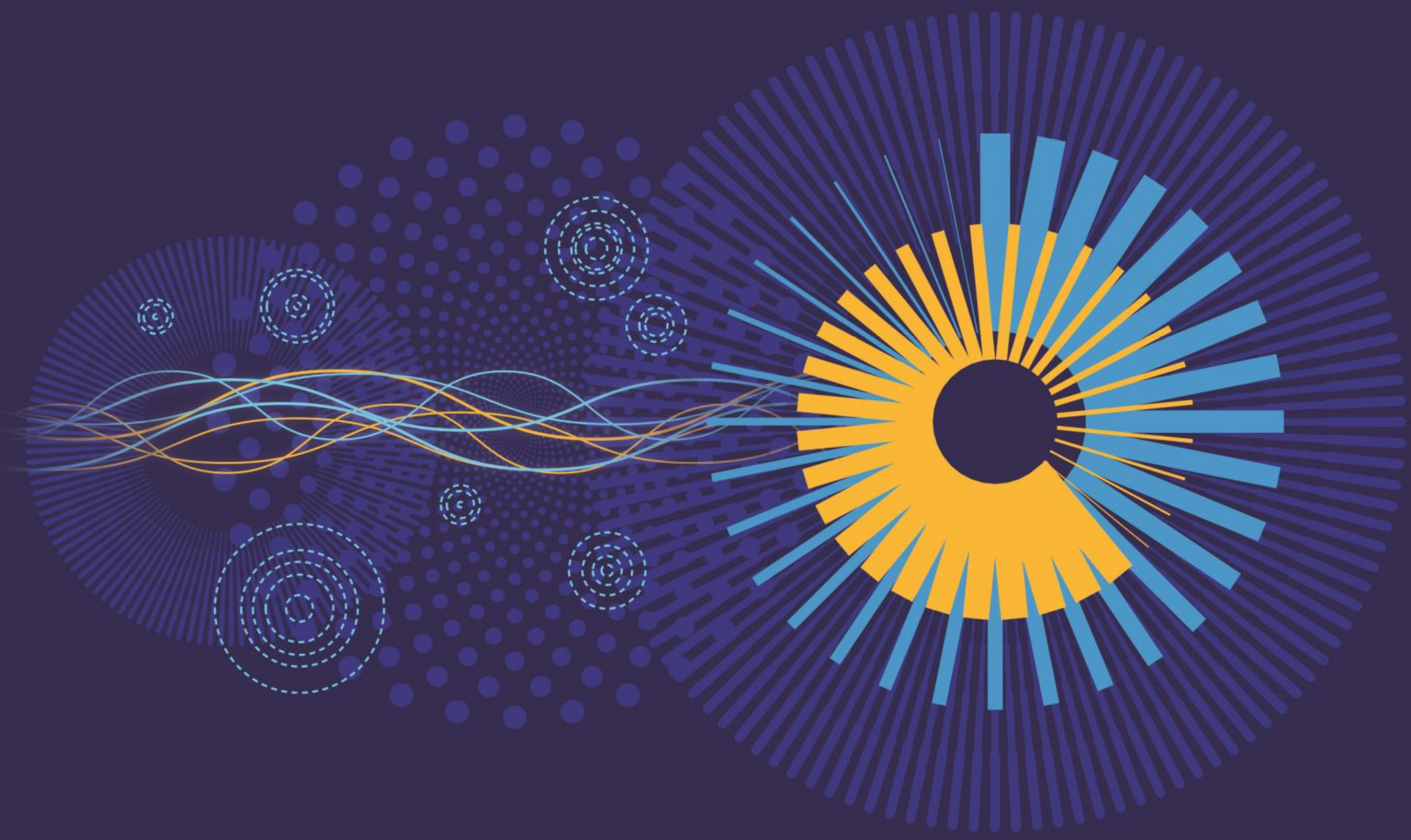
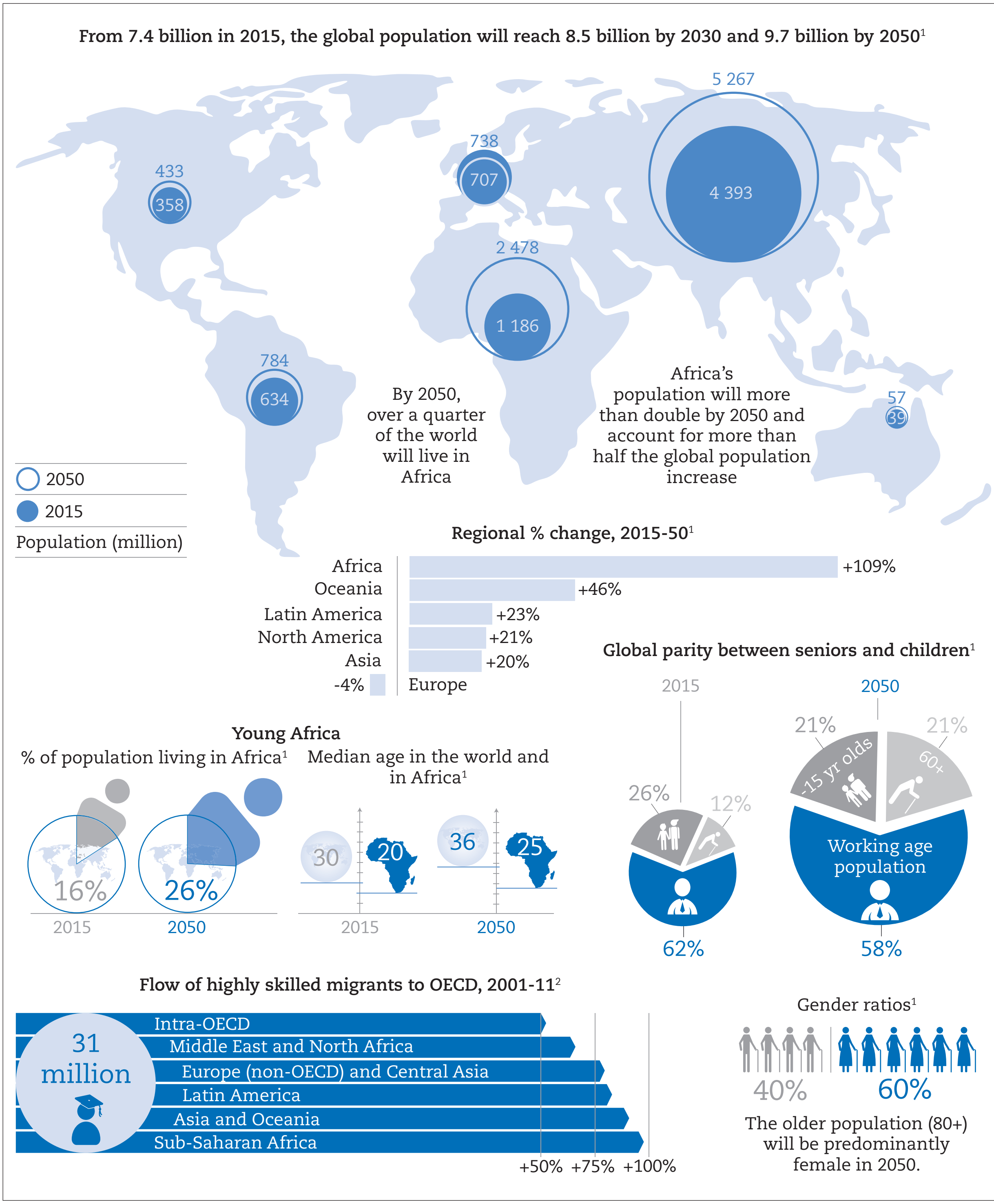
OECD Science, Technology and Innovation Outlook 2016



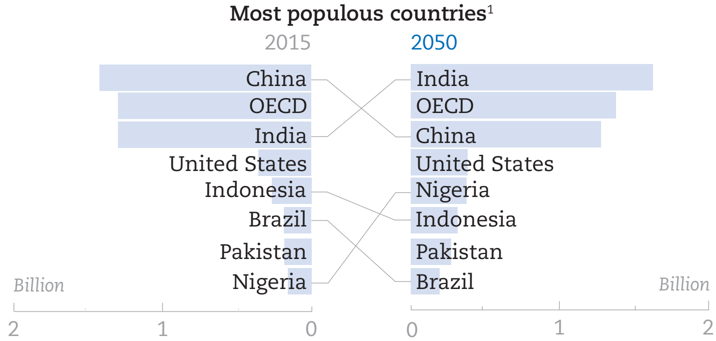
Megatrends affecting science, technology and innovation

Demography

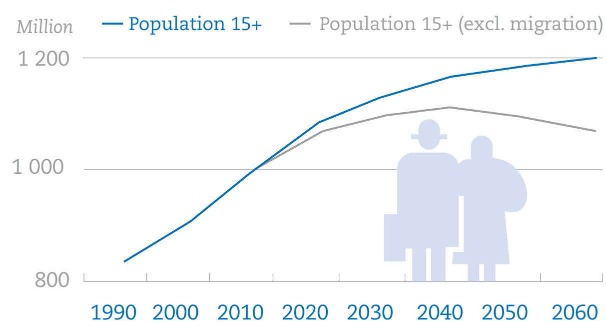


From 7.4 billion in 2015, the global population will reach 8.5 billion by 2030 and 9.7 billion by 2050[1]
433
358
738
707
5 267
4 393
2 478
1 186
784
634
57
39
By 2050, over a quarter of the world will live in Africa
Africa's population will more than double by 2050 and account for more than half the global population increase
2050
2015
Population (million)
Regional % change, 2015-50[1]
Africa +109%
Oceania +46%
Latin America +23%
North America +21%
Asia +20%
-4% Europe
Young Africa
% of population living in Africa[1]
16%
26%
2015
2050
Median age in the world and in Africa[1]
30
20
36
25
2015
2050
Global parity between seniors and children[1]
2015
2050
26%
12%
62%
21%
21%
-15 yr olds
60+
Working age population
58%
Flow of highly skilled migrants to OECD, 2001-11[2]
31 million
Intra-OECD
Middle East and North Africa
Europe (non-OECD) and Central Asia
Latin America
Asia and Oceania
Sub-Saharan Africa
+50% +75% +100%
Gender ratios[1]
40%
60%
The older population (80+) will be predominantly female in 2050.

Most populous countries[1]

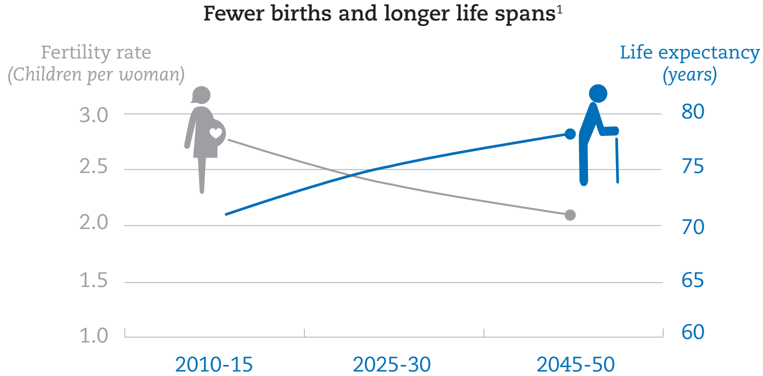


Population and migration
OECD, 1990-2060[3]



Migrant workers will be an important factor to mitigate the effects of ageing in most OECD countries.

Fewer births and longer life spans[1]



The population in all major regions of the world is ageing.

Growing global population

- A larger global population, together with increased educational attainment and economic development, will likely translate into more consumers, innovators and researchers at a global level.
- The demands and needs of the centres of largest population growth, e.g. in Africa, could increasingly shape innovation agendas. These areas will also further develop localised research and innovation capabilities.
- A greater focus on technology transfer to centres of largest population growth will likely be needed to help them manage the multiple development challenges they face.

Ageing societies

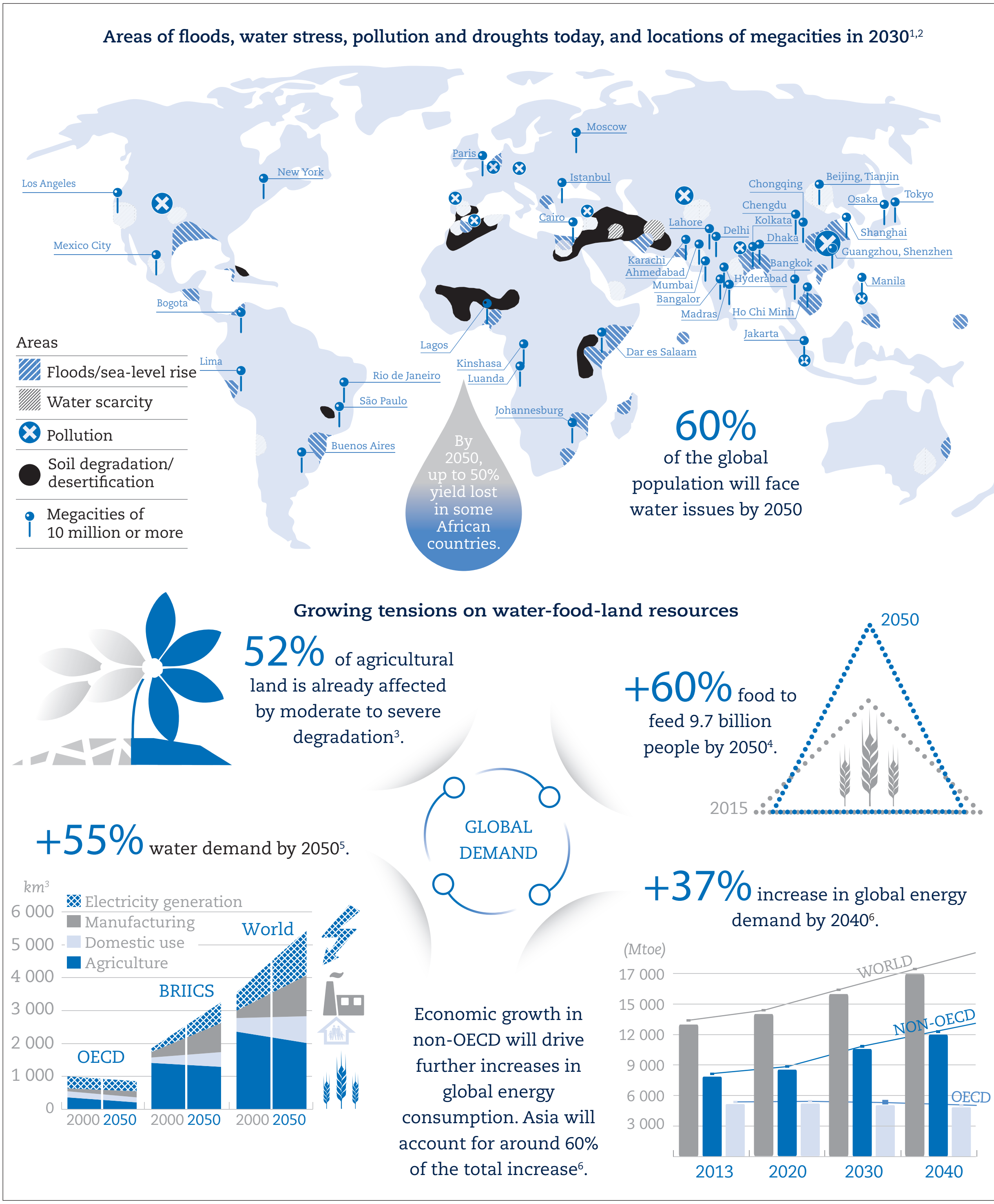
- Ageing societies could see slower economic growth and resources diverted to social and health spending. This could draw resources away from STI spending.
- Ageing implies changes in lifestyle and consumption patterns, which will influence the types of products and services in demand and the direction of innovation.
- Ageing-related illnesses, including cancer and dementia, will increasingly dominate health research agendas.
- New technologies, e.g. robotics and neurosciences, could help the elderly live longer, healthier and more autonomously.

Labour and international migration

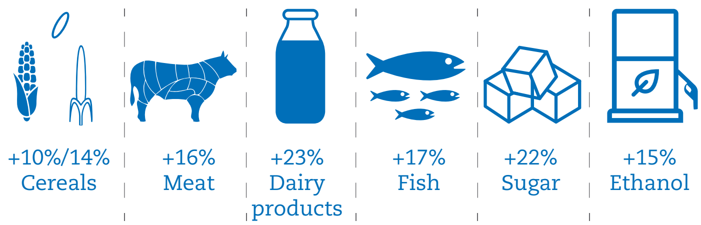
- Fewer people of working age will affect the labour market for STI skills and could lead to an ageing research workforce in OECD countries.
- The flow of highly skilled migrants into OECD countries is likely to intensify, further contributing to the STI labour force.
- Though much debated, new technologies, e.g. robotics and artificial intelligence, could alleviate expected labour shortages in the wider economy.

Sources: 1. UNDESA (2015a). The population refers to persons aged 15 and above. Iceland is excluded from OECD destinations when comparisons between 2000-01 and 2010-11 are made.; 2. OECD (2015a); 3. Westmore, B. (2014).

Natural resources and energy

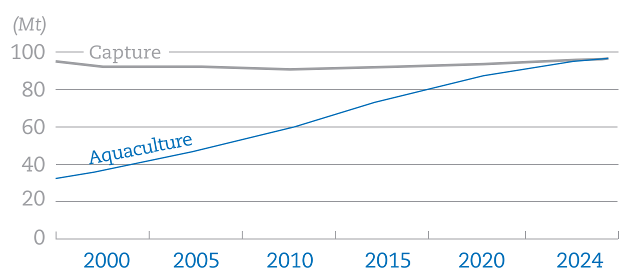


Agricultural production outlook in 2025[7]



Price increases for most agricultural commodities will likely affect the poorest populations the most.

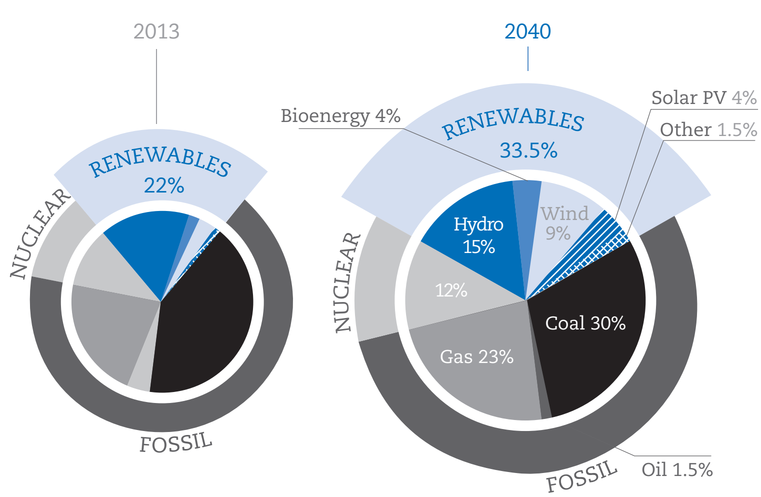
Aquaculture driving the expansion of global fish supply[7]



South and East Asian countries will continue dominating overall aquaculture production, with China, India, Indonesia and Viet Nam accounting for the majority of projected growth.

New markets for renewables

Energy supply mix (% of electricity generation)[8]



The promise of innovation

- New STI knowledge could improve the monitoring, management and productivity of natural resources and, ultimately, decouple economic growth from their depletion.
- Technology diffusion efforts will be as important as developing new technologies and should promote wide adoption of best available technologies for efficient resource use.

Agriculture, food and water

- In agriculture, as in other sectors, innovation is the main driver of productivity growth. New innovative agricultural technologies and methods could help increase land productivity in a more sustainable way.
- New technologies will play a central role in adapting agricultural practices to climate change and more extreme weather-related conditions.
- Improvements in irrigation technologies and new agricultural practices should help better monitor water use and slow groundwater depletion.
- A new generation of wastewater treatment plants using advanced technologies will be needed to deal with the challenge of micro-pollutants from medicines, cosmetics, etc.

Energy

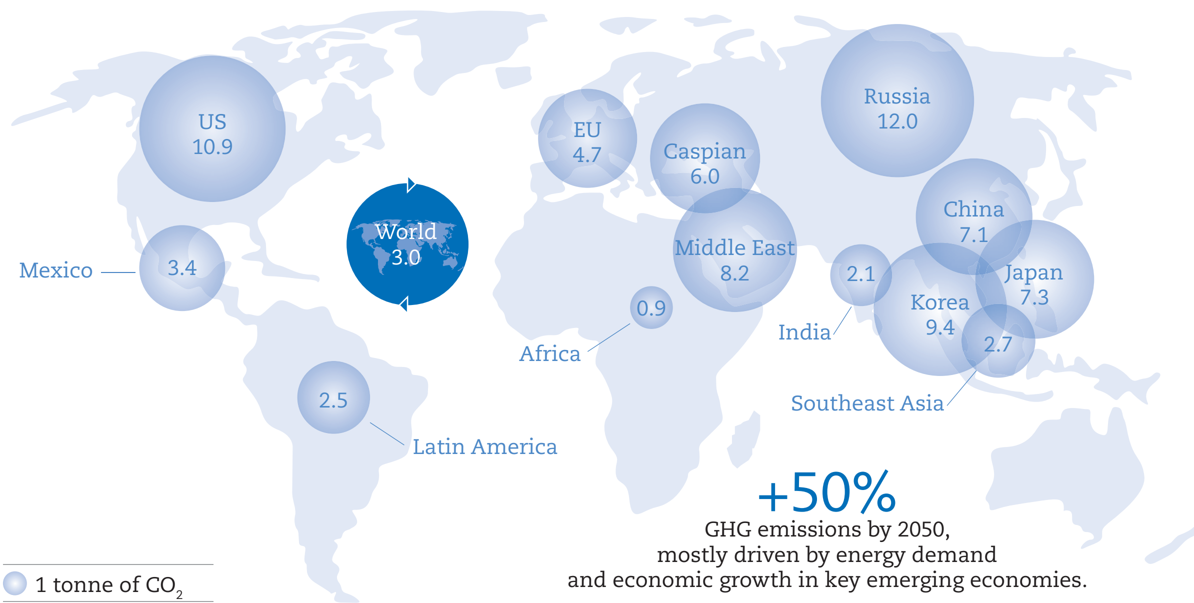
- Onshore wind and solar photovoltaics are ready to be mainstreamed, but high levels of deployment will require further innovation in energy storage and smart grid infrastructure to increase their adaptability to weather variability.
- The Internet of Things and advanced energy storage technologies offer opportunities to better monitor and manage energy systems. Cities could play a leading role in deploying these smart innovative approaches.

Sources: 1. FAO (United Nations Food and Agricultural Organization) (2015). By 2050, up to 50% yield lost in some African countries if no significant improvement is achieved in production practices.; 2. UNDESA (2015b); 3. UNCCD (2014); 4. FAO (2012); 5. OECD (2012a); 6. IEA (2015a); 7. OECD/FAO (2016b). Cereals include wheat (10%), rice (13%), and maize (14%).; 8. IEA (2015a).

Climate change and environment

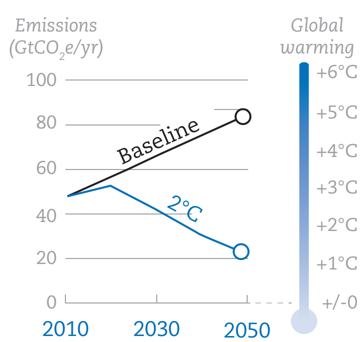
Energy-related CO_2 emissions per capita, 2030

CO_2 emissions account for 75% of global GHG emissions, with most coming from energy production[1]



+50%
GHG emissions by 2050,
mostly driven by energy demand
and economic growth in key emerging economies.

Global emissions and the 2°C target[2]

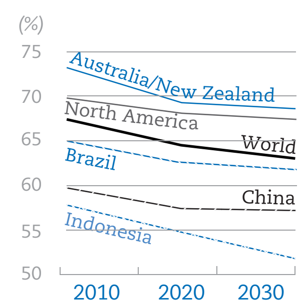


40%-70% reductions
in global GHG emissions by 2050 to
meet the 2°C Scenario[3].

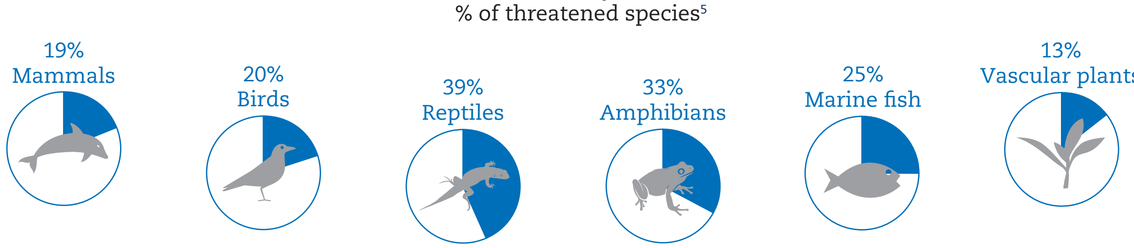
10%
Biodiversity loss by 2050, with
highest losses in Asia, Europe
and southern Africa[4].

60%
of the world's biocapacity is held by only
ten countries that suffer most from
heavy land and forest degradation[5].

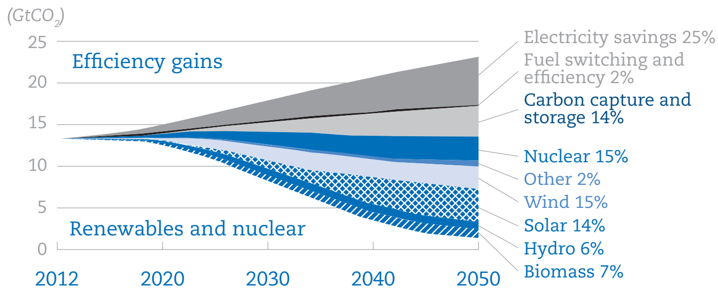
Terrestrial biodiversity loss[4]



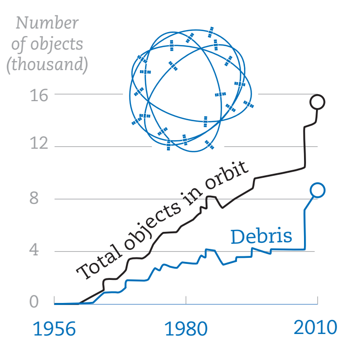
OECD biodiversity is at threat
% of threatened species[5]



Key technologies to reduce power sector CO_2 emissions[6]

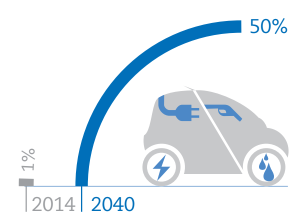


Space junk: danger of collision[7]



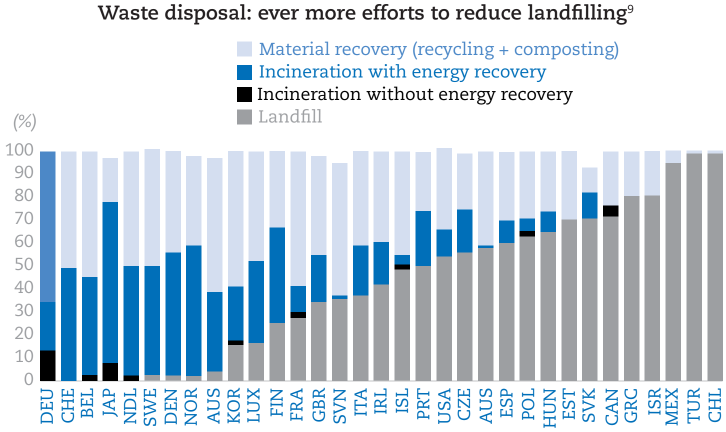
Exploding sales of hybrid vehicles

Total vehicle sales in %[8]



Hybrid cars are expected to become cost-competitive by 2025.

Waste disposal: ever more efforts to reduce landfilling[9]



Over the past two decades, OECD countries have put significant efforts into curbing municipal waste generation.

International co-ordination

- The global nature of climate change and environmental degradation will require greater international co-operation on solutions, including research and innovation.
- Climate change mitigation and adaptation will depend on technology transfer to less advanced countries, which are set to account for the largest increases in GHG emissions over the next few decades due to their rapid development.

Research strategies

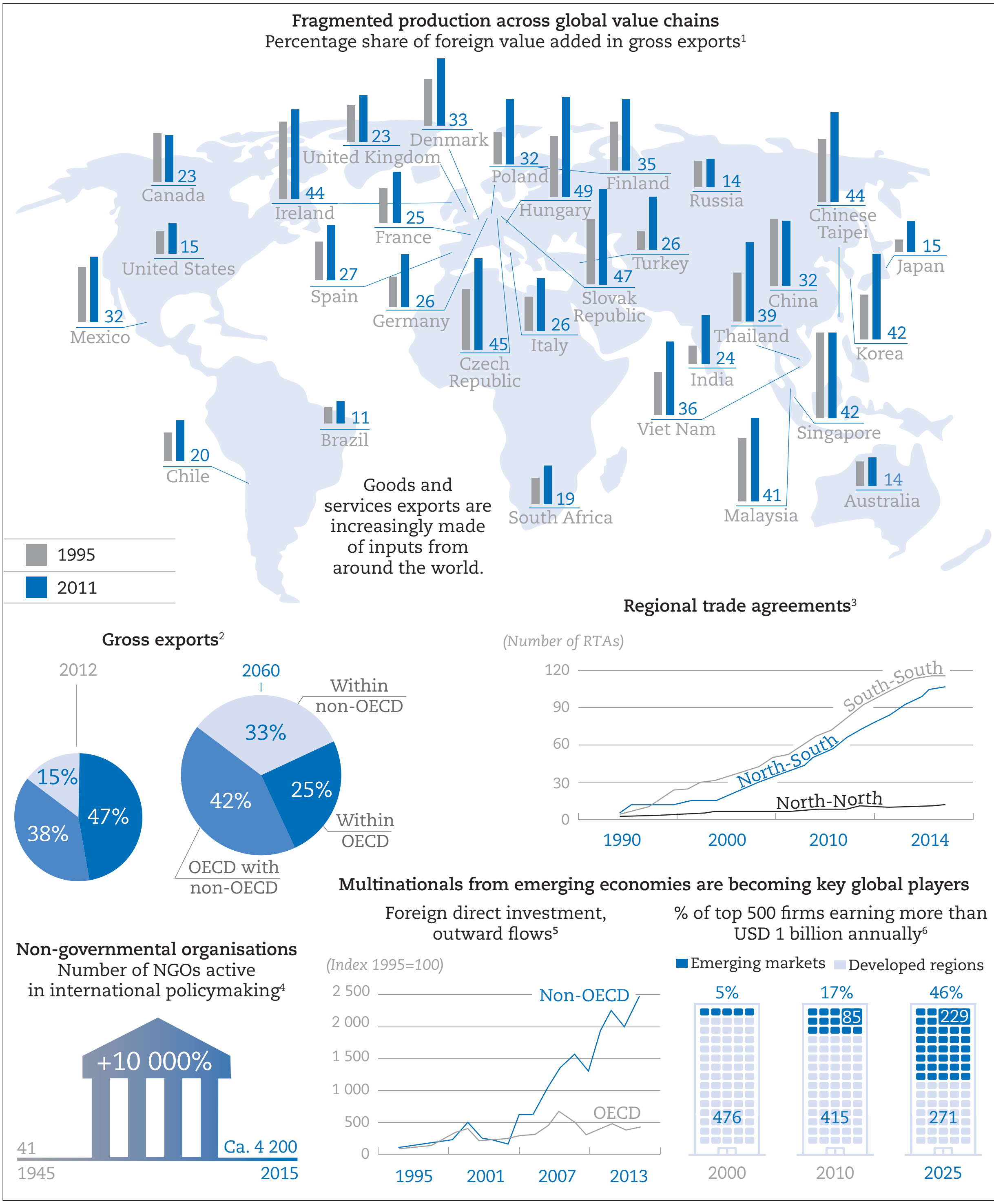
- Energy technology innovation will be key in achieving the 2 °C scenario. A comprehensive portfolio of low-carbon technologies, including solutions for decarbonisation, will be needed to achieve policy climate goals.
- Challenges of climate change and ongoing degradation of the natural environment, including loss of biodiversity, could become even more dominant themes in future national research agendas.
- The "circular economy" concept will likely gain momentum and shape future innovation agendas. New technologies, processes, services and business models will be fundamental requirements for a circular economy.

Multi-actor perspective

- While governments are expected to play a leading role in enabling the transition to low carbon societies, the private sector will need to lead innovation efforts in this direction.
- The Internet of Things, smart apps and sensors will enable a closer monitoring of climate change, ecosystems and biodiversity.
- Participatory monitoring and big data will generate large amounts of novel data that could support new research practices and citizen science in support of more sustainable growth.

Sources: 1. IEA (2015b). Energy-related CO_2 emissions per capita by selected region in the INDC Scenario and world average in the 450 Scenario. ; 2. UNEP (2015); 3. UNEP (2014); 4. OECD (2012a). Terrestrial mean species abundance (terrestrial MSA) is a relative indicator describing changes of biodiversity with reference to the original state of the intact or pristine ecosystem (i.e. a completely intact ecosystem has a MSA of 100%).; 5. OECD (2016c). OECD figures are simple average of available country shares. However simple average does not reflect cross-country differences, and some species are more threatened in some countries than in others. Species assessed as Critically Endangered (CR), Endangered (EN), or Vulnerable (VU) are referred to as "threatened" species. Reporting the proportion of threatened species on The IUCN Red List is complicated by the fact that not all species groups have been fully evaluated, and also by the fact that some species have so little information available that they can only be assessed as Data Deficient (DD).; 6. OECD and IEA (2015). The 2°C Scenario (2DS) is the main focus of *Energy Technology Perspectives*. It limits the total remaining cumulative energy-related CO_2 emissions between 2015 and 2100 to 1 000 $GtCO_2$.; 7. NASA (29 September 2016); 8. ExxonMobil (2016); 9. OECD (2015d), OECD (2014d), OECD (2014e).

Globalisation



Crime is increasingly globalised
Value of illicit international trade
(estimates, USD billion, 2015)[7]

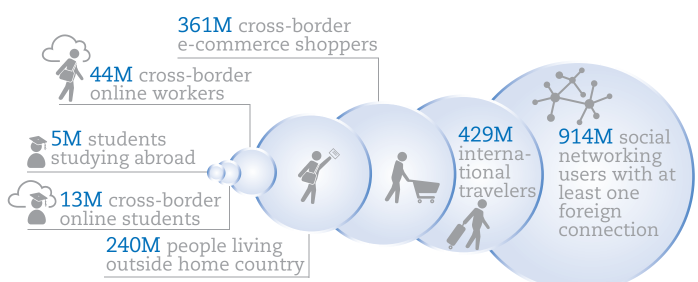
Illicit trade is a
multi-billion-dollar business.

Tax evasion has turned global
Tax revenue losses
(estimates, USD billion, 2015)[8]

USD 100-240 billion could be lost annually due to tax avoidance…

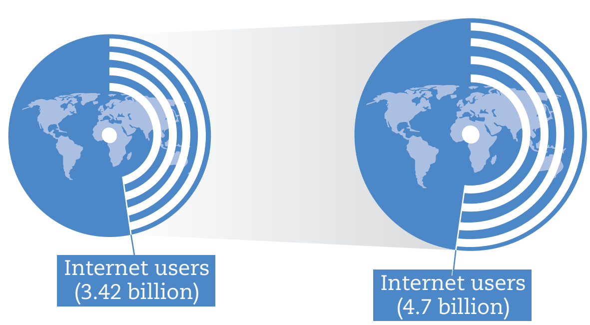
… This is 4% to 10% of global corporate income tax revenues.

Individuals participating in globalisation today[9]



By 2020, some 940 million (M) online shoppers are expected to spend almost USD 1 trillion on cross-border e-commerce transactions.

Internet users, 2016-25[10]



English is the lingua franca of the globalised world with 1 in 4 people using it globally. Non-native speakers account for more than 80% of English online communications[11].

International R&D co-operation

- Globalisation will continue to facilitate the wide diffusion of knowledge, technologies and new business practices and will itself be deepened by this diffusion.
- National STI policy could be framed increasingly in global terms, reflecting the global nature of many problems and issues, and the globalisation of markets and production.
- International agreements and initiatives, such as the Paris Agreement on climate change (COP21) and the UN's Sustainable Development Goals, will further international co-operation in research and direct it towards global grand challenges.

Business R&D

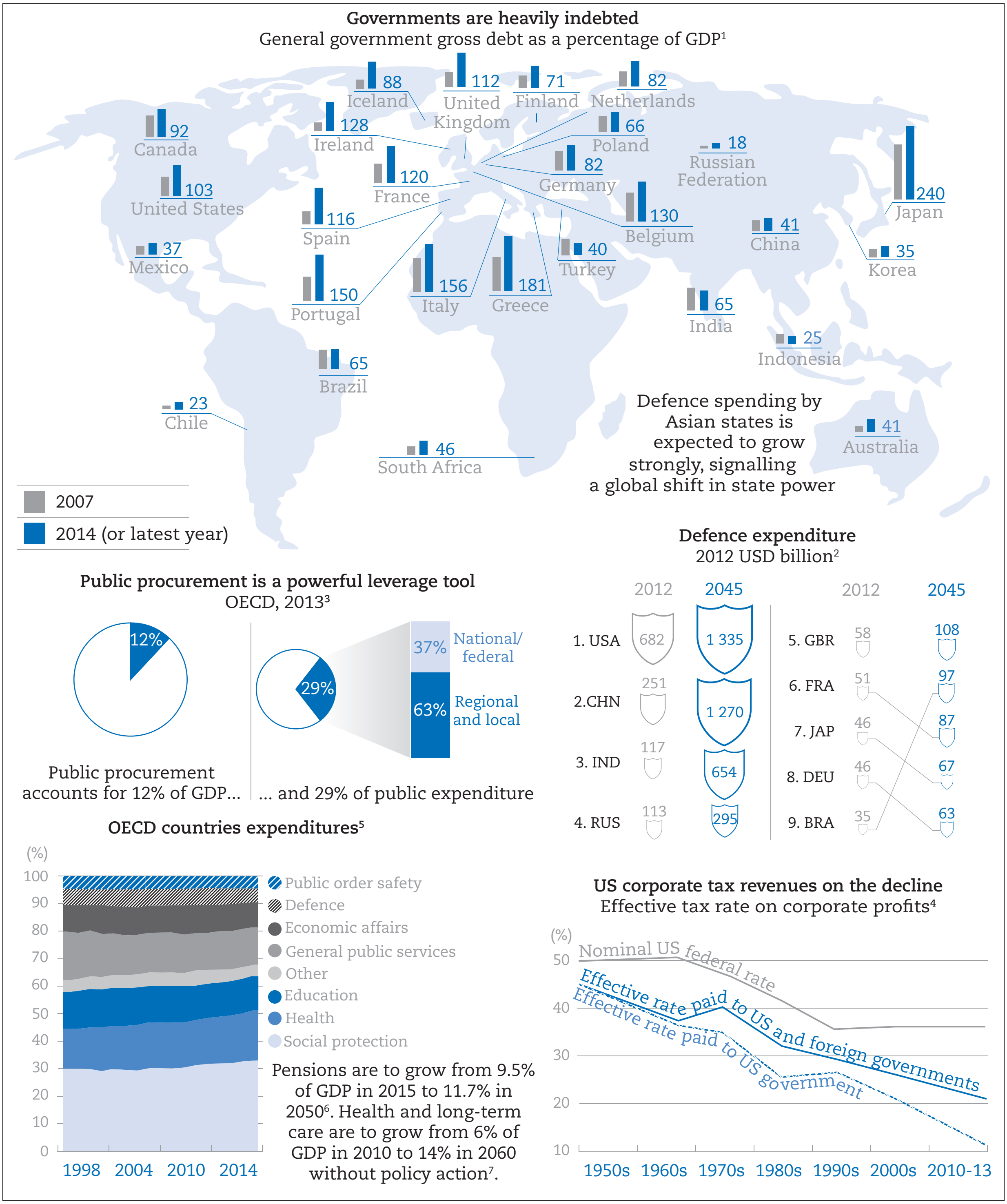
- Business R&D and innovation are increasingly global.
- As important agents of globalisation, multinational enterprises could internationalise their R&D at a faster pace and on a larger scale than before.
- Global value chains could further encourage national industrial specialisation and an increasing concentration of innovation capacities.
- Standards play a crucial role in innovation and are increasingly internationalised since, in a globalised economy, compatibility and interface across borders are ever more important.

Human mobility

- International mobility of highly educated individuals at different stages of their professional careers is a significant driver of knowledge circulation worldwide.
- Countries and institutions are engaged in a global competition for talent to build their own centres of global scientific excellence.
- Digital technologies increasingly help ease the strains of mobility, enabling individuals to maintain regular contact with friends and families for example.

Sources: 1. OECD and WTO (2016); 2. Johansson and Olaberría (2014a); 3. WTO (2013); 4. UN ECOSOC (2016). Figures are cumulative. The cut-off date for these data is 8 January 2015.; 5. OECD (2015f); 6. McKinsey & Company (2016); 7. OECD (2016d); 8. OECD and G20 (2016). BEPS refers to tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations. Under the inclusive framework, over 100 countries and jurisdictions are collaborating to implement the BEPS measures and tackle BEPS.; 9. Facebook, AliResearch, US Department of Commerce, OECD, World Bank, MGI (2016); 10. Burt, D. (2014); 11. Sharifian, F. (2013).

Role of governments



OECD countries are increasingly opting to regulate lobbying[8]

1940 | 1950 | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2014

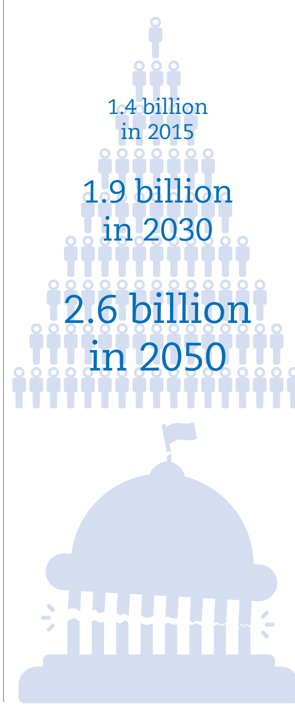
1946 United States
1951 Germany
1983 Australia
1989 Canada
2005 Poland
2006 Hungary
2008 Israel
Mexico
Slovenia
2012 Austria
2012 Netherlands
2012 Italy
United Kingdom
Chile

Only **40%** of OECD citizens trust their governments[9].

Largest corporates to rival governments?
USD billion[10]

Country/company	GDP/profits
Luxembourg	58
Apple	54
Uruguay	53
Costa Rica	51
Croatia	49
Tanzania	45
ICBC	44
Slovenia	43
China Construction Bank	36
Agricultural Bank of China	29
Latvia	27
Bank of China	27
Berkshire Hathaway	24
JPMorgan Chase	24
Estonia	23
Wells Fargo	23
Surgutneftega	20
Toyota Motor	19
Cambodia	18
Gilead Sciences	18
Verizon Communications	18
Novartis	18
Iceland	17
China Mobile	17
Alphabet	17
Samsung Electronics	17

More people will live in fragile states[11]



Rise of megacities: a challenge to nation states?[12]

Megacities may become the epicenter of social, economic and political development, displacing national states in some instances.

Relations with science and innovation

- Governments will continue to play an essential role in guaranteeing scientific autonomy and supporting fundamental science.
- Governments will likely become increasingly proactive in promoting green innovation, using funding for R&D, tax incentives, innovative procurement, standards and regulation.
- The shift to a more multipolar world may increase security uncertainties and possibly spark new arms races, which would likely influence government spending on STI.
- Governments will continue to collect and increasingly make open large amounts of data that are useful for research and innovation.

Government capacity

- While governments will remain the largest investors in public R&D, mounting debt burdens, dwindling tax revenues and rising expenditures on pensions and healthcare could compromise their capacity to fund STI activities at current levels.
- Technological change will present governments with new challenges to manage innovation rents, e.g. through competition policy, and workforce re-skilling, e.g. through education.
- Governments are themselves innovating, conducting experiments and relying increasingly on digital technologies for policy formulation, delivery and evaluation.

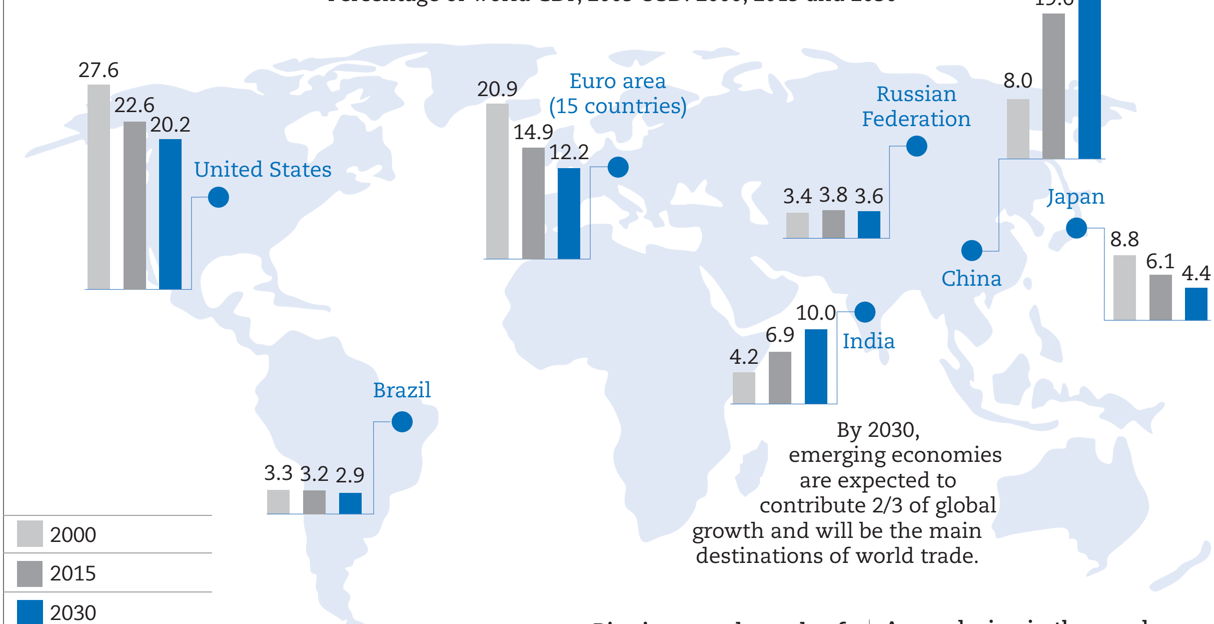
Non-state actors

- Cities and regions will become increasingly significant public funders of research and innovation.
- Governments will increasingly partner with businesses, NGOs and philanthropists to support STI, which will influence public research agendas.

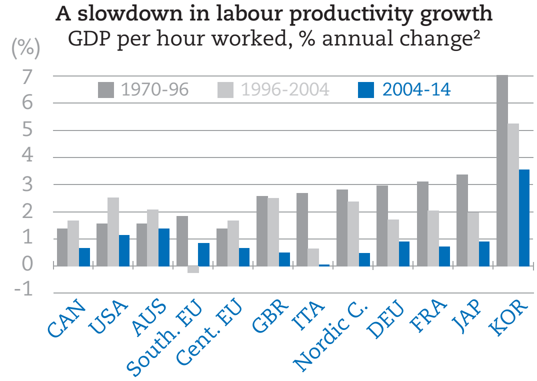
Sources: 1. “General government gross debt”, in OECD (2015l); 2. ESPAS (2015); 3. OECD (2015l). “Other” includes environment protection, housing etc.).; 4. Zucman, G. (2015); 5. OECD (2016e); 6. “Projections of public pension expenditure as a share of GDP from 2015 to 2050”, in OECD (2014g); 7. de la Maisonneuve and Martins (2015); 8. OECD (2014h); 9. OECD (2015l); 10. Forbes (2016); World Bank national accounts data; OECD National Accounts; 11. OECD (2015m); 12. UNDESA (2015b).

Economy, jobs and productivity

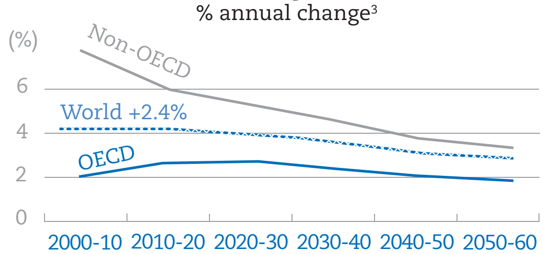
The centre of gravity of the world economy is shifting southeast
Percentage of world GDP, 2005 USD: 2000, 2015 and 2030[1]



A slowdown in labour productivity growth
GDP per hour worked, % annual change[2]



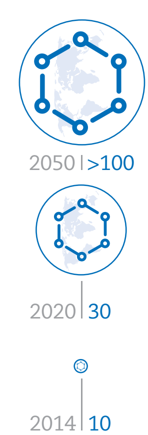
Global economic growth will slow
% annual change[3]



Global growth will be increasingly driven by innovation and investment in skills.

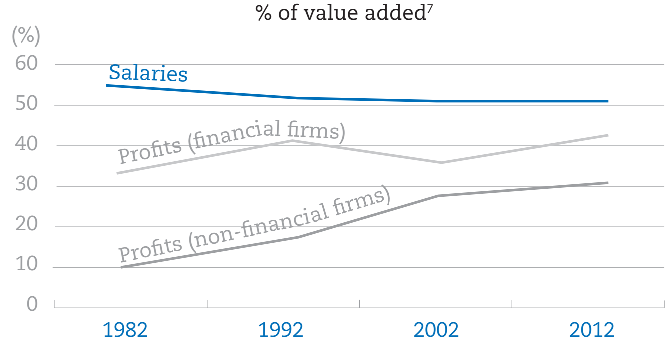
Rise in annual supply of industrial robots
Thousand[4]

An explosion in the number of things connected
Billion[5]

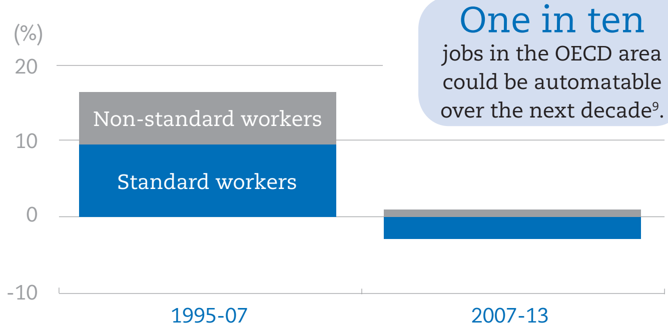


Sharing economy
Global potential revenue, 2013-25 (USD billion)[6]

What about wages?
% of value added[7]



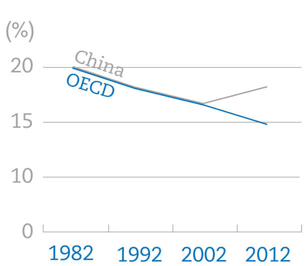
Growing precarity of employment
% employment growth, 2007-13, by type of employment[8]



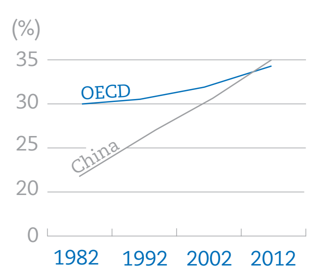
One in ten jobs in the OECD area could be automatable over the next decade[9].

More than half the jobs created since 1995 are non-standard, i.e. part-time, temporary or self-employment arrangements.

Less manufacturing jobs
% total employment[10]



More jobs in R&D-intensive industries
% of manufacturing employment[10]



The persistent decline in manufacturing employment has affected some sectors more than others, with relatively fewer jobs shed in R&D-intensive industries.

Future productivity

- Given population ageing, future income growth will be increasingly driven by innovation and investment in skills.
- Yet, declines in knowledge-based capital accumulation, together with "winner-take-all" business dynamics, could slow the arrival of breakthrough innovations and their diffusion across economies.
- Asian economies are expected to climb up the global value-added ladder. These changes will be accompanied and, in part, driven by big investments in STI.

Digital technologies

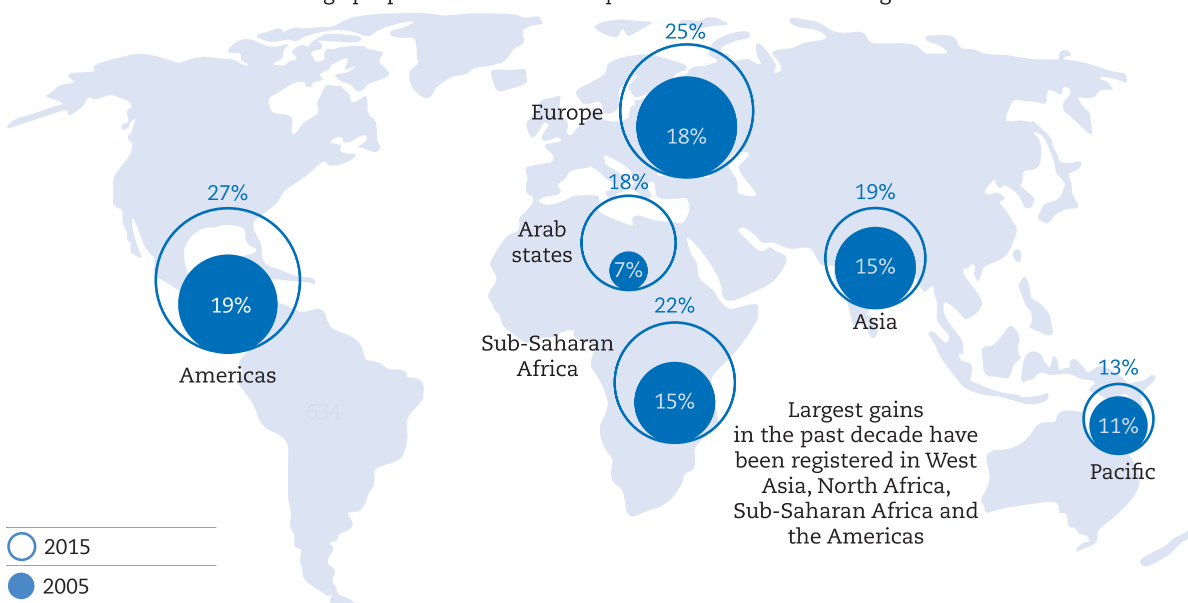
- The growing maturity and convergence of digital technologies are likely to have far-reaching impacts on productivity and income distribution.
- A digital platform economy is fast emerging, creating greater opportunity for entrants – including individuals, outsider firms and entrepreneurs – to succeed in new markets.
- Digital technologies will further disrupt all sectors. For example, in financial services, Fintech promises to disrupt the sector through digitally-enabled P2P lending platforms, equity crowdfunding, online payment systems, cryptocurrencies and blockchain.

Future jobs

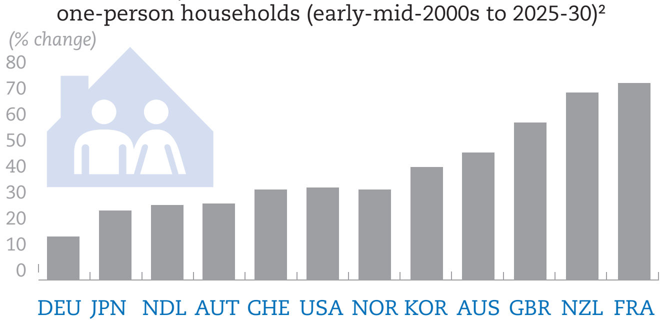
- Advances in machine learning and artificial intelligence are expected to expand the capabilities of task automation and could lead to a further hollowing out of employment and wages. They will also likely create new jobs that, as yet, have not even been imagined.
- Digital platforms that mediate work could lead to more "non-standard" jobs and contribute to the rise of the so-called "gig economy".

Sources: 1. OECD (2014i); 2. OECD (2016f); 3. OECD (2014j); 4. International Federation of Robotics (2015); 5. Gartner (2013); 6. OECD (2016g); 7. OECD (2016h); 8. Arntz, Gregory and Zierahn (2016); 9. OECD (2015r); 10. OECD (2015g). The loss of manufacturing jobs in the OECD area has affected some industries more than others. Over the past 30 years or so, a steadily increasing share of OECD manufacturing employment has come from R&D-intensive industries, rising from 30% to about 35%. In other words, relatively fewer jobs have been shed in this group of industries (chemicals, machinery and transport equipment) compared to others (e.g. textiles, plastics and basic metals). Changes in global production patterns have seen manufacturing in China become more orientated around R&D-intensive industries, with the share of employment rising from 20% in the early 1980s to about 35% in recent years. However, a high presence of R&D-intensive industries does not necessarily indicate high levels of R&D expenditure, as much R&D can be embodied in imported intermediate goods.

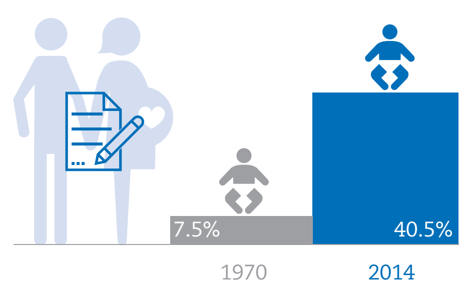
Despite some progress, the gender gap is still prominent
Average proportion of women in parliaments in different regions[1]



Households are getting smaller
Projected increase in the number of one-person households (early-mid-2000s to 2025-30)[2]



More births outside marriage
% of all births, OECD-27 average[2]



Communication habits by generation[3]

	Silent generation (<1945)	Baby boomers (1945-60)	Generation X (1961-80)	Millennials (1981-95)	Generation Z (>1995)
Aspirations	Purchase of a principal residence	Job security	Work-life balance	Freedom and flexibility	Security and stability
Symbolic product		TV			3D printers, nano-computing...
Attitude towards technology	Disengaged	Early adopters, PCs on the horizon	Computer literate	Digital natives	Dependent on digital technology
Communication channel	Face-to-face	Face-to-face, telephone, email	SMS, email	Social networks, instant messaging	Video calls on devices

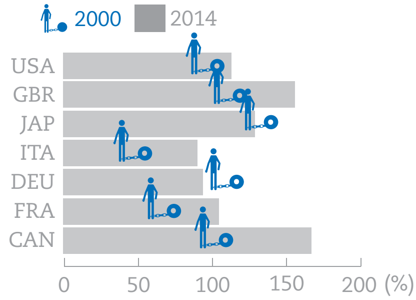
More urbanised

% of the world population living in urban areas[4]

Nearly **90%** of urban expansion will take place in Asia and Africa.

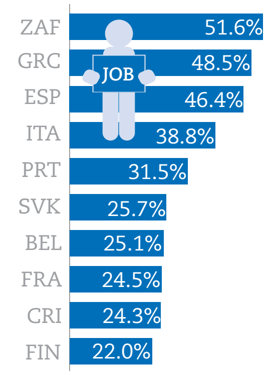
More indebted

Household debt-to-income ratios, G7[5]



More fragile

Youth unemployment rate[7]



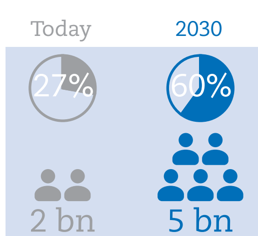
+16% in OECD youth unemployment since 2008.

More educated[6]

The number of students enrolled in higher education **will double** globally by 2025 to 260 million.

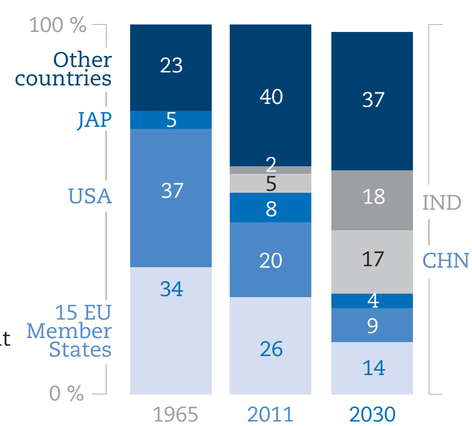
A growing middle class[8]

Size of middle class



By 2030, it will **more than double**. Asia will host **64%** and account for **40%** of global middle-class consumption.

Middle-class consumption breakdown



Social agendas and STI policy

- Societal challenges, e.g. food security, clean energy, climate action, etc., are increasingly influencing STI policy agendas. This in turn could lead governments to use broader notions of research impacts in their research assessments.

Science and innovation in society

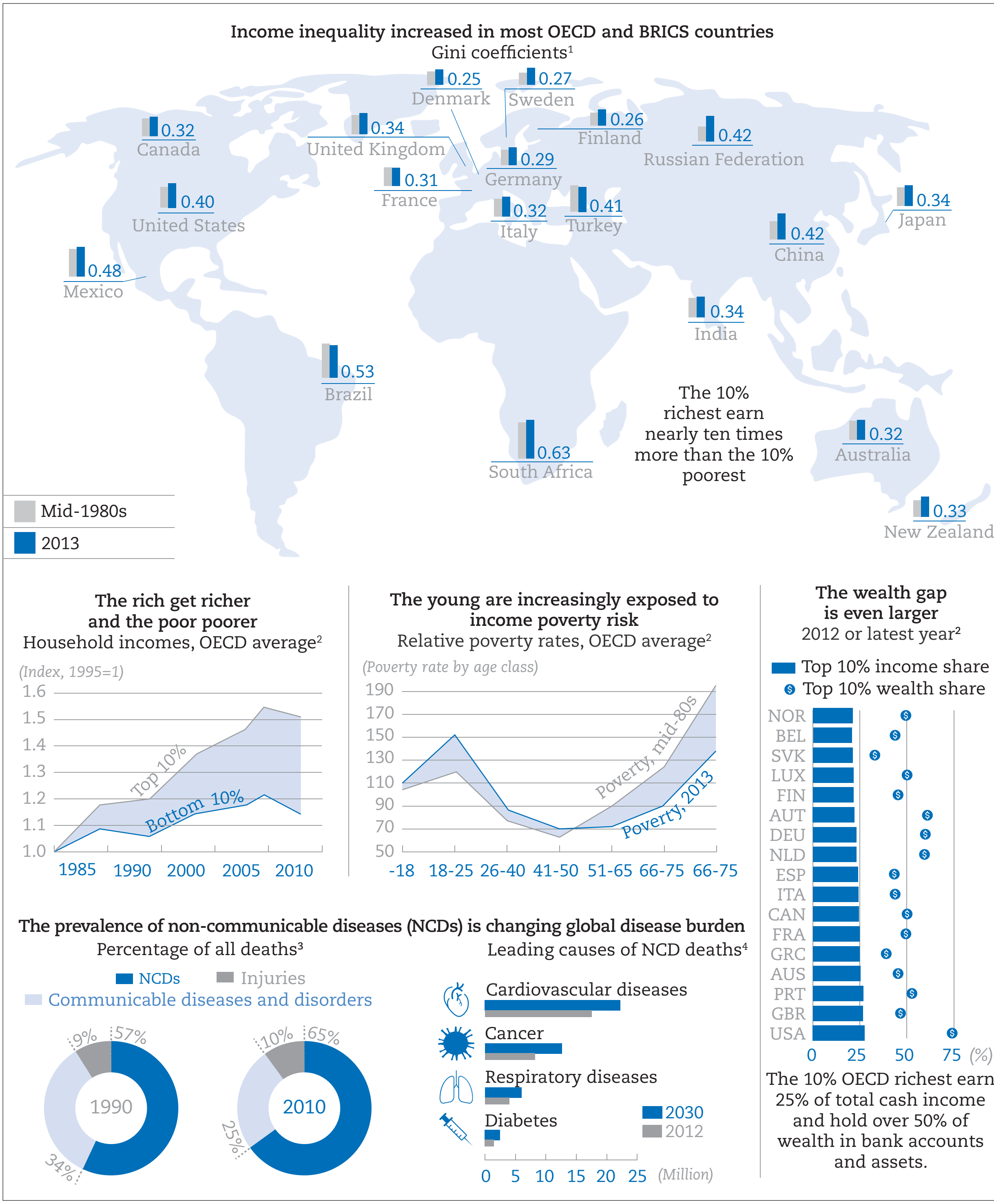
- Digital technologies are transforming societies, altering the ways in which people live, work and communicate. Ubiquitous connectivity will support more flexible working arrangements, though with uncertain consequences for work-life balance.
- New technologies – such as ICTs, synthetic biology, additive manufacturing, nano- and micro-satellites, and advanced energy storage – will empower individuals and social collectives (e.g. NGOs) to conduct their own research and innovation activities.
- A more highly-educated citizenship could become increasingly interested and engaged in the debates around the direction of STI developments, particularly with regards to associated benefits, risks and values.

Urbanisation and consumption

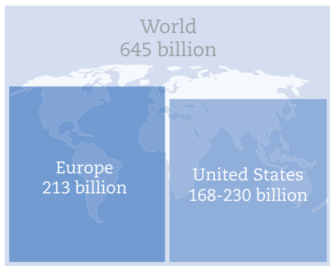
- A growing middle class and increasing consumption in emerging economies will increase demand for innovative consumer goods worldwide.
- In OECD countries and some emerging economies, urban areas will become increasingly "smart", influencing the direction of innovation in sectors such as housing and transportation.
- By contrast, urban development in many developing countries will present health challenges, including the increasing risk of global pandemics. These challenges could have a significant influence on future research agendas.

Sources: 1. IPU (2016); 2. OECD (2016l). The periods over which changes are projected (early-mid-2000s to 2025-30) are as follows: Australia (2006-26), Austria (2007-30), France (2005-30), Germany (2007-25), Japan (2005-30), Korea (2007-30), Netherlands (2009-30), New Zealand (2006-31), Norway (2002-30), Switzerland (2005-30), United Kingdom (2006-31) and United States (2000-25).; 3. Le club des élus numériques (2014); 4. OECD (2012a); 5. OECD and PBO (2016). OECD data for Japan is available only to 2013. The values shown for Japan correspond to 2000 and 2013.; 6. Goddard (2012); 7. OECD (2016h); 8. EEA (2016a). The 15 chosen EU countries are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. No Chinese data for 1965.

Health, inequality and well-being

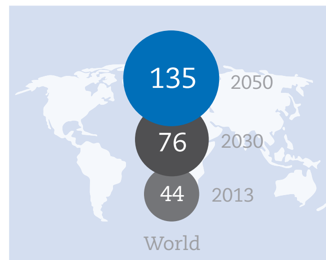


Financial cost of dementia
USD billion, 2013[5]



The global cost of dementia is equivalent to the GDP of Switzerland.

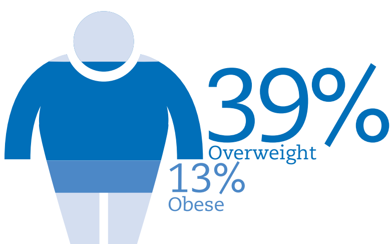
Prevalence of dementia
Million inhabitants[5]



By 2030, dementia cases will rise by +50% in high-income countries and +80% in lower income countries.

Obesity on the rise[6]

Adult obesity, 2014

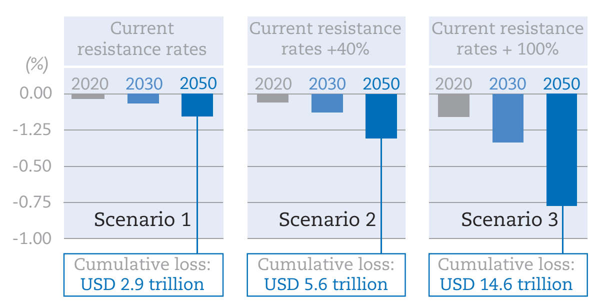


Child obesity, 2014

41 million
children under the age of 5 were overweight or obese in 2014.

Worldwide obesity has **more than doubled** since 1980.

Economic impact of antimicrobial-resistance
GDP loss in OECD countries per year[7]



Today, **700 000** deaths per annum globally are due to antimicrobial resistant micro-organisms.

Innovation and inequality

- Innovation will increase inequality as benefits predominantly accrue to innovators and possibly their customers. For all actors in society to benefit, innovations must diffuse.
- Furthermore, most new technologies require new sets of skills to use. This possibly contributes to unemployment and inequality, and highlights the need for skills training.
- On the other hand, technologies can directly promote social inclusion and economic growth, e.g. digital technologies have opened up access to education, financial services and other knowledge-based services.
- New concepts such as social innovation, frugal innovation, inclusive innovation and social entrepreneurship are leading to new innovative business models and can contribute to a more inclusive approach to innovation.

Health innovation

- Much of the extension of life expectancy and improvements in quality of life over the last century can be attributed to the success of biomedical research and innovation.
- Pharmaceutical research is entering a new era of open science and the use of converging technologies to uncover the genetic and biochemical underpinnings of diseases.
- Digital technologies will massively increase the amounts of medical data available and enhance the power of data analysis in the service of healthcare decision-making.
- New public and private R&D will be essential to deal with the threat of growing antimicrobial resistance.
- Patient groups are increasingly prominent in shaping research and innovation agendas. Furthermore, "do-it-yourself" science groups and maker communities are likely to be increasingly visible in the healthcare field, enabled by low-cost advanced technologies like synthetic biology and additive manufacturing.

Sources: 1. PovcalNet (2016). Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. The Gini coefficient is based on the comparison of cumulative proportions of the population against cumulative proportions of income they receive, and it ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality. The poverty rate is the ratio of the number of people (in a given age group) whose income falls below the poverty line; taken as half the median household income of the total population. However, two countries with the same poverty rates may differ in terms of the relative income-level of the poor.; 2. OECD (2015r); OECD (2016m); 3. EEA (2016b). DALY refers to Disability Adjusted Life Years, defined by WHO as "the sum of Years of potential life lost due to premature mortality and the years of productive life lost due to disability".; 4. WTO (2015a); 5. OECD (2015t); 6. WTO (2015b). Data are Europe (2008), Ireland (2010), United Kingdom (2014), United States (2010), and World (2010). There are considerable methodological differences between the studies summarised here, so this figure should be treated as illustrative only. In general, estimates include indirect costs, such as the opportunity cost of informal care, but methodologies for estimating these costs vary. All costs are in US dollars, inflated to 2013 in line with consumer prices, and so may not match the numerical values stated in the source papers.; 7. Cecchini, Langer and Slawomirski (2015).

Our future is uncertain, shaped by a multitude of powerful, complex and interconnected forces, eventually altered by improbable, unpredictable and highly disruptive events. Seen over a time horizon of say 10-20 years, some of the big trends we see unfolding before us are in fact quite slow-moving. These are megatrends – large-scale social, economic, political, environmental or technological changes that are slow to form but which, once they have taken root, exercise a profound and lasting influence on many if not most human activities, processes and perceptions. Such relative stability in the trajectory of major forces of change allows some elements of a likely medium-to-long term future to be envisioned, at least with some degree of confidence.

The OECD STI Outlook 2016 covers those megatrends that are expected to have strong impact on science, technology and innovation systems over the next 10 15 years. The megatrends covered are clustered into eight thematic areas as follows: Demography, Natural resources and energy, Climate change and environment, Globalisation, Role of government, Economy, jobs and productivity, Society, and Health, inequality and well-being.

To access the PDF references, please consult *the Science, Technology and Innovation Outlook 2016* available at http://oe.cd/STIO16.

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