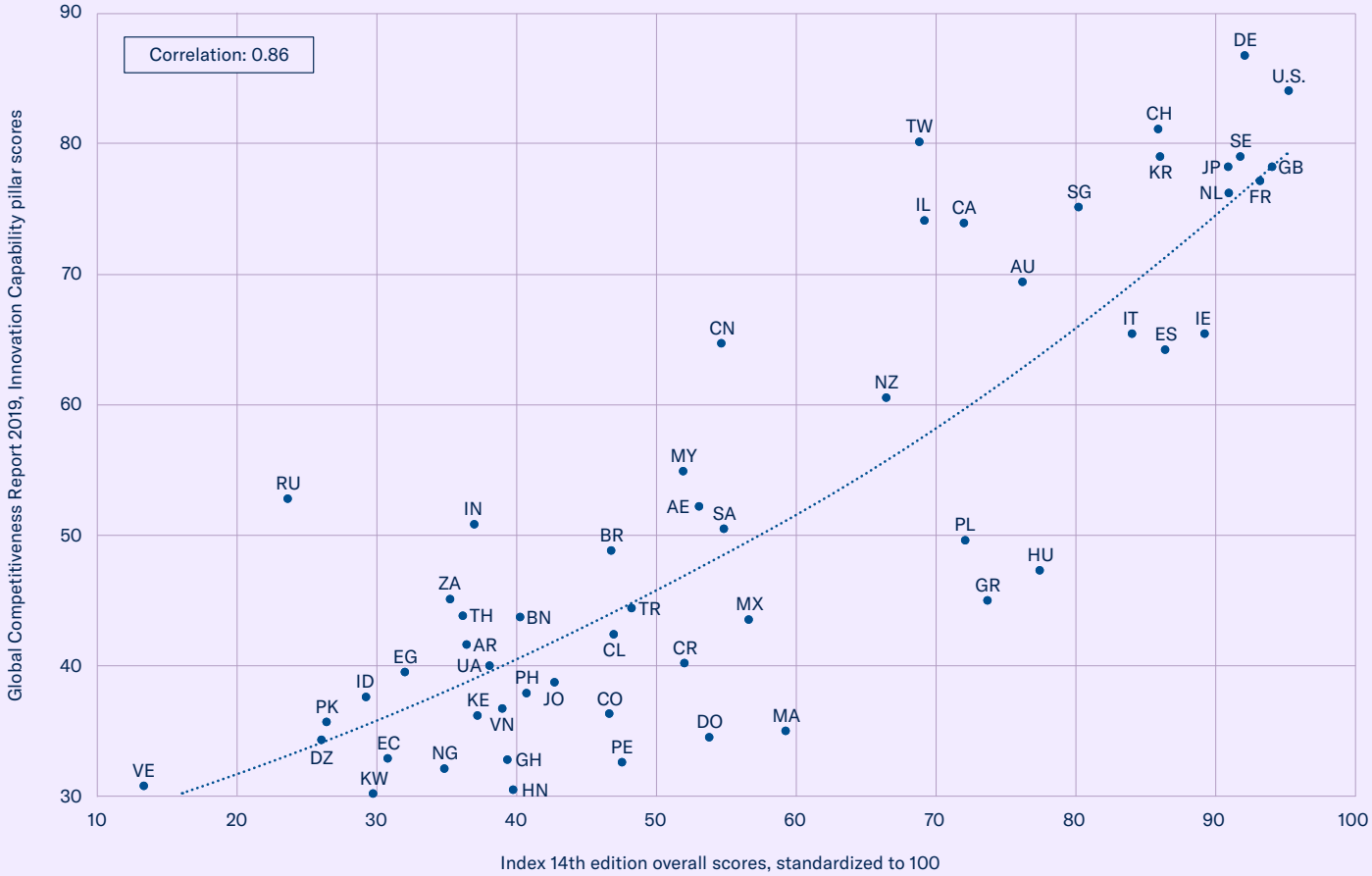


- The Frontier Technologies Readiness Index includes an R&D category and evaluation relating to ranking economies "capacity to use, adopt and adapt frontier technologies" with respect to R&D capacity.
- There is a strong correlation (.61) to the Index scores, suggesting that the strength of a national IP environment is a contributing factor to economies' R&D capacity relating to these cutting-edge technologies.
- Economies with fair to strong IP environments are 42% more likely to be ready for frontier technologies R&D activity compared with weaker economies.

Resources to Innovate

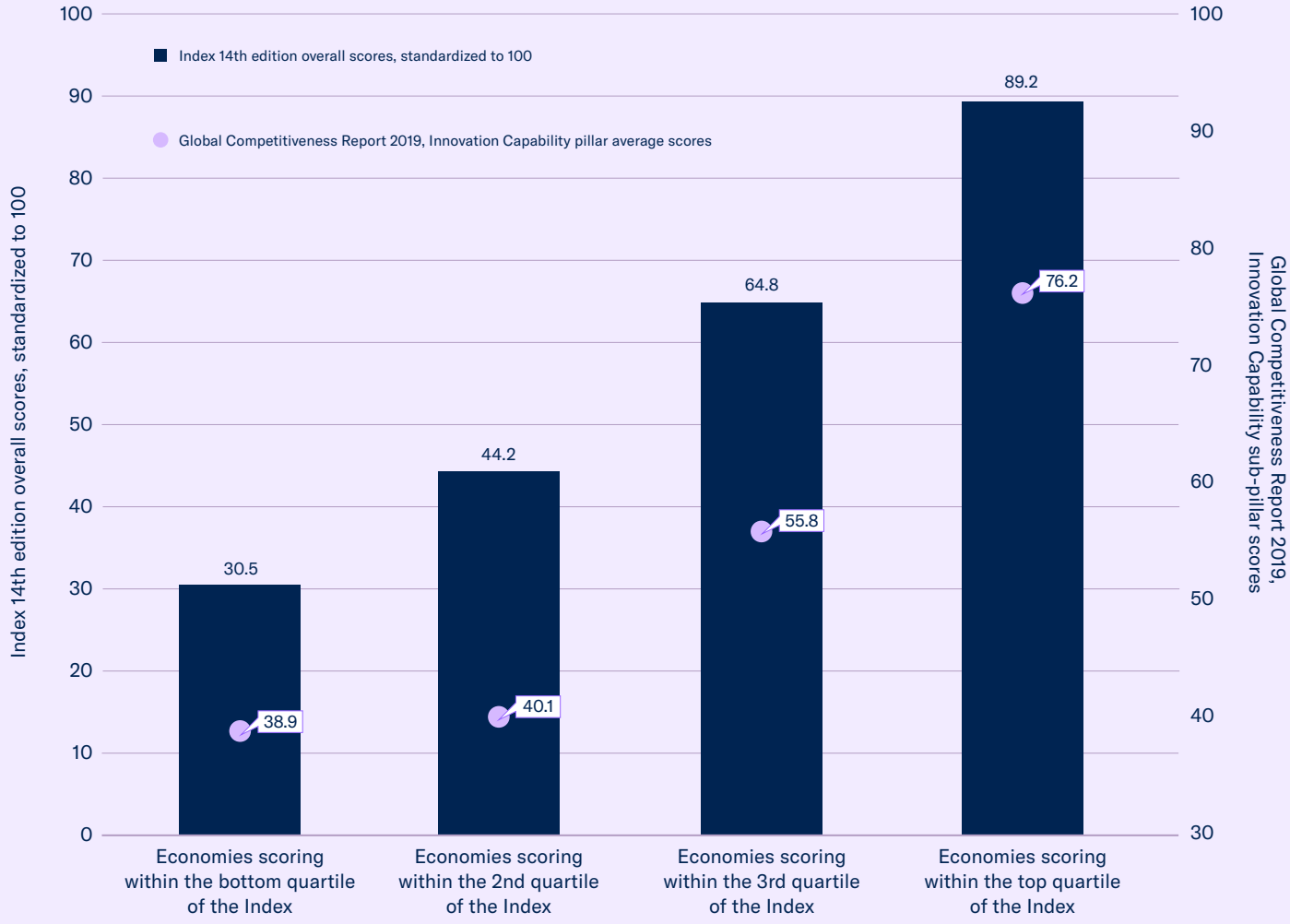
Robust IP Protection is a Key Component in Developing a Strong Innovation Capability

Association between the Index scores and the Global Competitiveness Report 2019, Innovation Capability Pillar scores[8]



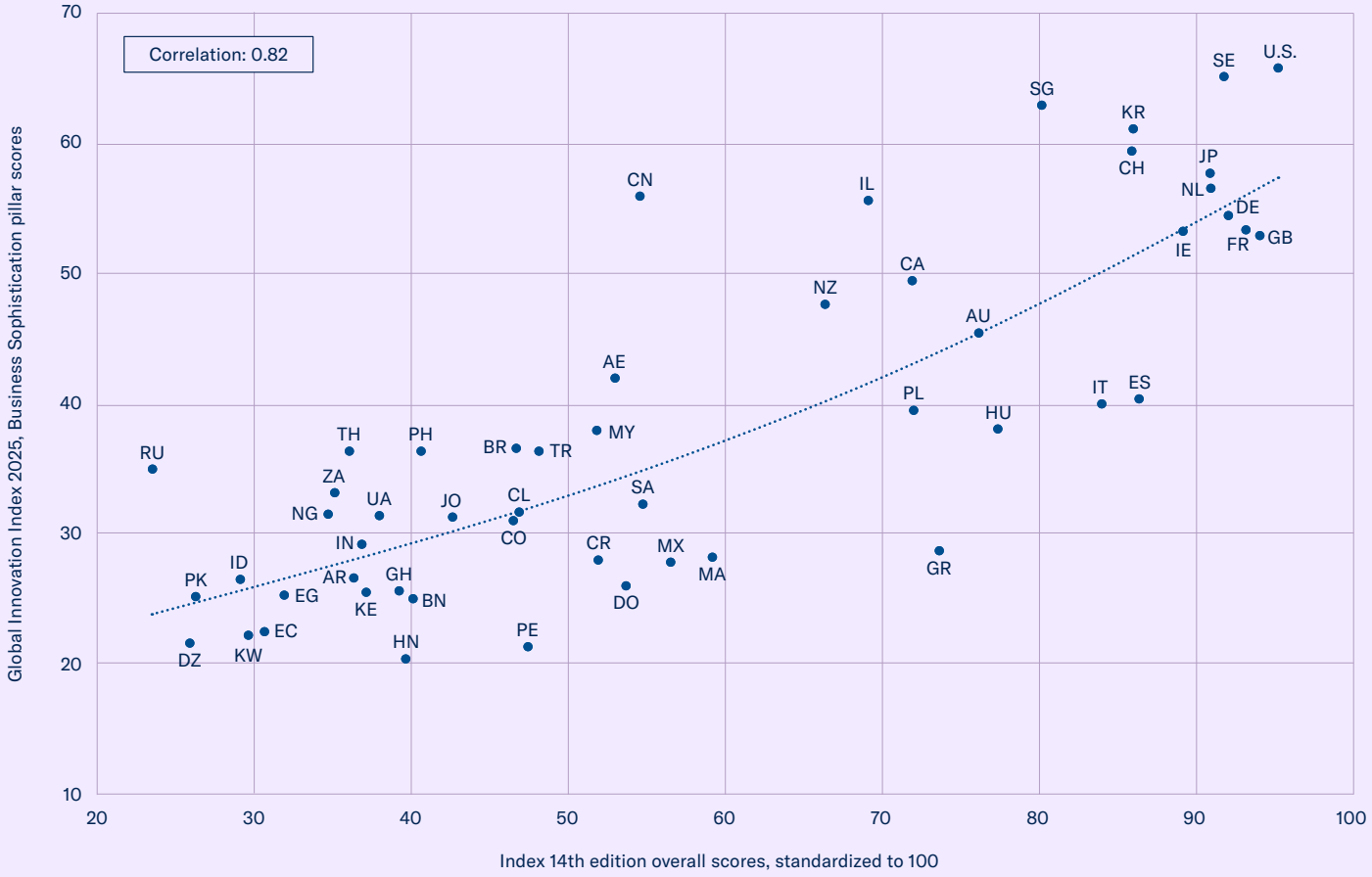
- A very strong correlation (.86) was found between the Index scores and the *Global Competitiveness Report*'s Innovation Capability pillar scores.
- Economies with fair to strong IP regimes are on average 66% more likely to maintain an environment capable of producing innovative outputs compared with weaker economies.
- The link between the two variables is particularly strong when looking at group averages by quartiles of Index scores: Economies scoring within the third and fourth quartile of the Index are much more capable of innovating and benefiting from local innovation activities compared with economies scoring within the second and first quartiles of the Index.

Association between the Index scores and the Global Competitiveness Report 2019, Innovation Capability Pillar scores: Division by quartiles in Index scores, average scores per quartile



Supportive IP Regimes are Essential for Creating Environments that are Conducive to Innovation

Association between the Index scores and the Global Innovation Index 2025, Business Sophistication Pillar scores[9]

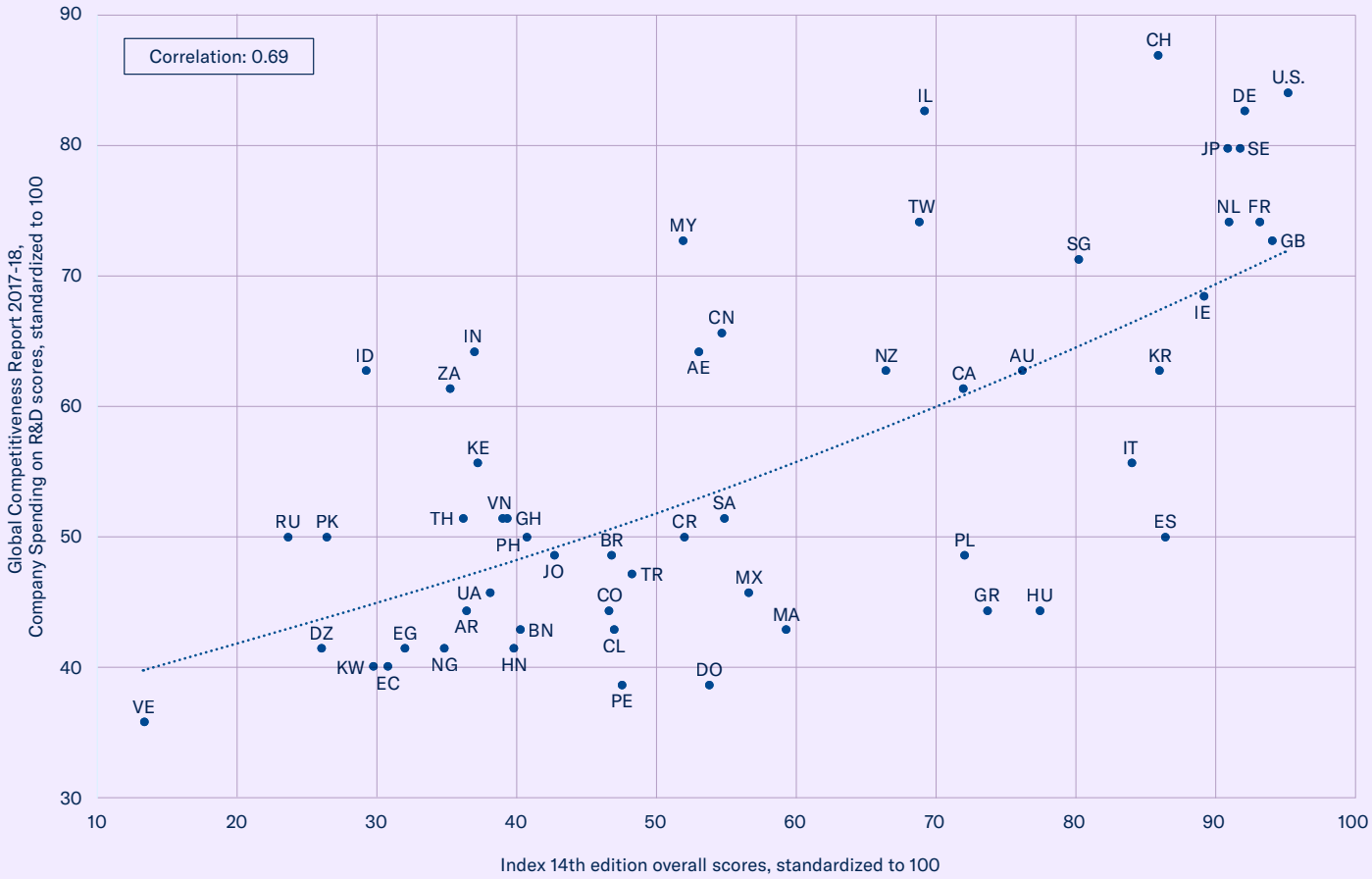


Data NA for Taiwan and Venezuela

- The *Global Innovation Index's* Business Sophistication pillar measures the availability of competent talent, levels of innovation linkages and infrastructure, and levels of FDI and reliance on high-tech imports. There is a very strong correlation (.82) to the Index scores.
- As a result, economies with strong IP protection are 63% more likely to experience the benefits of an innovation-driven economy, ranging from more high-skilled and high-paid workers to increased R&D activity.

Companies Are More Likely to Spend on R&D in Favorable IP Environments

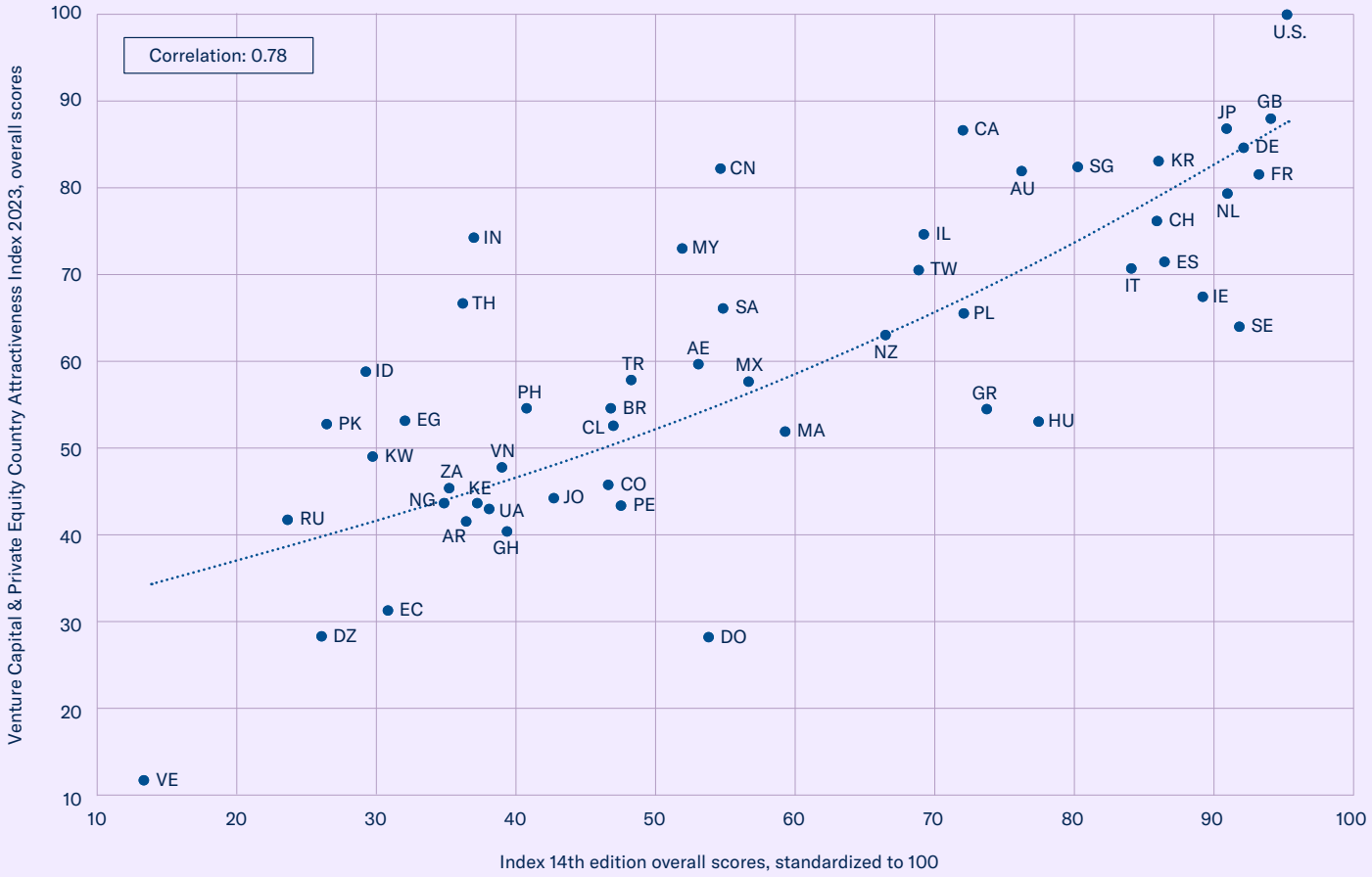
Association between Index scores and the Global Competitiveness Report 2017-18, company spending on R&D scores[10]



- A strong correlation (.69) exists between the Index scores and private sector propensity to spend on R&D.
- Economies with robust IP environments, scoring over 50% on the Index, are 35% more likely to see private-sector investment in R&D activity compared with companies in economies with less supportive IP environments.

Economies with Robust IP Regimes Are More Attractive to Investors

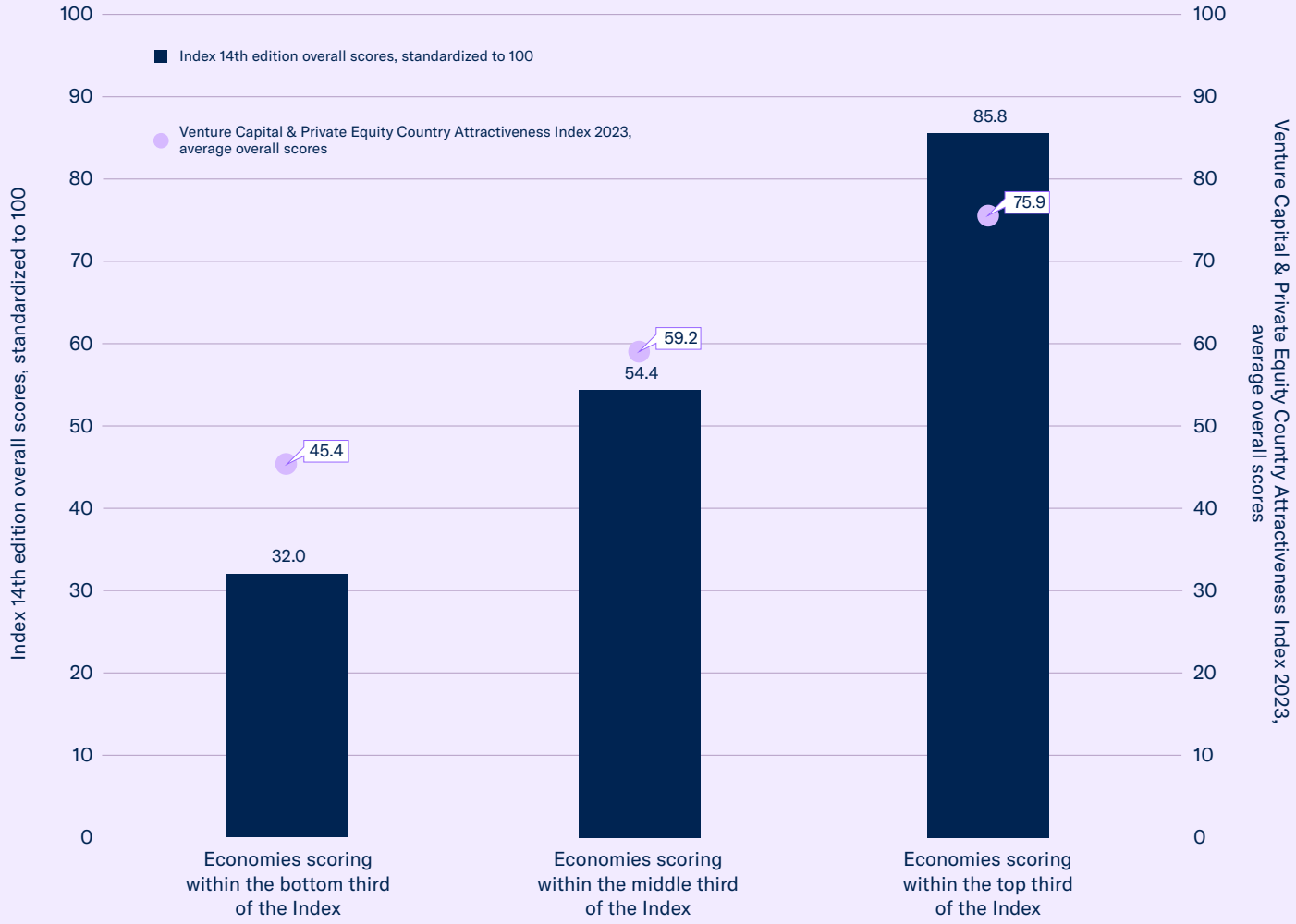
Association between the Index scores and the Venture Capital (VC) & Private Equity (PE) Country Attractiveness Index 2023 scores[11]



Data NA for Brunei, Costa Rica, and Honduras.

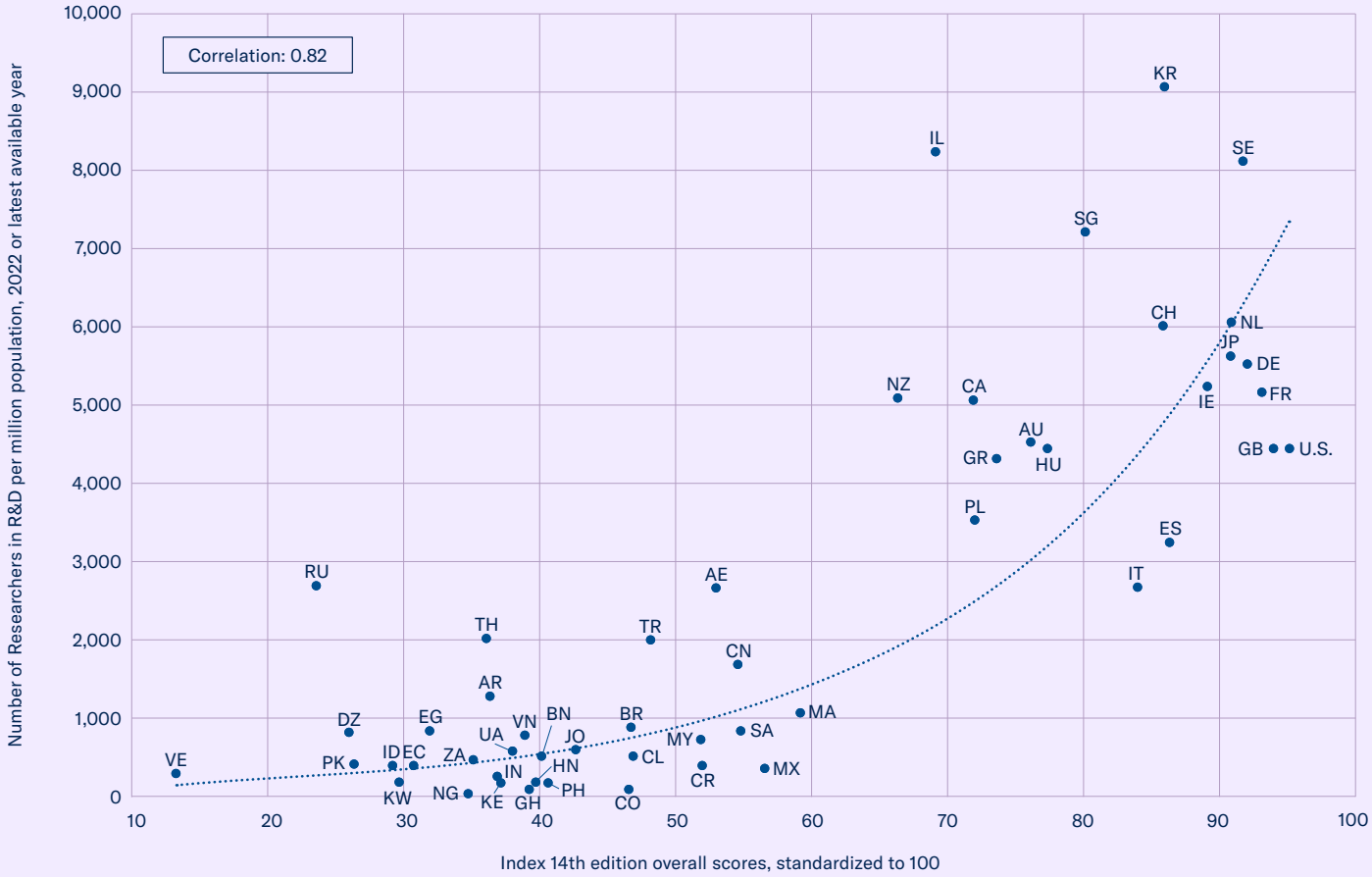
- There is a strong correlation (.78 to the IESE and EMLYON Business Schools' *Venture Capital & Private Equity Attractiveness Index* scores.
- Innovators and companies in economies with higher Index scores and stronger national IP environments are 53% more likely to attract venture capital and private equity funds compared with economies whose IP regimes lag behind.

Association between the Index scores and the *Venture Capital & Private Equity Country Attractiveness Index* scores: Division by thirds in Index scores, average scores per third



Strong IP Environments Encourage the Development of Human Capital

Association between Index scores and the number of researchers in R&D per million population[12]

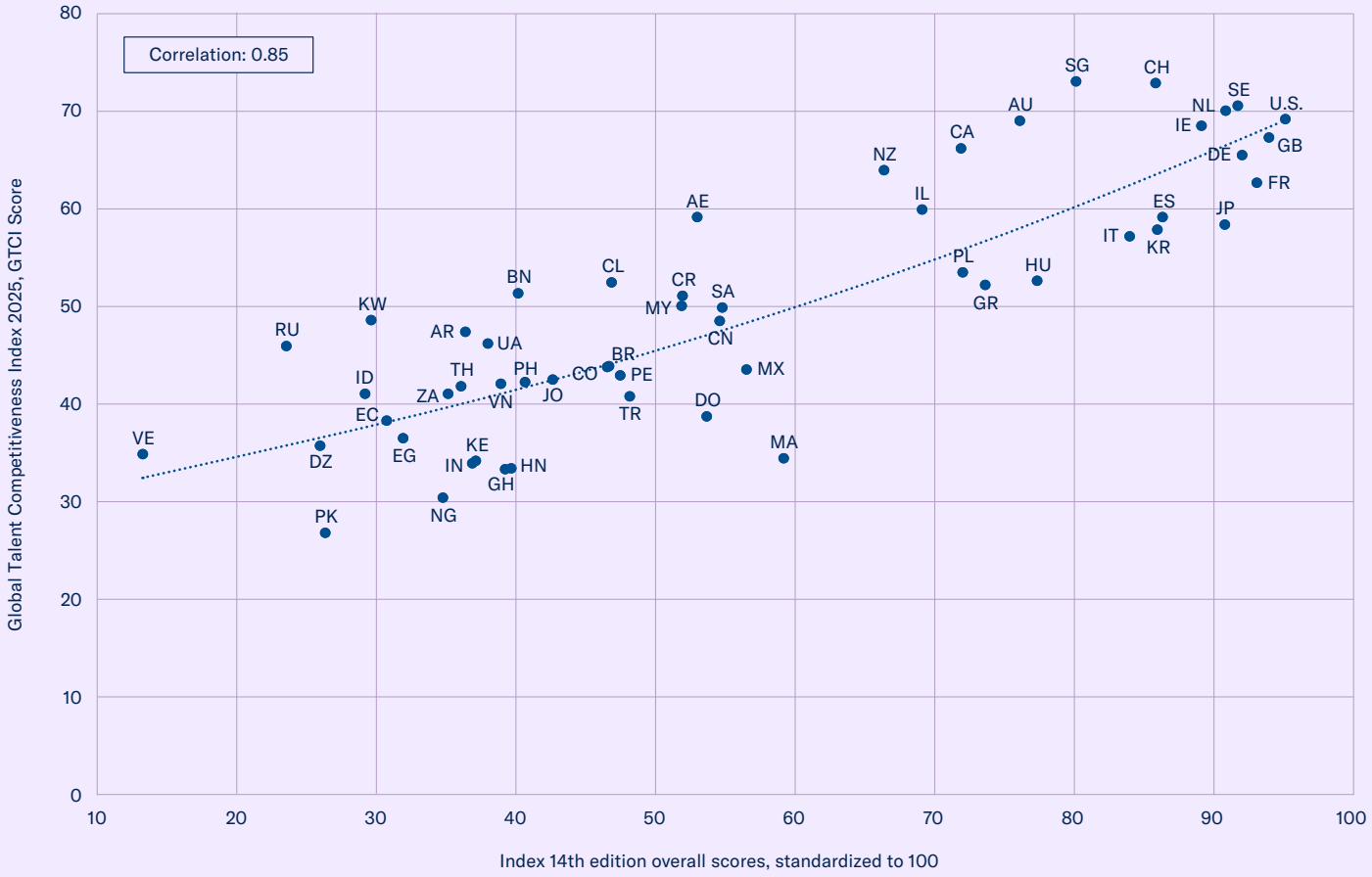


Data NA for Dominican Republic, Peru, and Taiwan

- The relationship between the Index scores and levels of human capital has remained very strong over the past six editions of the Annex, with a correlation of .82 this year.
- Economies with favorable IP regimes are over five times more likely to have highly skilled researchers in a given labor force.

Favorable IP Environments are Better Positioned for Competing in the Global Innovation Arena

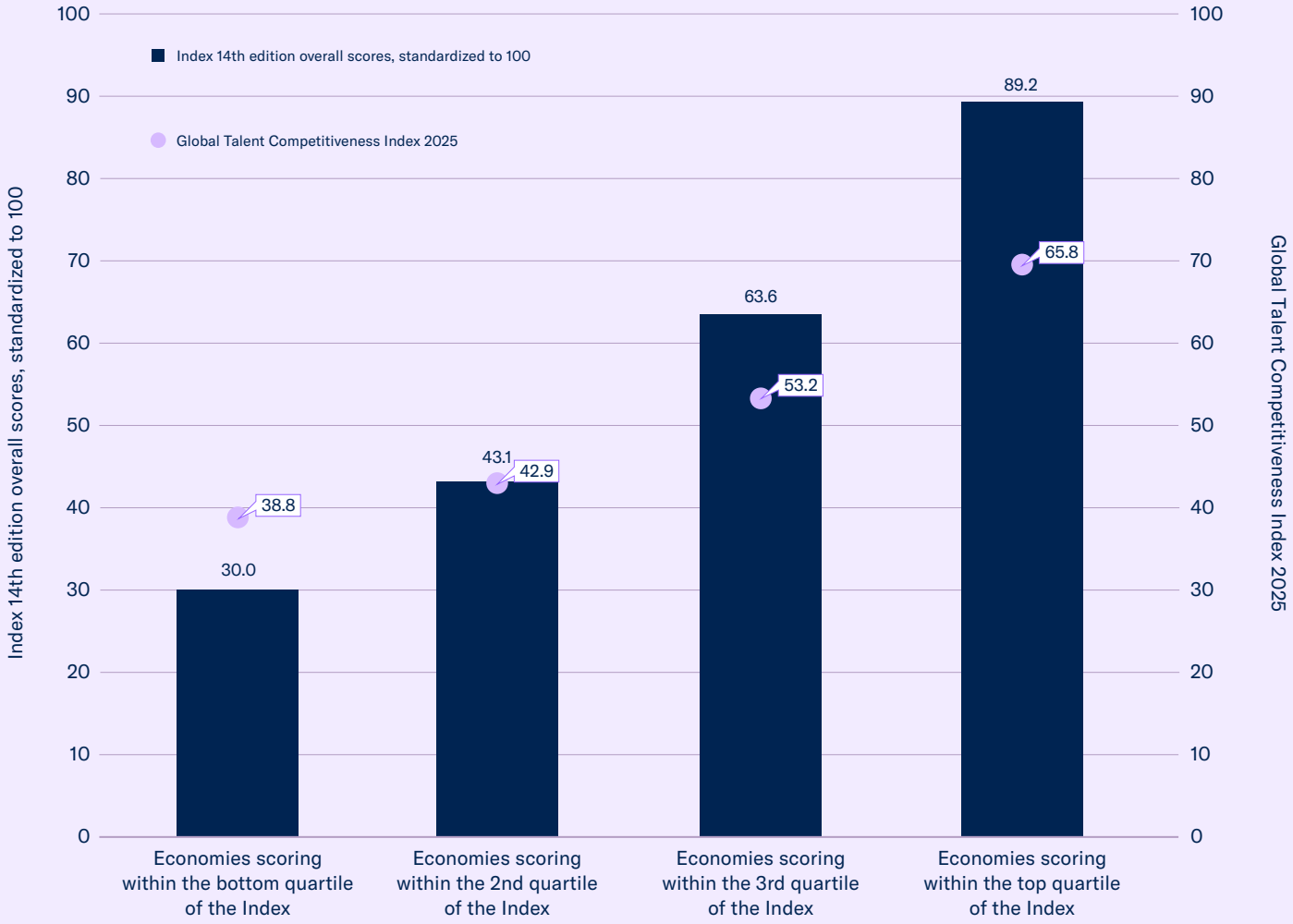
Association between the Index scores and the *Global Talent Competitiveness Index* 2025[13]



Data NA for Taiwan

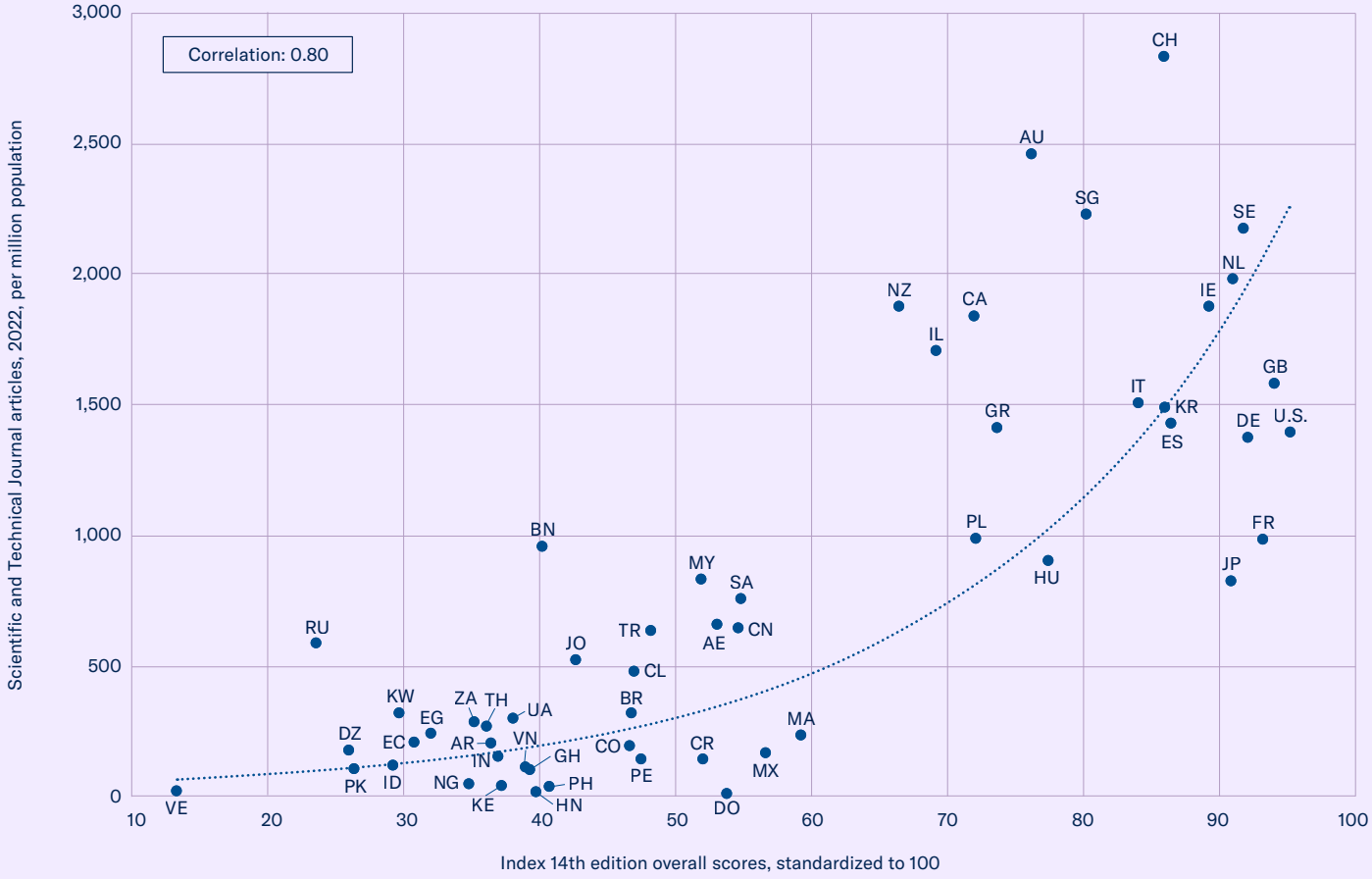
- IP protection displays a very strong correlation (.85) with economies' performance on the *Global Talent Competitiveness Index*. The latter benchmarks economies' ability to develop, attract, and empower human capital, measuring both inputs such as enabling landscape, market openness, quality of learning and sustainability, as well as outputs such as mid- and high-level skills and overall talent impact.
- Economies with higher Index scores are 45% more competitive on the Global Talent Competitiveness Index than that of weaker economies.
- When dividing the Index scores into quartiles, a corresponding stepwise increase is revealed in economies' talent competitiveness, suggesting that the overall strength of economies' IP protection goes hand-in-hand with the development of a strong and competitive workforce.

Association between the Index scores and the Global Talent Competitiveness Index rankings: Division by quartiles in Index scores, average scores per quartile



Supportive IP Frameworks and Science and Technology Knowledge Production

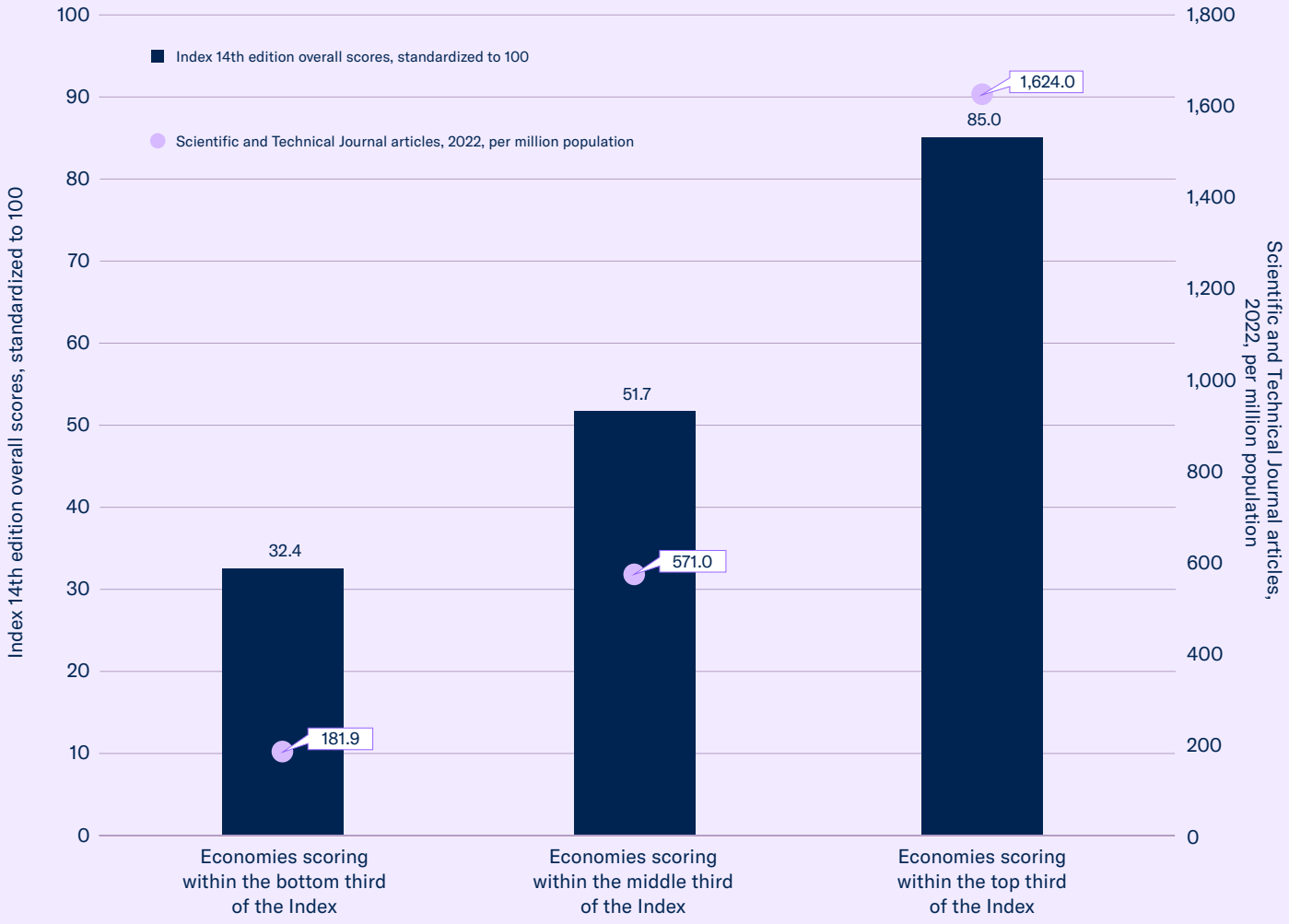
Association between the Index scores and the number of scientific and technical journal articles per million population[14]



Data NA for Taiwan

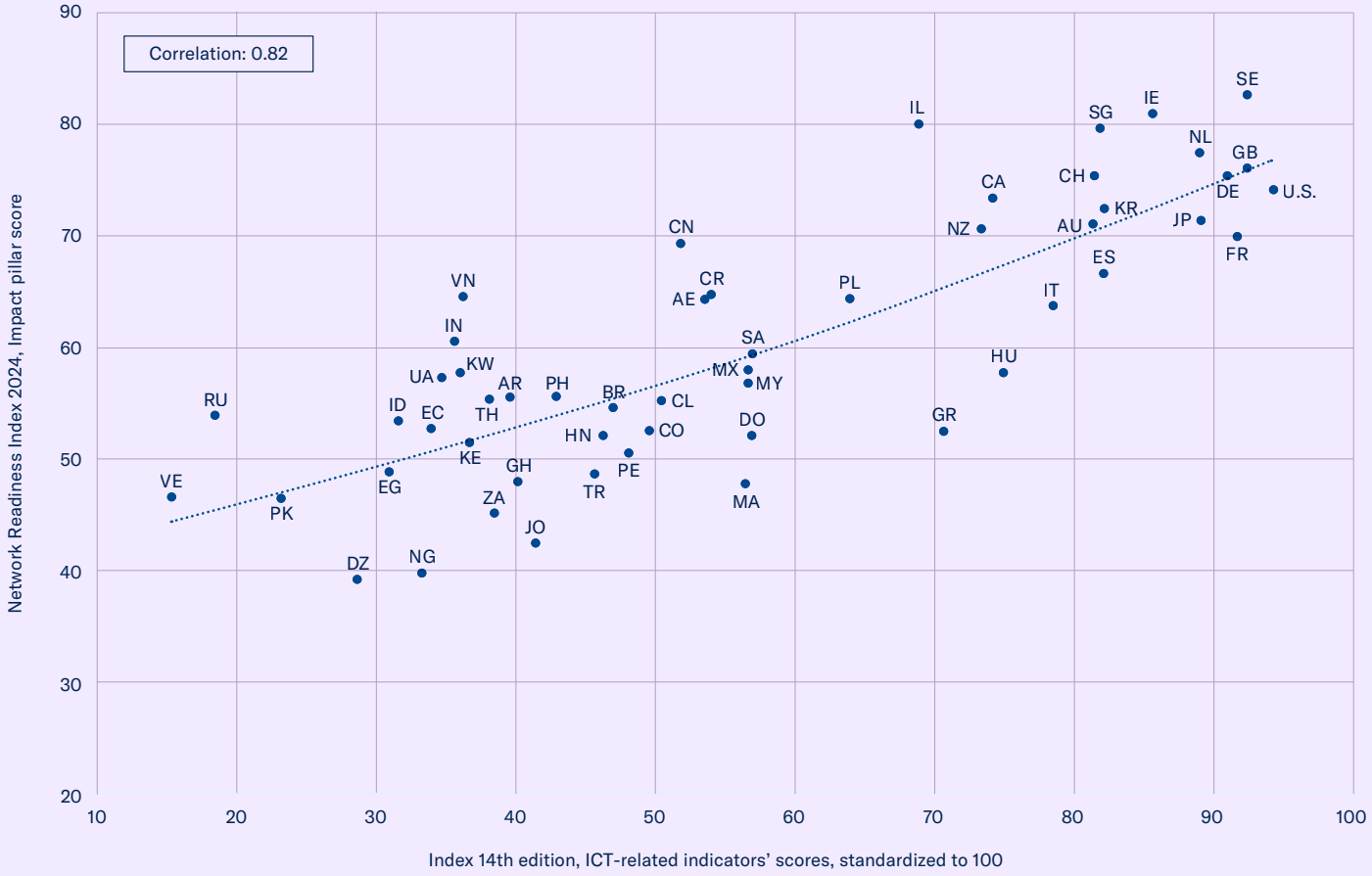
- The population-adjusted rate of scientific and technical journal articles – a robust measure for the quality and productivity for the human capital in the fields of life sciences, technology, and engineering – displays a very strong correlation (.80) with the Index overall scores.
- Economies with robust IP systems, as measured by the Index, have over four times more knowledge output in terms of scientific and technical journal articles.

Association between the Index scores and the number of scientific and technical journal articles per million population: Division by thirds in Index scores, average scores per third



IP Protection Contributes to the Growth of the ICT Sector and Knowledge-Based Economies

Association between the Index's ICT-related indicators scores and the Network Readiness Index 2024, Impact Pillar scores[15]

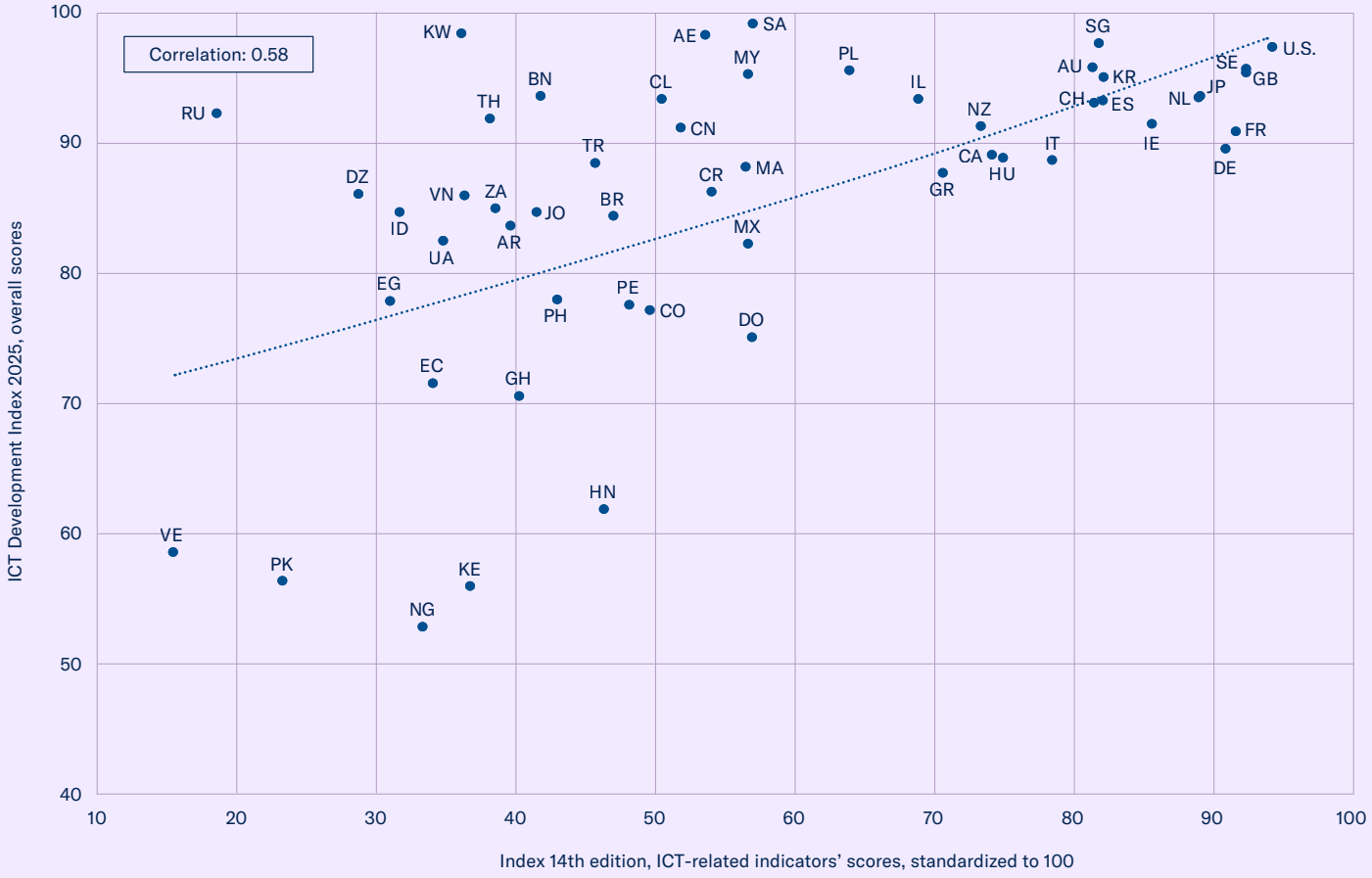


Data NA for Brunei and Taiwan.

- There is a very strong correlation (.82) between the Index's ICT-related indicators and the extent to which an economy leverages ICT and benefits from its economic and societal impact, as measured by the *Network Readiness Index*.
- Economies with stronger Index scores are 32% more likely to fully leverage ICTs for increased productivity and technology development.

IP Protection Contributes to the Growth of the ICT Sector and Knowledge-Based Economies

Association between the Index ICT-related indicators scores and the Measuring digital development, The ICT Development Index 2025[16]



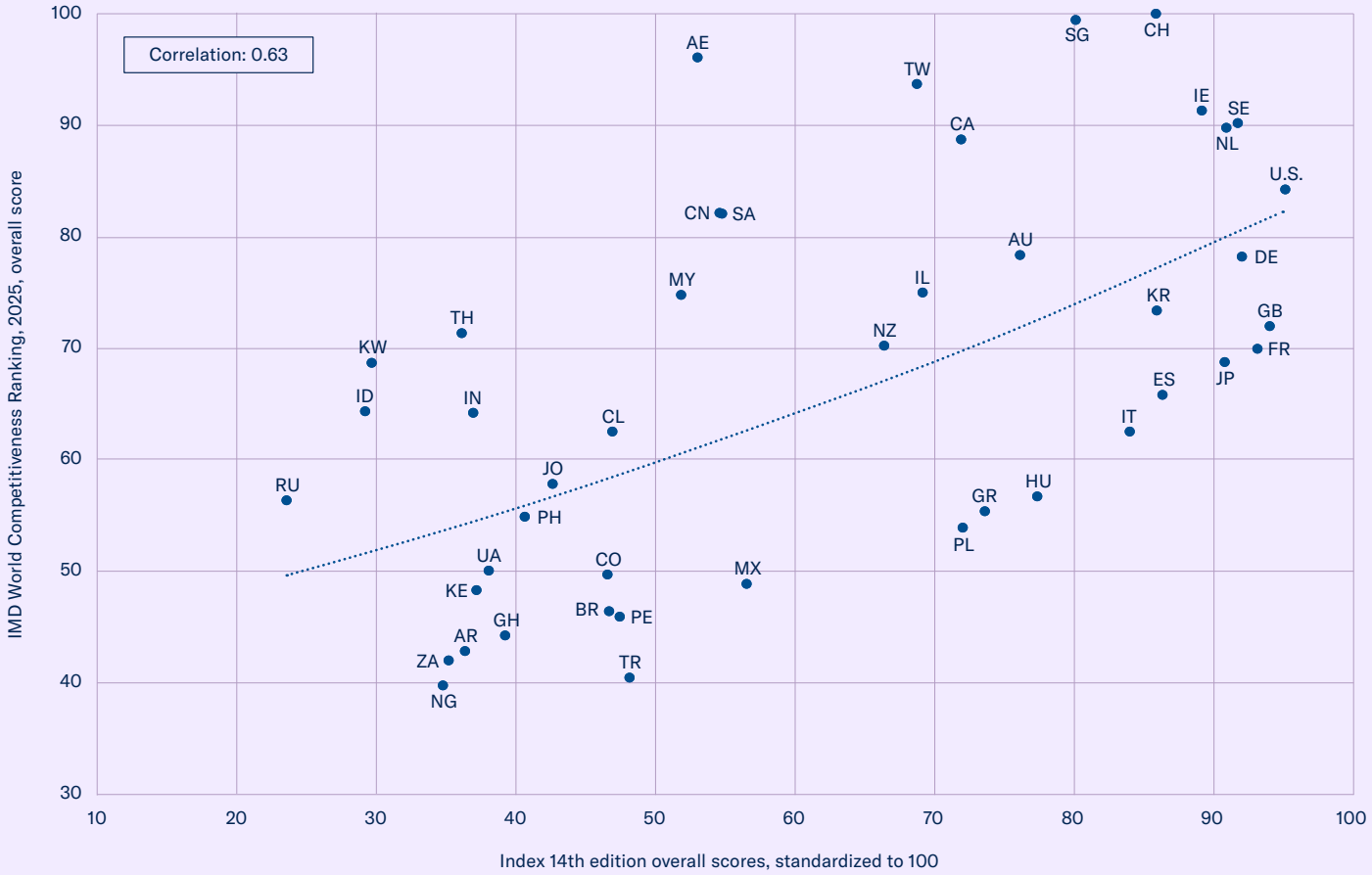
Data NA for India and Taiwan

- The Index's ICT related indicators' scores display a moderate correlation (.58) with the ICT Development Index.
- Economies with favorable IP environments are 17% more likely to support a dynamic ICT sector and experience the socio-economic benefits this generates.

Outputs of a competitive knowledge-based economy

Economies with Favorable IP Environments are More Globally Competitive

Association between the Index scores and the 2025 IMD World Competitiveness Ranking overall scores[17]

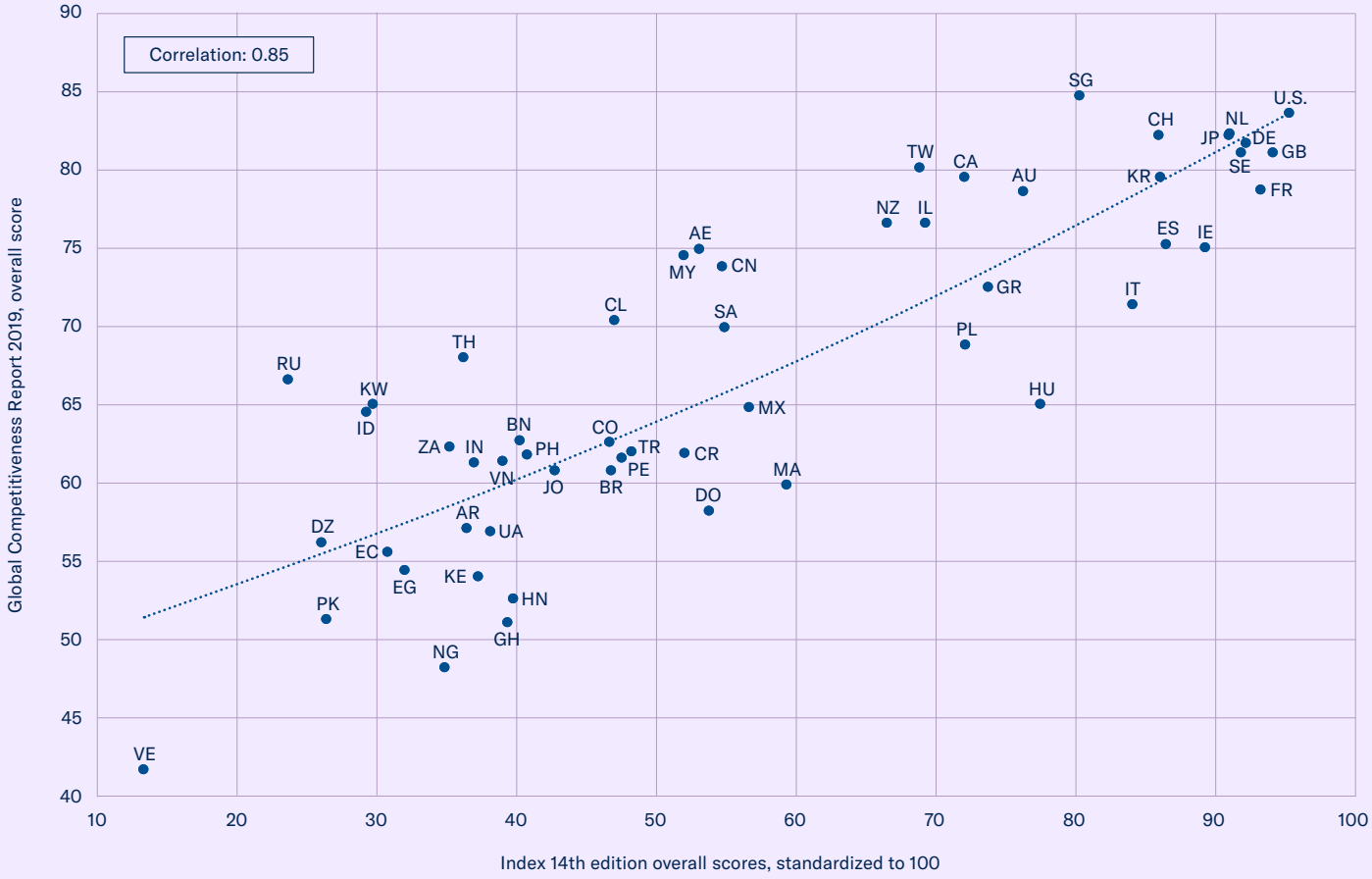


Data NA for Algeria, Brunei, Costa Rica, Dominican Republic, Ecuador, Egypt, Honduras, Morocco, Pakistan, and Vietnam.

- The IMD World Competitiveness Ranking shows a strong correlation (.63) with the Index scores.
- On average, economies with stronger Index scores are 50% more competitive than economies scoring below 50%.

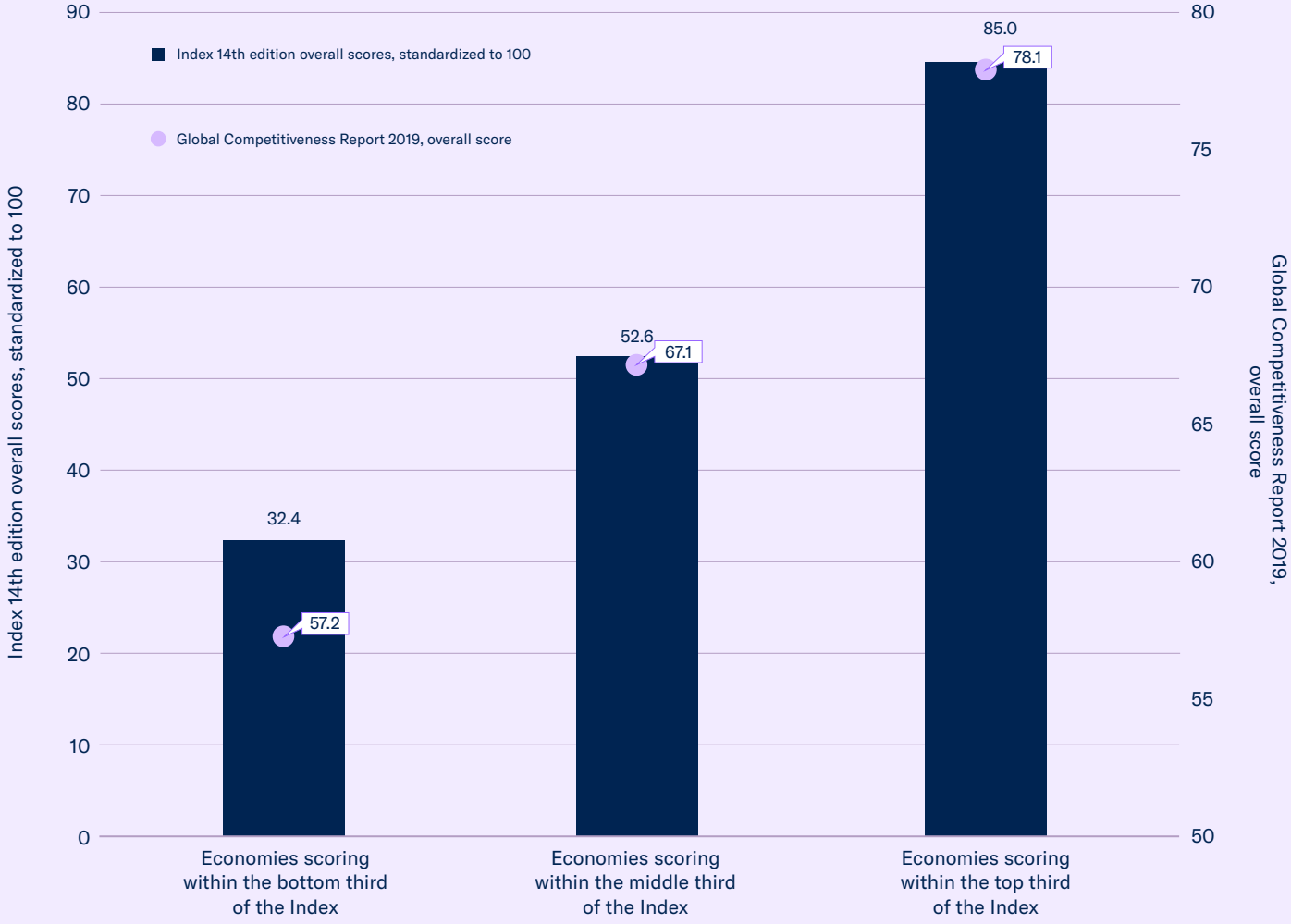
Economies with Favorable IP Environments are More Globally Competitive

Association between the Index scores and the Global Competitiveness Report 2019 overall scores[18]



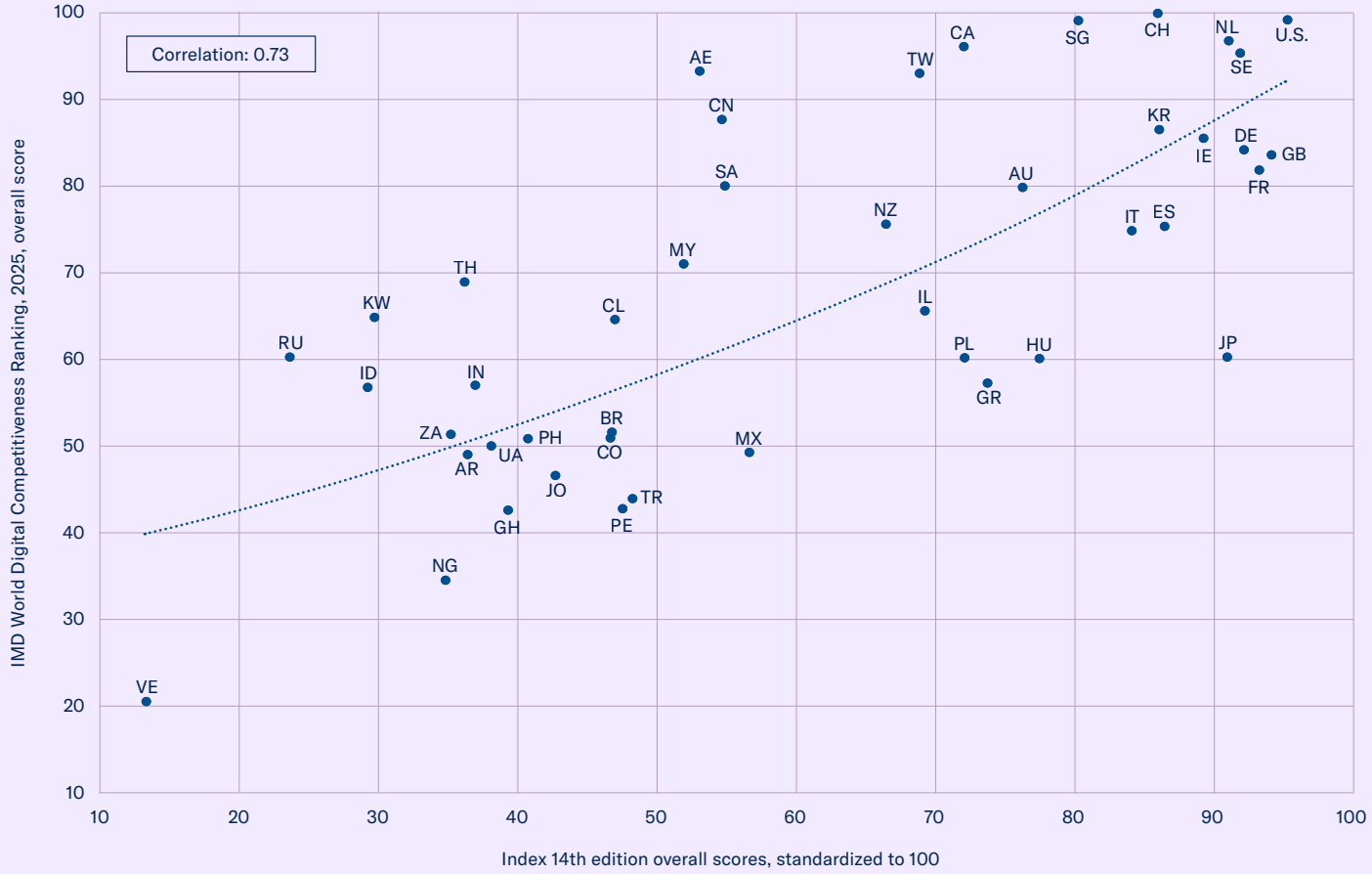
- The Global Competitiveness Index is a comprehensive benchmark of the set of institutions, policies, and factors that determine economies' productivity and competitiveness. There is a very strong correlation (.85) with the Index scores.
- On average, economies with stronger Index scores are 27% more competitive than economies scoring below 50%.
- When dividing the Index scores into thirds, a corresponding stepwise increase is revealed in economies' competitiveness, suggesting that the overall strength of economies' IP protection goes hand-in-hand with overall levels of international economic competitiveness.

Association between the Index scores and the Global Competitiveness Report 2019 overall scores: Division by thirds in Index scores, average scores per third



Economies with Favorable IP Environments are More Digitally Competitive

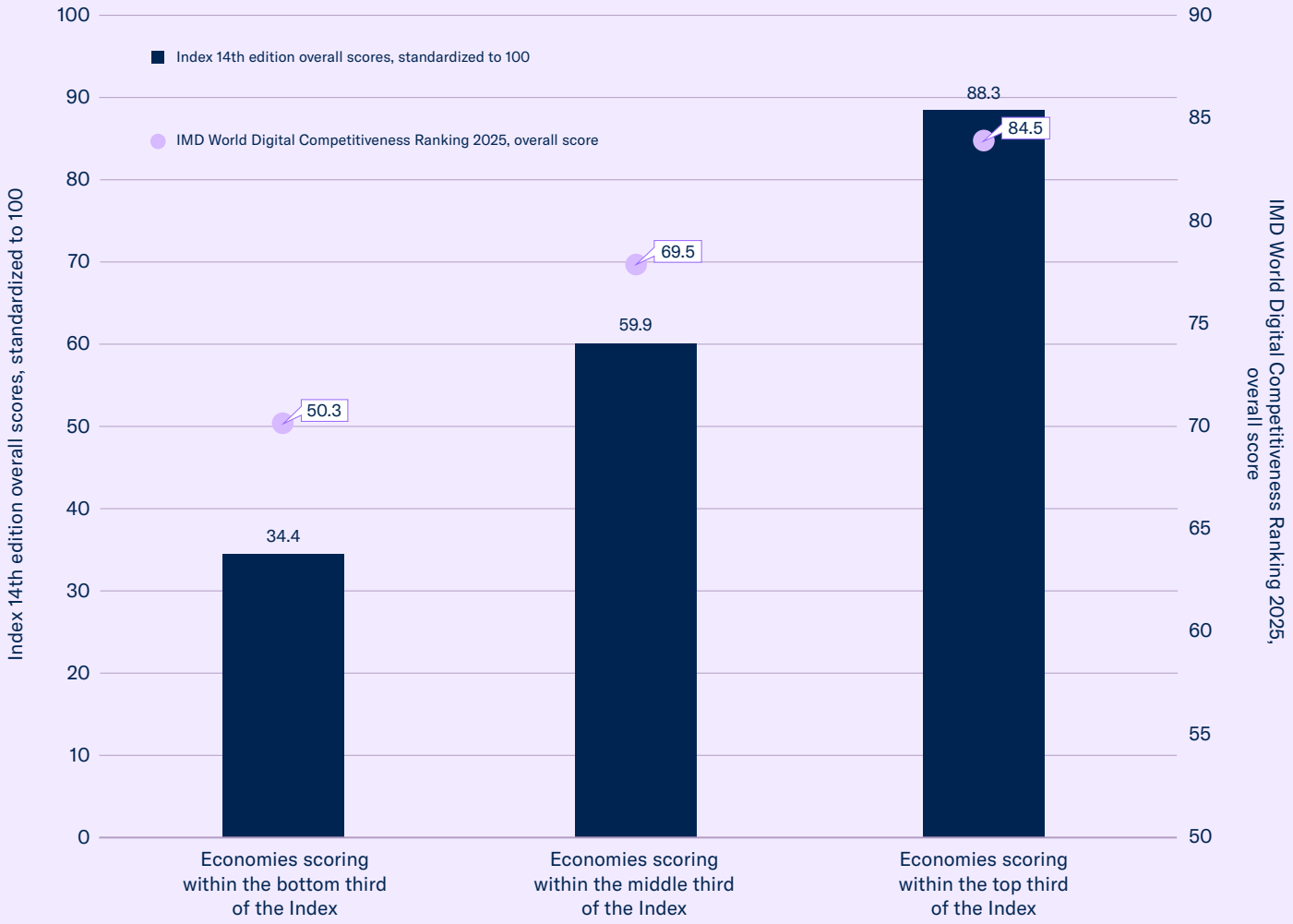
Association between the Index scores and the 2025 IMD World Digital Competitiveness Ranking overall scores[19]



Data NA for Algeria, Brunei, Costa Rica, Dominican Republic, Ecuador, Egypt, Honduras, Kenya, Morocco, Pakistan, and Vietnam.

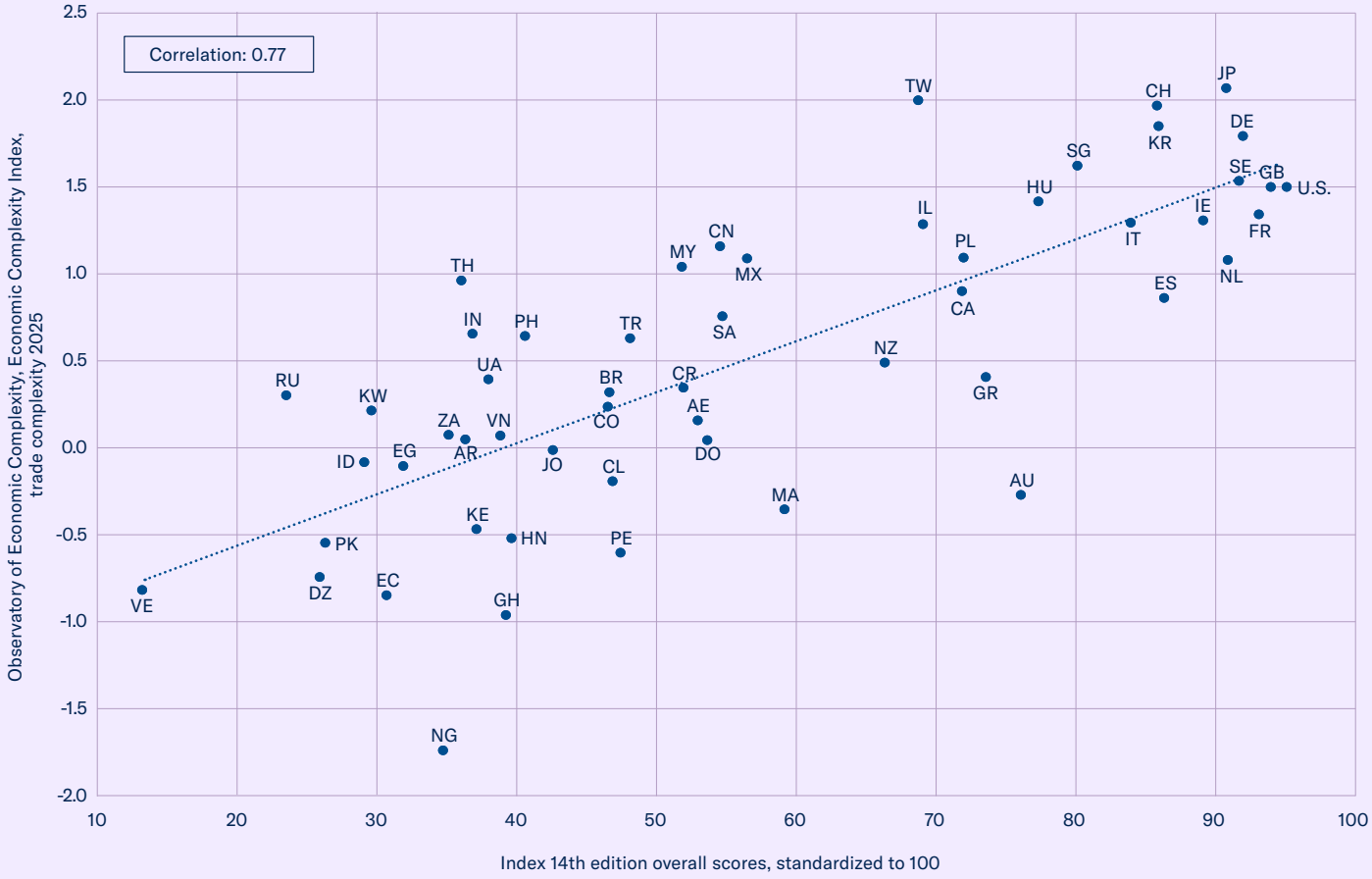
- The IMD World Digital Competitiveness Ranking "analyzes and ranks the extent to which countries adopt and explore digital technologies leading to transformation in government practices, business models and society in general."[20]
- There is a strong correlation (.73) between digital competitiveness and the Index's overall scores.
- On average, economies with stronger Index scores are 60% more digitally competitive than economies scoring below 50%.
- When dividing the Index scores into thirds, a corresponding stepwise increase is revealed in economies' competitiveness, suggesting that the overall strength of economies' IP protection goes hand-in-hand with overall levels of international digital competitiveness.

Association between the Index scores and the 2025 IMD World Digital Competitiveness Ranking overall scores: Division by thirds in Index scores, average scores per third



Robust IP Protection and Economic Complexity – Trade Complexity

Association between the Index scores and the Observatory of Economic Complexity's *Economic Complexity Index* 2025[21]

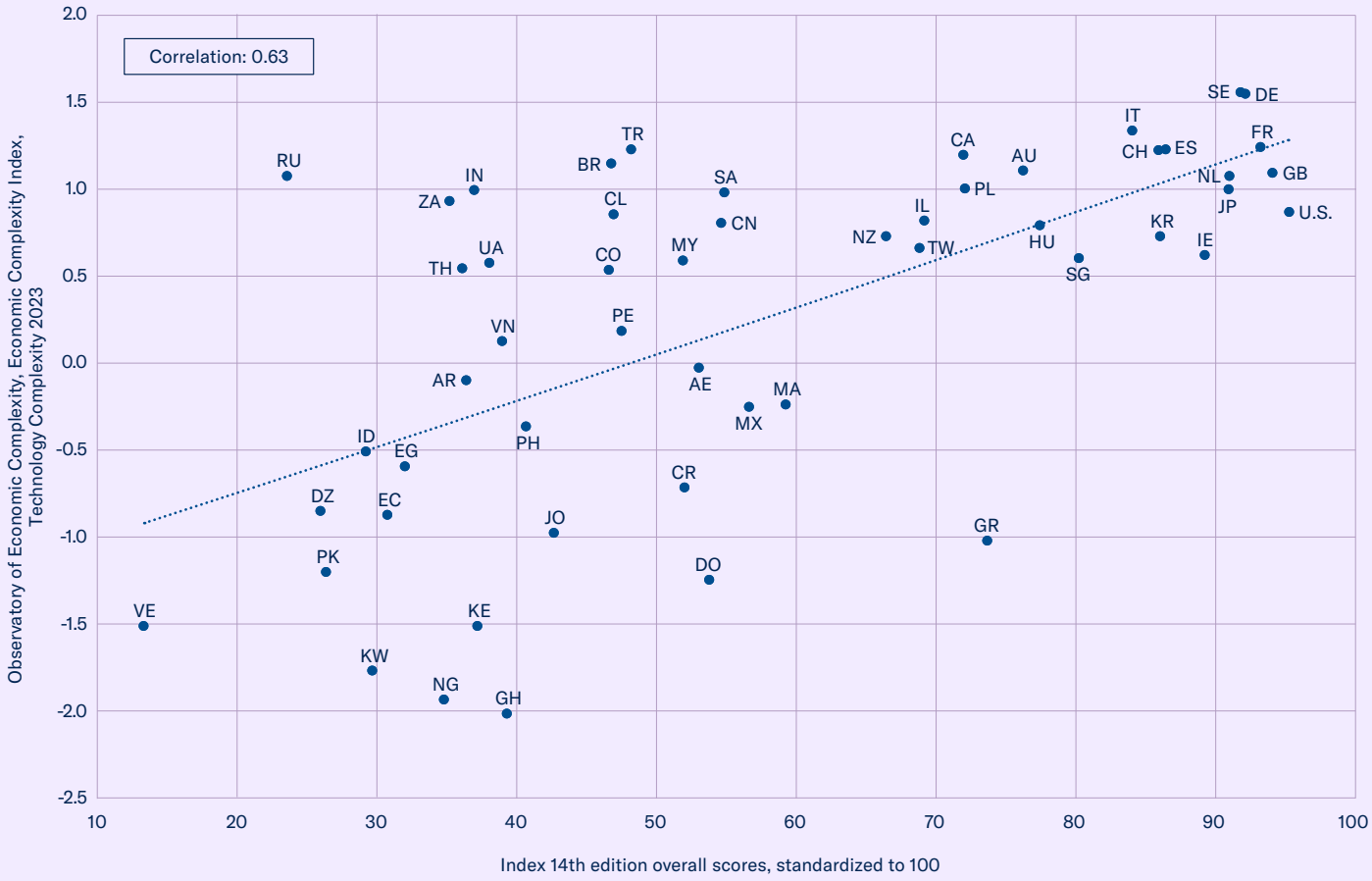


Data NA for Brunei

- The Observatory for Economic Complexity's *Economic Complexity Index* measures the complexity of knowledge required to produce a given product and the level of its exports. There is a strong correlation (.77) with the Index scores.
- Economies scoring above 50% of the Index are significantly more likely to produce and export complex, knowledge-intensive products and reap the associated social and economic benefits compared with economies scoring below.

Robust IP Protection and Economic Complexity – Technology Complexity

Association between the Index scores and the Observatory of Economic Complexity's *Economic Complexity Index – technology complexity* 2023[22]

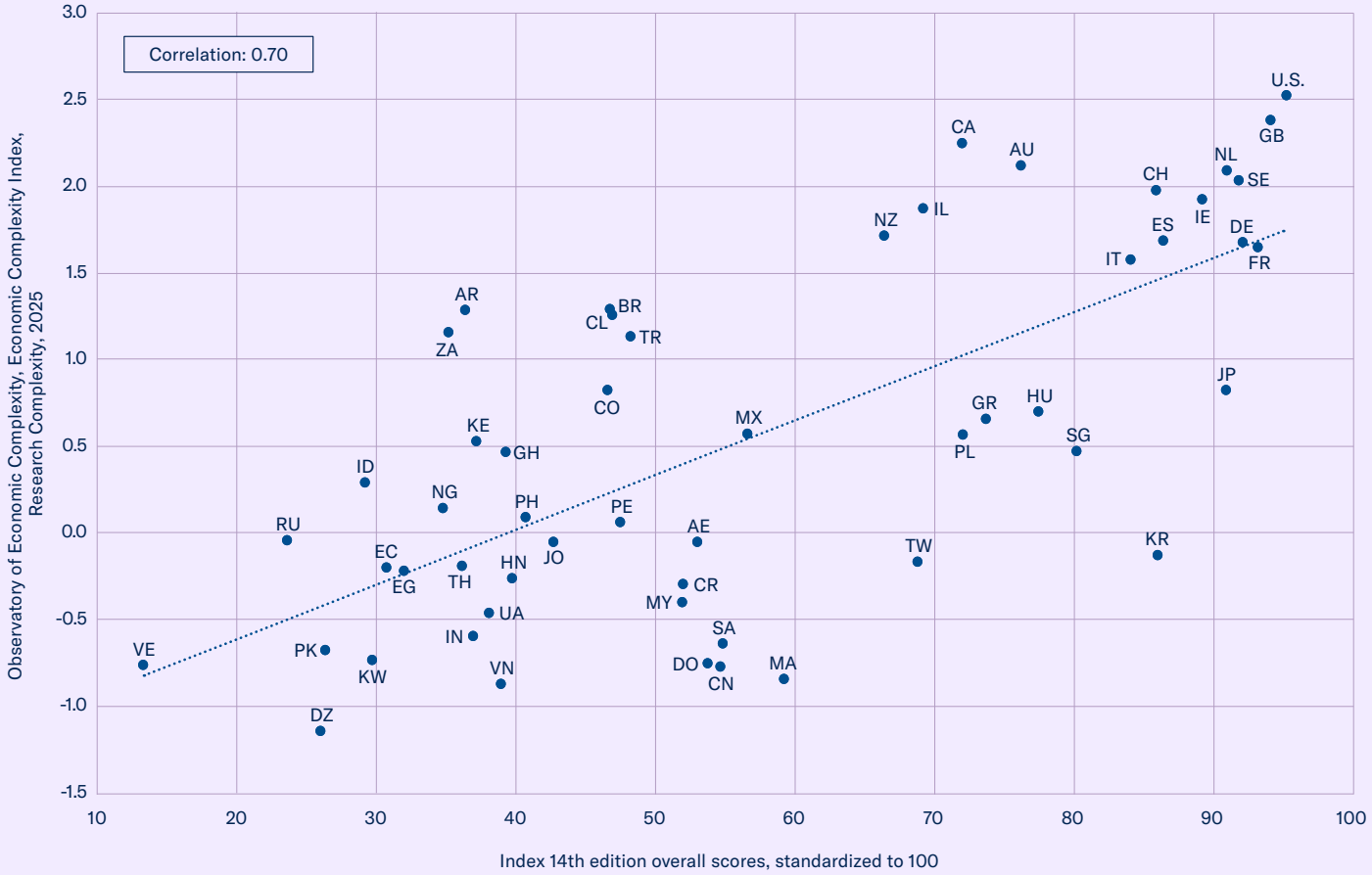


Data NA for Brunei and Honduras

- The Observatory for Economic Complexity's *Economic Complexity Index – technology complexity* measures the levels of complex technology in a given economy. There is a strong correlation (.63) with the Index scores.
- Economies scoring above 50% of the Index have almost four times the levels of complex technology compared with economies scoring below.

Robust IP Protection and Economic Complexity – Research Complexity

Association between the Index scores and the Observatory of Economic Complexity's *Economic Complexity Index – research complexity* 2025[23]

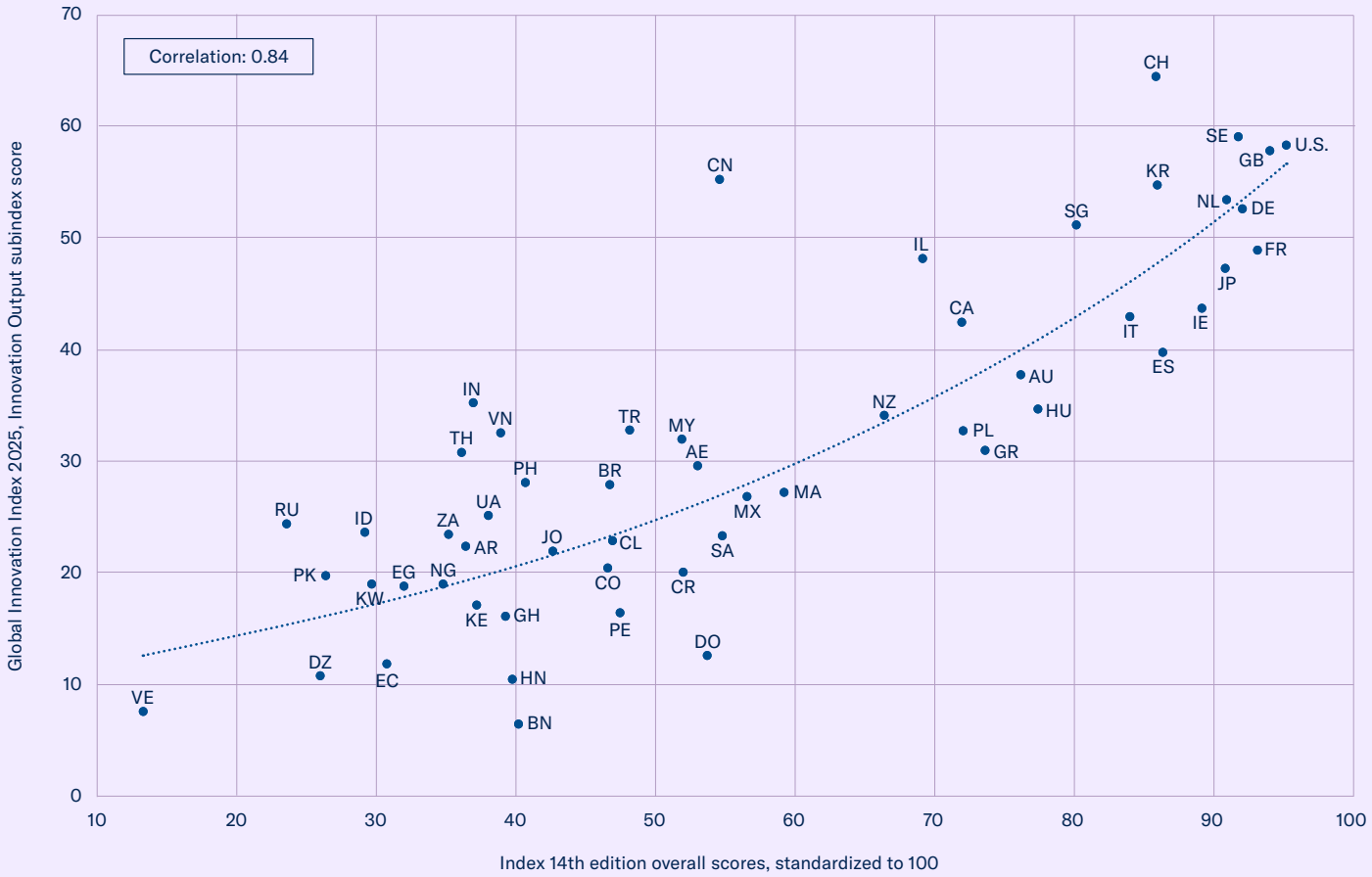


Data NA for Brunei

- The Observatory for Economic Complexity's *Economic Complexity Index – research complexity* measures the level of complex research in a given economy. There is a strong correlation (.70) with the Index scores.
- Economies scoring above 50% of the Index produce over nine times the complex research compared with economies scoring below.

Strong IP Environments Have Higher Levels of Innovative Output

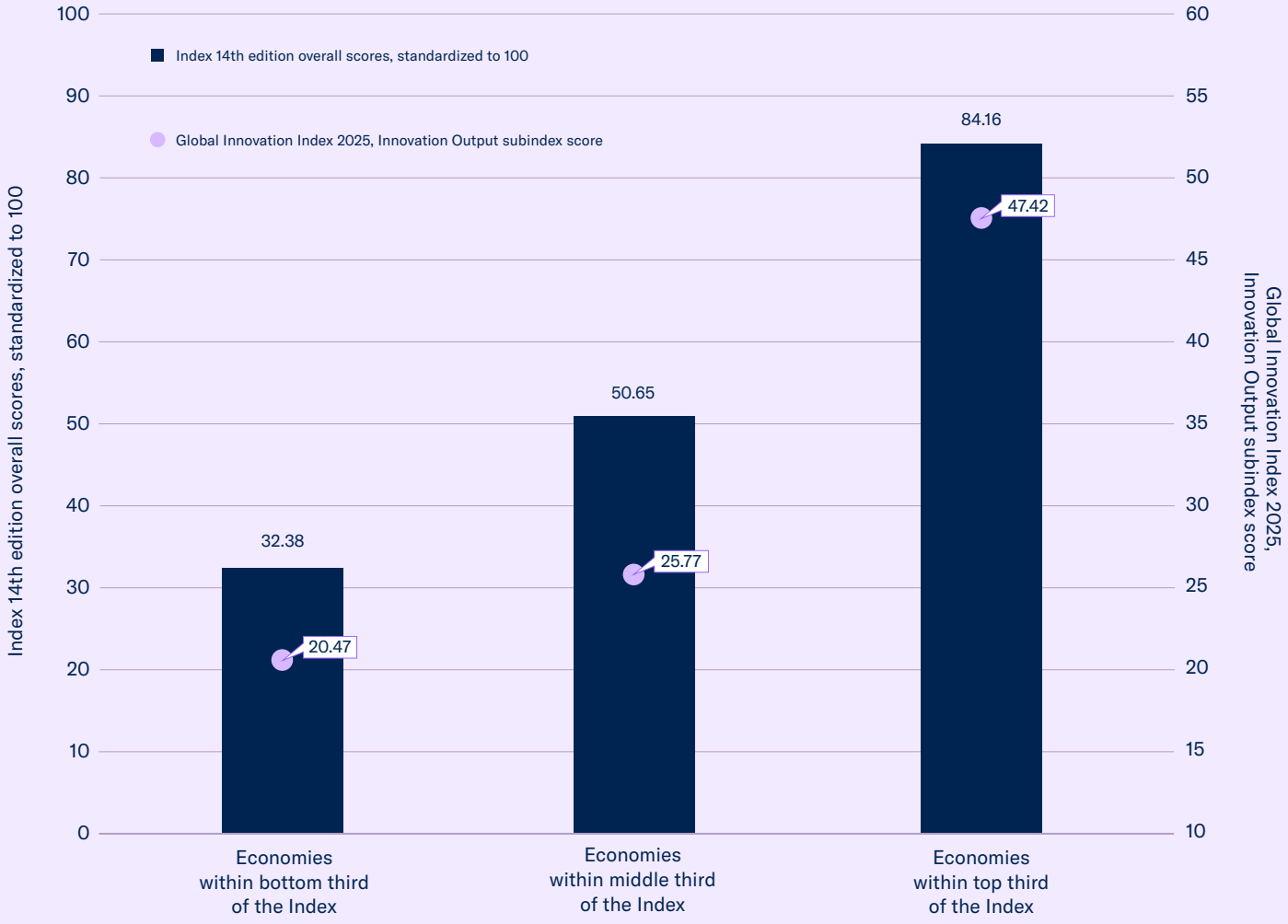
Association between Index scores and the *Global Innovation Index 2025*, Innovation Output Subindex scores[24]



Data NA for Taiwan and Venezuela

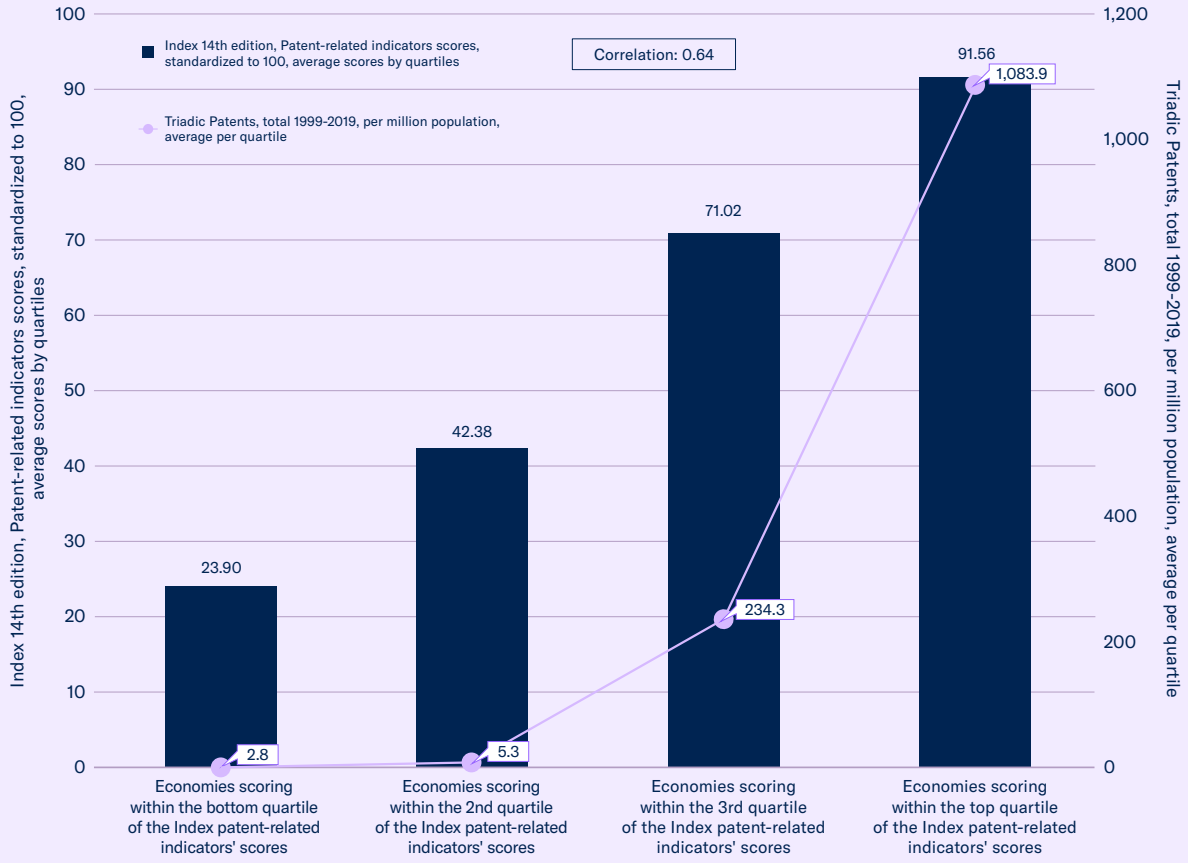
- The *Global Innovation Index's* Innovation Output subindex is an aggregate measure that looks at a wide variety of indicators reflecting knowledge creation and development, including intangible assets, research publications, and high-tech production. When compared with the Index, there is a very strong correlation (.84) to the Index scores.
- Economies with robust IP regimes experience almost double the innovation output compared with economies with weaker national IP environments.
- When dividing the Index scores into thirds, a corresponding stepwise increase is revealed in economies' innovation output, suggesting that the overall strength of economies' IP protection goes hand-in-hand with overall levels of innovation.

Association between Index scores and the Global Innovation Index, Innovation Output Subindex scores: Division by thirds in Index scores, average scores per third



Inventive Intensity Depends on Strong Patent Protection

Association between Index patent-related indicators scores, and triadic patents (total, 1999-2019) per million population, by quartiles in Index scores, average per quartile[25]

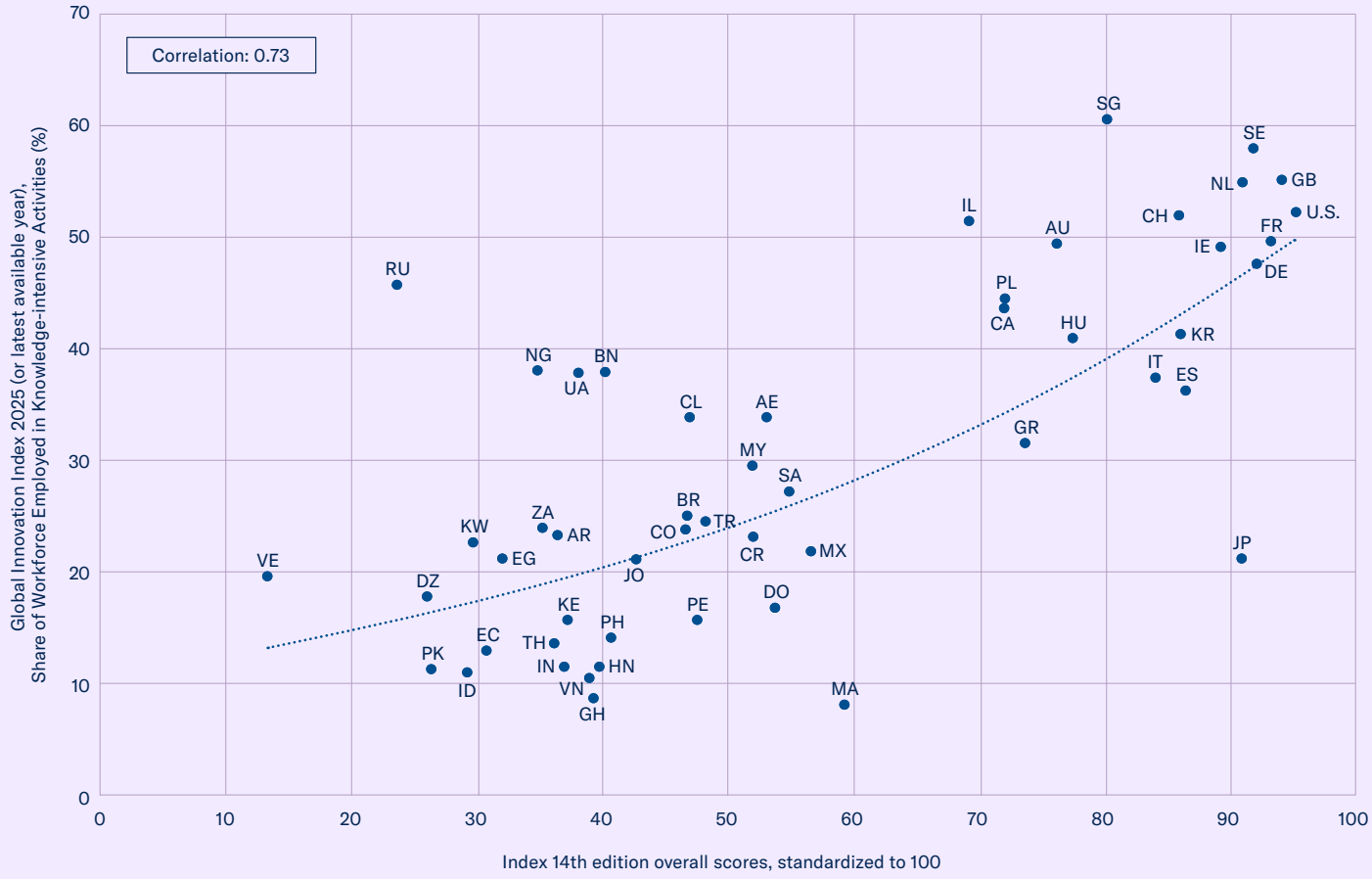


Data NA for Brunei, Dominican Republic, Ghana, Honduras and Vietnam.

- Triadic patenting rates are a measure of patent protection granted by the three biggest patent offices (the U.S. Patent and Trademark Office, European Patent Office, and Japan Patent Office) and serve as a good indicator of the development of high-value innovations with significant commercial potential.
- The Index patent-related indicators' scores display a strong correlation (.64) with triadic patenting rates standardized for population. Strong IP environments generate more triadic patenting, while weaker environments see virtually no triadic patenting.
- Economies with the strongest IP frameworks have over 500 more high-value inventions patented per million population than economies with weaker IP environments.
- Economies in the lower two quartiles see rates of triadic patenting activity in the low single digits per million population.

A Robust IP Regime Promotes the Growth of Knowledge-Intensive Sectors

Association between the Index scores and *Global Innovation Index 2025*, share of workforce employed in knowledge-intensive services

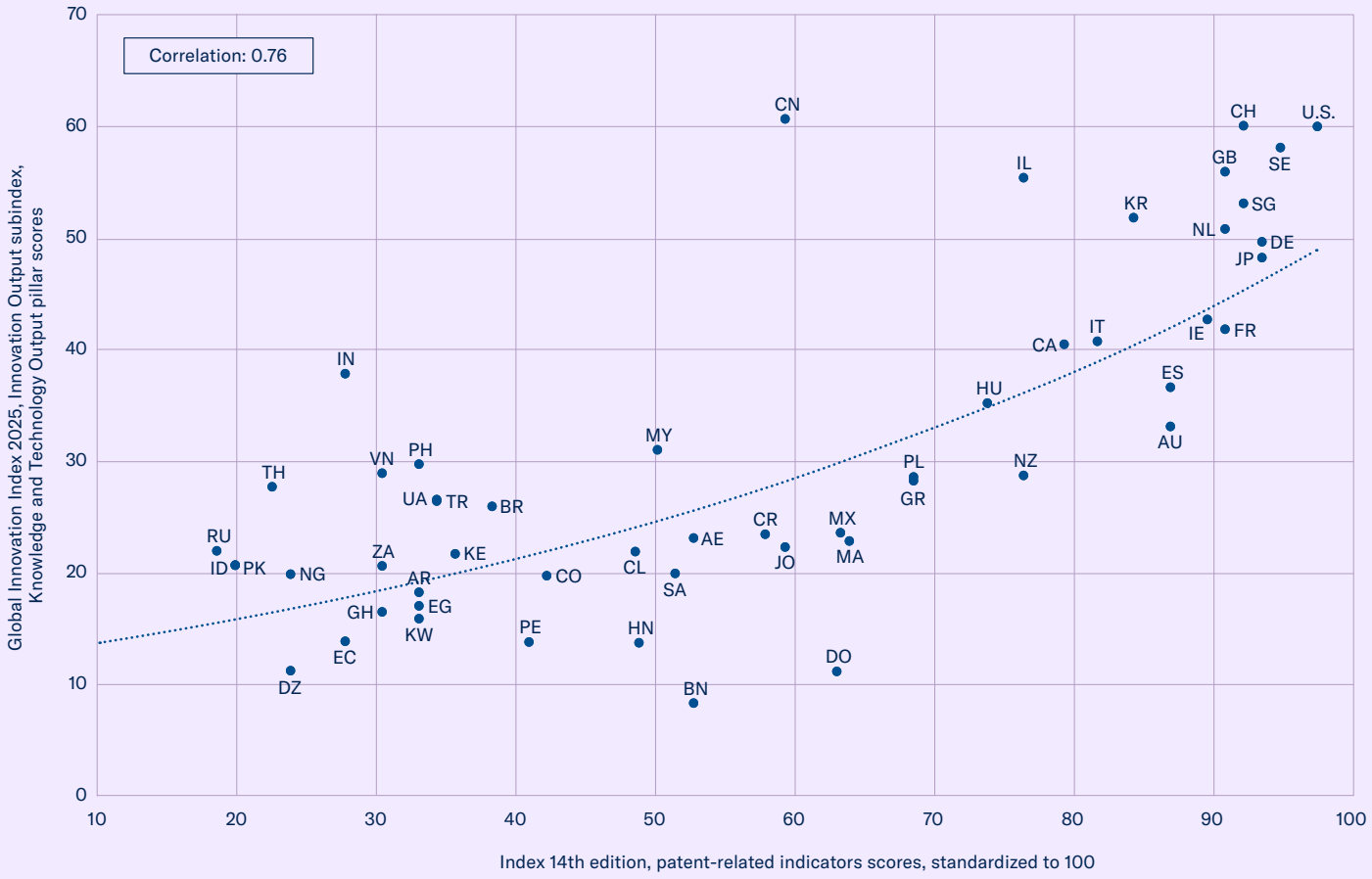


Data NA for China, New Zealand, Taiwan, and Venezuela.

- There is a strong correlation (.73) between Index scores and the share of the workforce employed in knowledge-intensive activities, as measured by the *Global Innovation Index 2025*.
- The share of the workforce concentrated in knowledge-intensive sectors in economies with robust IP environments is 87% higher compared with economies with weaker national IP environments.

Patent Protection is Linked to the Growth of High-Tech Sectors

Association between Index patent-related indicators scores, and the *Global Innovation Index 2025*, Innovation Output Subindex Knowledge and Technology Output pillar scores[26]

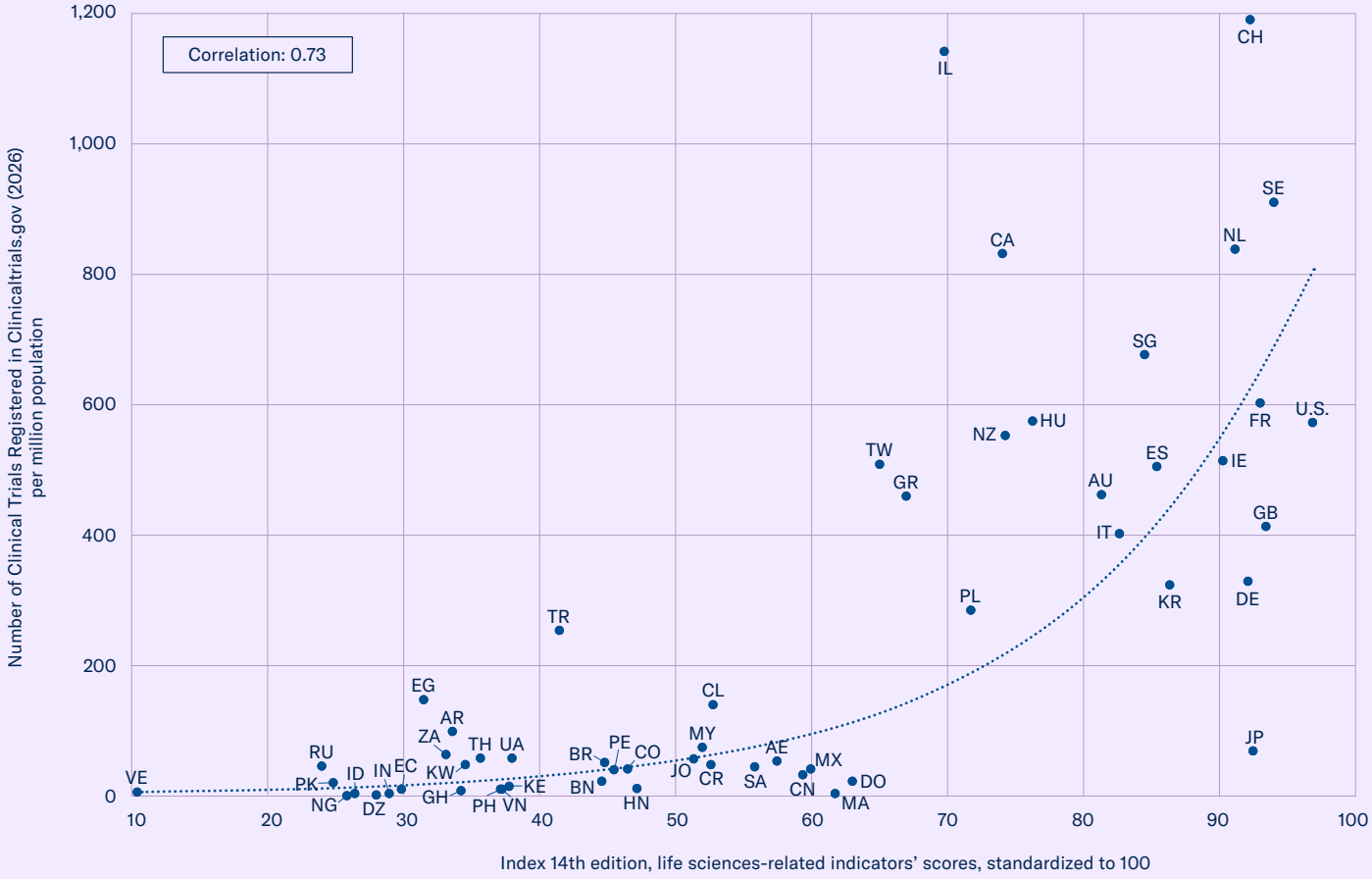


Data NA for Taiwan and Venezuela

- The Index's patent-related indicators exhibit a strong correlation (.76) with knowledge and technology outputs as measured by the *Global Innovation Index's* Innovation Output subindex.
- Economies with strong patent environments, scoring 50% or above on the Index, produce 85% more knowledge and technology outputs compared with economies whose patent environments trail behind.

IP Rights Lead to Biomedical Foreign Direct Investment (FDI)

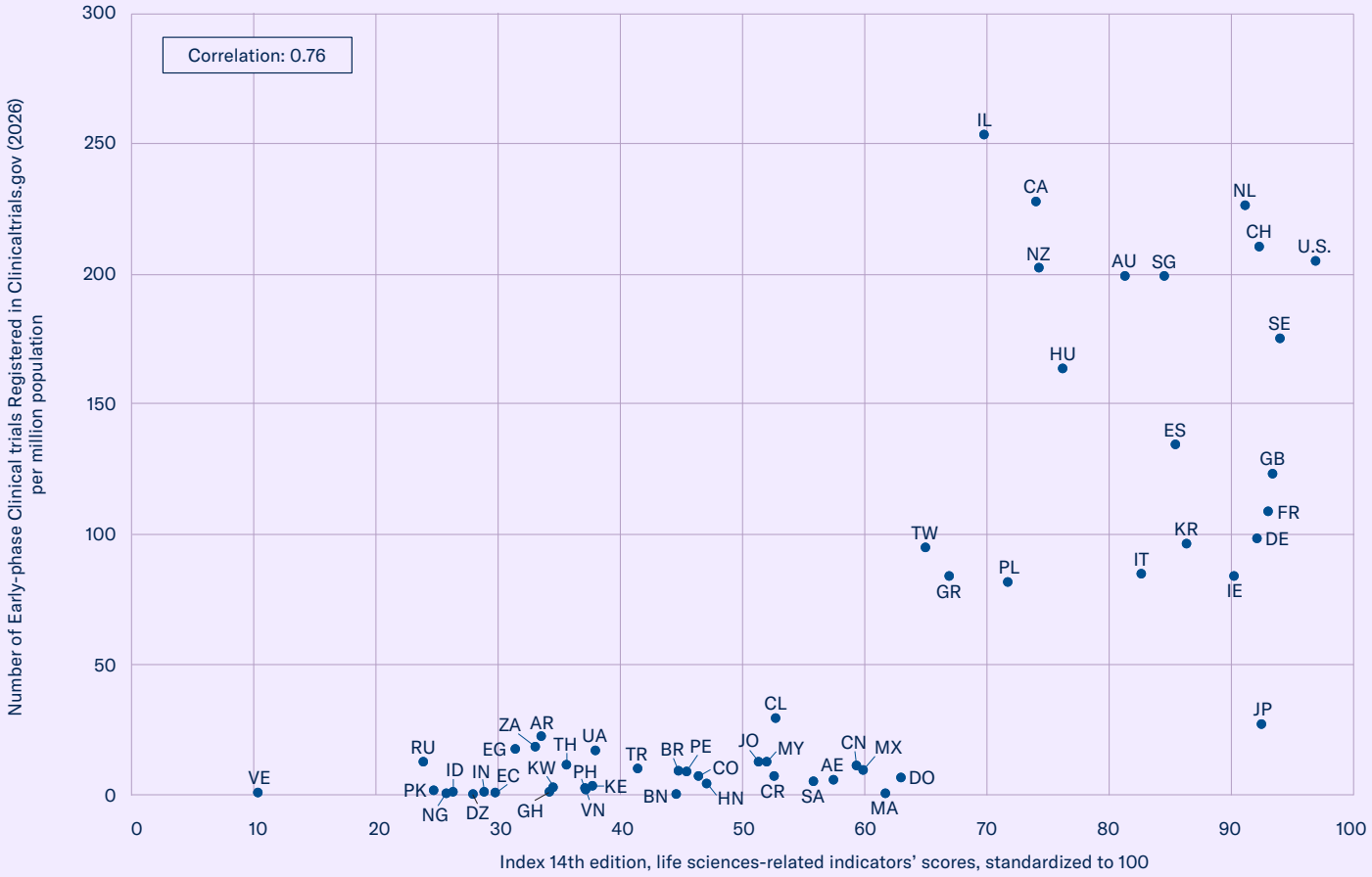
Association between Index life sciences–related indicators scores and the number of clinical trials per million population[27]



- Economies' clinical trial intensity, serving as a proxy for life sciences FDI, displays a strong correlation (.73) with biopharmaceutical IP rights, as measured by the Index's scores on life sciences–related indicators.
- Economies that score 50% or more on the Index's life sciences–related indicator host over eight times more clinical trials than low-scoring economies.

IP Protection is Critical to Greater Investment in Cutting-Edge Clinical Research

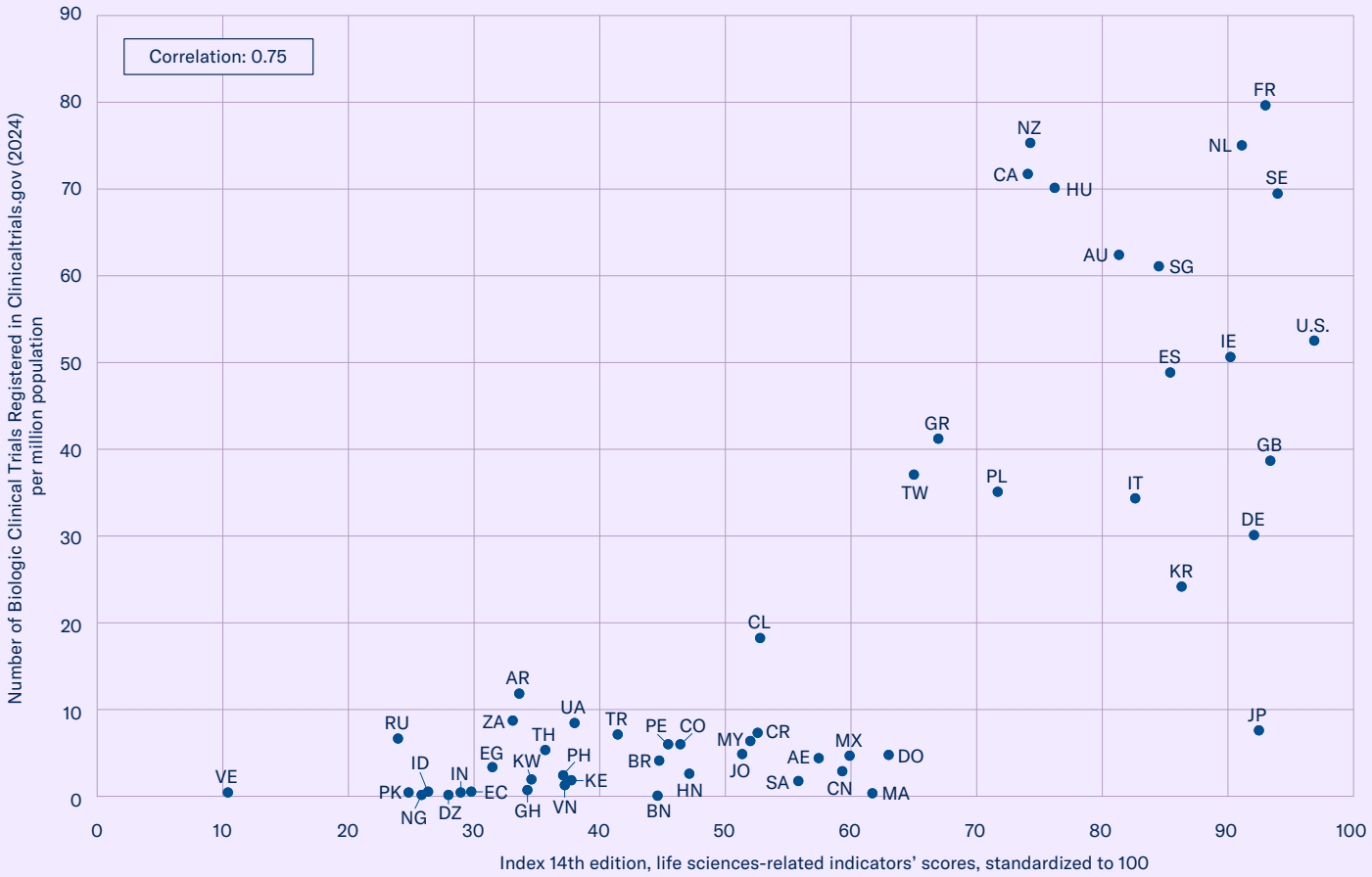
Association between Index life sciences–related indicators scores, and the number of early-phase (I+II) clinical trials per million population[28]



- The Index scores for life sciences–related indicators exhibit a strong correlation (.76) with rates of early-stage (phase I and II) clinical trial activity.
- Economies that maintain robust IP environments tend to see over 15 times more early-phase clinical trials on average compared with economies whose life sciences–related IP environments trail behind.

Development of Biological Therapies is Closely Linked to IP Protection

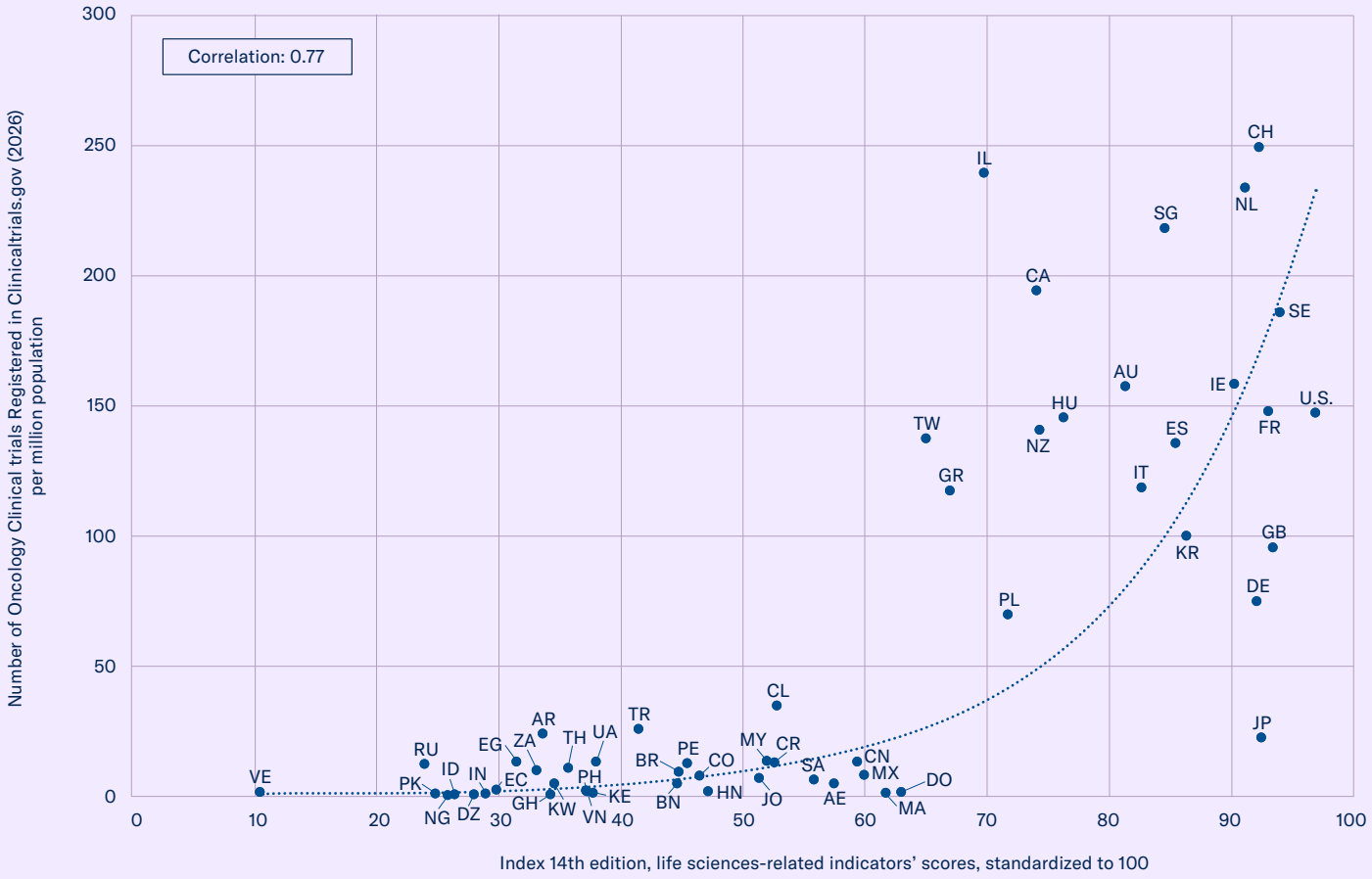
Association between Index life sciences–related indicators scores and the number of biologic clinical trials per million population[29]



- Biological medicines – gene-, cellular- or protein-based therapies produced from living organisms – are at the forefront of medical research. The trials involved in developing these biologics are highly complex and require high levels of skill and technical infrastructure; this is the high end of the value chain in clinical research.
- There is a strong correlation (.75) between the population-adjusted number of clinical trials on biologic drugs and the Index scores for life sciences-related indicators.
- Economies with strong to robust IP frameworks for the life-sciences host over 10 times more clinical trials on innovative biologic drugs compared with economies with a weaker environment.

Development of Cancer Drugs is Closely Linked to IP Protection

Association between Index life sciences–related indicators scores and the number of oncology clinical trials per million population[30]

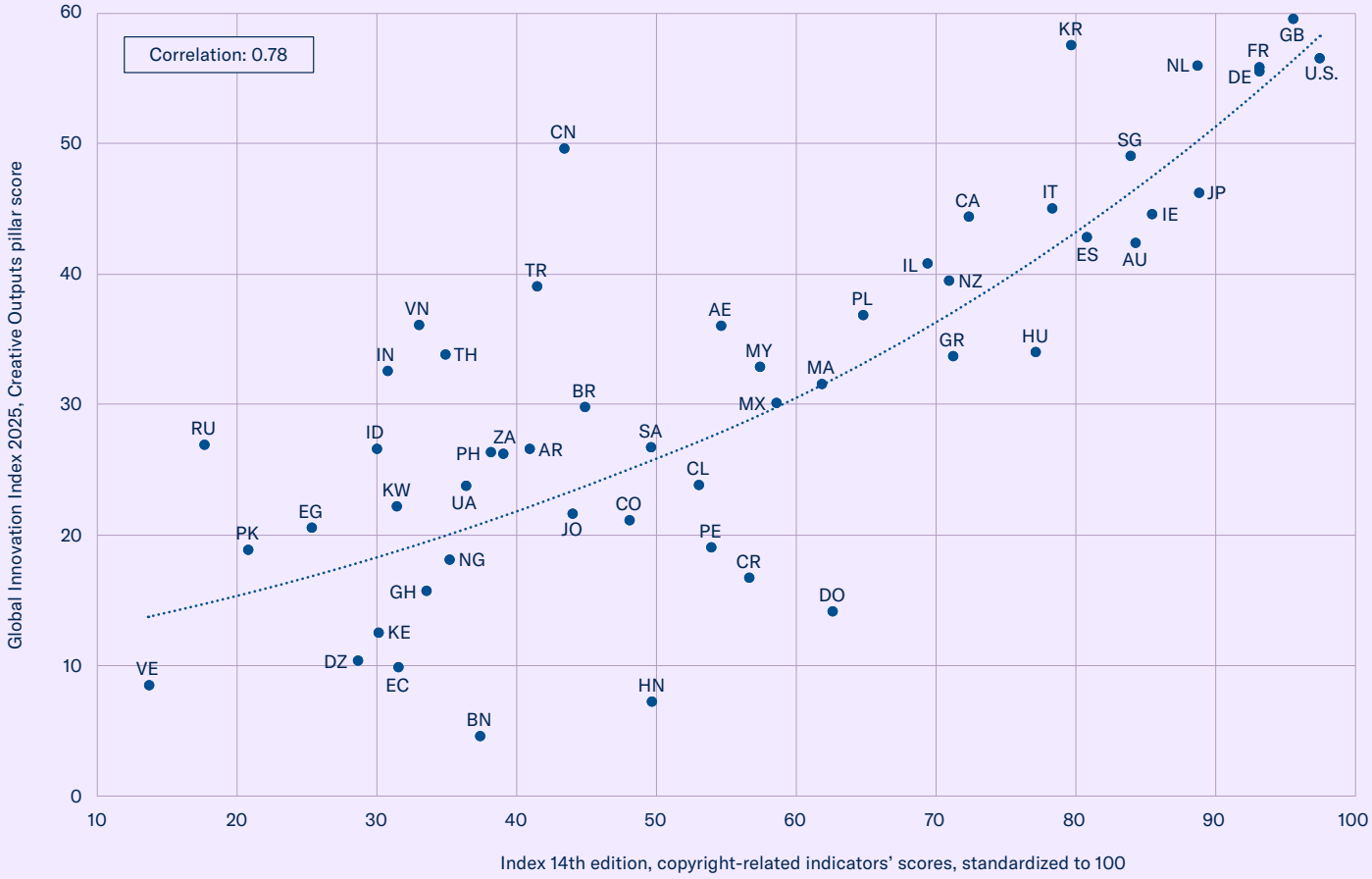


- There is a strong correlation (.77) between the population-adjusted number of clinical trials on oncology drugs and the Index scores for life sciences-related indicators.
- Economies with strong to robust IP frameworks for the life-sciences host over 14 times more clinical trials on innovative oncology drugs compared with economies with a weaker environment.

Value Added and Creativity

Robust Copyright Protection Encourages Creative Activity

Association between Index copyright-related indicators scores, and the *Global Innovation Index 2025*, Innovation Output Subindex, Creative Output pillar scores[31]

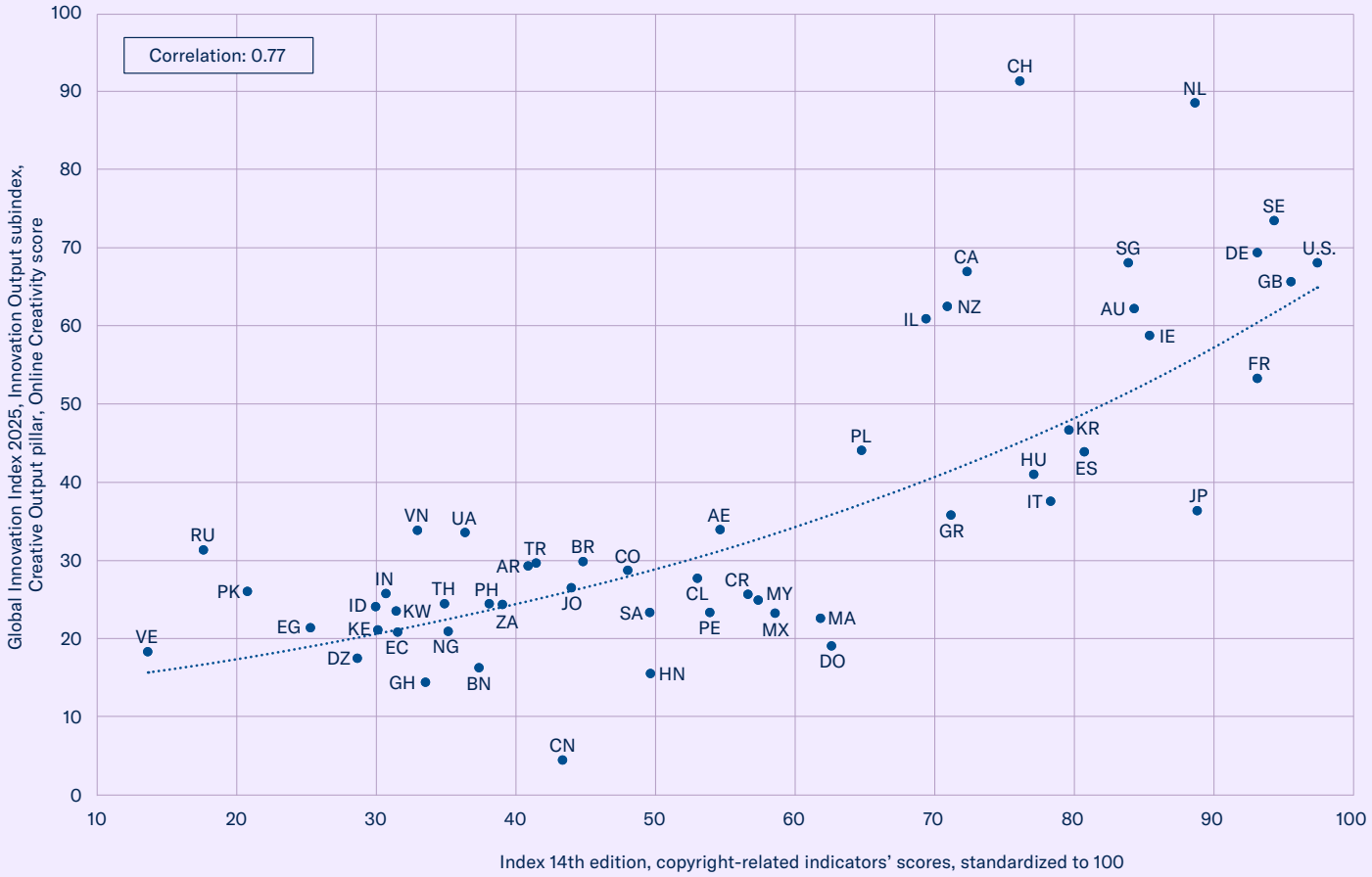


Data NA for Taiwan

- Copyright protection, measured by the Index's copyright-related indicators, displays a strong correlation (.78) to the creative outputs pillar within the *Global Innovation Index*.
- Economies scoring above 50% on the Index's copyright-related indicators are 82% more likely to benefit from the growth in both volume and value of the dynamic content and media sectors than economies with weaker national IP environments.

Robust Copyright Protection Encourages Online Creativity

Association between Index copyright-related indicators scores, and the *Global Innovation Index 2025*, Innovation Output Subindex, Creative Output pillar, online creativity scores[32]

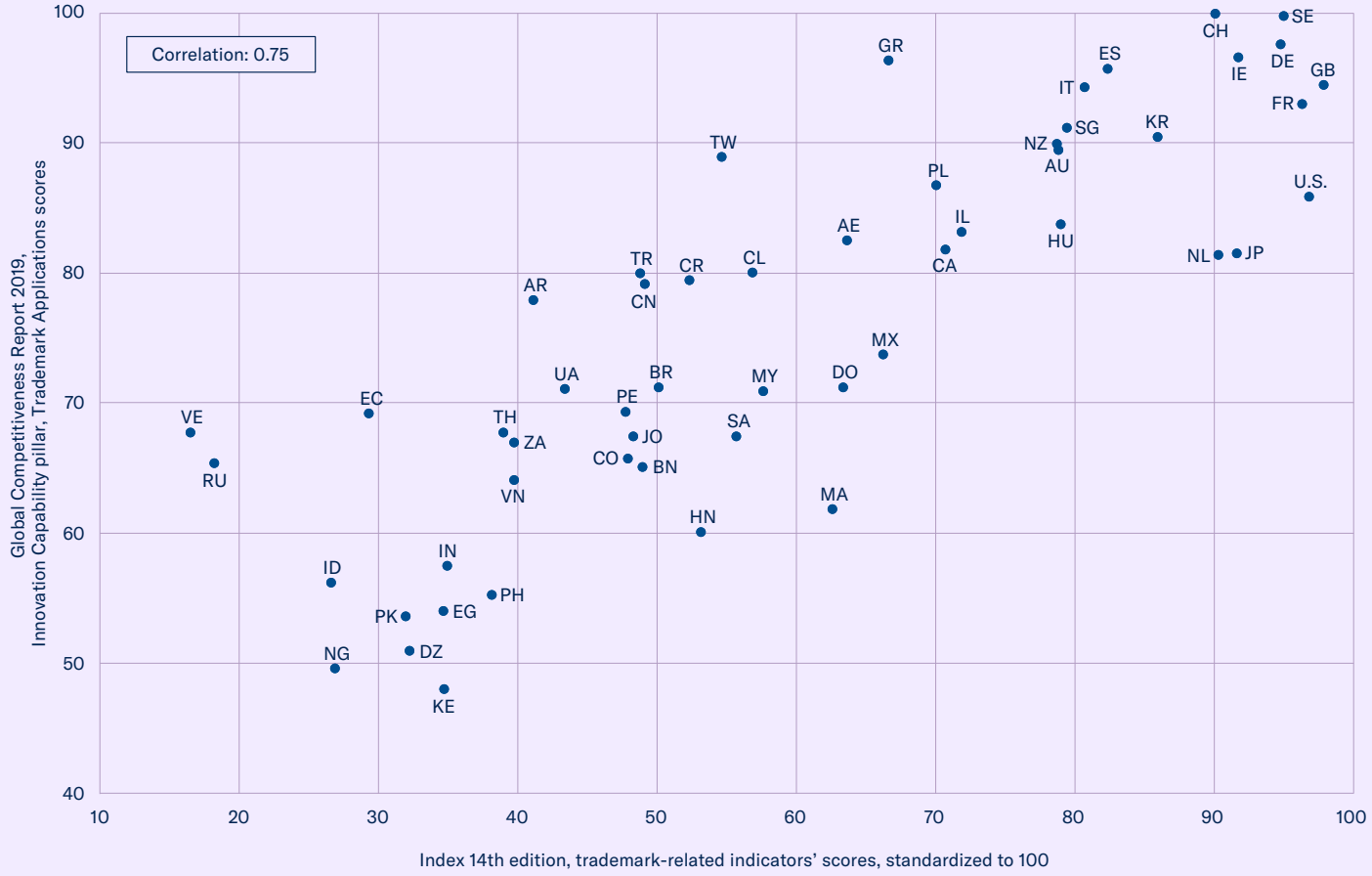


Data NA for Taiwan

- The Index's copyright-related indicators' scores display a strong correlation (.77) with online creativity as measured by the *Global Innovation Index*.
- Economies that provide and enforce strong copyright protection, including for digital and online works, generate more than twice as much online and mobile content, such as websites, applications, and audiovisual media.

Strong IP Environments Promote International Brand Use

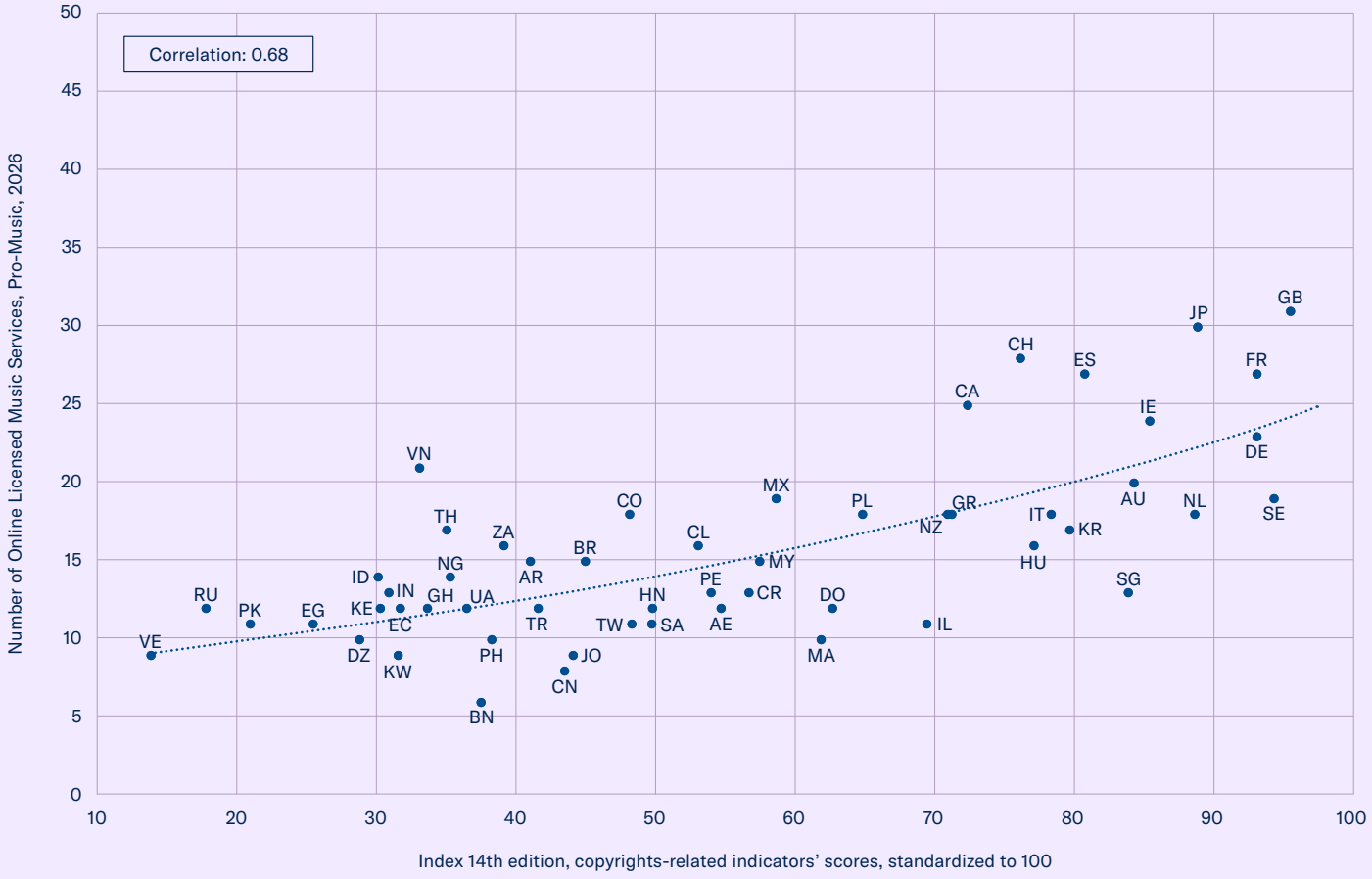
Association between the Index trademark-related indicators' scores and the *Global Competitiveness Report 2019*, Innovation capabilities pillar, Trademark applications scores[33]



- Obtaining international trademark protection and enforcing it across multiple jurisdictions requires significant financial resources; a high rate of international trademark applications provides a good indication of the quality and value of companies and products within a given economy. In other words, high rates of international trademark applications suggest high rates of international competitiveness linked with a given economy.
- The Global Competitiveness Index's Trademark Applications indicator – which offers a population-adjusted, standardized measure of international trademark applications – exhibit a strong correlation (0.75) with the Index's trademark-related indicators scores.
- Economies with effective IP systems have almost 41% higher levels of international trademark applications than those whose IP regimes lag behind.

Strong Copyright Protection Encourages Increased Availability of Legitimate Online Music Outlets

Association between the Index copyright–related indicators scores and volume of licensed online music services[34]



- There is a strong correlation (.68) between the Index's copyright-related indicators' scores and the number of online licensed music services as measured by Pro-Music.org.
- Economies that maintain robust copyright environments enjoy two-thirds more access to new music through legitimate and secure platforms.

Endnotes

1. The 'Innovativeness' pillar within the Future of Growth Framework consists of 21 indicators. See: World Economic Forum, *The Future of Growth Report 2024*, January 2024, Table B3, pp. 259-60.
2. Ibid.
3. The 'Driver of Production' pillar within the Readiness for the Future of Production Index consists of 59 indicators within 11 subpillars nested under six key drivers: Technology & Innovation, Human Capital, Global Trade & Investment, Institutional Framework, Sustainable Resources and Demand Environment. See: World Economic Forum, *Readiness for the Future of Production Report 2018*, pp. 5-9.
4. The 'Technology & Innovation' subpillar within the Readiness for the Future of Production Index measures economies' capacity for innovation and utilization of new technologies in the value chains by gauging ICT availability and usage, digital security levels, R&D spending and innovative outputs as well as availability of venture capital and FDI in innovation. See: World Economic Forum, *Readiness for the Future of Production Report 2018*, p. 21.
5. The 'Global Trade & Investment' subpillar within the Readiness for the Future of Production Index measures economies' trade balance and infrastructure, logistic performance, availability of financial resources for the private sector, and volume of investments. See: World Economic Forum, *Readiness for the Future of Production Report 2018*, pp. 46-47.
6. The Frontier Technologies Readiness Index measures economies "capacity to use, adopt and adapt frontier technologies". See: UNCTAD, *Technology and Innovation Report 2023, Opening green windows Technological opportunities for a low-carbon world*, Geneva, Switzerland, February 2023, pp. 161-178.
7. Ibid.
8. The Innovation Capability pillar in the World Economic Forum's *Global Competitiveness Report* 2019 measures a wide array of indicators influencing economies' ability to generate innovative outputs, including R&D spending, multi-stakeholder collaboration in research, dispersion of specialized clusters, inventive activity and buyer sophistication. See: World Economic Forum, The *Global Competitiveness Report 2019*.
9. The *Global Innovation Index's* Business Sophistication pillar is comprised of three subpillars: Knowledge workers – measuring both inputs and outputs for human capital in the public and private sector; Innovation linkages – measuring the levels of collaborative R&D activities; and Knowledge absorption – measuring innovation capacity as well as attractiveness to foreign direct investments. See: Cornell University, INSEAD, and WIPO (2025): *The Global Innovation Index 2025*, Ithaca, Fontainebleau, and Geneva.
10. The company R&D spending score is based on responses to the question, "In your country, to what extent do companies spend on research and development?" where 1 = do not spend on R&D and 7 = spend heavily on R&D (standardized to 100), in the World Economic Forum's *Global Competitiveness Report 2017–18*. As this variable is no longer measured in the latest edition of the *Global Competitiveness Report* series this edition of the Annex continues to use the data from the 2017-18 edition.
11. The *Venture Capital and Private Equity Country Attractiveness Index* measures economies' attractiveness to VC and PE funding by examining a range of factors including the capital market, taxation environment, investor protection, entrepreneurial culture, and deal opportunities. See: Groh, A., Liechtenstein, H., Lieser, K., & Biesinger, M. (2023), *The Venture Capital and Private Equity Country Attractiveness Index 2023*, (IESE Business School and EMYLON Business School).

12. World Bank databank, Researchers in R&D (per million people)

13. The *Global Talent Competitiveness Index* by INSEAD is an international benchmark of 134 economies based on the policies and practices that enable an economy to develop, attract, and empower human capital, measuring both inputs such as enabling landscape, market openness, quality of learning and sustainability, as well as outputs such as mid- and high-level skills and overall talent impact. See: B. Lanvin, and F. Monteiro (Eds.) (2025), *The Global Talent Competitiveness Index 2025*, INSEAD.

14. Scientific and technical journal articles refer to the number of scientific and engineering articles published in the fields of physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences in 2022 or latest available year, adjusted per million population. Source: World Bank, World Bank databank.

15. The Impact Subindex of the *Network Readiness Index* measures economic and social impacts of ICT, including value added, employment, and access to public and private services. Source: S Dutta & B Lanvin (2024) *The Network Readiness Index 2024*, Portulans Institute. ICT-related indicators consist of indicators falling under the Patent, Copyright, Trademarks and Trade Secrets categories, as well as relevant indicators in Enforcement and International Treaties.

16. The ICT Development Index measures the level of ICT development across 170 economies. Specifically, it measures "the extent to which a country's connectivity is universal and meaningful". Source: International Telecommunications Union (2025), *Measuring digital development The ICT Development Index 2025*, Geneva, Switzerland. ICT-related indicators consist of indicators falling under the Patent, Copyright, Trademarks and Trade Secrets categories, as well as relevant indicators in Enforcement and International Treaties.

17. IMD – International Institute for Management Development (2025), *IMD WORLD COMPETITIVENESS BOOKLET 2025*, Lausanne, Switzerland.

18. World Economic Forum (2019)

19. IMD – International Institute for Management Development (2025), *IMD World Digital Competitiveness Ranking 2025*, Lausanne, Switzerland.

20. Ibid. p. 30.

21. The Economic Complexity Index (ECI) measures the multiplicity and complexity levels of the knowledge required to produce a given product and the level of its exports. A higher economic complexity coefficient entails higher capabilities to produce knowledge-intensive products as well as higher levels of productive outputs.

22. In 2023 the Observatory of Economic Complexity released two new metrics: the ECI-technology complexity and the ECI-research complexity. These measures apply the ECI and the methodology developed by the Observatory to two separate indicators of technology complexity (patent applications) and research complexity (research publications). See: V Stojkoski et al (2023) "Multidimensional economic complexity and inclusive green growth", *COMMUNICATIONS EARTH & ENVIRONMENT*, 4:130, published by Nature Portfolio.

23. Ibid.

24. Innovative output is measured by the *Global Innovation Index* Innovation Output subindex score. The Innovative Output subindex accounts for knowledge and technology outputs, knowledge impact including labor productivity and high-tech outputs, and the diffusion of knowledge including high-tech and ICT exports as well as licensing fees and FDI outflows.

25. Triadic patenting (patents filed with the three major patent offices in the world – the USPTO, EPO and JPO) is generally considered to be the best indicator of the perceived overall value and quality of a patent. The patent application is filed in those three separate locations and filing costs are quite high. In this edition of the Statistical Annex, the triadic patent rates are calculated as the sum of triadic patents over a 20-year period from 1999 to 2019, adjusted per million population to get a standardized rate of triadic patenting intensity. Source: OECDStat,

Patents by technology, Triadic patent families, Total patents, Inventor country of residence, Priority date, 1999 to 2019 inclusive; World Bank (population). Patent-related indicators consist of indicators that fall under the Patent category of the Index, as well as those indicators in Trade Secrets, Commercialization of IP Assets, Enforcement, and International Treaties categories that are relevant to patents.

26. Knowledge creation, impact, and diffusion is measured by the *Global Innovation Index*, Innovation Output subindex, Knowledge and Technology Outputs pillar score. This score comprises variables such as patenting activity, growth of high-tech businesses, and knowledge-based exports.

27. Clinical trial activity is measured as the gross number of clinical trials to date per economy, as registered in the clinicaltrials.gov database housed by the National Institutes of Health in the United States, standardized per million population. Population data is extracted from the World Bank. Life sciences-related indicators consist of indicators falling under the Patent category of the GIPC Index (excluding patentability of computer-implemented inventions), as well as indicators in Trademarks and Market Access, Enforcement and International Treaties categories that are relevant to life sciences.

28. Ibid. Early-phase clinical trial activity is measured as the gross number of phase I and phase II clinical trials to date per economy, as registered in clinicaltrials.gov database, standardized per million population.

29. Ibid. Clinical trial activity on biologics is measured as the gross number of biologics clinical trials to date per economy, as registered in clinicaltrials.gov database, standardized per million population.

30. Ibid. Clinical trial activity on biologics is measured as the gross number of biologics clinical trials to date per economy, as registered in clinicaltrials.gov database, standardized per million population.

31. Creative output is measured by the score of the Creative Outputs pillar of the *Global Innovation Index*, Innovative Output subindex, which captures outputs such as exports of creative services, entertainment, media and ICT spending, and local creation of webpages and audiovisual content. Copyright-related indicators consist of indicators that fall under the Copyright category of the GIPC Index, as well as those indicators in Commercialization of IP Assets, Enforcement, and International Treaties categories that are relevant to copyrights.

32. Online creativity is measured by the score of the Online Creativity subpillar of the Creative Outputs pillar under the Innovative Output subindex of the *Global Innovation Index*, which captures local creation of webpages and online audiovisual content.

33. The Global Competitiveness Index's Trademark Applications indicators measures the number of international trademark applications by country of origin, adjusted per million population and standardized by log transformation to a score of 0-100. See: World Economic Forum (2019) The Index' trademark-related indicators consist of indicators that fall under the Trademark category of the GIPC Index, as well as indicators in Commercialization of IP Assets, Enforcement and International Treaties categories that are relevant to trademarks.

34. The availability of licensed online music services is measured by the number of online licensed music services per country that offer music as a download, stream, or ringtone, based on information from local industry groups that is compiled by the International Federation of the Phonographic Industry. Source: Pro-Music.org (2026).