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DIGITAL ECONOMY AND SUPPORTIVE POLICIES: BEYOND TECHNOLOGY

analysis of the USA, PRC, and Russia`s cases

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Digital Economy: definitions

Digital Economy appears to be a relatively recent phenomena

2 possible definitions may be applied (IMF, UNCTAD, BEA, OECD, etc.):

- **Narrow:** online digital services and associated businesses and infrastructure, mostly related to the online platforms (“platform economy”)
- **Broad:** ICT sector, all markets and activities based on digital technologies (3d-modeling, digital systems for the enterprise management, etc.)

Assessments of “narrowly” defined digital economy – 4% of global GDP, “broad” digital economy – up to 20-25% of global GDP

A narrow, “Platform economy” definition approach seems to be more relevant – makes possible to distinct current market and technology developments from computer (1980-1990s) and early-stage Internet boom of 1990s

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- **It is rational to base analysis of the Digital Economy on the U.S. and P.R.C. experience (taken as “reference cases”)**
- **Russian experience is also valuable for the “proof of concept” as well as for review of OSCE member`s practices**

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The U.S.A. and P.R.C.: undisputable leaders of Digital Economy

- 83% of the biggest online platforms (2016)
- 50% of net profits of 50 biggest global online platforms (2015)
- 90% of market valuation of 70 biggest global online platforms (2017)
- 75% of all “unicorn” startups (most operate on the Digital Economy markets)
- 80% of all “unicorns” market valuation
- 75% of global cloud services market
- 85% of social networks market
- <95% of Web-search market

World`s biggest platforms

Google

Baidu 百度

amazon

Alibaba Group 阿里巴巴集团

Microsoft

Tencent 腾讯

Digital Economy constitute up to 6.9% of the U.S. GDP (BEA, UNCTAD) and up to 5% of Chinese GDP – the highest scores among other nations

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Similarities and differences in the Digital Economy`s drivers and effects

Drivers

✓ High entrepreneurial culture	
✓ High investments in ICT- and Internet –related S&T and Innovations	
✓ Big innovative corporate actors playing the role of agents of change	
✓ Regulatory sandbox regime :de-facto in the U.S.A. (common law regime) and de-jure in P.R.C. (special regional regulations for new industries + originally low regulatory intrusions) during active phase of growth	
✓ High level of Internet penetration (in P.R.C. - in the regions that form the core of the Digital Economy markets)	
✓ Access to the global capital markets (in the P.R.C. through the VIE model)	
✓ Big culturally homogenous market with unified regulatory framework	
✓ Relatively liberal antitrust and privacy regulations	
➢ Moderately rising GDP and consumer demand	➢ Rapidly rising GDP and consumer demand
➢ Developed consumer market (digital optimization of business models and existing market processes)	➢ Overcoming market gaps with disruptive digital services
➢ Laissez-affair approach of the Government with substantial investments in ICT and digital tech	➢ Protectionism since late 2000s, modernized industrial policy since 2010s with substantial investments in ICT and digital tech

Economic effects

✓ Consumer`s welfare (quality of life + lower prices)	
✓ Monopolistic challenges for the Digital markets	
➢ Mixed impact on employment (rising only in ICT and logistics)	➢ Rise of employment in services and manufacturing
➢ Negative impact on the consumer goods manufacturing sector and on local retail ➢ Growth of ICT-based service sector, logistics, and supportive B2B manufacturing (service robotics, electronic components)	➢ Inclusive growth, incl. manufacturing, trade, and associate services (case of Taobao villages) and diversification of regional economies

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Comparative analysis of the U.S. and P.R.C. Digital Economies: lessons learned

- Drivers and effects of the Digital Economy are **predefined by the general economic factors**.
- Growth appears only in the situation of:
  - rising professional, consumer, and other`s **digital competences**
  - **proper institutional and market framework**
  - strengthening **innovation ecosystems** of enterprises, “smart” investors, researchers, and enthusiasts – acting as incubators for the institutions (also a competence issue)
- Powerful **actors of change are needed** – not necessary originating from the platform markets

To reap the benefits of the digital economy, institutional development and human capital (including R&D investments) are the key

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Russian digital economy: a hybrid

Drivers

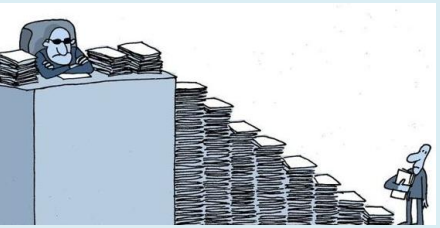
Highly competent digital workforce

Several digital clusters (Moscow, St.Petersburg, Kazan) with global ICT services export and international spin-offs (Telegram, Acronis, etc.)

A group of big digital enterprises (Yandex, Mail.ru Group, MTS, and since the middle of 2010s SOE berbank) with strong regional (former CIS and other neighbor nations) presence

High penetration of broadband in most of the cities, also wireless access

Market gaps drives e-commerce and fintech



Drawbacks

Relatively low income and low-growth economy. As a result, Digital Economy growth potential is smaller (YaMM`s market value, revenues, and net income is 50-75 times less than that of FAMGA and 10-25 times less than that of BAT)

Smaller share of ICT in the GDP

Smaller R&D investments and R&D growth rates in comparison to the Digital Economy leaders

GENERAL UNFRIENDLY BUSINESS CLIMATE (not speaking about sanctions)

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Current Russian policies for the Digital: correcting market and state failures?

National Technology Initiative (NTI) since 2015 – building strong innovation ecosystems on future digital markets

National Project "Digital Economy" since 2017-2018 – supporting digital transformation of key industries with special focus on technology development and competence-building (total technology-related funding until 2024~RUR280 billion) and creation of regulatory "sandboxes"

National Project "Science" since 2018 – rising general R&D expenditures and creating 15 world-class R&D centers – among them 4 in math research (total expenditures up to 2024 ~ RUR635 billion)

Consolidation of the institutions for development (Russian Venture Company, Skolkovo, etc.) and coordinating different initiatives (NTI + "Digital Economy" project, etc.) – again with focus on the digital

Strengths

Focus on competences and human capital

Declared complex approach and on the PPPs

Accent on the Agents of Change *and* on the ecosystems

Weakness

State investment s and "sandboxes" are not substitute for the structural (institutional) reforms

Planned investments are high but not enough

Opportunities

Translation of the effects derived from human capital development into the institutional change

Ecosystems creating new informal Digital Economy institutions

Threats

Illusion of substitution of structural reforms by digital breakthroughs

Stagnation of GDP or long-term low –growth , disrupting basis for the Digital Economy (also institutionally-driven)

Brain Drain

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Most valuable Russian experience: evolving complex life-long and cross-sector approach for the rise of digital competences

- Special school courses (from the elementary school and up), “Science Parks for kids” (Quantoriums), etc.
- Support of e-courses and broader e-education efforts
- New educational standards and university courses for digital professionals
- Competence S&T centers with broader ecosystem and educational tasks
- Competitions, hackathons, and other forms of competence enhancement
- Support of growing system of technology/training/education “circles” (analogue of Soviet practices and/or “circles of quality” in Keizen – but for the new tech)
- “Academy of tutors” and associate activities – system for educating, certification, and support of practical activities of tutors in tech-related (especially digital) areas
- Special Venture foundation focusing on digital education and training projects
- Special education and training system for CDOs, CDTOs, and other corporate specialists in the digital area
- Digital educational certificates –supporting competence enhancement in Digital Tech area and professional digital competences – as well as closing the digital literacy gap (for the general population)

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Practical recommendations

Support international expert, professional, “people`s diplomacy” and broader non-political dialogue in the areas of competence-building, human capital formation and associate issues

Initiate and coordinate academic and analytic activities to monitor and analyze existing education, training, and associate activities in the Digital Economy area

Create a virtual clearinghouse of “lessons learned” and best practices, possibly with formation of special non-commercial consultancy service – also for the needs of developing nations (to support regional inclusive digital growth)

Dialogue on the OSCE region regulatory best practices is also important – harmonization of rules for the new markets may also drive institutional changes

These activities may be initiated in the OSCE framework, but better executed, if possible, in cooperation with UNCTAD, OECD, and other international organizations

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