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Cultural and Creative Industries
Initiative of the
Federal Government

Monitoring Report 2016: Selected Economic Key Data on the Culture and Creative Industries

Summary

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Content

1 Introduction

1.1 Purpose and Scope of the Report

For the fourth 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 culture and creative industries (CCI) in Germany. This monitoring report builds on the audits carried out in past years.[1] It evaluates the importance of the CCI for the overall economy and shows how the relevant economic indicators have developed between 2010 and 2015.[2] The analyses contained in the report are based on data from publicly available sources and from a representative survey conducted by ZEW in 2016 on the culture and creative industry sector in Germany.

The current audit focuses on the following key aspects:

- What is the economic importance of the culture 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 culture and creative industries?
- How have the culture 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 culture and creative industries in Germany?
- How innovative are CCI businesses compared with other sectors?
- How many cultural and creative professionals work within the CCI sector and how many outside of this sector?
- How are CCI start-ups faring in Germany?

1.2 Definition

The definition of culture and creative industries underlying this report is based on the definition proposed by the Conference of Economics Ministers, which places the focus on commercial companies:[3]

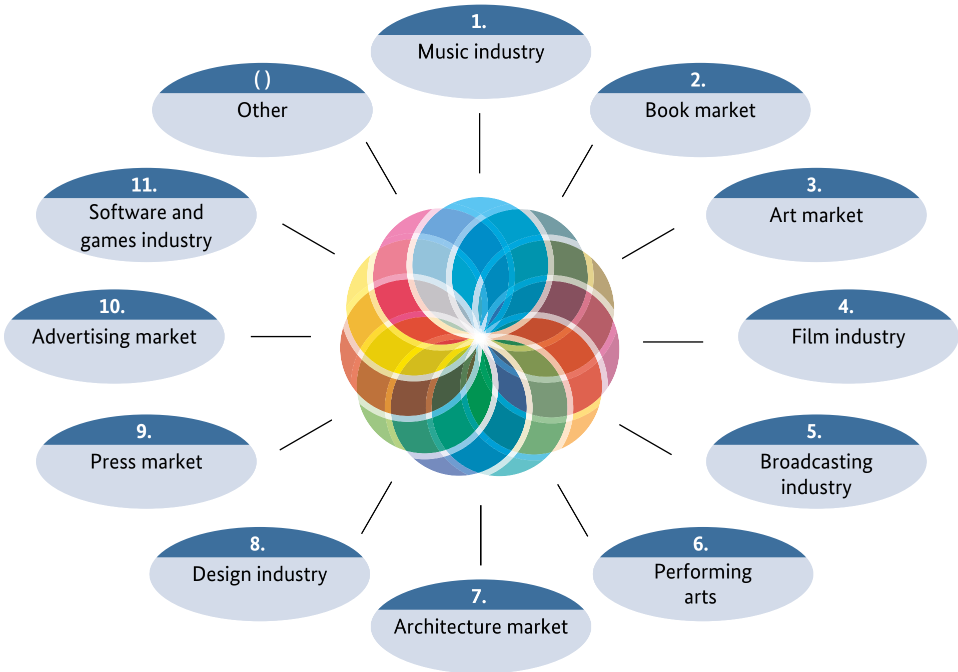
"The culture and creative industries comprise all culture and creative enterprises that are mainly market-oriented and deal with the creation, production and/or dissemination through the media of cultural/creative goods and services." The main criterion for the definition is the commercial character 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, rather receive government funding or license 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 (2016), Monitoring of Selected Economic Key Data on the Culture and Creative Industries 2014, full report, Berlin.

2 Key data is 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 Ministers (2009), Leitfaden zur Erstellung einer statistischen Datengrundlage für die Kulturwirtschaft und eine länderübergreifende Auswertung kulturwirtschaftlicher Daten, Köln. (available in German only)

Figure 1.1 Submarkets in the culture and creative industries



Source: Federal Ministry for Economic Affairs and Energy, 2009

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

The following analyses are based on official statistics data 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 full version of this report.

2.1 Key Data on the Culture and Creative Industries in Germany

Number of companies has been growing continually since 2009

In 2015 the CCI sector numbered an estimated 250,600 companies (see Table 2.1). This is an increase of approximately 1.4 % over last year.[4] The number of companies in the CCI sector has continually grown. These companies generated a turnover of EUR 150 billion in 2015. The projected increase of is 2.4 %, another year of positive growth. The CCI sector contributed an estimated EUR 65.5 billion, about 2.2 % to total gross value added in Germany in 2015. The number of employees subject to social insurance contributions went up once again, by 3.2 % to currently 834,300. If we also take into account the 250,600 self-employed persons in this sector, we arrive at a figure of approximately 1,085,000 core employees in the CCI sector. This corresponds to a growth rate of more than 2.7 % over the last year.

Increase since 2010 in jobs subject to social-insurance contributions, continual decline in the number of marginally employed persons

The decrease in the number of marginally employed persons and concurrent increase in jobs with social insurance coverage is once again an indication that more individuals switched to regular jobs in the CCI sector in 2015. Assuming that there were approximately 349,000 marginally employed persons in 2014, this number dropped by almost 12 % to only 308,000 in 2015.

On the other hand, the number of marginally employed individuals, that is, self-employed persons and freelancers earning less than EUR 17,500 annually, remained stable at around 211,000. The overall number of people employed in this sector in 2015 was over 1.6 million. Due to the large decline in marginal employment, the overall number of people employed in 2015 was also lower than last year.

In 2015 the key indicators of the culture and creative industries improved once again in relation to the previous year, continuing the positive trend in the sector observed since 2009. However, numerous indicators show that the CCI economy is following the same trend as the overall economy. For example, the number of companies and the share of the CCI sector in the overall economy have remained nearly constant over the last years. The same applies to the percentage of gross value added, which has remained relatively constant over the past few years. Even though the number of employees subject to social insurance contributions increased significantly in past years, their share in the overall economy has increased only slightly.

Average of EUR 138,600 turnover and EUR 60,300 gross value added per core employee

Structurally, the culture and creative industries are traditionally dominated by a large number of small and micro enterprises. The average company in this sector employs 4.33 people, and on average, 3.33 of whom have jobs subject to social insurance contributions. Although the turnover per company has increased once again year on year (plus 1 %), the average turnover per CCI company – EUR 600,100 – remains relatively low compared to average company turnover in the overall economy. Viewing the CCI in Germany as a whole, each core employed person in the sector generates a turnover of EUR 138,600 and contributes EUR 60,300 to gross added value. The proportion of self-employed individuals in all core employed persons in the CCI economy fell slightly in recent years, and is presently at about 23 %.

4 The values estimated in the previous year's report for 2014 have been replaced in the current report with the actual values for 2014. Deviations may therefore occur between the figures for 2014 in the current report compared to the previous year's report

Table 2.1: Key Data on the Culture and Creative Industries in Germany from 2010 to 2015*

Category	2010	2011	2012	2013	2014	2015*	Change 2014/2015
Number of businesses (thousands)[1a]							
Culture and creative industries (CCI)	239.5	244.3	245.8	246.4	247.2	250.6	1.36 %
Contribution of CCI to overall economy	7.57 %	7.60 %	7.56 %	7.60 %	7.63 %	7.64 %	
Turnover (in billions of euros)							
Culture and creative industries (CCI)	137.3	141.0	143.3	143.2	146.9	150.4	2.37 %
Contribution of CCI to overall economy	2.62 %	2.48 %	2.49 %	2.48 %	2.50 %	2.44 %	
Employment							
Core labor force (thousands)[2a]							
Culture and creative industries (CCI)	952.4	976.6	1,011.5	1,037.1	1,056.0	1,084.9	2.74 %
Contribution of CCI to overall economy	3.06 %	3.07 %	3.11 %	3.16 %	3.16 %	3.19 %	
Employees subject to social insurance contributions (thousands)[3a]							
Culture and creative industries (CCI)	712.8	732.3	765.7	790.7	808.8	834.3	3.16 %
Contribution of CCI to overall economy	2.55 %	2.56 %	2.62 %	2.67 %	2.68 %	2.71 %	
Self-employed persons (thousands)[4a]							
Culture and creative industries (CCI)	239.5	244.3	245.8	246.4	247.2	250.6	1.36 %
Contribution of CCI to overall economy	7.57 %	7.60 %	7.56 %	7.60 %	7.63 %	7.64 %	
Marginal employment (thousands)[5a]							
Culture and creative industries (CCI)	592.9	593.2	586.9	555.7	560.3	518.7	-7.43 %
Contribution of CCI to overall economy	6.94 %	6.80 %	6.78 %	6.38 %	6.42 %	4.33 %	
Marginally self-employed persons (thousands)[6a]							
Culture and creative industries (CCI)	214.0	224.8	221.9	203.3	210.9	211.1	0.09 %
Contribution of CCI to overall economy	19.57 %	18.90 %	20.84 %	20.42 %	22.14 %	23.97 %	
Marginally employed persons (thousands)[7a]							
Culture and creative industries (CCI)	378.9	368.4	365.0	352.4	349.4	307.6	-11.96 %
Contribution of CCI to overall economy	5.09 %	4.89 %	4.81 %	4.57 %	4.47 %	3.94 %	
Total employment (thousands)[8a]							
Culture and creative industries (CCI)	1,545.3	1,569.9	1,598.4	1,592.8	1,616.3	1,603.6	-0.78 %
Contribution of CCI to overall economy	3.89 %	3.87 %	3.88 %	3.83 %	3.84 %	3.48 %	
Gross value added (in billions of euros)[9a]							
Culture and creative industries (CCI)	59.9	61.4	62.8	63.7	64.0	65.5	2.22 %
Contribution of CCI to GDP	2.32 %	2.27 %	2.28 %	2.25 %	2.19 %	2.16 %	
Gross Domestic Product (GDP)	2,580.1	2,703.1	2,758.3	2,826.2	2,923.9	3,032.8	3.72 %

Note: *Data for 2015 based partly on own estimations and preliminary official figures. Estimates include development rates of previous years, short-term economic statistics in the service sector for 2015 and employment statistics for 2015. →

1a Taxable business owners with at least EUR 17,500 in annual turnover.

2a Number of individuals in the labor force includes taxable business owners with at least EUR 17,500 in annual turnover and employees subject to social insurance contributions.

3a Employees subject to social insurance contributions (full-time and part-time) but excluding marginal employees.

4a Number of self-employed persons corresponds to number of taxable business owners with at least EUR 17,500 in annual turnover.

5a Marginal employment comprises marginally self-employed persons and marginally employed persons.

6a Marginally self-employed persons include freelancers and self-employed persons with less than EUR 17,500 in annual turnover based on the microcensus.

7a Marginally employed persons (employees on low pay and temporarily employed people) based on the employment statistics of the Federal Employment Agency (cut-off date: 30 June).

8a Total employment includes all self-employed and dependent employees, including marginally employeed and marginally self-employed persons.

9a Based on national accounts; corresponds to the following two-digit codes from the 2008 Classification of Economic Activities: 58, 59 – 60, 73, 90 – 92.
Data for 2015 estimated. Deviations from figures published last year are due to corrections in the national accounts.

Table 2.1: Key Data on the Culture and Creative Industries in Germany from 2010 to 2015*

Category	2010	2011	2012	2013	2014	2015*	Change 2014/2015
Additional key indicators for the culture and creative industries							
Turnover per company (in thousands of euros)	573.3	577.1	583.1	581.1	594.2	600.1	1.00 %
Turnover per employee subject to social insurance contributions (in thousands of euros)	192.7	192.5	187.2	181.0	181.6	180.2	-0.76 %
Turnover per core employee (in thousands of euros)	144.2	144.3	141.7	138.0	139.1	138.6	-0.35 %
Employees subject to social insurance contributions per company	2.98	3.00	3.12	3.21	3.27	3.33	1.78 %
No. of core employees per company	3.98	4.00	4.12	4.21	4.27	4.33	1.36 %
Gross value added per core employee (in thousands of euros)	62.9	62.9	62.1	61.4	60.6	60.3	-0.50 %
Share of self-employment to core employment	25.15 %	25.01 %	24.30 %	23.75 %	23.41 %	23.10 %	

Note: *Data for 2015 based partly on own estimations and preliminary official figures. Estimates based on developments in previous years, economic statistics for the service sector for 2015, and employment statistics for 2015.

Source: Destatis 2016a,b,c; Federal Employment Agency 2016; ZEW's own computations

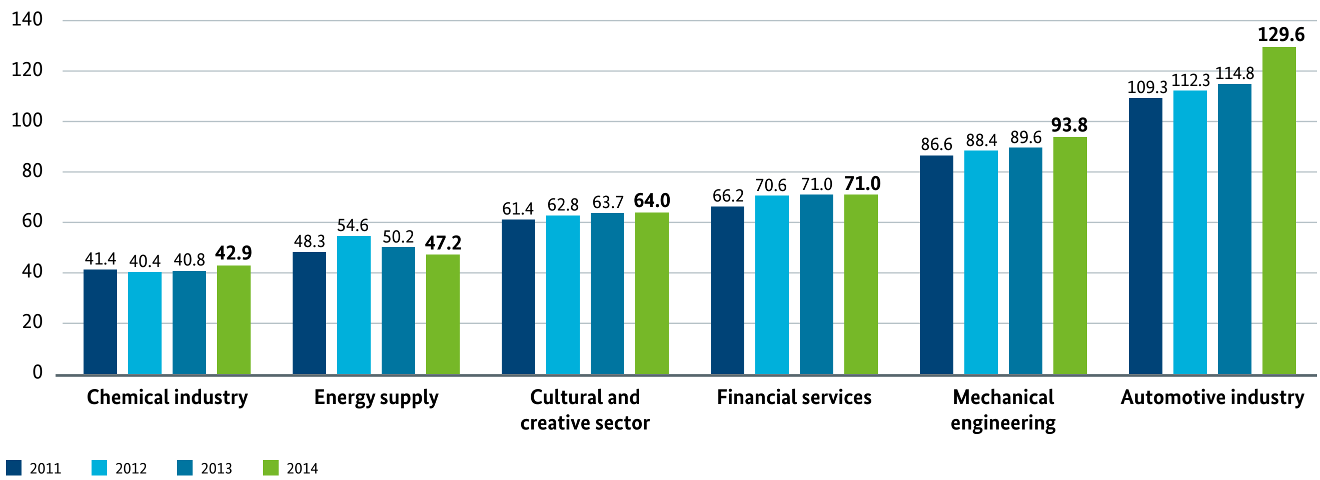
2.2 Contribution of the Culture and Creative Industries towards Value Added

Gross value added up slightly

The gross value added in the culture and creative industries went up slightly in 2014 year on year, to EUR 64 billion.

The sector is continuing to grow. In the period between 2010 and 2014, it increased by a total of EUR 5.7 billion, whereas other sectors showed mixed results (see Figure 2.1). For example, in 2014 the chemical industry finally stopped its negative trend in gross value added and recorded substantial growth again. Noticeably lagging behind the CCI sector are the energy utilities, which reported another

Figure 2.1: Contribution of culture and creative industries towards gross value added compared to other economic sectors 2011 – 2014 (in billions of euros)



Example: Gross value added in the culture and creative industries in 2014 was EUR 64 billion, lower than in the mechanical engineering and automotive industries, but higher than in the chemical and energy supply industries.

Note: The culture and creative industries correspond to the following two-digit codes from the 2008 Classification of Economic Activities: 58, 59–60, 73, 90–92.
Deviations from figures published last year are due to corrections in the national accounts.

Source: National Accounts, Destatis 2016c; ZEW's own computations decline in gross value added again in 2014. Gross value added rose markedly for the mechanical engineering and automotive industries, both of which benefited from strong export performances. Both sectors are therefore clearly ahead of the culture and creative industries.

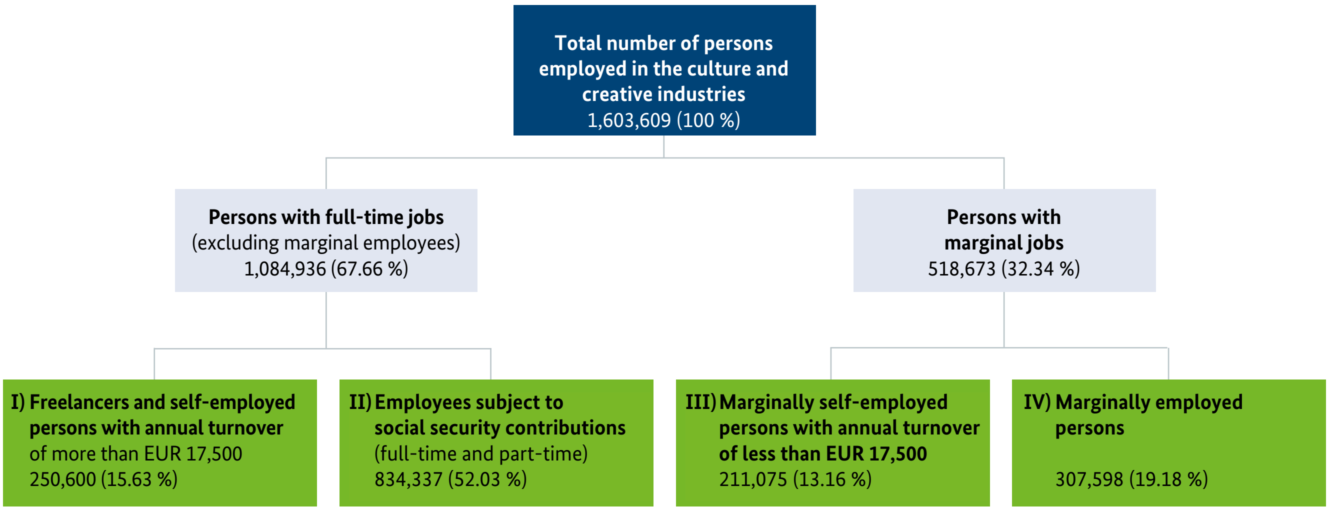
2.3 Employment in the Culture and Creative Industries

Workforce again exceeds 1.6 million

The total number of people working in the culture and creative industries in 2015 again exceeded the 1.6 million mark, despite a slight decrease (see Fig. 2.2). The core labor force, comprising employees subject to social insurance contributions and the self-employed, increased considerably over the previous year. This was mainly due to the growing number of employment contracts in the culture and creative industries that pay social insurance contributions. The number of marginal employees continued to decline, especially in the past year.

In 2015, a total of 1,084,936 people worked as free-lancers and self-employed individuals or as dependent (subject to social insurance contributions) employees. In addition, at a total of 518,673, the number of persons in marginal jobs (marginally self-employed with an annual turnover of less than EUR 17,500, and marginally employed) in these industries is comparatively high compared to other sectors and the overall economy. In particular, the number of marginally self-employed in the cultural and creative industries is extremely high and comprises almost one-fourth of this group in the entire economy. This brings the total number of people working in the culture and creative industries in 2015 to 1,603,609.

Figure 2.2: Structure of employment in the culture and creative industries in 2015*



Note: *Some numbers are estimates.

Source: Destatis 2016a,b,c; Federal Employment Agency 2016; ZEW's own computations

2.4 Cultural and Creative Professionals in Germany

Cultural and creative professionals can be found in many areas of the economy, and are not limited to the (economic) categories defined in this report as belonging to the cultural and creative industries. For example, marketing and advertising jobs are also found in large financial service providers or in the automotive industry. On the other hand, there are tasks in the culture and creative industries that are carried out by individuals not belonging to this profession, for example administrative staff of a music publisher, or the custodian in an architectural office.

In this section we will follow up on this perspective[5] and will provide an overview of the tasks and professions involved in the culture and creative industries in Germany. Based on a model used in the UK, certain professions are defined as culture and creative professions. Using this differentiation we can analyze the jobs in this professional group – for the entire economy, individual sectors and for the submarkets in the cultural and creative industries. Detailed data on employment provide the basis for this analysis. Compared to the traditional differentiation according to economic sectors, this data paints a more complete picture of employment in the culture and creative economy.

In 2013, approximately 430,000 cultural and creative professionals with compulsory social insurance coverage or marginal employment were employed in the submarkets of the cultural and creative industries. Until 2015, this number grew to about 459,000 persons (see Table 2.2). This corresponds to an increase of the percentage of cultural and creative Professionals in the cultural and creative industries of 2.5 percentage points (see Fig. 2.3), from 37.6% to 40.1%.

Table 2.2: Cultural and Creative Professionals employed in the CCI 2013 and 2015 – Employees subject to social insurance contributions and marginally employed persons

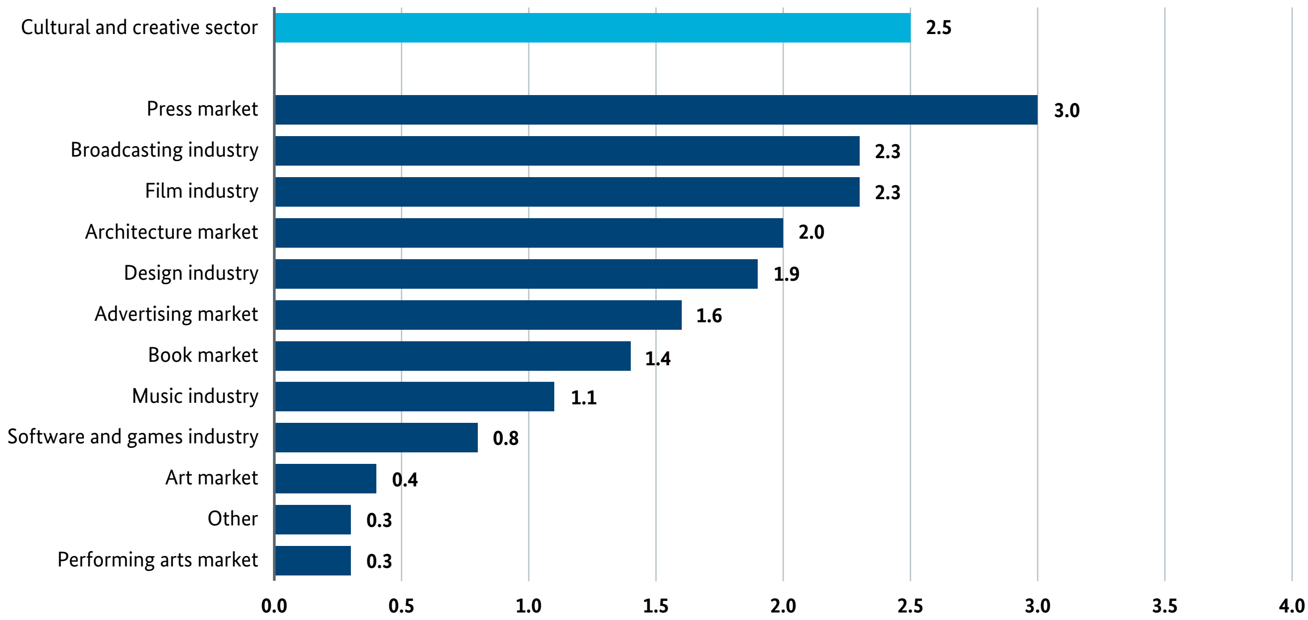
	2013			2015		
	Total employed	Total employed in CCI	Percentage employed in CCI	Total employed	Total employed in CCI	Percentage employed in CCI
Music industry	46,587	22,880	49.1 %	47,862	24,032	50.2 %
Book market	80,313	31,367	39.1 %	73,579	29,778	40.5 %
Art market	9,929	1,746	17.6 %	9,471	1,704	18.0 %
Film industry	64,643	26,985	41.7 %	64,427	28,393	44.1 %
Broadcasting industry	25,033	15,024	60.0 %	26,050	16,242	62.4 %
Performing arts market	33,025	15,427	46.7 %	35,426	16,641	47.0 %
Design industry	141,603	47,357	33.4 %	140,683	49,676	35.3 %
Architecture market	89,070	41,216	46.3 %	95,738	46,238	48.3 %
Press market	246,914	57,019	23.1 %	207,909	54,324	26.1 %
Advertising market	212,459	62,425	29.4 %	210,711	65,242	31.0 %
Software and games industry	312,562	148,852	47.6 %	348,374	168,866	48.5 %
Other	9,387	1,871	19.9 %	8,828	1,790	20.3 %
Cultural and creative industries*	**1,143,733**	**430,085**	**37.6 %**	**1,142,538**	**458,677**	**40.1 %**
Overall economy	37,331,784	1,989,812	5.3 %	38,476,047	2,081,672	5.4 %
Entire economy (without CCI)	**36,188,051**	**1,559,727**	**4.3 %**	**37,333,509**	**1,622,995**	**4.3 %**

Note: *Total for CCI without double counting.

Source: Federal Employment Agency 2016; ZEW's own computations

5 This analysis was first conducted in the "Monitoring of Selected Economic Key Data on the Culture and Creative Industries 2013", see p. 40 ff.

Figure 2.3: Trend in the percentage of persons with cultural and creative occupations in the total culture and creative industries between 2013 and 2015 (percentage points)



Example: The number of CCI professionals as a share of the persons in jobs with social security and marginal jobs in the press market increased between 2013 and 2015 by 3.0 percentage points.
Source: Federal Employment Agency 2016; ZEW's own computations

Both the number and the proportion of cultural and creative professionals in the culture and creative sector varies greatly in some of the submarkets. The number of individuals with cultural and creative occupations in the software and games industry was the highest, at almost 169,000 persons. Coming in second and third place, respectively, are the advertising market and the press market with 65,000 and 54,000 individuals in cultural and creative occupations in 2015. Last place was taken by the art market, which only employed 1,704 cultural and creative professionals.

Taking the percentage of individuals with cultural and creative occupations in each submarket in 2015, the broadcasting industry was strongest, at 62.4 %. Second place was the music industry, in which more than half of the total employees are cultural or creative professionals. The art market currently shows the smallest percentage of CCI occupations, at 18.0 %.

In all submarkets the share of individuals with cultural and creative occupations in the total number of individuals working in the CCI sector grew between 2013 and 2015 (see Fig. 2.3).

The strongest gain was in the press market at 3.0 percentage points, however with overall declining employment[6]. Also showing growth of over 2 percentage points were the broadcasting and the film industries. The lowest growth in the percentage of individuals working in culture and creative occupations was in the performing arts market and the art market.

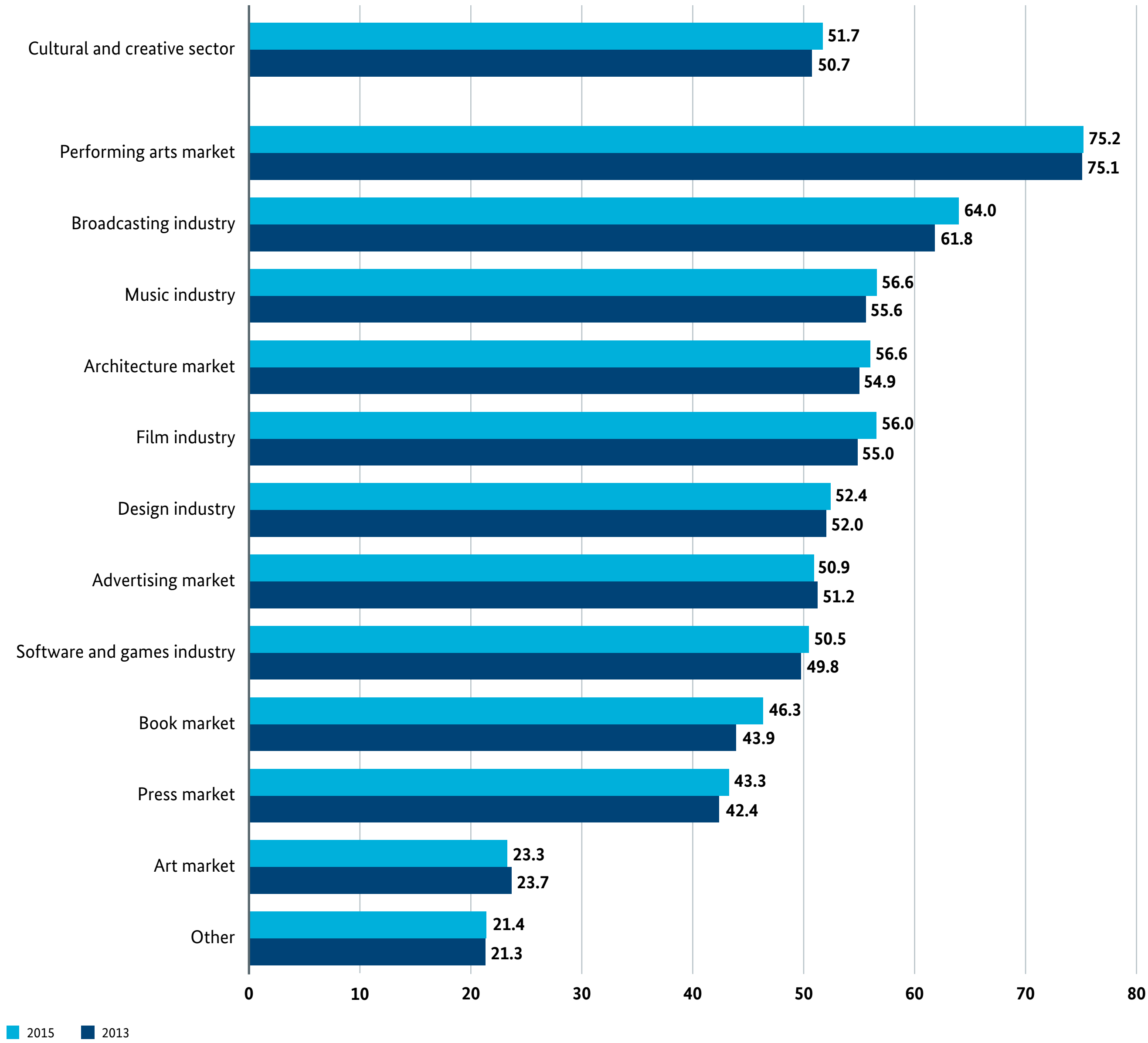
Of the employees subject to social insurance contributions in the cultural and creative industries, the cultural and creative professionals in all submarkets are a higher percentage than when considering the marginally employed and the individuals in jobs subject to social insurance contributions together. This in turn means that the percentages of employees paying compulsory social security contributions in cultural and creative occupations are higher than those for the marginally employed persons. The average proportion of cultural and creative professionals subject to social insurance contributions out of the total number of individuals working in the CCI sector was 51.7 % in 2015 (see Fig. 2.4), whereby the combined proportion of employees paying compulsory social security contributions and marginally employed persons is only 40.1%. The performing arts market

6 Calculated based on the total number of employees with jobs with contributions to social insurance and those without.

reached a record high of 75.2 % of the employees paying compulsory social security contributions that had cultural and creative occupations.

The CCI workforce comprised of insured employees and marginally employed persons that did not have culture and creative tasks dropped from around 714,000 in 2013 to about 684,000 in 2015 (see Fig. 2.5). The individuals active in cultural and creative occupations outside of the CCI sector can be characterized as follows: Whereas in 2013 approximately 1,560,000 individuals worked outside of the CCI sector, this figure was about 1,623,000 in 2015.

Figure 2.4: Proportion of individuals with cultural and creative occupations as a percentage of total CCI employees subject to social insurance contributions (percent)

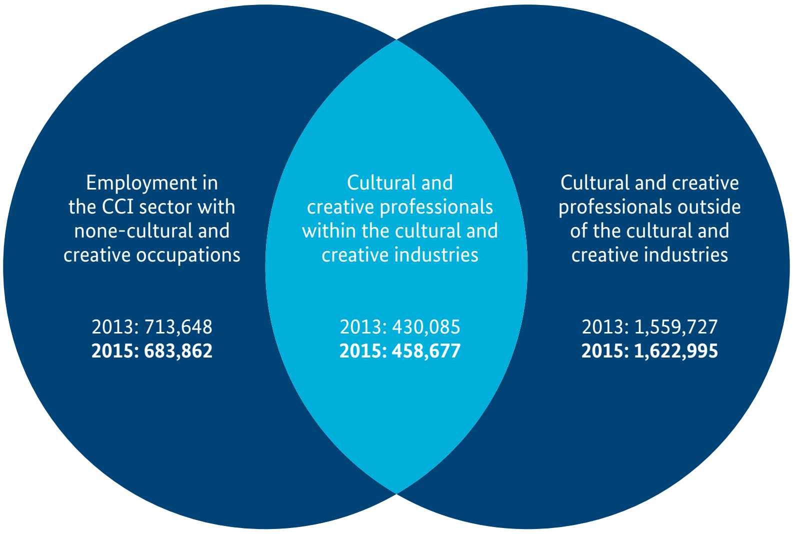


Example: In the performing arts market, 75.2 % of the employees paying compulsory social security contributions had a culture or creative occupation in 2015.

Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

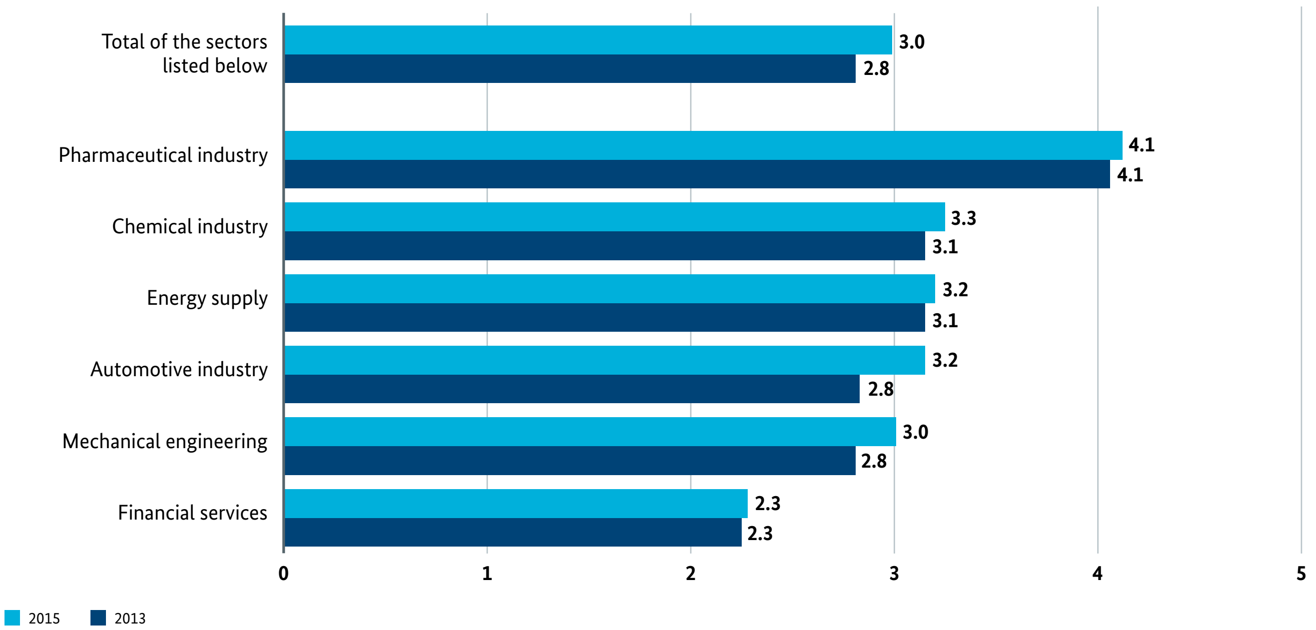
The percentage of 4.1 in the pharmaceutical industry that are cultural and creative professionals as a portion of the total of all employees in that sector is relatively high (see Fig. 2.6). Whereas the proportion of culture and creative jobs in all of the sectors illustrated in Figure 2.6 increased from 2013 to 2015, the automotive industry showed the greatest rise. In 2013 the share was 2.8 %, increasing to 3.2% in 2015.

Figure 2.5: The Culture and Creative Economy in 2015 and 2013



Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

Figure 2.6: Proportion of individuals in cultural and creative jobs in selected sectors outside of the CCI sector (percent)



Example: In the pharmaceutical industry 4.1 percent of the employees paying contributions to social security and employees with jobs not subject to social insurance have an occupation in either the culture or creative sector.

Note: Differences in the lengths of the bars where the numbers are identical are due to differences beyond the decimal point.

Source: Federal Employment Agency 2016; ZEW's own computations

3 Internationalization in the Culture and Creative Industries

The following analysis of international activities of the German cultural and creative industries is based on various data: the German value-added tax statistics from 2010 to 2014 is the basis for an analysis of the export quota of the cultural and creative industries and their eleven submarkets and the comparison with other sectors such as chemistry, mechanical engineering, automotive industry and knowledge-intensive service providers. A more in-depth analysis of the international strategies of the German cultural and creative industries was conducted using a survey of self-employed persons and companies in the sector. The results are presented below.[7]

3.1 Export quotas in the Culture and Creative Industries

The export quotas are calculated as the quotient of the deliveries and services that are VAT deductible and total turnover. They are calculated for the eleven submarkets as well as for the cultural and creative industries as a whole, and compared with the quotas of the automotive industry, industrial 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 (chemistry, industrial engineering,

Table 3.1: Export quotas 2010 – 2014

		2010	2011	2012	2013	2014
1. Music industry	Exports (in millions of euros)	781.5	773.2	835.3	734.9	725.3
	Export quota (in %)	12.5 %	11.6 %	11.8 %	9.6 %	9.2 %
2. Book market	Exports (in millions of euros)	1,066.2	1,081.4	1,133.3	1,102.5	1,093.3
	Export quota (in %)	7.5 %	7.6 %	8.1 %	8.0 %	8.0 %
3. Art market	Exports (in millions of euros)	240.1	220.7	248.4	232.1	239.4
	Export quota (in %)	10.3 %	9.4 %	10.7 %	10.1 %	11.5 %
4. Film industry	Exports (in millions of euros)	145.1	173.4	152.3	152.2	205.5
	Export quota (in %)	1.6 %	1.9 %	1.7 %	1.7 %	2.2 %
5. Broadcasting industry	Exports (in millions of euros)	18.9	13.6	10.6	35.0	20.4
	Export quota (in %)	0.2 %	0.2 %	0.1 %	0.4 %	0.2 %
6. Performing arts market	Exports (in millions of euros)	52.1	57.9	66.0	54.5	43.8
	Export quota (in %)	1.5 %	1.5 %	1.7 %	1.4 %	1.0 %
7. Design industry	Exports (in millions of euros)	885.1	963.8	919.6	875.2	885.1
	Export quota (in %)	4.9 %	5.3 %	5.0 %	4.8 %	4.8 %
8. Architecture market	Exports (in millions of euros)	135.2	89.2	84.7	66.7	68.9
	Export quota (in %)	1.7 %	1.0 %	1.0 %	0.7 %	0.7 %
9. Press market	Exports (in millions of euros)	842.9	796.2	740.7	717.8	666.3
	Export quota (in %)	2.7 %	2.5 %	2.3 %	2.3 %	2.2 %
10. Advertising market	Exports (in millions of euros)	324.0	343.8	348.3	351.5	321.0
	Export quota (in %)	1.3 %	1.4 %	1.4 %	1.4 %	1.2 %
11. Software and games industry	Exports (in millions of euros)	3,087.8	3,442.9	2,874.7	1,776.5	1,311.6
	Export quota (in %)	11.7 %	12.1 %	9.7 %	6.0 %	4.1 %

→

7 A total of 1,699 companies and self-employed persons from the cultural and creative industries participated in the survey.

Table 3.1: Export quotas 2010 – 2014

		2010	2011	2012	2013	2014
12. Other	Exports (in millions of euros)	177.6	203.8	178.1	167.1	88.7
	Export quota (in %)	11.2 %	12.3 %	11.2 %	10.9 %	6.3 %
Cultural and creative sector	**Export quota (in %)**	**5.5 %**	**5.6 %**	**5.1 %**	**4.2 %**	**3.7 %**
Comparative sectors						
Automotive	Export quota (in %)	57.5 %	58.3 %	59.7 %	60.3 %	61.1 %
Mechanical engineering	Export quota (in %)	47.3 %	48.0 %	48.4 %	49.1 %	49.1 %
Chemical industry	Export quota (in %)	44.1 %	44.1 %	45.2 %	46.6 %	47.0 %
Knowledge-intensive services	Export quota (in %)	6.7 %	6.5 %	5.9 %	5.6 %	5.5 %
Overall economy	**Export quota (in %)**	**18.4 %**	**18.9 %**	**19.2 %**	**19.2 %**	**19.6 %**

Note: Calculations are based on a special evaluation of value-added tax statistics. The export quota is calculated as the sum of tax-exempt deliveries and services divided by all deliveries and services. Due to the requirements for publication of value-added statistics, a small number of missing export values were estimated in the sectors used in the analysis.

Source: Value-added tax statistics, Destatis, 2016b, ZEW calculations

the automotive industry). This is probably due to the large portion of services that make up the CCI sector, resulting in a more domestic market orientation.

Within the culture and creative industries, the art market, the music industry and the book market are the submarkets with the highest export quotas, based on volume of turnover. In the art market 11.5 % of turnover was generated outside Germany in 2014, 9.2 % in the music industry and 8 % in the book market (see Table 3.1). Particularly low are the export quotas in the broadcasting industry (0.2 % foreign sales), the architecture market (0.7 %) and the performing arts market (1 %).

Overall, the culture and creative industries exhibit a declining export quota over time and, compared with export quotas in the manufacturing sectors, relatively low export quota. Currently, the CCI sector is generating 3.7 %, whereas the export quota in 2010 was still 5.5 % and 5.6 % in 2011. In contrast, the export quotas for example in industrial engineering and the chemical industry have climbed continually in recent years, and have now reached around 50 % and more. However, a comparison between the service-heavy CCI sector and knowledge-intensive service providers shows that the latter also reports a shrinking export quota, with a decline from 6.7 % in 2010 to 5.5 % in 2014.

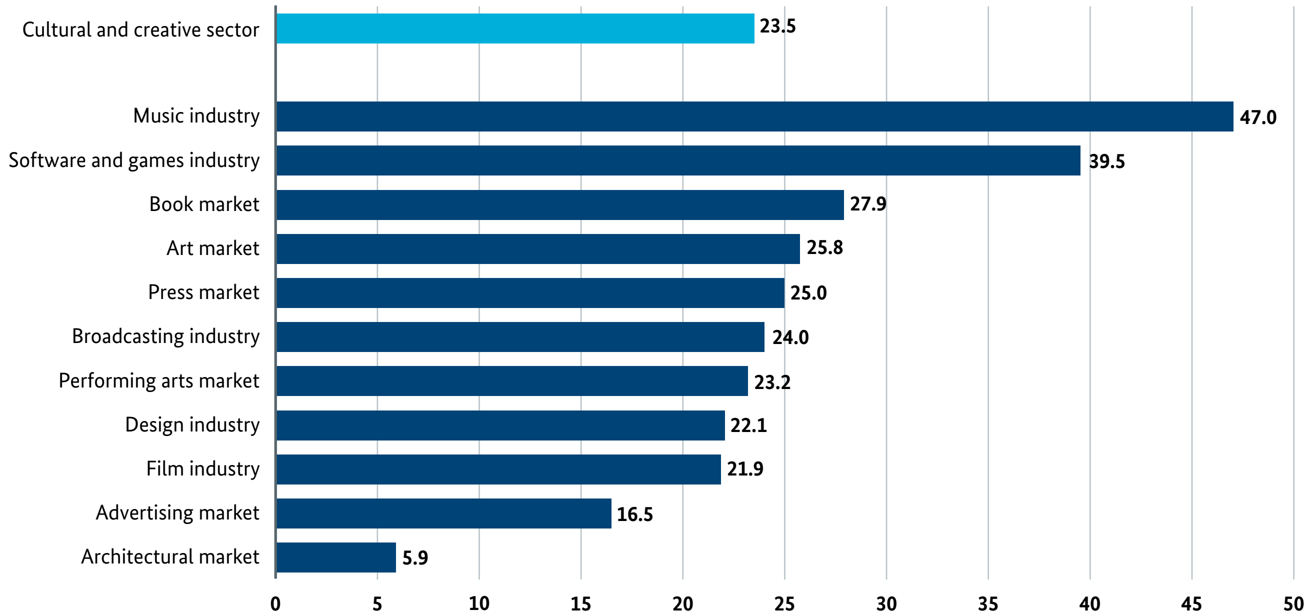
3.2 Results of the company survey

Culture and creative companies use various channels for internationalization

Self-employed persons and companies in the CCI sector used various means of doing business abroad. Among them are selling products or services to customers abroad, establishing foreign branches or subsidiaries and investing in foreign companies. Strategies also include secondment of employees to foreign sites, cooperative agreements or strategic partnerships with foreign companies and research and development activities abroad. The portion of companies in the CCI sector with at least one of these activities is 23.5 % (see Fig. 3.1). The individual submarkets of the cultural and creative industries, however, are marked by large differences in the international strategies of the companies in these groups. The music industry is leading, with a share of 47.0 % of companies that undertake at least one of the aforementioned activities. Following it is the software and games industry, with a similarly high percentage of 39.5 %. Even the book market, at 27.9 %, is a relatively international business. Last place is taken by the architecture market, which at 5.9 % is far below the sector average.

The results of the company survey also indicate that there are large differences between the submarkets regarding specific internationalization strategies of the culture and creative companies. For example, companies sell an average of 13.4 % of products or services to customers abroad

Figure 3.1: Companies active abroad in the culture and creative industries (proportion of companies in %)



Example: 47.0 % of the companies and self-employed persons in the music industry are active abroad. The foreign activities recorded here include (i) selling products or services to customers abroad, (ii) foreign branch offices or subsidiaries abroad (iii) investments in foreign companies, (iv) employee secondment to foreign sites, (v) cooperation agreements or strategic partnerships with foreign companies, and (vi) research and development activities abroad.

Source: ZEW company surveys, H1 2016

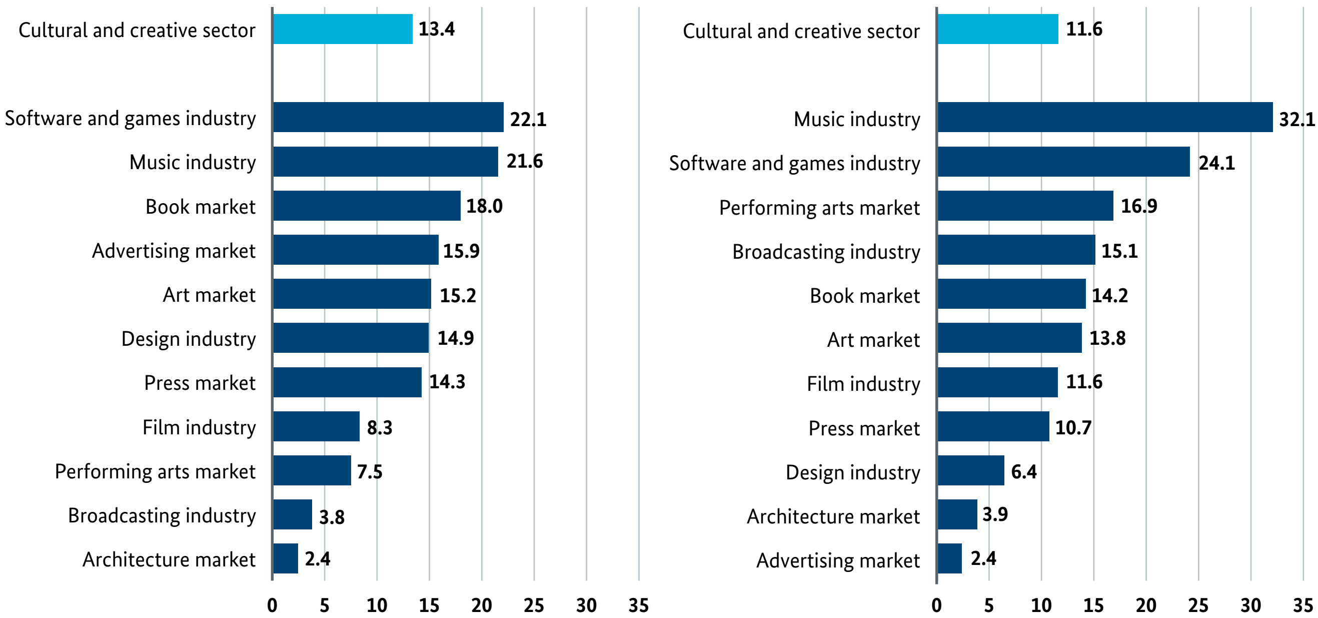
(see Fig. 3.2). The software and games industry is leading with a share of 22.1 %. The music industry shows a similar higher than average share at 21.6 %. The submarkets ranging near the bottom were the broadcasting industry at 3.8 % and the architecture market at 2.4 %. The music industry also ranges far ahead of the other submarkets regarding cooperation agreements and strategic partnerships at 32.1 %, and the software and games industry at 24.1 %.

Sales is the main motive for internationalization

The motives that play a role in internationalization activities are varied. For 69.4 % of the companies that are already active abroad, gaining new ideas for products or services is important or very important, and is thereby the most often-named goal (see Fig. 3.3). Also important for 69.0 % is increasing the degree of familiarity and for 68.5 %, creating new markets. Another motive for internationalization strategies is keeping up with the competition for 61.1 % of companies already active internationally. For about one-fourth also lowering production costs is important or very important. Tax advantages or investment aid abroad is important or very important for only 7.2 % of companies already active abroad.

Companies and self-employed persons are confronted with various obstacles that keep them from undertaking international activities or that make this difficult for them. The barrier mentioned most frequently is (59.2 %) is a lack of experience or capacity to manage international activities (see Fig. 3.4). A similar response at 59.1 % is the lack of foreign demand for the products or services of the company or individual being surveyed. The high costs of discovering new markets and the difficulty in assessing the market risk or opportunity are seen by 57.3 %, respectively 54.9 % of CCI companies as a barrier. The smallest problems were assessed to be a danger of product piracy or lack of protection of intellectual property, as well as restricted access to loans and bank guarantees. Nevertheless, these factors – each with about one-third of positive responses – are not totally irrelevant for stronger business activities abroad in the culture and creative industries.

Figure 3.2: Selling products or services to customers abroad (left side) or cooperation agreements or strategic partnerships with foreign companies (right side)
(proportion of companies in %)



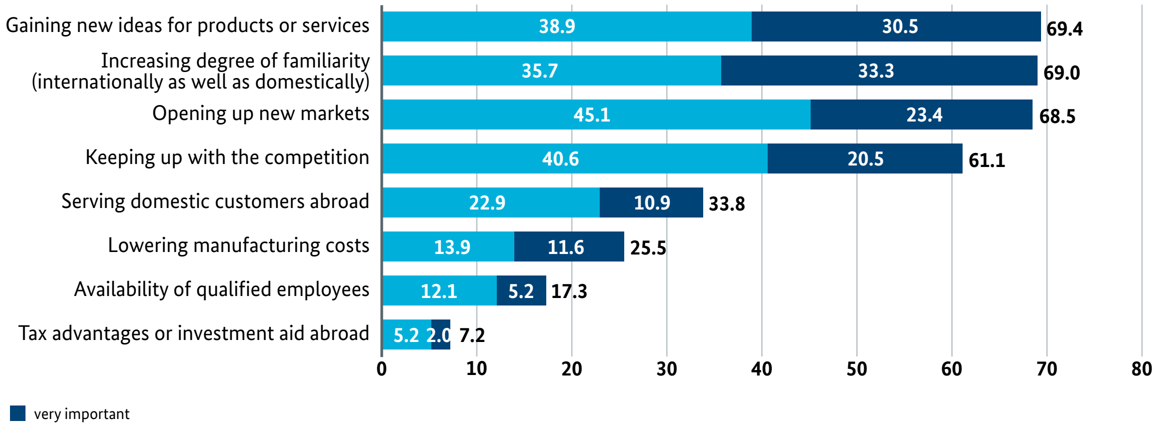
Example: In the software and games industry, 22.1% of the companies and self-employed persons sell products or services to customers abroad, and 24.1% arrange cooperation agreements or strategic partnerships with foreign companies.

Source: ZEW company surveys, H1 2016

Need for information and know-how

Government institutions could supply assistance in order to counteract these hindrances to internationalization. The services missed the most by those surveyed was at 57.9 % the provision of market intelligence in the target countries (see Fig. 3.5). A only slightly less important form of support mentioned by 57.5 % of those surveyed was providing knowledge necessary for international business. This appears especially plausible, particularly in light of a commonly perceived barrier – that international markets were hard to assess. Participation in international trade fairs is also a form of assistance that 56.0 % of the companies and self-employed persons would like to see. Easier access to loans, subsidies and bank guarantees is still a relevant factor for 46.4 % of the companies, even if it is mentioned the least often.

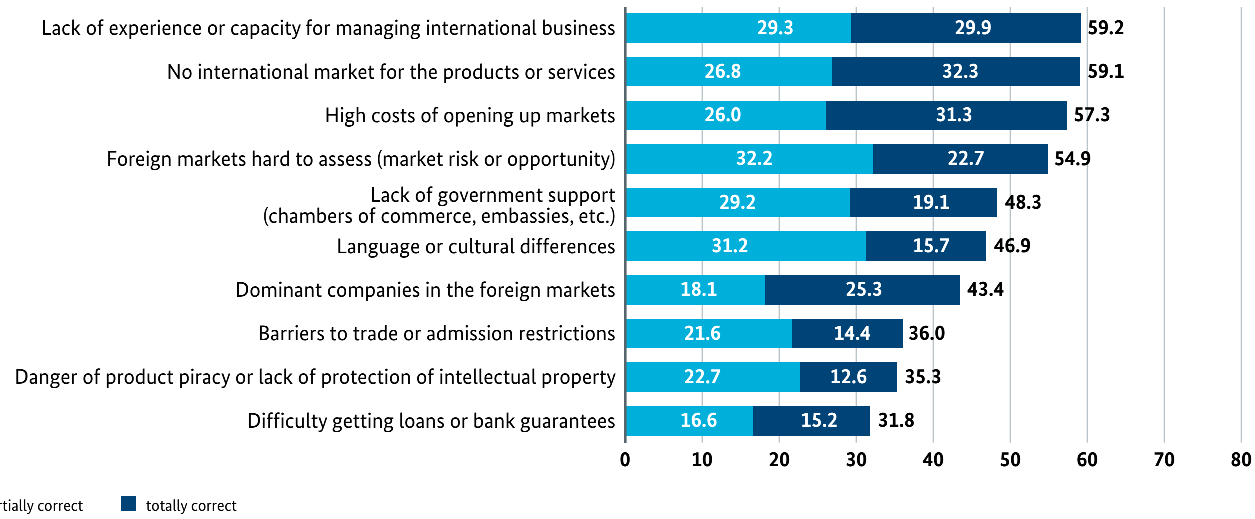
Figure 3.3: Motives for internationalization for companies in the cultural and creative sector
(Percentage of companies with international activities)



Example: Gaining new ideas for products and services is a motive for going international for 69.4 % of the companies and self-employed persons in the CCI sector.

Source: ZEW company surveys, H1 2016

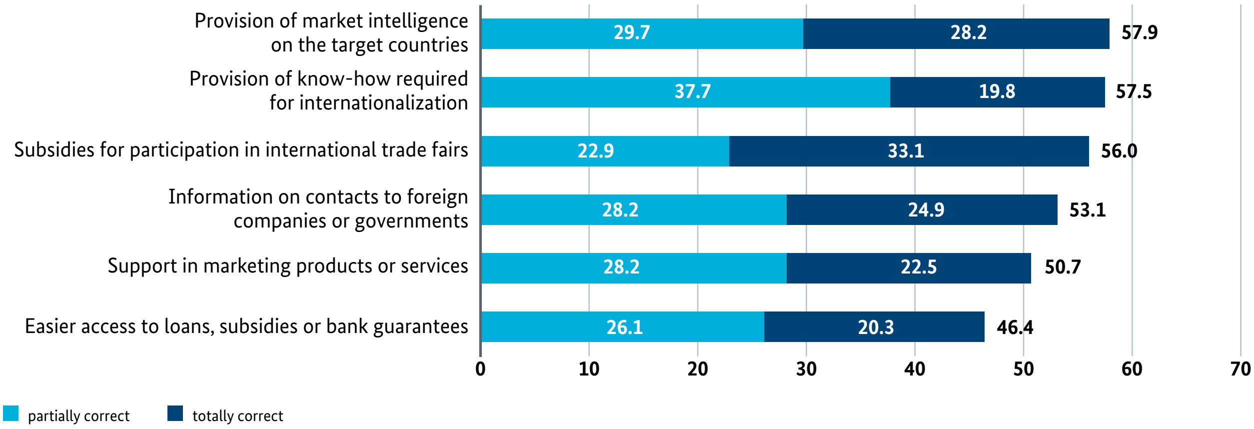
Figure 3.4: Hindrances to internationalization
(share of companies in percent)



Example: A lack of experience in manging international business is reported by 59.2% of companies and self-employed persons as a barrier to internationalization

Source: ZEW company surveys, H1 2016

Figure 3.5: Desired support in the internationalization process
(percentage of companies)



Example: Provision by government agencies of market intelligence on target countries is seen by 57.9% of companies and self-employed persons in the CCI sector as desirable.

Source: ZEW company surveys, H1 2016

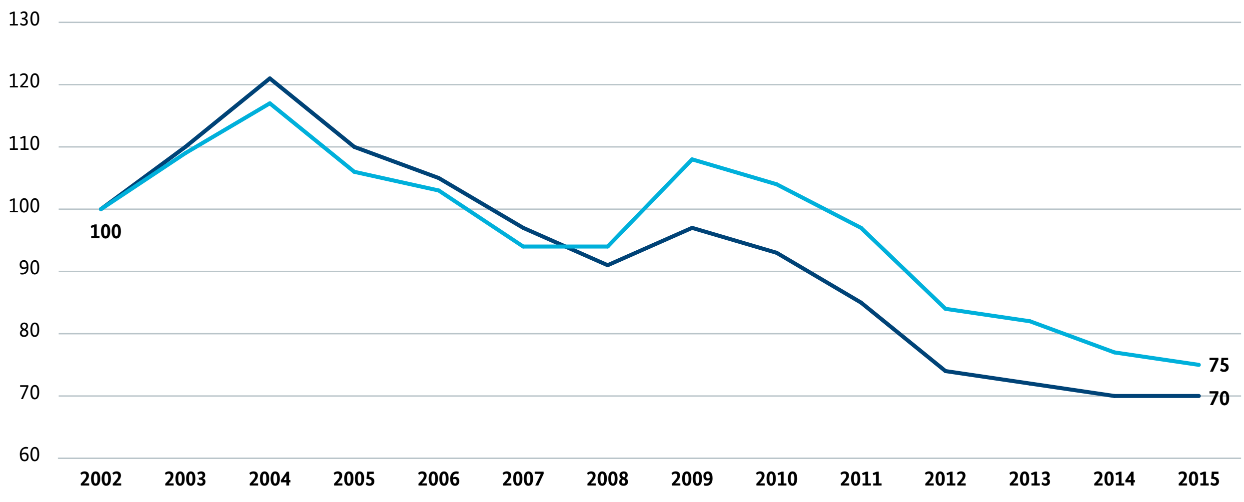
4 Start-ups in the Cultural and Creative Industries

Establishment of new companies is an essential component of the cultural and creative sector in Germany. Start-ups frequently expand the sector's existing product and services offers and bring new ideas to market. Statistics compiled on the start-up situation only include new start-ups that demonstrate a minimum amount of economic activity. This means that start-ups initiated by self-employed persons and professionals are only considered if the self-employment or professional activity is comparable to a entrepreneurial 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. Liberal professions are very common in other submarkets, e.g. architecture.

The data for the statistics on start-ups comes from the Mannheim Enterprise Panel (MUP), a project initiated by the Center for European Economic Research (ZEW). The MUP is a panel dataset of firms located in Germany. The panel was created out of a cooperation with Creditreform, the largest German credit rating agency. Creditreform provides its statistics on companies to ZEW on a semi-annual basis. The MUP includes all economically active companies in the industrial economy in Germany and makes it possible to identify market entry (start-ups) and market departures (closures), as well as the number of economically active companies over time. Self-employed people and companies with no obligation to register and very little economic activity are only recorded in the MUP in exceptional cases. The number of start-ups is determined from the MUP using extrapolation, which takes into account the delay in registration of newly founded companies by Creditreform according to the latest figures. This also means that the information on the number of start-ups and the latest figures on the number of companies (that is, for the period 2013 – 2015) are preliminary and may be revised in later years. For this reasons, the following uses only rounded numbers.

According to the MUP, almost 9,400 active companies were set up in the culture and creative industries in Germany in 2015. The number of new companies declined for the sixth year in a row and reached the lowest level since reunification. This figure is about 25% less than the level in 2002 and

Figure 4.1: Number of start-ups in the culture and creative industries and in the overall economy in Germany between 2002 – 2015

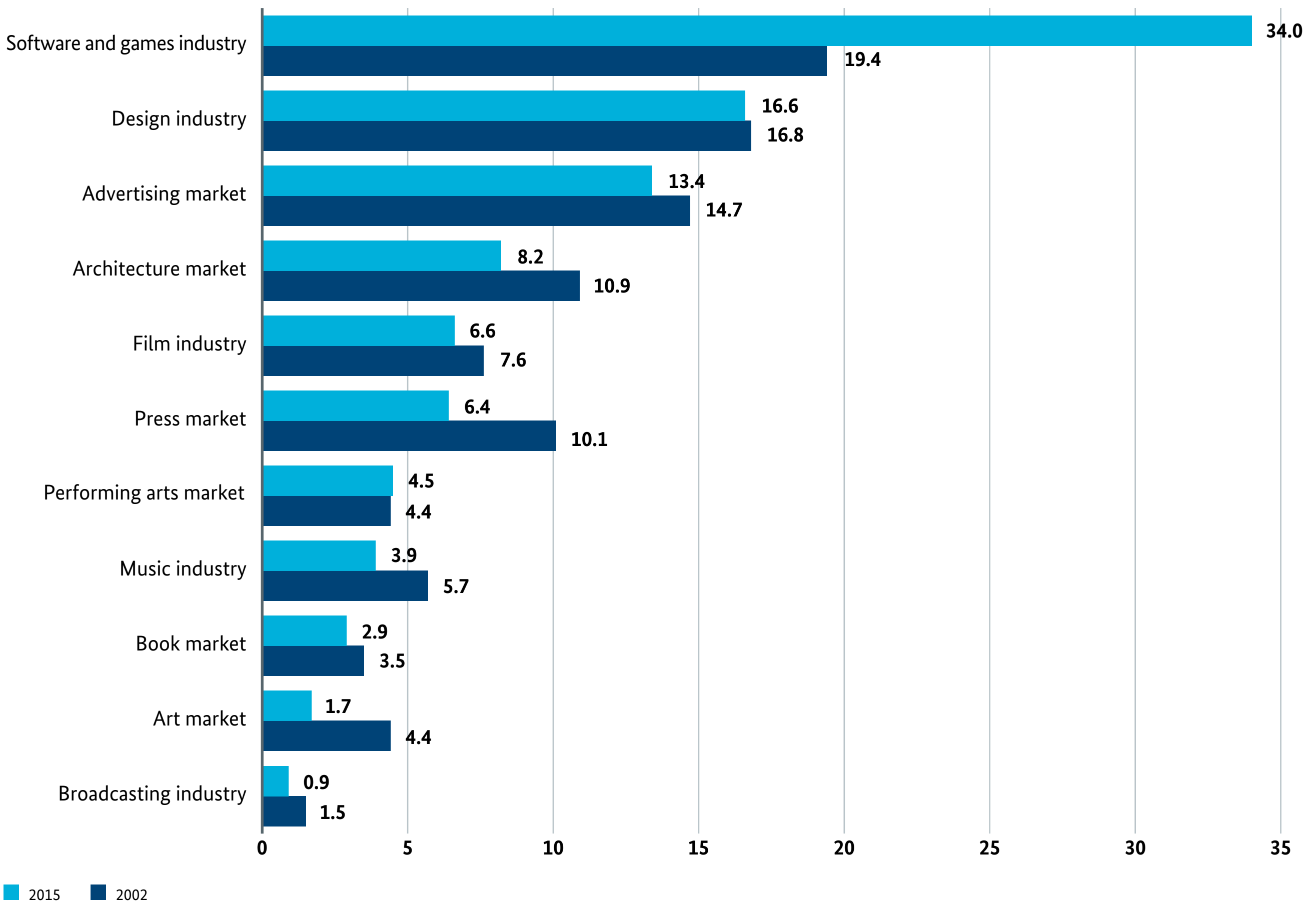


Example: In 2015, the number of start-ups in the culture and creative industries was 75% of the amount in 2002.

Source: Mannheimer Enterprise Panel, ZEW, 2016 approximately 30% less than in 2009 (see Fig. 4.1). The culture and creative industries are thus following the prevailing trend in Germany of a decline in start-ups since 2005. One of the reasons for the temporary rise in start-up figures in 2009 was the introduction of the legal form of a limited liability entrepreneurial company ("Unternehmergesellschaft" or "mini-GmbH"), because a number of self-employed persons used this form of the limited liability company to avoid having to provide practically any capital stock. In comparison to the overall start-up situation in Germany, the situation in the cultural and creative industries has shown a somewhat more positive trend since 2008. However, in 2015, the number of start-ups in Germany (i.e. the sum of all sectors) rose slightly, whereas the number of start-ups in the CCI sector was slightly depressed.

This slowdown in start-ups led to a decrease in number of companies in the culture and creative sector.[8] According to MUP, there were about 186,000 economically active companies in the sector in 2015. This is about 3% less than in 2010, when the peak in economically active companies was reached (almost 193,000). The downward tendency in start-up activity in the cultural and creative industries (as well as in the entire economy) is however not an indication of a negative economic trend in this sector – to the contrary, start-up activity is closely tied to the earnings potential in the labor market for this sector, which has a large number of micro enterprises. In phases of strong economic growth, the demand for labor goes up, leading to multiple opportunities of (attractive) paid employment in existing companies. Setting up your own company is a less attractive

Figure 4.2: Share of submarkets in total start-ups in the cultural and creative industries in Germany between 2002 and 2015 (percent)



Example: In the software and games industry, the share of start-ups in the CCI sector grew from 19.4 % in 2002 to 34 % in 2015.

Source: Federal Employment Agency 2016; ZEW's own computations

8 Due to various data sources, these numbers are not directly comparable to the number of companies in this report.

option in these circumstances. When the economic situation is less favorable, there are fewer job opportunities in paid employment - this is when people are more likely (or more obliged) to take the risk of setting up their own business. This pattern, which can be seen in many industries, also appears to be a growing trend in the German culture and creative industries. The number of new start-ups increased in the economically slow years of 2003 and 2004, and in 2009, the year of the global financial crisis, whereas this number decreased in all other years. The legal and political environment also play a role. The start-up figures in 2003/04 are in part due to the labor market policy of promoting self-employment that was pursued at that time and the establishment of so-called “Ich-AGs” (literally “Me Plc”). As already explained, the higher start-up figures in 2009 must also be seen in conjunction with the introduction of the “mini-GmbH” option.

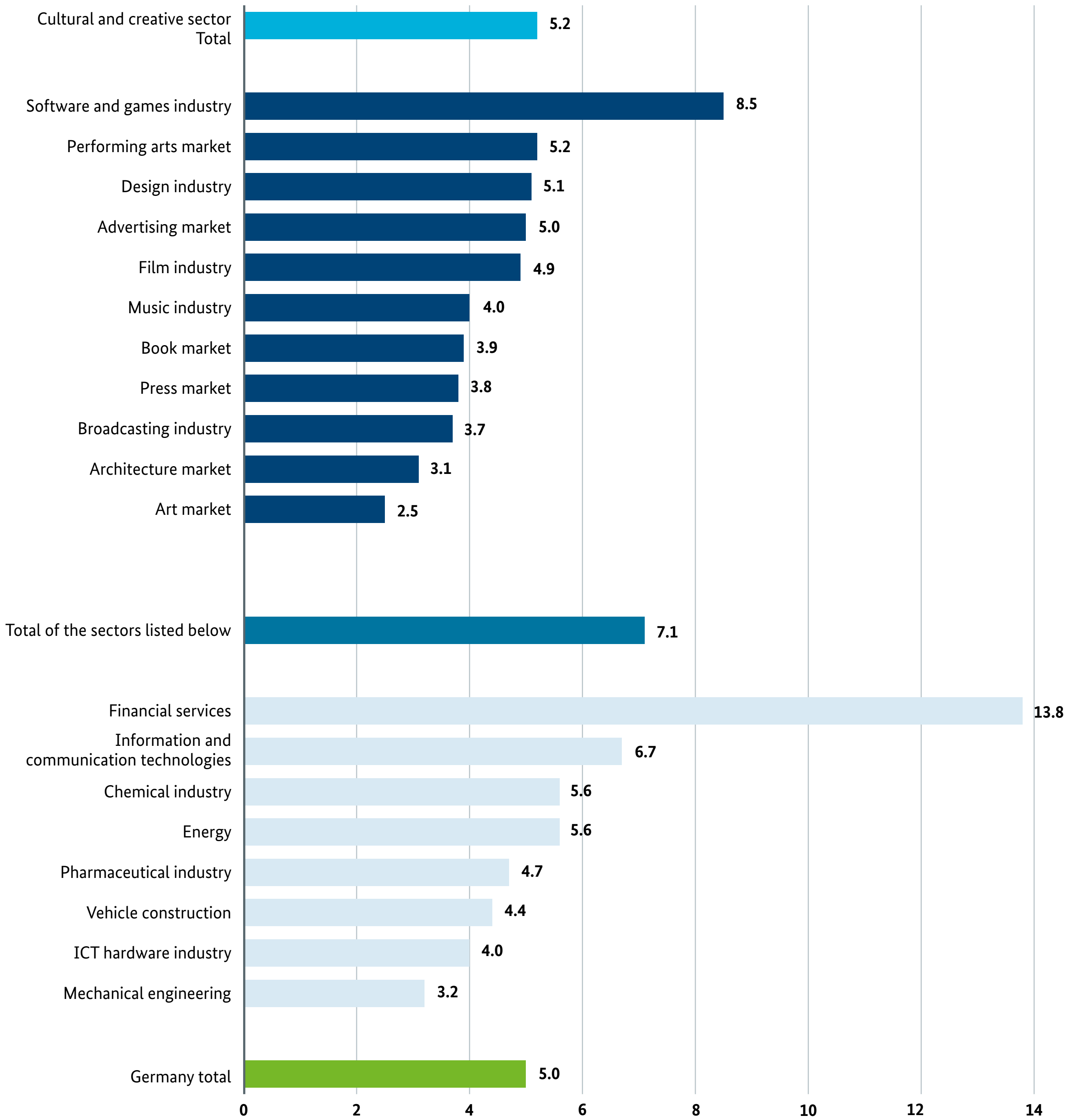
The start-up activity in the culture and creative industries is strongly concentrated in three submarkets, in which almost two-thirds of all new companies are created: in 2015, 34 % of all start-ups were in the software and games industry, nearly 17 % in the design industry, and over 13 % in the advertising market (see Fig. 4.2). Other submarkets with a relatively high share in CCI sector start-ups are the architecture market (8 %), the film industry (almost 7 %) and the press market (over 6 %). The other submarkets together comprise only 14 % of all start-ups in this sector in Germany.

The start-up scene in the culture 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 2002 only 19 % of all start-ups in the sector took place in this submarket, by 2015 this figure had gone up to 34 %. There was significantly less participation in start-ups in the press market, the art market, the architecture market and the music industry. The design industry and the performing arts market maintained their share in start-up activity. There was a slight decrease in percentage of overall start-ups in the advertising market, the film industry and the book market. The main reason behind the shift toward the software and games industry is the digitalization trend, which opens up endless possibilities to link creative business ideas to software solutions. Many newly established companies in this area are specialized in programming new digitalization applications, from web 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 amount 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 culture and creative industries in Germany was 5.2 % on average over the years 2013 – 2015, and therefore below that of the overall economy (5.0 % – see Fig. 4.3). In the sectors used in the comparison, the start-up rate was higher, at 7.1 %, which is primarily due to the very high start-up rate in the financial services sector as well as the above-average rates for information and communication technologies services, in the chemical industry and in the energy sector.

In the culture and creative industries, the software and games industry has the highest start-up rate by far at 8.5 %. In the performing arts market and in the design industry this figure is similar to the rate for the entire sector, and in the advertising market and the film industry it is somewhat lower. The lowest start-up rates are in the art market (2.5 %) and the architecture market (3.1 %). In the other submarkets, the start-up rate is 4 % or slightly below that.

Figure 4.3: Start-up rates in the culture and creative industries in Germany in 2013/2015 by submarket and in comparison (in %)



Example: The average start-up rate in the CCI sector during the period between 2013 and 2015 was 5.2 %.

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 2013–2015.

Source: Mannheim Enterprise Panel, ZEW, 2016

5 Innovation in the Culture and Creative Industries Compared With Other Sectors

5.1 Spending on innovation

A key indicator used frequently for measuring the resources that companies make available for innovation activities is the amount of spending on innovations. Innovation spending encompasses all financial expenditures and investments incurred for development and introduction of product and process innovation (excluding expenses for marketing and organizational innovation). 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, construction, 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).

The average expenditures on innovation during the period 2012 – 2014 for companies in the cultural and creative industries[9] was EUR 4.59 billion (see Fig. 5.2). Approximately three-fourths of the expenditures on innovation in the culture and creative industries (72.2%) went to a single submarket, the software and games industry (see Fig. 5.1).

The approximately EUR 4.6 billion in annual spending on innovation in the sector corresponds to 3.1 % of the entire innovation expenditures in the German economy (in connection with the sectors included in innovation statistics, namely the economic sectors 5–39, 46, 49–53, 58–66, 69–74, 78–82). In comparison to the industry sectors with a strong emphasis on research, the amount spent in the culture and creative sector on product and process innovation is relatively low. In contrast to the service sectors included here in the comparison, the information and communication technology services spend over EUR 7 billion, significantly more than the culture and creative industries, whereas engineering offices, management consulting firms and legal and business consulting firms spend considerably less, some well below EUR 1 billion annually.

Methodology for evaluating the results

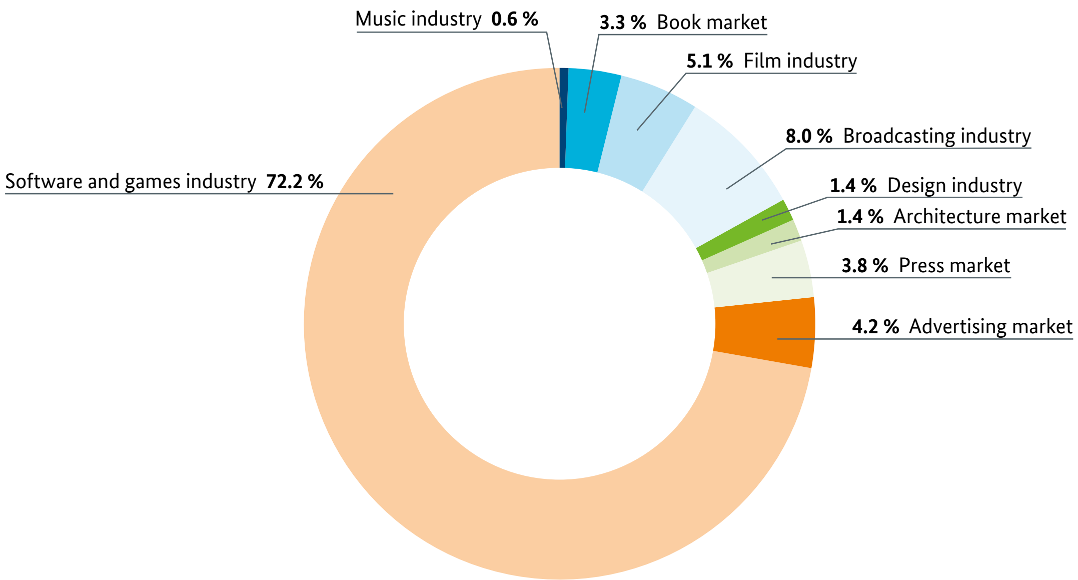
The culture and creative industries differ from the other economic sectors for the exact reason that they offer fewer standard products and services. In this sector, each individual product or service is in and of itself a creative achievement. We could say that almost everything in the culture and creative industries is innovative. On the other hand, the economic term innovation is not primarily focused on whether a specific market offering diverges from previous market offerings.

In addition, the methodology from the Oslo Manual is used for international innovation measurement (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 international debate is also considering expanding the definition of the term innovation, because non-technical innovation is becoming increasingly important (e.g. business models in the digital age), which applies in particular for the cultural and creative industries. However, these are very limited to certain situations and are hard to operationalize and quantify. Accordingly, the views discussed here on innovation are only partially comparable with other economic sectors.

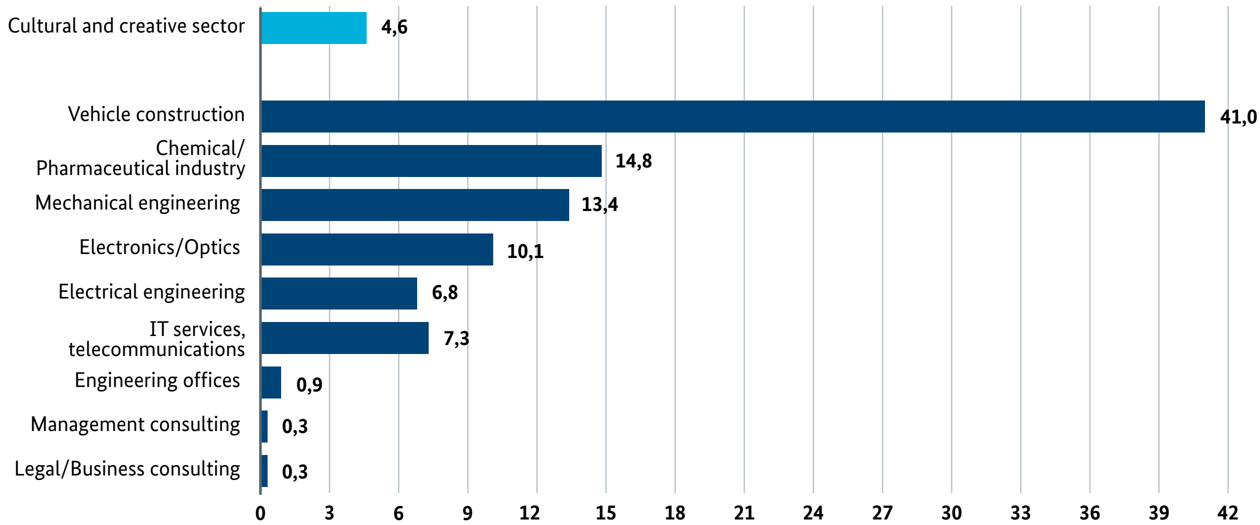
9 Innovation indicators can be calculated for nine of the eleven submarkets in the cultural and creative industries on the basis of a special evaluation of the German innovation survey, whereby some submarkets do not include all of the branches of economic activity included in those categories. The submarkets 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 economic sector just mentioned.

Figure 5.1 Distribution of innovation expenditures in the German cultural and creative industries according to submarkets (percent)



Example: 72.2 % of innovation expenditures in the cultural and creative industries were made by the software and games industry. Average value for the years 2012–2014.
Source: Mannheimer Innovation Panel, ZEW, 2016

Figure 5.2: Amount of innovation expenditures in the German cultural and creative industries compared to other sectors (in billions of euros)

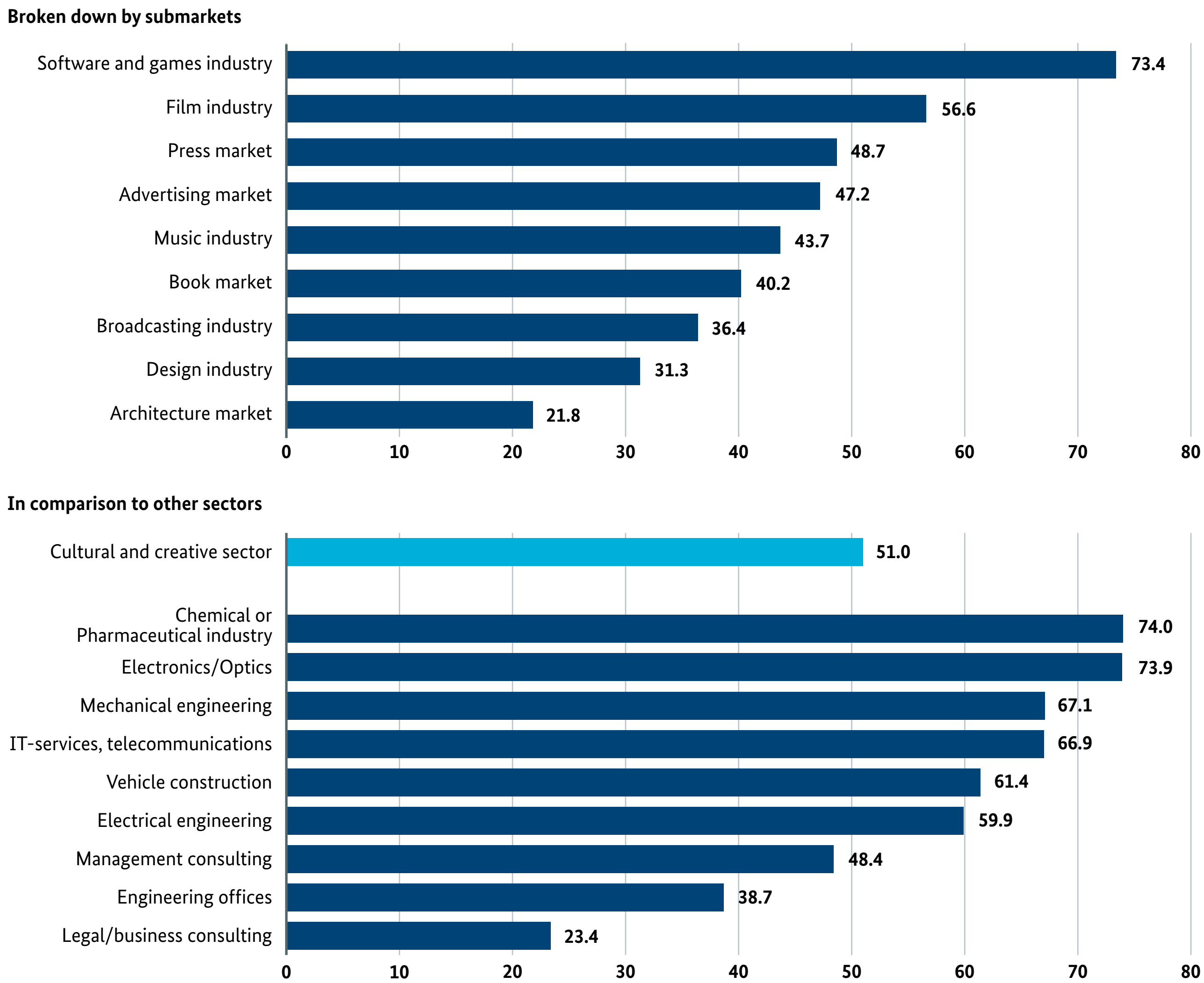


Example: Vehicle construction spends about EUR 41 billion on innovation, average for the period 2012–2014
Source: Mannheimer Innovation Panel, ZEW, 2016

5.2 Introducing innovation

One indicator of 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 scope of services and service generation process or have expanded them to include customer needs not previously dealt with. In the cultural and creative industries this was the case for about every second company in the period between 2012 – 2014. Two submarkets exhibit innovator rates ranging above the sector average (51%), namely the film industry (57%) and the software and games industry (73%, see Fig. 5.3). The press market, advertising market, music industry and the book market are somewhat below the average, at between 49% and 40%. A low proliferation of innovative business strategies is noticeable in the broadcasting industry (36%), design industry (31%) and in the architecture market (22%).

Figure 5.3: Innovator rate in the German cultural and creative industries according to submarkets and in comparison to other sectors (proportion of companies in percent)



Example: 51 % of all companies in the cultural and creative industries introduced at least one innovative product or process, average value in the period 2012 – 2014

Source: Mannheimer Innovation Panel, ZEW, 2016

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 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.

The innovator rate of 51 % compared to the other sectors indicates a lower level than in the research-intensive industry, where between 60 % and 74 % 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 (67 %) and the management consulting companies exhibit a similar rate (48 %), whereas engineering offices and legal and business consulting firms pursue much less frequently innovative business strategies.

5.3 Direct innovative successes

Implementation of innovation on its own however does not tell the whole story of its economic importance. Customers do not always accept new product and service offerings. Improved processes and methods can on the one hand lead to cost reduction or improvement in quality. However, if the economic benefits are less than the expense of introducing such innovation, the company gains little. It is hard to assess the economic effects of innovation, however, because there are many factors that play a role and the effects are often apparent only at a later time. Nevertheless, some parameters have been established in innovation statistics that are intended to help measure the direct innovative success of product and process innovation. On the product side, this parameter is the turnover attributable to innovative products introduced in the past three years. Regarding process innovation, both the average cost reduction and the increase in turnover due to quality enhancement are measured.

German culture and creative sector companies generated average turnover attributable to new products of EUR 16.3 billion in the period 2012 – 2014. This amounts to 14.4 % of the total turnover in the sectors in the comparison being used in this analysis (see Fig. 5.4).

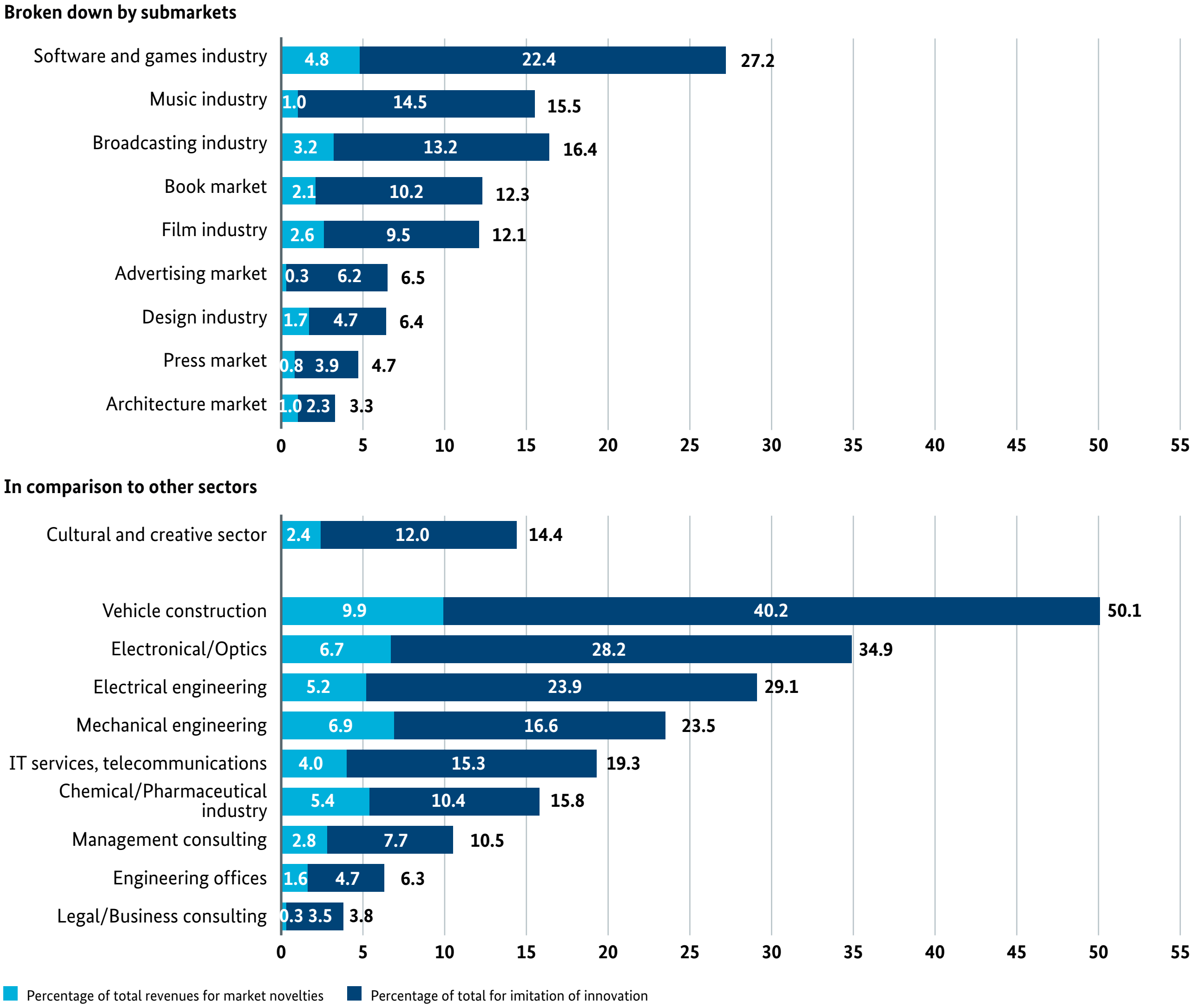
The software and games industry contributed 58% of the total new product turnover, the broadcasting industry 14%, the advertising market 8%, the press market 6% and the book market and the film industry 5 % each. The greatest percentage of total revenues due to new products was achieved by the software and games industry, at 27 %. This corresponds with the very high proportion of product innovators in this submarket (67 %).

When looking at the degree of novelty of innovation, only a small portion of innovative products are market novelties (2.4 % of total turnover in the CCI sector). More than four-fifths of new product turnover was attributable to innovative products that had existed in the market previously, in similar form, and that were novel only from the perspective of the company surveyed or were incremental improvements on existing offerings. The proportion of turnover from market novelties was particularly low in the advertising market.

The innovative product turnover in the cultural and creative industries fell behind the research-intensive manufacturing sectors and information and communication technologies, and was generally low compared to the other sectors. The research-intensive manufacturing industry generated twice or up to four times the amount of turnover. In the services sector, both information and communication technology and management consulting are ahead of the cultural and creative industries.

The direct success of product innovation also varies according to the individual submarkets of this sector. The mean of all submarkets of the CCI sector examined here with regard to cost savings through product innovation was 2.1 % (see Fig. 5.5). This value includes all companies – that is, 79 % – that did not implement any cost-saving process innovation. The increase in turnover due to quality enhancement is 2.2 %.

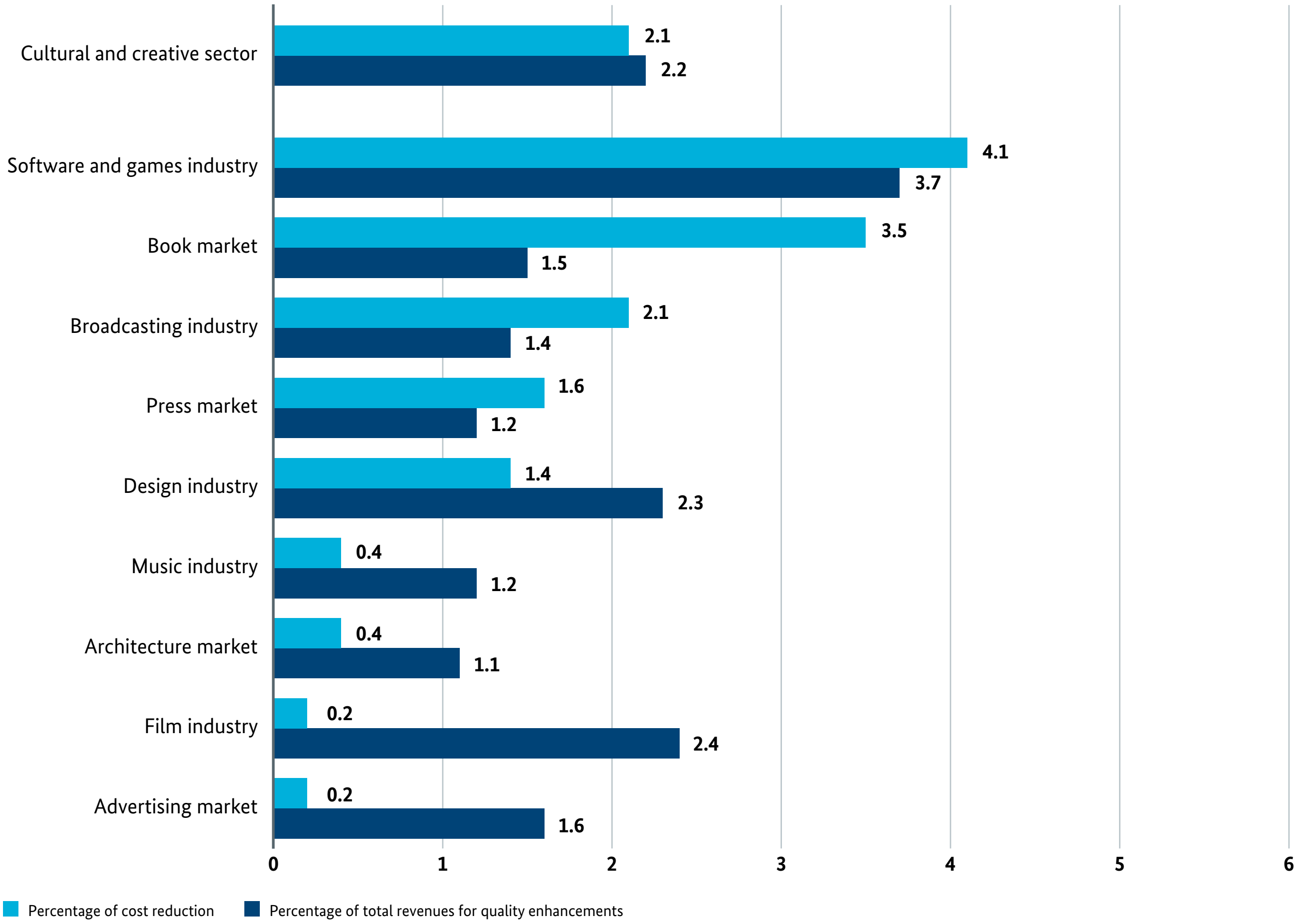
Figure 5.4: Percentage of total revenues attributable to product innovation according to degree of novelty in the German culture and creative industries and in comparison with other sectors
(proportion of turnover in %)



Example: The software and games industry was at the top of the average values for the period 2012–2014, with 4.8 % of turnover attributable to market novelties, and 22.4 % due to imitation of innovation.

Source: Mannheimer Innovation Panel, ZEW, 2016

Figure 5.5: Proportion of cost reduction achieved by process innovation and increase in turnover achieved by quality enhancement in the German culture and creative industries
(Cost reduction/increased turnover in percent)



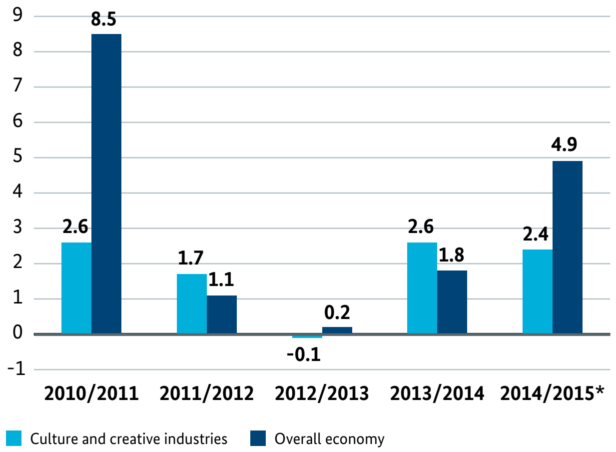
Example: The software and games industry exhibits the largest percentage of cost reduction by innovative processes at 4.1 %. This business sector also excelled in percentage increase in turnover due to quality improvements at 3.7 %, the highest average in the period 2012–2014 in the culture and creative industries.

Source: Mannheimer Innovation Panel, ZEW, 2016

6 Summary

In 2015 the turnover generated in the culture and creative industries rose by 2.4 % year on year. It was therefore lower than the growth in revenues for the economy as a whole, which grew by an estimated 4.9% year on year (see Fig. 6.1).

Figure 6.1: Trend in turnover in the culture and creative industries compared with the overall economy (change in percent)



Example: Turnover in the culture and creative industries grew by 1.7% between 2011 and 2012.

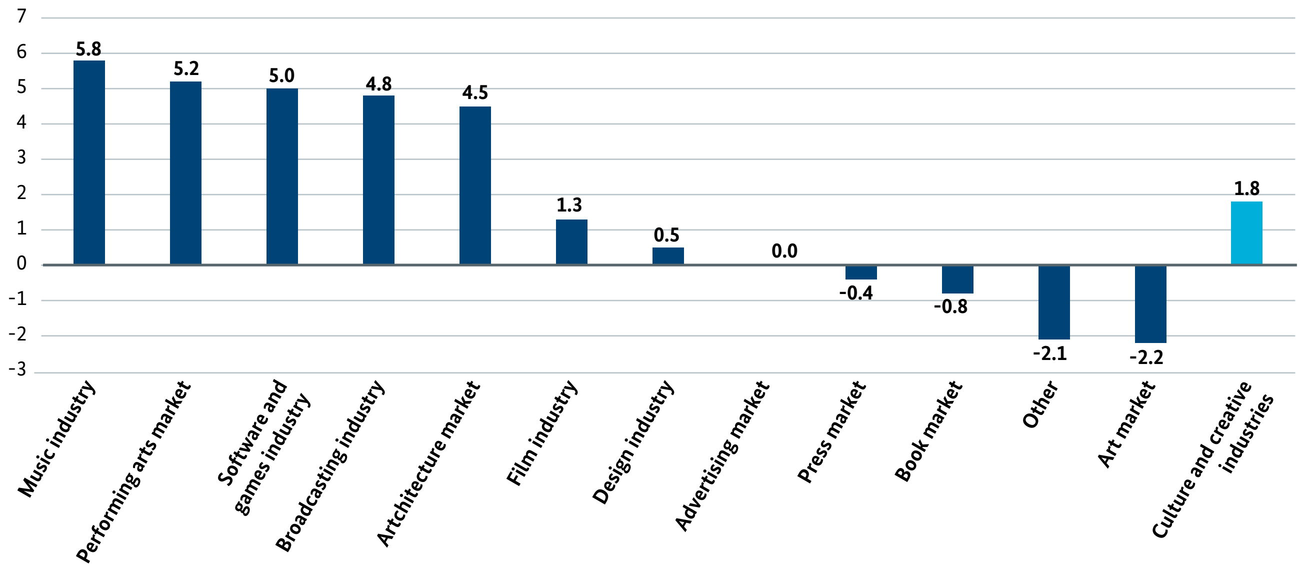
Note: *Data for 2015 based on estimations.

Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Stable long-term growth in turnover in the Culture and Creative Industries

The culture and creative industries retained a stable, positive trend with annual average growth rates in revenues of 1.8% for the time period between 2010 and 2015. However, there was considerable variation in turnover growth in the individual submarkets (see Figure 6.2). As in previous years, the music industry is ahead of the pack with an annual growth rate of currently 5.8%. In second place is the performing arts market with average growth of 5.2%. Also showing strong growth rates are the software and games industry (5.0%), the broadcasting industry (4.8%) and the architecture market (4.5%). All other submarkets are growing more slowly than the culture and creative industries, whereby the press market, the book market and the art market even exhibited negative annual growth, at -0.4%, -0.8% and -2.2%, respectively.

Figure 6.2 Revenue trends for the submarkets of the CCI sector (percent average annual change in the period 2010–2015*)



Example: Turnover in the music industry grew by 5.8 % each year between 2010 and 2015.

Note: * Data for 2015 based on estimations

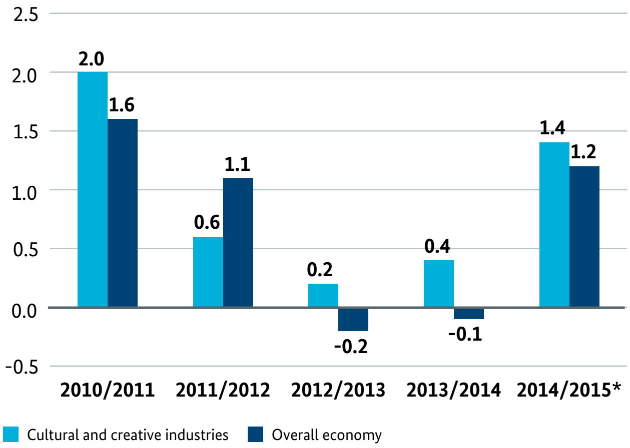
Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Growth rate in number of companies in the culture and creative industries higher than in the overall economy

In 2015, the number of companies in the culture and creative industries grew more strongly year-on-year than the corresponding number in the overall economy. Whereas the culture and creative industries recorded 1.4 % more companies, the corresponding figure for the economy as a whole was 1.2 % (see Fig. 6.3). This is a continuation of the trend of previous 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 that economy-wide growth was higher than in the CCI sector was 2012.

In the period between 2010 and 2015, the number of culture and creative companies grew by an average of 2.6 % annually (see Fig. 6.4). Higher than average growth was recorded in the software and games industry, at 7.4 %. This submarket has had the highest start-up activities for years compared with all of the CCI sector submarkets (also see Section 4). Following far behind is the performing arts market, with a long-term average growth in number of companies of 3.8 %, and then the architecture market, at 2.8 %. All other submarkets range below the sector average of 2.6 %; the art market, the book market and the press market are even in the negative annual growth zone.

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

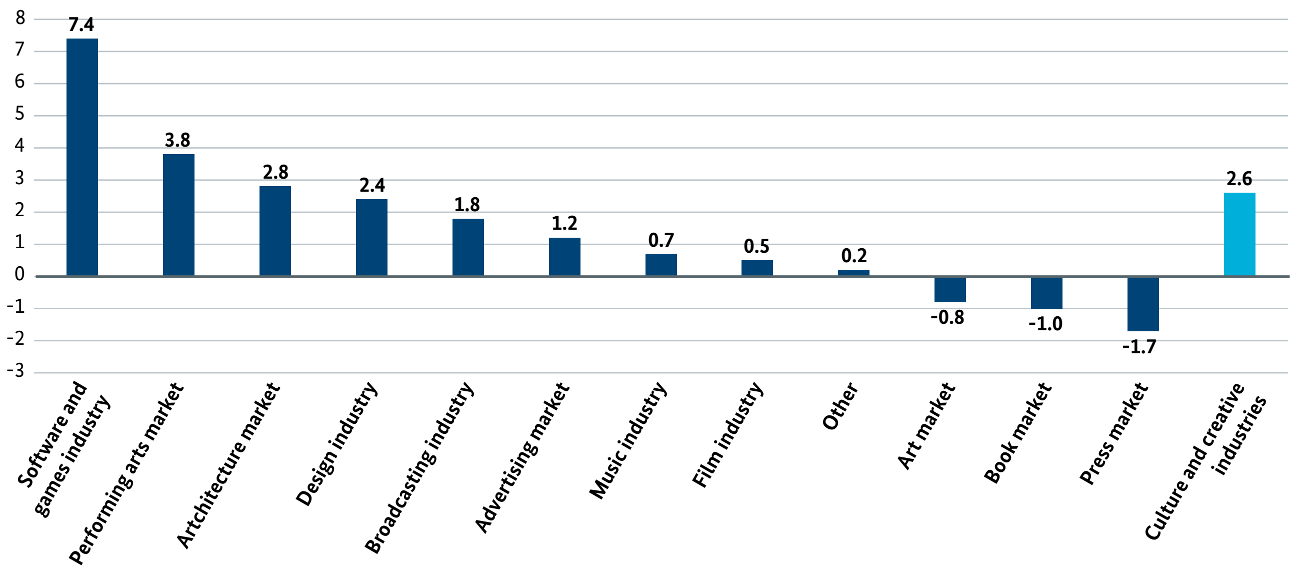


Example: Between 2011 and 2012 the number of companies in the overall economy grew by 1.1 %.

Note: *Data for 2015 based on estimations.

Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Figure 6.4: Trends in growth of the number of companies in the submarkets of the CCI sector (percent average annual change in the period 2010 – 2015*)

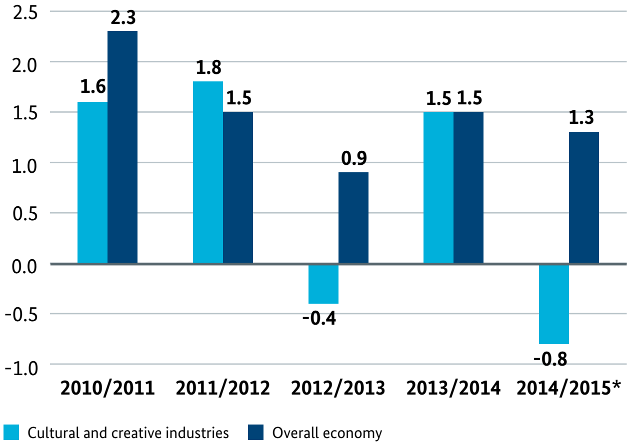


Example: Turnover in the music industry grew by 5.8% each year between 2010 and 2015.

Note: * Data for 2015 based on estimations.

Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Figure 6.5: Development of the total number of persons working in the culture and creative industries compared with the overall economy (change in percent)

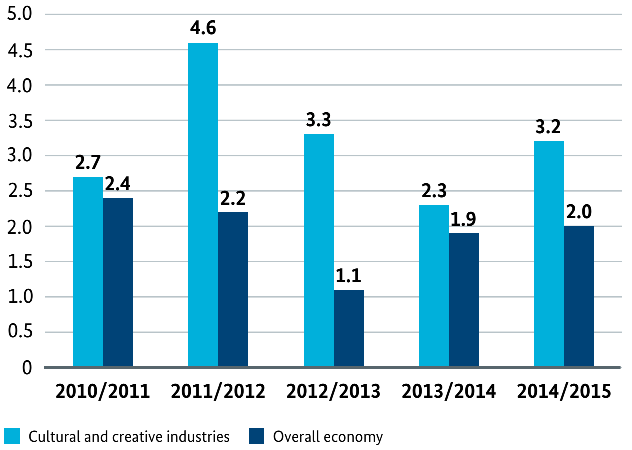


Example: The number of people employed in the overall economy rose by 0.9 % between 2012 and 2013.

Note: *Data for 2015 partially based on estimations.

Source: Turnover tax statistics, Destatis, 2016b, employment statistics, Federal Employment Agency 2016; ZEW's own computations

Figure 6.6: Development of the total number of employed persons paying contributions to social security in the culture and creative industries compared with the overall economy (change in percent)



Example: The number of employed persons paying contributions to social security in the culture and creative industries grew by 3.3 % between 2012 and 2013.

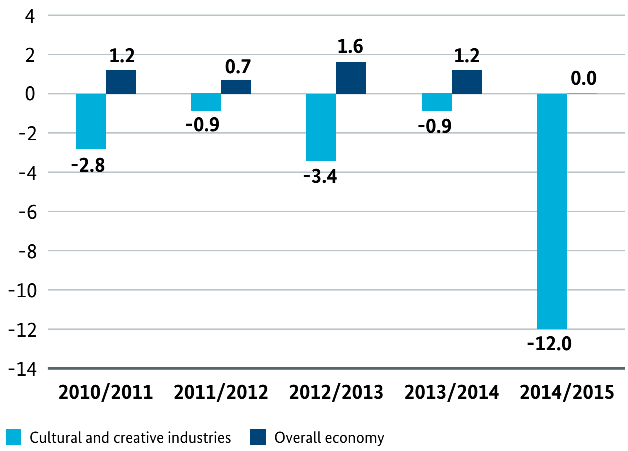
Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

Growth in number of employees paying contributions to social security in the culture and creative industries considerably higher than in the overall economyt

The long-term trend indicates that the number of employees subject to social insurance contributions in the CCI sector is basically growing more quickly than in the economy as a whole. This was the case last year, in which a growth of 3.2 % was posted by the cultural and creative industries, whereas the overall economic growth rate was lower, at 1.2 % (see Fig. 6.6).

Despite a strong increase in core employment in the cultural and creative industries in 2015, employment decreased slightly last year, by a total of 0.8 % (see Fig. 6.5). As already mentioned, this is mainly due to the large decline in marginal jobs in the cultural and creative industries.

Figure 6.7: Development of the total number of marginally employed persons in the culture and creative industries compared with the overall economy (change in percent)



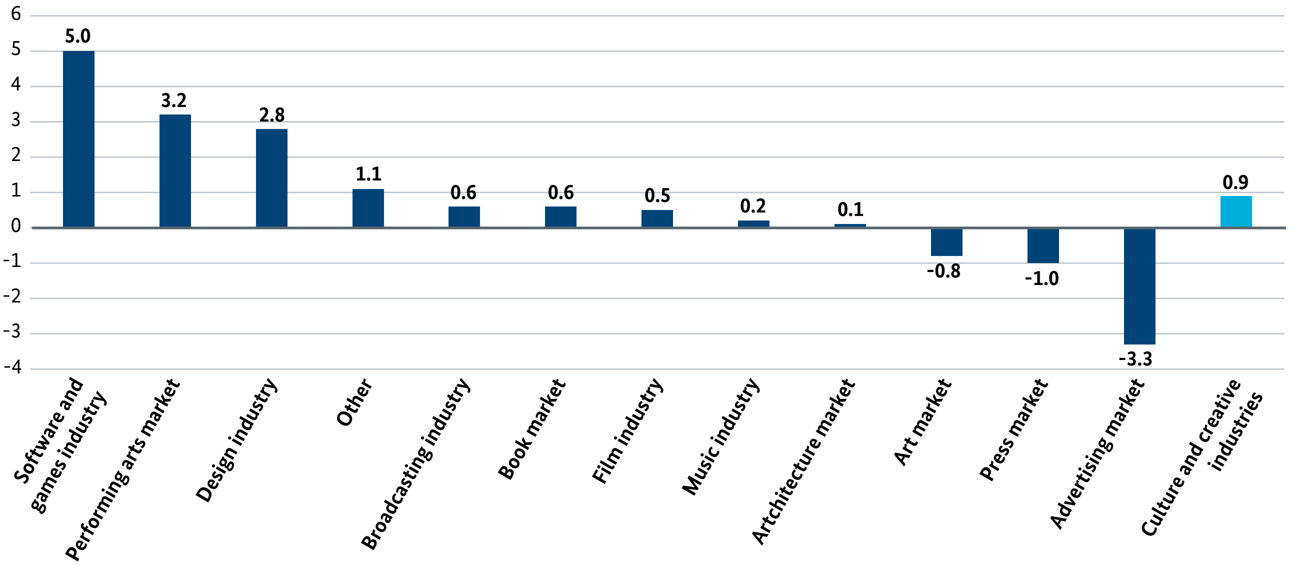
Example: The number of marginally employed in the culture and creative industries dropped between 2012 and 2013 by 3.4 %.

Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

The number of marginally employed persons in the CCI sector dropped significantly last year, especially as a result of the continued growth in number of employees paying compulsory social security contributions in this sector. However, the 12 % decline is significantly greater than the decreases recorded in previous years (see Fig. 6.7), which may be attributable to the fact that marginal employees in the culture and creative industries have switched to insured jobs in other sectors. The sharpest declines were in the press market (-20.6 %), the advertising market (-14.7 %) and the design market (-13.6 %).

Regarding the percentage of persons whose main job is in this sector, the number of self-employed persons and employees paying compulsory social security contributions has increased in the period between 2010 and 2015 by an annual average of 0.9 % (see Fig. 6.8). The main contributor to this trend is the software and games industry, with an average annual growth rate of 5 %. Quite a bit further behind, in second place, is the performing arts market, at 3.2 %. The art, press and advertising markets exhibited negative growth regarding persons in (main) employment in the culture and creative industries.

Figure 6.8: Trend in employment (self-employed persons and employees subject to social insurance contributions) in the submarkets of the cultural and creative industries
(average change p. a. 2010 – 2015* in %)



Example: Employment in the design industry grew by an average of 2.8% per annum between 2010 and 2015.

Note: *Data for 2015 partly based on estimations (in relation to turnover tax statistics).

Source: Turnover tax statistics, Destatis, 2016b, employment statistics, Federal Employment Agency 2016; ZEW's own computations

Submarkets exhibit uneven trends

Whereas turnover in the period from 2014 to 2015 was expected to be lower in the culture and creative industries than in the overall economy, growth in the number of companies and the number of employees paying compulsory social security contributions in the culture and creative industries was considerably higher than in the overall economy. In the period between 2010 and 2015, especially the art, book and press markets were affected by the decline in three indicators: turnover, number of companies number of people working in this sector. On the other hand, these three indicators rose during the same period, in particular in the performing arts market and the software and games industry. The music industry has shown exceedingly strong growth in turnover.

Growing number of cultural and creative professionals

The number of persons with a cultural or creative occupation within the cultural and creative industries grew in the period between 2013 to 2015 by 6.6% and comprised approximately 460,000 individuals in 2015. Another 1.6 million individuals with culture and creative occupations work outside of the culture and creative industries, comprising approximately 4.3% of this group.

Start-up activities ease

Approximately 9,400 new economically active companies were established in 2015 in the CCI sector. This is a continuation of the decline in start-up activities, reaching the lowest level since 2002. Three submarkets, the software and games industry (34%), the design industry (17%) and the advertising market (13%) have the largest share in start-ups. The start-up rate in the CCI sector was an average 5.2%, just slightly above the rate for all of Germany (5.0%).

The software and games industry dominates innovation activities

The culture and creative industries spent approximately EUR 4.6 billion on innovation. This corresponds to 3.1% of total innovation expenditures in the German economy. Almost three-fourths of the innovation expenditures in the culture and creative industries are attributable to the software and games industry. The innovator rate – the percentage of companies that implement at least one product or process innovation within the past three years – is at 51% in the cultural and creative industries. This is below the rates in research-intensive industries, which are between 60% and 74%. Turnover generated with product novelties was EUR 16.3 billion, 14.4% of total turnover in the sector.

Internationalization in the culture and creative industries

Almost one-fourth of the companies in the CCI sector do business abroad, and use various channels to do so, for example selling products and services to customers abroad, cooperation agreements or secondment of employees. The music industry and the software and games industry have the strongest international presence. Foreign activity is aimed especially at gathering new ideas for products and services, increasing name recognition nationally and internationally and opening up new markets.

Companies perceive several obstacles to internationalization: if they lack experience or the capacity to manage foreign business, or if there is no demand for their products and services in foreign markets. Accordingly, they would like to see government institutions provide in particular market intelligence on target countries and know-how for implementing the internationalization process.

Conclusion

The economic key data in the culture and creative sector reflect a generally stable trend. The increase in jobs that pay social security contributions is increasing, and turnover also indicates stable long-term growth. Nevertheless, beyond this general overview there are very heterogeneous trends in individual submarkets. The art, book and press markets are still at the lower end of the range, yet the software and games industry, the performing arts market and the music industry are developing positively and in some areas, very dynamically.

Economic policy measures should take into account the fact that these submarkets vary greatly, with very different characteristics in products and services, but also with regard to varying 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:

- Offering companies assistance in defining their internationalization strategy by providing information on international markets

- Making existing programs for promoting foreign trade in the cultural and creative industries more transparent and creating a feasible export initiative for this sector, aimed at better funding for participation in international trade fairs and addressing the specific hurdles to the sector and its small companies (e.g. travel expenses)

- Enhancing exchange of information and experience between the creative sector and other sectors of the economy by providing networking platforms and by sponsoring cooperation agreements

- Better assistance of non-technical innovation in the cultural and creative industries, for example by providing infrastructure support such as innovation centers and funding, for example in the area of consulting services, and by collecting primary data on non-technical innovation in the cultural and creative industries.

7 Annex

7.1 Detailed Tables

Table 7.1: Culture and creative industries (CCI) by submarket: number of companies, 2010 to 2015*

Submarket	2010	2011	2012	2013	2014	2015*
1. Music industry	13,723	13,894	13,796	13,811	13,759	13,834
2. Book market	16,481	16,702	16,828	16,811	16,798	16,967
3. Art market	13,464	13,422	13,203	13,153	13,062	12,966
4. Film industry	17,956	18,199	18,282	18,440	18,267	18,453
5. Broadcasting industry	17,751	18,128	18,154	18,159	18,074	18,309
6. Performing arts market	15,402	15,982	16,497	17,004	17,473	18,026
7. Design industry	50,111	52,439	53,676	54,454	55,624	57,469
8. Architecture market	40,159	40,702	40,762	40,205	40,040	40,328
9. Press market	33,564	33,498	33,131	32,557	32,119	31,912
10. Advertising market	35,330	34,577	33,448	32,107	30,855	29,930
11. Software and games industry	28,527	30,413	31,915	33,365	34,725	36,452
12. Other	7,506	7,736	7,751	7,812	7,775	7,924
Total, including double counts	289,974	295,692	297,442	297,877	298,570	302,569
Duplicate categories of economic activity	50,440	51,402	51,627	51,525	51,336	51,970
Culture and creative industries (excluding double counts)	**239,534**	**244,290**	**245,816**	**246,353**	**247,235**	**250,600**
Overall economy	3,165,286	3,215,095	3,250,319	3,243,538	3,240,221	3,279,996
Contribution of CCI to overall economy	*7.57 %*	*7.60 %*	*7.56 %*	*7.60 %*	*7.63 %*	*7.64 %*

Note: *Estimates. Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Table 7.2: Culture and creative industries (CCI) by submarket: Turnover (in millions of euros), 2010 bis 2015*

Submarket	2010	2011	2012	2013	2014	2015*
1. Music industry	6,270	6,639	7,099	7,674	7,896	8,313
2. Book market	14,182	14,255	14,032	13,737	13,686	13,634
3. Art market	2,332	2,341	2,316	2,292	2,091	2,086
4. Film industry	8,925	9,283	9,228	9,060	9,328	9,509
5. Broadcasting industry	7,671	7,905	8,327	8,942	9,378	9,707
6. Performing arts market	3,478	3,742	3,909	3,971	4,262	4,477
7. Design industry	18,243	18,353	18,535	18,338	18,566	18,667
8. Architecture market	8,031	8,708	8,813	9,130	9,554	10,023
9. Press market	31,398	31,711	31,931	31,065	30,657	30,824
10. Advertising market	25,714	24,929	24,965	25,175	26,130	25,691
11. Software and games industry	26,496	28,442	29,642	29,418	31,619	33,739
12. Other	1,588	1,652	1,587	1,531	1,418	1,431
Total, including double counts	154,327	157,960	160,385	160,332	164,586	168,103
Duplicate categories of economic activity	16,993	16,990	17,047	17,178	17,691	17,720
Culture and creative industries (excluding double counts)	**137,333**	**140,970**	**143,338**	**143,155**	**146,895**	**150,383**
Overall economy	5,240,997	5,687,179	5,752,249	5,765,567	5,870,875	6,159,437
Contribution of CCI to overall economy	*2.62 %*	*2.48 %*	*2.49 %*	*2.48 %*	*2.50 %*	*2.47 %*

Note: *Estimates Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Table 7.3: Culture and creative industries (CCI) by submarket: number of core employees, 2010 to 2015*

Submarket	2010	2011	2012	2013	2014	2015*
1. Music industry	46,690	46,627	46,532	47,494	47,788	48,267
2. Book market	76,850	79,498	78,808	78,158	75,915	72,922
3. Art market	19,160	18,943	18,910	18,788	18,514	18,388
4. Film industry	57,280	57,740	57,627	57,082	57,416	58,686
5. Broadcasting industry	38,881	39,690	39,867	41,351	41,689	42,606
6. Performing arts market	33,220	34,112	35,383	37,889	38,800	40,049
7. Design industry	125,854	128,415	131,740	134,252	137,240	141,610
8. Architecture market	101,889	105,079	107,737	110,153	112,762	117,148
9. Press market	163,294	161,083	158,863	156,082	152,383	149,949
10. Advertising market	136,963	138,870	140,388	140,522	142,949	145,555
11. Software and games industry	251,676	268,405	299,357	321,022	337,875	359,267
12. Other	14,991	15,184	15,434	15,532	15,103	15,176
Total, including double counts	1,066,748	1,093,644	1,130,646	1,158,326	1,178,434	1,209,654
Duplicate categories of economic activity	114,378	117,012	119,101	121,229	122,424	124,687
Culture and creative industries (excluding double counts)	**952,370**	**976,633**	**1,011,544**	**1,037,096**	**1,056,010**	**1,084,936**
Overall economy	31,131,887	31,858,678	32,530,353	32,859,218	33,414,726	34,051,293
Contribution of CCI to overall economy	*3.06 %*	*3.07 %*	*3.11 %*	*3.16 %*	*3.16 %*	*3.19 %*

Note: *Estimates concerning number of self-employed people (correspond to number of companies).

Source: Turnover tax statistics, Destatis 2014; Employment statistics, Federal Employment Agency 2014; ZEW's own computations

Table 7.4: Culture and creative industries (CCI) by submarket: dependent employees (subject to social insurance contributions), 2010 to 2015

Submarket	2010	2011	2012	2013	2014	2015
1. Music industry	32,967	32,733	32,736	33,683	34,029	34,433
2. Book market	60,369	62,796	61,980	61,347	59,117	55,955
3. Art market	5,696	5,521	5,707	5,636	5,453	5,423
4. Film industry	39,324	39,541	39,345	38,642	39,149	40,233
5. Broadcasting industry	21,130	21,562	21,713	23,192	23,615	24,298
6. Performing arts market	17,818	18,130	18,886	20,885	21,327	22,023
7. Design industry	75,743	75,976	78,065	79,799	81,617	84,141
8. Architecture market	61,730	64,377	66,975	69,948	72,722	76,820
9. Press market	129,730	127,585	125,732	123,525	120,264	118,037
10. Advertising market	101,633	104,293	106,940	108,415	112,094	115,625
11. Software and games industry	223,149	237,992	267,442	287,657	303,150	322,815
12. Other	7,485	7,448	7,683	7,720	7,328	7,253
Total, including double counts	776,774	797,953	833,203	860,449	879,864	907,054
Duplicate categories of economic activity	63,938	65,610	67,475	69,705	71,089	72,717
Culture and creative industries (excluding double counts)	**712,836**	**732,343**	**765,729**	**790,744**	**808,775**	**834,337**
Overall economy	27,966,601	28,643,583	29,280,034	29,615,680	30,174,505	30,771,297
Contribution of CCI to overall economy	*2.55 %*	*2.56 %*	*2.62 %*	*2.67 %*	*2.68 %*	*2.71 %*

Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

Table 7.5: Culture and creative industries (CCI) by submarket: marginally employed persons, 2010 to 2015

Submarket	2010	2011	2012	2013	2014	2015
1. Music industry	11,909	12,114	12,669	12,892	13,158	13,407
2. Book market	20,914	20,362	19,762	18,950	18,308	17,596
3. Art market	4,465	4,392	4,347	4,287	4,172	4,045
4. Film industry	27,983	26,692	26,535	25,779	24,323	23,835
5. Broadcasting industry	2,041	1,748	1,722	1,839	1,839	1,751
6. Performing arts market	12,972	13,699	14,751	15,794	16,443	17,063
7. Design industry	66,942	63,950	62,095	61,746	65,392	56,494
8. Architecture market	18,069	18,372	18,451	19,099	19,355	18,888
9. Press market	133,683	131,198	130,350	123,364	113,220	89,854
10. Advertising market	123,134	115,252	110,717	103,957	111,434	95,054
11. Software and games industry	21,173	22,353	23,696	24,786	25,869	25,488
12. Other	1,770	1,754	1,682	1,650	1,611	1,572
Total, including double counts	445,055	431,885	426,777	414,143	415,124	365,045
Duplicate categories of economic activity	66,190	63,442	61,762	61,708	65,721	57,448
Culture and creative industries (excluding double counts)	**378,865**	**368,443**	**365,014**	**352,435**	**349,404**	**307,598**
Overall economy	7,450,194	7,536,790	7,591,384	7,716,104	7,811,376	7,704,750
Contribution of CCI to overall economy	*5.09 %*	*4.89%*	*4.81%*	*4.57 %*	*4.47 %*	*3.99 %*

Source: Employment statistics, Federal Employment Agency 2016; ZEW's own computations

Table 7.6: Number of companies in the culture and creative industries according to submarkets and categories of economic activity from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
1. Music industry							
32.20	Manufacture of musical instruments	1,180	1,197	1,204	1,218	1,216	1,230
47.59.3	Retail sale of musical instruments, etc.	2,142	2,087	1,998	1,922	1,858	1,791
47.63	Retail sale of music and video recordings, etc.	282	306	319	333	353	373
59.20.1	Recording studios, etc.	539	583	610	634	659	696
59.20.2	Audio media publishers	390	383	366	376	380	372
59.20.3	Music publishers	1,149	1,134	1,095	1,062	1,075	1,051
90.01.2	Music/dance ensembles	1,661	1,666	1,560	1,510	1,472	1,438
90.02	Support activities to performing arts	2,109	2,249	2,395	2,471	2,429	2,564
90.03.1	Own-account composers, etc.	2,643	2,683	2,695	2,752	2,776	2,809
90.04.1	Theater/concert promoters	1,400	1,378	1,337	1,325	1,335	1,308
90.04.2	Private operation of opera houses, theater and concert halls, etc.	228	228	217	208	206	202
	Submarket total	13,723	13,894	13,796	13,811	13,759	13,834

→

Table 7.6: Number of companies in the culture and creative industries according to submarkets and categories of economic activity ("WZ") from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
2. Book market							
18.14	Bookbinders, etc.	1,041	1,010	993	961	909	882
47.61	Retail sale of books	4,195	4,137	4,038	3,896	3,803	3,724
47.79.2	Antique books	459	448	429	428	414	402
58.11	Book publishers	2,220	2,243	2,209	2,170	2,117	2,117
74.30.1	Self-employed translators	1,625	1,718	1,811	1,884	1,974	2,065
90.03.2	Self-employed writers	6,941	7,146	7,348	7,472	7,581	7,777
	Submarket total	**16,481**	**16,702**	**16,828**	**16,811**	**16,798**	**16,967**
3. Art market							
47.78.3	Retail sale of art, etc.	1,712	1,685	1,632	1,560	1,469	1,429
47.79.1	Retail sale of antiques	2,115	2,041	2,007	1,949	1,949	1,889
90.03.3	Own-account visual artists	8,814	8,932	8,892	9,010	9,010	9,081
91.02	Museum shops etc.	823	764	672	634	634	567
	Submarket total	**13,464**	**13,422**	**13,203**	**13,153**	**13,062**	**12,966**
4. Film industry							
47.63	Retail sale of music and video recordings, etc.	282	306	319	333	353	373
59.11	Motion picture, video and TV program production	5,253	5,118	4,988	4,894	4,567	4,438
59.12	Reworking/other film-making technology	767	851	861	856	774	827
59.13	Motion picture, video and TV programmer distribution	865	792	711	654	576	502
59.14	Movie theaters	878	865	843	849	834	820
77.22	Video shops	1,201	1,087	969	864	753	639
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	8,710	9,180	9,591	9,990	10,410	10,855
	Submarket total	**17,956**	**18,199**	**18,282**	**18,440**	**18,267**	**18,453**
5. Broadcasting industry							
60.10	Radio promoters	262	255	255	262	262	259
60.20	TV promoters	88	91	89	94	89	91
90.03.5	Own-account journalists and press photographers	17,401	17,782	17,810	17,803	17,723	17,959
	Submarket total	**17,751**	**18,128**	**18,154**	**18,159**	**18,074**	**18,309**
6. Performing arts market							
85.52	Art lessons/dance schools	2,080	2,105	2,111	2,147	2,204	2,224
90.01.1	Theater ensembles	124	128	131	133	142	146
90.01.3	Own-account performers and circus groups	573	546	550	584	588	576
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	8,710	9,180	9,591	9,990	10,410	10,855
90.02	Support activities to performing arts	2,109	2,249	2,395	2,471	2,429	2,564
90.04.1	Theater/concert promoters	1,400	1,378	1,337	1,325	1,335	1,308
90.04.2	Private operation of opera houses, theater and concert halls, etc.	228	228	217	208	206	202
90.04.3	Variety shows and small theaters	178	168	165	146	159	150
	Submarket total	**15,402**	**15,982**	**16,497**	**17,004**	**17,473**	**18,026**

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Table 7.6: Number of companies in the culture and creative industries according to submarkets and categories of economic activity ("WZ") from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
7. Design industry							
32.12	Manufacture of jewelry and related articles	3,706	3,661	3,603	3,477	3,424	3,367
71.11.2	Interior decorating offices	3,185	3,577	3,862	3,987	4,119	4,452
73.11	Advertising agencies (50% share)	17,125	16,702	16,096	15,408	14,761	14,256
74.10.1	Industrial, product and fashion designers	2,164	2,586	2,975	3,372	3,590	4,000
74.10.2	Graphics and communication design	7,269	8,725	10,054	11,100	12,425	13,802
74.10.3	Interior decorators	7,679	7,773	7,303	6,898	6,661	6,536
74.20.1	Own-account photographers	8,983	9,415	9,783	10,212	10,644	11,057
	Submarket total	**50,111**	**52,439**	**53,676**	**54,454**	**55,624**	**57,469**
8. Architecture market							
71.11.1	Architects for building construction	27,587	27,554	27,137	26,465	26,084	25,872
71.11.2	Interior decorating offices	3,185	3,577	3,862	3,987	4,119	4,452
71.11.3	Consulting architectural activities in town, city and regional planning	4,828	4,990	5,088	5,050	5,083	5,206
71.11.4	Consulting architectural activities in landscape architecture	3,088	3,108	3,156	3,168	3,179	3,207
90.03.4	Own-account restorers	1,471	1,473	1,519	1,535	1,575	1,592
	Submarket total	**40,159**	**40,702**	**40,762**	**40,205**	**40,040**	**40,328**
9. Press market							
47.62	Retail sale of magazines and newspapers	9,219	8,891	8,563	8,208	8,000	7,669
58.12	Publishing of directories and mailing lists	200	217	211	212	214	223
58.13	Newspaper publishing	829	826	845	849	835	839
58.14	Magazine publishing	1,782	1,741	1,722	1,689	1,643	1,609
58.19	Other publishing activities (excluding software)	3,144	3,053	3,002	2,906	2,866	2,787
63.91	News agency activities	989	988	978	890	838	826
90.03.5	Own-account journalists and press photographers	17,401	17,782	17,810	17,803	17,723	17,959
	Submarket total	**33,564**	**33,498**	**33,131**	**32,557**	**32,119**	**31,912**
10. Advertising market							
73.11	Advertising agencies/Advertising design	34,250	33,404	32,191	30,815	29,521	28,512
73.12	Media representation	1,080	1,173	1,257	1,292	1,334	1,418
	Submarket total	**35,330**	**34,577**	**33,448**	**32,107**	**30,855**	**29,930**
11. Software and games industry							
58.21	Publishing of computer games	354	336	326	295	283	266
58.29	Other software publishing	474	534	529	543	544	580
62.01.1	Web-page design and programming	8,256	9,037	9,603	10,073	10,611	11,296
62.01.9	Other software development	19,172	20,165	21,042	21,919	22,638	23,585
63.12	Web portals	271	341	415	535	649	725
	Submarket total	**28,527**	**30,413**	**31,915**	**33,365**	**34,725**	**36,452**

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Table 7.6: Number of companies in the culture and creative industries according to submarkets and categories of economic activity (“WZ”) from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
12. Other							
32.11	Striking of coins	54	54	53	50	45	44
32.13	Manufacturing of imitation jewelry	289	304	303	305	318	327
74.30.2	Own-account interpreters	466	466	428	413	378	365
74.20.2	Photographic laboratories	6,237	6,456	6,547	6,637	6,638	6,806
91.01	Libraries and archives	100	101	81	80	79	74
91.03	Operation of historical sites and buildings and similar visitor attractions	95	95	92	87	90	89
91.04	Botanical and zoological gardens and nature reserves	265	260	247	240	227	219
	Submarket total	**7,506**	**7,736**	**7,751**	**7,812**	**7,775**	**7,924**
Total, including double counts		289,974	295,692	297,442	297,877	298,570	302,569
Duplicate categories of economic activity		50,440	51,402	51,627	51,525	51,336	51,970
Culture and creative industries (excluding double counts)		**239,534**	**244,290**	**245,816**	**246,353**	**247,235**	**250,600**
Contribution of CCI to overall economy		*7.57 %*	*7.60 %*	*7.56 %*	*7.60 %*	*7.63 %*	*7.64 %*

Note: * Data for 2015 estimated, based on previous year’s developments and economic statistics. Minimal deviations in the submarket totals or overall totals due to rounding.

Source: Value-added tax statistics, Destatis 2016b; ZEW’s own computations

Table 7.7: Turnover (in millions of euros) in the culture and creative industries according to submarkets and categories of economic activity (“WZ”) from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
1. Music industry							
32.20	Manufacture of musical instruments	551	579	592	616	611	634
47.59.3	Retail sale of musical instruments, etc.	1,175	1,207	1,245	1,187	1,227	1,252
47.63	Retail sale of music and video recordings, etc.	126	140	158	155	154	168
59.20.1	Recording studios, etc.	109	125	134	126	119	130
59.20.2	Audio media publishers	989	1,016	983	866	829	823
59.20.3	Music publishers	549	571	918	1,675	1,666	1,859
90.01.2	Music/dance ensembles	210	239	233	228	209	225
90.02	Support activities to performing arts	402	440	461	501	550	584
90.03.1	Own-account composers, etc.	261	274	283	275	308	318
90.04.1	Theater/concert promoters	1,509	1,644	1,639	1,597	1,766	1,842
90.04.2	Private operation of opera houses, theater and concert halls, etc.	389	403	453	447	456	479
	Submarket total	**6,270**	**6,639**	**7,099**	**7,674**	**7,896**	**8,313**

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Table 7.7: Turnover (in millions of euros) in the culture and creative industries according to submarkets and categories of economic activity ("WZ") from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
2. Book market							
18.14	Bookbinders, etc.	836	871	805	786	733	733
47.61	Retail sale of books	3,600	3,506	3,551	3,451	3,558	3,505
47.79.2	Antique books	72	70	65	63	56	53
58.11	Book publishers	8,848	8,945	8,754	8,581	8,480	8,464
74.30.1	Self-employed translators	274	295	287	278	293	303
90.03.2	Self-employed writers	552	568	570	578	566	577
	Submarket total	**14,182**	**14,255**	**14,032**	**13,737**	**13,686**	**13,634**
3. Art market							
47.78.3	Retail sale of art, etc.	660	742	707	729	619	659
47.79.1	Retail sale of antiques	404	432	416	381	324	333
90.03.3	Own-account visual artists	750	753	765	766	770	775
91.02	Museum shops etc.	518	414	428	416	378	319
	Submarket total	**2,332**	**2,341**	**2,316**	**2,292**	**2,091**	**2,086**
4. Film industry							
47.63	Retail sale of music and video recordings, etc.	126	140	158	155	154	168
59.11	Motion picture, video and TV program production	4,489	4,458	4,444	4,418	4,664	4,639
59.12	Reworking/other film-making technology	153	164	181	240	210	228
59.13	Motion picture, video and TV programmer distribution	1,815	1,993	1,752	1,569	1,572	1,588
59.14	Movie theaters	1,276	1,419	1,527	1,524	1,488	1,606
77.22	Video shops	315	302	296	261	277	263
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	752	806	870	892	964	1,018
	Submarket total	**8,925**	**9,283**	**9,228**	**9,060**	**9,328**	**9,509**
5. Broadcasting industry							
60.10	Radio promoters	965	962	969	981	933	935
60.20	TV promoters	5,487	5,686	6,135	6,747	7,238	7,553
90.03.5	Own-account journalists and press photographers	1,219	1,258	1,223	1,213	1,206	1,218
	Submarket total	**7,671**	**7,905**	**8,327**	**8,942**	**9,378**	**9,707**
6. Performing arts market							
85.52	Art lessons/dance schools	239	252	265	272	275	287
90.01.1	Theater ensembles	54	55	81	91	93	102
90.01.3	Own-account performers and circus groups	55	60	57	79	72	76
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	752	806	870	892	964	1,018
90.02	Support activities to performing arts	402	440	461	501	550	584
90.04.1	Theater/concert promoters	1,509	1,644	1,639	1,597	1,766	1,842
90.04.2	Private operation of opera houses, theater and concert halls, etc.	389	403	453	447	456	479
90.04.3	Variety shows and small theaters	78	82	84	91	86	90
	Submarket total	**3,478**	**3,742**	**3,909**	**3,971**	**4,262**	**4,477**

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Table 7.7: Turnover (in millions of euros) in the culture and creative industries according to submarkets and categories of economic activity (“WZ”) from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
7. Design industry							
32.12	Manufacture of jewelry and related articles	2,531	2,686	2,780	2,336	2,181	2,258
71.11.2	Interior decorating offices	485	594	634	669	727	807
73.11	Advertising agencies (50% share)	12,112	11,704	11,609	11,703	11,868	11,604
74.10.1	Industrial, product and fashion designers	327	419	475	544	599	677
74.10.2	Graphics and communication design	627	749	856	954	1,078	1,194
74.10.3	Interior decorators	981	1,040	972	922	922	932
74.20.1	Own-account photographers	1,179	1,160	1,209	1,210	1,191	1,195
	Submarket total	**18,243**	**18,353**	**18,535**	**18,338**	**18,566**	**18,667**
8. Architecture market							
71.11.1	Architects for building construction	5,765	6,126	6,117	6,316	6,569	6,803
71.11.2	Interior decorating offices	485	594	634	669	727	807
71.11.3	Consulting architectural activities in town, city and regional planning	1,066	1,239	1,288	1,347	1,389	1,513
71.11.4	Consulting architectural activities in landscape architecture	543	565	586	603	658	679
90.03.4	Own-account restorers	171	183	188	196	211	221
	Submarket total	**8,031**	**8,708**	**8,813**	**9,130**	**9,554**	**10,023**
9. Press market							
47.62	Retail sale of magazines and newspapers	3,351	3,381	3,422	3,303	3,275	3,294
58.12	Publishing of directories and mailing lists	1,415	1,762	1,875	1,825	1,706	1,943
58.13	Newspaper publishing	11,183	11,501	11,781	11,396	10,595	10,831
58.14	Magazine publishing	9,933	9,829	9,934	9,742	9,768	9,719
58.19	Other publishing activities (excluding software)	3,785	3,458	3,197	3,120	3,622	3,340
63.91	News agency activities	513	522	497	466	485	480
90.03.5	Own-account journalists and press photographers	1,219	1,258	1,223	1,213	1,206	1,218
	Submarket total	**31,398**	**31,711**	**31,931**	**31,065**	**30,657**	**30,824**
10. Advertising market							
73.11	Advertising agencies/Advertising design	24,223	23,407	23,217	23,406	23,737	23,209
73.12	Media representation	1,491	1,522	1,748	1,769	2,394	2,482
	Submarket total	**25,714**	**24,929**	**24,965**	**25,175**	**26,130**	**25,691**
11. Software and games industry							
58.21	Publishing of computer games	3,040	2,327	1,743	1,395	336	312
58.29	Other software publishing	429	504	396	425	424	439
62.01.1	Web-page design and programming	2,732	3,055	3,179	3,208	3,523	3,757
62.01.9	Other software development	19,818	21,997	23,663	23,509	26,489	28,281
63.12	Web portals	477	559	661	881	847	949
	Submarket total	**26,496**	**28,442**	**29,642**	**29,418**	**31,619**	**33,739**

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Table 7.7: Turnover (in millions of euros) in the culture and creative industries according to submarkets and categories of economic activity ("WZ") from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
12. Other							
32.11	Striking of coins	118	159	147	160	109	131
32.13	Manufacturing of imitation jewelry	125	128	117	124	131	130
74.30.2	Own-account interpreters	518	503	449	372	235	202
74.20.2	Photographic laboratories	462	495	509	520	536	561
91.01	Libraries and archives	66	48	43	44	49	37
91.03	Operation of historical sites and buildings and similar visitor attractions	32	36	35	34	36	38
91.04	Botanical and zoological gardens and nature reserves	267	283	288	277	323	332
	Submarket total	1,588	1,652	1,587	1,531	1,418	1,431
Total, including double counts		154,327	157,960	160,385	160,332	164,586	168,103
Duplicate categories of economic activity		16,993	16,990	17,047	17,178	17,691	17,720
Culture and creative industries (excluding double counts)		**137,333**	**140,970**	**143,338**	**143,155**	**146,895**	**150,383**
Contribution of CCI to overall economy		*2.62%*	*2.48%*	*2.49%*	*2.48%*	*2.50%*	*2.47%*

Note: *Data for 2015 estimated, based on previous year's developments and economic statistics. Minimal deviations in the submarket totals or overall totals due to rounding.

Source: Value-added tax statistics, Destatis 2016b; ZEW's own computations

Table 7.8: Number of core employees in the culture and creative industries according to submarkets and categories of economic activity from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
1. Music industry							
32.20	Manufacture of musical instruments	6,396	6,300	6,378	6,339	6,263	6,317
47.59.3	Retail sale of musical instruments, etc.	6,169	6,232	6,291	6,241	6,105	6,063
47.63	Retail sale of music and video recordings, etc.	1,662	1,627	1,590	1,328	1,265	1,232
59.20.1	Recording studios, etc.	1,403	1,448	1,513	1,552	1,556	1,586
59.20.2	Audio media publishers	2,549	2,666	2,585	1,891	1,776	1,818
59.20.3	Music publishers	3,199	3,095	2,693	2,717	3,224	3,247
90.01.2	Music/dance ensembles	6,811	6,312	5,792	5,789	5,814	5,683
90.02	Support activities to performing arts	5,828	6,145	6,621	6,720	6,948	7,585
90.03.1	Own-account composers, etc.	2,818	2,864	2,882	2,933	2,944	3,015
90.04.1	Theater/concert promoters	6,364	6,385	6,591	8,419	8,262	8,096
90.04.2	Private operation of opera houses, theater and concert halls, etc.	3,491	3,553	3,596	3,565	3,631	3,625
	Submarket total	46,690	46,627	46,532	47,494	47,788	48,267

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Table 7.8: Number of people employed in the culture and creative industries according to submarkets and categories of economic activity from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
2. Book market							
18.14	Bookbinders, etc.	11,365	10,895	10,749	10,114	9,923	9,537
47.61	Retail sale of books	27,923	29,938	29,151	28,523	26,560	23,640
47.79.2	Antique books	775	765	752	767	741	714
58.11	Book publishers	24,803	25,418	25,261	25,425	24,891	24,652
74.30.1	Self-employed translators	4,692	4,960	5,160	5,417	5,707	6,001
90.03.2	Self-employed writers	7,292	7,522	7,735	7,912	8,093	8,378
	Submarket total	**76,850**	**79,498**	**78,808**	**78,158**	**75,915**	**72,922**
3. Art market							
47.78.3	Retail sale of art, etc.	3,539	3,310	3,289	3,181	3,067	3,103
47.79.1	Retail sale of antiques	3,437	3,399	3,423	3,360	3,270	3,118
91.02	Museum shops etc.	2,169	2,096	2,034	1,984	1,891	1,800
90.03.3	Own-account visual artists	10,015	10,137	10,164	10,264	10,286	10,367
	Submarket total	**19,160**	**18,943**	**18,910**	**18,788**	**18,514**	**18,388**
4. Film industry							
47.63	Retail sale of music and video recordings, etc.	1,662	1,627	1,590	1,328	1,265	1,232
59.11	Motion picture, video and TV program production	25,491	25,502	26,109	25,759	26,282	26,524
59.12	Reworking/other film-making technology	5,384	5,576	4,999	4,901	4,915	4,970
59.13	Motion picture, video and TV program distribution	3,291	3,182	2,946	2,954	2,895	2,662
59.14	Movie theaters	8,581	8,691	8,696	8,813	8,592	9,561
77.22	Video shops	3,608	3,445	3,114	2,743	2,425	2,192
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	9,263	9,717	10,173	10,584	11,042	11,546
	Submarket total	**57,280**	**57,740**	**57,627**	**57,082**	**57,416**	**58,686**
5. Broadcasting industry							
60.10	Radio promoters	13,601	13,741	13,437	14,028	14,230	15,071
60.20	TV promoters	7,007	7,305	7,718	8,661	8,879	8,714
90.03.5	Own-account journalists and press photographers	18,273	18,644	18,712	18,662	18,579	18,821
	Submarket total	**38,881**	**39,690**	**39,867**	**41,351**	**41,689**	**42,606**
6. Performing arts market							
85.52	Art lessons/dance schools	4,708	4,913	5,153	5,386	5,591	5,876
90.01.1	Theater ensembles	1,340	1,214	1,214	1,056	1,056	1,060
90.01.3	Own-account performers and circus groups	1,286	1,262	1,106	1,194	1,222	1,209
90.01.4	Own-account stage, motion picture, radio and TV artists, etc	9,263	9,717	10,173	10,584	11,042	11,546
90.02	Support activities to performing arts	5,828	6,145	6,621	6,720	6,948	7,585
90.04.1	Theater/concert promoters	6,364	6,385	6,591	8,419	8,262	8,096
90.04.2	Private operation of opera houses, theater and concert halls, etc.	3,491	3,553	3,596	3,565	3,631	3,625
90.04.3	Variety shows and small theaters	940	923	929	965	1,048	1,051
	Submarket total	**33,220**	**34,112**	**35,383**	**37,889**	**38,800**	**40,049**

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Table 7.8: Number of people employed in the culture and creative industries according to submarkets and categories of economic activity from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
7. Design industry							
32.12	Manufacture of jewelry and related articles	13,847	11,725	11,591	11,396	11,323	11,243
71.11.2	Interior decorating offices	4,743	5,399	5,858	6,376	6,595	7,083
73.11	Advertising agencies (50% share)	64,754	65,542	65,960	65,575	66,102	66,698
74.10.1	Industrial, product and fashion designers	4,247	4,871	5,641	6,549	7,126	8,194
74.10.2	Graphics and communication design	10,338	12,254	14,242	15,853	17,566	19,344
74.10.3	Interior decorators	10,481	10,669	10,153	9,828	9,606	9,642
74.20.1	Own-account photographers	17,444	17,955	18,295	18,675	18,922	19,406
	Submarket total	**125,854**	**128,415**	**131,740**	**134,252**	**137,240**	**141,610**
8. Architecture market							
71.11.1	Architects for building construction	75,298	77,324	79,464	81,299	83,455	86,631
71.11.2	Interior decorating offices	4,743	5,399	5,858	6,376	6,595	7,083
71.11.3	Consulting architectural activities in town, city and regional planning	11,600	12,031	11,799	11,721	11,650	12,062
71.11.4	Consulting architectural activities in landscape architecture	7,314	7,393	7,617	7,821	8,030	8,330
90.03.4	Own-account restorers	2,934	2,932	2,999	2,936	3,032	3,043
	Submarket total	**101,889**	**105,079**	**107,737**	**110,153**	**112,762**	**117,148**
9. Press market							
47.62	Retail sale of magazines and newspapers	29,025	28,803	28,619	27,777	27,430	27,063
58.12	Publishing of directories and mailing lists	5,049	4,353	4,283	4,074	3,831	3,660
58.13	Newspaper publishing	49,514	47,736	47,623	47,014	45,915	44,740
58.14	Magazine publishing	41,340	40,657	38,775	38,109	36,211	34,826
58.19	Other publishing activities (excluding software)	11,264	11,545	11,197	11,061	10,767	10,069
63.91	News agency activities	8,829	9,345	9,654	9,385	9,650	10,770
90.03.5	Own-account journalists and press photographers	18,273	18,644	18,712	18,662	18,579	18,821
	Submarket total	**163,294**	**161,083**	**158,863**	**156,082**	**152,383**	**149,949**
10. Advertising market							
73.11	Advertising agencies/Advertising design	129,508	131,084	131,920	131,150	132,204	133,397
73.12	Media representation	7,455	7,786	8,468	9,372	10,745	12,159
	Submarket total	**136,963**	**138,870**	**140,388**	**140,522**	**142,949**	**145,555**
11. Software and games industry							
58.21	Publishing of computer games	1,517	1,826	1,961	1,580	1,701	1,750
58.29	Other software publishing	15,406	17,920	20,662	21,998	23,133	25,446
62.01.1	Web-page design and programming	29,470	34,531	38,320	40,187	41,640	45,194
62.01.9	Other software development	201,736	208,986	231,472	248,438	260,498	272,985
63.12	Web portals	3,547	5,142	6,942	8,819	10,903	13,892
	Submarket total	**251,676**	**268,405**	**299,357**	**321,022**	**337,875**	**359,267**

→

Table 7.8: Number of people employed in the culture and creative industries according to submarkets and categories of economic activity from 2010 to 2015*

Submarket/Category of economic activity WZ-2008		2010	2011	2012	2013	2014	2015*
12. Other							
32.11	Striking of coins	468	482	511	518	489	539
32.13	Manufacturing of imitation jewelry	857	903	891	876	762	754
74.20.2	Photographic laboratories	10,816	10,853	11,062	11,232	10,964	11,039
74.30.2	Own-account interpreters	874	940	1,008	992	939	899
91.01	Libraries and archives	991	991	928	895	931	927
91.03	Operation of historical sites and buildings and similar visitor attractions	210	223	226	223	223	222
91.04	Botanical and zoological gardens and nature reserves	774	792	808	795	795	796
	Submarket total	14,991	15,184	15,434	15,532	15,103	15,176
Total, including double counts		1,066,748	1,093,644	1,130,646	1,158,326	1,178,434	1,209,623
Duplicate categories of economic activity		114,378	117,012	119,101	121,229	122,424	124,687
Culture and creative industries (excluding double counts)		**952,370**	**976,633**	**1,011,544**	**1,037,096**	**1,056,010**	**1,084,936**
Contribution of CCI to overall economy		*3.06 %*	*3.07 %*	*3.11 %*	*3.16 %*	*3.16 %*	*3.19 %*

Note: * Data for 2015 estimated (number of self-employed), based on previous year's developments and economic statistics Minimal deviations in the submarket totals or overall totals due to rounding.

Source: Turnover tax statistics, Destatis, 2016b, employment statistics, Federal Employment Agency 2016; ZEW's own computations

7.2 Bibliography

Bundesagentur für Arbeit (Federal Employment Agency) (2016), Employment statistics, various years, Nuremberg.

Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy) (2016), Monitoring of Selected Economic Key Data on the Culture and Creative Industries 2014, short version, Berlin.

Bundesministerium für Wirtschaft und Technologie (Federal Ministry for Economic Affairs and Technology) (2009a), Endbericht Kultur- und Kreativwirtschaft: Ermittlung der gemeinsamen charakteristischen Definitionselemente der heterogenen Teilbereiche der „Kulturwirtschaft“ zur Bestimmung ihrer Perspektiven aus volkswirtschaftlicher Sicht, Köln, Bremen, Berlin.

Bundesministerium für Wirtschaft und Technologie (Federal Ministry for Economic Affairs and Technology) (2009b), Gesamtwirtschaftliche Perspektiven der Kultur- und Kreativwirtschaft in Deutschland, Forschungsgutachten, Berlin.

Destatis/Statistisches Bundesamt (2016a), Microcensus, various years, Wiesbaden.

Destatis/Statistisches Bundesamt (2016b), Value-added tax statistics, various years, Wiesbaden.

Destatis/Statistisches Bundesamt (2016c), National accounts, Gross Domestic product calculation, Detailed annual results, 7 September 2015, Wiesbaden.

OECD and Eurostat (2005), Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3. Auflage, Paris.

Wirtschaftsministerkonferenz (Conference of Economic Ministers) (2009), Leitfaden zur Erstellung einer statistischen Datengrundlage für die Kulturwirtschaft und eine länderübergreifende Auswertung kulturwirtschaftlicher Daten, Köln.

www.kultur-kreativ-wirtschaft.de