

***A productivity push, digitalization, and
a new wave of (green) electrification for
the CAREC region!***

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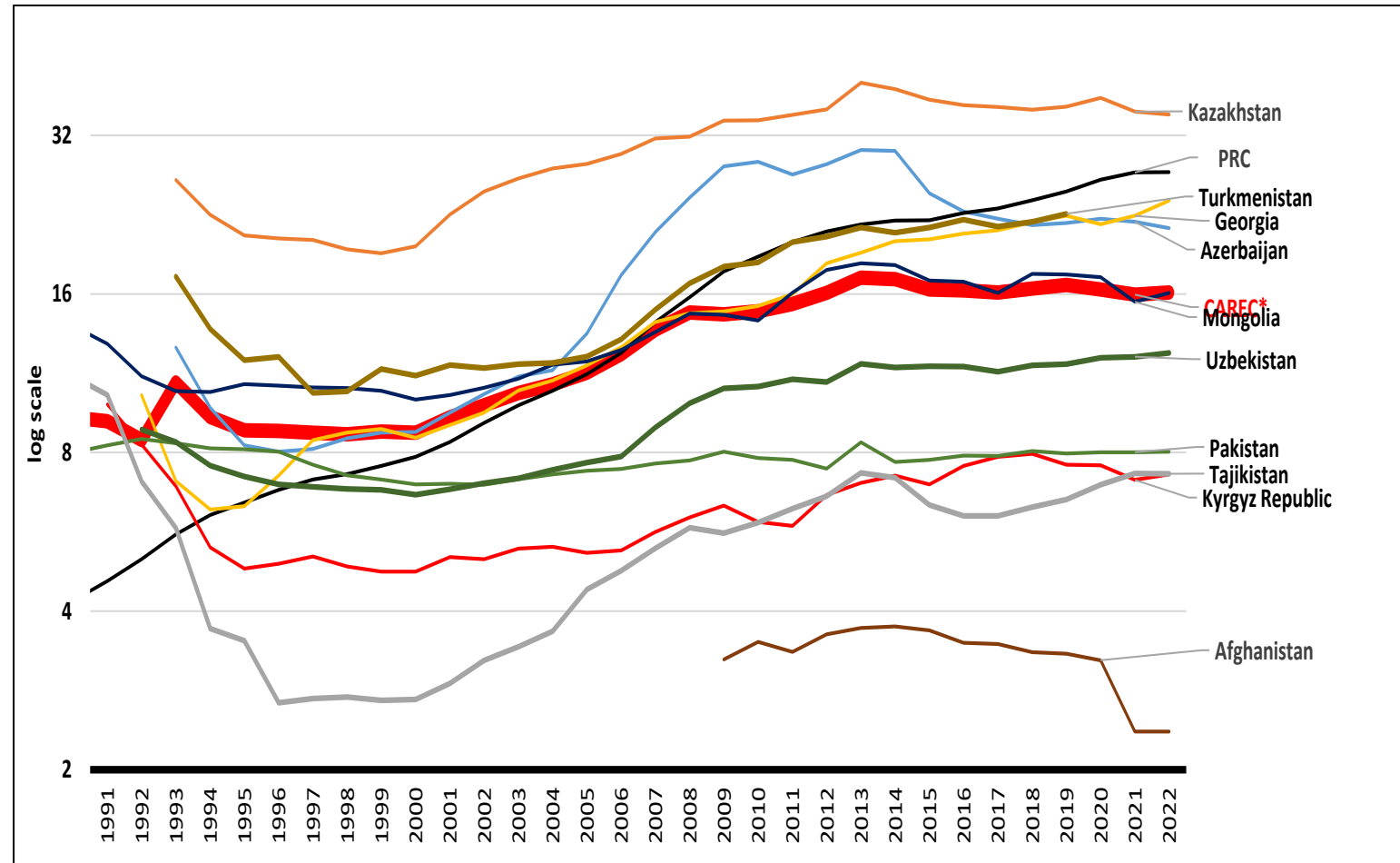


Knowledge for Prosperity

Catching up of the CAREC economies with developed countries has slowed for about a decade.

A new productivity push is needed.

Gross National Income (GNI) per capita, PPP (current international US\$), in % of US GNI per capita



* Simple CAREC average

Source: World Bank, World Development Indicators, authors' calculations

Where is new productivity to come from?

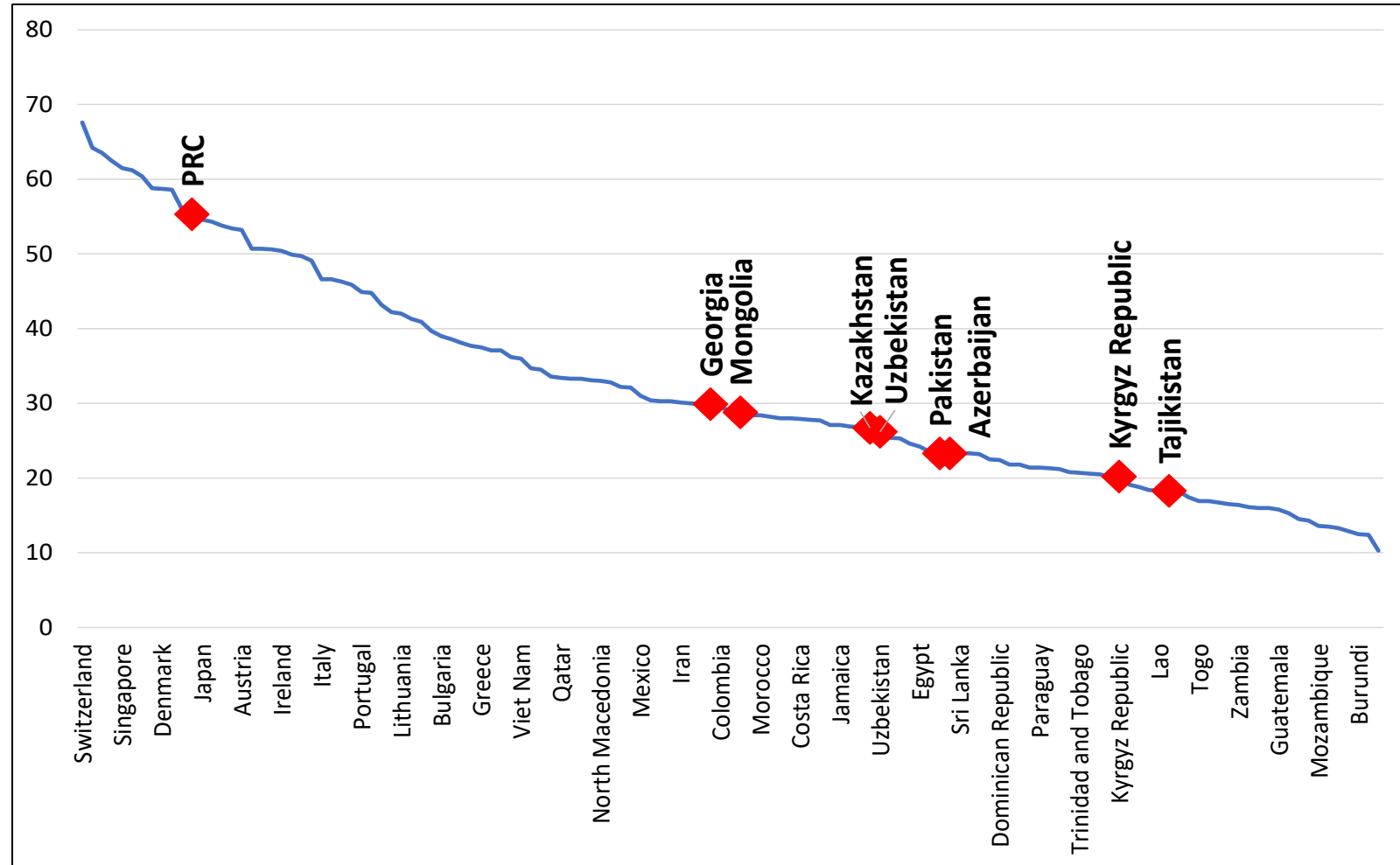
Innovation, digitalization, technology, enabling infra-structure

Foreign trade and utilizing comparative advantages,

FDI, technology and management transfer, economies of scale

Most importantly: human capital

Global Innovation Index 2023



Source: WIPO, Global Innovation Index, author's calculations

Readiness for Frontier Technologies Index 2022, ranking out of 166 countries*

	Total ranking*	ICT ranking	Skills ranking	R&D ranking	Industry ranking	Finance ranking
PRC	35	117	92	1	8	4
Kazakhstan	68	82	36	69	69	124
Georgia	79	77	56	96	88	46
Mongolia	93	83	68	120	149	88
Azerbaijan	96	81	94	85	141	121
Kyrgyz Republic	113	107	103	119	111	113
Pakistan	125	149	159	43	82	138
Tajikistan	149	160	118	140	138	151
Afghanistan	164	164	150	114	151	165
<i>Average</i>	<i>102.4</i>	<i>113.3</i>	<i>97.3</i>	<i>87.4</i>	<i>104.1</i>	<i>105.6</i>

* No data for Turkmenistan and Uzbekistan **Red italics indicate ranks better than the average of 83

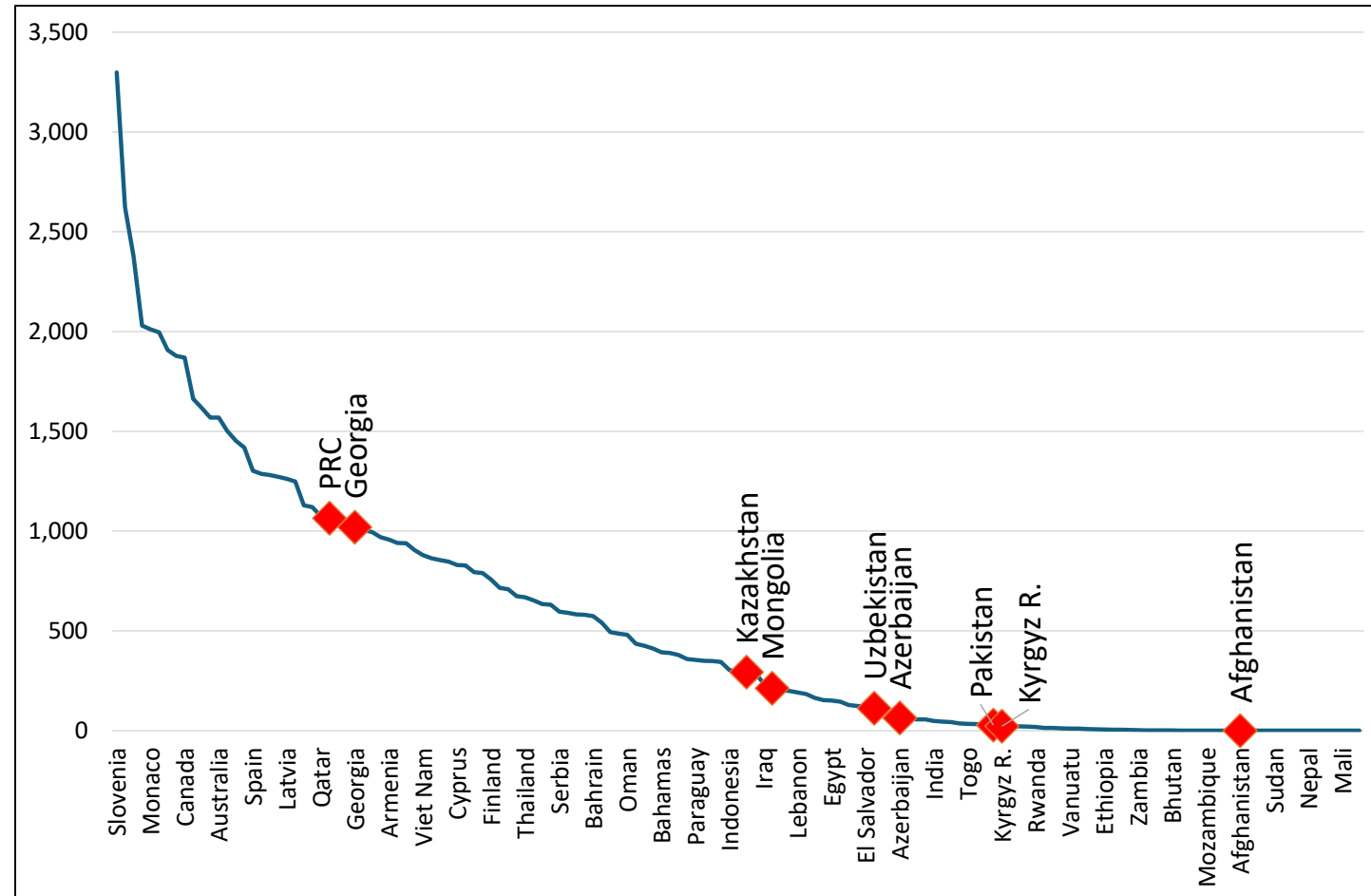
Source: UNCTAD Technology and Innovation Report 2023

There is a **substantial technological divide** between the advanced countries and the CAREC region and also within the region, **especially in ICT (and also in finance).**

The CAREC Digital Strategy 2030:

“...**digitalization** will not only help COVID-19 recovery but also allow member countries to develop robust solutions in important areas such as health care, education, agriculture, finance, trade, and tourism.”

Fixed-broadband Internet traffic, gigabyte per capita, 2022 or latest

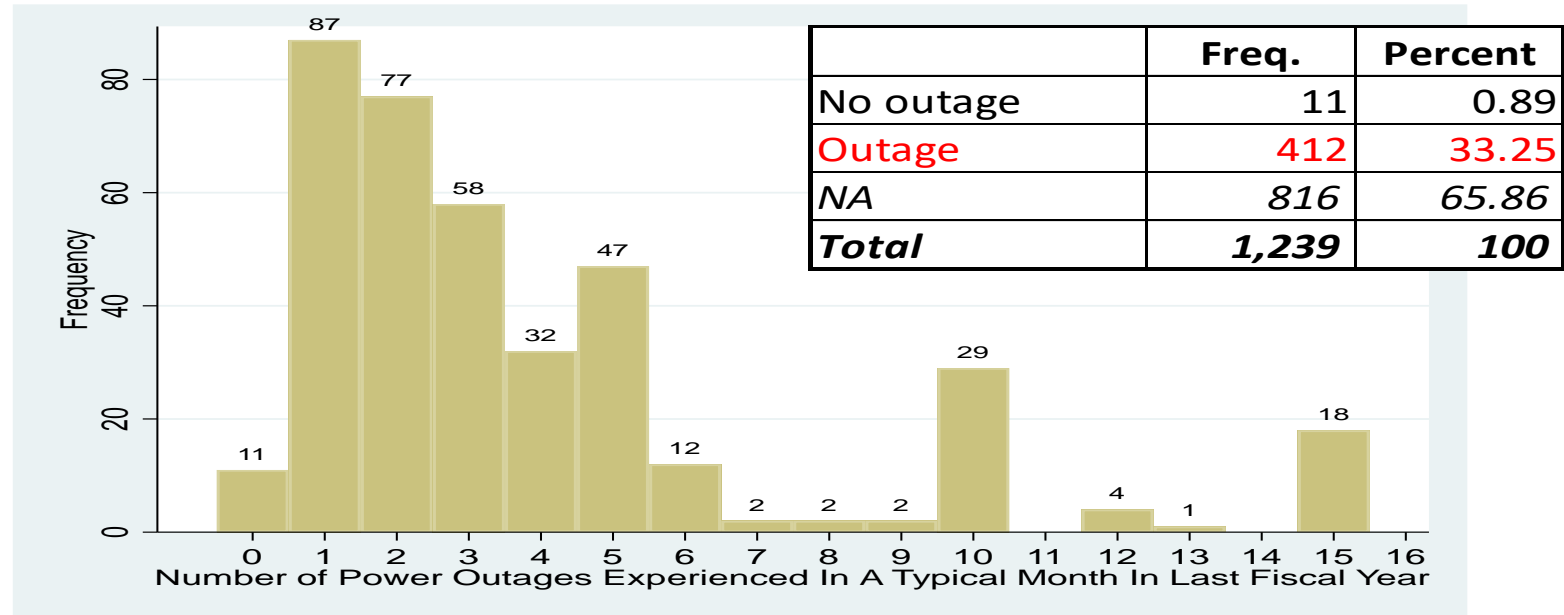


Source: ITU (<https://datahub.itu.int/data/?i=13067>) , Wikipedia, author’s calculations

A new wave of electrification is another infra-structure precondition to enable (green) innovation!

About one-third of businesses reported power outages in the World Bank's 2019 enterprise survey for Uzbekistan, for example.

There are significant issues with household electricity access + new demand from Evs, hydrogen, etc.



Source: <https://www.enterprisesurveys.org/en/enterprisesurveys>

Answer options	Kyrgyz Republic		Tajikistan		Uzbekistan	
	N	%	N	%	N	%
With hot water supply/hot water	88	16.9	224	44.8	53	10.6
With electricity	238	45.6	337	67.4	448	89.6
With gas	38	7.3	42	8.4	253	50.6
With central heating	5	1.0	-	-	9	1.8
No problems	204	39.1	113	22.6	-	-
Coal is expensive	25	4.8	-	-	-	-
The heating system is not working well	5	1.0	-	-	-	-
Shortage of biofuels	1	0.2	-	-	-	-
Difficult to answer	-	-	2	0.4	-	-

Source: CI-ADBI-PORI Fergana Valley household energy access survey (unpublished)

Conclusion....

To enable faster innovation and adoption of frontier technologies, which are preconditions for the re-acceleration of growth, diversification, and decarbonization

- ***an accelerated digitalization will be needed for much of the CAREC region, including required infra-structure such as broadband connectivity.***
- ***a new wave of green electrification will be crucial, including generation, grid and regional electricity trade.***

➤ ***Renewable Energy Investment Ecosystem
in Central Asia***

➤ ***SME Innovation Plans with a focus on
energy and on digitalization (together
UNIDO and ADBI)***

**The CAREC
Institute's intentions
for research in the
thematic field...**

Joining forces?



**Looking forward to
interesting visions, plans, and
recommendations !**



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