

# **GLOBAL INVESTMENTS IN R&D**

**UIS FACT SHEET** 

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**DECEMBER 2012, No.22** 

This fact sheet presents the latest UIS S&T data available as of October 2012.

# A SNAPSHOT OF R&D EXPENDITURE

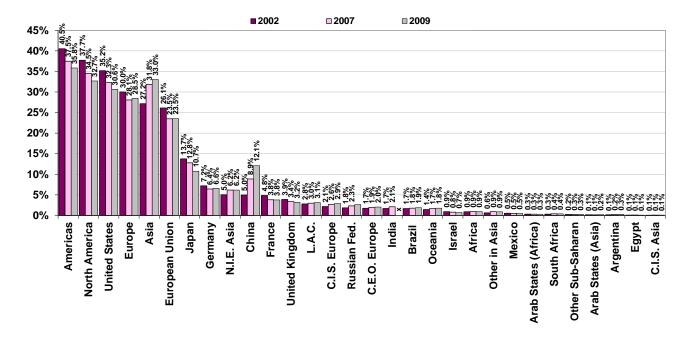
The most commonly used indicators to monitor resources devoted to R&D worldwide are gross domestic expenditure on R&D (GERD) expressed in PPP\$ and R&D intensity (percentage of gross domestic product (GDP) devoted to R&D activities).

The information presented here illustrates global and regional trends in the allocation of R&D resources. The UIS releases data on resources devoted to R&D twice every year – in August and December. For developing countries, however, data are collected on a biennial basis.

**Figure 1** presents the distribution of R&D expenditure in the world by main regions/countries in terms of gross domestic expenditure on R&D (GERD).

#### FIGURE 1. WHERE ARE R&D INVESTMENTS MADE?

SHARES OF WORLD R&D EXPENDITURE (GERD) BY PRINCIPAL REGIONS/COUNTRIES, 2002, 2007 AND 2009 (%)



**Note**: x = Data not available (chart symbol).

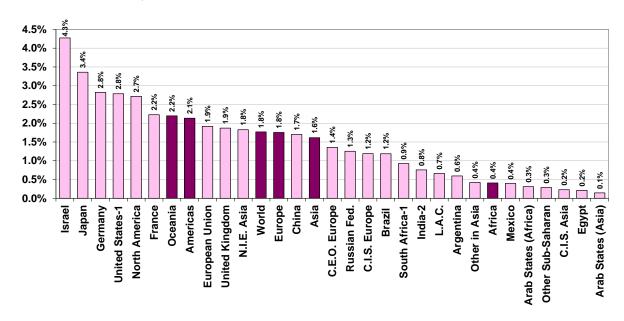
Source: UNESCO Institute for Statistics estimates, December 2011.

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**Figure 2** illustrates the distribution of R&D intensity in main regions/countries. This indicator reflects R&D intensity by presenting R&D expenditure relative to the size of the regional or national economy.

## FIGURE 2. WHICH REGIONS ARE MOST R&D INTENSIVE?

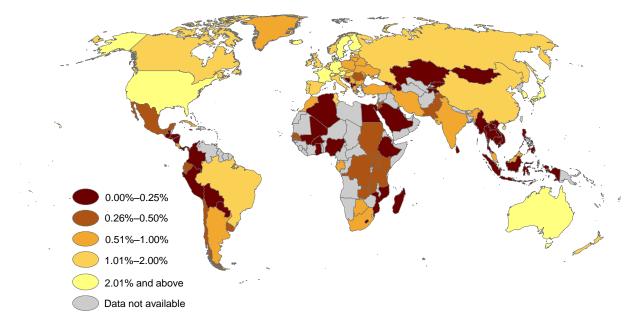
GROSS DOMESTIC EXPENDITURE ON R&D AS A PERCENTAGE OF GDP BY PRINCIPAL REGIONS/COUNTRIES, 2009 OR LATEST YEAR AVAILABLE



**Note**: -1 = 2008, -2 = 2007.

Source: UNESCO Institute for Statistics estimates, December 2011.

**FIGURE 3. A SNAP-SHOT OF R&D INTENSITY**GROSS DOMESTIC EXPENDITURE ON R&D AS A PERCENTAGE OF GDP, 2010 OR LATEST AVAILABLE YEAR



Source: UNESCO Institute for Statistics, October 2012.

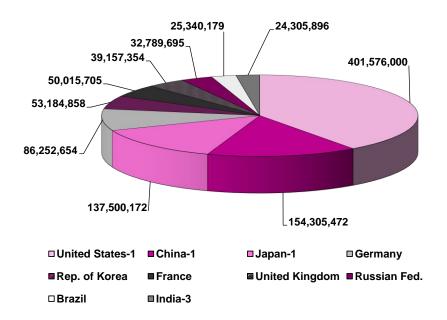
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**Figure 3** illustrates the percentage of GDP devoted to R&D activities. This indicator reflects national R&D intensity by presenting gross domestic R&D expenditure relative to the size of the national economy. The 2009 regional averages are:

- 2.7% for North America;
- 0.7% for Latin America and the Caribbean;
- 1.8% for Europe;
- 0.4% for Africa;
- 1.6% for Asia; and
- 2.2% for Oceania.

**Figure 4** illustrates the world's top leaders in R&D expenditure, measured in US dollars at purchasing power parity (PPP\$) for the latest year available. PPP\$ better reflects the real value of investments and allows for more comparability by eliminating differences in price levels among countries. Essentially, this means that a sum of money converted into US dollars at PPP rates will buy the same basket of goods and services in all countries.

FIGURE 4. WORLD'S TOP 10 LEADERS IN R&D INVESTMENT GERD ('000, PPP\$), 2010 OR LATEST AVAILABLE YEAR



**Note**: -1 = 2009, -3= 2007.

Source: UNESCO Institute for Statistics, October 2012.

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#### WHICH SECTORS INVEST THE MOST IN R&D?

**Figures 5, 6** and **7** illustrate R&D expenditure broken down by source of funds (%). This refers to total gross intramural expenditure on R&D during a given period, financed by different sectors of the economy (business enterprise, government, higher education, or private non-profit organizations) or from abroad, and expressed as a percentage.

FIGURE 5. FUNDING IN THE AMERICAS
GERD BY SOURCE OF FUNDS, 2010 OR LATEST AVAILABLE YEAR

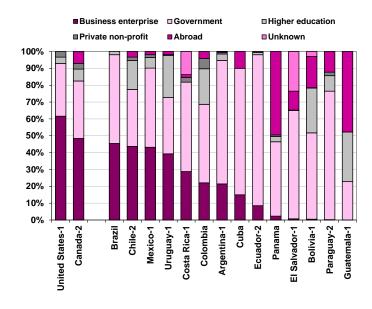
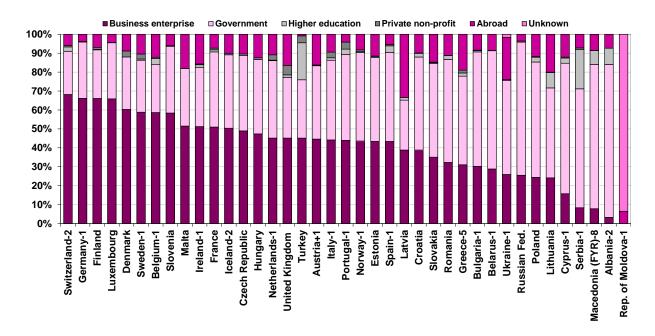


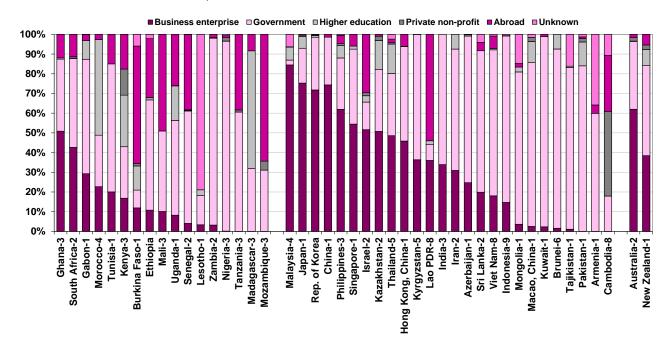
FIGURE 6. FUNDING IN EUROPE
GERD BY SOURCE OF FUNDS, 2010 OR LATEST AVAILABLE YEAR



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# FIGURE 7. FUNDING IN AFRICA, ASIA AND THE PACIFIC

GERD BY SOURCE OF FUNDS, 2010 OR LATEST AVAILABLE YEAR



**Notes**: +1 = 2011, -1 = 2009, -2 = 2008, -3 = 2007, -4 = 2006, -5 = 2005, -6 = 2004, -8 = 2002,

-9 = 2001.

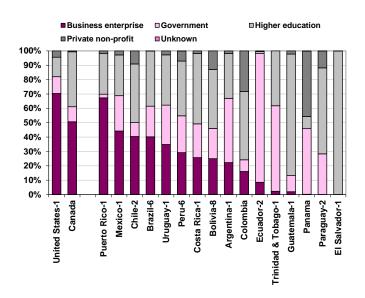
Source: UNESCO Institute for Statistics, October 2012.

## WHICH SECTORS RECEIVE THE MOST INVESTMENT?

**Figures 8, 9** and **10** depict R&D expenditure broken down by sector of performance (%). This refers to total gross intramural expenditure on R&D during a given period by institutions corresponding to each sector (business enterprise, government, higher education and private non-profit organizations), independent of the source of funds and expressed as a percentage.

# FIGURE 8. A BREAKDOWN OF R&D INVESTMENT IN THE AMERICAS

GERD BY SECTOR OF PERFORMANCE, 2010 OR LATEST AVAILABLE YEAR



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FIGURE 9. A BREAKDOWN OF R&D INVESTMENT IN EUROPE

GERD BY SECTOR OF PERFORMANCE, 2010 OR LATEST AVAILABLE YEAR

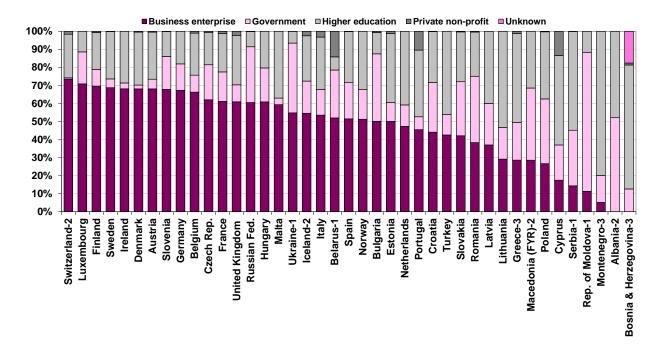
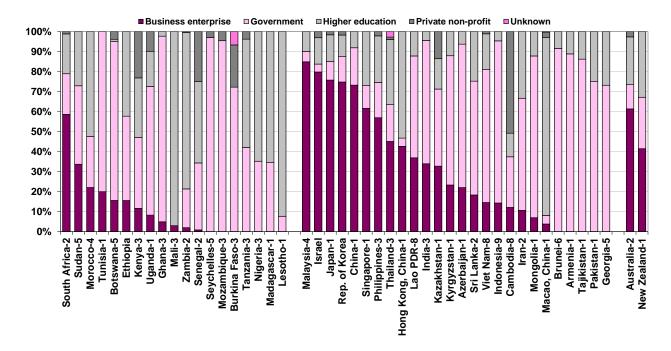


FIGURE 10. A BREAKDOWN OF R&D INVESTMENT IN AFRICA, ASIA AND THE PACIFIC GERD BY SECTOR OF PERFORMANCE, 2010 OR LATEST AVAILABLE YEAR



**Note**: -1 = 2009, -2 = 2008, -3 = 2007, -4 = 2006, -5 = 2005, -6 = 2004, -8 = 2002, -9 = 2001.

Source: UNESCO Institute for Statistics, October 2012.

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Abbreviations:

CIS Asia Commonwealth of Independent States in Asia
CIS Europe Commonwealth of Independent States in Europe

CEO Europe Central, Eastern and Other in Europe LAC Latin America and the Caribbean

NIE Asia Newly Industrialized Economies in Asia including Hong Kong, Indonesia,

Malaysia, Philippines, Republic of Korea, Singapore

Other Asia This excludes Japan, China, India and Israel

Other SSA Other Sub-Saharan Africa; this excludes South Africa

GERD Gross domestic expenditure on R&D PPP\$ Purchasing power parity dollars