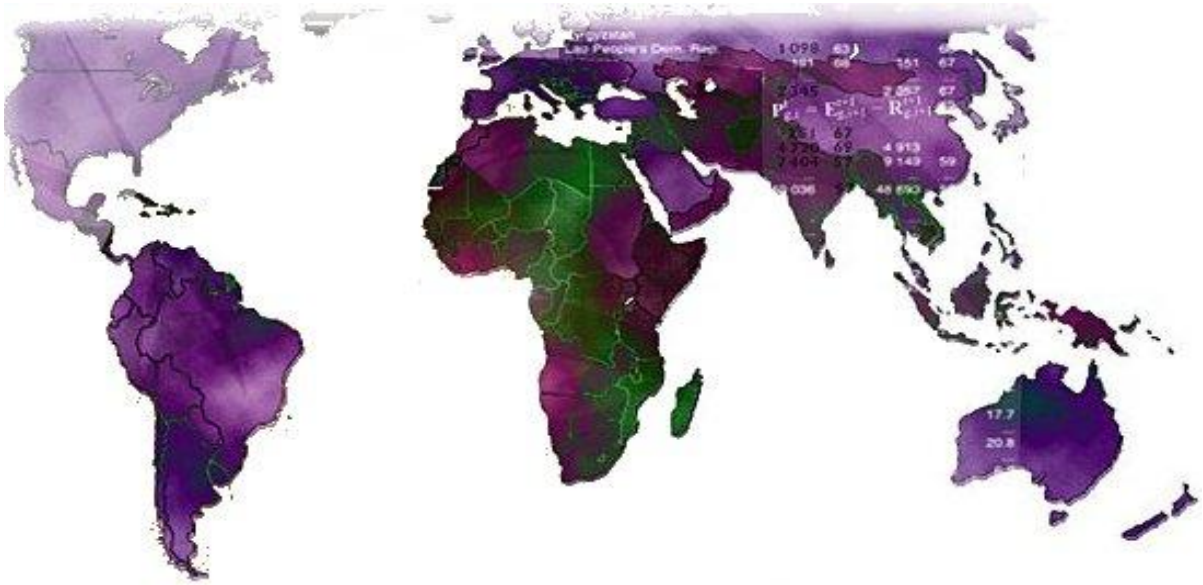
UNESCO Institute for Statistics

United Nations
Educational, Scientific and
Cultural Organization

UNESCO INSTITUTE for STATISTICS



2013 UIS innovation data collection: main results

RYCIT: Technical Committee's meeting

Buenos Aires, Argentina

28-29 October 2014

Rohan Pathirage, UIS

Outline

1. Details of the 2013 UIS innovation data collection
2. Types of innovators
3. Innovation activities
4. Linkages
5. Hampering factors
6. Methodological challenges
7. Final remarks

Details of the data collection (1)

- **Launch:** July, 2013
- **Countries:** all countries with official innovation surveys:
  - Questionnaire sent to 65 countries
  - Eurostat data: 31 countries
- **Observation period:** most recent innovation survey for which data are available
- **Industrial coverage:** manufacturing
- **Data release:** July, 2014
- **UIS Data Centre:**

http://data.uis.unesco.org/Index.aspx?DataSetCode=INNOV_DS

Details of the data collection (2)

- **Respondents - *target countries and valid responses*:**

- **Africa:**
  - 15 countries
  - 6 responses
- **Arab States:**
  - 6 countries
  - 2 responses
- **Asia and the Pacific:**
  - 19 countries
  - 12 responses
- **Europe:**
  - 6 countries *(+31 Eurostat)*
  - 3 responses *(+31 Eurostat)*
- **LAC:**
  - 17 countries
  - 10 responses
- **North America:**
  - 2 countries
  - 1 response

Total:
- 96 countries
- 65 responses

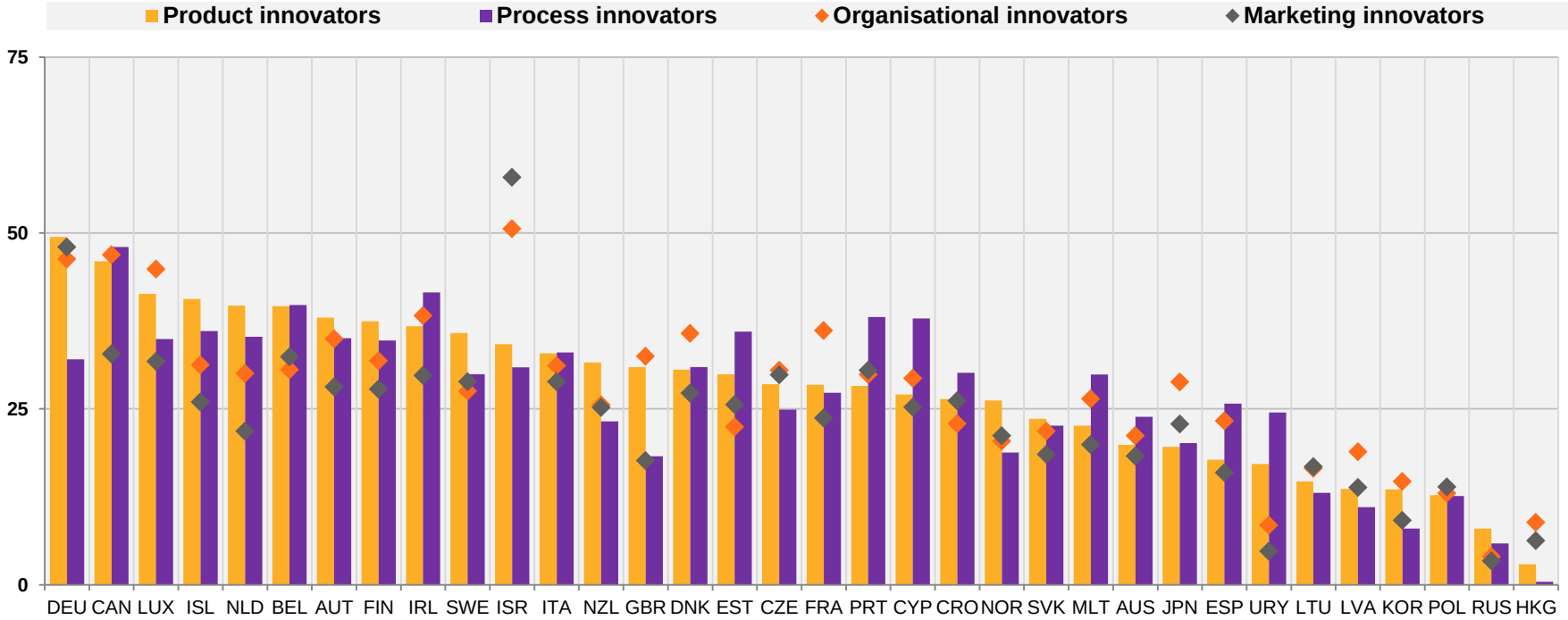
Details of the data collection (3)

- **Topics & indicators:**
  - Product innovation*
  - Process innovation*
  - Abandoned or ongoing innovation activities*
  - Innovation activities
  - Sources of information
  - Co-operation
  - Hampering factors
  - Organisational innovation*
  - Marketing innovation*

* Data broken down by size class and manufacturing industry

Types of innovators (1)

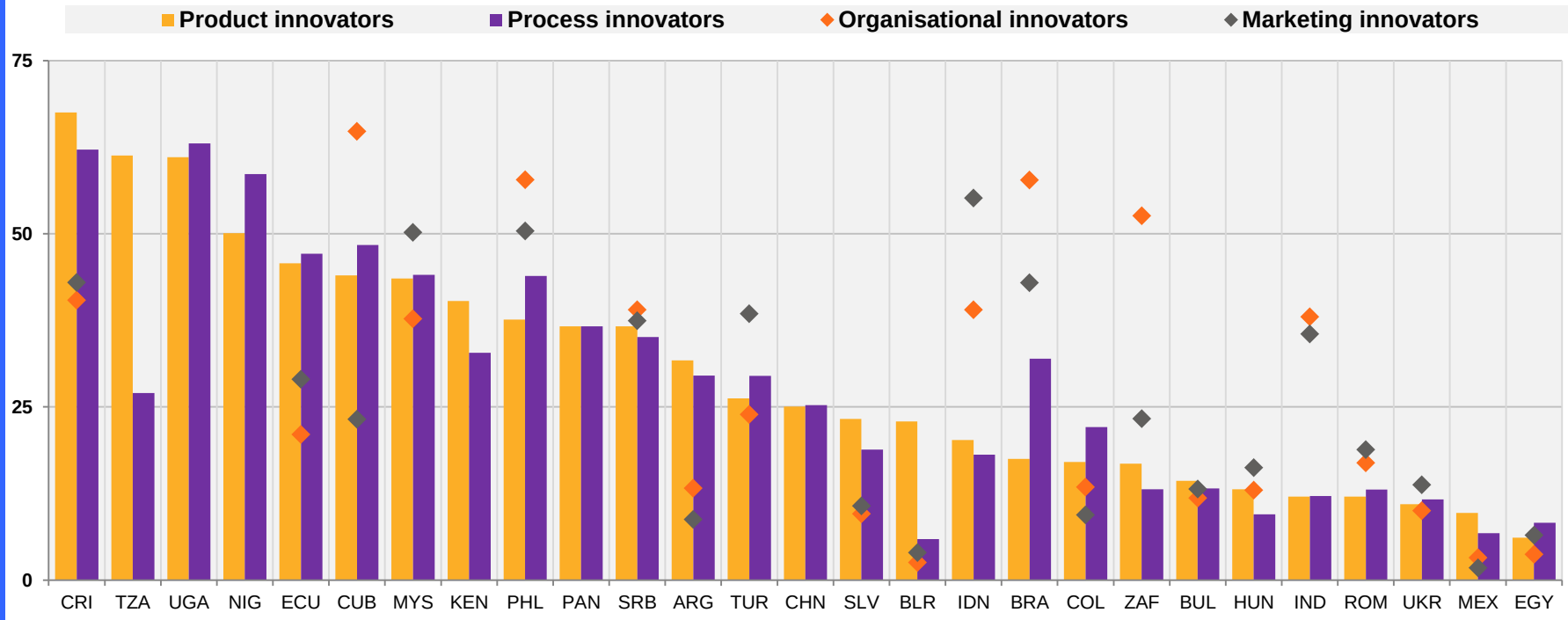
Share of innovators in high income countries (as a % of all manufacturing firms)



- Process innovation is the type of innovation implemented by the highest shares of firms, followed by product innovation
- Marketing innovation, on the other hand, concentrates the lowest shares of innovators

Types of innovators (2)

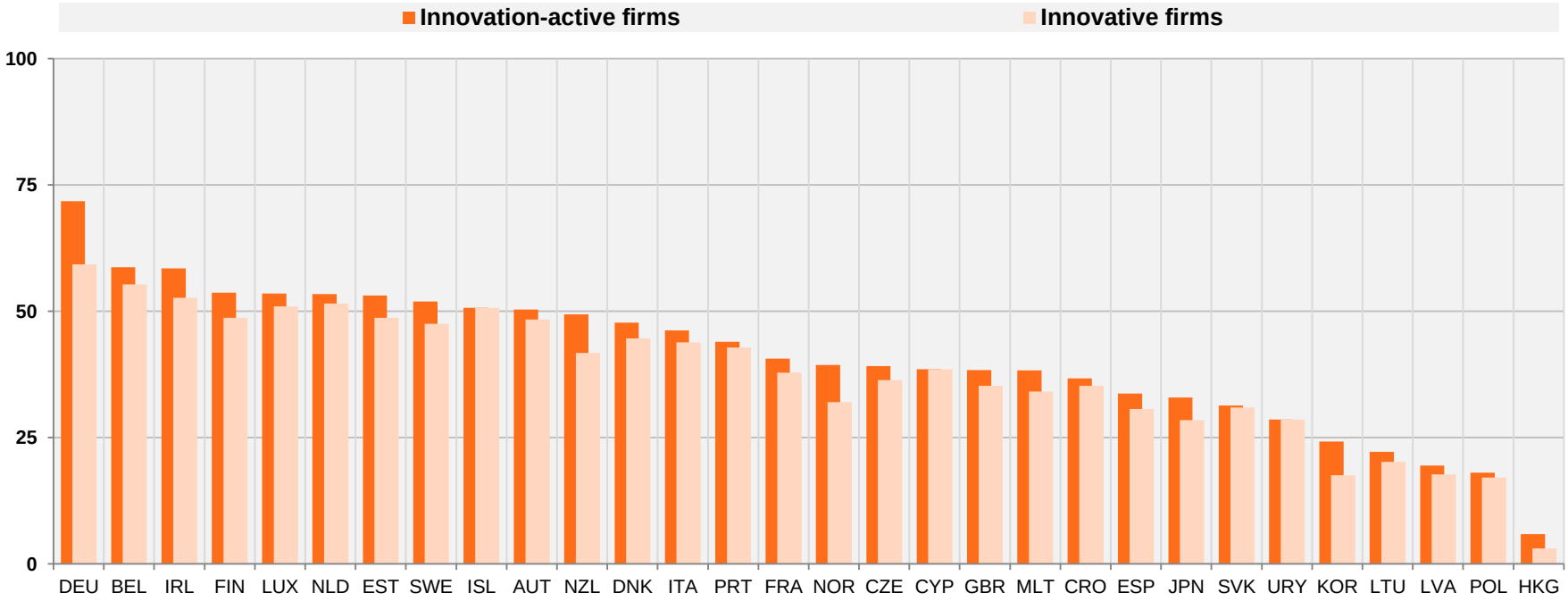
Share of innovators in low and middle income countries (as a % of all manufacturing firms)



- Lack of data for organisational and marketing innovations
- Product innovation is the type of innovation implemented by the highest shares of firms
- Marketing innovation still concentrates the lowest shares of innovators (relative increase)
- More countries where one type of innovation stands out

Types of innovators (3)

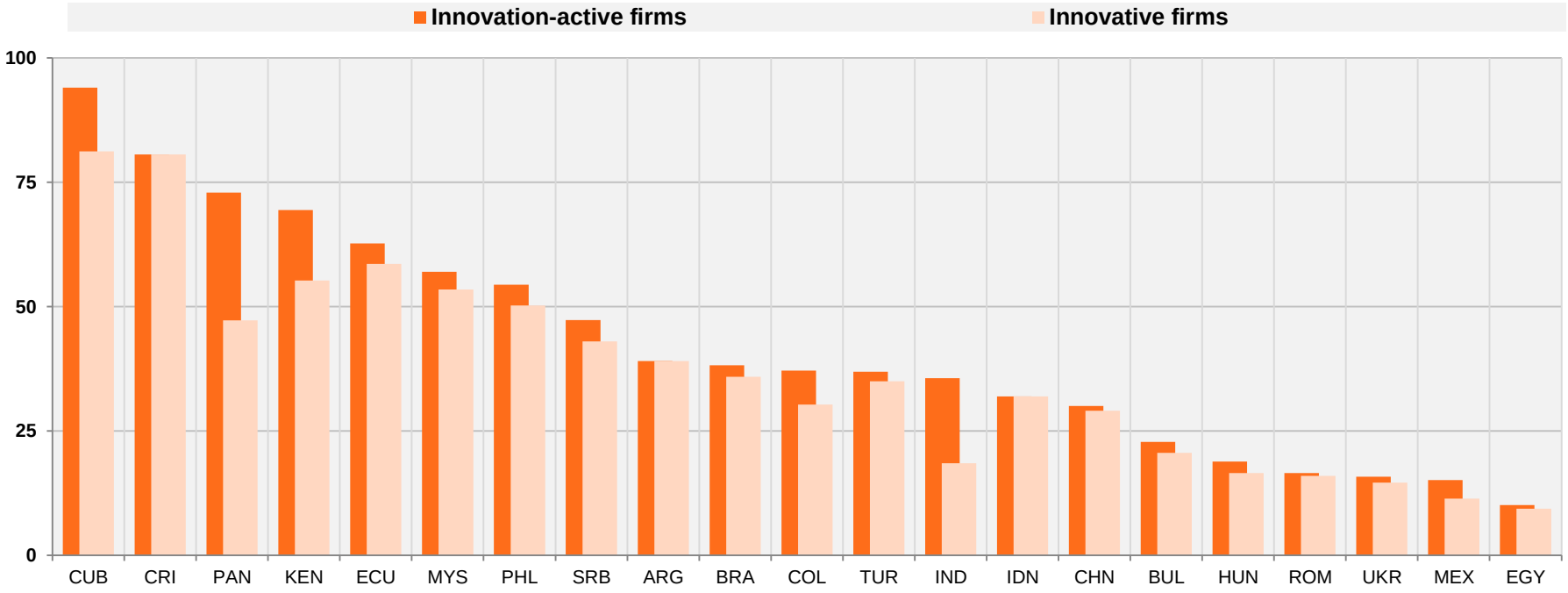
Share of firms developing and implementing product and process innovation in high income countries (as a % of all manufacturing firms)



- The difference is the share of firms with abandoned or ongoing innovation activities
- Even though Germany concentrates the highest shares of firms with abandoned or ongoing activities, it remains as the country with the highest rate of innovative firms in terms of product and process

Types of innovators (4)

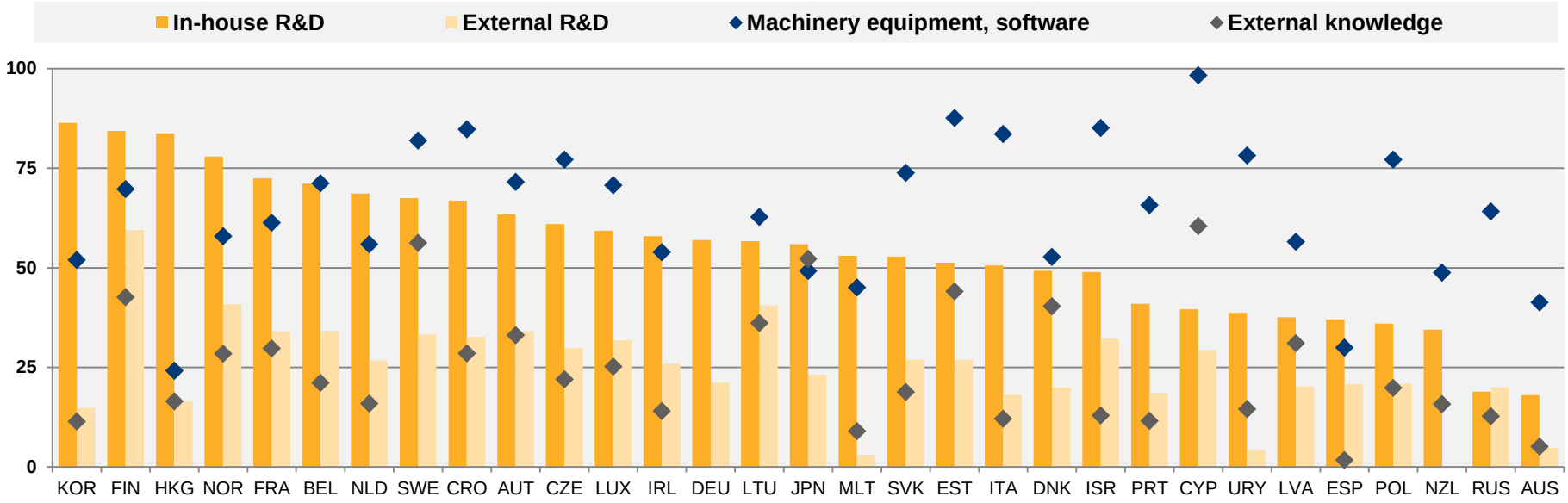
Share of firms developing and implementing product and process innovation in low and middle income countries (as a % of all manufacturing firms)



- More gaps are observed in this group, which means that there is a higher participation of firms that only had abandoned or ongoing innovation activities in the rate of innovation-active firms

Innovation activities (1)

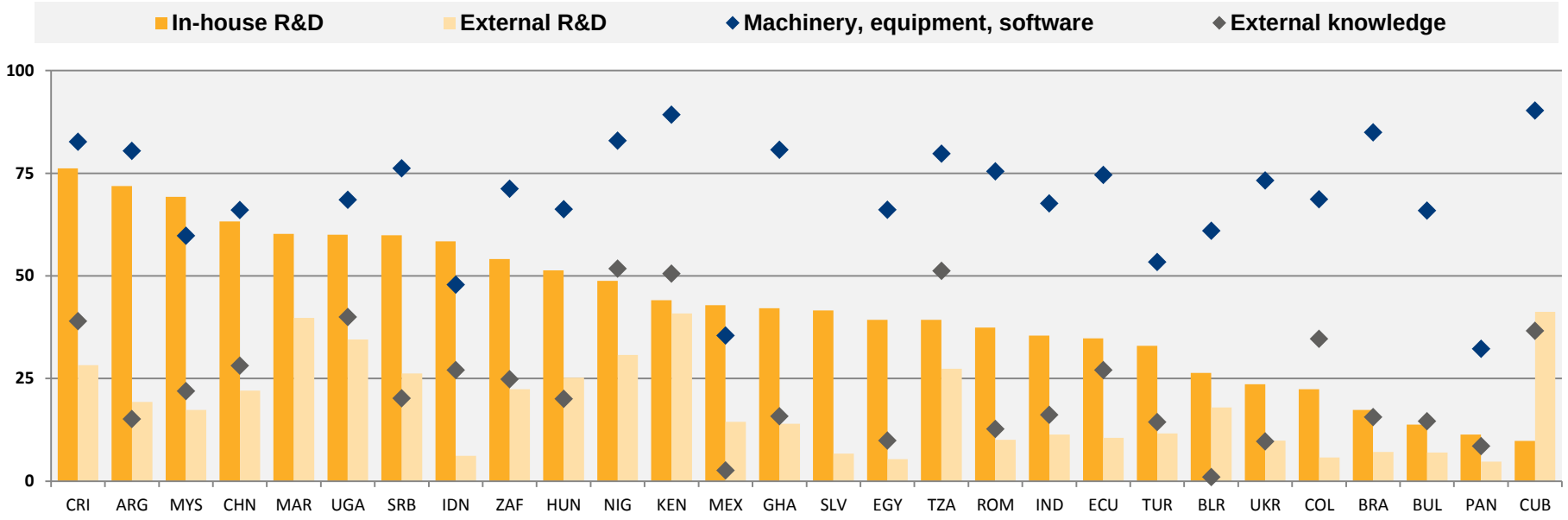
Firms engaging in innovations activities in high income countries (as a % of innovation-active manufacturing firms)



- Acquisition of machinery, equipment and software is the activity performed by most of the firms
- High shares of in-house R&D performers
- Least performed: acquisition of external knowledge

Innovation activities (2)

Firms engaging in innovation activities in low and middle income countries (as a % of innovation-active manufacturing firms)

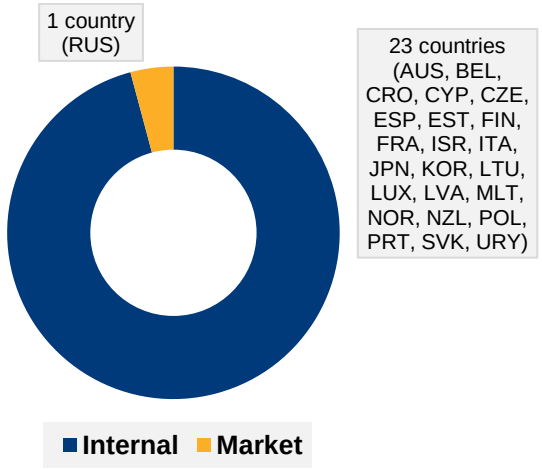


- Acquisition of machinery, equipment and software is the activity performed by most of the firms
- Lower shares of in-house R&D performers
- Least performed: external R&D

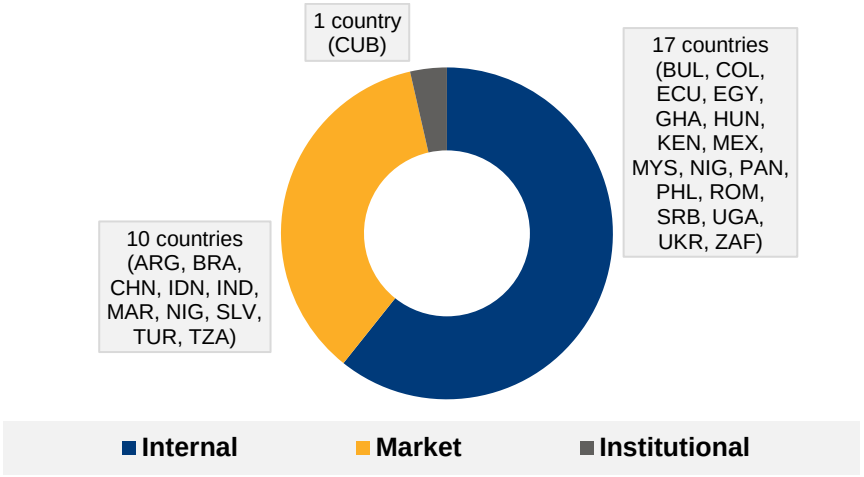
UNESCO Institute for Statistics

Sources of information

Most frequent important sources of information in high income countries (as a % of innovation-active manufacturing firms)



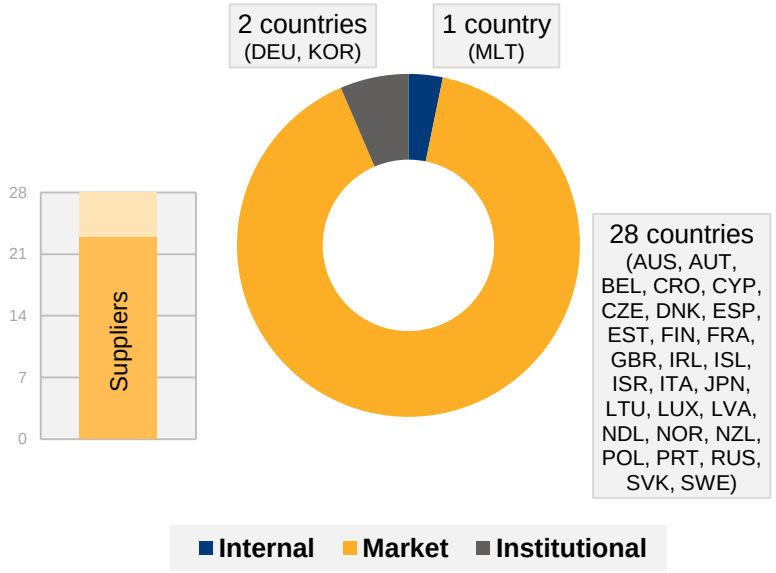
Most frequent important sources of information in low and middle income countries (as a % of innovation-active manufacturing firms)



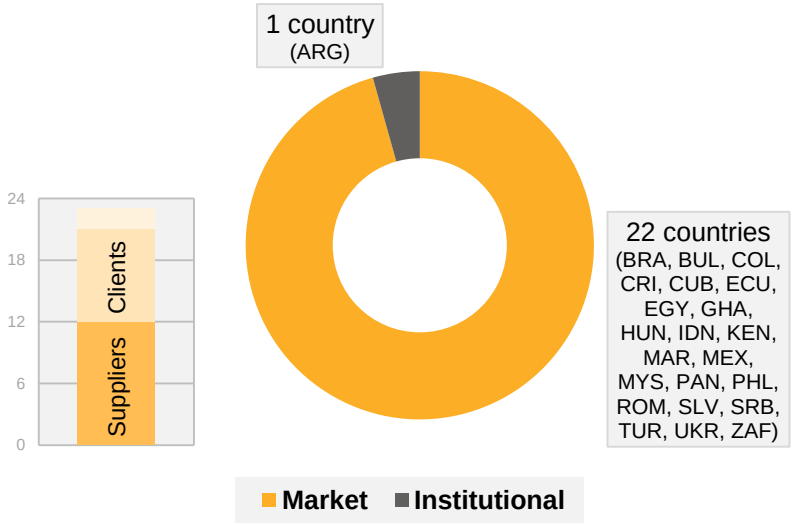
- Internal sources rated as highly important by the majority of the countries
- Remarkable number of low and middle income countries where market sources (mainly clients or customers) were rated as highly important

Co-operation (1)

Most frequent co-operation partners in high income countries (as a % of innovation-active manufacturing firms)



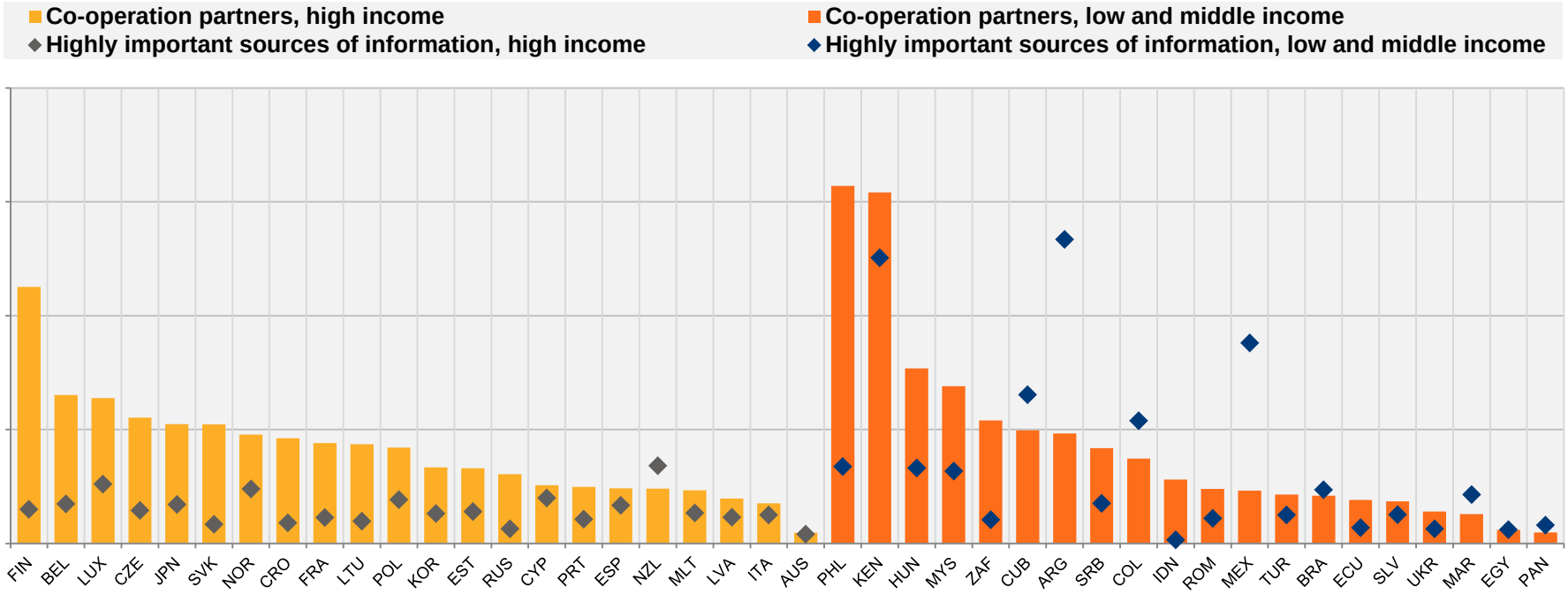
Most frequent co-operation partners in low and middle income countries (as a % of innovation-active manufacturing firms)



- Linkages with the market are more incident when it comes to the active participation in the development of innovation activities or projects
- In addition to suppliers, in low and middle income countries a high share of firms also co-operate with their clients and customers

Co-operation (2)

Linkages with universities or other HEIs (as a % of innovation-active manufacturing firms)

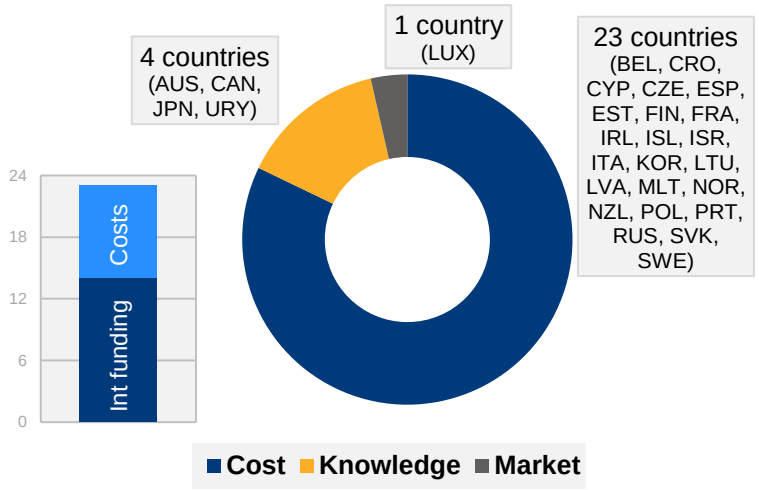


- High income countries have higher shares of firms co-operating with these agents than rating them as highly important sources of information
- In the group of low and middle income countries this is not always the case

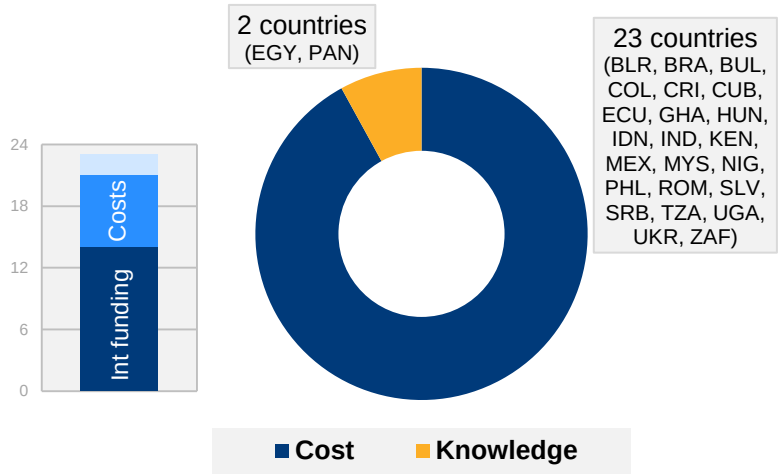
UNESCO Institute for Statistics

Hampering factors

Most frequent important hampering factors in high income countries (as a % of innovation-active manufacturing firms)



Most frequent important hampering factors in low and middle income countries (as a % of innovation-active manufacturing firms)



- The lack of internal funding and the high costs of innovation are the obstacles rated as highly important by most of the firms developing or implementing innovations

Methodological challenges (1)

1. Industrial coverage:
   - Some countries could not provide data covering the manufacturing industry only
   - Some countries cover manufacturing industries partially

2. Size classification:
   - Based on the number of employees, turnover, a combination of both or even other (total assets)
   - Size classes are classified differently, even if countries follow the Oslo Manual guidelines
   - Different cut-off points for sample selection

Methodological challenges (2)

3. Observation period:
   - Most frequently 3 years but it presents variations (1 year, 2 years)
   - Calendar year x Fiscal year
4. Type of data:
   - Survey data x grossed up data
   - Many countries only have survey data, meaning that the figures are not representative of the target population and refer only to the survey respondents
5. Questionnaire design (and definitions):
   - Different coverage of innovation-active firms - including not only product and process innovation but also organisational and marketing innovation, not including abandoned or ongoing innovation activities
   - Different scales of importance

Final remarks

- The deployment of the first UIS innovation data collection in 2013 was a step forward towards the production and dissemination of innovation statistics;
- Comparability remains as a critical issue which will not be resolved without the commitment of the countries carrying out innovation surveys;
- Data and metadata: UIS Data Centre;
- Analytical report: Dec, 2014.
- Next round: June, 2015.

Thank you for your attention!

http://www.uis.unesco.org

Rohan Pathirage: r.pathirage@unesco.org

Luciana Marins: l.marins@unesco.org