An Economic Perspective on the Use of Data and Data Localisation

Dr Matthias Bauer
European Center for International Political Economy (ECIPE), Brussels

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Outline

1. The Use of Data in the (Global) Economy

2. Barriers to the Free Flow of Data

3. Data Localisation

4. Conclusions
Data is everywhere

• Input and output of production

• All sectors of production incl. agriculture, extraction, manufacturing

• Particularly intensive in services industries

• Services sectors represent 60 per cent of Russian economy
IT-Capital as a Share in Total Capital

SERVICES
- Securities commodity contracts and investments Insurance carriers and
  85%
- Air transportation
  68%
- Misc. professional scientific and technical services
- Broadcasting and telecommunications
  63%
- Educational services
  57%
- Newspaper; periodical; book publishers
  55%
- Management of companies and enterprises
  55%
- Administrative and support services
  54%
- MANUFACTURING
- Machinery
  51%
- Other transportation equipment
  34%
- Construction
  31%
- PRIMARY SECTORS
- Support activities for mining
  23%
- Mining except oil and gas
  11%
- Nonmetallic mineral products
  10%
- Wood products
  10%
- Primary metals
  9%
- Utilities
  9%
- Forestry fishing and related activities
  7%
- Oil and gas extraction
  4%
- Farms
  3%
- 1%
Use of Data: Not only Google, Facebook, Apple

Note: data processing intensity index based on own calculations.
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Barriers to the Free Flow of Data

• Technology not a barrier anymore

• Encompasses data privacy and security laws

• Most ‘felt’ in industries and services sectors that use data intensively with considerable feedback to upstream and downstream sectors
Internet and Privacy Regulations

1. Mandatory restrictions and procedures for collection of private data (admin)

2. Obligation to employ data privacy officers & annual protection impact assessments (admin)

3. Bans of processing of certain data (loss of business)

4. Liability: business risks due to sanctions after data ‘accident’

5. Data Localisation: mandatory storage of critical data on servers physically located in a certain country (investment and admin)
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Storage of ‘Critical’ Data on Servers ‘at home’

• Underlying idea: to safeguard private and public data & to stimulate national economy

• Problem: local data clusters more prone to attacks & economic losses outweigh benefits of a few additional jobs in data centres and (legal) consultancies

• Consequence: obligation to switch to domestic data centres offering storage and data processing services

• Implication: discrimination of foreign suppliers in all industries
The Economic Impact of Data Localisation

Static Impact (medium-term)
- Decline in Productivity
- Decline in Output
- Rise in Consumer Prices
- Decline in Investment

Dynamic Impact (longer-term)
- Decline in Investment
- Decline in innovation:
  - Lack of Competition
  - Technological progress
  - Organizational knowledge
  - New business models

Estimated

NOT estimated
Methodological Considerations

• Analysis of data regulation measures for Brazil, China, EU, India, Indonesia, Korea, Vietnam, and Russia – incl. Data Localisation

• Augmented OECD Product Market Regulation Indices

• Estimated impact on total factor productivity and cost of trade

• TFP and cost estimates as input to Computable General Equilibrium Model (CGE)
10 Regulatory Measures on Data Privacy

<table>
<thead>
<tr>
<th>Regulatory measure</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a data localisation requirement?</td>
<td>Yes / Limited / No</td>
</tr>
<tr>
<td>Is there a strict consent requirement for the collection, storage, dissemination of personal data?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Does the law provide users with the right to review their stored information?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Does the law provide users with the right to be forgotten/ deleted?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Is a notification of breaches towards the government/user obligatory?</td>
<td>Towards government / user / government &amp; user</td>
</tr>
<tr>
<td>Are data protection impact assessments obligatory?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Is a data protection officer required?</td>
<td>Yes / No / Qualified Yes</td>
</tr>
<tr>
<td>Are there administrative sanctions for non-compliance? How high?</td>
<td>Varies according to height of sanctions</td>
</tr>
<tr>
<td>Does the government require easy access to companies' data?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Are companies required to retain data for a fixed period of time?</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>
Results

-0.27 - Loss in GDP from FZ-242
-0.19 - Loss in Services Output from FZ-242
-0.25 - Loss in Manufacturing Output from FZ-242
-0.25 - Loss in Exports in Services from FZ-242
-0.4  - Loss in Exports in Manufacturing from FZ-242
Results

• GDP loss approx. 5.7bn USD based on 2014 GDP (380bn RUB)
• Manufacturing more affected than services
• Decline in aggregate investment of 1.4 per cent (7bn USD or 466bn RUB)
• Relative shift in production structure towards less innovative, more volatile sectors such as agriculture and raw materials in which Russia has a comparative advantage
• Longer term adverse effects resulting from less technological innovation, less innovation in terms of organisational knowledge and business models, and less competitive behavior - all not taken into consideration
• Results likely underestimate long-term impact
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Conclusions

1. Data is everywhere
2. Data is mostly embedded in services
3. Barriers in data are disruptive: they can have a great knock-out effect on the entire economy
4. Negative impact on competition, productivity and investment in the short to medium term
5. Negative impact on innovation 1) in new technologies and 2) innovation in terms of new business models in the medium to long term
6. Feedback on economic development and international competitiveness
Barriers in data are disruptive!

Thank you for your kind attention.