INNOVATION BEHAVIOUR IN THE GERMAN PRIVATE SECTOR C 3

Corporate innovation activities aim to achieve at least a temporary competitive advantage over other market participants. Graphs C 3–1 to C 3–5 illustrate the innovation behaviour of German businesses since 1993. Figures are based on data from the Mannheim Innovation Panel (MIP), which is the annual innovation survey by the Centre for European Economic Research (ZEW).[386] In 2011, the innovator rate (C 3–1) decreased both in industry and knowledge-intensive services. The rate was still above the level of the crisis year of 2009 in the R&D-intensive industries, while innovation participation in other industries and knowledge-intensive services remained below the value of 2009.

Technologically advanced innovation projects usually require continuous R&D activities.[387] Following a rise in 2010, the proportion of companies with continuous R&D (C 3–2) declined in 2011 both in industry and knowledge-intensive services. The share of occasional R&D-performing companies considerably declined both in R&D-intensive industries and other industries, while the ratio increased slightly in the knowledge-intensive services sector.

While innovation intensity (C 3–3) in the R&D-intensive industries increased in 2011, it decreased slightly in other industries and in knowledge-intensive services. The proportion of revenue generated by new products as part of innovation activities (C 3–4) shows a similar development trend: in the R&D-intensive industries, the ratio rose slightly in 2011, while it decreased in other industries and in knowledge-intensive services (excluding financial services).

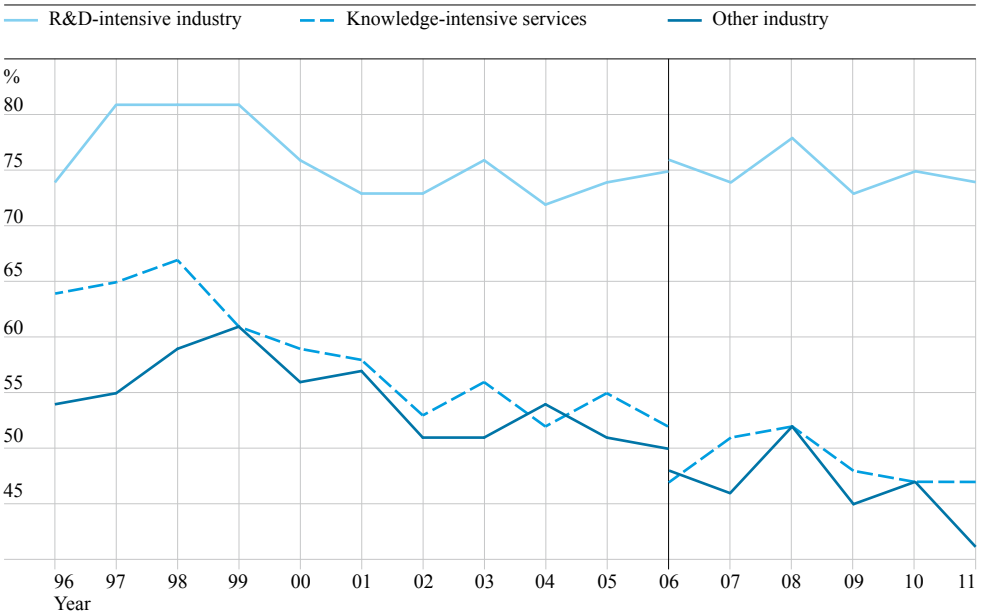
The surveyed companies have also provided projected figures on innovation expenditures in 2012 and 2013, based on estimates from the spring and summer 2012 (C 3–5). According to these figures, innovation expenditures are expected to increase further in 2012 across all three sectors. In 2013, companies from the R&D-intensive industries and knowledge-intensive services aim to achieve an increase in innovation expenditure, while a decrease is expected in other industries.

Equity plays a pivotal role in the financing of innovation activities in the private sector. According to data from the European BACH database[388], the equity ratios of small and medium-sized industrial enterprises in Germany (C 3–6) increased once again in 2010.

Young, innovative companies can often only successfully establish themselves on the market if they are supported during the start-up and development phases by venture capital from private investors. As shown by figures from the European Private Equity & Venture Capital Association (EVCA)[389], the volume of venture capital investments (C 3–7) increased in Germany in 2010 and 2011, after it had fallen sharply during the crisis year of 2009. Nevertheless, the proportion of venture capital investment as a percentage of GDP (C 3–8) in Germany continues to be relatively low. Other continental European countries such as Sweden, Denmark, Finland and Switzerland record significantly higher venture capital investments relative to GDP.

As a result of the work of the committees at the International Organization for Standardization (ISO) (C 3–9), countries can significantly influence the global technical infrastructure, thereby achieving competitive advantages.[390] German companies contribute to the work of ISO committees more frequently than representatives of all other countries.

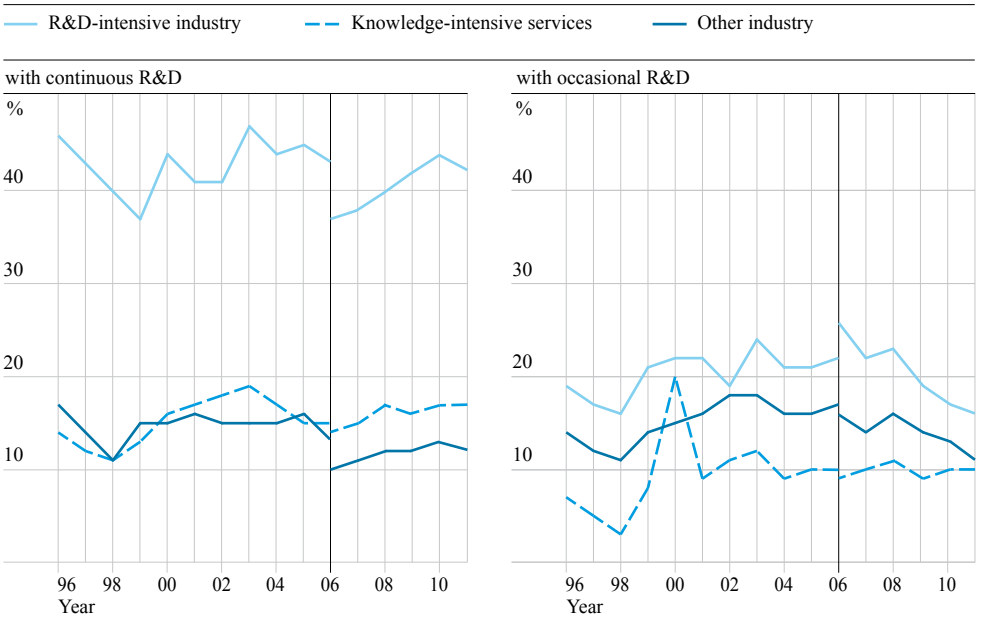
C 3–1 **Innovator rate in Germany's industry and knowledge-intensive services**
(figures in percent)



1995 not surveyed for knowledge-intensive services. Break in the time series in 2006. Figures for 2011 are provisional.
Source: Mannheim Innovation Panel (MIP). Calculations by ZEW.

Innovator rate: share of companies that, within a three-year period, have launched at least one new product on the market or introduced at least one new process.

C 3–2 **Companies with continuous or occasional R&D activities**
(figures in percent)

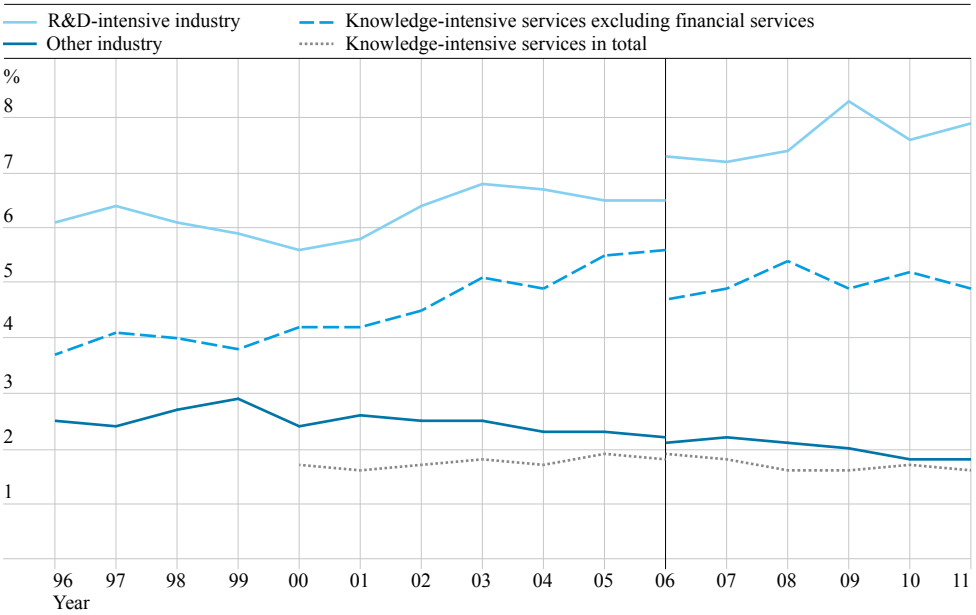


1995 not surveyed for knowledge-intensive services. Break in the time series in 2006. Figures for 2011 are provisional.
Source: Mannheim Innovation Panel (MIP). Calculations by ZEW.

Share of companies with continuous or occasional R&D activities: innovation-active companies that have, over the previous three-year period, pursued R&D either continuously or occasionally.

Innovation intensity in Germany's industry and knowledge-intensive services C 3–3
(figures in percent)

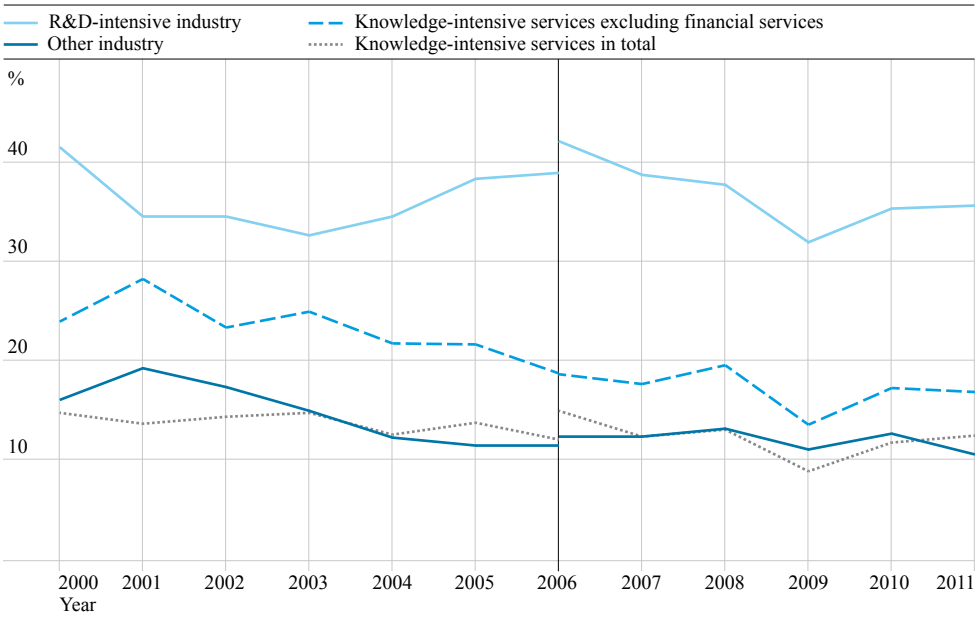
Innovation intensity: companies' innovation expenditures in relation to total revenue.



Break in the time series in 2006. Figures for 2011 are provisional.
Source: Mannheim Innovation Panel (MIP). Calculations by ZEW.

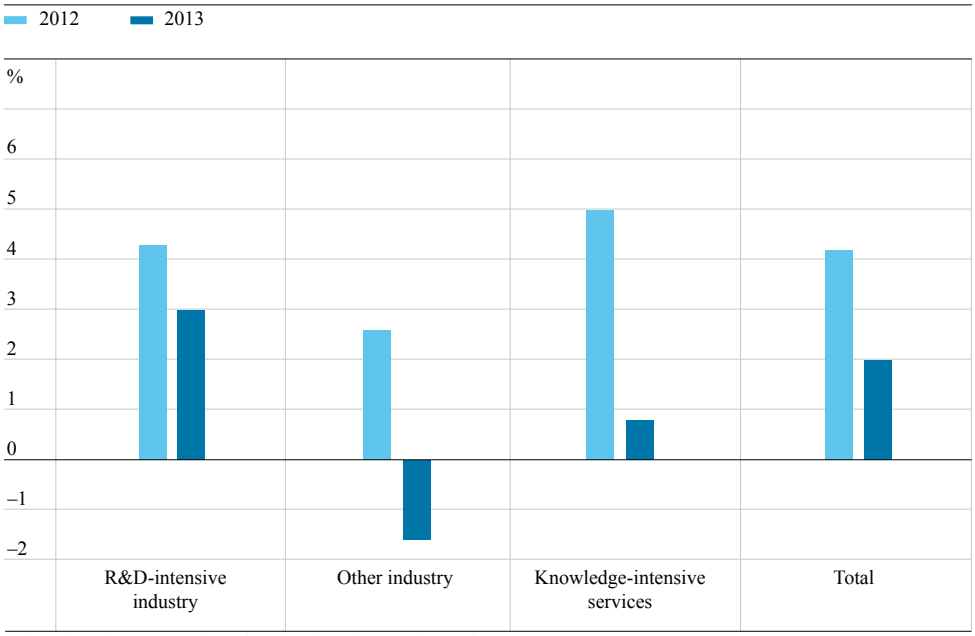
Proportion of revenue generated with new products in Germany's industry and knowledge-intensive services (figures in percent) C 3–4

Proportion of revenue generated with new products: revenue from new or significantly improved products, newly introduced by innovating companies in the past three years, in relation to total revenue.



Break in the time series in 2006. Figures for 2011 are provisional.
Source: Mannheim Innovation Panel (MIP). Calculations by ZEW.

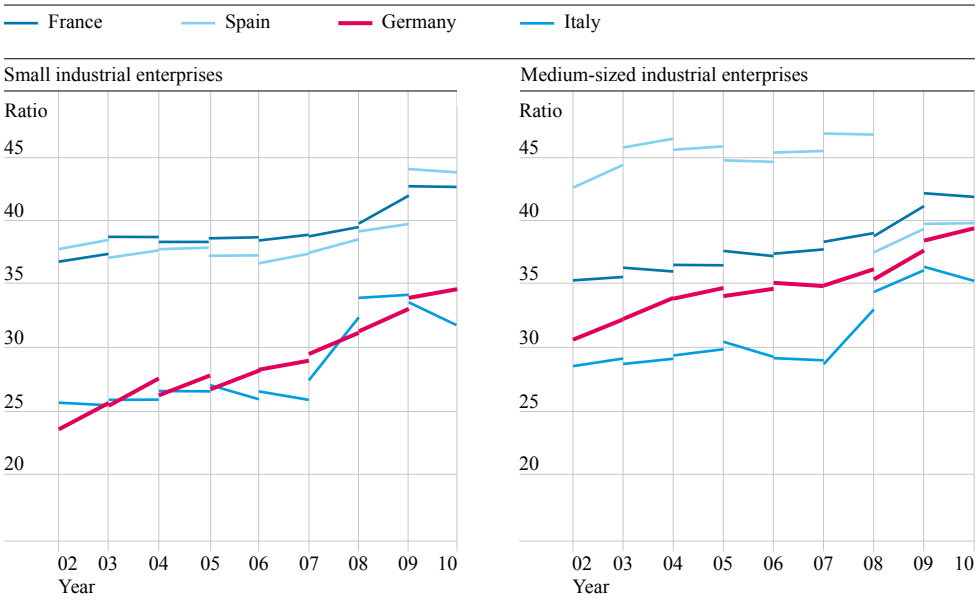
C 3–5 **Planned changes in innovation expenditures in Germany's industry and knowledge-intensive services** (figures in percent)



Values based on companies' planning data from spring and summer 2012.
Source: Mannheim Innovation Panel (MIP). Calculations by ZEW.

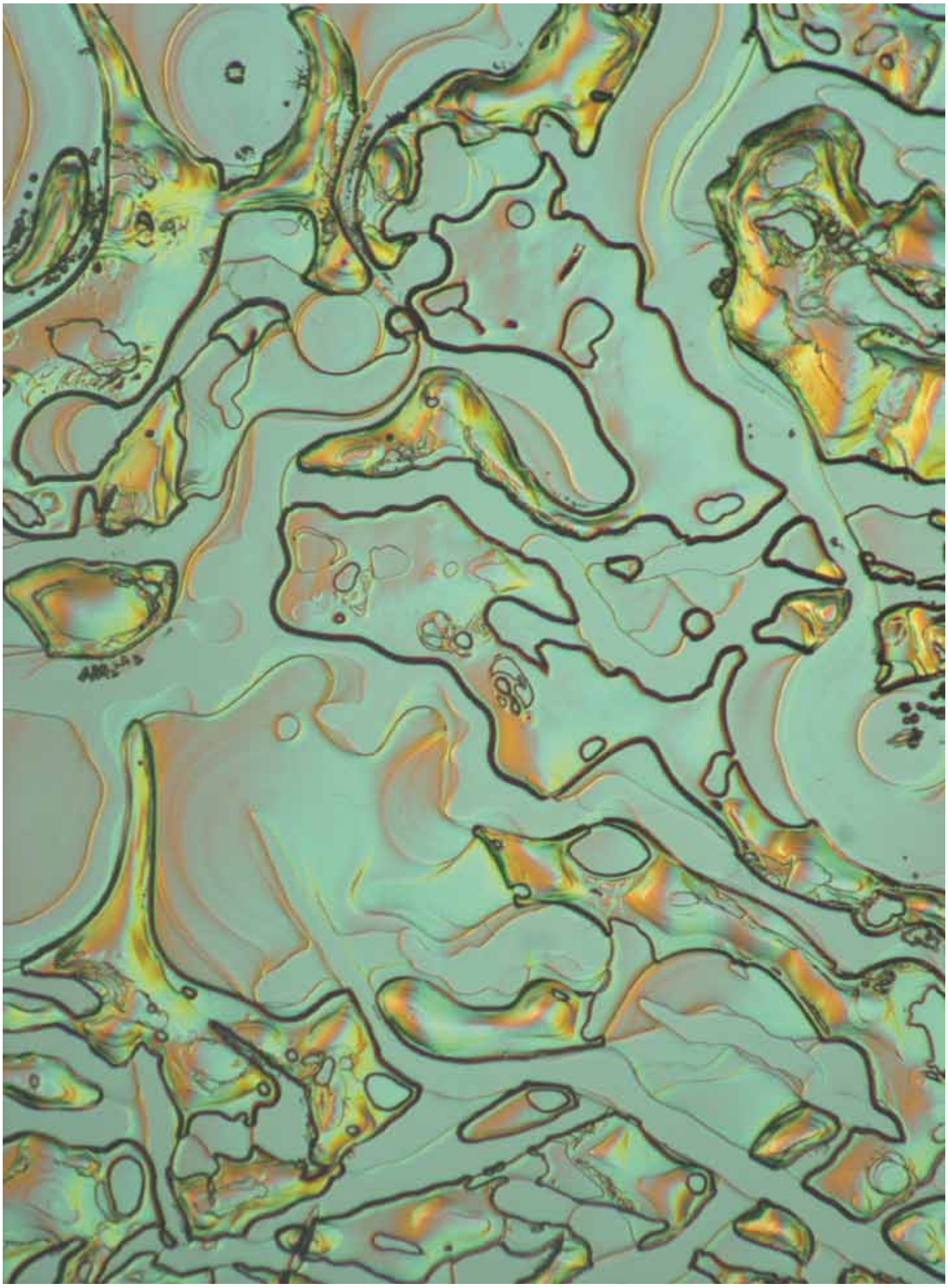
Planned innovation expenditures: data, obtained from the companies' planning figures, regarding changes in innovation-related expenditures compared with the previous year.

C 3–6 **Equity ratios of small and medium-sized industrial enterprises**[391]

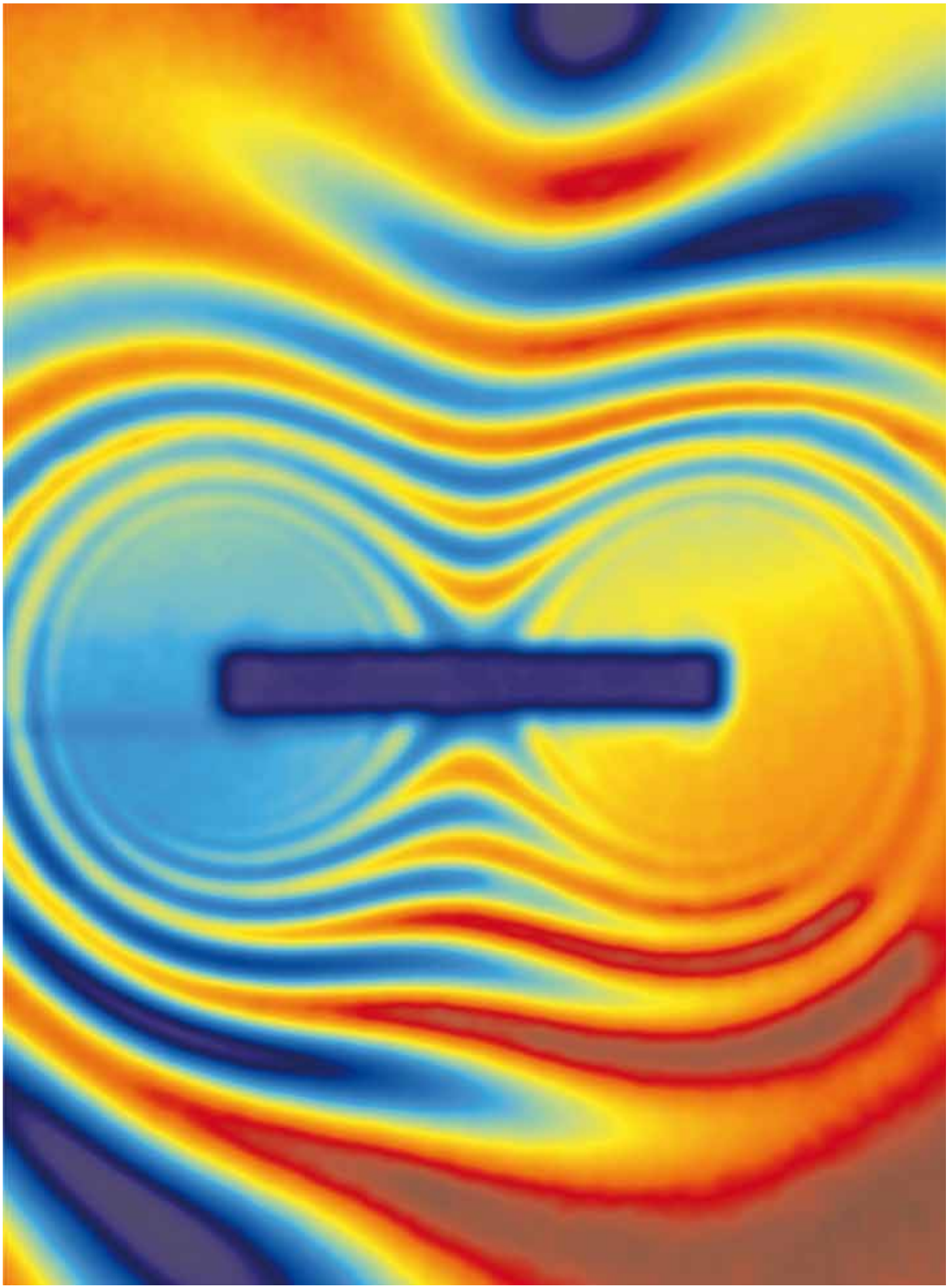


Source: BACH-ESD. Banque de France. Own depiction.

Equity ratio: a company's equity in relation to its total balance sheet.



A silicon sample viewed through a polarised-light microscope.



The magnetic field of a dipol magnet visualised by neutron tomography at the Berlin neutron source BER II.

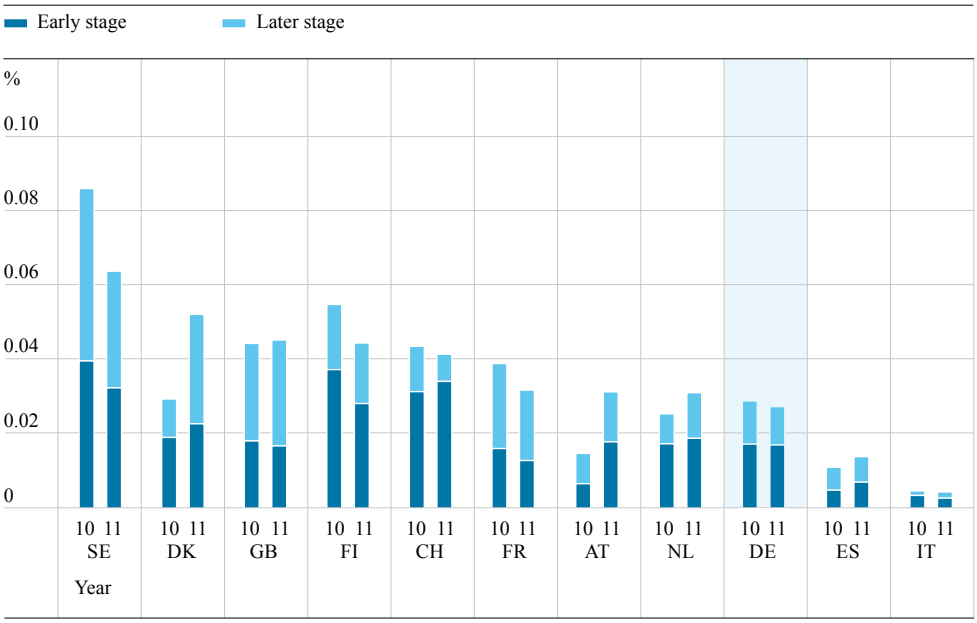
Venture capital investments C 3–7
(investments according to portfolio companies' registered office)

Venture capital: temporally limited equity participation in young, innovative, unlisted companies.

	2010				2011			
	Early Stage*	Later Stage*	Total venture capital*	GDP**	Early Stage*	Later Stage*	Total venture capital*	GDP**
Denmark	45.0	24.4	69.4	235.6	54.6	70.7	125.3	239.8
Germany	*428.6*	*288.6*	*717.3*	*2,476.8*	*439.1*	*265.7*	*704.8*	*2,570.8*
Finland	67.2	31.5	98.7	179.7	54.1	31.2	85.3	191.6
France	312.5	443.7	756.2	1,937.3	257.6	378.8	636.3	1,996.6
Great Britain	310.0	448.3	758.3	1,706.3	292.4	495.7	788.1	1,737.1
Italy	54.4	18.8	73.2	1,553.2	43.8	26.5	70.2	1,580.2
Netherlands	102.4	47.5	149.9	588.4	113.7	74.0	187.7	602.1
Austria	19.0	23.4	42.4	286.2	53.8	40.4	94.3	300.2
Sweden	138.7	162.2	300.9	349.2	125.6	121.6	247.1	386.8
Switzerland	125.5	48.6	174.1	398.9	157.1	33.5	190.5	459.0
Spain	51.7	65.0	116.7	1,051.3	76.0	73.7	149.7	1,073.4

* In million euro. ** at current prices in billion euro. The early stage comprises the "seed" and "start-up" phases.
Source: EVCA (2012). Eurostat. Own calculations. Inaccuracies due to figure rounding.

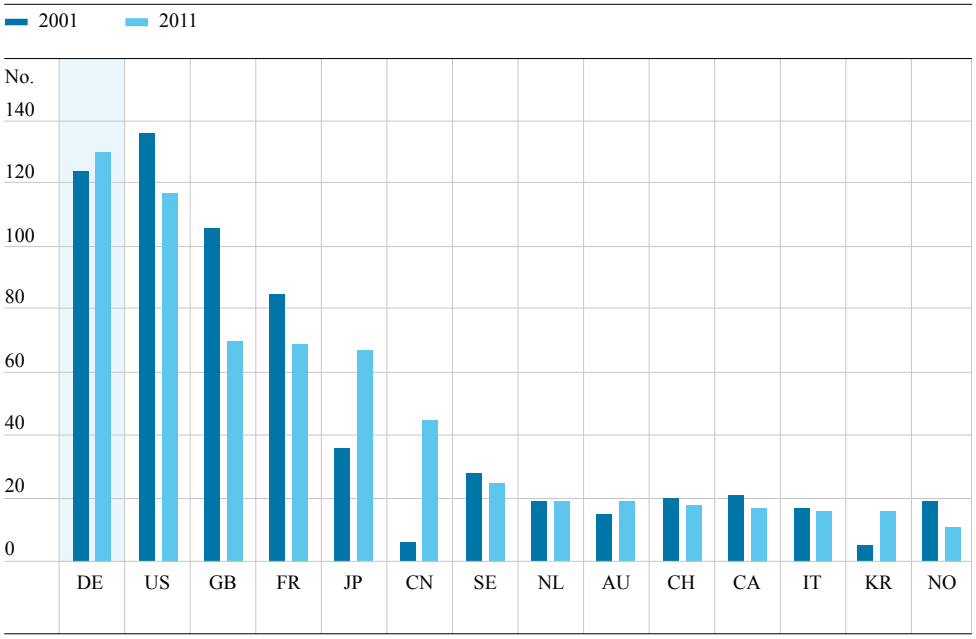
Proportion of venture capital investments as a percentage of national GDP C 3–8
(Investments according to registered office of the portfolio companies; figures in percent)



The early stage comprises the "seed" and "start-up" phases.
Source: EVCA (2012). Eurostat. Own calculations.

C 3–9 **Number of assigned secretariats for technical committees and subcommittees of the International Organization for Standardization (ISO)**

Standardisation: harmonisation of important characteristics of products, processes and services.



Source: ISO (2002:17 and 2012:47). Own compilation.