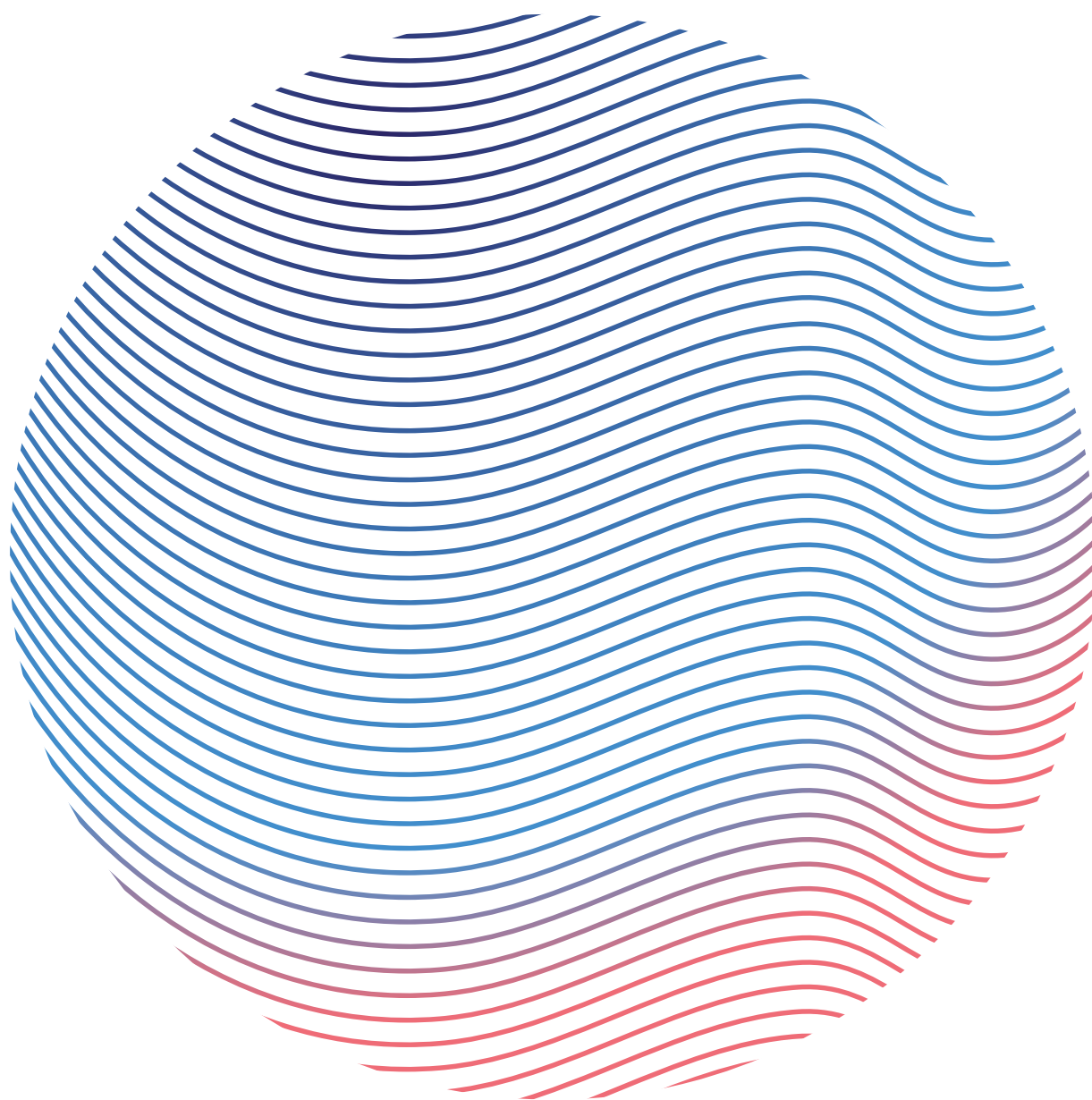


coursera

Global Skills Index

2020



A Letter From our CEO

COVID-19 has profoundly reshaped our world. The disruption to lives and livelihoods has been staggering. The economic devastation has thrown many industries into survival mode. As we begin to revive jobs and economies, it will be important to understand the impact of the crisis on the skills landscape. The second edition of Coursera's Global Skills Index provides an in-depth analysis of the state of skills across countries, industries, and fields of study.

It has been painful to watch COVID-19 disrupt education worldwide. At the peak of the pandemic, UNESCO¹ reported that 1.6 billion learners were affected by school closures, including more than 200 million in higher education. To mitigate the impact, educational institutions transitioned to emergency remote teaching overnight, moving online to deliver lectures, administer tests, and even hold graduation ceremonies. Four months down the line, they have, in some form, adapted to virtual learning despite being largely unprepared for such an abrupt shift.

Universities aren't the only ones adapting to the crisis. Companies facing accelerated digital transformation are reimagining work with a distributed workforce and virtual collaboration. Governments are shifting their civic interactions online, embracing virtual modes of communication and making plans for remote voting. Although the pandemic has caused widespread disruption, institutions have come together to coordinate an effective response.

We must use this momentum to drive lasting change for the causes that matter. Equal access to education and skills is one of them. COVID-19 has further exposed many inequalities with respect to education and employability. The unemployment crisis caused by COVID-19 has disproportionately hit low-skilled workers, with the International Labour Organization² estimating a loss of 435 million jobs in the first half of 2020.

Progress in a post-COVID world relies on equipping individuals with job-relevant skills. The onus is on institutions to prioritize skills development, enabling more diverse pathways into the workforce and energizing their economies. Online learning has proven effective in delivering on that promise, now more than ever. From March to June of this year, more than 15 million new learners registered on Coursera. Governments and universities using Coursera's Campus Response Initiative³ have already equipped more than one million people with free access to job-relevant online learning.

Although the call to action is clear, leaders struggle to identify which skills are important. The pandemic has further heightened the need to understand which skills command the jobs of the future. Looking across the 65 million learners on the platform, and drawing on rich performance data of learners in the past 12 months, the Global Skills Index draws on rich data from Coursera's 65 million learners to benchmark skills proficiency for 60 countries, 10 industries, and 11 fields of study across the fundamental skill domains of the future: business, technology, and data science.

It's clear that institutions must work together to address the underlying inequities in our society, further exposed by this crisis. We hope this report inspires action to provide equal access to job-relevant skills that will be essential to our future.



JEFF MAGGIONCALDA
CEO, Coursera

Executive Summary

HOW COVID-19 IS SHAPING THE SKILLS LANDSCAPE

The following insights are based on Coursera platform data from the last 12 months. The findings are meant to help governments, businesses, higher education institutions, and individuals better understand how the pandemic has impacted the skills landscape and how best to move forward.

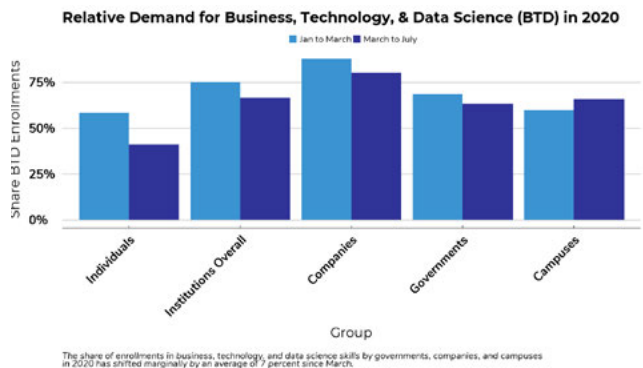
Of the 200 million higher education students whose studies have been disrupted by COVID-19, 80% are located in countries with emerging or lagging skills.

School closures have disrupted higher education for millions of students in countries already in need of more accessible learning. Eighty percent of students enrolled in tertiary education are located in countries that have both closed schools due to COVID-19 and are in the bottom half of the world rankings for proficiency in business, technology, and data science skills.⁴

To help overcome deepening skill inequities, institutions must work together to democratize access to quality online learning resources and ensure we are all prepared for the rapidly changing economy.

Institutions navigating COVID-19 continue to prioritize business, technology, and data science skills.

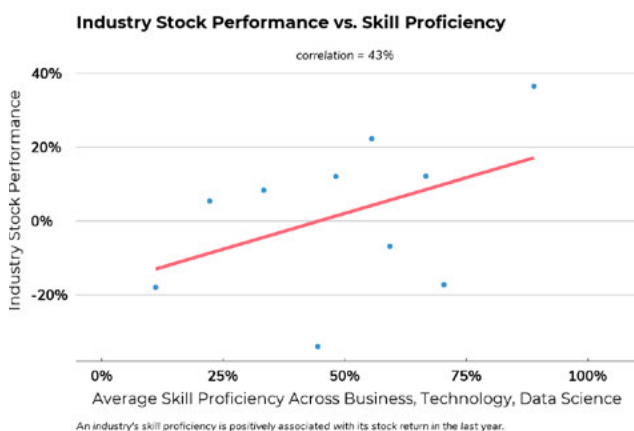
The Fourth Industrial Revolution has called for a new set of critical skills across the business, technology, and data science domains to compete in an increasingly digital world—and governments, companies, and campuses have continued to prioritize these essential skills amid the coronavirus pandemic. Over two-thirds of the enrollments by governments, companies, and campuses on the Coursera platform are in courses teaching business, technology, and data science skills.



Industries with more highly skilled talent, especially in technology skills, see higher stock returns and less disruption from COVID-19.

Skills shortages come at a cost for organizations across all industries. Our data reveals the correlation between an industry's skill proficiency and its U.S. stock return in the last year is 43% across all skill domains. The correlations for technology, business, and data science skill proficiencies are 39%, 30%, and 21%, respectively. In the last three months, the correlation between an industry's skill proficiency and its U.S. stock return is 40%: in other words, companies with higher skill proficiency have seen their valuation disrupted less by COVID-19.⁵

Digital skills have also been essential to helping companies respond to the crisis in the short-term and drive long-term transformation. With the sudden push to remote work, we've seen that digital skills are critical to short-term business operations—from managing change and driving online services to automating processes that can no longer be done in person.



The top five trending skills related to COVID-19 are public health, recognizing symptoms, understanding risk factors, social distancing, and contact tracing. Since March, there have been more than 800,000 enrollments in Coursera courses teaching these skills.

As the effects of the pandemic are felt around the globe, learners are eager to gain job-relevant skills directly related to COVID-19 recovery efforts and to understand the science behind the virus. Since March, there have been more than 800,000 enrollments in Coursera courses teaching public health, how to recognize symptoms, understanding risk factors, social distancing, and contact tracing. Johns Hopkins University's COVID-19 Contact Tracing course has become the most popular course of the year by enrollments on the Coursera platform.

Demand for personal development skills like confidence, stress management, and mindfulness has grown by 1,200% among individual learners.

Uncertain diagnoses, looming resource shortages, growing financial losses, and the infringement of personal freedoms have undoubtedly contributed to widespread mental and emotional distress. Since the outbreak, demand from individuals for personal development courses, including stress management and mindfulness, has increased by 1,200%.

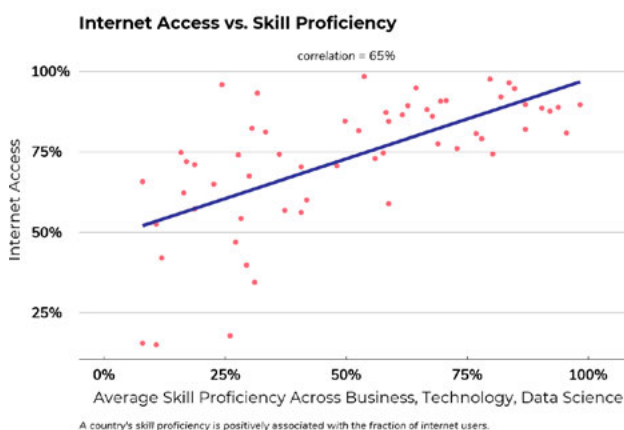
Governments and campuses are also engaging with courses related to personal development, with a focus on anxiety and mental health. Research has long indicated that better mental health leads to higher productivity, and we expect increased investment in citizens' and students' mental and emotional wellbeing.⁶

HIGHER SKILLS PROFICIENCY IS LINKED TO ECONOMIC PROGRESS

COVID-19 has exposed many inequalities with respect to access to the internet, tertiary education, and employment opportunities. Our data indicate that countries with more equality, across multiple dimensions (e.g., digital, economic, education, and labor force participation), are also those with higher skill proficiencies. Countries with higher skill proficiencies see greater GDP returns in the long-term.

Countries with more equal access to the internet are also those with higher skill proficiencies.

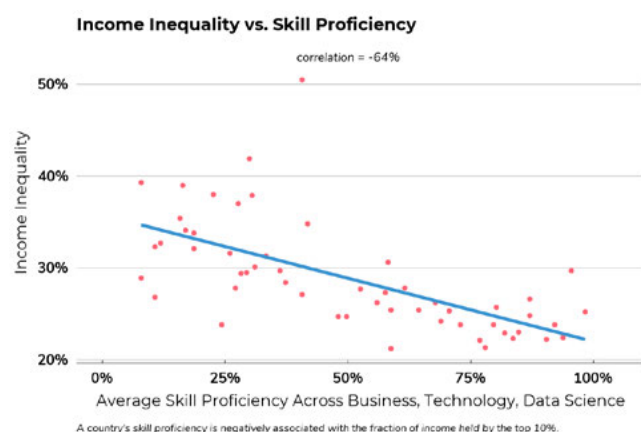
As more learning happens online as a result of COVID-19, access to digital education resources will become increasingly important to keeping pace with the skills of the future. Our data indicates that there is a significant, positive correlation (65%) between a country's skill proficiency across domains and the percentage of its population using the internet.⁷ The Netherlands, for example, has an average skill proficiency of 85%, and 94% of its population has access to the internet. In comparison, Indonesia has an average skill proficiency of 29%, and only 40% of its population has access to the internet.⁸



Countries, both developed and developing, excelling in critical skills see lower income inequality.

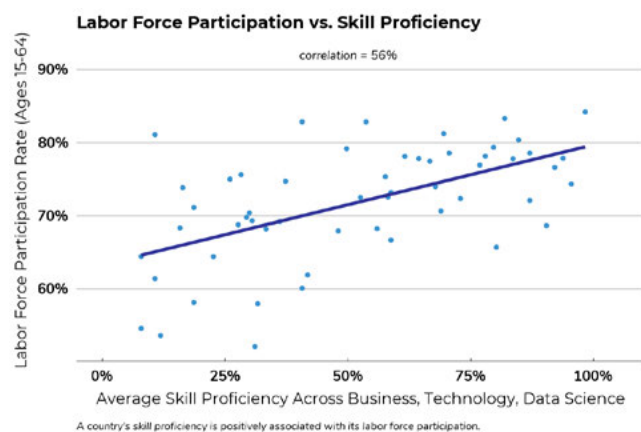
With labor markets thrown into turmoil amid COVID-19 and technology putting large populations at risk of losing their jobs, countries should consider the impact of their skills landscape on income inequality. Our data reveals a negative correlation between a country's average skill proficiency across domains and the share of income held by the top 10% in a country.

In the U.S., the share of income held by the top 10% of the population is 31%, and its average skill proficiency is 58%. In contrast, the share of income held by the top 10% of the population in Canada is 25%, and its average skill proficiency is 71%.⁹



Countries with higher labor force participation rates are also those with higher skill proficiencies.

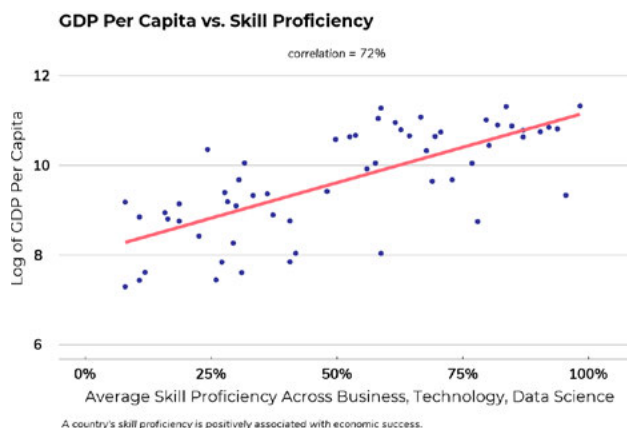
Skills are essential to quality and sustainable employment; correspondingly, our data shows that a country's skill proficiency across domains is positively correlated with the fraction of its working-age population active in its labor force. The trend is especially clear in Switzerland and Greece. Switzerland has an average skill proficiency of 98% and a labor force participation rate of 84%, while Greece has an average skill proficiency of 56% and a labor force participation rate of 68%.¹⁰



Every skill proficiency percent gained for a country is associated with a \$600 increase in GDP per capita.

Our data indicates that every skill proficiency percent gained in a country's average proficiency (across domains) is associated with a \$600 increase in per capita GDP. For example, Kenya has an average skill proficiency of 26% while Egypt has an average skill proficiency of 27%. The difference in their per capita GDPs is approximately \$700.¹¹

COVID-19 will undoubtedly adversely affect global GDP as it disrupts domestic consumption and services, global trade, and tourism.¹² Countries can counteract this decline and make their economies more resilient by investing in skill development.¹³



GLOSSARY OF COMPETENCY DEFINITIONS

Within each of the three domains in the report, we cover six competencies that span key skills in business, technology, and data science. Below we define each competency we use in the GSI as well as provide sample skills within it as part of our Skills Taxonomy.

BUSINESS

Skills in this domain focus on the practice and day-to-day running of a business.

- 1) Accounting** is about proper record keeping and communication of financial information for corporations in accordance with government regulations.

Sample skills: Auditing, Financial Accounting

- 2) Communication** is the practice of discussion between two or more individuals in written or oral forms.

Sample skills: People Skills, Writing

- 3) Finance** is focused on the efficient allocation of capital towards investment opportunities under conditions of risk or uncertainty.

Sample skills: Financial Ratios, Blockchain

- 4) Management** is about how to set a company's strategy and coordinate the effort of employees.

Sample skills: People Management, Business Analytics

- 5) Marketing** is the process of creating relationships with potential and actual customers, allowing businesses to identify how they should present themselves and who they should cater to.

Sample skills: Digital Marketing, Product Placement

- 6) Sales** is focused on taking a company's products and services to market and transacting with actual customers.

Sample skills: Cross Selling, Lead Generation

TECHNOLOGY

Skills in this domain focus on the creation, maintenance, and scaling of computer systems and software.

- 1) Computer Networking** is the process of creating a digital telecommunications network where connected devices exchange data with each other.

Sample skills: Cloud Computing, Internet of Things

- 2) Databases** are an organized collection of data, generally stored and accessed electronically from a computer system.

Sample skills: Relational Database, Key Value Database

- 3) Human Computer Interaction** researches the design and use of computer technology, focused on the interfaces between people and computers.

Sample skills: Graphic Design, User Experience Design

- 4) Operating Systems** consists of building system software that provides common services for other types of computer programs.

Sample skills: Mobile App Development, C Programming Language

- 5) Security Engineering** is a specialized field that focuses on the security aspects in the design of systems that need to be able to deal robustly with possible sources of disruption.

Sample skills: Cybersecurity, Cryptography

- 6) Software Engineering** involves applying rigorous principles to the design, development, maintenance, testing, and evaluation of computer software.

Sample skills: Web Development, Software Development

DATA SCIENCE

Skills in this domain focus on capturing and utilizing the data generated within a business for decision making and/or powering underlying products and services.

- 1) Data Management** comprises everything related to managing and accessing data for reporting, analysis, and model building.

Sample skills: Cloud APIs, Hadoop

- 2) Data Visualization** involves the creation and study of visual representations of data to communicate information clearly and efficiently.

Sample skills: Tableau, Plotting Data

- 3) Machine Learning** creates algorithms and statistical models that computer systems can use to perform a specific task without explicit instructions.

Sample skills: Multi-Task Learning, Deep Learning

- 4) Math** is the study of numbers and their relationships, applying these principles to models of real phenomena.

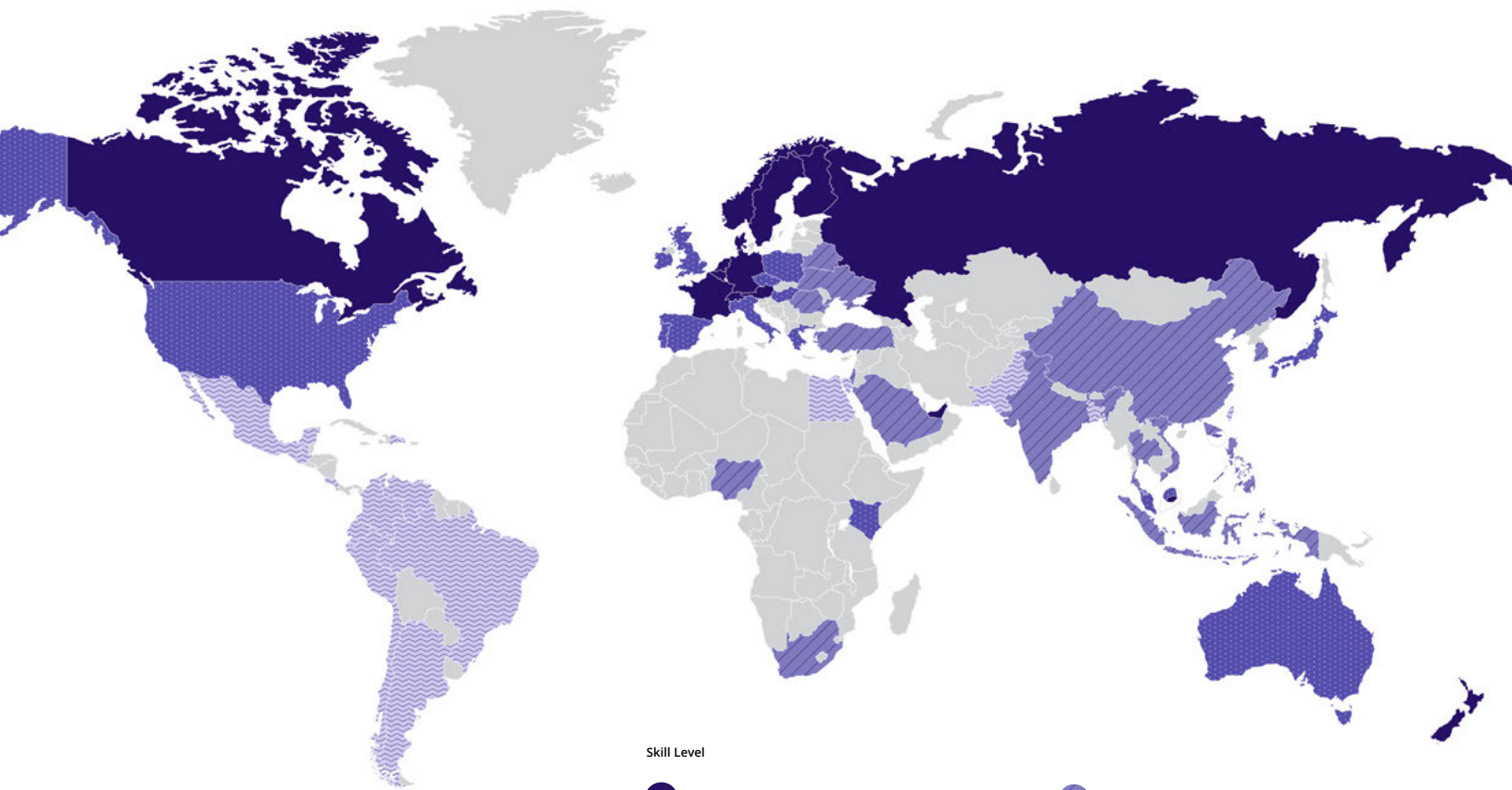
Sample skills: Calculus, Linear Algebra

- 5) Statistical Programming** is the set of programming languages and tools used to create statistical models and algorithms.

Sample skills: R, Python

- 6) Statistics** deals with all aspects of data collection, organization, analysis, interpretation, and presentation.

Sample skills: Regression, AB Testing



GLOBAL VIEW

Business

TRENDING SKILLS:

Microsoft Excel
Project Management
Digital Marketing
Blockchain
Business Analytics
People Management
Writing
Human Resources
Product Placement
Supply Chain

Skill Level



CUTTING-EDGE

PERCENTILE

01	Switzerland	100%
02	Austria	98%
03	Denmark	97%
04	Finland	95%
05	United Arab Emirates	93%
06	Norway	92%
07	Germany	90%
08	Belgium	88%
09	Russia	86%
10	Singapore	85%
11	Sweden	83%
12	France	81%
13	New Zealand	80%
14	Canada	78%
15	Netherlands	76%



EMERGING

PERCENTILE

31	South Africa	49%
32	Belarus	47%
33	Vietnam	46%
34	India	44%
35	Israel	42%
36	Romania	41%
37	Philippines	39%
38	Turkey	37%
39	Nigeria	36%
40	Thailand	34%
41	Indonesia	32%
42	Saudi Arabia	31%
43	Ukraine	29%
44	Republic of Korea	27%
45	China	25%



COMPETITIVE

PERCENTILE

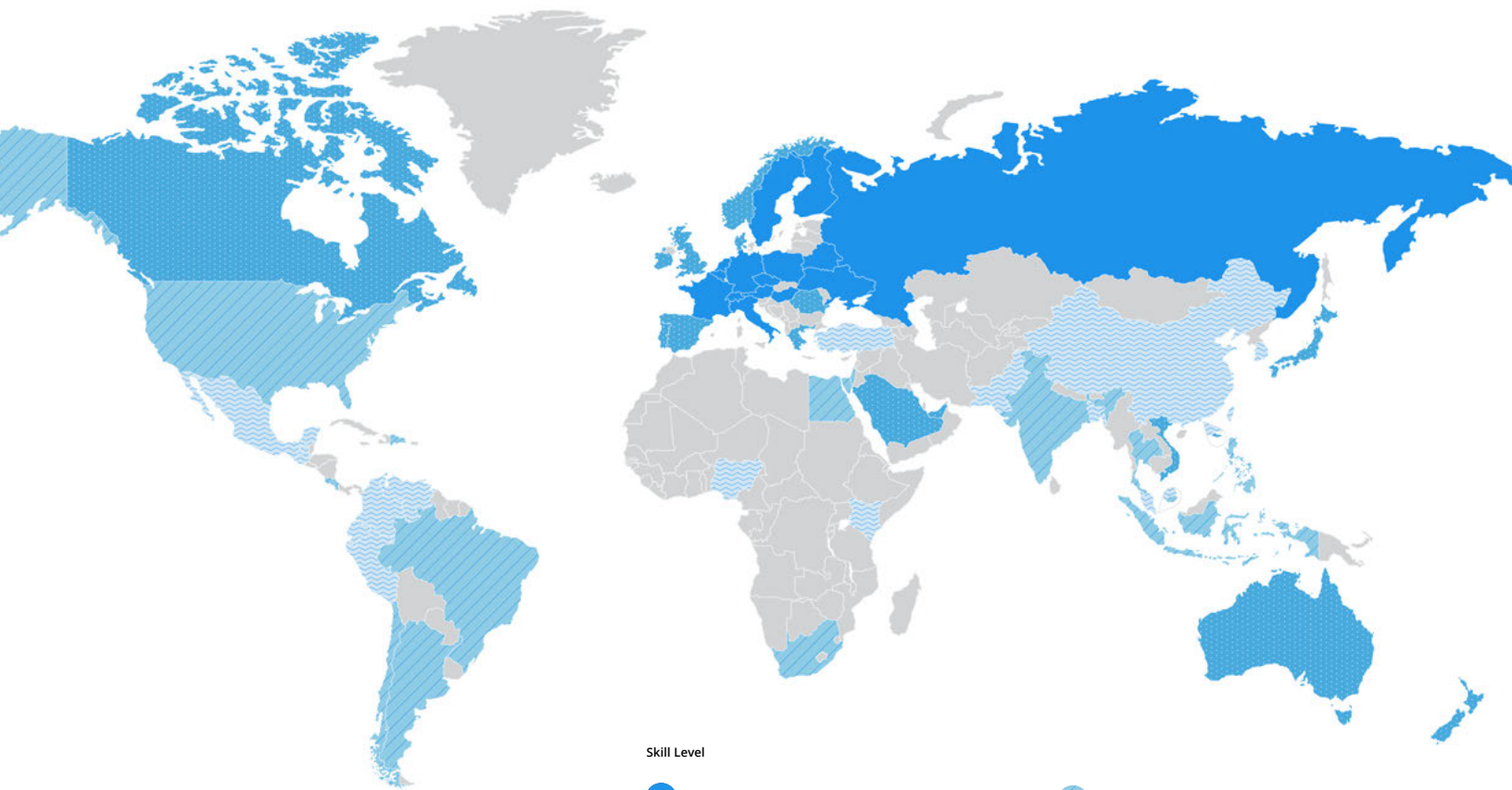
16	Italy	75%
17	United States	73%
18	Australia	71%
19	United Kingdom	69%
20	Czech Republic	68%
21	Hong Kong	66%
22	Ireland	64%
23	Hungary	63%
24	Poland	61%
25	Greece	59%
26	Portugal	58%
27	Kenya	56%
28	Japan	54%
29	Malaysia	53%
30	Spain	51%



LAGGING

PERCENTILE

46	Brazil	24%
47	Bangladesh	22%
48	Egypt	20%
49	Pakistan	19%
50	Taiwan	17%
51	Costa Rica	15%
52	Chile	14%
53	Argentina	12%
54	Guatemala	10%
55	Ecuador	8%
56	Peru	7%
57	Venezuela	5%
58	Dominican Republic	3%
59	Colombia	2%
60	Mexico	0%



GLOBAL VIEW

Technology

TRENDING SKILLS:

C
 Artificial Intelligence
 Javascript
 Web Development
 User Experience Design
 Cybersecurity
 Convolutional Neural Network
 Cloud Computing
 Internet of Things
 Application Programming Interface

Skill Level



CUTTING-EDGE

PERCENTILE

01	Russia	100%
02	Belarus	98%
03	Switzerland	97%
04	Ukraine	95%
05	Finland	93%
06	Netherlands	92%
07	Italy	90%
08	France	88%
09	Belgium	86%
10	Czech Republic	85%
11	Austria	83%
12	Germany	81%
13	Sweden	80%
14	Poland	78%
15	Hungary	76%



EMERGING

PERCENTILE

31	Indonesia	49%
32	Hong Kong	47%
33	South Africa	46%
34	Israel	44%
35	Singapore	42%
36	Thailand	41%
37	United States	39%
38	Philippines	37%
39	Egypt	36%
40	India	34%
41	Argentina	32%
42	Brazil	31%
43	Costa Rica	29%
44	Chile	27%
45	Dominican Republic	25%



COMPETITIVE

PERCENTILE

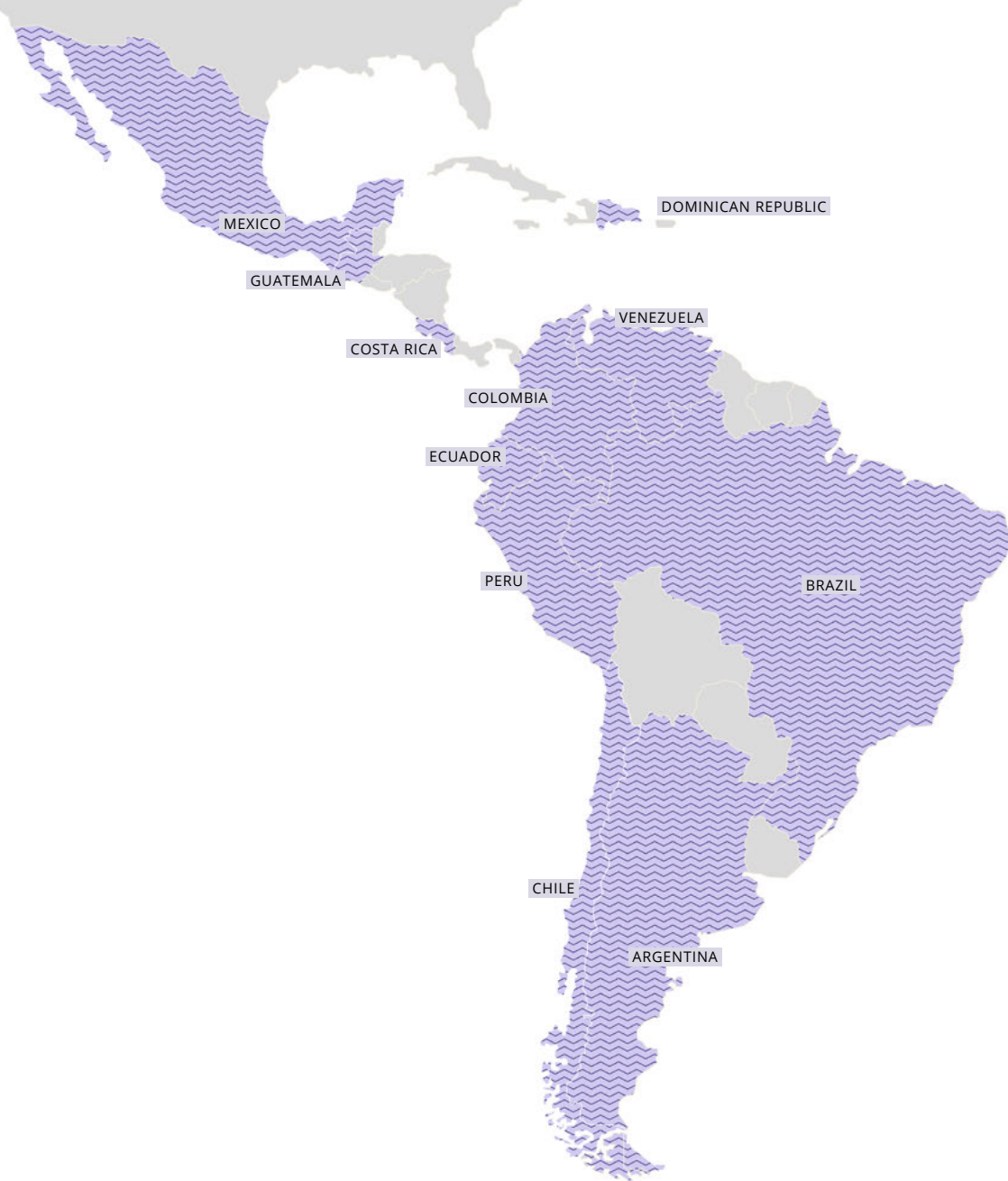
16	Norway	75%
17	Denmark	73%
18	Spain	71%
19	New Zealand	69%
20	Canada	68%
21	Ireland	66%
22	Vietnam	64%
23	United Kingdom	63%
24	Japan	61%
25	Australia	59%
26	Portugal	58%
27	Romania	56%
28	Saudi Arabia	54%
29	Greece	53%
30	United Arab Emirates	51%



LAGGING

PERCENTILE

46	Venezuela	24%
47	Republic of Korea	22%
48	Kenya	20%
49	Malaysia	19%
50	China	17%
51	Colombia	15%
52	Guatemala	14%
53	Peru	12%
54	Turkey	10%
55	Taiwan	8%
56	Ecuador	7%
57	Bangladesh	5%
58	Mexico	3%
59	Pakistan	2%
60	Nigeria	0%



LATIN AMERICA Business

Skill Level

- CUTTING-EDGE
- COMPETITIVE
- EMERGING
- LAGGING

Global Rank

		Accounting	Communications	Finance	Management	Marketing	Sales
46	Brazil	97%	25%	53%	39%	34%	12%
51	Costa Rica	31%	29%	12%	27%	31%	68%
52	Chile	14%	15%	10%	7%	0%	66%
53	Argentina	37%	27%	15%	32%	25%	20%
54	Guatemala	12%	17%	5%	15%	29%	56%
55	Ecuador	83%	20%	2%	0%	3%	25%
56	Peru	39%	2%	8%	3%	10%	10%
57	Venezuela	22%	34%	14%	12%	15%	8%
58	Dominican Republic	7%	8%	3%	5%	8%	22%
59	Colombia	32%	24%	7%	17%	37%	17%
60	Mexico	8%	12%	0%	2%	14%	19%

Global Skills Index

<https://www.youtube.com/watch?v=nqikPBBYDzY&feature=youtu.be>

DISCUSSION QUESTIONS

1) How is COVID-19 shaping the skills landscape?

2) How will COVID-19 disrupt education in all levels?

3) What are the disruptions at the personal, professional and academic levels due to the COVID-19?

4) What are the industries that will see the most disruptions in the future because of the pandemic?

5) When it comes to Business skills, how is your country ranked? Why is it in this position in your opinion?

6) When it comes to Technology, how is your country ranked? Why is it in this position in your opinion?

7) What are some of the most important Business skills in your opinion?

8) What are some of the most important Technology skills in your opinion?

9) How do you get your country to the cutting edge top list of skills necessary to excel in Business and Technology?

“Conformity is the jailer of freedom and the enemy of growth.”

– John F. Kennedy

35th president of the United States of America

Global Skills Index

VOCABULARY

- 1) Allocation _____
- 2) Cater _____
- 3) Cutting-edge _____
- 4) Disruption _____
- 5) Distress _____
- 6) Domain _____
- 7) Eager _____
- 8) Enable _____
- 9) Enroll _____
- 10) Excel _____
- 11) Field _____
- 12) GDP _____
- 13) Industry _____
- 14) Interface _____
- 15) Lag _____
- 16) Lasting _____
- 17) Lecture _____
- 18) Loom _____
- 19) Mindfulness _____
- 20) Mitigate _____
- 21) Overcome _____
- 22) Pace _____
- 23) Pathway _____
- 24) Rate _____
- 25) Rely _____
- 26) Reshape _____
- 27) Shift _____
- 28) Shortage _____
- 29) Span _____
- 30) Staggering _____
- 31) Struggle _____
- 32) Sudden _____
- 33) Trend _____
- 34) Turmoil _____
- 35) Widespread _____

“

CHANGE
IS
INEVITABLE.
GROWTH
IS
OPTIONAL.

”

JOHN MAXWELL

In life, change is inevitable. In
business, change is vital.

Warren Bennis