

OECD Reviews of Innovation Policy and international policy trends

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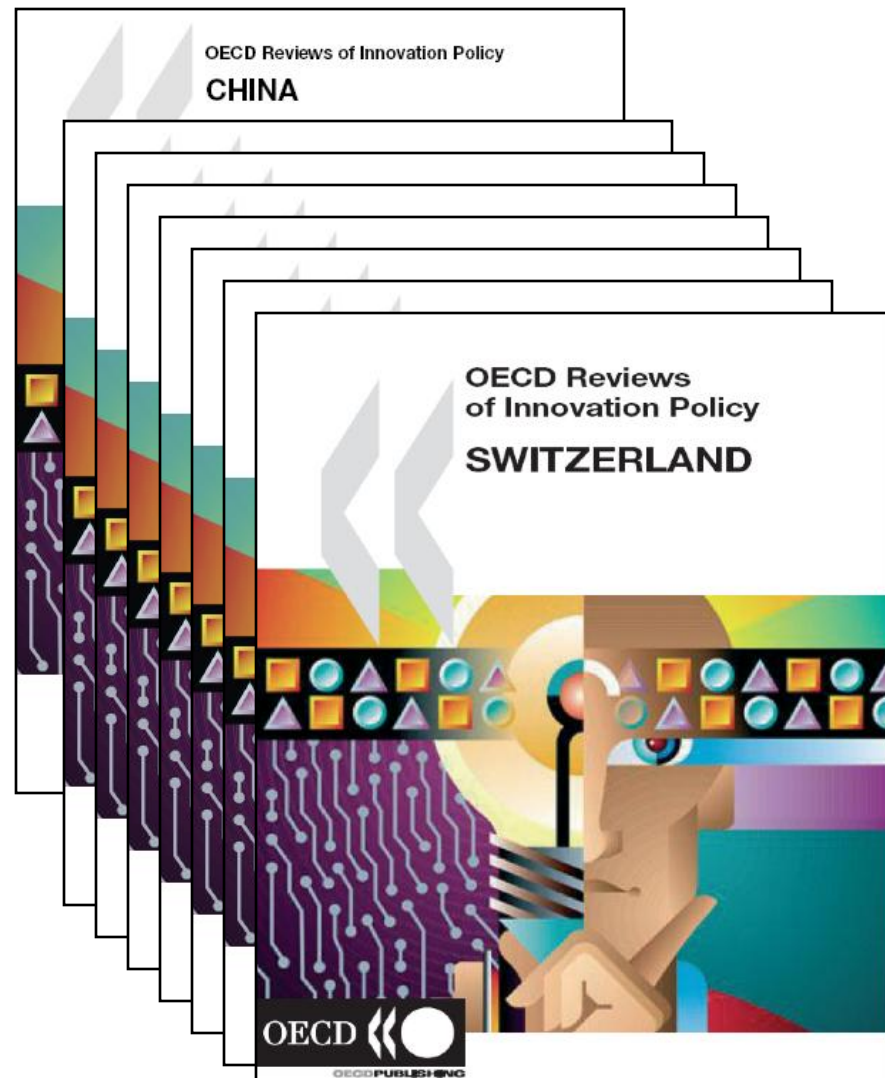
Zagreb, 10 May 2012

OVERVIEW

- OECD Reviews of Innovation Policy
 - ✓ Current status, scope and objectives
- International developments and policy trends
 - ✓ Increased awareness of the role of innovation
 - ✓ Changing global landscape for R&D and innovation
 - ✓ Renewed attention to diversification and upgrading the economy
 - ✓ Steering innovation systems in the longer term
 - ✓ Some elements of success and failure

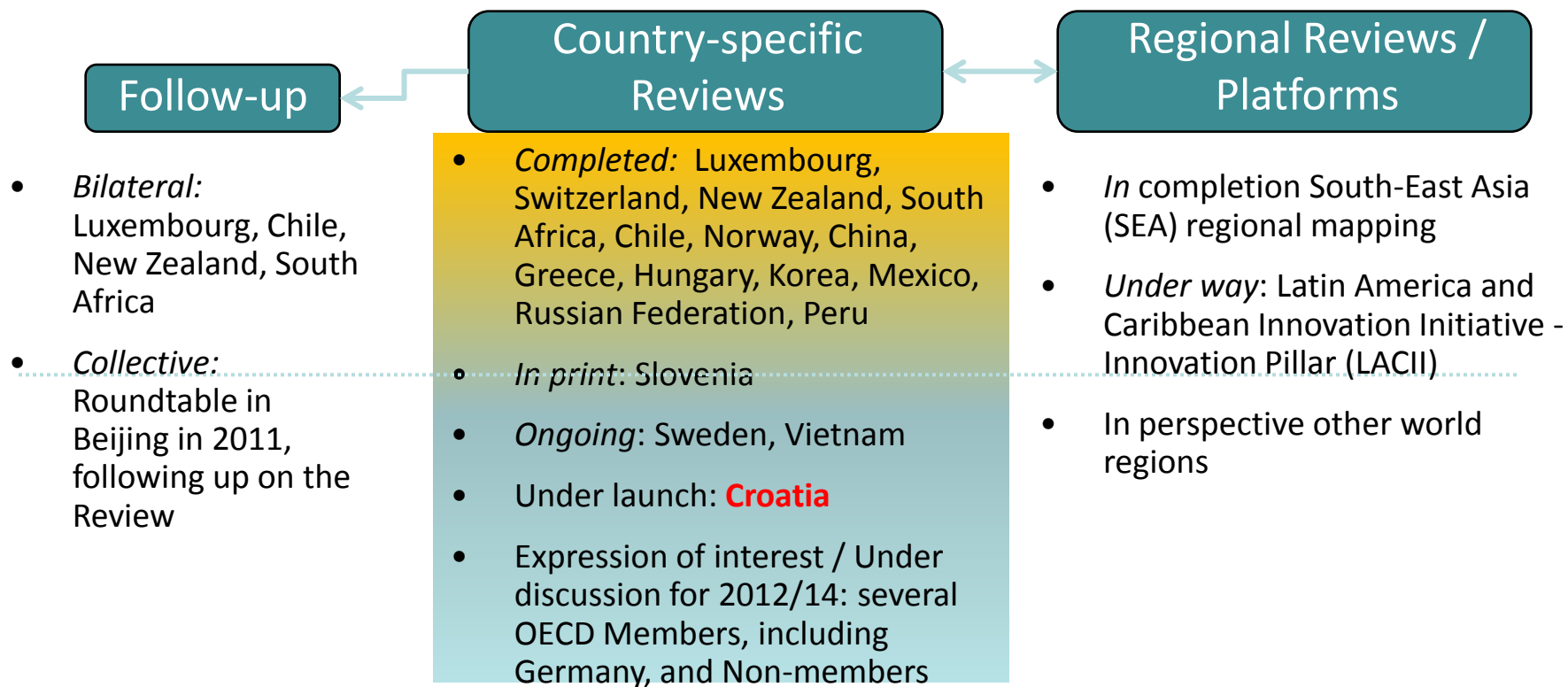
What are OECD Reviews of Innovation Policy?

- In 2005, the OECD Committee on Scientific and Technological Policy decided to “re”-launch a demand-driven programme of Country Reviews with three main objectives:
 - ✓ “Additional service”: help individual countries to derive more benefits from OECD work
 - ✓ “Learning tool”: deepen our understanding of priority issues in the area of science and innovation by analysing them in concrete national contexts
 - ✓ “Outreach tool”: facilitate the participation of selected non-member countries in mainstream OECD work and help disseminate OECD work
- Scope: **Comprehensive analysis of the respective national innovation system, with a focus on the role of public policy**



See: www.oecd.org/sti/innovation/reviews

OECD Reviews of Innovation Policy: Current status

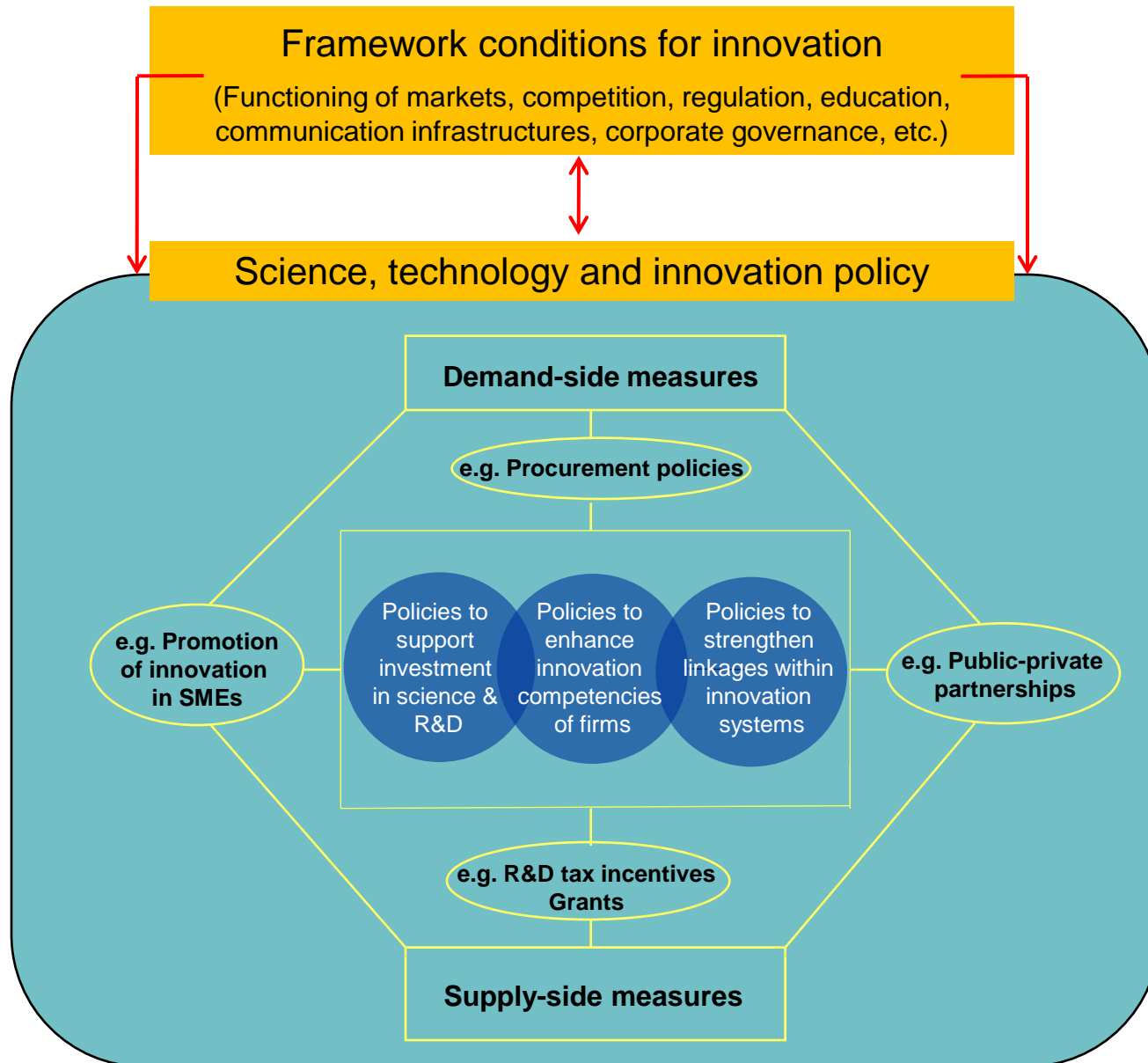


- **Process and methodology:** in continuous development (learning by doing), but proven core; adaptive to changing demand in terms of scope, focus, intermediary deliveries, etc. An Impact Survey provided encouraging results and guidance for further improvement.
- **Peer Review process open** to active participation by experts / representatives from other countries / regions.
- **Co-operation with other international organisations is intensifying:** ASEAN, EU project SEA-EU-NET (SEA Review), World Bank (joint Review of Vietnam), IDB (Peru), UN-ECLAC (LA), UNCTAD (MENA), UNESCO

What does each Review cover?

- Overall Assessment and Recommendations
- Mandatory / core items
 - ✓ Innovation and economic performance
 - ✓ Framework conditions for innovation (macro stability, regulatory framework, competition ...)
 - ✓ International benchmarking of innovation performance
 - ✓ Promotion of business R&D and innovation
 - ✓ The role of universities and PROs – Industry-science relations
 - ✓ Internationalisation of R&D
 - ✓ Human resources for science and technology
 - ✓ Knowledge infrastructures
 - ✓ Governance of the innovation system, evaluation
- Special emphasis, depending on the country under review
- Impacts: typically high to very high

The policy domains covered by the reviews



What do the Reviews try to achieve?

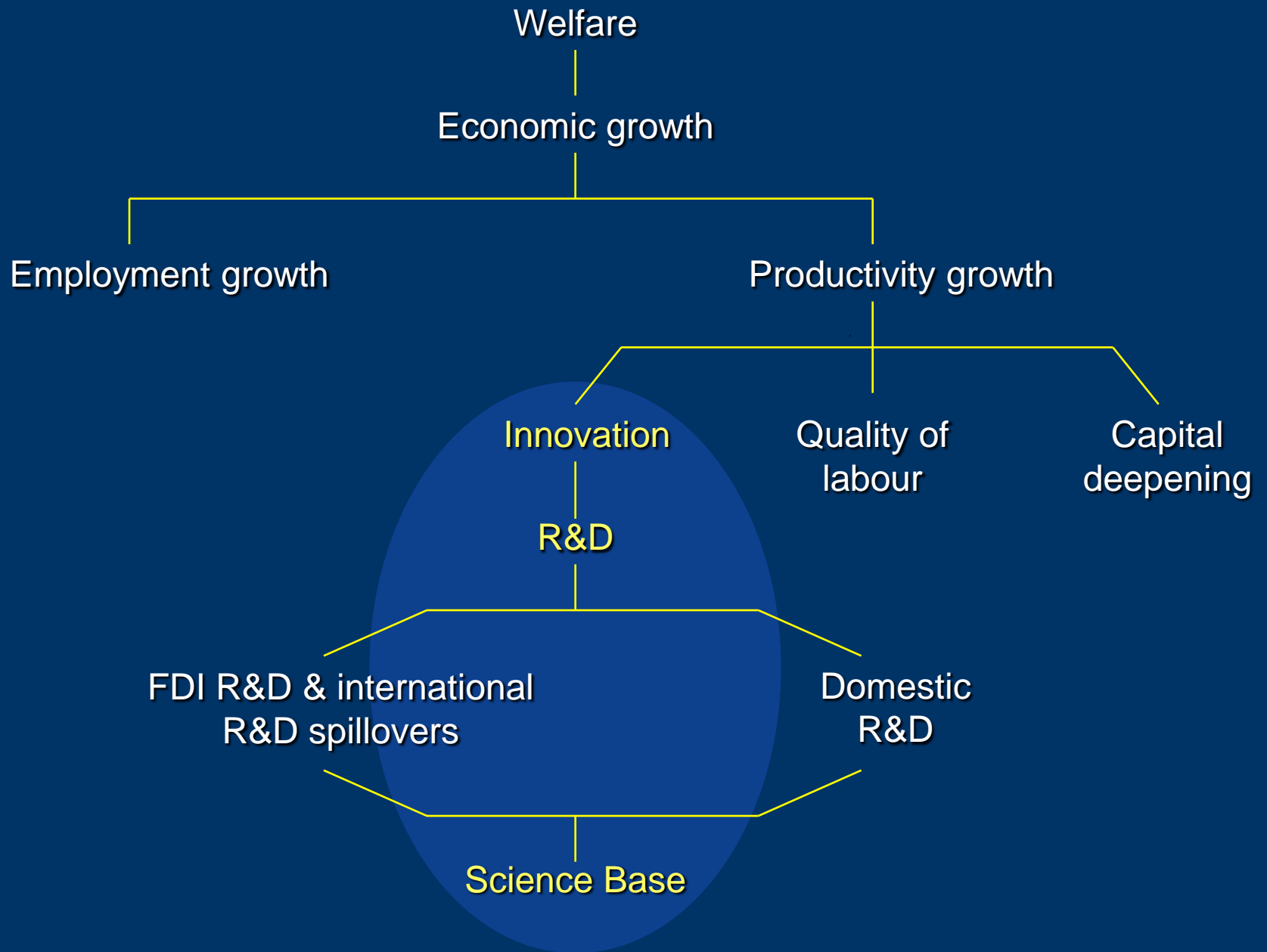
- The Reviews are designed to contribute to
 - ✓ raise awareness of innovation and contribute to agenda setting
 - ✓ improve the integration of science, technology and innovation (STI) policy in general economic policy and to the co-ordination of policies across government
 - ✓ stimulate dialogue among main stakeholders
 - ✓ identify binding constraints for improving innovation performance
 - ✓ raise awareness for providing better framework conditions for innovation
 - ✓ reform institutional arrangements and governance mechanisms
 - ✓ improve the innovation policy mix and the design and delivery of individual instruments
- Provide a set of concrete recommendations
- Alignment of scope, timing, form of presentation etc. to strategic needs of the country examined

Recent international developments and policy trends

Increasing attention to the role of innovation
Changing global landscape of R&D and innovation
Diversification and upgrading
Elements of success and failure

Some recent international developments

- Innovation is increasingly acknowledged as important driver of value creation, economic growth and social welfare
- The financial and economic crisis has accelerated the transformation of the global R&D and innovation landscape
- Business is adopting new strategies and models (“open innovation”), resulting in shifts in resource allocations
- Some emerging economies are on the way to become major players in global R&D and innovation – above all China, also India, Brazil, Russia, ...
- An increasing number of countries take steps to shift towards more innovation-driven economic development
- ... but others are in danger of falling behind
- Increased demands to deliver solutions to grand societal challenges (including climate change, health, food security) impacts on countries strategies



Innovation is key for closing income gaps ...

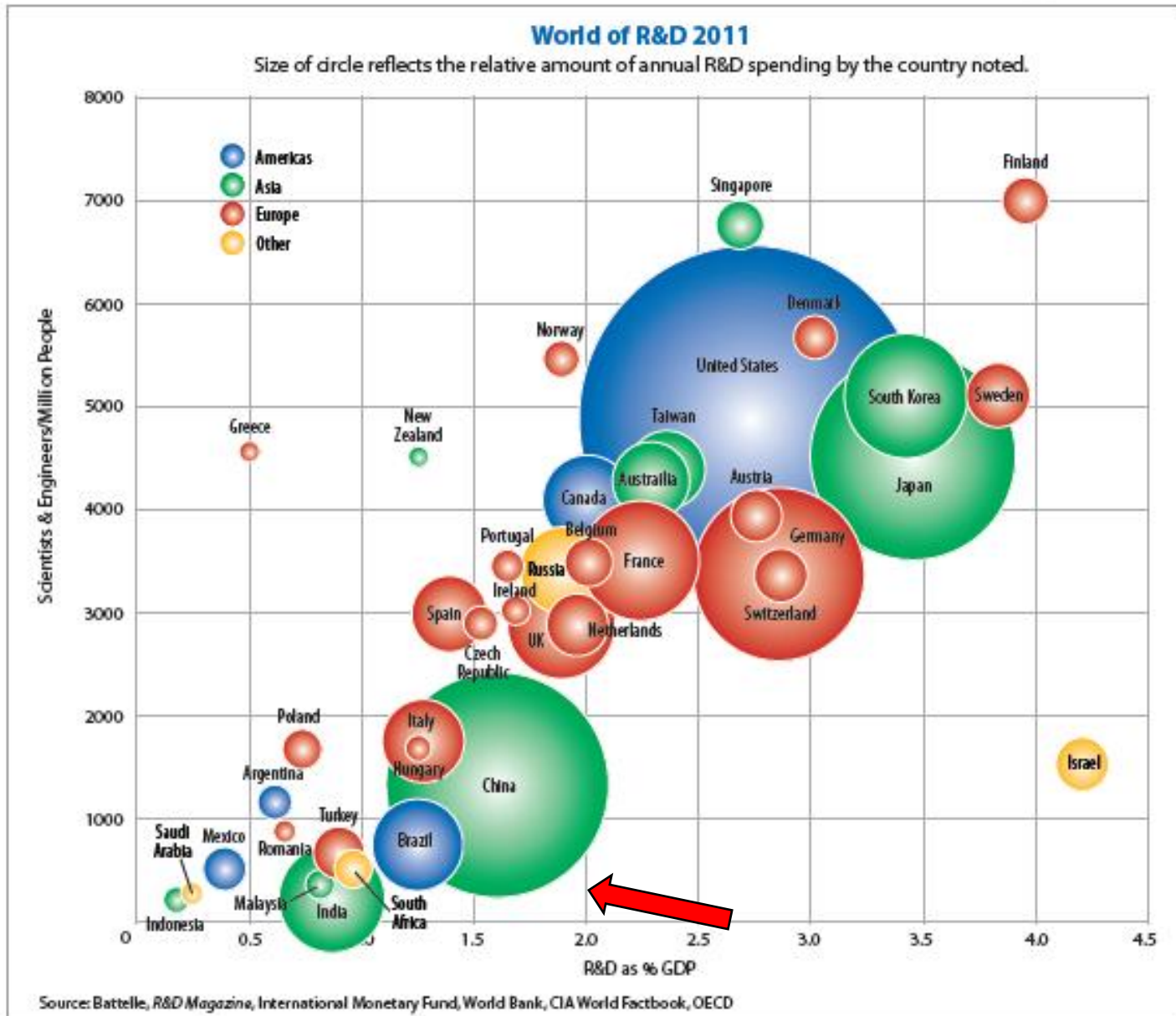
World-wide, differences in Total Factor Productivity and human capital explains most of the differences in income levels

Breakdown of cross-country differences in GDP per capita into their broad determinants, 2005^{1,2}

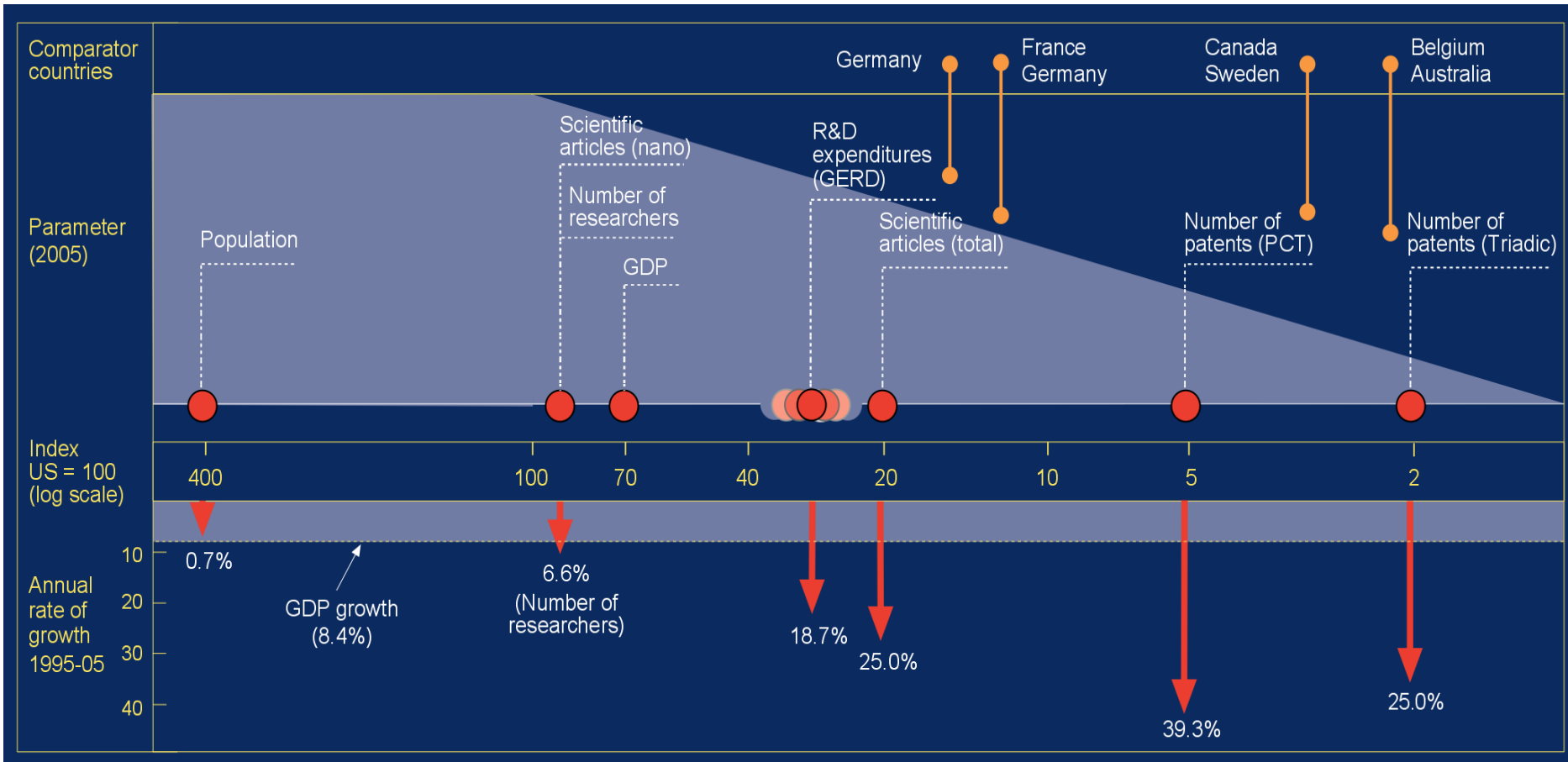
United States = 100

	GDP PPP per capita	TFP	Human capital	Physical capital	Employment
	Y/Pop	A	h	$(K/Y)^{\alpha/(1-\alpha)}$	L/Pop
United States	100.0	100.0	100.0	100.0	100.0
Canada	83.5	72.0	103.3	105.8	106.0
Japan	72.6	52.6	100.4	130.7	105.1
China	9.8	13.6	57.3	105.2	119.5
India	5.2	12.7	47.7	98.3	87.1
Brazil	20.5	29.3	70.1	103.1	96.8
Russian Federation	28.6	31.5	84.9	97.4	99.3
Australia-New Zealand ³	78.3	64.1	101.5	114.8	104.5
EU27+EFTA ³	64.7	67.8	91.2	114.1	91.3
Rest of the world ³	12.3	20.9	59.7	103.6	81.7
Total world ³	22.8	27.9	64.2	104.2	95.8

The changing global R&D landscape

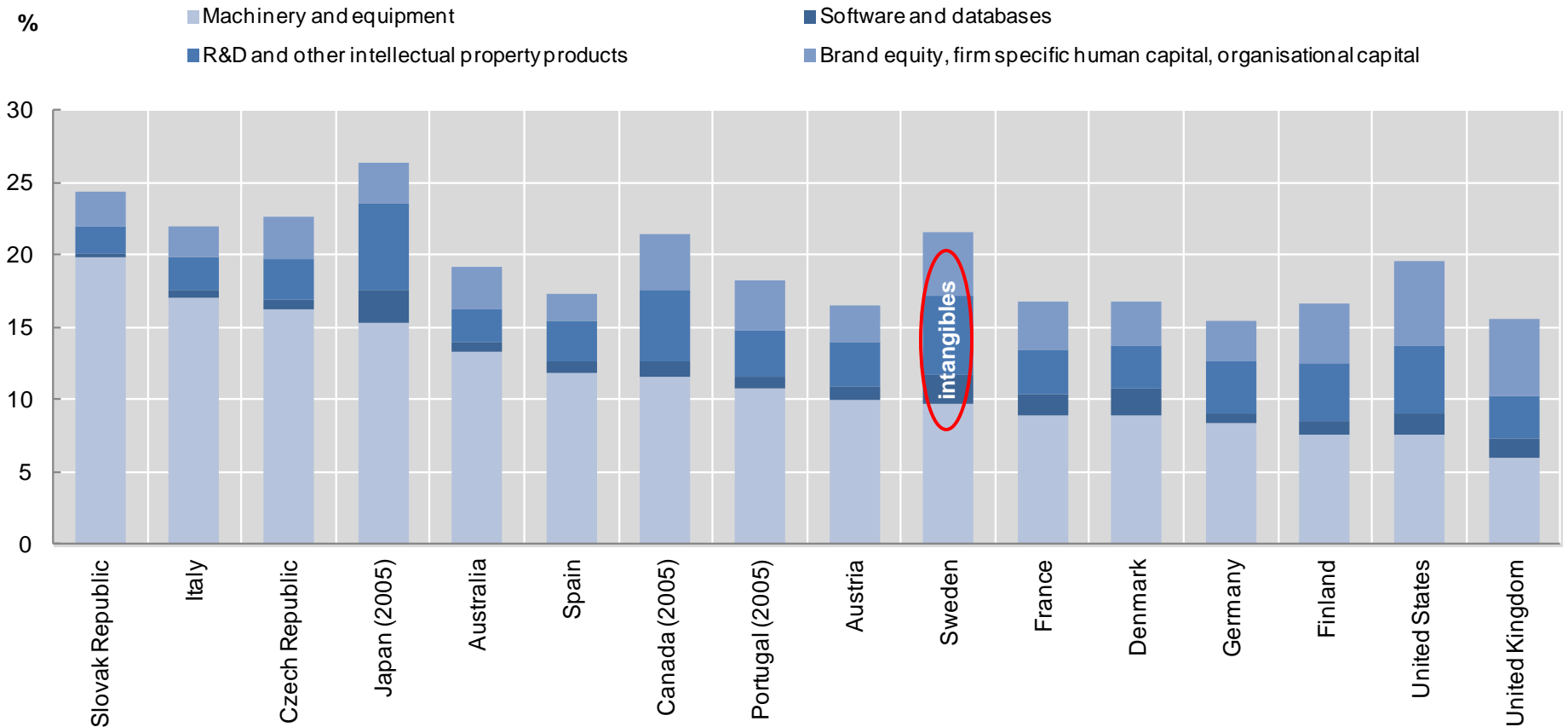


Relative size and speed of development of the Chinese innovation system



The growing importance of intangible assets

Investment in fixed and intangible assets as a share of GDP, 2006



Increasing attention to the role of R&D and innovation in diversifying and addressing grand challenges

- Strong interest in innovation, and innovation policies, is triggered by needs to:
 - ✓ Diversify and upgrade / “move up the value chain” – resource-based economies; lock-in in specialisation in low-skill / low-tech production; maintaining a technology / innovation edge over competitors
 - ✓ Address social / grand challenges
- Countries are inspired by successful country experiences, e.g. Europe: Nordic countries such as Denmark, Finland, Sweden, Norway; Asia: Korea, some of the Tiger economies, India in some areas, China; Latin America: Brazil, Chile
- Simply “replaying” past success stories is impossible (global economy, international frameworks, WTO etc.), and even recent success difficult to emulate
- ... but experiences merit close attention

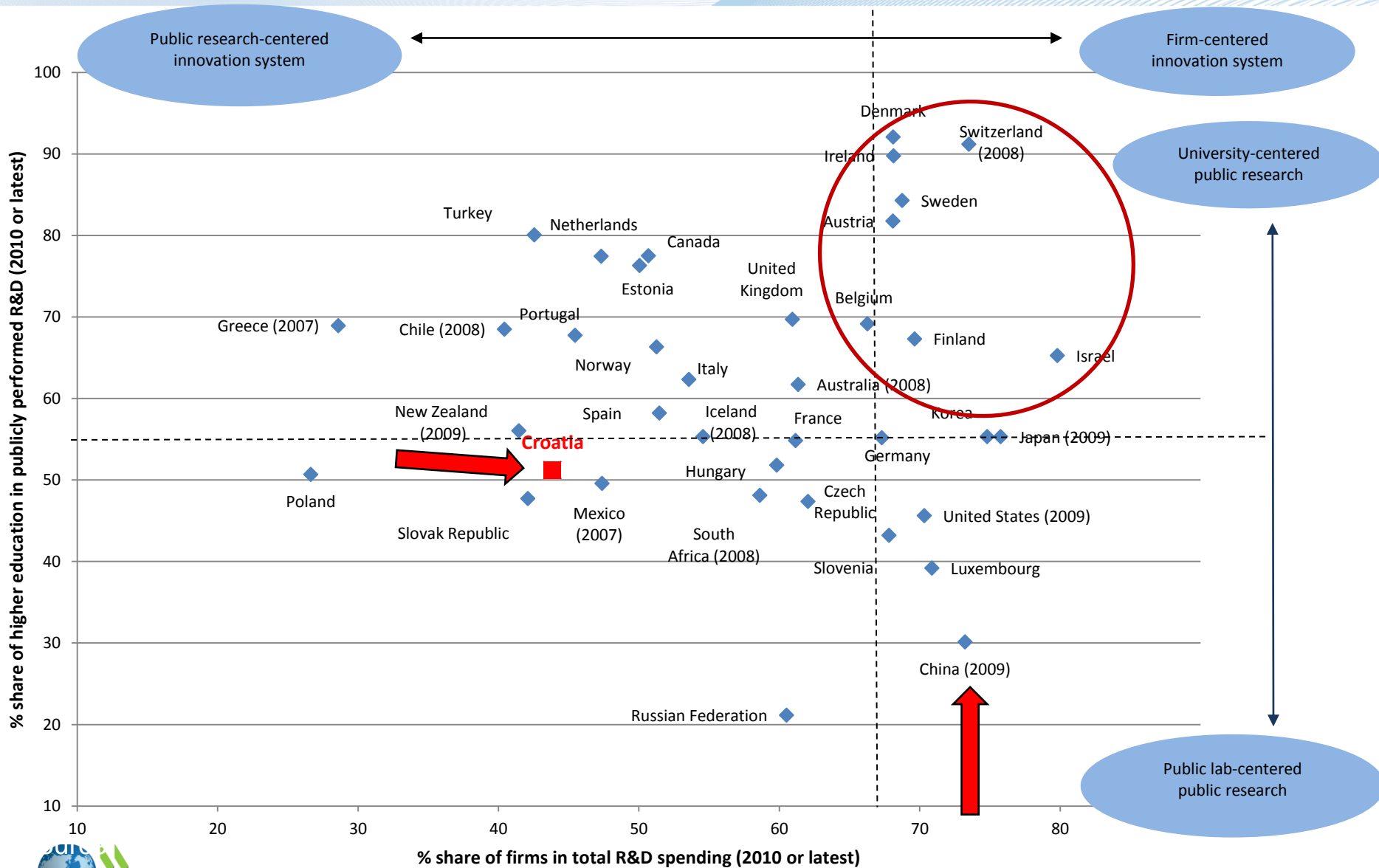
Efforts to diversify the economy and to move towards more innovation-driven growth have intensified

- **Korea** has kept improving conditions for upgrading its economy, becoming a major global actor in ICT products, cars, etc. Korea's example shows that a sufficient level of capabilities has to be in place for successful imitation strategies, and all the more for moving to the frontier. Acute awareness that further adaptation is needed.
- **China** differs from other Asian economies in strategy (relying more on FDI) but shares determination in deploying policies to shift towards more innovation-driven growth. Intense effort to use all available opportunities: technology transfer and own investment in R&D, knowledge infrastructure and HRST. Broadening set of comparative advantages, comprising – for a considerable length of time – both low skill-intensive and knowledge-based activities.
- **Norway** has combined a prudent management of North Sea oil and gas revenues with success in seizing opportunities to diversify into knowledge-intensive activities in and around this sector. Government policy has been supportive. Norwegian firms have succeeded in developing innovative business models, including in the services sector which has recorded exceptionally high productivity gains.
- **Chile** – efforts to move from resource-based towards a more innovation-based development. Success in stimulating traditional industries, mainly in the agro-food sector but also in services, e.g. air cargo.

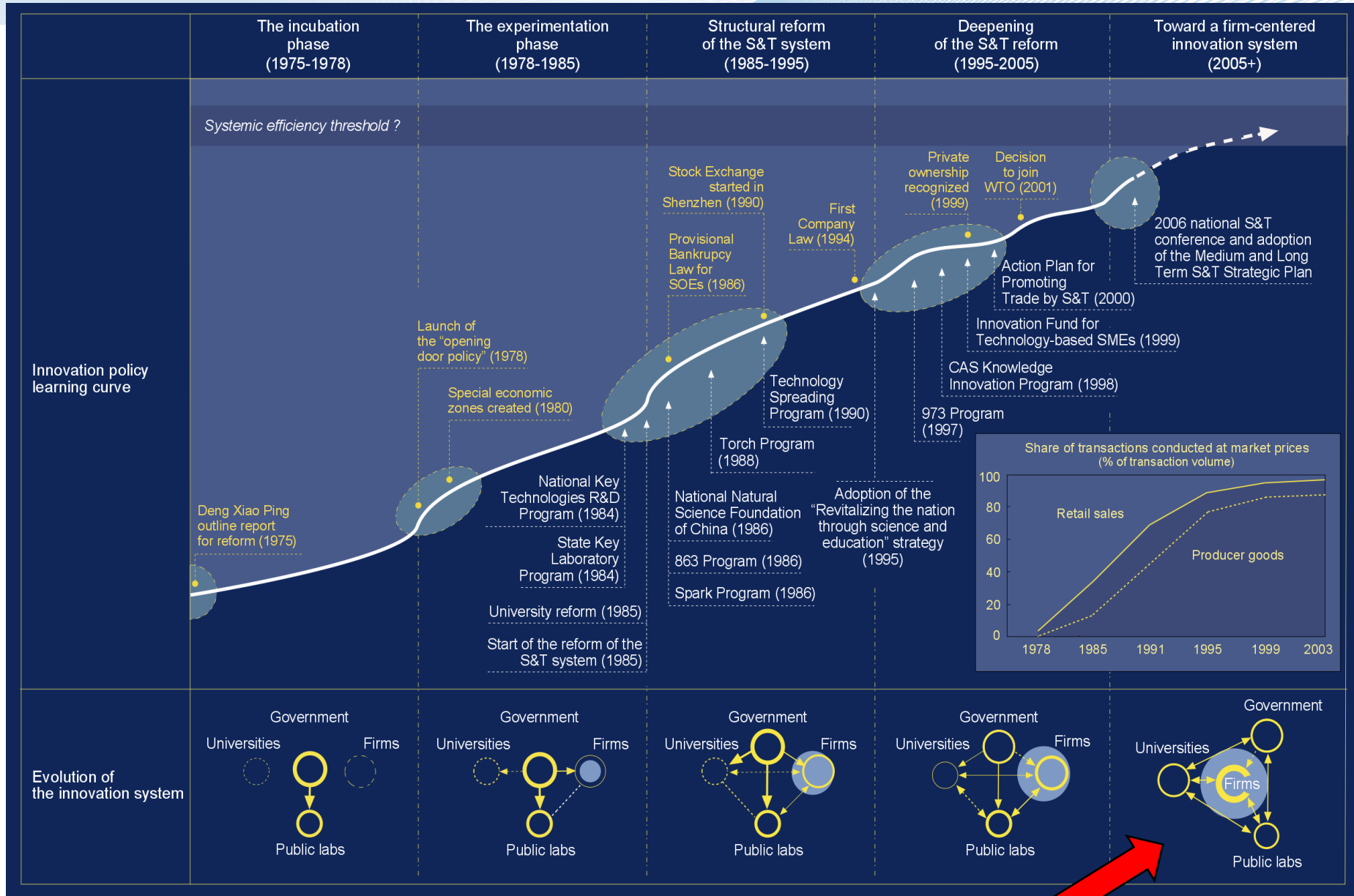
The importance of good innovation policy governance

- Countries' innovation performance depends – to a significant part – on implementation capabilities, the quality of governance, the information base and its effective use in decision making
- Governance needs to be forward-looking and adaptive in order
 - ✓ to deal with a changing environment (advances in technology, globalisation, new modes of innovation ...)
 - ✓ to steer the innovation system over the longer run, following long-term strategic visions

Moving towards more firm-centered innovation systems



China's innovation policy: institutional reform and learning



Successful countries share some characteristics

- Good fundamentals / framework conditions, including macro stability, international openness
- Above average improvement in innovation performance due to:
 - ✓ High and sustained investment in knowledge in education, ICT , HRST and R&D
 - ✓ High share of business in financing / performing R&D
 - ✓ A diversified population of innovators, with a greater role for SMEs, thanks to favourable framework conditions, including a supportive financial system
 - ✓ High level of networking among innovators, including well-developed industry-science relationships
 - ✓ Strong regional poles of innovative activity, i.e. dynamic clusters, including clusters extending across borders
 - ✓ Openness with respect to international knowledge flows, mobility
 - ✓ Strong policy governance of the innovation system, including an effective co-ordination between policy instruments and institutions

Some policy pitfalls

- Too narrow concept of innovation
 - ✓ Reduction to R&D and R&D-based innovation
 - ✓ “High-tech myopia”; exclusive focus on higher education, etc.
- Related: Neglect of building the full range of capabilities / skills for a thriving innovation system
- Underestimation of the role of “framework conditions for innovation (e.g. competition framework), and their interaction with “dedicated” STI policies
- Ill-adapted mixes of “dedicated” policy instruments
- Misperceptions regarding capabilities, constraints and time horizons
- Lack of a state-of-the-art evidence-base and effective feedback mechanisms

Leadership, stability, commitment

- Providing leadership
 - ✓ Involvement of the highest level of government is often needed in order to secure policy attention and commitment
 - ✓ Strong co-ordinating and advisory bodies can be instrumental
 - Examples: Chile – active involvement of key ministries, including the Ministry of Finance, has helped developing and “anchoring” innovation policy in a certain phase
- Maintaining stability / predictability of institutions and policy delivery
 - ✓ While adjustments in the policy framework are necessary, too frequent changes tend to be counter-productive, reducing the power of incentives for R&D and innovation for both business and Public Research Organisations (PROs)
 - Example: Many emerging but also some OECD economies
- Securing commitment
 - ✓ Safeguard public funding for STI against fluctuations or “crowding out” by short term demand – even more important in a crisis / post-crisis environment and during fiscal consolidation
 - Example: various resource-based economies; a number of advanced countries setting budget priorities, e.g. Germany

Thank you for your attention

For more information, please

go to the web:

www.oecd.org/sti/innovation/reviews

or contact me:

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