

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT



OFFICIAL PRESENTATION

# SCIENCE, TECHNOLOGY AND INNOVATION POLICY REVIEW OF THE DOMINICAN REPUBLIC

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**COMMISSION ON SCIENCE AND  
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UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

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**Science, Technology &  
Innovation Policy Review**

Dominican Republic 



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**MAIN FINDINGS AND  
RECOMMENDATIONS**

# Outline

- Process, stakeholders, issues, approach
- Major findings
- Main recommendations



# The STIP review process

- National counterpart:
  - Ministry of Higher Education, Science and Technology
    - Vice Ministry of Science and Technology
- Team
- Over 50 interviews, round tables with a broad scope of stakeholders
- A neutral, professional and independent assessment



# Issues covered

- General background of STI activity
- Diagnosis of the national system of innovation
- Studies of STI activity in three sectors:
  - Agroindustry
  - Health
  - Energy
- Conclusions and recommendations.



# Methodological approach

The National System of Innovation, not as a normative concept but as a reference frame to represent and explain a complex reality.



Figure I.5. The competitiveness of the Dominican Republic, 2011–2012

Global competitiveness index (GCI)	Ranking	Points (from 1 to 7)
<b>GCI 2011-2012 (out of 142 countries)</b>	<b>110</b>	<b>3.7</b>
GCI 2010-2011 (out of 139 countries)	101	3.7
GCI 2009-2010 (out of 133 countries)	95	3.8
<b>Basic requirements (40%)</b>	<b>110</b>	<b>3,9</b>
Institutions	126	3.1
Infrastructure	106	3.0
Macroeconomic environment	96	4.4
Health and primary education	109	5.0
<b>Efficiency enhancers (50%)</b>	<b>93</b>	<b>3.7</b>
Higher education and training	99	3.6
Goods market efficiency	111	3.9
Labour market efficiency	104	4.0
Financial market development	103	3.6
Technological readiness	70	3.6
Market size	69	3.6
<b>Innovation and sophistication factors (10%)</b>	<b>109</b>	<b>3.1</b>
Business sophistication	89	3.7
Innovation	122	2.6

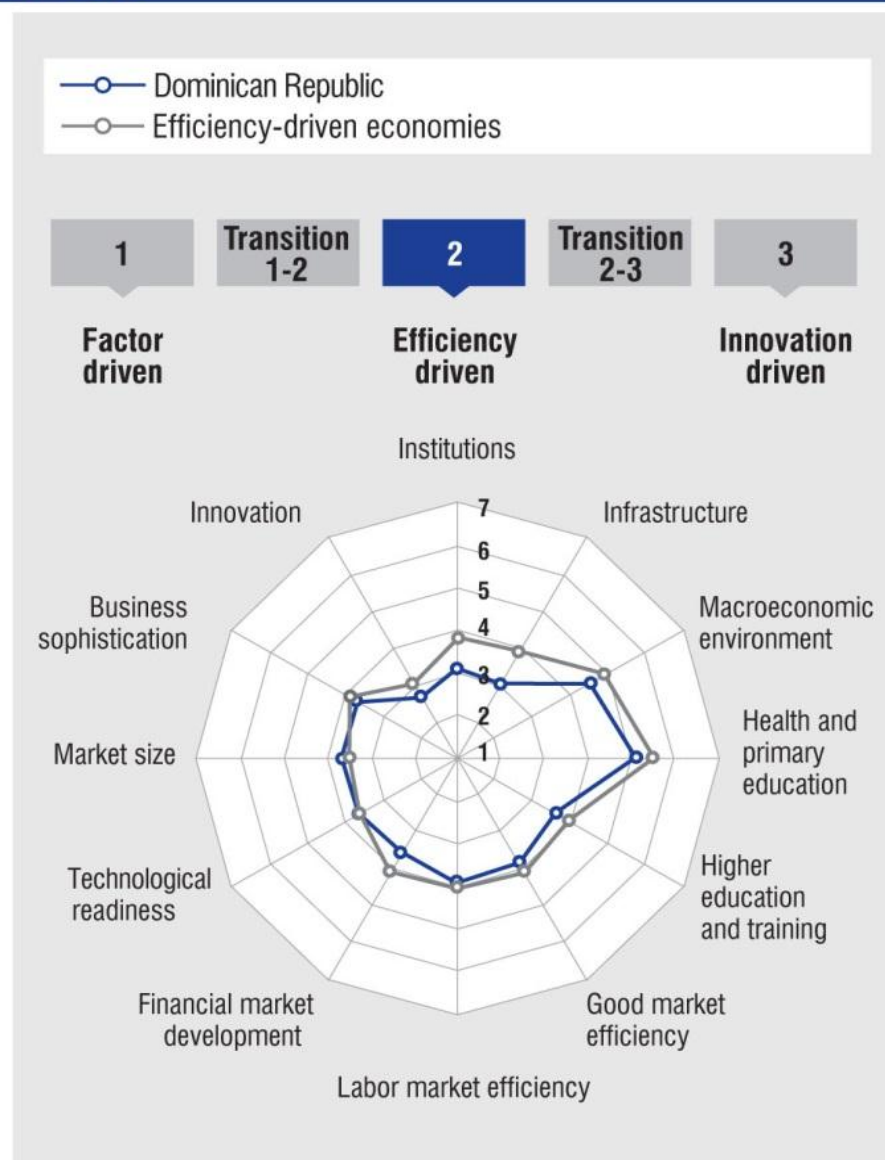
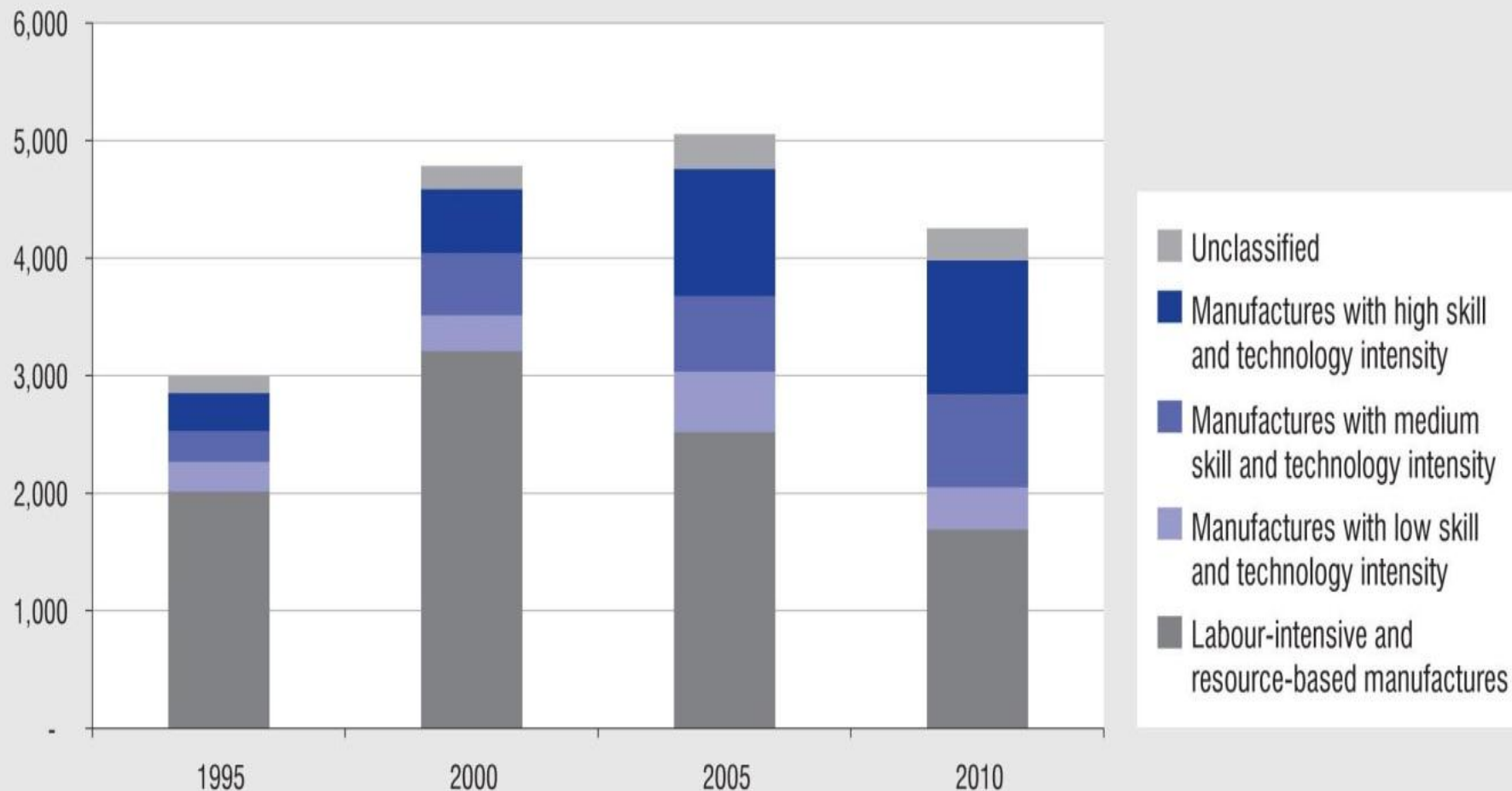


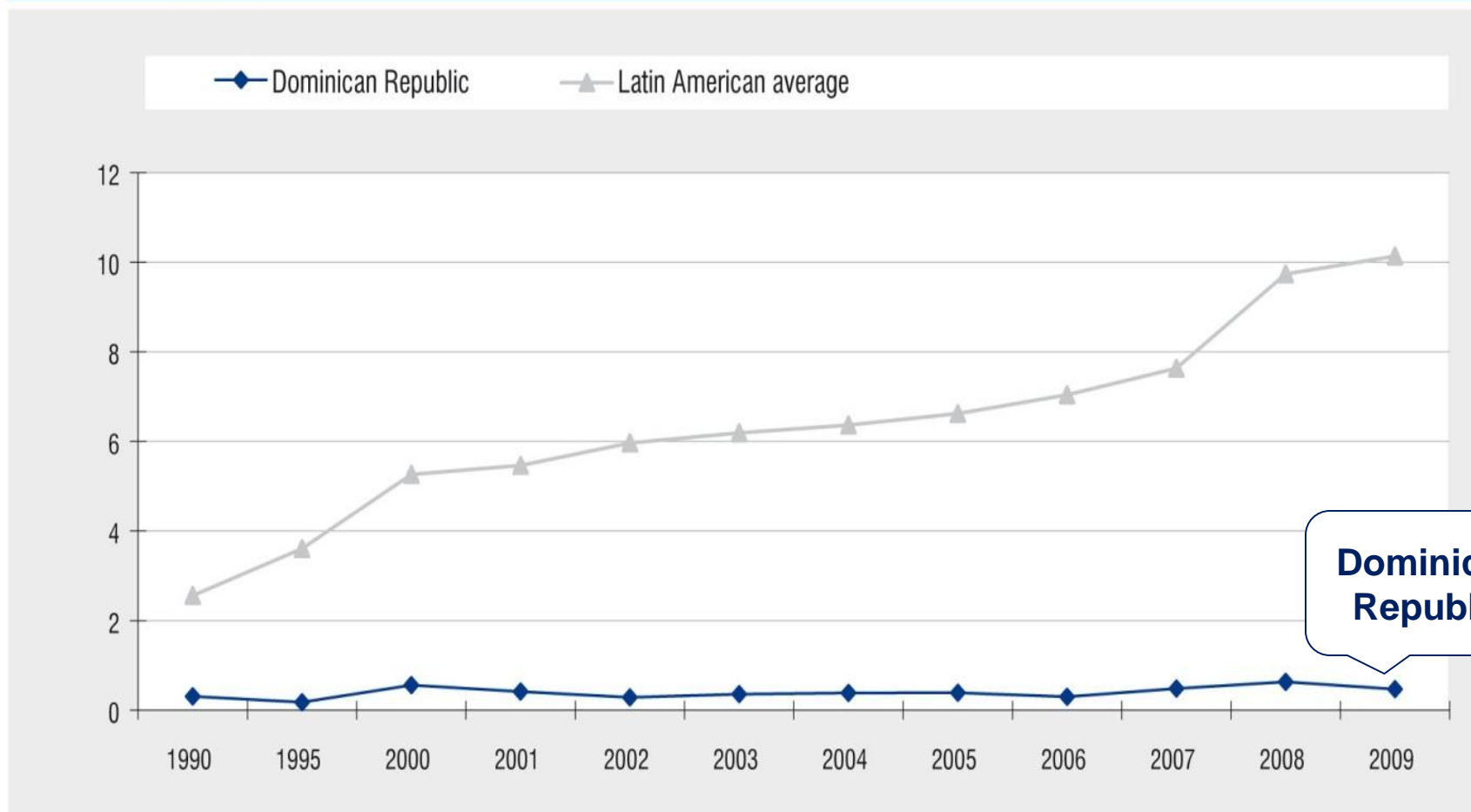
Figure I.2. Technological content of Dominican exports, 1995-2010



Source: UNCTAD, based on UNCTADstat.

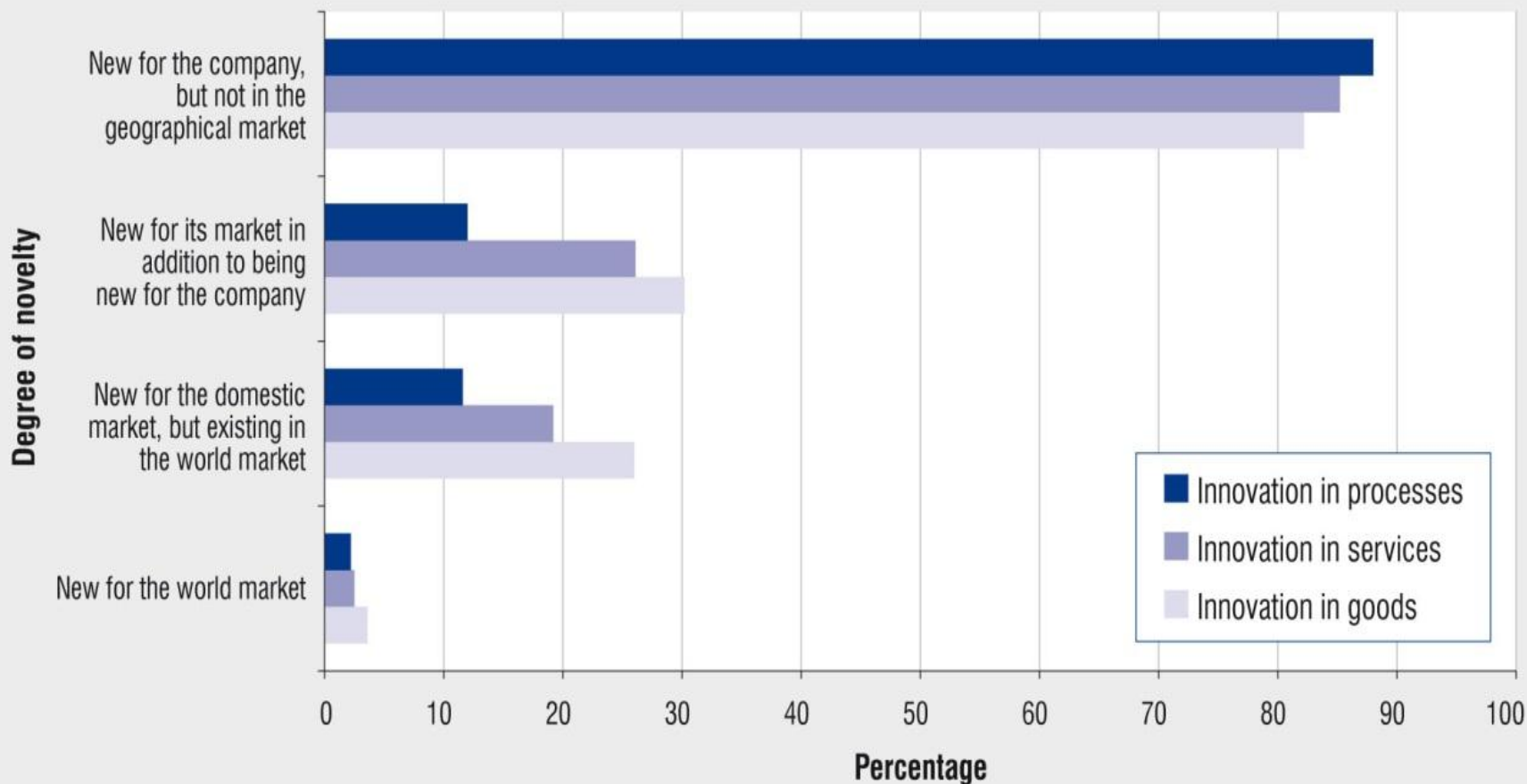


Figure I.8. Publications in SCI per 100,000 inhabitants in the Dominican Republic and the Latin America average, 1990–2009

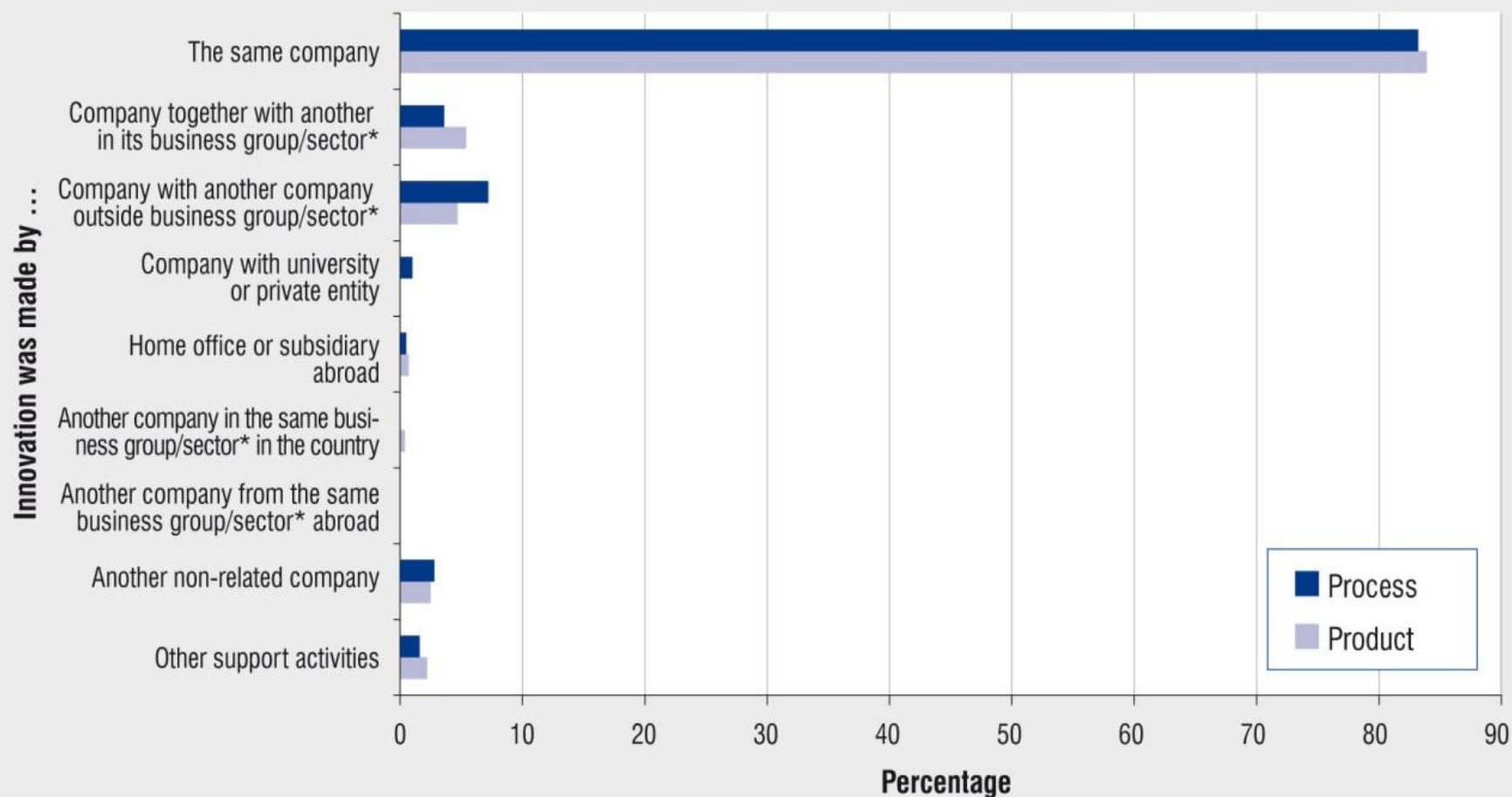


Source: RICYT.

**Figure I.13. The novelty of innovation activities, Dominican Republic, 2007–2009**



**Figure I.14. Collaboration in innovative activities, Dominican Republic, 2007–2009**



# Overall assessment – national system of innovation

- Developing system
- Appropriate basis, strategy
- Major weaknesses in business innovation.
- Need to promote incentives for collaboration



# **Actors (Capabilities, resources and linkages)**

## **Productive sector**

- SMEs
- Heterogeneity
- Weak technological capacities
- Enclaves de productivity in export sectors

## **Knowledge generators/ disseminators**

- Mixed offer, average quality is insufficient, poorly linked to firms' needs
- Limited resources in public research institutes
- Cooperation weaknesses

## Strategic direction

- Focus on scientific and higher education policies: generation of capacities
- Competitiveness policy: clusters (need for coordination)
- STI financing: 0.25% of GDP
- Strategic Plan for STI 2008-2018
  - Ambitious
  - Balanced consideration of most functions of NSI
  - Does not consider the role that the development of market has for innovation.

# Implementation of STI policies

- Basic design appropriate...
- ...but policy instruments (FONDOCYT, scholarships, fiscal/financial incentives, quality system) are limited & fragmented
- Lack of formal mechanisms for the design, monitoring and evaluation of policies



# General recommendations

- Business innovation
- Financing of STI
- Human capital development
- Research capacity
- Management capacity





## Promote business innovation

- Establish a business innovation fund
- Support technology transfer, particularly through clusters
- Enhance technology management capacities
- Promote market demand for innovative goods and services (renewable energy, high-quality manufactures)
- Promote linkages with more advanced companies
- Reinforce the national quality system

# Expand the funding of STI

- Increase FONDOCYT resources, widen its scope
- Business innovation fund
- Prioritize the available funds
- Increase the resources for innovation in manufacturing: good manufacturing practices
- Seed capital initiatives



## Invest in human capital

- Scholarships for high-quality postgraduate training
- Involve firms
- Repatriate and/or use talent abroad
- International cooperation in postgraduate research and training



# Strengthen STI management capacity

- STI information system
- Cross-cutting aspects of STI
- Public services to support innovation
- Knowledge management



# Thank you

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