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Summary

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Overview of the Cultural and Creative Industries in 2016

253,200
companies

€ 98.8 billion
gross value added

€ 4.8 billion
annual spending on innovation

4.2 % more gross value added
(compared to 2015)

€ 154.4 billion
sales

5.2 %
start-up ratio – slightly above average figure for Germany

1,117,047
core workers

€ 138,200
sales per core worker

€ 88,470
gross value added per core worker

9.5 %
of companies are proactive exporters

863,844
employees subject to the payment of social security contributions

approx. 9,900
new start-ups

3.8 %
foreign sales

3 %
more core workers
(compared to 2015)

3.5 %
more employees subject to the payment of social security contributions
(compared to 2015)

520,900
people in marginal employment and marginal self-employment

€ 609,700
turnover per company

3.1 %
of total German spending on innovation

3.1 %
share of GDP

22.7 %
self-employed
(proportion of core workers)

1,637,961
Total working in sector

1 Introduction

1.1 Commission

For the fifth year in a row, the Federal Ministry for Economic Affairs and Energy has commissioned the Centre for European Economic Research (ZEW) in Mannheim and the Fraunhofer Institute for Systems and Innovation Research ISI in Karlsruhe to conduct an annual audit of the cultural and creative industries (CCIs) in Germany. The 2017 monitoring report builds upon the audits carried out over the past few years.[1] It evaluates the importance of the CCIs for the overall economy and shows how the relevant economic indicators developed between 2011 and 2016.[2] The analyses contained in the report are based on data from publicly available sources and from a representative survey conducted by ZEW in spring 2017 on the cultural and creative industry sector in Germany.

The current audit focuses on the following key aspects:

- What is the economic importance of the cultural and creative industries for the overall economy, and how does this sector compare to other more traditional sectors in Germany?
- What are the key distinguishing features of the individual submarkets in the cultural and creative industries?
- How have the cultural and creative industries and their submarkets developed over the last few years in terms of key indicators (turnover, value added, number of companies, employment) and export activities?
- How are company start-ups developing in the cultural and creative industries in Germany?
- How innovative are CCI businesses compared with other sectors?
- What is the current situation in the German cultural and creative sector in terms of work and skills?

The latter point is considered in greater depth in Chapter 3 on the basis of the findings of a representative company survey conducted by the ZEW in spring 2017. Also, the unabridged version of the Monitoring Report contains further analysis in its descriptions of the sub-sectors. Detailed tables on the number of companies, turnover and core workers can be found in the annex to this report (cf. Section 7.1). Definitions of core and “marginal” workers can be found in the footnotes to table 2.1.

1.2 Definition

The definition of the cultural and creative industries underlying this report follows the definition of the Conference of Economic Affairs Ministers and places the focus on commercial companies.[3]

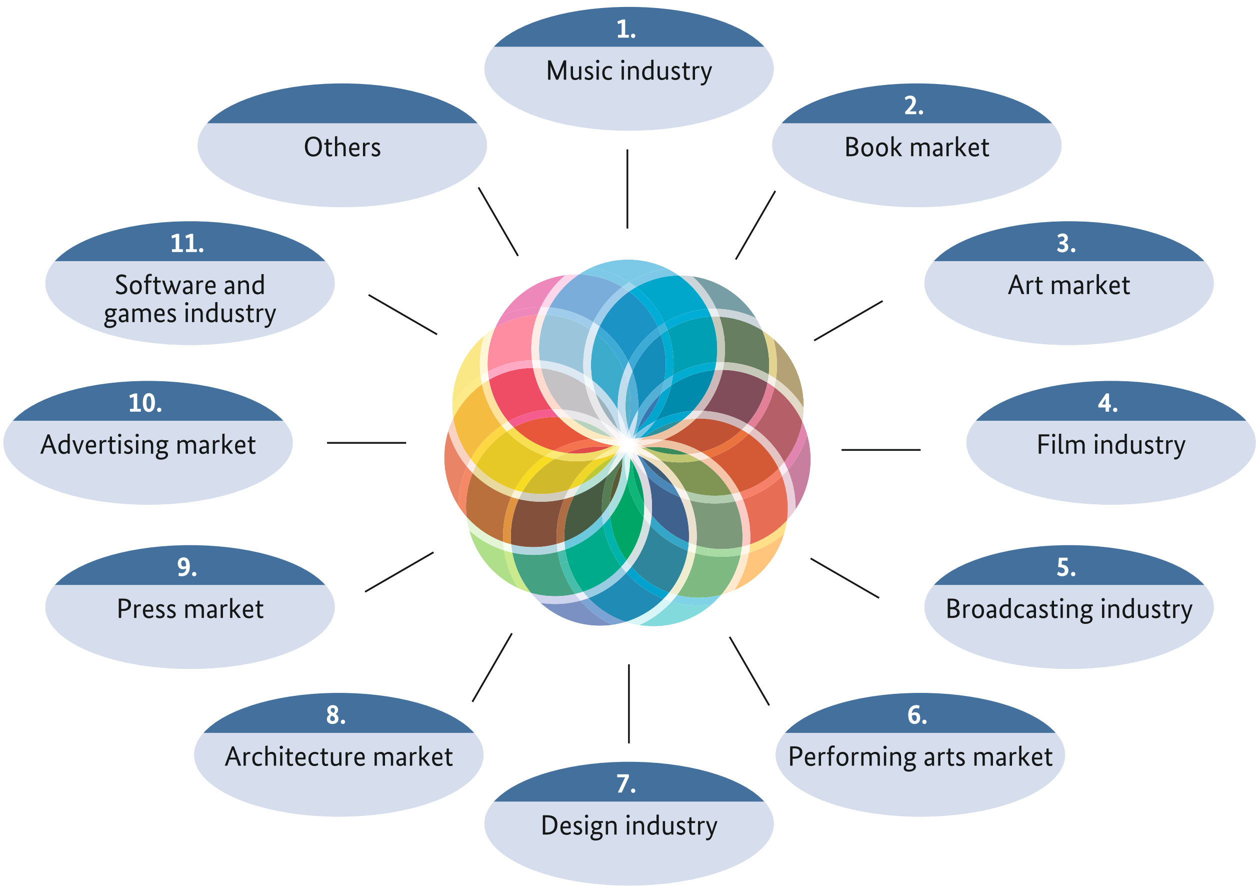
“The cultural and creative industries comprise all cultural and creative enterprises that are mainly market-oriented and deal with the creation, production and/or dissemination through the media of cultural/creative goods and services.” The main criterion for the definition is the commercial character of the company. All market-based companies that are subject to VAT or that aim to generate revenue from art, culture and creativity belong to this group of companies. Companies not included in this group are companies or entities that do not derive most of their funding through the market, instead receiving government funding or licence fees, or are supported by non-profit funds or private investors. Such a distinction between commercial or market-based companies on the one hand and non-market based companies on the other is of particular importance for the situation in Germany for reasons concerning policies of regulation and governance.

1 For last year’s report, see Federal Ministry for Economic Affairs and Energy (2017), Monitoring of Selected Economic Key Data on the Cultural and Creative Industries 2016, unabridged version, Berlin.

2 Key data are also available for earlier years, but were not included for the sake of brevity and readability. If you wish to have this information, the authors will be happy to provide it to you.

3 Conference of Economic Affairs Ministers (2009), Leitfaden zur Erstellung einer statistischen Datengrundlage für die Kulturwirtschaft und eine länderübergreifende Auswertung kulturwirtschaftlicher Daten, Cologne. (available in German only)

Figure 1.1: The submarkets of the cultural and creative industries



Source: Federal Ministry of Economics and Technology, 2009.

2 Overview of the Overall Economic Importance of the Cultural and Creative Industries

The following analyses are based on official statistics from the Federal Statistical Office of Germany and the Federal Employment Agency. Detailed explanations of the various data sources and calculation methods are provided in the annex to the unabridged version of this report. Due to delays in the publication of certain official statistics, it has been necessary to estimate some of the latest data. Such estimates have been marked.

2.1 Key Data on the Cultural and Creative Industries in Germany

More than a quarter of a million companies in the German cultural and creative industries

Continuing the trend seen in the preceding years, there was another substantial rise in the number of companies in the cultural and creative industries (CCIs) in Germany in 2016. There are now an estimated approx. 253,200 companies, or 1.1 % more than in 2015 (cf. table 2.1).[4] The number of companies in the CCI sector has continually grown since 2009; at the same time, the proportion of all companies in Germany which are in the cultural and creative industries has been relatively constant and currently stands at 7.7 %.

Total turnover stands at €154.4 billion

The CCI companies generated an estimated turnover of €154.4 billion in 2016. This means that overall turnover increased by around 1.5 % compared with 2015. Like the number of companies, CCI turnover has also recorded almost uninterrupted growth since 2009. The only exception was 2013, when turnover dropped slightly below the preceding year's level.

Gross value added just under €100 billion

On the basis of a new calculation method, the gross value added generated by the cultural and creative industries totalled an estimated €98.8 billion in 2016[5], or nearly 4.2 % more than in 2015. The sector contributed approximately 3.1 % of Germany's GDP. Gross value added has been rising continuously in the cultural and creative sector from a level of €74.2 billion in 2009.

Approximately 3.5 % more employees subject to the payment of social security contributions – well over 1.1 million core workers in sector

The number of employees in jobs subject to the payment of social security contributions saw a renewed sharp rise in 2016 of 3.5 % to 864,000. This means that nearly 100,000 new jobs subject to the payment of social security contributions have been created in the cultural and creative sector in the last four years.

If we also take into account the 253,200 self-employed persons in this sector, we arrive at a figure of approximately 1,117,000 core (non-marginal) workers in the CCI sector. This represents a rise of nearly 3 % from the 2015 figure.

Slight rise in marginal employment – total number working in sector also rising

Following the sharp drop in the number of people in marginal employment in 2015, the figure recovered slightly last year. In 2016, slightly more than 310,000 people were engaged in marginal activity in the cultural and creative industries. That is roughly 2,000 or 0.7 % more than in the preceding year. Nevertheless, the figure is well below its peak in 2010, when 379,300 people were engaged in this form of work.

4 The estimates in the 2015 report have been replaced in this report by the actual figures for 2015. Discrepancies may therefore occur in the figures for 2015 in the current report compared to the previous year's report.

5 The use of a new calculation method results in considerably higher figures for gross value added in this year's report than in previous years (cf. also Section 2.2).

Table 2.1: Key data on the cultural and creative industries in Germany 2011 – 2016*

Category	2011	2012	2013	2014	2015	2016*	Change 2015/2016
No. of companies (in thousands)[1a]							
Cultural and creative industries (CCIs)	244.3	245.8	246.4	247.0	250.4	253.2	1.10 %
Contribution of CCIs to overall economy	7.60 %	7.56 %	7.60 %	7.62 %	7.69 %	7.67 %	
Turnover (in € billion)							
Cultural and creative industries (CCIs)	141.0	143.3	143.2	146.9	152.1	154.4	1.51 %
Contribution of CCIs to overall economy	2.48 %	2.49 %	2.48 %	2.50 %	2.54 %	2.47 %	
Employment							
Core labor force[2a]							
Cultural and creative industries (CCIs)	976.8	1.011.8	1.037.3	1.056.0	1.084.9	1.117.0	2.96 %
Contribution of CCIs to overall economy	3.07 %	3.11 %	3.16 %	3.16 %	3.19 %	3.22 %	
Employees subject to social security contributions (‘000)[3a]							
Cultural and creative industries (CCIs)	732.5	766.0	790.9	809.1	834.5	863.8	3.52 %
Contribution of CCIs to overall economy	2.56 %	2.62 %	2.67 %	2.68 %	2.71 %	2.75 %	
Self-employed persons (‘000)[4a]							
Cultural and creative industries (CCIs)	244.3	245.8	246.4	247.0	250.4	253.2	1.10 %
Contribution of CCIs to overall economy	7.60 %	7.56 %	7.60 %	7.62 %	7.69 %	7.67 %	
People in marginal employment and marginal self-employment (‘000)[5a]							
Cultural and creative industries (CCIs)	593.6	586.8	556.1	561.3	519.3	520.9	0.31 %
Contribution of CCIs to overall economy	6.80 %	6.78 %	6.38 %	6.45 %	4.38 %	4.38 %	
Persons in marginal self-employment[6a]							
Cultural and creative industries (CCIs)	224.8	221.9	203.3	211.1	211.2	210.7	-0.23 %
Contribution of CCIs to overall economy	18.90 %	20.84 %	20.42 %	22.17 %	23.34 %	25.11 %	
Persons in marginal employment (‘000)[7a]							
Cultural and creative industries (CCIs)	368.8	365.0	352.8	350.2	308.1	310.2	0.69 %
Contribution of CCIs to overall economy	4.89 %	4.81 %	4.57 %	4.48 %	4.00 %	4.00 %	
Total employment (’000)[8a]							
Cultural and creative industries (CCIs)	1.570.4	1.598.6	1.593.4	1.617.3	1.604.2	1.638.0	2.10 %
Contribution of CCIs to overall economy	3.87 %	3.88 %	3.83 %	3.84 %	3.50 %	3.52 %	
Gross value added (in € billion)[9a]							
Cultural and creative industries (CCIs)	82.9	86.6	88.8	90.7	94.9	98.8	4.19 %
CCIs’ share of GDP	3.07 %	3.14 %	3.14 %	3.09 %	3.12 %	3.14 %	
GDP Germany, nominal	2.703.1	2.758.3	2.826.2	2.932.5	3.043.7	3.144.1	3.30 %

1a Taxable entrepreneurs with annual income of at least €17,500.
2a Core labor force consist of taxable entrepreneurs with an annual income of at least €17,500 and employees subject to social security contributions.
3a Employees subject to social security contributions in full and part time employment, but not people in marginal employment.
4a The number of self-employed people corresponds to the number of taxable entrepreneurs with an annual income of at least €17,500.
5a People in marginal employment and marginal self-employment.
6a Marginal self-employment includes freelancers and self-employed persons with less than €17,500 annual income based on the microcensus.
7a People in marginal employment (marginal low-paid and temporary employment) based on employment statistics from the Federal Employment Agency (deadline used in each case 30 June).
8a Total number of workers includes all self-employed and employed persons including people in marginal employment and marginal self-employment.
9a Gross value added based on reports of the national accounts, calculated on basis of breakdown of sales in VAT statistics.

Table 2.1: Key data on the cultural and creative industries in Germany 2011 – 2016*

Category	2011	2012	2013	2014	2015	2016*	Change 2015/2016
Additional key indicators of the cultural and creative industries							
Turnover per company (in € '000)	577.1	583.1	581.1	594.8	607.2	609.7	0.40 %
Turnover per employee subject to social security contributions (in € '000)	192.5	187.1	181.0	181.6	182.2	178.7	-1.94 %
Turnover per core worker (in € '000)	144.3	141.7	138.0	139.1	140.2	138.2	-1.41 %
Employees subject to social security contributions per company	3.00	3.12	3.21	3.28	3.33	3.41	2.39 %
No. of core workers per company	4.00	4.12	4.21	4.28	4.33	4.41	1.84 %
Gross value added per core worker (in € '000)	84.9	85.6	85.6	85.9	87.4	88.5	1.19 %
Proportion of core workers who are self-employed	25.01 %	24.30 %	23.75 %	23.39 %	23.08 %	22.67 %	

*Data for 2016 based partly on in-house estimates and preliminary official figures. Estimates partly based on development rates of previous years. Discrepancies from figures in previous reports due to revisions of data in the underlying statistics.

Source: Destatis, 2017a,b,c; Federal Employment Agency, 2017; in-house calculations by ZEW.

The number of people in marginal self-employment, that is, self-employed persons and freelancers earning less than €17,500 annually, decreased slightly to around 210,700. The total number of people working in the sector in 2016 stood at 1,638,000, 2.1 % up on the 2015 figure.

Last year saw another improvement in the key data for the cultural and creative industries in Germany. This underlines the positive long-term trend in the development of the sector. However, it should be noted that numerous indicators show that the CCI economy is continuing to follow the same trend as the overall economy. This is particularly true of the proportion of companies and sales compared with the overall economy. On the other hand, the proportion of people in marginal employment has decreased significantly in recent years, by more than a percentage point, and the proportion of employees subject to social security contributions has risen by 0.2 percentage points since 2010.

Average of €138,200 turnover and €88,470 gross value added per core worker

Structurally, the cultural and creative industries are traditionally dominated by a large number of small and micro enterprises. On average, CCI companies only employed 4.41 core workers in 2016. The figure across the economy is much higher, at 10.5 core workers per company. Viewing the CCIs in Germany as a whole, each core worker in the sector generates a turnover of €138,200 and contributes €88,470 to gross added value. This means that the sector failed to achieve the average figure of €183,350 per core worker achieved across the economy in 2016, but its per-capita figure is €5,350 higher than that of the economy as a whole. The two figures reflect the fact that the CCIs make less use of upstream inputs and require greater labour input than is the case for the overall economy. The proportion of core workers who are self-employed in the CCI economy has been falling slightly since 2013, and presently stands at about 22.7 %.

2.2 Contribution of the Cultural and Creative Industries towards Value Creation

New calculation of gross value added in the cultural and creative industries

The previous computation of the gross value added by the German cultural and creative industries is replaced by a more comprehensive approach in this reference year.

In previous years, the calculation of value added was based on a rough aggregation of the cultural and creative industries, as defined by economic sectors 58 (publishing), 59 – 60 (audiovisual media and broadcasting), 73 (advertising and market research) and 90 – 92 (art and culture, games of chance) according to the 2008 classification of economic sectors. This made it possible to take the value added figures directly from the national accounts tables of the Federal Statistical Office. The disadvantage of this definition is however that many companies which are generally regarded as being part of the cultural and creative industries in Germany and which are included in the definition of the cultural and creative industries used elsewhere in this report are not included in the calculation of gross value added since they did not fall within the definition used for the rough aggregation. On the other hand, the definition includes some companies which are not included in the definition of the cultural and creative industries used elsewhere in this report.[6]

The new calculation method used in this reference year for the first time is based on the customary definition of the submarkets. This means that, for the first time, information about value creation in the various submarkets can be provided, and the figures for gross value added are also comparable with the other indicators (e.g. sales, number of companies, core workers) in the cultural and creative industries.

As in the past, the new calculation method is based on the gross value added figures contained in the national accounts. Since these figures are only available in rather aggregated form (mainly at sectoral level), a weighting of the figures is undertaken on the basis of the breakdown of turnover according to the VAT statistics, in order to assign individual value creation figures to the various branches of the cultural and creative industries. The figures for the comparative sectors, such as mechanical engineering, are also taken from the national accounts. These figures do not need to be weighted on the basis of VAT statistics as they are homogeneous sectors whose gross value added figures are directly available in the national accounts.

The new calculation method for the cultural and creative industries provides a more comprehensive and precise picture of gross value creation. In particular due to the fact that far more companies from the cultural and creative industries are now included in the value creation figures (e.g. in the past, the software and games submarket was largely disregarded), the gross value creation figures in this report (for the reference year and the preceding years) are much higher than the figures in previous reports.[7] Here, it must be noted that the bulk of the high value creation figures for the software and games industry is accounted for by the software sector.

Gross value added clearly up in recent years

There has been a clear rise in gross value added in the cultural and creative industries in recent years. Back in 2014, the figure was just under €91 billion, but the latest (estimated) figure for 2016 is close to €99 billion (cf. figure 2.1). The years prior to 2014 had also seen a continuous rise in gross value added.

Gross value added in the cultural and creative sector now almost matches that of mechanical engineering, which generated an estimated €101.6 billion in 2016. The CCIs are clearly ahead of other important sectors in Germany, such as the chemical industry, energy supply and financial services, in terms of value creation. The only other sector in Germany to clearly outstrip the CCI was the automotive sector, at €144.3 billion.

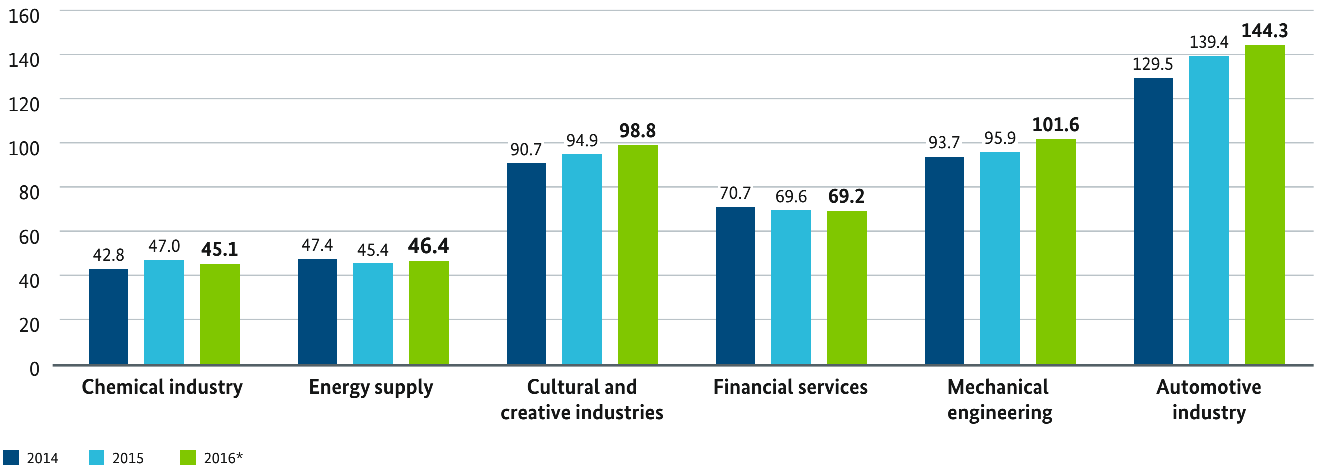
Figure 2.2 shows the development of gross value added in the various CCI submarkets (cf. also table 7.3 in the annex). Most of the submarkets saw an increase in gross value added over the last three years, but it is obvious that the software and games industry is of overriding importance for the overall development of the cultural and creative industry. Nearly 27% of the value creation currently takes place in this sector. Also, the sector is growing fast from year to year.

All of the other submarkets generate (much) less than half of the value created by the software and games industry, even though the press market, the advertising market and the design industry currently generate output of more than €10 billion. At €1.3 billion, the art market generated the least value of all the CCI submarkets in 2016.

6 According to the VAT statistics for 2015, roughly half (approx. 125,000) of the companies in the cultural and creative industry did not feature in the present calculations. The figures also include nearly 11,000 companies in the field of market research and opinion polling, and also gambling and lotteries, which are not really defined as CCI companies.

7 Other methodological notes about the calculation of gross value added can be found in the annex to the unabridged version of this report.

Figure 2.1: Contribution of the cultural and creative industries towards gross value added compared with other sectors 2014 – 2016 (in € billion)

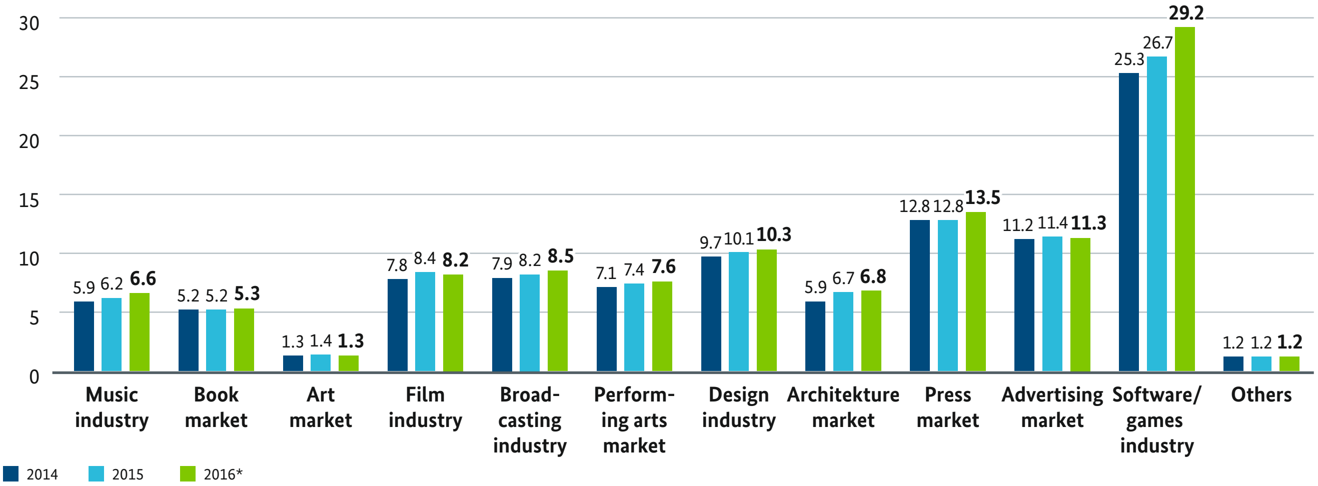


Aid to interpretation: Gross value added in the cultural and creative industries amounted to €98.8 billion in 2016. Lower than in the mechanical engineering and automotive sectors, but higher than in the chemical and energy supply industries and financial services.

*Some figures estimated. Gross value added based on national accounts figures, calculated for the CCIs on basis of breakdown of sales in VAT statistics.

Source: VAT statistics, Destatis, 2017b; national accounts, Destatis, 2017c; in-house calculations by ZEW.

Figure 2.2: Contribution of the CCI submarkets towards gross value added of CCIs 2014 – 2016* (in € billion)



Aid to interpretation: Gross value added in the music industry amounted to €6.6 billion in 2016. It has risen steadily by €0.7 billion since 2014.

*Some figures estimated.

Source: VAT statistics, Destatis, 2017b; national accounts, Destatis, 2017c; in-house calculations by ZEW.

2.3 Employment in the Cultural and Creative Industries

Total number of workers in the sector now well above 1.6 million

The total number of people working in the cultural and creative industries rose clearly in 2016 to 1,637,961 people, following a slight dip in 2015 (cf. figure 2.3). The number of workers, consisting of employees subject to social security contributions and the self-employed, also rose significantly from the preceding year's figure. This was mainly due to a rising number of employees subject to social security contributions, but also to a larger number of self-employed people in the cultural and creative sectors. In contrast to 2015, the number of people in marginal employment did not decline further, but registered a moderate increase.

In 2016, a total of 1,117,047 people were employed as freelancers and self-employed individuals or as dependent employees in the CCI sector. In addition, at a total of 520,914, the number of people in marginal employment and marginal self-employment (self-employed with an annual turnover of less than €17,500, and people in marginal employment) in these industries is comparatively high compared to other sectors and the overall economy. In particular, the number of people in marginal self-employment in the cultural and creative industries is extremely high and now comprises more than one-quarter of the people in this category across the economy. This brings the total number of people working in the cultural and creative industries in 2016 to 1,637,961. Table 2.2 provides an overview of the development of employment in recent years.

The cultural and creative industries had more core workers in 2016 than any comparable sector; mechanical engineering and the automotive sector came closest to it. It is also apparent that none of the comparative sectors – except for energy supply – have nearly as many self-employed persons as the cultural and creative industries.

Figure 2.3: Structure of employment in the cultural and creative industries in 2016*

*Some figures estimated.

Source: Destatis, 2017a,b; employment statistics, Federal Employment Agency, 2017; in-house calculations by ZEW.

Table 2.2: Structure and development of all workers in the cultural and creative industries 2011 – 2016*

	2011	2012	2013	2014	2015	2016*
I) Freelancers and self-employed persons[1b] (annual turnover > €17,500)	244,290 15.6 %	245,816 15.4 %	246,353 15.5 %	246,967 15.3 %	250,439 15.6 %	253,203 15.5 %
II) Employees subject to social security contributions[2b]	732,488 46.6 %	765,954 47.9 %	790,914 49.6 %	809,067 50.0 %	834,488 52.0 %	863,844 52.7 %
Core workers (I + II)	**976,777 62.2 %**	**1,011,770 63.3 %**	**1,037,267 65.1 %**	**1,056,034 65.3 %**	**1,084,927 67.6 %**	**1,117,047 68.2 %**
III) People in marginal self-employment[3b]	224,790 14.3 %	221,883 13.9 %	203,305 12.8 %	211,145 13.1 %	211,236 13.2 %	210,748 12.9 %
IV) People in marginal employment[4b]	368,803 23.5 %	364,956 22.8 %	352,819 22.1 %	350,158 21.7 %	308,051 19.2 %	310,166 18.9 %
People in marginal employment and marginal self-employment (III + IV)	**593,593 37.8 %**	**586,840 36.7 %**	**556,124 34.9 %**	**561,303 34.7 %**	**519,287 32.4 %**	**520,914 31.8 %**
Total workers (I + II + III + IV)	**1,570,370 100.0 %**	**1,598,610 100.0 %**	**1,593,391 100.0 %**	**1,617,337 100.0 %**	**1,604,213 100.0 %**	**1,637,961 100.0 %**

*Data for 2016 based partly on in-house estimates and preliminary official figures. Discrepancies from figures in previous reports due to revisions of data in the underlying statistics.

1b Taxable entrepreneurs with annual income of at least €17,500.

2b Employees subject to social security contributions in full and part time employment, but not people in marginal employment.

3b Marginal self-employment includes freelancers and self-employed persons with less than €17,500 annual income based on the microcensus.

4b People in marginal employment (marginal low-paid and temporary employment) based on employment statistics from the Federal Employment Agency (deadline used in each case 30 June).

Source: Microcensus, Destatis, 2017a; VAT statistics, Destatis, 2017b, employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

2.4 Export Ratios in the Cultural and Creative Industries

Export ratios can be calculated in terms of both sales and companies. When calculated in terms of companies, the number of exporting companies (irrespective of the extent of their export activities) is compared with the total number of all companies. The sales-based export ratio is calculated as the quotient of the deliveries and services that are VAT deductible and total turnover.

Both export ratios have been calculated for the eleven submarkets and for the cultural and creative industries as a whole, and compared with the ratios for the automotive industry, mechanical engineering, the chemical industry and knowledge-intensive service providers. The CCI sector is on the whole much less export-oriented than the manufacturing sectors in the comparison (chemicals, industrial engineering, the automotive industry). This is due to the large proportion of services that make up the CCI sector, resulting in a more domestic market orientation.

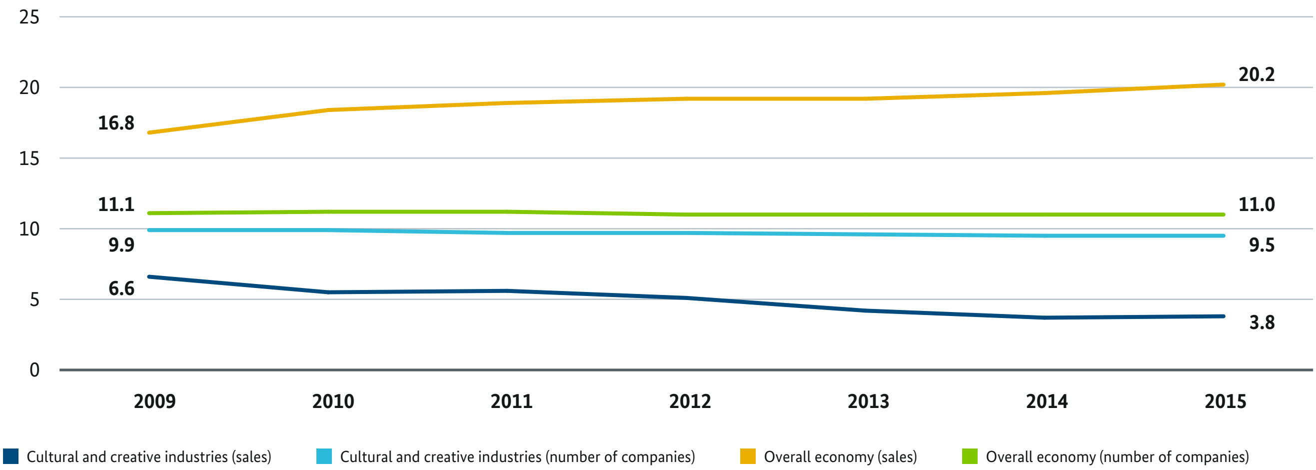
9.5 % of companies in the German cultural and creative industries were active on the export market in 2015[8] (cf. figure 2.4). This means that the proportion of exporting companies has held steady in this sector since 2009. The situation is different in terms of sales generated by exports. Here, a negative development has taken place. Back in 2009, 6.6 % of sales were generated by exports; the 2015 figure was a mere 3.8 %. This trend runs contrary to the development in the overall economy. Across the country, the proportion of sales generated by exports rose from 16.8 % in 2009 to 20.2 % in 2015. In general, the average foreign sales per company are much lower in the cultural and creative industries than in the economy writ large.

8 Latest available data on export activities.

Within the cultural and creative industries, the art market, the music industry and the book market are the submarkets with the highest export ratios, based on volume of turnover. In the art market, 12.7 % of turnover was generated outside Germany in 2015, 9.9 % in the music industry and 8.7 % in the book market (cf. table 2.3). The export ratios in the broadcasting industry (0.1 % foreign sales), the architecture market (0.6 %) and the performing arts market (0.8 %) are particularly low. It is also notable that most of the submarkets have steady export ratios, but that the proportion of foreign sales in the software and games industry keeps falling. This decline is the main reason why the sales-based export ratio for the entire cultural and creative sector has fallen in recent years.

As mentioned above, measured against the export ratios in the manufacturing sector, the figures for the cultural and creative industries are relatively low. The export ratio of 3.8 % (in terms of sales) in the cultural and creative sector contrasts with a ratio of 61.6 % in the automotive sector, 49.7 % in mechanical engineering, and 47.1 % in the chemical industry. The only other sector with a similarly low export ratio is that of knowledge-intensive service providers, at 5.4 % of sales.

Figure 2.4: Proportion of exporting companies in the cultural and creative industries and in the overall economy (in %)



Aid to interpretation: 9.5 % of companies in the German cultural and creative industries were active on the export market in 2015, and these exports accounted for 3.8 % of sales.

Source: VAT statistics, Destatis, 2017b, ZEW calculations.

Table 2.3: Export ratios 2011 – 2015 (in %)

Submarket	Export ratio	2011	2012	2013	2014	2015
1. Music industry	Sales	11.6	11.8	9.6	9.2	9.9
	Companies	15.8	15.6	15.8	15.7	15.6
2. Book market	Sales	7.6	8.1	8.0	8.0	8.7
	Companies	15.3	15.1	14.8	14.3	14.1
3. Art market	Sales	9.4	10.7	10.1	11.5	12.7
	Companies	13.5	13.5	13.6	13.8	14.2
4. Film industry	Sales	1.9	1.7	1.7	2.2	2.6
	Companies	6.6	6.8	6.4	6.5	6.5
5. Broadcasting industry	Sales	0.2	0.1	0.4	0.2	0.1
	Companies	3.1	3.2	3.0	3.1	3.1
6. Performing arts market	Sales	1.5	1.7	1.4	1.0	0.8
	Companies	4.3	4.7	4.5	4.6	4.6
7. Design industry	Sales	5.3	5.0	4.8	4.8	4.9
	Companies	9.9	9.8	9.6	9.5	9.6
8. Architecture market	Sales	1.0	1.0	0.7	0.7	0.6
	Companies	1.9	1.8	1.8	1.7	1.7
9. Press market	Sales	2.5	2.3	2.3	2.2	2.2
	Companies	10.0	10.2	10.2	10.2	9.8
10. Advertising market	Sales	1.4	1.4	1.4	1.2	1.1
	Companies	11.4	11.7	11.6	11.6	12.0
11. Software and games industry	Sales	12.1	9.7	6.0	4.1	4.1
	Companies	13.6	13.1	12.9	12.4	12.2
12. Others	Sales	12.3	11.2	10.9	6.3	5.2
	Companies	8.4	8.5	8.4	8.3	8.2
Cultural and creative industries	**Sales**	**5.6**	**5.1**	**4.2**	**3.7**	**3.8**
	Companies	**9.7**	**9.7**	**9.6**	**9.5**	**9.5**
Comparable sectors						
Automotive sector	Sales	58.3	59.7	60.3	61.1	61.6
	Companies	45.3	45.5	45.4	46.4	46.8
Mechanical engineering	Sales	48.0	48.4	49.1	49.1	49.7
	Companies	56.2	56.1	56.9	57.3	58.4
Chemical industry	Sales	44.1	45.2	46.6	47.0	47.1
	Companies	60.5	60.7	61.6	62.4	62.4
Knowledge-intensive service providers	Sales	6.5	5.9	5.6	5.5	5.4
	Companies	5.5	5.4	5.4	5.4	5.4
Overall economy	**Sales**	**18.9**	**19.2**	**19.2**	**19.6**	**20.2**
	Companies	**11.2**	**11.0**	**11.0**	**11.0**	**11.0**

Note: Calculations are based on a special evaluation of value-added tax statistics. The sales-based export ratio was calculated as the sum of tax-exempt deliveries and services with input-tax deduction divided by all deliveries and services. The export ratio in terms of the number of exporting companies was calculated as the sum of companies with tax-exempt deliveries and services with input-tax deduction divided by all companies. Due to the rules governing publication of value-added statistics, a small number of missing export values were estimated in the sectors used in the analysis.

Source: VAT statistics, Destatis, 2017b, ZEW calculations.

3 Employment and Skills in the Cultural and Creative Industries

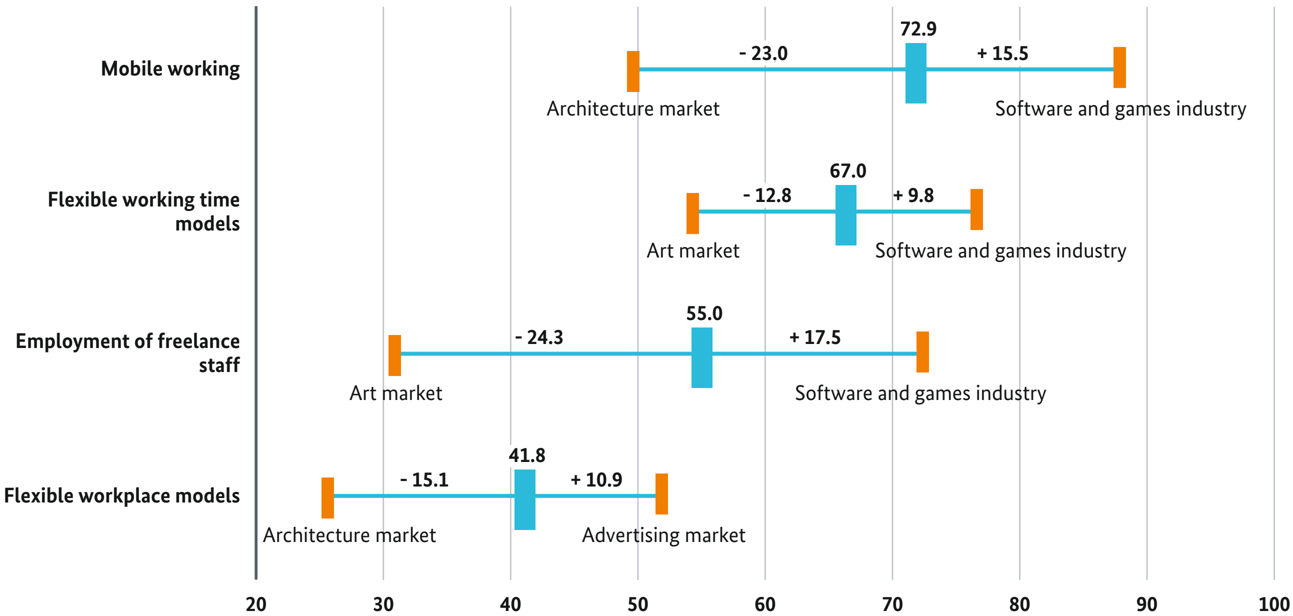
The ZEW conducted a representative survey of self-employed people and companies in order to gather extensive, up-to-date information about work and skills in the cultural and creative industries and their submarkets.[9] The survey covered aspects like the difficulties the German CCI sector experiences with finding trained staff, and possible ways to remedy the situation. The following section gives an overview of the situation across the cultural and creative industries in general.[10]

Flexible forms of work are prevalent to varying degrees in the cultural and creative industries

Companies and self-employed persons in the German CCIs use different forms of work. The survey looked at how widespread the use of flexible forms of work is. This includes mobile working concepts, the employment of freelance staff in companies, or the availability of flexible working hour models and flexible workplace models. Mobile work, i.e. work when travelling or at the client, is the most widespread form: 72.9 % of CCI companies use it (cf. figure 3.1). This is followed at some distance by flexible working time models (67 %), such as working hours based on trust or working time accounts, and the employment of freelance staff (55 %). Flexible workplace models, such as home office or working in crowdworking spaces, are least prevalent, and are currently used by 41.8 % of companies.

The extent to which use is made of the flexible forms of work varies widely from submarket to submarket. The difference between the highest and lowest proportions is particularly great when it comes to the employment of freelance staff, standing at 41.8 percentage points.

Figure 3.1: Use of different forms of work in the cultural and creative industries
(proportion of companies in %)



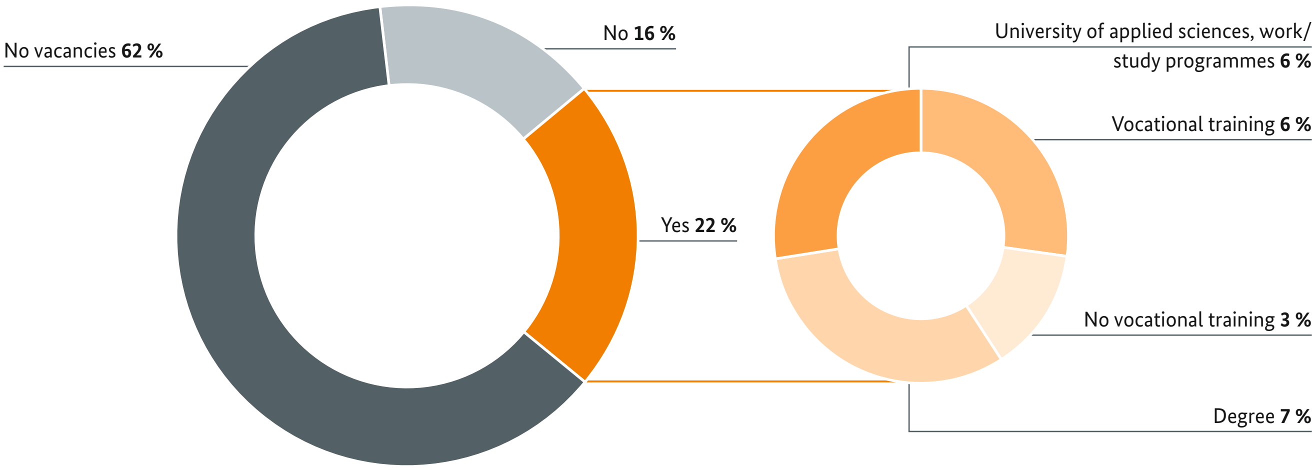
Aid to interpretation: 72.9 % of companies in the cultural and creative industries use mobile working. The highest percentage is found in the software and games industry, at 88.4 % (15.5 % percentage points higher than the CCIs in general).

Source: ZEW company survey, 1st half 2017.

9 In total, 1,802 self-employed persons and companies in the cultural and creative sectors participated in the survey.

10 A breakdown of figures to submarket level can be found in the relevant sections of the unabridged version of the report.

Figure 3.2: Difficulties finding staff with suitable qualifications to fill vacancies, by qualification level
(proportion of companies in %)



Aid to interpretation: 22 % of companies had difficulties filling vacancies with staff with appropriate qualifications in 2016. This proportion can be broken down further. 7 % of companies had difficulties finding staff with degrees.

Source: ZEW company survey, 1st half 2017.

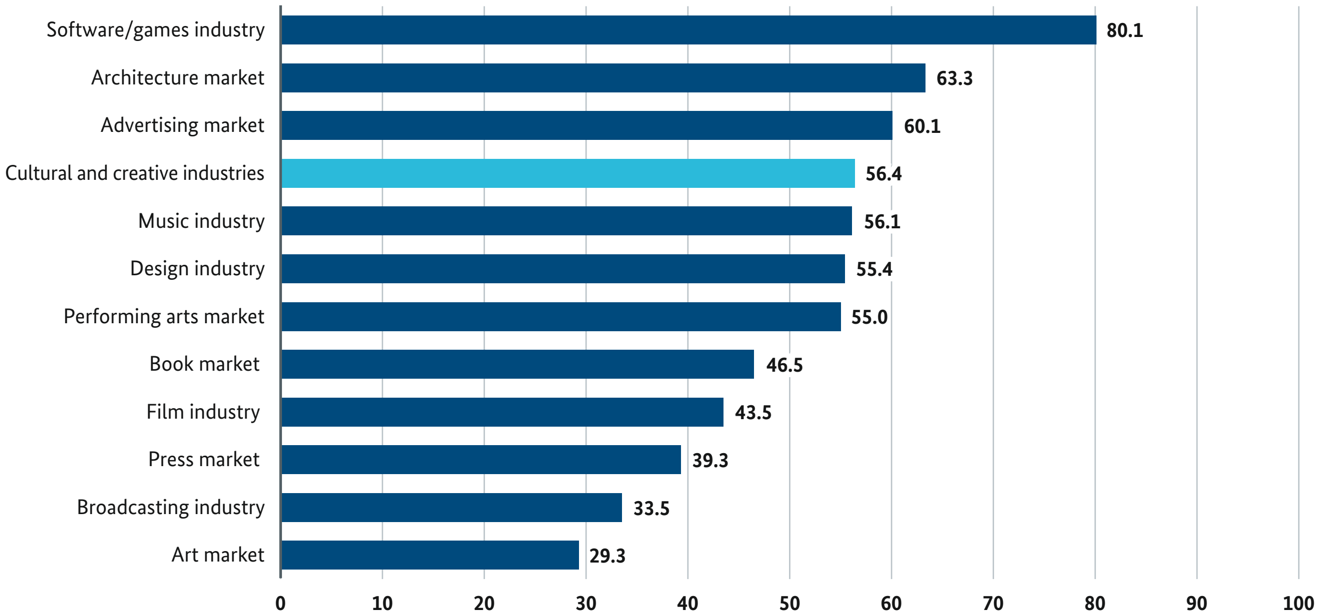
Whereas freelance staff are deployed in 30.7 % of companies on the art market, 72.5 % of companies in the software and games industry use freelancers. There is a similarly large spread in the use of mobile working in the various submarkets. Here, the difference between the levels of use in the architecture market and the software and games industry is 38.5 percentage points. With a spread of just 22.6 percentage points, the most uniform picture across the various CCI submarkets exists for the use of flexible working time models.

Difficulties filling vacancies with qualified staff

The main focus of the company survey was on work and skills. Here, a key question is the extent to which the companies in the cultural and creative sector already have difficulties finding new staff with the right qualifications. Here, it must be born in mind that the majority (62 %) of companies did not have any vacancies to fill in 2016 (cf. figure 3.2). A further 16 % of companies had no difficulties recruiting. Overall, however, 22 % of CCI companies say that they had problems finding qualified staff in 2016.

The next question asks where these difficulties arose. 6 % of all CCI companies had problems recruiting new staff with vocational qualifications, and 6 % had problems finding people with degrees from a university of applied sciences or a combined work/study course. Around 7 % of CCI companies had problems filling vacancies entailing a university degree. At 3 %, the fewest companies experienced problems filling jobs requiring no training.

Figure 3.3: Difficulties filling vacancies with staff with appropriate qualifications
(proportion of companies with vacancies in %)



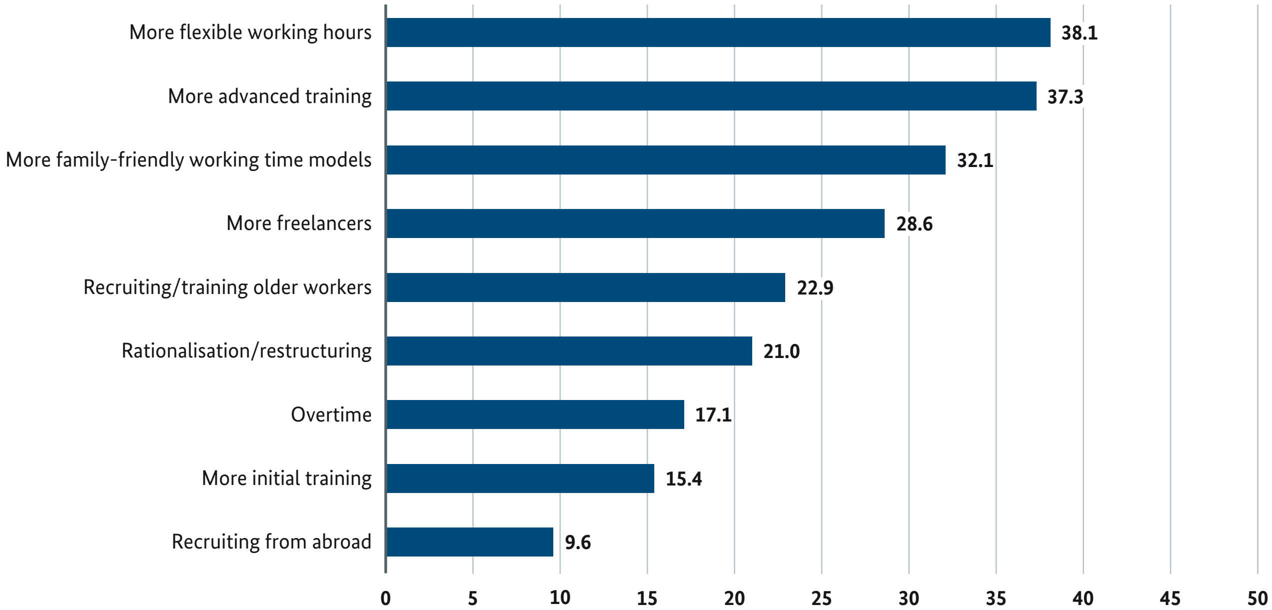
Aid to interpretation: 80.1 % of companies with vacancies in the software/games industry had problems finding appropriately qualified staff.

Source: ZEW company survey, 1st half 2017.

If one excludes the companies which had no vacancies to fill, on average 56.4 % of the CCI companies seeking staff experienced recruitment problems (cf. figure 3.3). In terms of the recruitment difficulties, there are clear differences between the various CCI submarkets. The most frequent problems were encountered in the software and games industry. In this submarket, 80.1 % of companies with vacancies in 2016 had problems finding suitable staff. The architecture market follows some way behind: here, 63.3 % of companies encountered problems finding staff. Companies in the broadcasting sector (33.5 %) and the art market (29.3 %) reported the least problems finding appropriately qualified staff.

CCI companies pursue various strategies to avoid a future skills shortage. The most common approach is an intention to flexibilise working hours. In total, 38.1 % of CCI companies cite working hour flexibilisation as an envisaged strategy to secure their future skills requirements (cf. figure 3.4). 32.1 % of the companies attach importance to introducing more family-friendly working hours. A substantial proportion (37.3 %) of companies is looking to enhanced further training to secure their skills requirements in future. This finding coincides with the frequently stated expectation that ongoing digitisation of the working world will mean that life-long learning plays an increasingly important role. Something over a quarter of companies plan to use more freelance staff in future to meet their skills needs, and roughly a fifth of companies said they had plans to rationalise or restructure. Only around 10 % of the companies said that looking outside Germany was a strategy to meet their skills needs.

Figure 3.4: Measures to meet skills requirements
(proportion of companies in %)



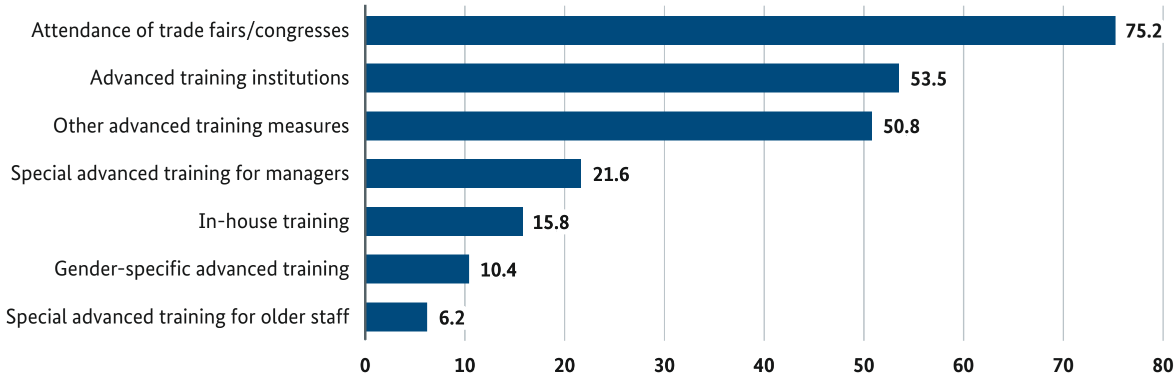
Aid to interpretation: 38.1 % of the companies are making working hours more flexible in order to meet their skills requirements.
Source: ZEW company survey, 1st half 2017.

Differences in the availability of, for example, advanced training

Providing the workforce with advanced training is not only regarded as a future strategy to meet skills requirements, but is already widely used by many CCI companies. With regard to advanced training courses today, 75.2 % of the companies permit their staff to attend trade fairs and congresses (cf. figure 3.5). In this way, staff can find out about and discuss new possibilities, trends and expertise in their fields. Rather more specifically in terms of advanced training, more than half (53.5 %) of the CCI companies make it possible for their staff to attend courses in specialised advanced training institutions. An impressive 15.8 % of the companies offer in-house training courses.

Some of the internal and external advanced training courses are targeted at the needs of specific occupations. For example, 21.6 % of companies offer their managers the possibility to participate in specialised advanced training courses. Gender-specific advanced training courses are taken up by around one company in ten. Whilst 22.9 % of CCI companies aim to recruit or train older workers, only 6.2 % of the companies currently offer specific advanced training courses for older employees.

Figure 3.5: Access for staff to advanced training (proportion of companies in %)



Aid to interpretation: 75.2 % of companies make it possible for their staff to attend trade fairs/congresses.

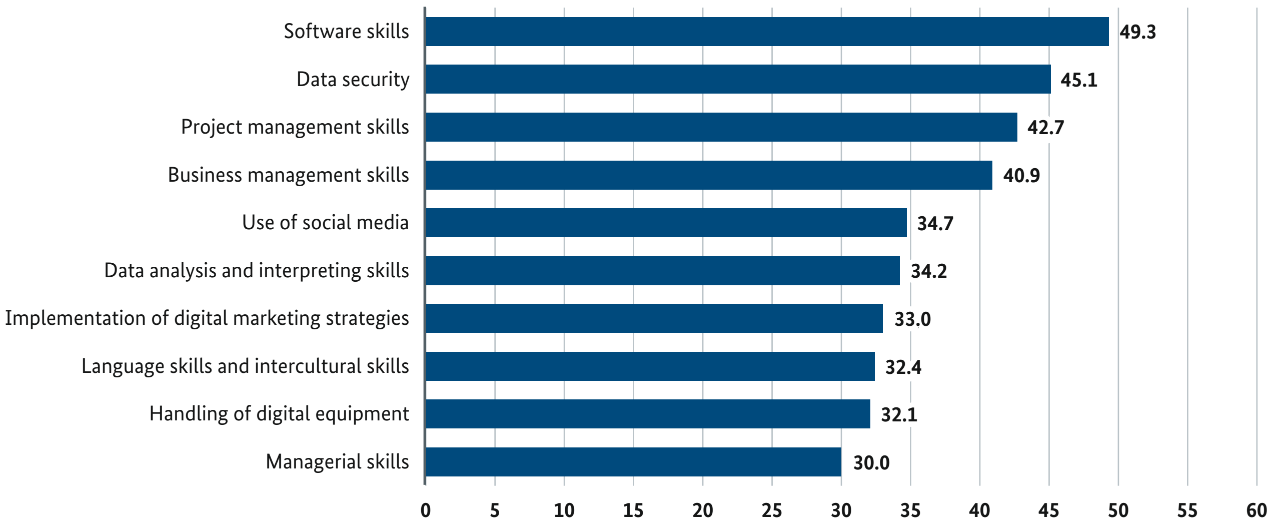
Source: ZEW company survey, 1st half 2017.

Requirements and impediments to advanced training

The companies in the cultural and creative industries see a general need for further training in various areas. They see a particular need for training in software skills: 49.3 % of the companies said that they saw potential for improvements both for themselves and their staff (cf. figure 3.6). In order to cope with new digital technologies and applications, there is a need for training in specific skills.

Many of the companies see a need for further training in the field of data security (45.1 %) and data analysis and interpreting skills (34.2 %). Other areas like marketing and logistics are also mentioned: around one in three companies see a need for advanced training in the use of social media and the implementation of digital marketing strategies. At the same time, there continues to be a need for further training in the more traditional fields of project management (42.7 %) and business management skills (40.9 %).

Figure 3.6: Perceived need for training in the company (proportion of companies in %)



Aid to interpretation: 49.3 % of companies see a need for further training in the field of software skills.

Source: ZEW company survey, 1st half 2017.

Figure 3.7: Main challenges in the field of work and skills (proportion of companies in %)

Note: Proportion of all CCI companies in %. Multiple answers possible.

Aid to interpretation: 47.0 % believe that the expansion of targeted advisory services on further training is a key challenge in the field of work and skills.

Source: ZEW company survey, 1st half 2017.

Despite the perceived need for further training, many companies encounter problems delivering it. Some of the most common problems are the costs of such measures, which are too high for 62.2 % of the CCI companies. The secondary costs of the loss of working hours are an impediment for 20.9 % of the companies. With regard to these high costs, 54.0 % of the companies believe that the state does not give sufficient help. Many of the companies also find it difficult to find suitable courses (42.9 %) or to assess their benefits and likelihood of success (33.2 %). Not many companies see problems relating to a lack of staff motivation or the fear that staff will move on once they have been trained up.

Main challenges in the field of work and skills

The CCI companies feel that they face various challenges in the field of work and skills. They say that a key problem is the lack of financial support for initial and further training. 79.3 % of the CCI companies believe that financial support for initial and further training is crucial (cf. figure 3.7).

On top of these, 65.7 % of companies identify the need to adapt training and degree courses to changing needs as a future challenge. In the CCI sector, which has so many self-employed persons and freelancers, measures to provide freelancers with social security is also a major factor for two-thirds (67.3 %) of companies. The extent to which the CCI companies are exposed to future challenges is also reflected in the fact that even the least widespread challenges are deemed relevant by nearly half of the companies. For example, 48 % of the companies would like more support for skilled workers or the development of targeted advisory services for further training options.

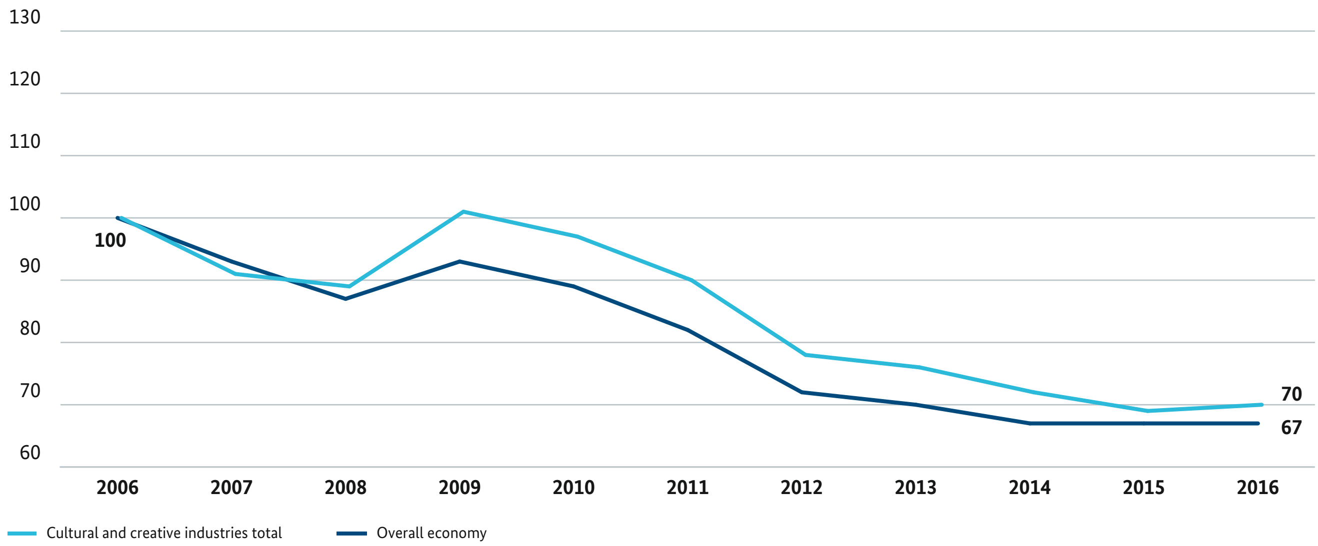
4 Start-ups in the Cultural and Creative Industries

Start-ups play a key role in the dynamism of a sector and the modernisation of products and services. New companies tend to bring new ideas to market. The following figures cover start-ups with a certain minimum level of commercial activity. The market entry of self-employed people and freelancers is only considered if the self-employment or professional activity concerned is comparable to a corporate activity performed by a partnership or corporation. Self-employed persons who perform cultural or creative activities for clients within the framework of contracts for work and services and therefore only use their own capital to a very limited extent (apart from their human capital) have limited entrepreneurial freedom and are therefore not included in the statistics. Such "free agents" are found particularly in the performing arts market, in the press market and in the music and film industry. Freelancers are very common in other submarkets, e.g. architecture.

According to the Mannheim Enterprise Panel (MUP), around 9,900 active companies were set up in the cultural and creative industries in Germany in 2016. The number of start-ups rose slightly compared with the preceding year. That marked the end of six successive years of declining start-up figures. At the same time, the number of start-ups in the cultural and creative sector was still 30 % below the 2006 figure in 2016 (cf. figure 4.1). The cultural and creative industries are thus following the prevailing trend in Germany of a decline in start-ups since 2010. One of the reasons for the rise in start-up figures in 2009 was the introduction of the legal form of a limited liability entrepreneurial company ("Unternehmergesellschaft" or "mini-GmbH"). At the time, many self-employed people switched to this type of limited liability company as virtually no share capital needs to be subscribed in such entities. In comparison to the overall start-up scene in Germany, the CCI sector initially recorded a more positive development from 2008. However, 2014 and 2015 saw a relatively greater fall in the number of start-ups than was true for the economy as a whole. In 2016, the cultural and creative sector developed slightly differently than the economy in general.

The number of start-ups varies widely between submarkets. The only submarket in which the rate of start-ups picked up speed in the 2006 – 2016 period was that of the software and games industry (cf. figure 4.2).

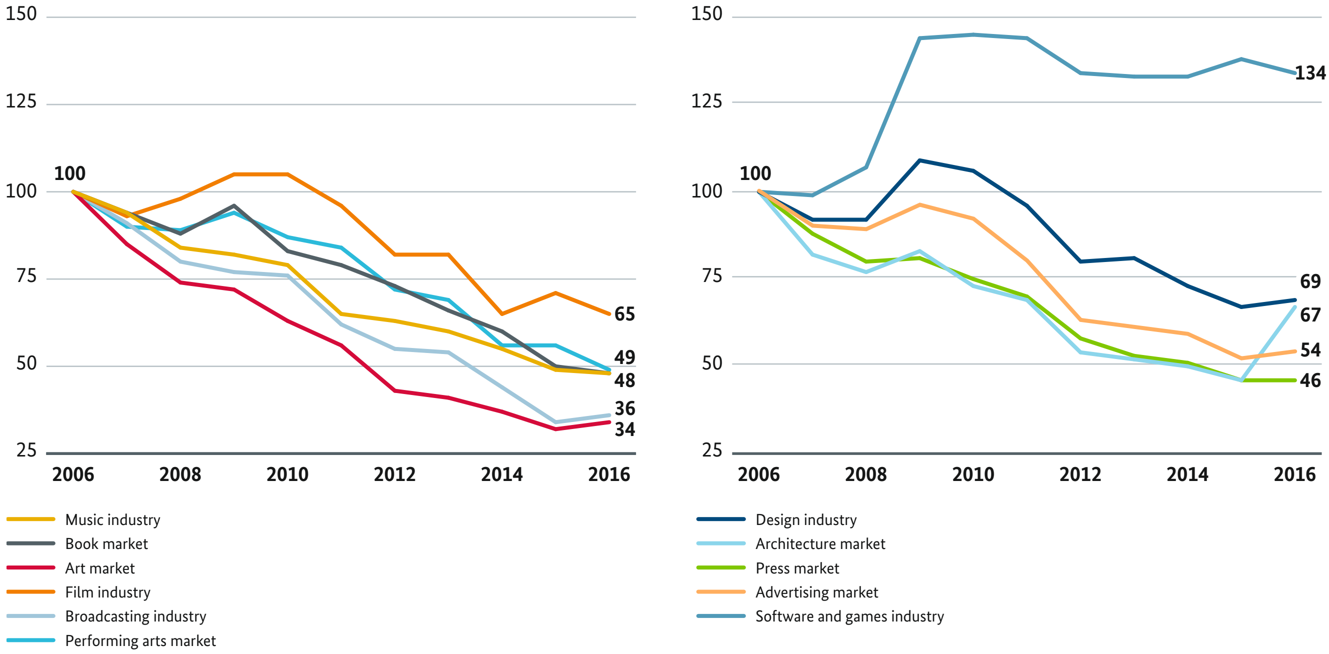
Figure 4.1: Number of start-ups in the cultural and creative industries and in the overall economy in Germany, 2006 – 2016 (Index, 2006 = 100)



Aid to interpretation: In 2016, the number of start-ups in the cultural and creative industries was 70 % of the amount in 2006.

Source: Mannheim Enterprise Panel, ZEW, 2017.

Figure 4.2: Start-up rate in the cultural and creative industries in Germany by submarket 2006 – 2016
(Index, 2006 = 100)



Aid to interpretation: From 2006 to 2016, the largest growth in the number of start-ups was seen in the software and games industry, 34 % higher than in 2006.

Source: Mannheim Enterprise Panel, ZEW, 2017.

34 % more companies were founded in this submarket than was the case in 2006. The highest start-up figures were attained in 2009 – 2011, and they have remained steady at a high level since then. Some other submarkets also saw an increase in the rate of start-ups in 2009, but this was followed by a decline, significantly so in some submarkets. This is true of the advertising market, the design industry, the book market, the architecture market and the film industry. In the other submarkets, almost every year has seen a decline in the start-up figures. The drop has been particularly great in the art market and the broadcasting industry. 2016 saw the start-up figures rise in some submarkets. This was particularly true of the architecture market. There were slight increases in the start-up figures in the design industry, the advertising market, the art market and the broadcasting industry.

The start-up activities in the CCI sector are strongly focused on three submarkets which account for almost two-thirds of all the new companies: in 2016, 32 % of all the start-ups were in the software and games industry, 17 % were in the design industry, and 15 % in the advertising sector. Other submarkets with a relatively high share of CCI sector start-ups are the architecture market (10 %), the film industry and the press market (around 6 % each). The other five submarkets (and the other areas) together comprise only 14 % of all start-ups in the CCI sector in Germany.

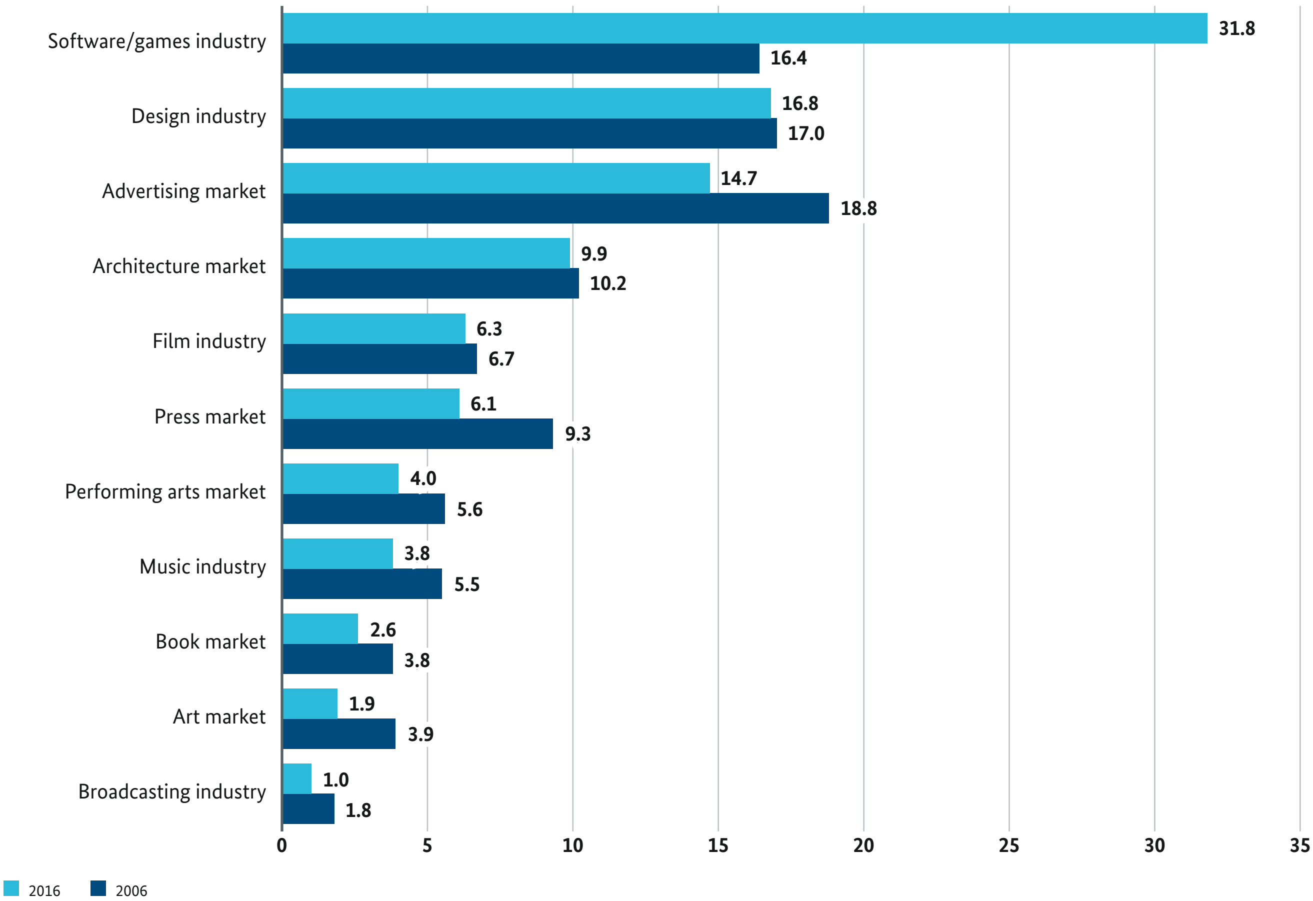
The start-up scene in the cultural and creative sector has shifted strongly in the last decade in the direction of the software and games industry, that is, to a submarket aimed primarily at commercial customers. Whereas in 2006 only just over 16 % of all start-ups in the sector took place in this submarket, by 2016 this figure had risen to nearly 32 % (cf. figure 4.3). There were significant declines in start-up activity in the advertising market, the press market, the art market, the book market, the performing arts market, the music industry and the broadcasting industry. The design industry, the film industry and the architecture market roughly maintained their share of start-up activity.

The main reason behind the shift toward the software and games industry is the digitalisation trend, which opens up endless possibilities to link creative business ideas to software solutions. For this reason, many new firms in this sector are specialised in the programming of new digitalisation applications, from web-based solutions to apps and online platforms.

To compare the start-up activity between the individual submarkets and with other sectors, the start-up rate is a place to start. This rate compares the number of start-ups with the number of economically active companies and provides information on the rate at which the existing company stock is renewed with start-ups.

The start-up rate in the cultural and creative industries in Germany was stable at 5.2 % on average over the years 2014 – 2016, and therefore slightly above that of the overall economy (5.0 % – see figure 4.4). In the sectors used in the comparison, the start-up rate was slightly higher, at 5.6 %, which is primarily due to the very high start-up rate in the ICT services sector as well as comparatively high rates for the chemical and pharmaceutical industry and in business consulting.

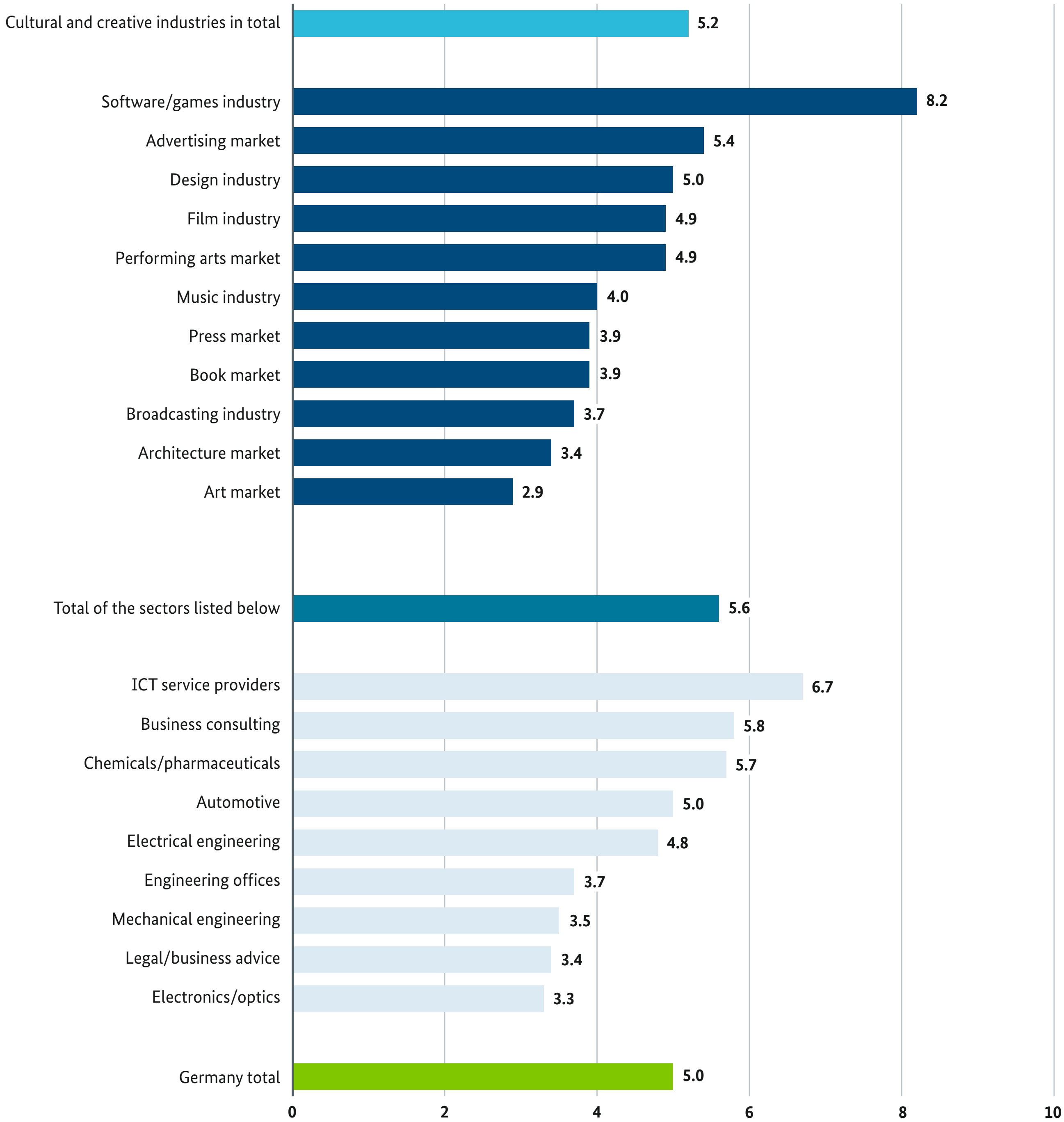
Figure 4.3: Start-ups in the cultural and creative industries in Germany broken down by submarket 2006 – 2016 (in %)



Aid to interpretation: The share of start-ups from the software and games industry within the cultural and creative industries rose from 16.4 % in 2006 to 31.8 % in 2016.

Source: Mannheim Enterprise Panel, ZEW, 2017.

Figure 4.4: Start-up rates in the cultural and creative industries in Germany in 2014/2016 by submarket and in comparison (in %)



Note: Start-up rate corresponds to the number of company start-ups as a percentage of the number of companies in existence, average for the years 2014 – 2016.

Aid to interpretation: The average start-up rate in the CCI sector during the period between 2014 and 2016 was 5.2 %.

Source: Mannheim Enterprise Panel, ZEW, 2017.

5 Innovation in the Cultural and Creative Industries Compared with Other Sectors

The cultural and creative industries differ from the other economic sectors in that they offer fewer standard products and services. Also, many products and services from the cultural and creative industries serve as upstream products for other sectors utilising innovations from the cultural and creative industries. In general terms, it is difficult to measure the innovative performance, since the available indicators do not fully reflect the specific features of the cultural and creative industries (cf. box on methodology).

Methodology for evaluating the innovation statistics

International statistics on innovation use the Oslo Manual methodology to measure innovation (OECD and Eurostat, 2005). The cultural and creative industries are not however completely included in innovation statistics; furthermore, only companies with at least five employees are included, so that most companies in the CCI sector are not reflected.

The cultural and creative industries also differ from the other economic sectors because they offer few standard products and services. In this sector, each individual product or service is in and of itself a creative achievement. It could be said that almost everything in the cultural and creative industries is innovative. In contrast, the economic concept of innovation does not primarily depend on whether a specific product or service on the market differs from what has previously been available. An innovation exists when a company has altered its product/service range or production process in such a way that the new product/service represents a significant improvement for the user or a significant improvement for the company itself.

In the international debate, therefore, there are suggestions that the innovation concept be broadened, as non-technical innovations are becoming more significant (e.g. business models in the digital age), and this is particularly true of the cultural and creative industries. However, these are highly contextual, and difficult to operationalise and measure. Accordingly, the points made here about innovation are only partially comparable with other economic sectors.

An indicator used frequently for measuring the resources that companies make available for innovation activities is the amount of spending on innovation. The spending on innovation comprises all the expenditure and investment entailed in the development and introduction of product and process innovations.[11]

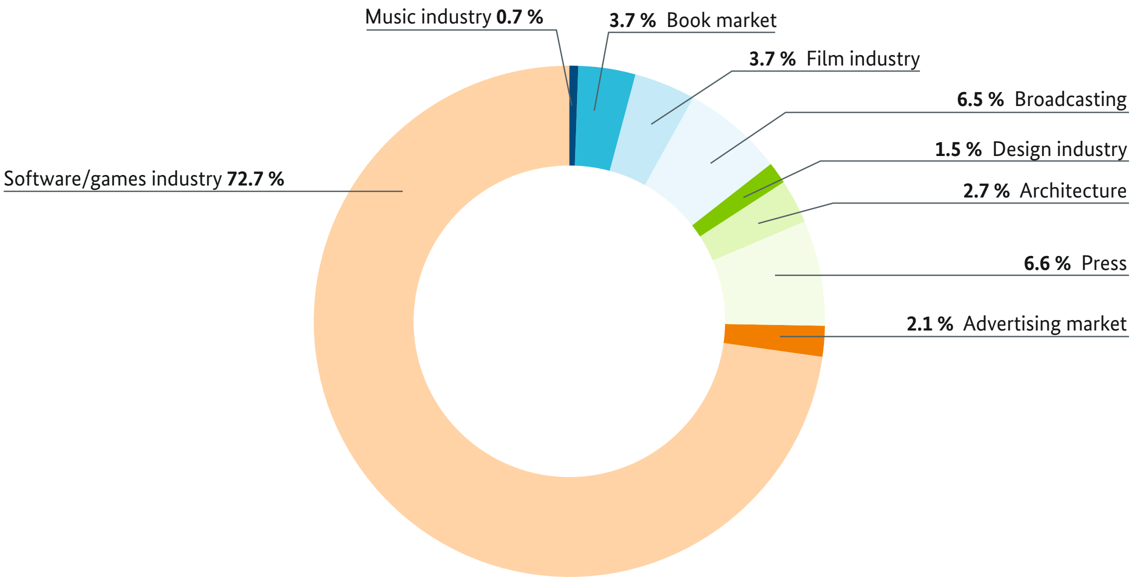
The average expenditures on innovation in 2014/15 for companies in the German cultural and creative industries was €4.75 billion.[12] Almost three-quarters of this spending on innovation (cf. figure 5.1) was accounted for by the software and games submarket (and more than 99 % of this by the software industry). Significant spending on innovation is also made by the press market (6.6 % of total CCI spending on innovation), the broadcasting industry (6.5 %), the film industry (3.7 %), the book market (3.7 %), the architecture markets (2.7 %) and the advertising market (2.1 %). The level of spending on innovation by the design industry and music industry submarkets is very low, at well below €100 million.

In comparison with the 2012/13 period (€4.87 billion), the spending on innovation by the CCIs has declined slightly (-2.4 %). Spending on innovation rose in the press market, architecture market, book market and design industry submarkets, whilst it fell in the broadcasting industry, the film industry and the advertising market. In the software and games industry, spending on innovation remained virtually unchanged between 2012/13 and 2014/15.

11 Innovation expenditures include all internal and external R&D expenditures (even those not directly related to specific product and process innovation), expenditures for procuring capital goods and software for innovation, expenditures for acquiring external know-how and industrial property rights, innovation-related expenditures for further training, marketing, design, testing and checks, expenditures for preparing production and marketing for innovation, as well as all other expenditures incurred for innovation (e.g. design, evaluation innovation ideas, and innovation management).

12 Innovation indicators can be calculated for nine of the eleven submarkets in the cultural and creative industries on the basis of a special evaluation of the German innovation survey, whereby some submarkets do not include all of the branches of economic activity included in those categories. The submarkets of the cultural and creative industries are factored in as follows (economic sectors are given in parentheses): the music industry (only 59.2 and 32.2), the book market (only 58.11 and 18.14), the art market (not included), the film industry (only 59.1), the broadcasting industry (only 60), the performing arts market (not included), the design industry (only 32.12, 74.1 and 74.2), the architecture market (only 71.11 and 71.11.2 included here in their entirety), the press market (only 58.12, 58.13, 58.14, 58.19 and 63.91), the advertising market (included in its entirety, 73.11 included completely), the software and games industry (included completely). The total values for the cultural and creative industries indicated in this chapter also include only the afore-mentioned economic sectors.

Figure 5.1: Distribution of innovation expenditure in the German cultural and creative industries by submarket (in %)



Aid to interpretation: The software and games industry accounted for 72.7 % of all innovation expenditure in the cultural and creative industries. Average figures for 2014/15.
Source: Mannheim Innovation Panel, ZEW, 2017.

The approximately €4.8 billion in annual spending on innovation in the sector corresponds to 3.1 % of the entire innovation expenditure in the German economy.[13]

If one takes the spending on innovation as a proportion of the total sales of a submarket or a sector, one derives the innovation intensity. Overall, the CCI sector attained an innovation intensity of 4.2 % (see figure 5.2). The rate was slightly down from that of 2012/13, by 0.1 percentage points. Within the cultural and creative industries, the software and games industry has by far the highest rate (9.4 %), followed by the book market, design industry, film industry, architecture market and broadcasting industry, which devote between 2.4 % and 2.8 % of their spending to innovative projects.

The innovation intensity of the cultural and creative sector is lower than that of the industrial sectors, but higher than that of most services sectors, except for the ICT service providers, where the innovation intensity is over 6 %, or half as much again.

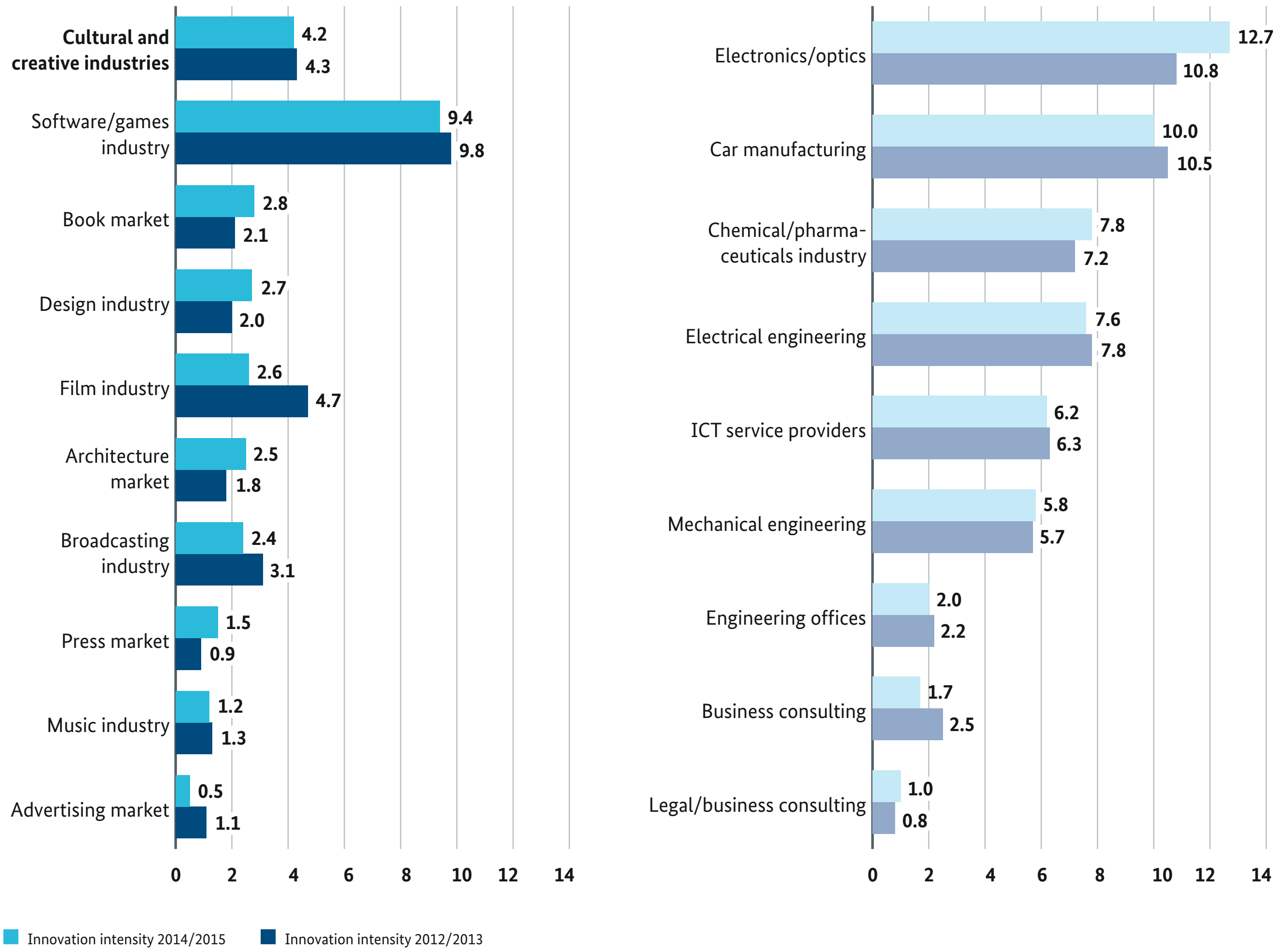
Between 2012/13 and 2014/15, the innovation intensity rose in all the submarkets with rising spending on innovation (book market, design industry, architecture market, press market). This means that the increases in the innovation budgets were not primarily driven by market and demand growth, but that the companies invested more in innovation projects overall whilst sales remained steady.

13 Regarding the sectors covered by the innovation statistics, i.e. sectors 5 – 39, 46, 49 – 53, 58 – 66, 69 – 74, 78 – 82.

Another indicator to measure how prevalent innovation-based business strategies are in a particular sector is the innovator rate. This number indicates the share of companies that have introduced at least one innovative product or service in the past three years, that is, that have markedly improved their services or service generation process or have expanded them to include customer needs not previously dealt with. In the cultural and creative industries, this was true of almost one in two companies in 2014/15. Three submarkets exhibit innovator rates well above the CCI sector average (49 %), namely the music industry (65 %), the book market (58 %) and the software and games industry (65 %, see figure 5.3).

Around half of the companies in the film industry and press market submarkets are innovators. A relatively low proliferation of innovative business strategies is noticeable in the advertising market (39 %), broadcasting industry (34 %), architecture market (29 %) and the design industry (27 %). These low numbers do not of course mean that the companies in these markets are not creative or do not search for new solutions. However, creativity largely takes place in the context of existing business models and a focus on these same customer groups and needs, as well as by using established internal processes and steps.

Figure 5.2: Innovation intensity in the German cultural and creative industries by submarket and in comparison to other sectors (proportion of turnover in %)



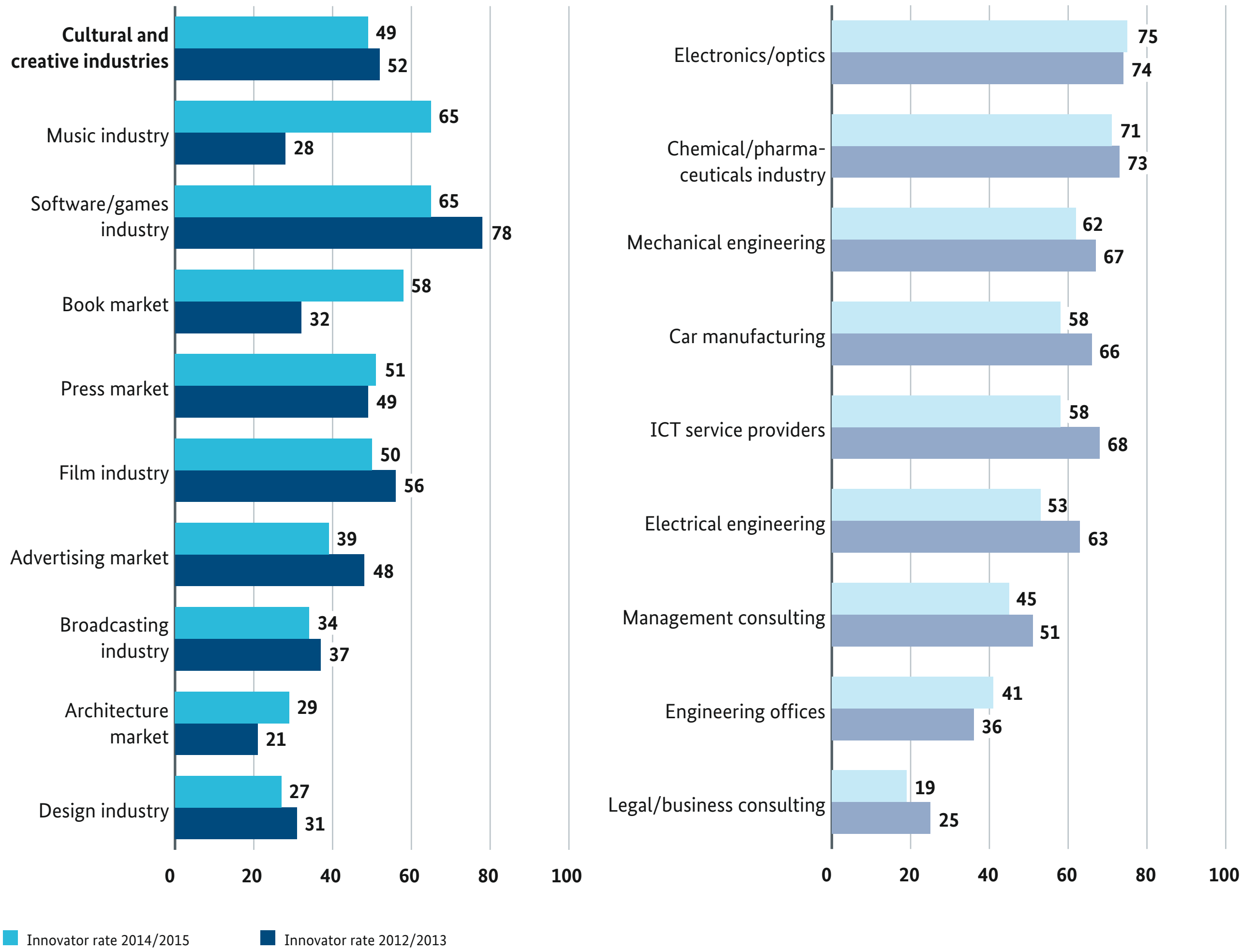
Aid to interpretation: In the software and games industry, the innovation intensity, i. e. the amount spent on innovation as a percentage of sales, averaged 9.4 % in 2014/15.

Source: Mannheim Innovation Panel, ZEW, 2017.

The innovator rate of 49 % compared to the other sectors indicates a lower level than in research-intensive industry, where between 53 % and 75 % of the companies have introduced innovative products or processes within the past three years. In the service sectors used in the comparison, the information and communication technologies services exhibit a considerably higher rate (58 %) and the management consulting companies exhibit a similar rate (45 %), whereas engineering offices and legal and business consulting firms pursue innovative business strategies less frequently.

The innovator rate fell slightly in the cultural and creative sector, from 52 % in 2012/13 to 49 % in 2014/15. The fall was weaker than in most comparable sectors. The only sectors where the innovator rate rose were electronics/optics and engineering offices. Within the CCI sector, the innovator rate rose significantly in three submarkets: the music industry, the book market and the architecture market. There was a slight increase in the press market. There were clear declines in the advertising market and the software and games industry.

Figure 5.3: Innovator rate in the German cultural and creative industries by submarket and in comparison to other sectors (proportion of companies in %)



Aid to interpretation: 49 % of all CCI companies introduced at least one product or process innovation on average in 2014/15.

Source: Mannheim Innovation Panel, ZEW, 2017.

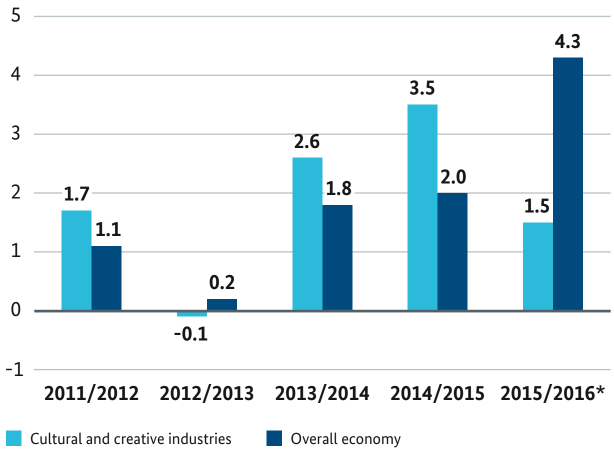
6 Summary

In 2016 turnover in the cultural and creative industries rose by an estimated 1.5 % year-on-year, indicating slower growth than in previous years. However, it was much lower than the sales trend across the economy, where there was a rise of (an estimated) 4.3 % in 2016 (cf. figure 6.1). This means that, following two successive years, the rise in turnover for the economy as a whole was greater than the rise in turnover in the cultural and creative industries.

Continuing positive development in sales in the cultural and creative industries

The cultural and creative industries maintained a positive longer-term trend with annual average growth rates in sales of 1.8 % for the period between 2011 and 2016. However, the development varies greatly between one submarket and another (cf. figure 6.2). During the 2011 – 2016 period, the music industry registered the highest annual growth rate, at 5.5 %. It was followed by the broadcasting industry (4.8 %), the software and games industry (4.7 %), and the performing arts market (4.5 %), with sales growth rates of more than 4 % each year. Positive growth figures of between 3.8 % and 0.7 % were also attained by the architecture market, the film industry, the advertising market and the design industry. The press market, the book market and the art market registered negative annual growth rates of -0.8, -1.1 and -1.6 %.

Figure 6.1: Development of sales in the cultural and creative industries compared to the overall economy (change in %)

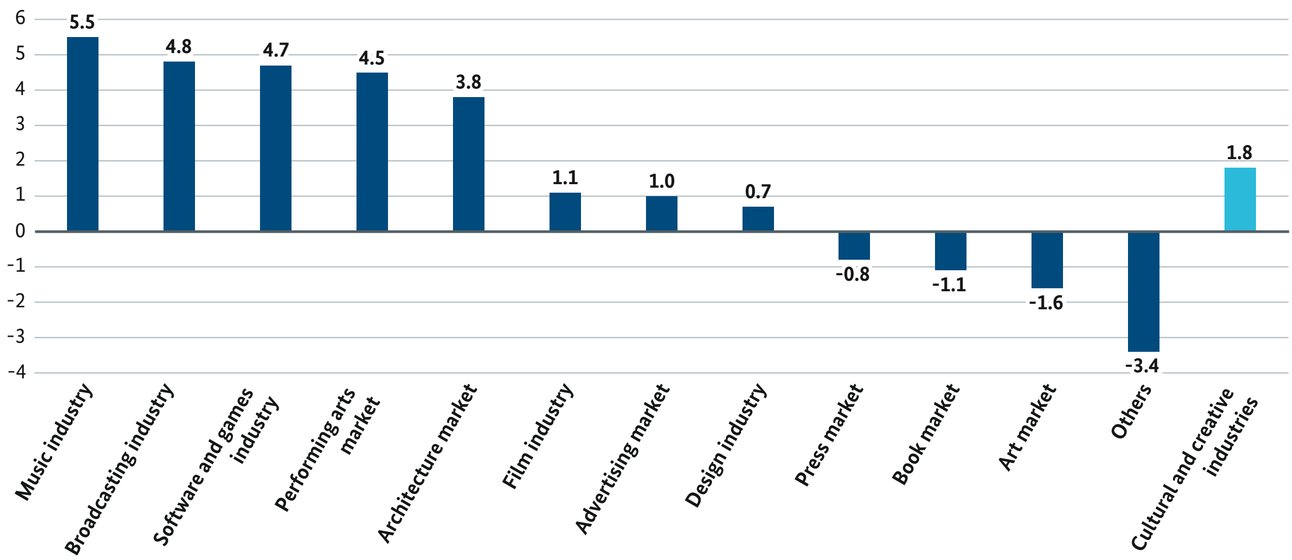


Aid to interpretation: Turnover in the cultural and creative industries grew by 1.7 % between 2011 and 2012; the figure for the overall economy was 1.1 %.

*Data for 2016 based on estimates.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Figure 6.2: Development of sales in the submarkets of the cultural and creative industries (average change p. a. 2011 – 2016* in %)



Aid to interpretation: Turnover in the music industry grew by 5.5 % each year between 2011 and 2016.

*Data for 2016 based on estimates.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

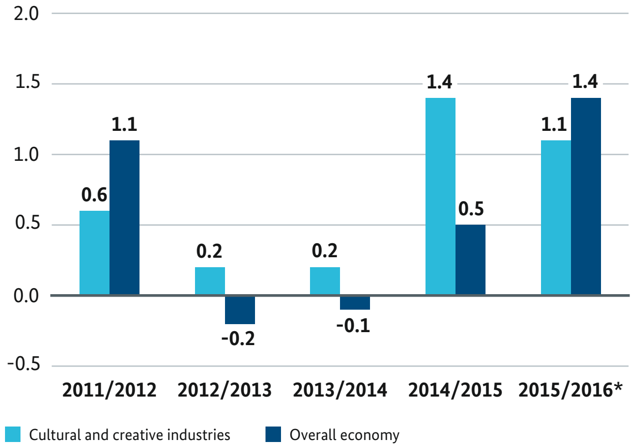
Development in the number of businesses in the cultural and creative industries at macroeconomic level

In 2016, the number of companies in the cultural and creative industries grew a little less strongly year-on-year than the corresponding number in the overall economy. Whereas the cultural and creative industries registered a 1.1 % rise in the number of companies, the rate for the overall economy was 1.4 % (cf. figure 6.3). This reverses the trend of recent years, where the number of companies in the cultural and creative industries has shown stronger growth than the number in the overall economy. The last time the rate for the overall economy was higher than that of the cultural and creative industries was 2012.

In the period between 2011 and 2016, the number of cultural and creative companies grew by an average of 0.7 % annually (see figure 6.4). Higher than average growth was recorded in the software and games industry, at 4.4 %. This submarket has correspondingly had the highest start-up activities for years compared with all of the CCI sector submarkets (cf. also chapter 4).

At some distance, but still with an above-average development, there follows the performing arts market, with long-term average rate of growth in the number of companies of 3.2 %, and then the design industry with 2.3 %. All the other submarkets lie below the sectoral average of 0.7 %, and the architecture market, the press market, the art market and the advertising market actually recorded negative annual growth rates.

Figure 6.3: Development of number of companies in the cultural and creative industries compared to the overall economy (change in %)

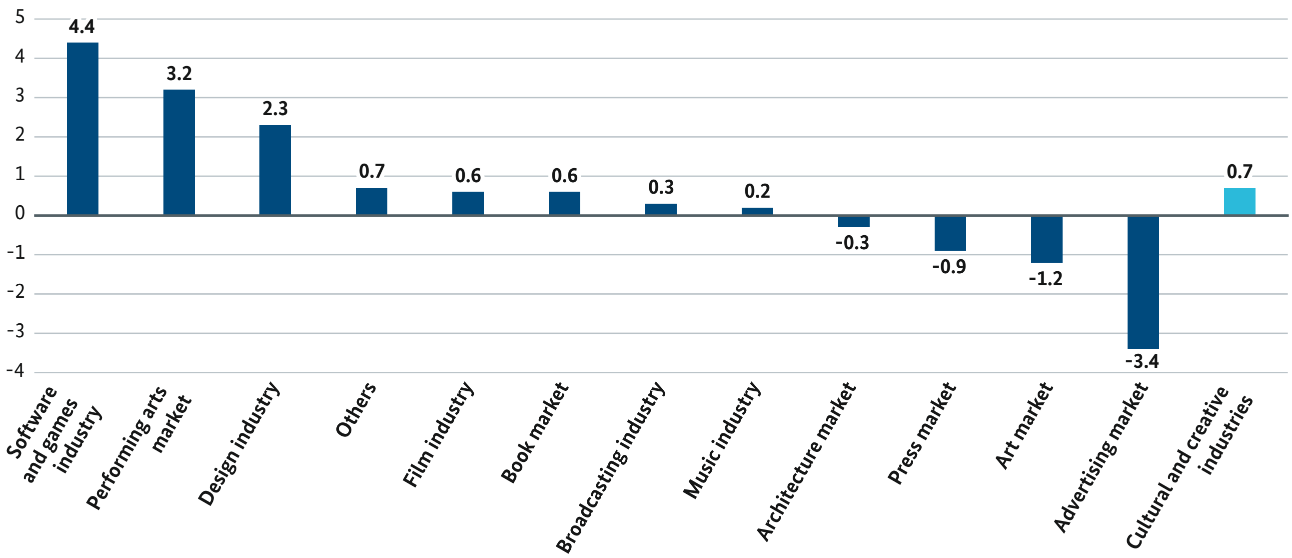


Aid to interpretation: Between 2011 and 2012 the number of companies in the overall economy grew by 1.1 %; the figure for the CCI sector was 0.6 %.

*Data for 2016 based on estimates.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Figure 6.4: Development in the number of businesses in the submarkets of the cultural and creative industries (average change p.a. 2011 – 2016* in %)

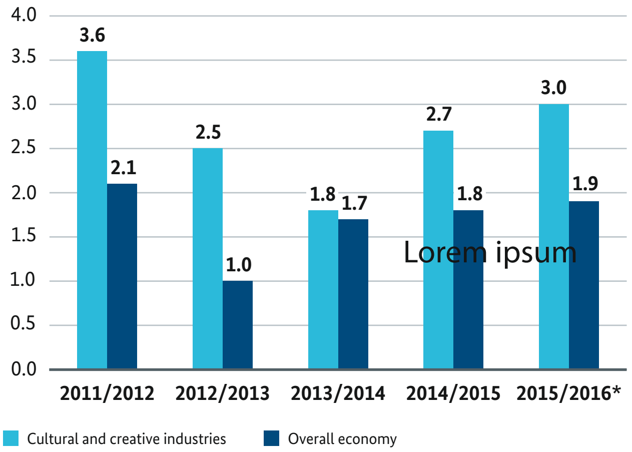


Aid to interpretation: The number of businesses in the film industry grew by an average of 0.6 % each year between 2011 and 2016.

*Data for 2016 based on estimates.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Figure 6.5: Development of the number of core workers (the self-employed and employees subject to social security contributions) in the cultural and creative industries compared with the overall economy (change in %)



Aid to interpretation: The number of core workers in the overall economy rose by 1.0 % between 2012 and 2013; the figure for the CCI sector was 2.5 %.

*Data for 2016 based partly on estimates.

Source: VAT statistics, Destatis, 2017b, employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

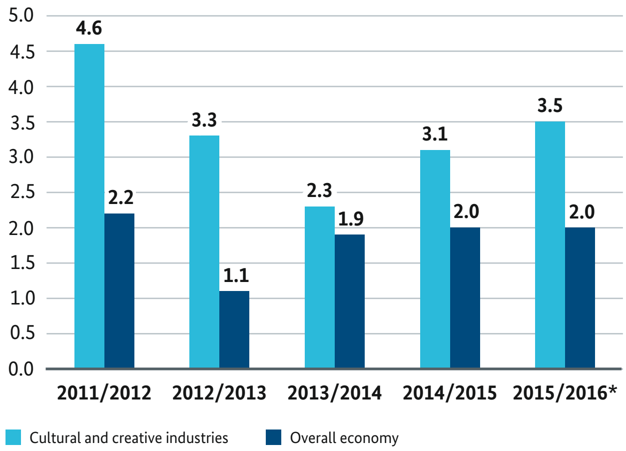
Employment subject to social security contributions still picking up speed in the CCI sector

Since 2010, it has been seen that the number of employees subject to social security contributions in the CCI sector is growing more quickly than in the economy as a whole. Last year, the number of employees in jobs subject to social security contributions in the CCI sector rose by 3.5 %, whilst the figure for the overall economy was only 2.0 % (cf. figure 6.6).

Following a clear drop of 12.0 % in 2015, marginal employment in the CCI sector increased slightly by 0.7 % in 2016 (cf. figure 6.7).

This means that the development in this type of employment was in line with that seen in the overall economy. Marginal employment in the press market (-6.1 %, not depicted) and the film industry (-3.6 %, not depicted) continued to fall; there were sharp increases in the design industry and the advertising market.

Figure 6.6: Development of the total number of employees subject to social security contributions in the cultural and creative industries compared with the overall economy (change in %)

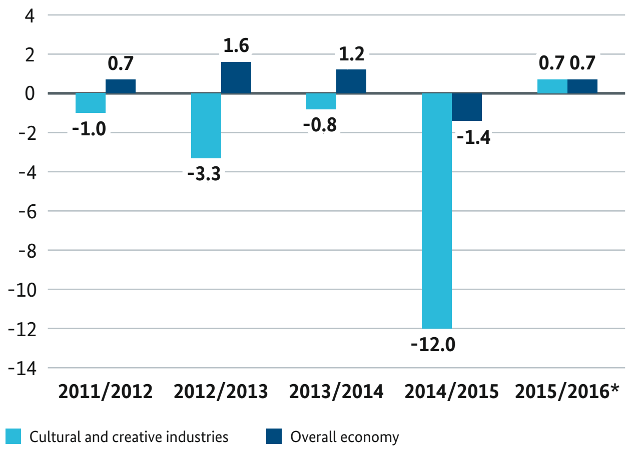


Aid to interpretation: The number of employees subject to social security contributions in the cultural and creative industries rose by 3.3 % between 2012 and 2013.
In the overall economy, the equivalent rise was 1.1 %.

*Data for 2016 based partly on estimates.

Source: Employment statistics, Federal Employment Agency 2016; in-house calculations by ZEW.

Figure 6.7: Development of marginal employment in the cultural and creative industries compared to the overall economy (change in %)



Aid to interpretation: The number of people in marginal employment in the cultural and creative industries dropped by 3.3 % between 2012 and 2013, whilst it rose by 1.6 % in the overall economy.

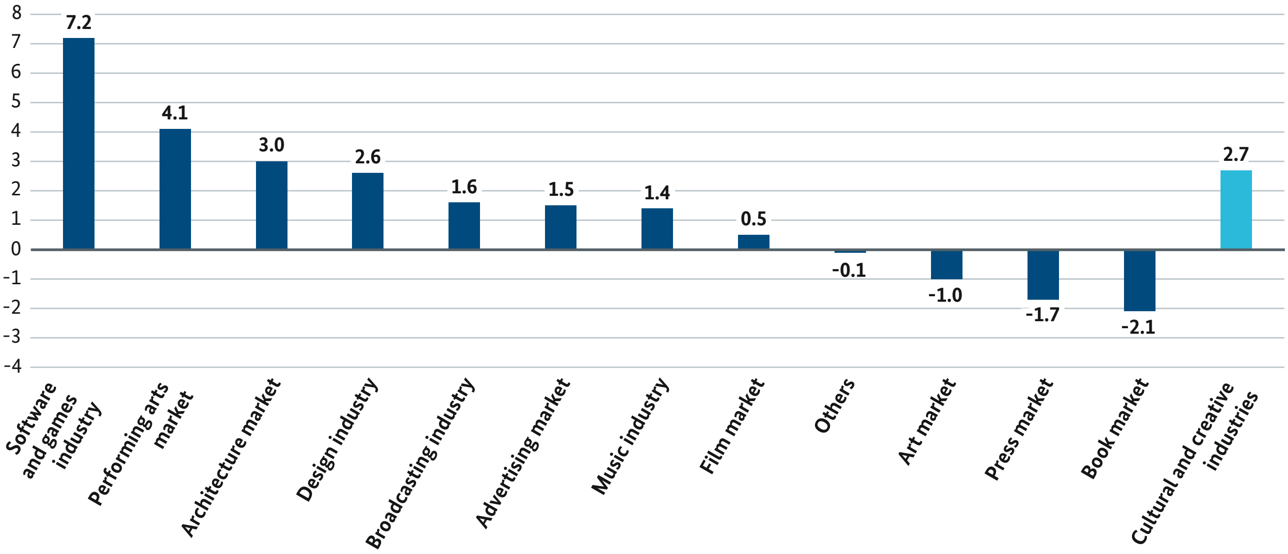
*Data for 2016 based partly on estimates.

Source: Employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

In 2016, the number of core workers (the self-employed and employees subject to social security contributions) again rose much more strongly in the cultural and creative industries than in the overall economy. Whereas the overall economy registered a rise of 1.9 %, the increase in the CCI sector was 3.0 %, the highest since 2012 (cf. figure 6.5). The total number of workers (core workers and the marginally employed) also rose in 2016 following a slight drop in the preceding year, and at 2.1 % is much higher than the figure for the overall economy of 1.5 % (neither figure depicted).

Expressed as the percentage of core workers, the number of self-employed persons and employees subject to social security contributions increased in the period between 2011 and 2016 by an annual average of 2.7 % (see figure 6.8). The software and games industry was the main contributor here, with a growth rate of 7.2 % per annum. This was followed at some distance by the performing arts market (4.1 %) and the architecture market (3.0 %), both of which recorded above-average rises in recent years. The submarkets for art, press and books registered negative growth rates in the number of core workers.

Figure 6.8: Development of core workers (self-employed persons and employees subject to social security contributions) in the submarkets of the cultural and creative industries
(average change p. a. 2011 – 2016* in %)



Aid to interpretation: The number of core workers in the design industry grew by an average of 2.6 % per annum between 2011 and 2016.

*Data for 2016 partly based on estimates (in relation to VAT statistics).

Source: VAT statistics, Destatis, 2017b, employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

Number of start-ups picking up slightly

According to the Mannheim Enterprise Panel, around 9,900 active companies were set up in the cultural and creative industries in Germany last year. This represented a slight increase in the number of start-ups compared with the preceding year, and marked the end of six successive years of declining start-up figures. On the architecture market in particular, the number of start-ups increased significantly, and the design industry, the advertising market, the art market and the broadcasting industry also report a positive development at the end of the year.

Taking a longer-term view, the number of start-ups varies widely between submarkets. The only submarket in which the rate of start-ups picked up speed in the 2006 – 2016 period was the software and games industry. 34 % more companies were founded in this submarket than was the case in 2006. The highest start-up figures were attained in 2009 – 2011, and they have remained steady at a high level since then. Some other submarkets also saw an increase in the rate of start-ups in 2009, but this was followed by a decline, significantly so in some submarkets. This is true of the advertising market, the design industry, the book market, the architecture market and the film industry. In the other submarkets, almost every year has seen a decline in the start-up figures. The drop has been particularly great in the art market and the broadcasting industry.

Bulk of innovation in the CCI sectors continues to take place in the software and games industry

Nearly three-quarters of the spending on innovation of €4.75 billion in the cultural and creative industries (72.7 %) takes place in a single submarket, the software and games industry. Significant spending on innovation projects is also made by the press market (6.6 %), the broadcasting industry (6.5 %), the film industry (3.7 %), the book market (3.7 %), the architecture market (2.7 %) and the advertising market (2.1 %).

An indicator to measure how prevalent innovation-based business strategies are in a particular sector is the innovator rate. This number indicates the share of companies that have introduced at least one innovative product or service in the past three years, that is, that have markedly improved their services or service generation process or have expanded them to include new customer needs.

In the cultural and creative industries, this was true of almost half of companies in 2014/15. Three submarkets exhibit innovator rates well above the CCI sector average (49 %), namely the music industry (65 %), the book market (58 %) and the software and games industry (65 %). Around half of the companies in the film industry and press market submarkets are innovators. A relatively low proliferation of innovative business strategies is noticeable in the advertising market (39 %), broadcasting industry (34 %), architecture market (29 %) and the design industry (27 %). These low numbers do not mean of course that the companies in these markets are not creative or do not search for new solutions. However, creativity mainly takes place in the context of existing business models and a focus on these same customer groups and needs, as well as by using established internal processes and steps.

Employment and skills in the cultural and creative industries

The prevalence of flexible forms of work like mobile working concepts, the employment of freelance staff in companies, or the availability of flexible working hour models and flexible workplace models varies across the CCI sectors. Mobile work, i. e. work when travelling or at the client, is the most widespread form: 73 % of CCI companies use it. This is followed at some distance by flexible working time models (67 %), the employment of freelance staff (55 %) and flexible workplace models (42 %). The extent to which use is made of the flexible forms of work varies widely from submarket to submarket.

Despite the fact that most of the CCI companies had no vacancies last year, 22 % of the companies say that they had problems finding qualified staff in 2016. The most frequent recruitment problems were encountered in the software and games industry.

The CCI companies are pursuing a variety of strategies in order to be able to meet the need for well-trained workers in future. The most popular strategy is a flexibilisation of working hours, which 38 % of companies view as a promising way to retain and attract skilled staff. The second leading strategy is an increased availability of further training options (37 %). However, it is already the case that many CCI companies allow their staff to receive further training.

Conclusions

Overall, the economic indicators suggest that the cultural and creative industries are continuing to develop positively. In terms of certain indicators, such as the number of core workers or gross value added, the CCI sector is outperforming the overall economy. In other areas, such as sales, the CCI sector lags behind the overall economy. In particular, the above-average positive development in the number of jobs subject to social security contributions is encouraging.

However, this overall view conceals some very disparate developments in the various CCI submarkets. In the long term, the art, book and press markets are still at the lower end of the range, whilst the software and games industry in particular is developing very positively. Economic policy should look not only at the overall CCI sector, but also at the differing characteristics of the products and services in the various submarkets, and the resulting differences in market conditions.

Recommendations for action

As a possible approach for defining a policy to promote the cultural and creative industries, the following should be considered:

- Greater support for initial and further training of staff, particularly in micro-enterprises so that they can obtain the skills required in the face of digitalisation.
- Expansion of advisory services on possible training options and assistance for the formation of training networks.
- Intensification of the debate on the adaptation of training and degree courses to changing needs and support for cooperation between CCI companies and training and higher education institutions as they develop their curricula.
- Consideration and possible development of measures to provide social security for freelancers.

7 Annex

7.1 Detailed Tables

Table 7.1: Cultural and creative industries by submarket: number of companies, 2010 – 2016*

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	13,723	13,894	13,796	13,811	13,759	14,057	14,013
2. Book market	16,481	16,702	16,828	16,811	16,798	17,079	17,204
3. Art market	13,464	13,422	13,203	13,153	12,794	12,752	12,634
4. Film industry	17,956	18,199	18,282	18,440	18,267	18,624	18,765
5. Broadcasting industry	17,751	18,128	18,154	18,159	18,074	18,179	18,397
6. Performing arts market	15,402	15,982	16,497	17,004	17,473	18,249	18,728
7. Design industry	50,111	52,439	53,676	54,454	55,624	57,127	58,845
8. Architecture market	40,159	40,702	40,762	40,205	40,040	39,849	40,179
9. Press market	33,564	33,498	33,131	32,557	32,119	32,341	31,943
10. Advertising market	35,330	34,577	33,448	32,107	30,855	30,221	29,139
11. Software and games industry	28,527	30,413	31,915	33,365	34,725	35,933	37,757
12. Others	7,506	7,736	7,751	7,812	7,775	7,887	8,014
Total, including double counts	289,974	295,692	297,442	297,877	298,302	302,298	305,619
Duplicate categories of economic activity	50,440	51,402	51,627	51,525	51,336	51,859	52,416
Cultural and creative industries (excluding double counts)	**239,534**	**244,290**	**245,816**	**246,353**	**246,967**	**250,439**	**253,203**
Overall economy	3,165,286	3,215,095	3,250,319	3,243,538	3,240,221	3,255,537	3,302,224
Ratio of CCIs to overall economy	*7.57%*	*7.60%*	*7.56%*	*7.60%*	*7.62%*	*7.69%*	*7.67%*

*Estimates. Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Table 7.2: Cultural and creative industries by submarket: sales (in € million), 2010 – 2016*

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	6,270	6,639	7,099	7,674	7,896	8,178	8,691
2. Book market	14,182	14,255	14,032	13,737	13,686	13,657	13,514
3. Art market	2,332	2,341	2,316	2,292	2,091	2,170	2,156
4. Film industry	8,925	9,283	9,228	9,060	9,328	9,844	9,796
5. Broadcasting industry	7,671	7,905	8,327	8,942	9,378	9,578	9,992
6. Performing arts market	3,478	3,742	3,909	3,971	4,262	4,502	4,668
7. Design industry	18,243	18,353	18,535	18,338	18,566	19,078	19,041
8. Architecture market	8,031	8,708	8,813	9,130	9,554	10,236	10,503
9. Press market	31,398	31,711	31,931	31,065	30,657	30,133	30,505
10. Advertising market	25,714	24,929	24,965	25,175	26,130	27,033	26,242
11. Software and games industry	26,496	28,442	29,642	29,418	31,619	34,362	35,829
12. Others	1,588	1,652	1,587	1,531	1,418	1,381	1,391
Total, including double counts	154,327	157,960	160,385	160,332	164,586	170,151	172,328
Duplicate categories of economic activity	16,993	16,990	17,047	17,178	17,691	18,084	17,961
Cultural and creative industries (excluding double counts)	**137,333**	**140,970**	**143,338**	**143,155**	**146,895**	**152,067**	**154,367**
Overall economy	5,240,997	5,687,179	5,752,249	5,765,567	5,870,875	5,989,743	6,247,449
Ratio of CCIs to overall economy	*2.62%*	*2.48%*	*2.49%*	*2.48%*	*2.50%*	*2.54%*	*2.47%*

*Estimates. Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Table 7.3: Cultural and creative industries by submarket: gross value added (in € billion), 2010 – 2016*

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	4.7	4.9	5.4	5.8	5.9	6.2	6.6
2. Book market	4.8	5.1	5.1	5.1	5.2	5.2	5.3
3. Art market	1.4	1.3	1.3	1.4	1.3	1.4	1.3
4. Film industry	8.5	8.7	8.7	7.7	7.8	8.4	8.2
5. Broadcasting industry	7.3	7.5	8.0	7.7	7.9	8.2	8.5
6. Performing arts market	6.4	6.5	6.8	7.0	7.1	7.4	7.6
7. Design industry	9.4	9.5	9.7	10.1	9.7	10.1	10.3
8. Architecture market	4.7	5.0	5.1	5.7	5.9	6.7	6.8
9. Press market	11.2	12.2	12.5	12.5	12.8	12.8	13.5
10. Advertising market	11.2	10.8	10.8	11.6	11.2	11.4	11.3
11. Software and games industry	17.3	20.0	21.8	23.5	25.3	26.7	29.2
12. Others	1.4	1.3	1.3	1.3	1.2	1.2	1.2
Total, including double counts	88.1	92.7	96.5	99.3	101.2	105.6	109.8
Duplicate categories of economic activity	9.7	9.8	9.9	10.5	10.6	10.8	11.0
Cultural and creative industries (excluding double counts)	**78.4**	**82.9**	**86.6**	**88.8**	**90.7**	**94.9**	**98.8**
Overall economy	2.321.7	2.428.1	2.478.6	2.542.7	2.639.8	2.740.2	2.831.9
Ratio of CCIs to overall economy	*3.38%*	*3.41%*	*3.49%*	*3.49%*	*3.43%*	*3.46%*	*3.49%*

*Estimates. Source: VAT statistics, Destatis, 2017b; national accounts, Destatis, 2017c; in-house calculations by ZEW.

Table 7.4: Cultural and creative industries by submarket: number of core workers, 2010 – 2016*

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	46,698	46,633	46,536	47,496	47,940	48,496	50,037
2. Book market	76,860	79,503	78,855	78,165	75,917	73,048	71,673
3. Art market	19,161	18,944	18,910	18,791	18,248	18,177	18,045
4. Film industry	57,313	57,771	57,636	57,089	57,427	58,866	59,342
5. Broadcasting industry	38,881	39,691	39,868	41,351	41,689	42,477	42,919
6. Performing arts market	33,225	34,122	35,386	37,889	38,805	40,278	41,769
7. Design industry	125,878	128,425	131,768	134,274	137,262	141,297	145,822
8. Architecture market	101,897	105,088	107,754	110,166	112,777	116,695	122,044
9. Press market	163,305	161,092	158,876	156,098	152,407	150,380	148,138
10. Advertising market	137,006	138,883	140,434	140,558	142,976	145,863	149,380
11. Software and games industry	251,708	268,465	299,433	321,086	337,923	358,800	380,953
12. Others	14,991	15,184	15,434	15,547	15,104	15,140	15,094
Total, including double counts	1,066,923	1,093,800	1,130,890	1,158,510	1,178,475	1,209,516	1,245,216
Duplicate categories of economic activity	114,403	117,023	119,120	121,243	122,441	124,589	128,170
Cultural and creative industries (excluding double counts)	**952,520**	**976,777**	**1,011,770**	**1,037,267**	**1,056,034**	**1,084,927**	**1,117,047**
Overall economy	31,131,887	31,858,678	32,530,353	32,859,218	33,414,726	34,026,834	34,675,915
Ratio of CCIs to overall economy	*3,06%*	*3,07%*	*3,11%*	*3,16%*	*3,16%*	*3,19%*	*3,22%*

*Estimates concerning the number of self-employed persons (corresponds to the number of companies).

Source: VAT statistics, Destatis, 2017b, employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

Table 7.5: Cultural and creative industries by submarket: employees subject to social security contributions, 2010 – 2016

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	32,975	32,739	32,740	33,685	34,181	34,439	36,024
2. Book market	60,379	62,801	62,027	61,354	59,119	55,969	54,469
3. Art market	5,697	5,522	5,708	5,639	5,454	5,425	5,411
4. Film industry	39,357	39,572	39,354	38,649	39,160	40,242	40,577
5. Broadcasting industry	21,130	21,563	21,714	23,192	23,615	24,298	24,522
6. Performing arts market	17,823	18,140	18,889	20,885	21,332	22,029	23,041
7. Design industry	75,767	75,986	78,093	79,821	81,639	84,170	86,978
8. Architecture market	61,738	64,386	66,992	69,961	72,737	76,846	81,865
9. Press market	129,741	127,594	125,745	123,541	120,288	118,039	116,195
10. Advertising market	101,676	104,306	106,986	108,451	112,121	115,642	120,241
11. Software and games industry	223,181	238,052	267,518	287,721	303,198	322,867	343,196
12. Others	7,485	7,448	7,683	7,735	7,329	7,253	7,079
Total, including double counts	776,949	798,108	833,448	860,633	880,173	907,218	939,597
Duplicate categories of economic activity	63,963	65,621	67,494	69,719	71,106	72,731	75,753
Cultural and creative industries (excluding double counts)	**712,986**	**732,488**	**765,954**	**790,914**	**809,067**	**834,488**	**863,844**
Overall economy	27,966,601	28,643,583	29,280,034	29,615,680	30,174,505	30,771,297	31,373,691
Ratio of CCIs to overall economy	*2.55%*	*2.56%*	*2.62%*	*2.67%*	*2.68%*	*2.71%*	*2.75%*

Source: Employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

Table 7.6: Cultural and creative industries by submarket: people in marginal employment, 2010 – 2016

Submarket	2010	2011	2012	2013	2014	2015	2016*
1. Music industry	11,916	12,128	12,671	12,902	13,213	13,423	13,836
2. Book market	20,920	20,374	19,766	18,959	18,320	17,610	17,172
3. Art market	4,472	4,395	4,355	4,290	4,178	4,046	3,988
4. Film industry	28,317	26,928	26,368	25,994	24,920	24,185	23,323
5. Broadcasting industry	2,045	1,750	1,723	1,841	1,842	1,752	1,786
6. Performing arts market	13,011	13,715	14,754	15,806	16,450	17,084	17,981
7. Design industry	66,974	63,977	62,114	61,783	65,410	56,513	60,339
8. Architecture market	18,080	18,391	18,462	19,109	19,369	18,892	18,916
9. Press market	133,704	131,207	130,370	123,373	113,233	89,870	84,395
10. Advertising market	123,173	115,272	110,736	104,008	111,445	95,069	101,685
11. Software and games industry	21,196	22,373	23,732	24,841	25,900	25,507	26,921
12. Others	1,773	1,754	1,682	1,652	1,614	1,576	1,634
Total, including double counts	445,581	432,264	426,733	414,558	415,894	365,526	371,975
Duplicate categories of economic activity	66,253	63,461	61,777	61,739	65,737	57,475	61,809
Cultural and creative industries (excluding double counts)	**379,328**	**368,803**	**364,956**	**352,819**	**350,158**	**308,051**	**310,166**
Overall economy	7,450,194	7,536,790	7,591,384	7,716,104	7,811,376	7,704,750	7,756,094
Ratio of CCIs to overall economy	*5.09%*	*4.89%*	*4.81%*	*4.57%*	*4.48%*	*4.00%*	*4.00%*

Source: Employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

Table 7.7: Number of companies in the cultural and creative industries by submarket and category of economic activity (WZ), 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
1. Music industry								
32.20	Manufacture of musical instruments	1,180	1,197	1,204	1,218	1,216	1,265	1,268
47.59.3	Retail sale of musical instruments, etc.	2,142	2,087	1,998	1,922	1,858	1,809	1,727
47.63	Retail sale of music and video recordings, etc.	282	306	319	333	353	387	399
59.20.1	Sound-recording studios, etc.	539	583	610	634	659	659	704
59.20.2	Publishing of sound recordings	390	383	366	376	380	388	372
59.20.3	Publishing of printed music	1,149	1,134	1,095	1,062	1,075	1,055	1,019
90.01.2	Ballet companies, orchestras, bands and choirs	1,661	1,666	1,560	1,510	1,472	1,505	1,424
90.02	Support activities to performing arts	2,109	2,249	2,395	2,471	2,429	2,547	2,708
90.03.1	Own-account composers, etc.	2,643	2,683	2,695	2,752	2,776	2,924	2,918
90.04.1	Organisation of theatre performances and concerts	1,400	1,378	1,337	1,325	1,335	1,316	1,279
90.04.2	Operation of opera houses, theatre and concert halls, etc.	228	228	217	208	206	202	195
	Submarket total	**13,723**	**13,894**	**13,796**	**13,811**	**13,759**	**14,057**	**14,013**
2. Book market								
18.14	Binding and related services	1,041	1,010	993	961	909	896	871
47.61	Retail sale of books	4,195	4,137	4,038	3,896	3,803	3,716	3,629
47.79.2	Retail sale of second-hand books	459	448	429	428	414	407	392
58.11	Book publishing	2,220	2,243	2,209	2,170	2,117	2,075	2,078
74.30.1	Translation activities	1,625	1,718	1,811	1,884	1,974	2,088	2,171
90.03.2	Own-account writers	6,941	7,146	7,348	7,472	7,581	7,897	8,063
	Submarket total	**16,481**	**16,702**	**16,828**	**16,811**	**16,798**	**17,079**	**17,204**
3. Art market								
47.78.3	Retail sale of art, etc.	1,712	1,685	1,632	1,560	1,469	1,425	1,386
47.79.1	Retail sale of antiques, etc.	2,115	2,041	2,007	1,949	1,853	1,786	1,742
90.03.3	Own-account visual artists	8,814	8,932	8,892	9,010	8,870	8,949	9,009
91.02	Museums activities	823	764	672	634	602	592	497
	Submarket total	**13,464**	**13,422**	**13,203**	**13,153**	**12,794**	**12,752**	**12,634**
4. Film industry								
47.63	Retail sale of music and video recordings, etc.	282	306	319	333	353	387	399
59.11	Motion picture, video and TV programme production	5,253	5,118	4,988	4,894	4,567	4,400	4,310
59.12	Motion picture, video and TV programme post-production	767	851	861	856	774	833	881
59.13	Motion picture, video and TV programme distribution	865	792	711	654	576	556	465
59.14	Motion picture projection	878	865	843	849	834	841	820
77.22	Renting of video tapes and disks	1,201	1,087	969	864	753	653	534
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	8,710	9,180	9,591	9,990	10,410	10,954	11,356
	Submarket total	**17,956**	**18,199**	**18,282**	**18,440**	**18,267**	**18,624**	**18,765**

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Table 7.7: Number of companies in the cultural and creative industries by submarket and category of economic activity (WZ), 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
5. Broadcasting industry								
60.10	Radio broadcasting	262	255	255	262	262	254	254
60.20	Television programming and broadcasting	88	91	89	94	89	87	90
90.03.5	Own-account journalists and press photographers	17,401	17,782	17,810	17,803	17,723	17,838	18,054
	Submarket total	**17,751**	**18,128**	**18,154**	**18,159**	**18,074**	**18,179**	**18,397**
6. Performing arts market								
85.52	Cultural education	2,080	2,105	2,111	2,147	2,204	2,269	2,268
90.01.1	Theatre ensembles	124	128	131	133	142	166	162
90.01.3	Own-account performers and circus groups	573	546	550	584	588	642	618
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	8,710	9,180	9,591	9,990	10,410	10,954	11,356
90.02	Support activities to performing arts	2,109	2,249	2,395	2,471	2,429	2,547	2,708
90.04.1	Organisation of theatre performances and concerts	1,400	1,378	1,337	1,325	1,335	1,316	1,279
90.04.2	Operation of opera houses, theatre and concert halls, etc.	228	228	217	208	206	202	195
90.04.3	Operation of variety theatres and cabarets	178	168	165	146	159	153	142
	Submarket total	**15,402**	**15,982**	**16,497**	**17,004**	**17,473**	**18,249**	**18,728**
7. Design industry								
32.12	Manufacture of jewellery and related articles	3,706	3,661	3,603	3,477	3,424	3,314	3,266
71.11.2	Consulting architectural activities in interior design	3,185	3,577	3,862	3,987	4,119	4,189	4,591
73.11	Advertising agencies (50% share)	17,125	16,702	16,096	15,408	14,761	14,426	13,835
74.10.1	Industrial, product and fashion designers	2,164	2,586	2,975	3,372	3,590	3,792	4,280
74.10.2	Graphics and communications designers	7,269	8,725	10,054	11,100	12,425	13,598	14,995
74.10.3	Interior decorators	7,679	7,773	7,303	6,898	6,661	6,588	6,312
74.20.1	Photographers	8,983	9,415	9,783	10,212	10,644	11,220	11,566
	Submarket total	**50,111**	**52,439**	**53,676**	**54,454**	**55,624**	**57,127**	**58,845**
8. Architecture market								
71.11.1	Consulting architectural activities in building construction	27,587	27,554	27,137	26,465	26,084	25,772	25,496
71.11.2	Consulting architectural activities in interior design	3,185	3,577	3,862	3,987	4,119	4,189	4,591
71.11.3	Consulting architectural activities in town, city and regional planning	4,828	4,990	5,088	5,050	5,083	5,115	5,253
71.11.4	Consulting architectural activities in landscape architecture	3,088	3,108	3,156	3,168	3,179	3,198	3,236
90.03.4	Own-account restorers	1,471	1,473	1,519	1,535	1,575	1,575	1,604
	Submarket total	**40,159**	**40,702**	**40,762**	**40,205**	**40,040**	**39,849**	**40,179**

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Table 7.7: Number of companies in the cultural and creative industries by submarket and category of economic activity (WZ), 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
9. Press market								
47.62	Retail sale of newspapers and stationery	9,219	8,891	8,563	8,208	8,000	8,256	7,731
58.12	Publishing of directories and mailing lists	200	217	211	212	214	203	212
58.13	Publishing of newspapers	829	826	845	849	835	812	832
58.14	Publishing of journals and periodicals	1,782	1,741	1,722	1,689	1,643	1,621	1,591
58.19	Other publishing activities (excluding software)	3,144	3,053	3,002	2,906	2,866	2,799	2,719
63.91	News agency activities	989	988	978	890	838	812	803
90.03.5	Own-account journalists and press photographers	17,401	17,782	17,810	17,803	17,723	17,838	18,054
	Submarket total	**33,564**	**33,498**	**33,131**	**32,557**	**32,119**	**32,341**	**31,943**
10. Advertising market								
73.11	Advertising agencies	34,250	33,404	32,191	30,815	29,521	28,851	27,669
73.12	Media representation	1,080	1,173	1,257	1,292	1,334	1,370	1,470
	Submarket total	**35,330**	**34,577**	**33,448**	**32,107**	**30,855**	**30,221**	**29,139**
11. Software and games industry								
58.21	Publishing of computer games	354	336	326	295	283	279	259
58.29	Other software publishing	474	534	529	543	544	532	570
62.01.1	Web-page design and programming	8,256	9,037	9,603	10,073	10,611	11,106	11,805
62.01.9	Other software development	19,172	20,165	21,042	21,919	22,638	23,300	24,330
63.12	Web portals	271	341	415	535	649	716	793
	Submarket total	**28,527**	**30,413**	**31,915**	**33,365**	**34,725**	**35,933**	**37,757**
12. Others								
32.11	Striking of coins	54	54	53	50	45	43	43
32.13	Manufacture of imitation jewellery and related articles	289	304	303	305	318	327	331
74.30.2	Interpretation activities	466	466	428	413	378	354	338
74.20.2	Photographic laboratories	6,237	6,456	6,547	6,637	6,638	6,791	6,950
91.01	Libraries and archives	100	101	81	80	79	73	62
91.03	Operation of historical sites and buildings and similar visitor attractions	95	95	92	87	90	92	88
91.04	Botanical and zoological gardens and nature reserves	265	260	247	240	227	207	202
	Submarket total	**7,506**	**7,736**	**7,751**	**7,812**	**7,775**	**7,887**	**8,014**
Total, including double counts		289,974	295,692	297,442	297,877	298,302	302,298	305,619
Duplicate categories of economic activity		50,440	51,402	51,627	51,525	51,336	51,859	52,416
Cultural and creative industries (excluding double counts)		**239,534**	**244,290**	**245,816**	**246,353**	**246,967**	**250,439**	**253,203**
Ratio of CCIs to overall economy		*7.57%*	*7.60%*	*7.56%*	*7.60%*	*7.62%*	*7.69%*	*7.67%*

*Data for 2016 estimated, based on previous year's developments and economic statistics. Minimal discrepancies in the submarket totals or overall totals due to rounding.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Table 7.8: Turnover (in € million) in the cultural and creative industries by submarket and category of economic activity, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
1. Music industry								
32.20	Manufacture of musical instruments	551	579	592	616	611	628	653
47.59.3	Retail sale of musical instruments, etc.	1,175	1,207	1,245	1,187	1,227	1,279	1,290
47.63	Retail sale of music and video recordings, etc.	126	140	158	155	154	186	196
59.20.1	Sound-recording studios, etc.	109	125	134	126	119	120	134
59.20.2	Publishing of sound recordings	989	1,016	983	866	829	793	781
59.20.3	Publishing of printed music	549	571	918	1,675	1,666	1,749	2,108
90.01.2	Ballet companies, orchestras, bands and choirs	210	239	233	228	209	224	234
90.02	Support activities to performing arts	402	440	461	501	550	597	621
90.03.1	Own-account composers, etc.	261	274	283	275	308	316	322
90.04.1	Organisation of theatre performances and concerts	1,509	1,644	1,639	1,597	1,766	1,795	1,833
90.04.2	Operation of opera houses, theatre and concert halls, etc.	389	403	453	447	456	491	519
	Submarket total	**6,270**	**6,639**	**7,099**	**7,674**	**7,896**	**8,178**	**8,691**
2. Book market								
18.14	Binding and related services	836	871	805	786	733	696	688
47.61	Retail sale of books	3,600	3,506	3,551	3,451	3,558	3,866	3,715
47.79.2	Retail sale of second-hand books	72	70	65	63	56	61	55
58.11	Book publishing	8,848	8,945	8,754	8,581	8,480	8,133	8,151
74.30.1	Translation activities	274	295	287	278	293	315	312
90.03.2	Own-account writers	552	568	570	578	566	585	593
	Submarket total	**14,182**	**14,255**	**14,032**	**13,737**	**13,686**	**13,657**	**13,514**
3. Art market								
47.78.3	Retail sale of art, etc.	660	742	707	729	619	679	704
47.79.1	Retail sale of antiques, etc.	404	432	416	381	324	302	316
90.03.3	Own-account visual artists	750	753	765	766	770	784	789
91.02	Museums activities	518	414	428	416	378	405	347
	Submarket total	**2,332**	**2,341**	**2,316**	**2,292**	**2,091**	**2,170**	**2,156**
4. Film industry								
47.63	Retail sale of music and video recordings, etc.	126	140	158	155	154	186	196
59.11	Motion picture, video and TV programme production	4,489	4,458	4,444	4,418	4,664	4,674	4,608
59.12	Motion picture, video and TV programme post-production	153	164	181	240	210	234	259
59.13	Motion picture, video and TV programme distribution	1,815	1,993	1,752	1,569	1,572	1,630	1,525
59.14	Motion picture projection	1,276	1,419	1,527	1,524	1,488	1,761	1,837
77.22	Renting of video tapes and disks	315	302	296	261	277	309	279
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	752	806	870	892	964	1,049	1,092
	Submarket total	**8,925**	**9,283**	**9,228**	**9,060**	**9,328**	**9,844**	**9,796**

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Table 7.8: Turnover (in € million) in the cultural and creative industries by submarket and category of economic activity, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
5. Broadcasting industry								
60.10	Radio broadcasting	965	962	969	981	933	942	951
60.20	Television programming and broadcasting	5,487	5,686	6,135	6,747	7,238	7,423	7,831
90.03.5	Own-account journalists and press photographers	1,219	1,258	1,223	1,213	1,206	1,212	1,210
	Submarket total	**7,671**	**7,905**	**8,327**	**8,942**	**9,378**	**9,578**	**9,992**
6. Performing arts market								
85.52	Cultural education	239	252	265	272	275	290	303
90.01.1	Theatre ensembles	54	55	81	91	93	101	118
90.01.3	Own-account performers and circus groups	55	60	57	79	72	89	90
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	752	806	870	892	964	1,049	1,092
90.02	Support activities to performing arts	402	440	461	501	550	597	621
90.04.1	Organisation of theatre performances and concerts	1,509	1,644	1,639	1,597	1,766	1,795	1,833
90.04.2	Operation of opera houses, theatre and concert halls, etc.	389	403	453	447	456	491	519
90.04.3	Operation of variety theatres and cabarets	78	82	84	91	86	89	94
	Submarket total	**3,478**	**3,742**	**3,909**	**3,971**	**4,262**	**4,502**	**4,668**
7. Design industry								
32.12	Manufacture of jewellery and related articles	2,531	2,686	2,780	2,336	2,181	2,219	2,295
71.11.2	Consulting architectural activities in interior design	485	594	634	669	727	768	845
73.11	Advertising agencies (50% share)	12,112	11,704	11,609	11,703	11,868	11,984	11,645
74.10.1	Industrial, product and fashion designers	327	419	475	544	599	625	713
74.10.2	Graphics and communications designers	627	749	856	954	1,078	1,210	1,315
74.10.3	Interior decorators	981	1,040	972	922	922	1,028	977
74.20.1	Photographers	1,179	1,160	1,209	1,210	1,191	1,244	1,251
	Submarket total	**18,243**	**18,353**	**18,535**	**18,338**	**18,566**	**19,078**	**19,041**
8. Architecture market								
71.11.1	Consulting architectural activities in building construction	5,765	6,126	6,117	6,316	6,569	7,080	7,138
71.11.2	Consulting architectural activities in interior design	485	594	634	669	727	768	845
71.11.3	Consulting architectural activities in town, city and regional planning	1,066	1,239	1,288	1,347	1,389	1,486	1,595
71.11.4	Consulting architectural activities in landscape architecture	543	565	586	603	658	700	710
90.03.4	Own-account restorers	171	183	188	196	211	203	215
	Submarket total	**8,031**	**8,708**	**8,813**	**9,130**	**9,554**	**10,236**	**10,503**

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Table 7.8: Turnover (in € million) in the cultural and creative industries by submarket and category of economic activity, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
9. Press market								
47.62	Retail sale of newspapers and stationery	3,351	3,381	3,422	3,303	3,275	3,344	3,349
58.12	Publishing of directories and mailing lists	1,415	1,762	1,875	1,825	1,706	1,599	1,914
58.13	Publishing of newspapers	11,183	11,501	11,781	11,396	10,595	10,112	10,655
58.14	Publishing of journals and periodicals	9,933	9,829	9,934	9,742	9,768	9,708	9,693
58.19	Other publishing activities (excluding software)	3,785	3,458	3,197	3,120	3,622	3,643	3,196
63.91	News agency activities	513	522	497	466	485	515	487
90.03.5	Own-account journalists and press photographers	1,219	1,258	1,223	1,213	1,206	1,212	1,210
	Submarket total	**31,398**	**31,711**	**31,931**	**31,065**	**30,657**	**30,133**	**30,505**
10. Advertising market								
73.11	Advertising agencies	24,223	23,407	23,217	23,406	23,737	23,969	23,290
73.12	Media representation	1,491	1,522	1,748	1,769	2,394	3,064	2,952
	Submarket total	**25,714**	**24,929**	**24,965**	**25,175**	**26,130**	**27,033**	**26,242**
11. Software and games industry								
58.21	Publishing of computer games	3,040	2,327	1,743	1,395	336	269	251
58.29	Other software publishing	429	504	396	425	424	400	387
62.01.1	Web-page design and programming	2,732	3,055	3,179	3,208	3,523	3,955	4,061
62.01.9	Other software development	19,818	21,997	23,663	23,509	26,489	28,070	29,549
63.12	Web portals	477	559	661	881	847	1,667	1,580
	Submarket total	**26,496**	**28,442**	**29,642**	**29,418**	**31,619**	**34,362**	**35,829**
12. Others								
32.11	Striking of coins	118	159	147	160	109	105	131
32.13	Manufacture of imitation jewellery and related articles	125	128	117	124	131	75	86
74.30.2	Interpretation activities	518	503	449	372	235	232	192
74.20.2	Photographic laboratories	462	495	509	520	536	559	580
91.01	Libraries and archives	66	48	43	44	49	55	39
91.03	Operation of historical sites and buildings and similar visitor attractions	32	36	35	34	36	36	38
91.04	Botanical and zoological gardens and nature reserves	267	283	288	277	323	319	324
	Submarket total	**1,588**	**1,652**	**1,587**	**1,531**	**1,418**	**1,381**	**1,391**
Total, including double counts		154,327	157,960	160,385	160,332	164,586	170,151	172,328
Duplicate categories of economic activity		16,993	16,990	17,047	17,178	17,691	18,084	17,961
Cultural and creative industries (excluding double counts)		**137,333**	**140,970**	**143,338**	**143,155**	**146,895**	**152,067**	**154,367**
Ratio of CCIs to overall economy		*2.62%*	*2.48%*	*2.49%*	*2.48%*	*2.50%*	*2.54%*	*2.47%*

*Data for 2016 estimated, based on previous year's developments and economic statistics. Minimal discrepancies in the submarket totals or overall totals due to rounding.

Source: VAT statistics, Destatis 2017b; in-house calculations by ZEW.

Table 7.9: Number of core workers in the cultural and creative industries by submarket and industry subsector, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
1. Music industry								
32.20	Manufacture of musical instruments	6,396	6,300	6,379	6,339	6,413	6,352	6,353
47.59.3	Retail sale of musical instruments, etc.	6,169	6,233	6,291	6,241	6,105	6,081	5,993
47.63	Retail sale of music and video recordings, etc.	1,662	1,627	1,590	1,328	1,265	1,246	1,237
59.20.1	Sound-recording studios, etc.	1,403	1,448	1,513	1,552	1,556	1,549	1,610
59.20.2	Publishing of sound recordings	2,550	2,666	2,585	1,891	1,776	1,835	1,565
59.20.3	Publishing of printed music	3,199	3,095	2,695	2,717	3,224	3,253	3,374
90.01.2	Ballet companies, orchestras, bands and choirs	6,812	6,312	5,792	5,789	5,814	5,750	6,784
90.02	Support activities to performing arts	5,832	6,146	6,622	6,720	6,950	7,570	8,286
90.03.1	Own-account composers, etc.	2,819	2,865	2,882	2,935	2,944	3,130	3,134
90.04.1	Organisation of theatre performances and concerts	6,365	6,388	6,591	8,419	8,262	8,105	8,260
90.04.2	Operation of opera houses, theatre and concert halls, etc.	3,491	3,553	3,596	3,565	3,631	3,625	3,440
	Submarket total	**46,698**	**46,633**	**46,536**	**47,496**	**47,940**	**48,496**	**50,037**
2. Book market								
18.14	Binding and related services	11,366	10,896	10,795	10,114	9,923	9,551	8,594
47.61	Retail sale of books	27,926	29,938	29,152	28,527	26,560	23,634	22,072
47.79.2	Retail sale of second-hand books	776	765	752	767	741	719	722
58.11	Book publishing	24,804	25,422	25,261	25,426	24,892	24,619	25,212
74.30.1	Translation activities	4,692	4,960	5,160	5,419	5,708	6,027	6,314
90.03.2	Own-account writers	7,296	7,522	7,735	7,912	8,093	8,498	8,759
	Submarket total	**76,860**	**79,503**	**78,855**	**78,165**	**75,917**	**73,048**	**71,673**
3. Art market								
47.78.3	Retail sale of art, etc.	3,539	3,310	3,289	3,182	3,067	3,100	3,086
47.79.1	Retail sale of antiques, etc.	3,438	3,399	3,423	3,362	3,174	3,015	2,918
91.02	Museums activities	10,160	10,265	10,254	10,360	10,128	10,183	10,246
90.03.3	Own-account visual artists	2,024	1,969	1,944	1,888	1,879	1,879	1,795
	Submarket total	**19,161**	**18,944**	**18,910**	**18,791**	**18,248**	**18,177**	**18,045**
4. Film industry								
47.63	Retail sale of music and video recordings, etc.	1,662	1,627	1,590	1,328	1,265	1,246	1,237
59.11	Motion picture, video and TV programme production	25,524	25,529	26,114	25,766	26,286	26,492	27,057
59.12	Motion picture, video and TV programme post-production	5,384	5,576	5,002	4,901	4,917	4,977	4,878
59.13	Motion picture, video and TV programme distribution	3,291	3,182	2,946	2,954	2,895	2,716	2,647
59.14	Motion picture projection	8,581	8,694	8,696	8,813	8,594	9,582	9,579
77.22	Renting of video tapes and disks	3,608	3,445	3,115	2,743	2,426	2,206	1,801
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	9,263	9,718	10,173	10,584	11,044	11,647	12,143
	Submarket total	**57,313**	**57,771**	**57,636**	**57,089**	**57,427**	**58,866**	**59,342**

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Table 7.9: Number of core workers in the cultural and creative industries by submarket and industry subsector, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
5. Broadcasting industry								
60.10	Radio broadcasting	13,601	13,741	13,437	14,028	14,230	15,067	15,079
60.20	Television programming and broadcasting	7,007	7,305	7,719	8,661	8,879	8,710	8,785
90.03.5	Own-account journalists and press photographers	18,273	18,645	18,712	18,662	18,579	18,700	19,055
	Submarket total	**38,881**	**39,691**	**39,868**	**41,351**	**41,689**	**42,477**	**42,919**
6. Performing arts market								
85.52	Cultural education	4,708	4,918	5,155	5,386	5,592	5,922	6,135
90.01.1	Theatre ensembles	1,340	1,214	1,214	1,056	1,056	1,080	1,126
90.01.3	Own-account performers and circus groups	1,286	1,262	1,106	1,194	1,222	1,275	1,352
90.01.4	Own-account stage, motion picture, radio and TV artists, etc.	9,263	9,718	10,173	10,584	11,044	11,647	12,143
90.02	Support activities to performing arts	5,832	6,146	6,622	6,720	6,950	7,570	8,286
90.04.1	Organisation of theatre performances and concerts	6,365	6,388	6,591	8,419	8,262	8,105	8,260
90.04.2	Operation of opera houses, theatre and concert halls, etc.	3,491	3,553	3,596	3,565	3,631	3,625	3,440
90.04.3	Operation of variety theatres and cabarets	940	923	929	965	1,048	1,054	1,027
	Submarket total	**33,225**	**34,122**	**35,386**	**37,889**	**38,805**	**40,278**	**41,769**
7. Design industry								
32.12	Manufacture of jewellery and related articles	13,847	11,725	11,593	11,397	11,323	11,203	11,136
71.11.2	Consulting architectural activities in interior design	4,743	5,399	5,859	6,379	6,595	6,821	7,536
73.11	Advertising agencies (50% share)	64,774	65,547	65,977	65,586	66,115	66,876	68,212
74.10.1	Industrial, product and fashion designers	4,247	4,871	5,643	6,551	7,134	7,989	8,672
74.10.2	Graphics and communications designers	10,338	12,259	14,244	15,856	17,567	19,140	20,924
74.10.3	Interior decorators	10,482	10,669	10,153	9,828	9,606	9,695	9,703
74.20.1	Photographers	17,447	17,955	18,299	18,677	18,922	19,573	19,639
	Submarket total	**125,878**	**128,425**	**131,768**	**134,274**	**137,262**	**141,297**	**145,822**
8. Architecture market								
71.11.1	Consulting architectural activities in building construction	75,306	77,333	79,478	81,309	83,468	86,553	90,162
71.11.2	Consulting architectural activities in interior design	4,743	5,399	5,859	6,379	6,595	6,821	7,536
71.11.3	Consulting architectural activities in town, city and regional planning	11,600	12,031	11,801	11,721	11,650	11,972	12,427
71.11.4	Consulting architectural activities in landscape architecture	7,314	7,393	7,617	7,821	8,031	8,323	8,813
90.03.4	Own-account restorers	2,934	2,932	2,999	2,936	3,033	3,026	3,107
	Submarket total	**101,897**	**105,088**	**107,754**	**110,166**	**112,777**	**116,695**	**122,044**

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Table 7.9: Number of core workers in the cultural and creative industries by submarket and industry subsector, 2010 – 2016*

Submarket/ WZ-2008	Sector of activity	2010	2011	2012	2013	2014	2015	2016*
9. Press market								
47.62	Retail sale of newspapers and stationery	29,032	28,807	28,621	27,787	27,433	27,650	26,872
58.12	Publishing of directories and mailing lists	5,049	4,353	4,283	4,074	3,832	3,641	3,540
58.13	Publishing of newspapers	49,515	47,737	47,628	47,016	45,916	44,713	43,847
58.14	Publishing of journals and periodicals	41,341	40,658	38,778	38,113	36,212	34,838	33,440
58.19	Other publishing activities (excluding software)	11,264	11,545	11,197	11,061	10,767	10,081	9,591
63.91	News agency activities	8,831	9,347	9,657	9,385	9,668	10,757	11,792
90.03.5	Own-account journalists and press photographers	18,273	18,645	18,712	18,662	18,579	18,700	19,055
	Submarket total	**163,305**	**161,092**	**158,876**	**156,098**	**152,407**	**150,380**	**148,138**
10. Advertising market								
73.11	Advertising agencies	129,548	131,094	131,954	131,172	132,230	133,751	136,424
73.12	Media representation	7,458	7,789	8,480	9,386	10,746	12,112	12,956
	Submarket total	**137,006**	**138,883**	**140,434**	**140,558**	**142,976**	**145,863**	**149,380**
11. Software and games industry								
58.21	Publishing of computer games	1,517	1,826	1,961	1,583	1,701	1,763	2,065
58.29	Other software publishing	15,417	17,932	20,668	22,021	23,145	25,401	28,617
62.01.1	Web-page design and programming	29,477	34,556	38,338	40,190	41,645	45,011	48,353
62.01.9	Other software development	201,743	209,005	231,523	248,471	260,524	272,735	284,239
63.12	Web portals	3,554	5,146	6,943	8,821	10,908	13,890	17,679
	Submarket total	**251,708**	**268,465**	**299,433**	**321,086**	**337,923**	**358,800**	**380,953**
12. Others								
32.11	Striking of coins	468	482	511	518	489	538	560
32.13	Manufacture of imitation jewellery and related articles	857	903	891	876	762	754	738
74.20.2	Photographic laboratories	5,045	4,863	4,943	5,008	4,704	4,587	4,176
74.30.2	Interpretation activities	6,645	6,930	7,127	7,231	7,200	7,325	7,683
91.01	Libraries and archives	991	991	928	895	931	927	942
91.03	Operation of historical sites and buildings and similar visitor attractions	210	223	226	223	223	225	208
91.04	Botanical and zoological gardens and nature reserves	774	792	808	795	795	783	787
	Submarket total	**14,991**	**15,184**	**15,434**	**15,547**	**15,104**	**15,140**	**15,094**
Total, including double counts		1,066,923	1,093,800	1,130,890	1,158,510	1,178,475	1,209,516	1,245,216
Duplicate categories of economic activity		114,403	117,023	119,120	121,243	122,441	124,589	128,170
Cultural and creative industries (excluding double counts)		**952,520**	**976,777**	**1,011,770**	**1,037,267**	**1,056,034**	**1,084,927**	**1,117,047**
Ratio of CCIs to overall economy		*3.10%*	*3.13%*	*3.17%*	*3.19%*	*3.21%*	*3.25%*	*3.28%*

*Data for 2016 estimated (number of self-employed), based on previous year's developments and economic statistics. Minimal discrepancies in the submarket totals or overall totals due to rounding.

Source: VAT statistics, Destatis, 2017b, employment statistics, Federal Employment Agency 2017; in-house calculations by ZEW.

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