



Promoting Digital Sectors of Bangladesh: What Role for Cross-border Data Flows?

Promoting Digital Sectors of Bangladesh: What Role for Cross-border Data Flows?
Presentation based on a paper by RAPiD and ICTSD researchers.

Data is the new gold!
The flow of data is central to digital commerce, consumer choice and connectivity.

- Greater choice
- More information
- Quality of services
- More connectivity
- Efficiency
- MSD
- Market entry
- Cost efficiency
- Customer feedback

One key issue is the impact of cross-border data flow restrictions on digital sectors and GDP.

Digital Trade
More than 50% of global trade in services are digital services.

Digital exports considered as ICT service exports and ITES exports.

- ICT services: software publishing, telecommunications, computer programming, data processing, hosting and related services.
- IT enabled services: services transformed by ICT, i.e., software, training, call centre services, etc.

Free flow of data is important for promoting digital sectors and exports.

Free flow of data...

Data can be stored anywhere (in local server or outside country).

- A user's data is stored in the US, it is going to be used in a machine learning model that is hosted in Bangladesh.
- A student in Bangladesh finds an e-learning platform to go to an online course in Singapore.
- A product is developed in Bangladesh, it is being marketed in the US and the product is being sold in Bangladesh.

Data localization: processing of and storing user data within a country, where the data is originated.

Why data localization?

- Securing citizen data
- Data privacy
- Localization could drive local business growth

Arguments against data localization

- It's the border controls, not the country's connectivity
- Security concerns? What about data security? What about data security? What about data security?
- Capacity constraints limiting the use of data and innovation
- Restrictions can discourage foreign investment
- Following the customer might not be the best option

Restrictions on data flows

Restrictions may either block the benefits of data across borders (data localization) and/or place conditions on the flow of data and its storage and processing.

Data restriction measures can appear in many forms, such as:

- Rules that prevent the flow of data outside the country.
- Rules that require the flow of data to countries or companies with adequate data protection frameworks.
- Rules that require the prior consent of the data subjects before the information is allowed to cross borders, and
- Rules that require local storage and processing of data.

Data Localization: Bangladesh

In Force: Data Sharing Service Guidelines 2017

Service providers must maintain data servers in Bangladesh.

Proposed: Draft Cloud Computing Policy, 2021

Cloud service providers must preserve data within Bangladesh.

- Should preserve all data and information stored within Bangladesh and no cross-border transfer is allowed.
- Non-personal and non-sensitive data transfer is allowed only for backup and recovery purposes.

Draft Data Protection Act, 2022

Digital services are effectively second largest exports of Bangladesh

The report growth journey: IT & ITES services exports

- IT/ITES services exports are about \$14 billion in 2021-22 - 15% of all services exports.
- Digital services exports are made to 80 countries by 400 enterprises.
- The ICT sector - the next engine of growth with an aspirational target of \$5 billion exports and two million employment by 2025.

IT/ITES sector accounts for >30% of net FDI inflows and 23% of the total FDI stock in Bangladesh

IT/ITES sector has seen consistent growth in employment.

Empirical evidence: data policies and digital export performance

Measures covered in the Data Policy Index & Exporting Insights

Country	Index Score	Exporting Insights
1. Singapore	1.00	1.00
2. United Kingdom	0.95	0.95
3. United States	0.90	0.90
4. Canada	0.85	0.85
5. Australia	0.80	0.80
6. Hong Kong	0.75	0.75
7. New Zealand	0.70	0.70
8. South Korea	0.65	0.65
9. Japan	0.60	0.60
10. India	0.55	0.55
11. Brazil	0.50	0.50
12. Mexico	0.45	0.45
13. Chile	0.40	0.40
14. Peru	0.35	0.35
15. Colombia	0.30	0.30
16. Argentina	0.25	0.25
17. South Africa	0.20	0.20
18. Indonesia	0.15	0.15
19. Thailand	0.10	0.10
20. Philippines	0.05	0.05
21. Vietnam	0.00	0.00
22. Malaysia	-0.05	-0.05
23. Taiwan	-0.10	-0.10
24. Israel	-0.15	-0.15
25. Saudi Arabia	-0.20	-0.20
26. Egypt	-0.25	-0.25
27. Turkey	-0.30	-0.30
28. Russia	-0.35	-0.35
29. China	-0.40	-0.40
30. North Korea	-0.45	-0.45
31. Cuba	-0.50	-0.50
32. Myanmar	-0.55	-0.55
33. Laos	-0.60	-0.60
34. Cambodia	-0.65	-0.65
35. Vietnam	-0.70	-0.70
36. Thailand	-0.75	-0.75
37. Philippines	-0.80	-0.80
38. Malaysia	-0.85	-0.85
39. Indonesia	-0.90	-0.90
40. Singapore	-0.95	-0.95

Bangladesh is placed at 52nd (quite an open country) in the Data Policy Ranking (DCPI)

Impact of Restrictions on Cross Border Data Flows on Digital Services Exports under various scenarios

Data Localizations: Mixed Perspectives

Data flow restrictions could negatively affect trade and productivity and growth

Current infrastructure and human capital are not ready for the requirements of data localization. The total data game equation could shift from high operating cost to a key restrictive DCP policy would ultimately hamper the ease of doing business.

Restricting cross border data flows would generate demand for specific skill sets

- Digital platforms and data centres will help demand skill development.
- Can help grow sectors like artificial intelligence (AI) and machine learning.

Some entrepreneur told us...

If data localization policy is stringent, increasing the challenges regarding growth and investment opportunities.

If we have to take operations from a local cloud, it will be a problem because of the high cost of services, quality and cost will be a bigger issue.

Managing data localization is a complex task and it will require a lot of resources and infrastructure development.

If other countries continue to have more relaxed policies, it will be a competitive disadvantage for Bangladesh.

Concluding Remarks

- Cross-border data flow are important for the established companies as well as newer tech start-ups to participate in the global digital trade and markets.
- An inward approach to data security can make it more vulnerable when the local-level capacity in protecting data from unauthorized access is weaker.
- Bangladesh needs to develop and upgrade ICT infrastructure before implementing restrictions of cross-border data flows.
- Any policy in favor of data localization and its restrictiveness needs a cost-benefit analysis.
- A research-based pragmatic policy towards data regulation must be the way forward for Bangladesh.

THANK YOU!

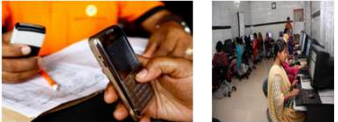
RAPiD
Research and Policy Integration for Development
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Presentation by:
Research and Policy Integration for Development (RAPiD)
27 February 2023

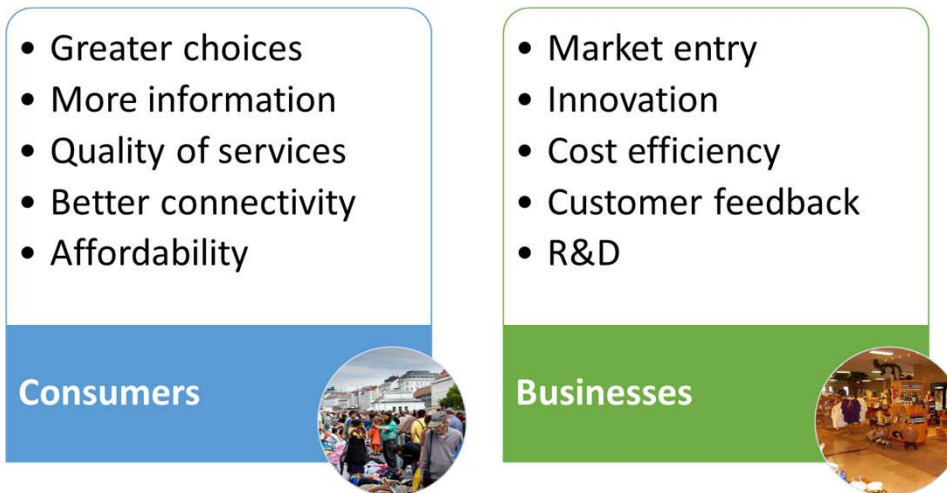
Promoting Digital Sectors of Bangladesh: What Role for Cross-border Data Flows?

-Presentation based on a paper by RAPID and CUTS-International



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One key issue is the impact of cross-border data flow restrictions on digital sectors and GDP.

Bangladesh's digital sectors holds immense promise to drive economic growth

Growing market for e-commerce, f-commerce, digital payments, and online education

Increasing internet penetration: 37% of population use internet which is expected to rise further

Government's vision and policy support: **Digital Bangladesh to Smart Bangladesh**

- Smart Citizens
- Smart Economy
- Smart Government
- Smart Society

Thriving Start-up ecosystem

- 1200+ startups operating in Bangladesh
- 200 new startups are emerging every year
- Startups saw a total investment of **US\$ 804 Mn over the last decade.**
- In 2021, more than **US\$ 400 Mn** was raised in investments
- Fintech sector, logistics and mobility, e-commerce and retail are some key sectors that attracted investment
- Startups have helped to generate over 1.5 million jobs

Source: LightCastle Partners (Bangladesh Startup Ecosystem 2021-22: Coming of Age)

Digital Trade

More than 50% of global trade in services are **digital services**.

Digital exports considered as **ICT service exports** and **ITES exports**.

- ICT services → software publishing, telecommunications, computer programming, data processing, hosting and related services.
- IT enabled services → services transformed by ICT i.e., offshoring, freelancing, call centre services, etc.

Free flow of data is important for promoting digital sectors and exports.

Free flow of data...

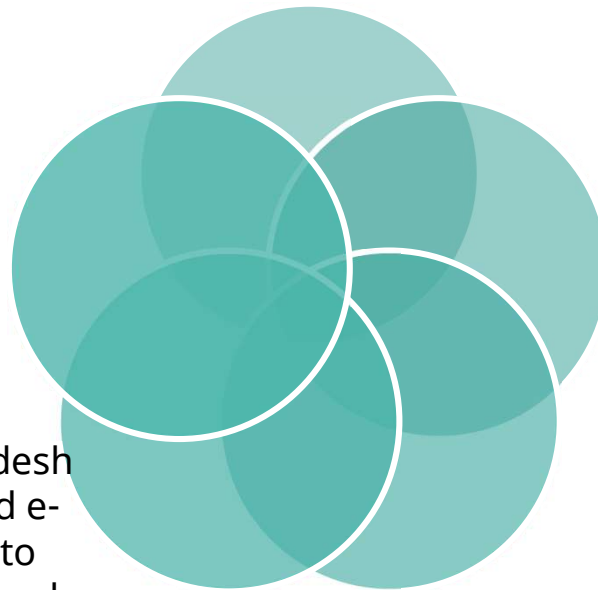
Data can be stored
anywhere (in local
servers or outside
country)

A cybersecurity
expert based in the
US is trying to
resolve a security
breach that
happened
elsewhere

One can process
and analyse data on
US health services
in Bangladesh

A student in Bangladesh
logs into a US-based e-
learning platform to
join a lecture delivered
by an academic from
Singapore

A medical
researcher in the
UK analyzing
pathological test
results helping
diagnose disease
profiles



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Why data localization?

- Securing citizen data
- Data privacy
- Localization could drive local business growth

Arguments against data localization

- It's like border controls, reduces connectivity
- Security concerns? When localized, greater security threats
- Capacity constraints limiting the use of data and innovation
- Restrictions can discourage foreign investors
- Following big countries might not be the best option

Restrictions on data flows

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Draft Data Protection Act, 2022

উপাত্ত মজুত ও স্থানান্তর সংক্রান্ত বিধান

৪৪। সংবেদনশীল উপাত্ত, ব্যবহারকারী সৃষ্ট উপাত্ত ও শ্রেণিবদ্ধকৃত উপাত্ত (classified data) মজুতকরণ।— সংবেদনশীল উপাত্ত, ব্যবহারকারী সৃষ্ট উপাত্ত ও শ্রেণিবদ্ধকৃত উপাত্ত কেবল বাংলাদেশে মজুত করিতে হইবে, এবং উহা বাংলাদেশের আদালত ও আইন প্রয়োগকারী সংস্থা বা কর্তৃপক্ষ ব্যতীত অন্য কোনো রাষ্ট্রের আদালত ও আইন প্রয়োগকারী সংস্থা বা কর্তৃপক্ষের এখতিয়ার বহির্ভূত থাকিবে।

৪৫। উপাত্ত স্থানান্তর সংক্রান্ত বিধান।- (১) সরকার, সময় সময়, সাধারণ বা বিশেষ আদেশ দ্বারা, ধারা ৪৪ এর অধীন কোনো উপাত্তকে শ্রেণিবদ্ধকৃত উপাত্ত বলিয়া নির্দিষ্ট করিলে উক্তরূপ উপাত্ত সরকারের পূর্বানুমোদন ব্যতীত কোনো স্থান বা সিস্টেমে স্থানান্তর করা যাইবে না।

(২) এই আইনের অন্য কোনো বিধানে যাহা কিছু থাকুক না কেন, সরকার, সময় সময়, সরকারি গেজেট প্রজ্ঞাপন দ্বারা, উন্মুক্ত উপাত্তের (open data) তালিকা ঘোষণা করিতে পারিবে এবং উক্তরূপে তালিকাভুক্ত কোনো উপাত্ত বাংলাদেশের বাহিরে স্থানান্তর, এবং দেশে-বিদেশে ব্যবহারের ক্ষেত্রে সরকার বা মহাপরিচালক বা অন্যকোনো কর্তৃপক্ষের নিকট হইতে অনুমোদন গ্রহণের প্রয়োজন হইবে না।

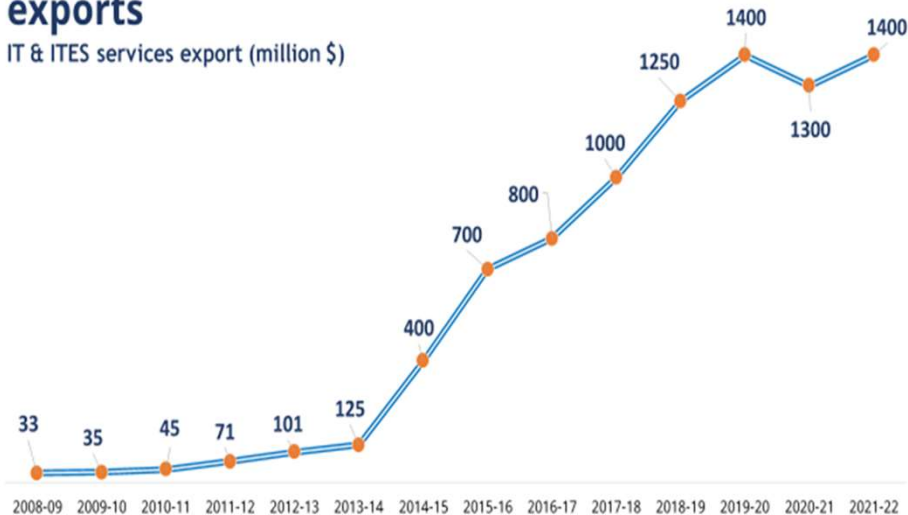
(৩) এই আইনের অন্য কোনো বিধানে যাহা কিছুই থাকুক না কেন-

(ক) উপাত্তধারীর প্রয়োজনে তাহার কোনো সংবেদনশীল উপাত্ত ও ব্যবহারকারী সৃষ্ট উপাত্তসহ যেকোনো উপাত্ত

Digital services are effectively second largest exports of Bangladesh

The export growth journey: IT & ITES services exports

IT & ITES services export (million \$)



- **IT/ITeS services exports are about \$1.4 billion in 2021-22 - 15% of all services exports.**
- Digital services exports are made to 80 countries by 400 enterprises.
- **The ICT sector - the next engine of growth** with an aspirational target of **\$5 billion exports and two million employment by 2025.**

IT/ITeS sector accounts for >30% of net FDI inflows and 25% of the total FDI stock in Bangladesh

In 2019-20, net FDI in Bangladesh was \$2.37 billion

- of which, **\$758 mill** invested in the ICT/ITeS industry

The share of ICT/ITeS in total FDI:

- more than **30%.**

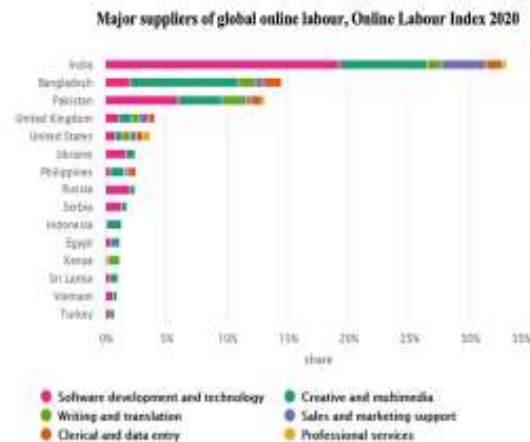
Tech start-ups in Bangladesh

- Attracted more than **\$500 million** in the past two years

The total accumulated **FDI stock** in the sector: **\$4.6 billion.**

- Significant investments from the UK, Kingdom, Malaysia, US, India, Norway.

Bangladesh IT sector has seen consistent growth in employment.



Bangladesh is the second-largest supplier of global online labour (15% of global such workforce).

650,000+ freelancers in Bangladesh.

IT sector employs between 127,000 and 400,000 with 15-20 per cent being women.

Role of data flow on the IT/ITeS sector?

Empirical evidence: data policies and digital export performance

Measures covered in the Data Policy Index & ranking	Weights
Ferracane, M. F. & Marel van der, E., (2019). Do data policy restrictions inhibit trade in services? EUI Working Papers, RSCAS 2019/29.	
1. Cross-border flow measures	0.5
1.1 Ban to transfer or local processing requirement	0.5
1.2 Local storage requirement	0.25
1.3 Conditional flow regime	0.25
2. Domestic regulatory measures	0.5
2.1 Data retention	0.15
2.2 Subject rights on data privacy	0.1
2.3 Administrative requirements on data privacy	0.15
2.4 Sanctions for non-compliance	0.05
2.5 Other restrictive practices related to data policies	0.05

$$ICSE_{ijt} = \alpha + \beta_1 GDP_O_D_t + \beta_2 mGDP_O_D_t + \beta_3 FDI_{it} + \beta_4 mFDI_{it} + \beta_5 IIB_O_D_t + \beta_6 mIIB_O_D_t + \beta_7 STRI_O_D + \beta_8 DPR_O_D + \beta_9 REER_{i(t-1)} + \beta_{10} mREER_{i(t-1)} + \beta_{11} Human\ Cap_O_D_t + \beta_{12} mHuman\ Cap_O_D_t + \beta_{13} CSL_{ij} + \mu_{ijt}$$

where,

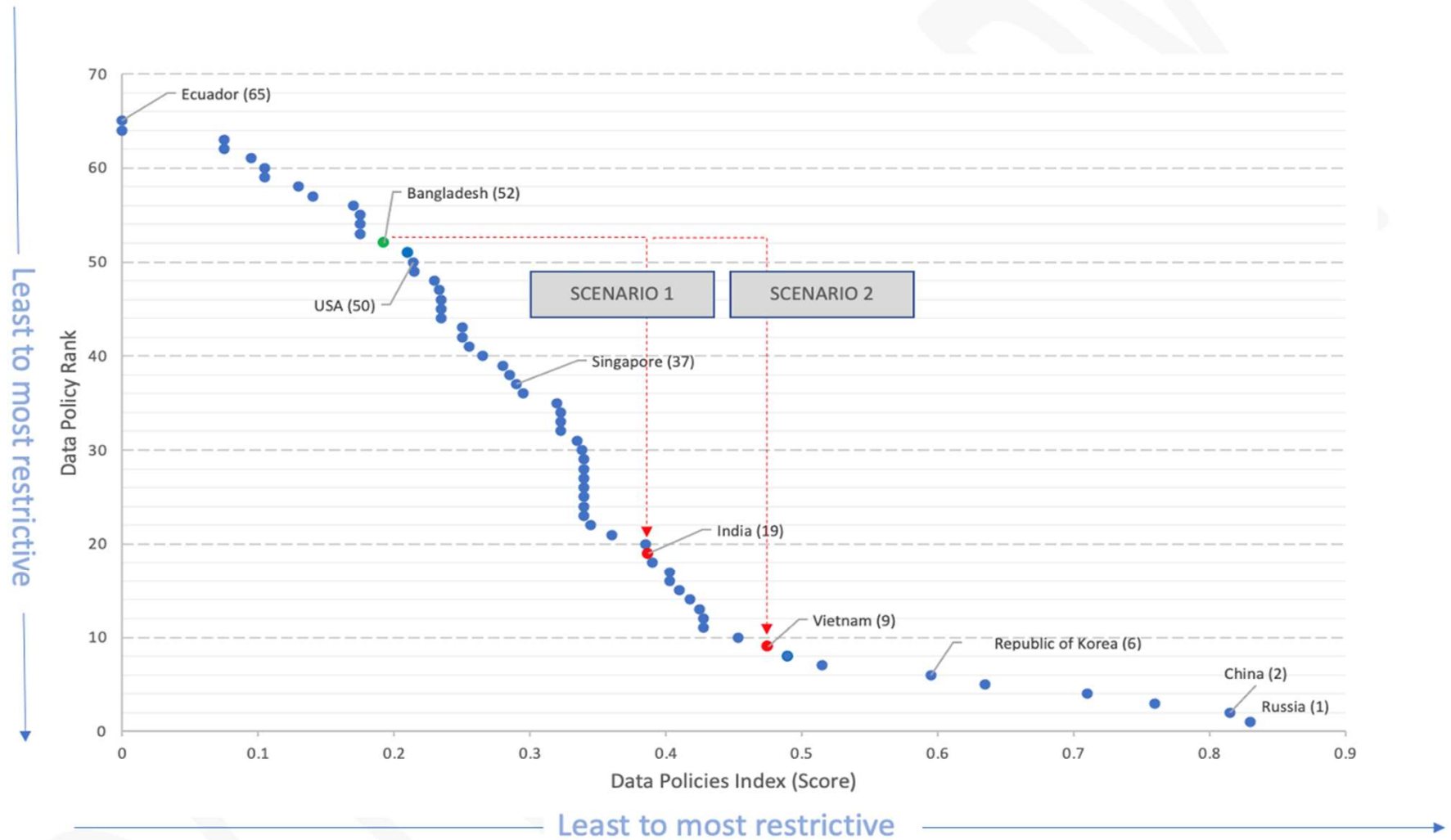
i represents Bangladesh,

j equals 1 to 25 and represents the digital services trading partner of Bangladesh

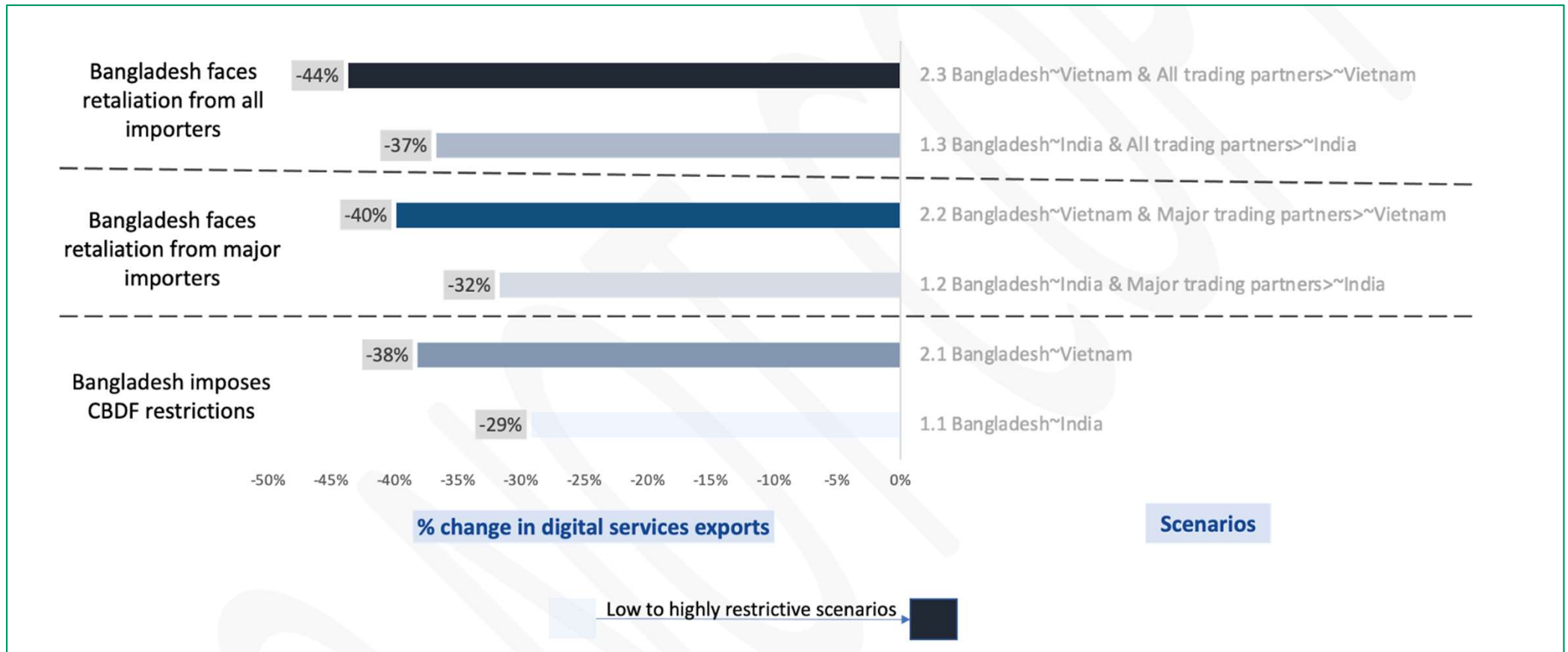
t is time period from 2007 to 2017

variables with *m* as prefix are the mean value of independent variable for a trading pair over time t.

Bangladesh is placed at 52nd (quite an open country) in the Data Policy Ranking (ECIPE)



Impact of Restrictions on Cross Border Data Flows on Digital Services Exports under various scenarios



Impact on DSE – 29% to 44% decline in digital services exports consequent to increased restrictions on data flow under various scenarios (could translate into 0.6%--0.9% of GDP shock)

Data Localizations: Mixed Perspectives

Data flow restrictions could negatively affect trade and productivity and growth

- **Current infrastructure and human capital are not ready** for the requirements of data localization.
- The local data centre ecosystem would suffer from **high operating cost**
- a very restrictive CBDF policy would ultimately **hamper the ease of doing business.**

Restricting cross border data flows would generate demand for specific skill sets

- Digital platforms and data centres will help demand-driven skill development
- Can help grow sectors like artificial intelligence (AI) and machine learning

Some entrepreneur told us...

If data localisation policy is stringent, investors may be discouraged impacting growth and investment opportunities.

"If we have to take services from a local cloud service provider instead of leading global services providers, quality and cost will be a major issue"

"Given the likelihood of the concentration of large amount of data with sub-optimal security, hackers and other malicious actors can easily gain unauthorised access."

"Managing data localisation is challenge with limited human resources and infrastructure development"

"If other countries retaliate, Bangladesh's start-ups will face a tough time scaling globally."



Thriving start-up ecosystem likely to have a higher compliance cost for strict data localisation measures

Increased costs: Startups may need to invest in additional infrastructure to comply with local data storage requirements, which can be expensive.

Limited scalability: Data localisation laws can limit a startup's ability to expand globally. For example, India's data localisation laws have prevented companies like WhatsApp from launching its payments feature in the country because it requires local data storage.

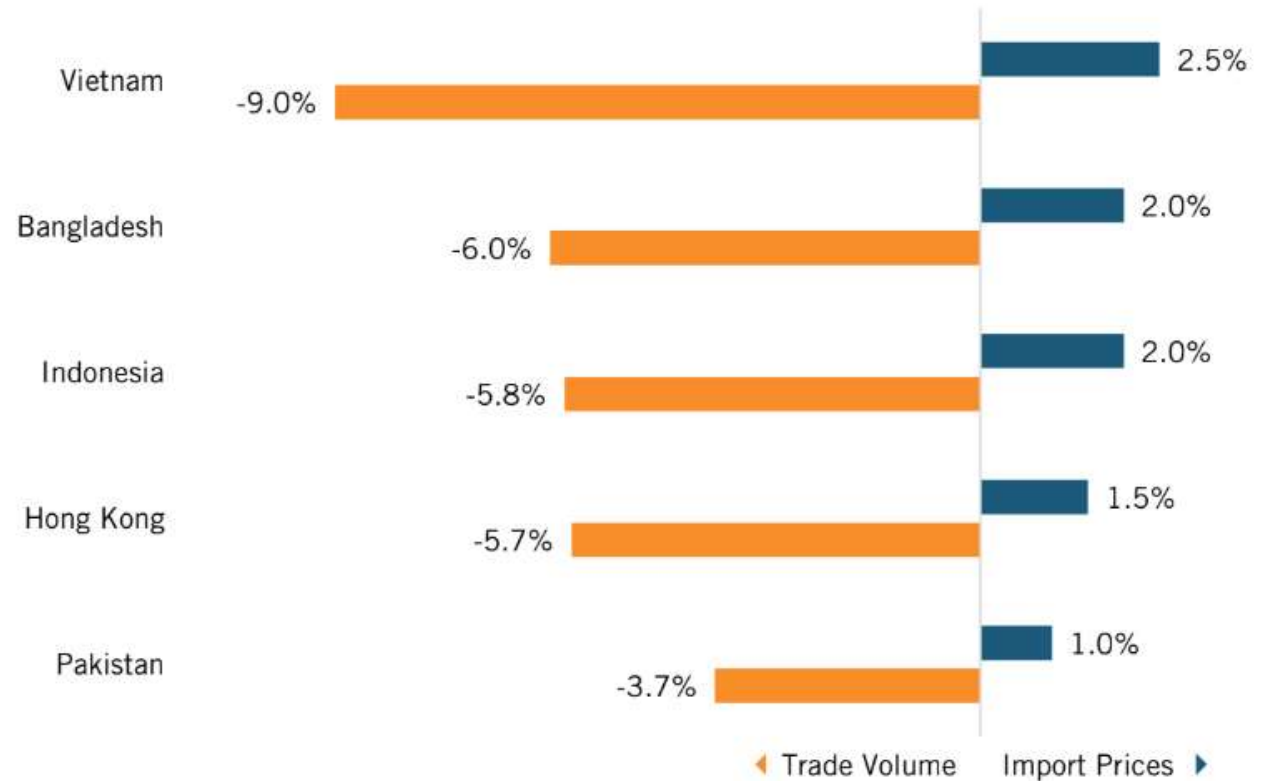
Reduced competitiveness: Data localisation laws can make it harder for startups to compete with larger companies that have the resources to comply with these laws. (Example: China)

Slower innovation: Data localisation laws can slow down innovation by limiting access to global data and tools. For example, in Russia, the requirement for companies to store data within the country has led to slower adoption of cloud services, which are often hosted outside of Russia.

Legal risks: Non-compliance with data localisation laws can result in legal risks and penalties, which can be particularly damaging for startups. For example, in the EU, the General Data Protection Regulation (GDPR) has strict requirements for data protection, and non-compliance can result in fines of up to €20 million or 4% of a company's global revenue.

Cross-country comparison indicates that data localization policies currently enacted or under consideration will reduce trade volumes and imports and increase import prices in all these countries and territories.

Figure: Projected change in import prices and trade volumes after five years due to restrictive data policies



Source: ITIF 2022 (The Cost of Data Localization Policies in Bangladesh, Hong Kong, Indonesia, Pakistan, and Vietnam)

Cross-country experience: many countries are moving away from strict data localisation measures

Vietnam, Indonesia, and India are moving away from strict data localization measures in their legislation

- They see the benefits of open data flows on growing their economies.

Unlike popular perception, data centers do not create enough jobs. Because of the highly automated systems required at data centers, the actual number of jobs created is low.

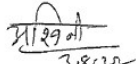
- For example, Apple set up a data center in North Carolina that only created 50 jobs.

Cross-border data flow: policy reversal in India

- India withdrew 'The Personal Data Protection Bill, 2019'
- The law had stringent regulations on cross-border data flows
- The Joint Committee of Parliament proposed 81 amendments and made 12 recommendations
- Drafting new bill to be approved and made into law in 2023
- Specific provisions or contours of the upcoming new Bill are not known
- Senior govt. official confirmed the new law is reconsidering data localization provisions
- It may allow cross-border data flows only to “trusted geographies” or region

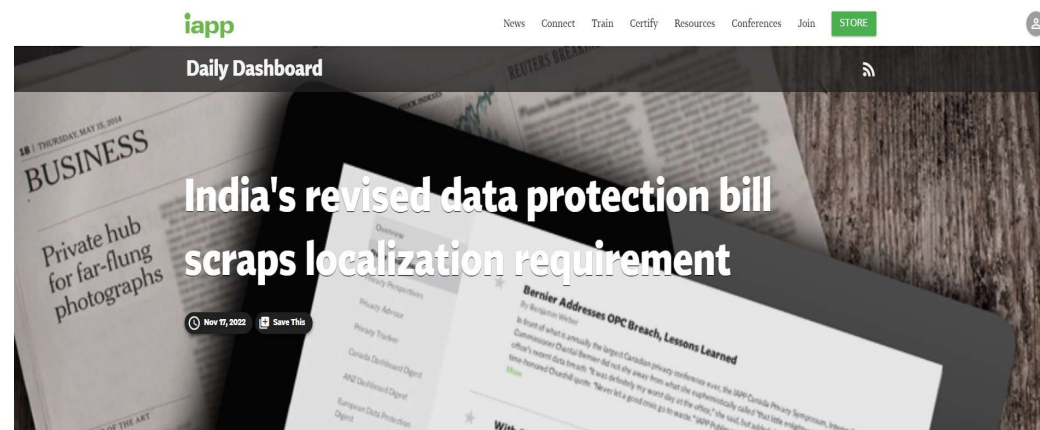
[Withdrawal of 'The Personal Data Protection Bill, 2019': Reasons for withdrawal](#)

The Personal Data Protection Bill, 2019 was deliberated in great detail by the Joint Committee of Parliament. 81 amendments were proposed and 12 recommendations were made towards comprehensive legal framework on digital ecosystem. Considering the report of the JCP, a comprehensive legal framework is being worked upon. Hence, in the circumstances, it is proposed to withdraw 'The Personal Data Protection Bill, 2019' and present a new bill that fits into the comprehensive legal framework.


3.8.2022
(Ashwini Vaishnaw)

Minister

Ministry of Electronics & Information Technology



Concluding Remarks

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- **An inward approach to data security can make it more vulnerable** when the local-level capacity in protecting data from unauthorized access is weaker
- Bangladesh needs to **develop and upgrade ICT infrastructure** before implementing restrictions of cross-border data flows
- Any policy in favor of data localisation and its restrictiveness needs **a comprehensive cost-benefit analysis**
- A **research-based pragmatic policy towards data regulation** must be the way forward for Bangladesh.

THANK YOU!



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