

9.1.a Private and public expenditure on research and development

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Expenditure on research and development, in million euros										
Sectors, total	70,014	75,569	79,110	79,729	84,247	88,782	92,174	99,554	104,669	110,025	106,583
of which:											
Government, private non-profit institutions	10,354	10,974	11,341	11,862	12,320	12,486	12,721	13,484	14,168	15,022	15,589
Higher education	12,731	13,518	13,980	14,302	14,931	15,344	16,627	17,282	18,400	19,173	19,962
Business	46,929	51,077	53,790	53,566	56,996	60,952	62,826	68,787	72,101	75,830	71,032
	Proportion of total research and development expenditure, in %										
Government, private non-profit institutions	14.8	14.5	14.3	14.9	14.6	14.1	13.8	13.5	13.5	13.7	14.6
Higher education	18.2	17.9	17.7	17.9	17.7	17.3	18.0	17.4	17.6	17.4	18.7
Business	67.0	67.6	68.0	67.2	67.7	68.7	68.2	69.1	68.9	68.9	66.6
	Staff in research and development, in full-time equivalents										
Sectors, total	548,723	575,099	591,261	588,615	605,252	640,516	657,894	686,349	707,704	735,584	733,831
of which:											
Government, private non-profit institutions	90,531	93,663	95,882	98,161	101,005	101,717	103,206	106,025	109,487	112,593	114,695
Higher education	120,981	124,308	127,900	130,079	132,542	134,032	141,661	143,753	147,160	147,316	151,692
Business	337,211	357,129	367,478	360,375	371,706	404,767	413,027	436,571	451,057	475,676	467,444
	Proportion of staff by sectors, in %										
Government, private non-profit institutions	16.5	16.3	16.2	16.7	16.7	15.9	15.7	15.4	15.5	15.3	15.6
Higher education	22.0	21.6	21.6	22.1	21.9	20.9	21.5	20.9	20.8	20.0	20.7
Business	61.5	62.1	62.2	61.2	61.4	63.2	62.8	63.6	63.7	64.7	63.7

Notes:

- Calculation methodology changed as of 2016.
- Expenditure including not allocable.
- Staff in full-time equivalents: Including only those parts of working hours that are devoted to research and development activities, summarised to full-time equivalents.

Data sources:

Federal Statistical Office, Stifterverband Wissenschaftsstatistik

still: 9.1.a Private and public expenditure on research and development

International comparison

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Proportion of GDP, in %										
Japan	3.1	3.2	3.2	3.3	3.4	3.2	3.1	3.2	3.2	3.2	3.3
Korea	3.3	3.6	3.9	4.0	4.1	4.0	4.0	4.3	4.5	4.6	4.8
Israel	3.9	4.0	4.1	4.1	4.2	4.3	4.5	4.7	4.8	5.1	5.4
USA	2.7	2.8	2.7	2.7	2.7	2.8	2.9	2.9	3.0	3.2	3.5
Sweden	3.2	3.2	3.2	3.3	3.1	3.2	3.2	3.4	3.3	3.4	3.5
Denmark	2.9	2.9	3.0	3.0	2.9	3.1	0.3	2.9	3.0	2.9	3.0
Finland	3.7	3.6	3.4	3.3	3.1	2.9	2.7	2.7	0.3	2.8	2.9
European Union	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2
OECD	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.7

Notes:

- GDP: Gross domestic product.
- USA: Differing definition.
- European Union: EU-27 (without United Kingdom). Data estimated by the OECD.
- OECD: Organisation for Economic Co-operation and Development.

Data source:

Organisation for Economic Co-operation and Development

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