

CHALLENGER STATES

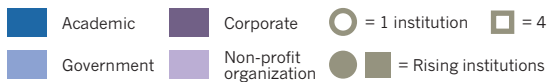
These six countries have experienced the highest absolute and percentage increases in their contribution to the Nature Index since 2015. While China is making waves among the traditional scientific powers, the other five nations are disrupting lower-tiered research strongholds.

QUALITY GROWTH

Assessed on their contribution to high-quality research in the natural sciences, all six countries have upped their pace of production since 2015. Iran stands out for its 30.7% increase in fractional count (FC), from 66.87 in 2015 to 87.43 in 2017. China is on a scale of its own, accelerating 22.6% from an FC of 7,412.96 in 2015 to 9,088.90 in 2017, just under half that of the world leader, the United States.

SECTOR STARS

Not all sectors appear equal, and not all sectors rise together. In Austria, in the past three years, a higher proportion of corporate institutions (23/28) than academic institutions (18/26) have increased their article counts in the Nature Index. Norway's growth has been more evenly spread across all four sectors.



SUBJECT STRENGTHS

National acceleration is often driven by research specializations. Iran and Brazil excel in the physical sciences, and Norway in Earth and environmental sciences. This is not the case in the Czech Republic. While scientists in the country favour chemistry, their fractional count (FC) has swelled in the three other fields.



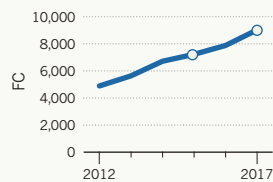
REGIONAL CLIMBERS

This graph shows the five administrative provinces, counties or states with the most institutions in each country. In China, Beijing remains the centre of knowledge production in the natural sciences, but Jiangsu, Guangdong and Shandong have a higher proportion of rising institutions. Other regions that rise high above the tide are Styria in Austria, Oslo in Norway and Tehran in Iran. Rising institutions had a higher article count in 2017 than in 2015.



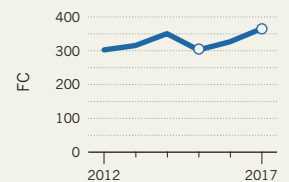
CHINA

R&D SPENDING
 (% GDP, 2015): 2.06%
RESEARCHERS
 (FTE, 2015): 1,619,027
TOP RISING INSTITUTIONS (2017):
 1. University of Chinese Academy of Sciences (FC: 255.65)
Read more on page S27
 2. Tsinghua University (FC: 353.40)
 3. Shanghai Jiao Tong University (FC: 166.39)

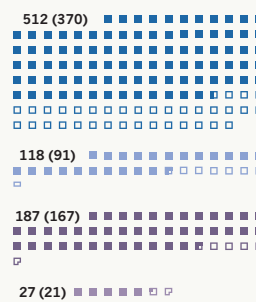


AUSTRIA

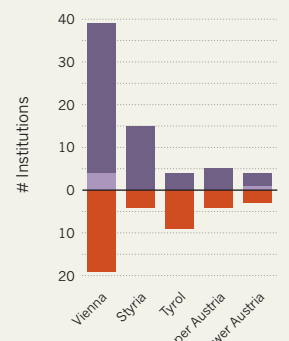
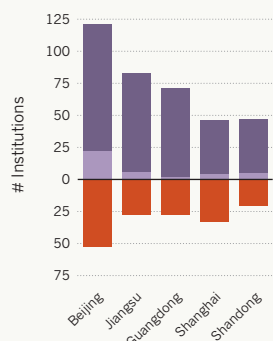
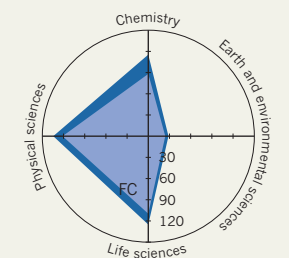
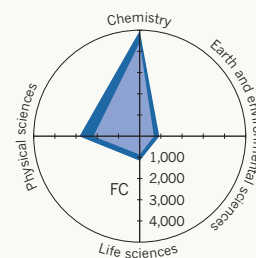
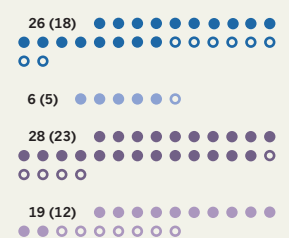
R&D SPENDING
 (% GDP, 2015): 3.05%
RESEARCHERS
 (FTE, 2015): 43,562
TOP RISING INSTITUTIONS (2017):
 1. University of Vienna (FC: 65.42)
 2. Institute of Science and Technology Austria (FC: 24.37)
Read more on page S31
 3. Austrian Academy of Sciences (FC: 36.03)



Total institutions: 844 (649 rising)



Total institutions: 79 (58 rising)

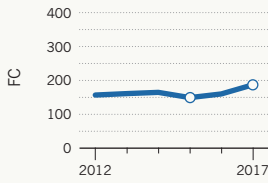


*Merged with Nord-Trøndelag in January 2018 to form Trøndelag

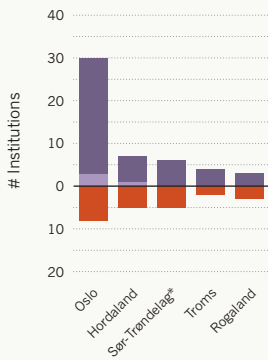
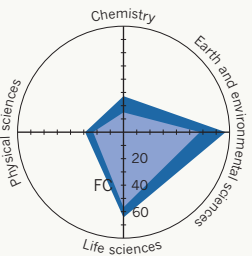
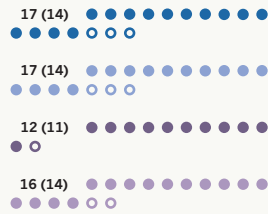


NORWAY

R&D SPENDING
 (% GDP, 2015): 1.93%
RESEARCHERS
 (FTE, 2015): 30,632
TOP RISING INSTITUTIONS (2017):
 1. University of Oslo (FC: 65.58)
Read more on page S29
 2. Norwegian University of Life Sciences (FC: 8.62)
 3. University of Tromsø - The Arctic University of Norway (FC: 15.97)

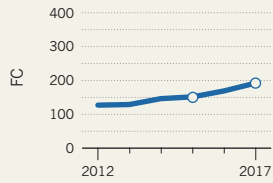


Total institutions: 62 (53 rising)

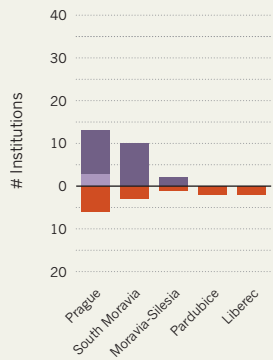
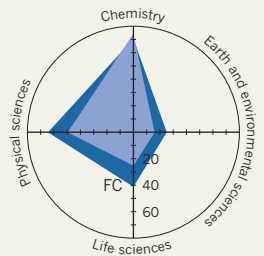
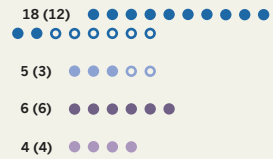


CZECH REPUBLIC

R&D SPENDING
 (% GDP, 2015): 1.93%
RESEARCHERS
 (FTE, 2015): 38,081
TOP RISING INSTITUTIONS (2017):
 1. Czech Academy of Sciences (FC: 86.84)
 2. Masaryk University (FC: 21.97)
 3. Silesian University in Opava (FC: 5.24)

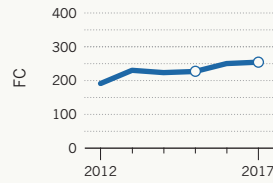


Total institutions: 33 (25 rising)

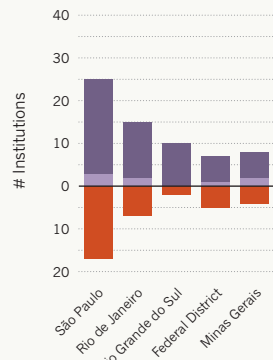
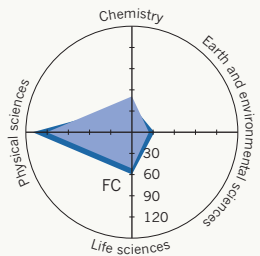
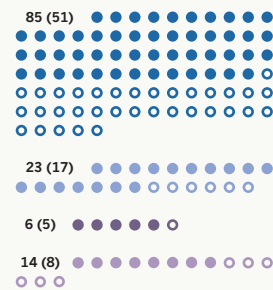


BRAZIL

R&D SPENDING
 (% GDP, 2015): 1.28%
RESEARCHERS
 (FTE, 2014): 183,853
TOP RISING INSTITUTIONS (2017):
 1. University of São Paulo (FC: 56.35)
 2. Ministry of Science, Technology, Innovation and Communication (FC: 17.16)
 3. Federal University of Minas Gerais (FC: 12.90)

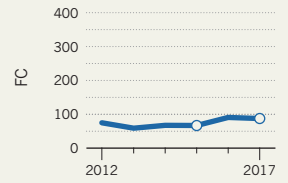


Total institutions: 128 (81 rising)

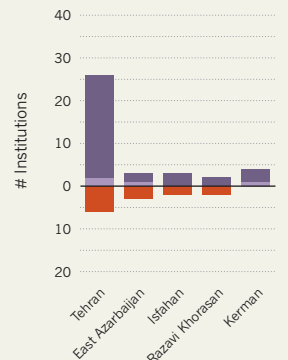
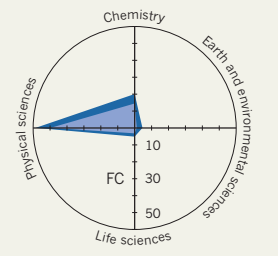
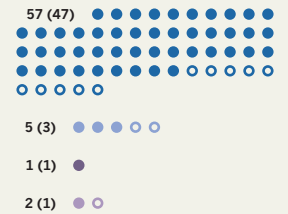


IRAN

R&D SPENDING
 (% GDP, 2013): 0.25%
RESEARCHERS
 (FTE, 2013): 51,961
TOP RISING INSTITUTIONS (2017):
 1. University of Tabriz (FC: 3.60)
 2. Yazd University (FC: 3.09)
 3. Damghan University (FC: 3.27)



Total institutions: 65 (52 rising)



SOURCE: UNESCO/OECD

SOURCE FOR ALL GRAPHS: NATURE INDEX