International Conference

Better Policies for More Innovation

Assessment – Implementation – Monitoring

# Framework conditions, innovation policies and instruments: Lessons Learned
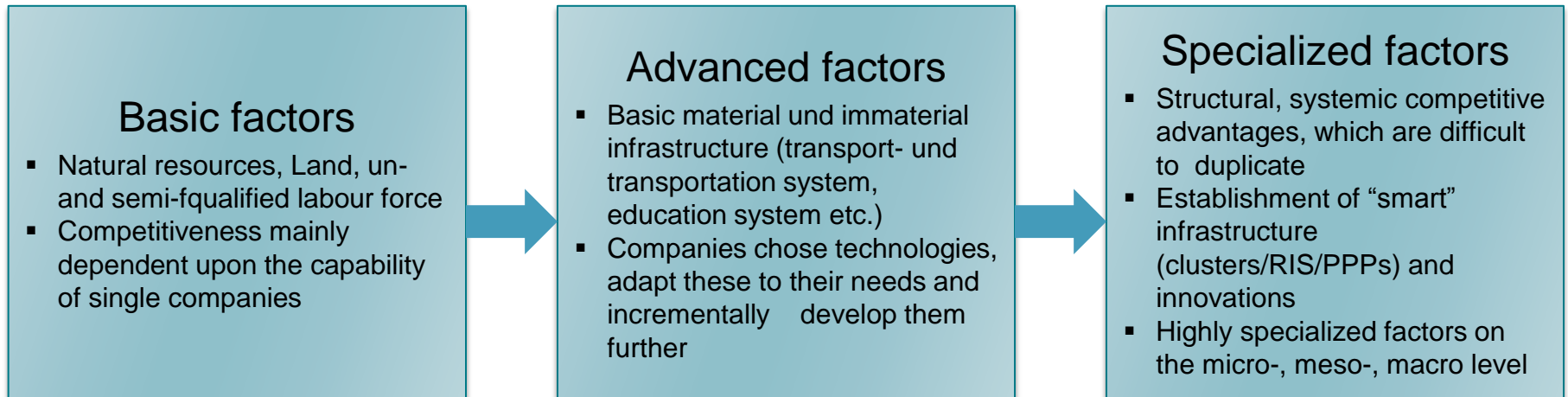
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# Steps on the path towards national/regional competitiveness

### Basic factors
- Natural resources, Land, un- and semi-fqualified labour force
- Competitiveness mainly dependent upon the capability of single companies

### Advanced factors
- Basic material und immaterial infrastructure (transport- und transportation system, education system etc.)
- Companies chose technologies, adapt these to their needs and incrementally develop them further

### Specialized factors
- Structural, systemic competitive advantages, which are difficult to duplicate
- Establishment of "smart" infrastructure (clusters/RIS/PPPs) and innovations
- Highly specialized factors on the micro-, meso-, macro level

Source: on the basis of Messner 1995

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# Heuristic of National Innovation Systems as a concept to analyse innovation policies

➢ Used to identify relevant *groups of actors* responsible for the design of policies/frameworks conditions and the implementation of measures/ instruments

➢ To conceptualize *linkages and relationships* between the system shaping actors

➢ To identify qualitative and quantitative *indicators* to measure realtionship and linkages within the system

➢ To identify *gaps within the system* regarding single actors and policy measures

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# Methodological approach

➤ International statistics and surveys/rankings of international organizations (WorldBank, OECD, UNDP, World Economic Formm etc.) regarding topics like general business environment, entrepreneurship/innovation culture, human capital/education

➤ Official governmental documents: laws, government resolutions, judgments, decrees and development plans / innovation strategies

➤ If available data on single instruments/programmes/initiatives (evaluation and monitoring data); statistical data privided by national offices

➤ Results of qualitative interviews on site with key stakeholders and experts

➤ Discussions and feedback in the course of review meeting

➡ Different quantitative and qualitative approaches and subsequent validation and reviews
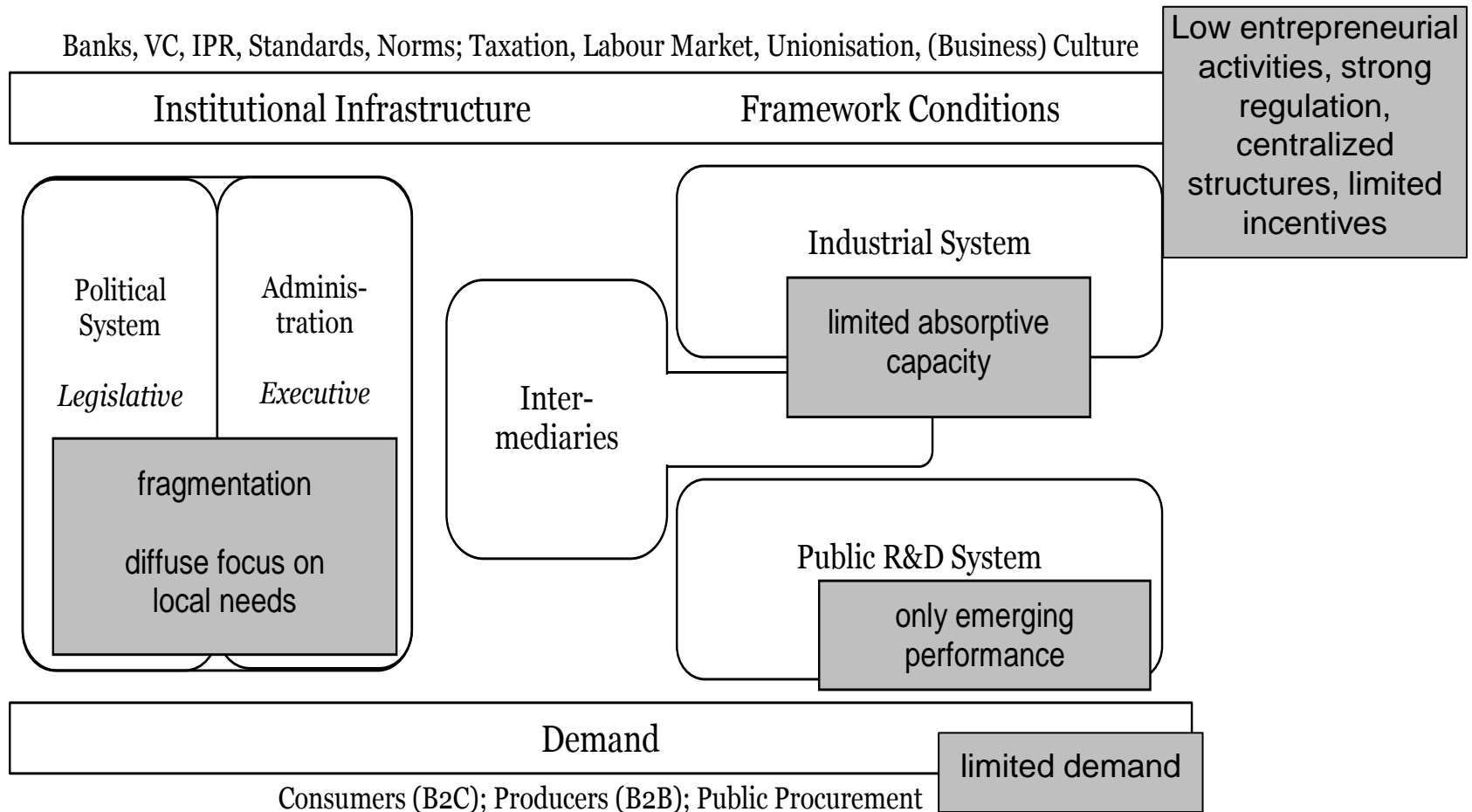
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# Contents

➢ Government role in the innovation process

➢ Institutions, conditions and organisations

➢ Legal framework (laws, national strategies etc.)

➢ National (and regional) objectives and priorities

➢ Major innovation policy programmes, measures initiatives

➢ Policy process in terms of decision-making, priority-setting, transparency, funding allocation

➢ Use of strategic tools: foresight, vision building, evaluation, potential analysis, external (independent) scientifc support

➢ Implementation issues: funding competition, institutional funding, infrastructures, networks, advisory services, public procurement

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# Lessons learned so far: Typical challenges on the system level (generalized)

Banks, VC, IPR, Standards, Norms; Taxation, Labour Market, Unionisation, (Business) Culture

| Institutional Infrastructure | Framework Conditions |
|---|---|

**Low entrepreneurial activities, strong regulation, centralized structures, limited incentives**

Political System

*Legislative*

Adminis-tration

*Executive*

**fragmentation**

**diffuse focus on local needs**

Inter-mediaries

Industrial System

**limited absorptive capacity**

Public R&D System

**only emerging performance**

Demand

**limited demand**

Consumers (B2C); Producers (B2B); Public Procurement

Source: own concept

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# Common challenges in detail

## Industrial system / business sector

➢ Industry structure often characterized by light-industries and labour-intensive businesses: *adaptation of (foreign) technologies and innovations rather than own technological development*, low innovation and R&D intensities, especially in the SME sector

➢ However, limited *"absorptive capacities"* for technologies and external R&D and Knowhow; weak demand (b2b); weak business-science linkages

➢ Little evidence of economic or technological spillovers, "critical mass" in single industries missing

➢ Lack of an *innovation culture and "entrepreneurial spirit"* (in the business sector, science and administration), no or weak incentives for doing business

➢ Limited inward investments (FDI), typically in non-technology areas

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# Common challenges in detail

## Public R&D sector / science sector

➢ *Basic research* activities dominate, differences on a national scale

➢ Partly *excellent research* in the fields considered as national priorities (e.g. physics, agrarian research, ICT, hard science)

➢ Limited level of *commercialization of research results*, partly due to a limited absorptive capacity of the business sector (no or weak linkages between science and business), partly due to an absence of incentives and favourable institutional structures

➢ Limited *autonomy of the respective research organizations* with limited decentralized instruments and capacities to support application and commercialization of research

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# Common challenges in detail

## Political / administrative system

➢ Governments and national administrations are aware of the *importance of innovation* to solve societal challenges and to reach a higher development level

➢ Resulted in considerable *legislative measures and procedures* in the last couple of years (overload of laws, resolutions, decrees)

➢ Implementation of legislation; limited capacity in the administrative and intermediary systems

➢ Despite being aware of the importance of innovation policy as a cross-sectional policy field, *coherent and comprehensible innovation strategies* as a rule have not yet been adopted

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# Common challenges in detail

## Innovation policies and instruments

➢ Most of the countries have built a *physical innovation related infrastructure* (e.g. technoparks, incubators) as well as an institutional infrastructure (IPR regime, tax system, innovation financing); the latter however represents the main bottleneck

➢ Various *instruments designed*: Science-push and demand-pull instruments, industry-/technology-specific instruments (e.g. ICT), network-building; competitive procedures in a few countries

➢ In a view countries focus on FDI (particularly in strategic sectors)

➢ Very little use of *strategic instruments*, like roadmapping, scenario-building, evidence-based approaches, foresight etc. and the use of foreign experiences in designing policy initiatives (e.g. Kazakhstan)

# Common challenges in detail

## Innovation policies and instruments

➢ Public-procurement as an innovation supporting instrument only sporadic used (public sector as an important "market" for innovations)

➢ Access of (innovative) *SMEs* to state science and technology programmes

➢ *Evaluation culture and transparent programme monitoring* largely missing; results in a lack of data to assess the effectivity of policies

➢ *Statistical systems*, particularly with regard to R&D and innovation, have only partly adopted international standards

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# Main policy differences among the five countries (rough assessment)

➢ Different emphasis which is put on the further development of a decentralized market-based system to encourage both the supply and demand for innovation

➢ Implementation of legislation across the five countries

➢ Policy-mix and priorities in terms of funding budgets

➢ Regional dimension of innovation (systems): large countries like Kazakhstan, Belarus, Ukrain vs. smaller countries like Armenia, Tajikistan

➢ Different role of international donors and foreign investors

➢ Different qualification levels: managerial skills as well as entrepreneurial and technological capabilities

➢ Innovation policy as a tool to pursue balance-oriented objectives?

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# Lessons learned regarding policy recommendations (some examples)

➢ Strengthen the *coherence of innovation policy* and initiatives and ensure that these are aligned with strategic (national) objectives

➢ Facilitate the *coordination* of actions by different public organizations and agencies

➢ Stimulate *market-driven demand* for innovation

➢ Introduce demand- and supply-oriented public support schemes

➢ Strengthen business innovation capacity by *training* on innovation management, R&D support, marketing and internationalization

➢ Support *commercialization and transfer* of public research

➢ Support innovative *new firm formation* (from science) and entrepreneurship in general

➢ Use *public-procurement* activities as a tool to support new firms and innovative companies

# Lessons learned regarding policy recommendations (some examples)

➢ Incentives associated with innovative activities of *foreign firms*

➢ Increase use of *competitive procedures* to allocate funding resources

➢ Increase access of *SMEs* to state science and technology programmes

➢ Support cooperative R&D and innovation arrangements, incl. science-business linkages

➢ Expand *evaluation* programmes and evidence-based policy design in general (involvement of stakeholders, "strategic intelligence" in formulation and implementation of strategies)

➢ Incorporate the *regional dimension* in innovation policies, incl. bottom-up processes

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# Thank you!

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