

Master-chain as an intellectual
governing system for producing
and transfer of knowledge

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Neuro-fuzzy tools in studying
social management

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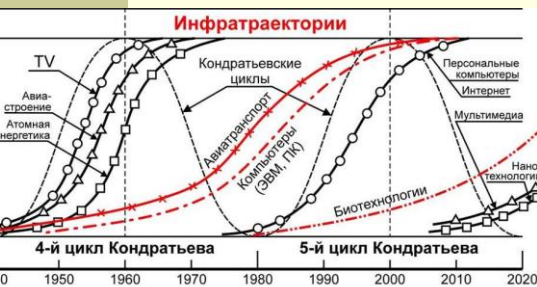
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Innovative targets & knowledge governance

4 models of national positioning



■ Leadership in R&D

- Great Britain, Japan

■ Leadership in innovation, entrepreneurship for commercialisation

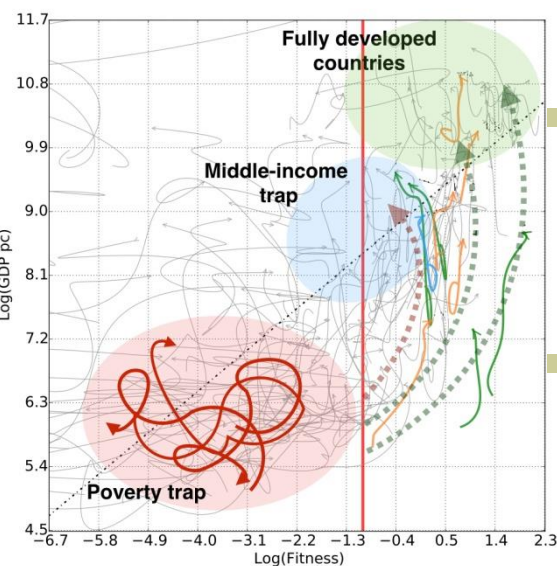
- Germany, France, Italy (continental Europe)
- Rep. of Korea

■ Leadership in mass investment for mass copying

- China

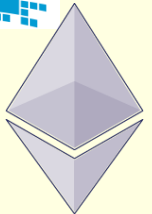
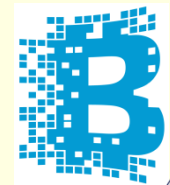
■ Creation of the playing rules

- USA (FATCA, US Patent & Td Office, citation indexes...)



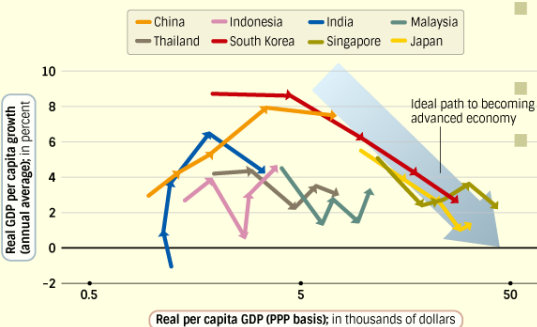
Information society

- Externalisation of the virtual reality
 - Augmented reality
 - Space and time collapse
 - Integrators
 - Communication as technology or social capital
- Digital economy technologies
 - Individualizing production – 3D-printing
 - Close to consumption place, resources logistics
 - computation – Cloud & Fog computing
 - transactions – Internet of things, Internet of Everything
 - regulatory – gamification, sharing economy
 - Blockchain (tax– 2023), Ethereum (individuals' contracts)
- Economy of knowledge
 - High-road competition



ethereum

Real GDP per capita vs. growth rates since 1970



- Compete for investments and human capital
 - А.Г. Аганбегян: наука (НИОКР), образование, ИТ, биотехнологии и здравоохранение

Dependency of ICT-sector (e.g., Finland)

Middle-income trap – higher education' role

- <http://www.nber.org/papers/w18673.pdf>
- <http://voxeu.org/article/growth-slowdowns-redux-avoiding-middle-income-trap>

Figures used for 1970-1980, 1980-1990, 1990-2000, 2000-2010, 2010-2013 periods; dollar scale rises logarithmically. Sources: World Bank's World Development Indicators database, others



Global digital economy (total digitalization)

■ knowledge spillovers

- A. B. Jaffe. Real effects of academic research // American Economic Review, December, 1989.
- Z. J. Acs, D. B. Audretsch, M. P. Feldman. Real effects of academic research: comment // American Economic Review, 1992.

■ Localising

- Geographic, organisational, institutional proximity
 - A. Torre, A. Rallet. Proximity and localization//Regional Studies, vol. 39, No 2, 2005.
 - A. Torre, J. P. Gilly. On the analytical dimension of Proximity Dynamics//Regional Studies, vol. 34, No 2, 1999
- R&D, competences + infrastructure
 - each narrowly-defined activity will seek its globally optimal location
- Silicon Valleys
 - 1951 industrial park. Leland Stanford – set condition of land use (1891)
 - 1984 КАН, Academia Sinica – Lenovo
 - 2003 МГТУ им. Баумана – a room for small students' company Group-IB



Embeddedness of economic dynamics into social net

- Institutional background
 - for growth – at macro
 - for profit – at micro
- Experience economy
 - Pine, J. ; Gilmore, J. (1999). – Harvard Business School Press, Boston
 - Time as the core and critical resource
- Competences
 - openness to opt in the Universal
 - readiness to creative change
- Finance as a total gauge
 - Capitalisation of the society (Th. Veblen)

Potential development

- Integrators
 - University as integrator
 - “Übersity”
 - Universarium (Coursera ...)
 - overload of information & Teacher’ role
 - Mobilize, motivate, generate interest
 - Leading in the knowledge creation path
- Cloud & Fog computing
 - Regulation transferred from persons to technologies
 - limitations:
 - Discretionary decisions ?
 - Ethics
- Games and experiences

Masterchain – history

- ЦБ РФ, Сбербанк, ВТБ, Газпромбанк, Райффайзен банк, «РНКО платежный центр», и др. создали Российскую Ассоциацию «Финансовые технологии»
- Тестовые операции в системе Мастерчейн совершены в октябре 2016 г.
- Masterchain – доверенная среда обмена информацией и управляющими воздействиями между не доверяющими друг другу сторонами
- нацелена на снижение участия посредников взаимодействий, доступность информации для заинтересованных сторон в момент внесения изменений, контролируруемую передачу прав собственности на финансовые инструменты и активы с выполнением соответствующего учета

Blockchain and Masterchain

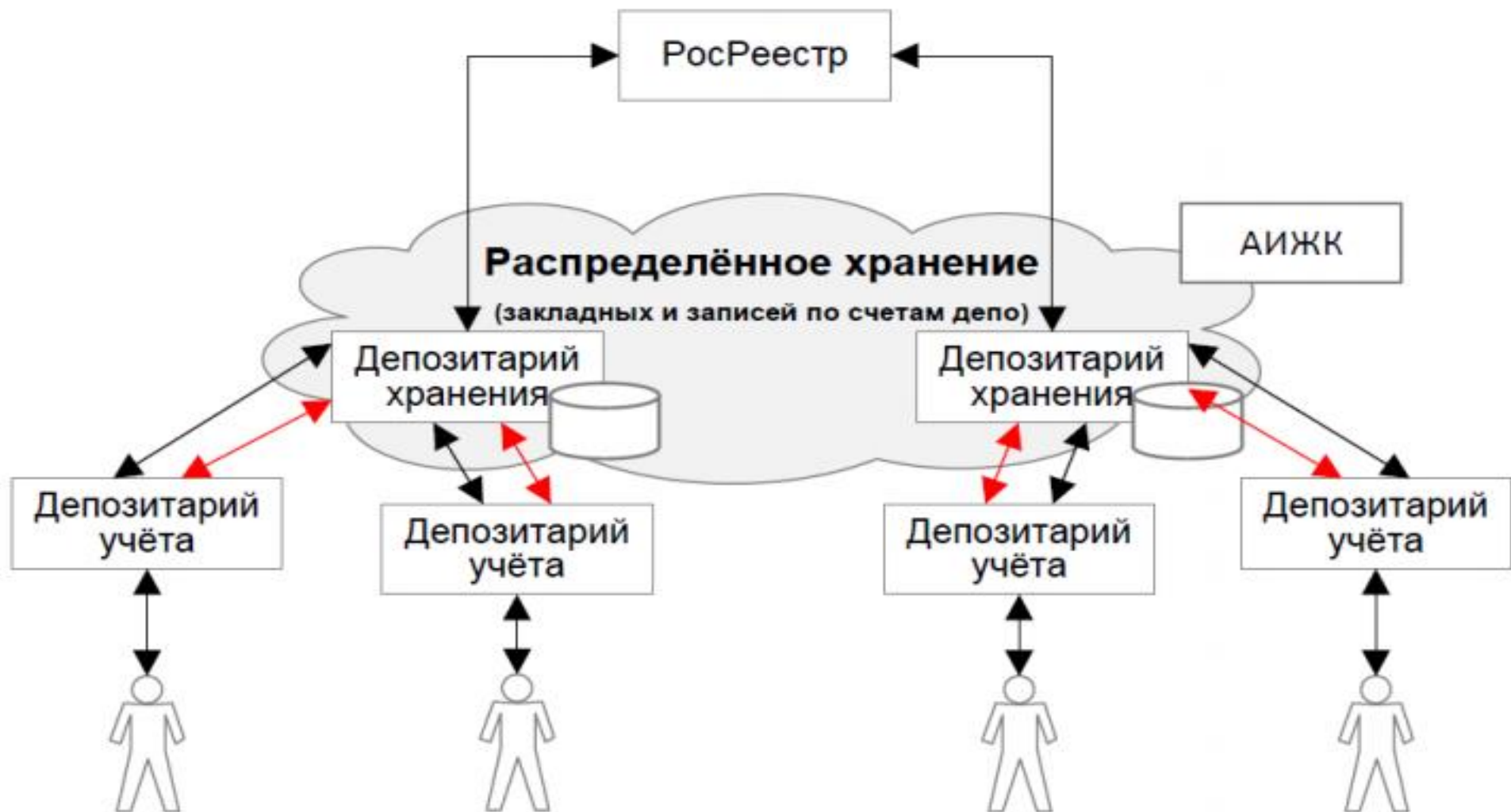
■ Blockchain

- reliable decentralized mechanism for fixing legally significant events in the digital world or digital identification systems

■ Masterchain

- Centralised State regulation
- Decentralised system of data storing
- Ethereum for smart contracts
- Place to meet employers and employees – business to required competences and skills

Masterchain scheme



Masterchain for labour market

- Portfolio
 - Students (families) introduce data
 - Educational institution approves
- Vacancies
 - Description of job
 - Comparison with
 - professional standards & certificates
 - personal features
- Meeting of job' description with personal preferences and capabilities

Внедрение национальных платформ для регистрации прав

- Попытки применять блокчейн для решения задач ведения и регистрации прав предпринимаются в ряде стран
- В феврале 2017 г. Национальное агентство публичного реестра Грузии и поставщик блокчейн-решений Bitfury подписали меморандум, в рамках которого в стране начнет внедряться основанный на новой технологии сервис, регистрирующий права собственности. Сервис позволит заменить нотариальное оформление документов регистрацией актов продажи и покупки участков в системе
- В апреле 2017 г. Земельный реестр Великобритании обнародовал детали инициативы Digital Street, которая должна упростить процедуру регистрации купли-продажи земельных участков и объектов недвижимости

Socialisation of over-financialisation

New economy. We economy

- Particular solutions for peculiar circumstances, mass production lines are replaced with the individualized goods and services producing technologies such as 3D-printing
- The low transaction costs transfer the value creation chain from organizations toward the environment, from inside to outside, from factories and offices to the network integrators coordinating co-creators' activities
- The value is created by ideas, after the idea' implementation, the regular value creation process is carried out through digital platforms
- The integration within the social, political and economic contexts involve people in the new reasoning; the corporate governance chooses the cooperative strategies (for a "blue ocean") more frequently than competitive ones, the last ones demonstrate their inefficiency, at the same time the collaborative logic leads to sustainability, equity and inclusion
- Today the labor is replaced with entrepreneurship, the capability to take risks and to bear responsibility, to mobilize people and to promote an innovation are highly appreciated by employers; but free-lance allows to former high-qualified employees to leave organizations and to work as professionals, consultants, as creative class, the social protection is individualized
- Robots and artificial intelligence take the jobs and leave the employment for the human beings at the "input" (to conceive the idea) and at the maintenance of technological networks (to repair and to act in non-standard circumstances); both of these employment' opportunities will need highest level of competence – communicative, creative, innovative and technical one

Neuro-fuzzy tools

- Fuzzy logics is able to operate with
 - complex,
 - multiple,
 - unclear (“linguistic”) parameters
- Neural technologies include
 - Neuron networks
 - extract the internal rules of data
 - assessment of rules to evaluate them as correct
 - + Neural communications
 - Analysis and direct transfer of feelings and meanings

Nanterre University MBA' case

- machine learning
 - represent to students the dramatic social requirements towards the corporate business
 - AI gives not only the analysis of the volumes of data
 - AI proposes the new parameters which were not introduced by students
- Fuzzy tools
 - The possibility to converse the terms “ethical” or “important”, or “priority” into operative tools
 - Social issues are ignored by MBA students
 - AI – base to introduce the logics of social management into the body of corporate management skills



Thank you!

Please, ask your questions

Regulatory tools

■ Equilibrium of the *known* and the *new*

■ uncertainty as

- Threat or
- Opportunity

■ Market –

■ Choice

- Deliberation costs

■ Institution –

■ Control

- Transaction costs

Regulation

- ❖ Internal (interiorised through centuries)
- ❖ External (public, laws, justice)

Reputation

(branding, PR, communication, CSR...) – based on confidence

Trust

Shared past in fostering trustful environment (tales, myths, symbols – tools: story-telling, legends, mindset, ideology, corporate culture ...)

Direction of regulatory measures

■ Content of the investment policies

- “The new investment restrictions or regulations introduced in 2016 largely reflect concerns about foreign ownership of strategic industries, national security and the competitiveness of local producers
- ... in legislation but also in administrative decisions of host countries, particularly in the context of merger controls related to foreign takeovers”

- Complex
- Divergent
- Multifaceted
- Less predictable for investors



Investment incentives' types – criteria of regulation mechanisms

Key regulatory mechanisms:

- internal regulation of economic agents
 - fair play rules are interiorised by personalities as basic behaviour models
- constraints and judiciary authority
 - public administration or societal regulatory regimes

- Opportunist behaviour
 - the actors that respect rules are in the losing positions compared to the ones who violate rules
 - The opportunist behaviour models demonstrated the new “rule” of a systemic non-following rules
 - speculative overcapitalization (T. Veblen, 1919): the financialized society is a case of the whole societal “opportunism” (inefficient social sanctions)
 - financial liberalization create a sustainable monetary stability only on the basis of a strong culture
 - Civilisation ? Societal interiorising of normative regulation
 - Blockchain ? IT-solution to limit personal opportunism

Basic problems

- cyber-frauds
 - credit cards use ?
- real-estate prices' bubble
 - Crisis 2007-2009
- stock market crashes
 - Investment
- insurance and banking institutions' collapse
 - Creating local money
- Lack of confidence in transparent market
 - Traditional feudal family resources flows

Anglo-Saxon approach – institutional changes

- ‘Macro-prudential’ regulation – of stability and resilience of the financial system as a whole
 - Financial Policy Committee (FPC) in the Bank of England
- ‘Micro-prudential’ (that is, firm-specific) regulation financial institutions that manage significant risks on their balance sheets
 - operationally independent subsidiary of the Bank of England, the Prudential Regulation Authority (PRA)
- ‘Consumer protection and markets authority’ – responsibility for conduct of business regulation will be transferred to a new specialist regulator
 - Financial Conduct Authority (FCA) - responsible for conduct issues across the entire spectrum of financial services

Anglo-Saxon approach

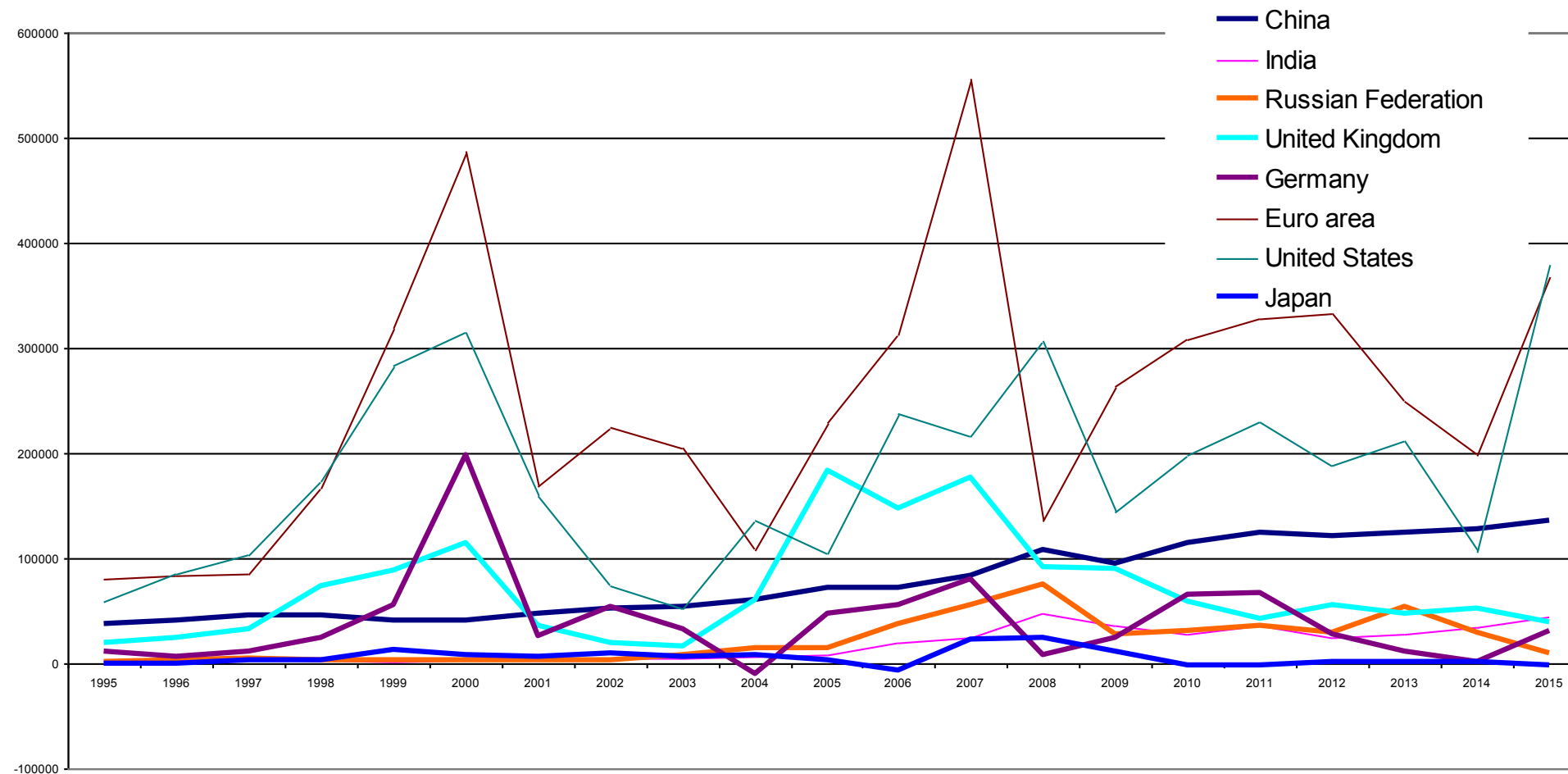
Methodological individualism

- Internal regulatory mechanism – follow the principles:
 - efficiency and proportionality, to ensure that due regard is paid to value-for-money and cost-effectiveness considerations
 - senior managers (and not regulators) are ultimately responsible for managing their firms in a way that is compliant with the regulatory framework
 - consumers of financial services are ultimately responsible for their own decisions
 - principles relating to openness and transparency, highlighting the importance of openness and disclosure as a regulatory tool in promoting market discipline
 - the desirability of transparency of process to support trust in the judgements and decisions made by the regulators

Continental Europe

- public administration (authority regulation)
- Community (collective auto-organisation)
- The domination of community interests over the business or the individuals' motivations
- The governmental regulatory constraints
 - Limiting bonuses in the banking sector
 - Tobin tax ?
 - Heavy bureaucracy – or long negotiations?
 - Technocracy – or the socio-cultural elitism ?
 - Economy of knowledge – as the knowledge of living
 - Art de vie, savoir vivre – know how to live together?
 - Dilemma: Ethics – Efficiency

Recovery after 2007-2009



UN – UNCTAD statistics :

<http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96740>

FDI inflows,

top 20 host economies
(Billions of dollars)

Fluctuations with the same leaders:

USA, China

Small economies with attractive policies:

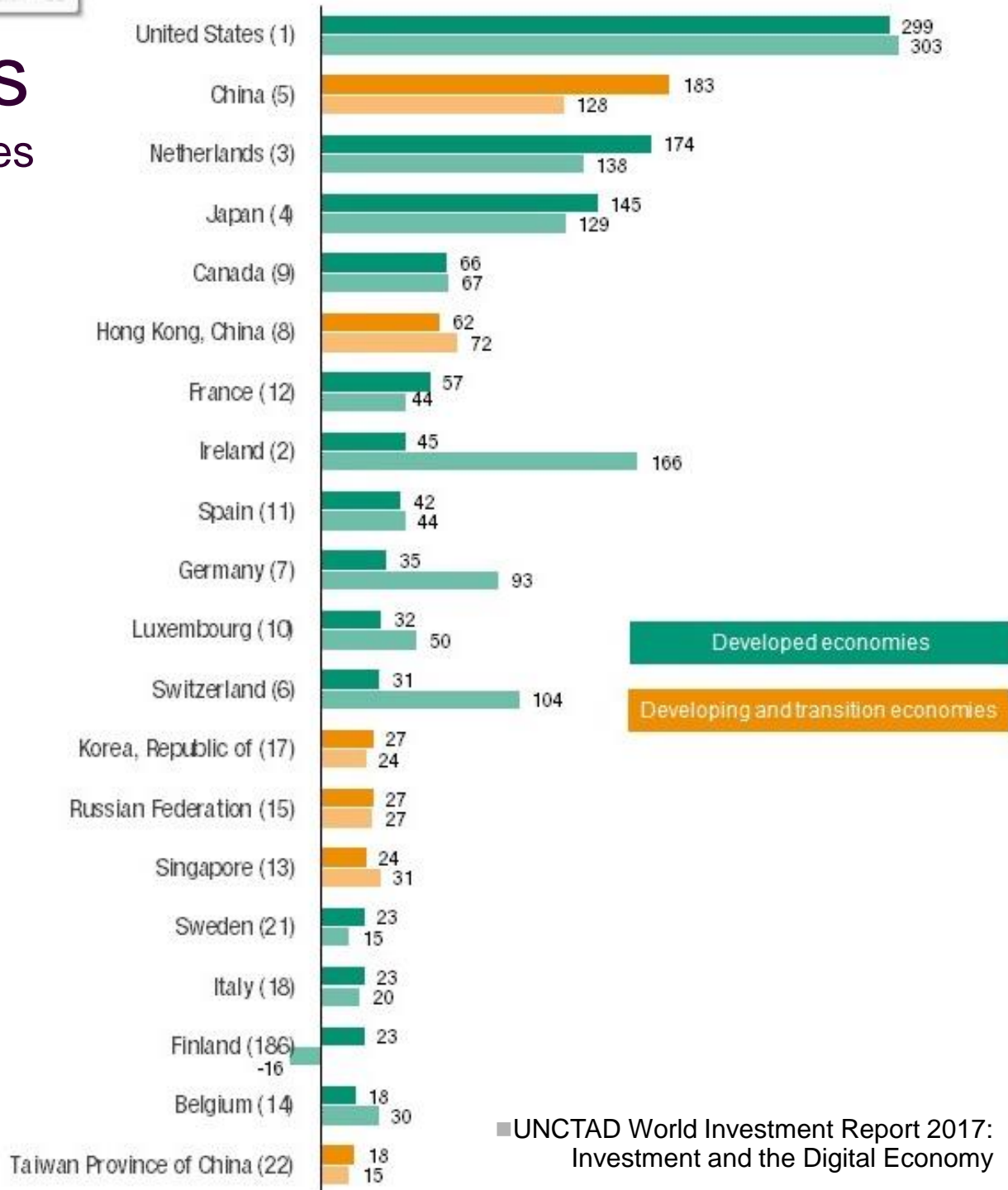
- Hong Kong
- Singapore
- Ireland



FDI outflows

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Investment incentives' types – criteria of investors' motivation

- investment goal-setting
 - market-seeking investment – for new customers (Dunning, 1993)
 - resources-seeking – for access to resources
 - efficiency-seeking – for higher productivity or better governance
 - knowledge-seeking - access to expertise or use of intellectual assets

- investment incentives are to change the perception of a destination
 - to support the consumption of goods - chain-linked model of innovative activity
 - the credit facilities for purchasing new cars
 - to simplify the access to resources
 - the low environmental or social standards
 - to guarantee the productivity
 - the national governmental funding for State guarantees for investments in high technology sector
 - to improve the knowledge production and transfer
 - advanced educational system and the developed market of patents
 - “to generate and apply new knowledge to drive their processes of sustainable development” (Pearce, 2011)