

**Greece** is a **Moderate Innovator**. Over time, performance has increased by 0.7% relative to that of the EU in 2010.

## Innovation system

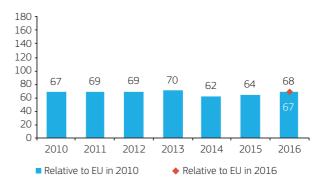
Relative strengths of the innovation system are in Innovators, Attractive research systems, and Human resources. Relative weaknesses are in Innovation-friendly environment, Intellectual assets, and Finance and support.

## Structural differences

Notable differences are a larger share of employment in Agriculture & Mining, a smaller share of employment in Manufacturing, in High and Medium high-tech manufacturing and in Utilities and Construction, a larger share of employment in Public administration, a larger share of micro enterprises in turnover, a smaller share of large enterprises in turnover, a smaller share of foreign controlled enterprises, a lower number of Top R&D spending enterprises and a lower average R&D spending of these enterprises, lower GDP per capita, a lower and negative growth rate of GDP, a lower and negative growth rate of population, and lower population density.

|   | EL     | EU     |
|---|--------|--------|
| Structure of the economy                          |        |        |
| Composition of employment, average 2011-15        |        |        |
| - Agriculture & Mining (NACE A-B) (%)             | 13.3   | 5.1    |
| - Manufacturing (NACE C) (%)                      | 9.4    | 15.6   |
| of which High and Medium high-tech (%)            | 13.6   | 36.4   |
| - Utilities and Construction (NACE D-F) (%)       | 6.3    | 8.6    |
| - Services (NACE G-N) (%)                         | 62.1   | 63.6   |
| of which Knowledge-intensive services (%)         | 49.6   | 58.0   |
| - Public administration, etc. (NACE O-U) (%)      | 8.9    | 7.1    |
| Business indicators                               |        |        |
| Composition of turnover, average 2011-2014        |        |        |
| - Micro enterprises (0-9 employees) (%)           | 35.9   | 17.3   |
| - SMEs (10-249 employees) (%)                     | 36.5   | 38.0   |
| - Large enterprises (250+ employees) (%)          | 28.1   | 44.1   |
| Share of foreign controlled enterprises, 2014 (%) | 0.23   | 1.18   |
| Top R&D spending enterprises                      |        |        |
| - average number per 10 mln population, 2011-15   | 4.2    | 29.9   |
| - average R&D spending, mln Euros, 2011-15        | 30.2   | 165.8  |
| Enterprise births (10+ empl.) (%), avg 2012-14    | n/a    | 1.5    |
| Buyer sophistication 1-7 (best), 2013-14          | 3.3    | 3.6    |
| Ease of starting a business, Doing Business 2017  | 68.7   | 76.5   |
| Socio-demographic indicators                      |        |        |
| GDP per capita, PPS, avg 2011-13                  | 19,900 | 25,400 |
| Change in GDP between 2010 and 2015, (%)          | -18.4  | 5.4    |
| Population size, avg 2011-15 (millions)           | 11.0   | 505.5  |
| Change in population between 2010 and 2015 (%)    | -2.3   | 1.1    |
| Population aged 15-64, avg 2011-2015 (%)          | 65.3   | 66.1   |
| Population density, average 2011-15               | 83.0   | 116.4  |
| Degree of urbanisation, average 2011-15 (%)       | 68.5   | 74.4   |

Values in green show performance above 120% of EU, values in red show performance below 80% of EU.



Performance

|  | Performance               |       |                 |
|--|---------------------------|-------|-----------------|
|  | relative to EU<br>2010 in |       | Change<br>2010- |
| Greece                                       |                           |       |                 |
|  | 2010                      | 2016  | 2016            |
| SUMMARY INNOVATION INDEX                     | 67.5                      | 68.2  | 0.7             |
| Human resources                              | 51.5                      | 86.4  | 34.8            |
| New doctorate graduates                      | 46.2                      | 71.2  | 25.0            |
| Population with tertiary education           | 82.2                      |       | 68.4            |
| Lifelong learning                            | 22.1                      |       | 7.4             |
| Attractive research systems §                | 85.7                      | 100.9 | 15.1            |
| International scientific co-publications     | 120.8                     |       | 66.7            |
| Most cited publications                      | 81.0                      | 84.2  | 3.1             |
| Foreign doctorate students                   | N/A                       | N/A   | N/A             |
| Innovation-friendly environment              | 39.6                      | 33.6  | -6.0            |
| Broadband penetration                        | 22.2                      |       | 0.0             |
| Opportunity-driven entrepreneurship          | 51.8                      |       | -10.2           |
| Finance and support                          | 27.5                      | 47.3  | 19.8            |
| R&D expenditure in the public sector         | 41.4                      | 84.0  | 42.6            |
| Venture capital expenditures                 | 10.0                      |       | -9.0            |
| Firm investments                             | 61.3                      | 65.3  | 4.0             |
| R&D expenditure in the business sector       | 17.6                      |       | 7.7             |
| Non-R&D innovation expenditures              | 105.4                     | 109.3 | 3.9             |
| Enterprises providing ICT training           | 71.4                      | 71.4  | 0.0             |
| Innovators                                   | 121.3                     | 101.2 | -20.1           |
| SMEs product/process innovations             | 109.4                     | 97.7  | -11.6           |
| SMEs marketing/organizational innovations    | 139.5                     | 100.7 | -38.8           |
| SMEs innovating in-house                     | 114.7                     | 105.3 | -9.4            |
| Linkages                                     | 78.6                      | 82.3  | 3.7             |
| Innovative SMEs collaborating with others    | 121.5                     |       | 14.5            |
| Public-private co-publications               | 53.9                      |       | -14.6           |
| Private co-funding of public R&D exp.        | 64.7                      | 75.3  | 10.6            |
| Intellectual assets                          | 22.6                      | 42.9  | 20.3            |
| PCT patent applications                      | 33.1                      |       | 5.3             |
| Trademark applications                       | 20.8                      | 70.0  | 49.2            |
| Design applications                          | 9.9                       |       | 18.3            |
| Employment impacts §                         | 57.4                      | 70.3  | 13.0            |
| Employment in knowledge-intensive activities | 67.9                      | 83.3  | 15.4            |
| Employment fast-growing enterprises          | N/A                       | N/A   | N/A             |
| Sales impacts                                | 89.7                      | 50.7  | -39.0           |
| Medium and high tech product exports         | 21.0                      |       | -10.4           |
| Knowledge-intensive services exports         | 88.1                      | 54.2  | -33.9           |
| Sales of new-to-market/firm innovations      | 174.5                     | 95.0  | -79.6           |

Dark green: normalised performance above 120% of EU; light green: normalised performance between 90% and 120% of EU; yellow: normalised performance between 50% and 90% of EU; orange: normalised performance below 50% of EU. Normalised performance uses the data after a possible imputation of missing data and transformation of the data.

§ Due to missing data, the relative dimension score does not necessarily reflect that of the indicators.

Change highlighted in green is positive; change highlighted in light red is negative.