

**Institut für Mittelstandsforschung  
Bonn**

**SMEs in Germany  
Facts and Figures  
2004**

von

Brigitte Günterberg und Gunter Kayser

IfM-Materialien Nr. 161



Materialien

## **Impressum**

### **Herausgeber**

Institut für Mittelstandsforschung Bonn  
Maximilianstr. 20, 53111 Bonn  
Telefon + 49/(0)228/72997-0  
Telefax + 49/(0)228/72997-34  
[www.ifm-bonn.org](http://www.ifm-bonn.org)

**Ansprechpartner**  
Brigitte Günterberg

**IfM-Materialien Nr. 161**  
ISSN 2193-1852 (Internet)  
ISSN 2193-1844 (Print)

Bonn, 2004

Das IfM Bonn ist eine Stiftung des privaten Rechts.

Gefördert durch:



aufgrund eines Beschlusses  
des Deutschen Bundestages

Ministerium für Wirtschaft, Energie,  
Industrie, Mittelstand und Handwerk  
des Landes Nordrhein-Westfalen



# CONTENT

	page
Figures	II
Tables	III
I. "MITTELSTAND" IN THE GERMAN ECONOMY - A DEFINITION	1
1. Qualitative Aspects	1
2. Quantitative Aspects	2
3. The Pragmatic Definition	3
4. The Economic Weight of the German "Mittelstand"	5
II. STATISTICAL DESCRIPTION OF THE GERMAN "MITTELSTAND"	5
1. Number of Enterprises and Turnover by Size-Classes	6
2. Development of Self-Employment, Enterprise Start-Ups and Closures	13
3. "Mittelstand" and Employment	21
III. SPECIAL ASPECTS	24
1. Labour Intensive Production	24
2. High Relevance for Professional Training	26
3. SME and Internationalization	29
4. Research and Development in SMEs	30
APPENDIX	32

**Figures**

Figure 1: Share of SMEs in number of enterprises and turnover by economic sections, Germany, 2002	8
Figure 2: SMEs by legal forms, Germany, 2002	12
Figure 3: Enterprise start-ups and liquidations, Germany, 1991 - 2003	16
Figure 4: Intensity of enterprise start-ups and liquidations, Germany, 1991 - 2003	17
Figure 5: Investment intensity and investment ratio in production industries, Germany, 2002	25
Figure 6: Organisational structure of the IfM Bonn 2003	33

## Tables

Table 1:	Enterprise- and turnover-size structure for selected economic sections, Germany, 2002	10
Table 2:	Self-employed persons and self-employed ratio, Germany 1991 - 2003 (excluding agricultural sector)	15
Table 3:	Business insolvencies by economic sections, Germany, 1994 - 2003	18
Table 4:	Rate of business insolvencies by economic sections, Germany, 1994 - 2003	19
Table 5:	Business insolvencies by enterprise age, legal form and enterprise size, Germany, 2003	20
Table 6:	Size structure of establishments and employment, Germany, 1999 - 2003	22
Table 7:	Employment by economic sections and size-classes, Germany, 2003	23
Table 8:	Vocational trainees and training-ratio, Germany, 1999 - 2003	27
Table 9:	Structure of vocational trainees by economic sections and employment size-classes, Germany, 2003	28
Table 10:	Exporting enterprises and their export based turnover, Germany, 2002 - absolute figures and export-ratios	29
Table 11:	R&D-expenditures of the business enterprise sector by employment size-classes, Germany, 1991 - 2001	30
Table 12:	R&D-expenditures of the business sector in relation to turnover by employment size-classes, Germany, 1991 - 2001	31
Table 13:	Share of R&D-personnel in overall employment by employment size-classes, Germany, 1991 - 2001	31



## **I. "MITTELSTAND" IN THE GERMAN ECONOMY – A DEFINITION**

In most countries the term "Small and Medium-Sized Enterprises" (SMEs) is in common use. In general this term is used to be defined by statistical figures. It means that part of the supply side of the economy, that consists out of enterprises which in relation to "Large Size Enterprises" (LSEs) are either small or medium. The definable border line between SMEs and LSEs is drawn above all by two variables, the number of employees and the annual turnover. In Germany the term "Mittelstand" instead of SMEs is in use. This term up to a certain degree is identical with the statistically oriented definition mentioned above, but it also comprises characteristics which hardly can be deduced from official statistics.

The German term "Mittelstand" relates to economic aspects as well as to social and psychological characteristics. It includes quantitative and qualitative features. This aspect of the definition is essential for the complete understanding of the behaviour, motives, conditions, peculiarities and impacts of an economic field, constituted by (economically and legally) independent entrepreneurs and businesses.

Deriving the "Mittelstand's" economic and social functions only from statistics therefore would neglect the facts that "Mittelstand" is an essential force in a dynamic, competitive and market oriented economy. By this "Mittelstand" is not only defined by size patterns but by characteristics like private ownership, freedom in decision making and contracting, individual responsibility of entrepreneurs for the success or failure of the own enterprise. Specially the soft facts constituting the qualitative part of the definition, require an adequate legislative frame concerning the legal protection of private property in an enterprise, the freedom of trade, stable financial environment and a reliable fiscal and economic policy.

### **1. Qualitative Aspects**

The central (qualitative) characteristic of the "Mittelstand" focuses at the coherence between enterprise (professional office resp.) and owner. This is crucial for the understanding of what "Mittelstand" means. The close connection between a person and an economic unit strongly influences the market behaviour and performance of privately owned SMEs and determines the social and political role of the "Mittelstand". Qualitative factors like

- identity between *ownership* and *personal responsibility* for the enterprise's activities
- identity of *ownership* and *personal liability* for the entrepreneur's and the enterprise's financial situation
- *personal responsibility* for the enterprise's success or failure and
- *personal relationship* between employer and employees

are responsible for the fact the "Mittelstand" is not only an economic but also an outstanding social factor.

Mostly the qualitative criteria dominate the overall enterprise's activities in such a degree that quantitative aspects for example size, sector or market share are of less importance. By these reasons even enterprises exceeding the size-classes of the statistically drawn limit - from a qualitative perspective - in many cases can be regarded as SMEs.

To finalise: The qualitative aspects of the "Mittelstand" influence the choice of the legal form of the enterprise as well as its way of financing, innovative behaviour, the number of products or offered services and the managerial attitudes to run the business.

## **2. Quantitative Aspects**

Bearing in mind the qualitative aspects described above, the term "Mittelstand", from the quantitative point of view, describes enterprises of all economic sectors as far as they do not exceed a certain size.

Different definitorial indicators have been discussed in the past, such as profit, fixed assets, balance sheet total, value added, number of employees or annual turnover. Each of these criteria needs to be discussed carefully before being applied for comparative studies. In general, other characteristics of the enterprise such as production method or market share could also be used as defining criteria. Yet, official statistics at least in Germany do not provide the data needed to quantify most of these criteria. Thus like in many other countries also in Germany a rather pragmatic approach is used in order to estimate and describe the number of enterprises by size-classes or to generate and compare empirical findings. In most cases sector, annual turnover and the number of employees are used as size-indicators.



Especially the sector of economic activity is of crucial importance for a statistical analysis of the SME-sector. Each economic sector is characterised by its own micro- and macro-economic specialities, for example the capital and/or labour intensity, the size of the relevant markets, the production technology, relationship to customers and suppliers etc. These additional variables must be taken under consideration when SMEs are analysed and compared. Regardless the indicators finally chosen, the quantitative definition of SMEs will always be a helpful approximation which makes the empirical analysis somewhat easier.

### 3. The Pragmatic Definition

Despite all methodological and theoretical objections, for a comprehensive statistical evaluation it is necessary to classify firms by their size. In some cases other variables such as economic sector, legal form, location, age of enterprise must also be taken into consideration.

In general, the Institut für Mittelstandsforschung Bonn (IfM Bonn; Institute for SME-Research Bonn, Germany) applies the following pattern of classification for its SME-related research projects:

#### Classification Scheme for Small and Medium-Sized Enterprises used by IfM Bonn

Size of Enterprise	Number of Employees	Turnover (€/Year)
small	up to 9	up to 1 Million
medium-sized	10 to 499	1 to 50 Million
large	500 and more	50 Million and more

© IfM Bonn

The European Union uses and recommends to the member states a definition that in one point differs from the definition which is still in use in Germany. This difference relates to the number of employees.

#### Classification Scheme for SMEs after the EU

Size of Enterprise	Number of Employees	Turnover (€/Year)
small	up to 49	up to 9 Million
medium-sized	50 to 249	9 to 50 Million
large	250 and more	more than 50 Million

© IfM Bonn

The EU definition also comprises elements concerning the enterprises annual balance sheet and the degree of partnerships or in other words the independency of the enterprise from holding companies.

In practise also in Germany the EU definition by employment size more and more replaces the traditional definition, at least in public support programs.

In May 2003 the European Commission has approved changes to the recommended EU definition of micro, small and medium-sized enterprises which is used to determine eligibility for national SME support schemes and EU-wide SME programs. These changes will apply from 1 January 2005.

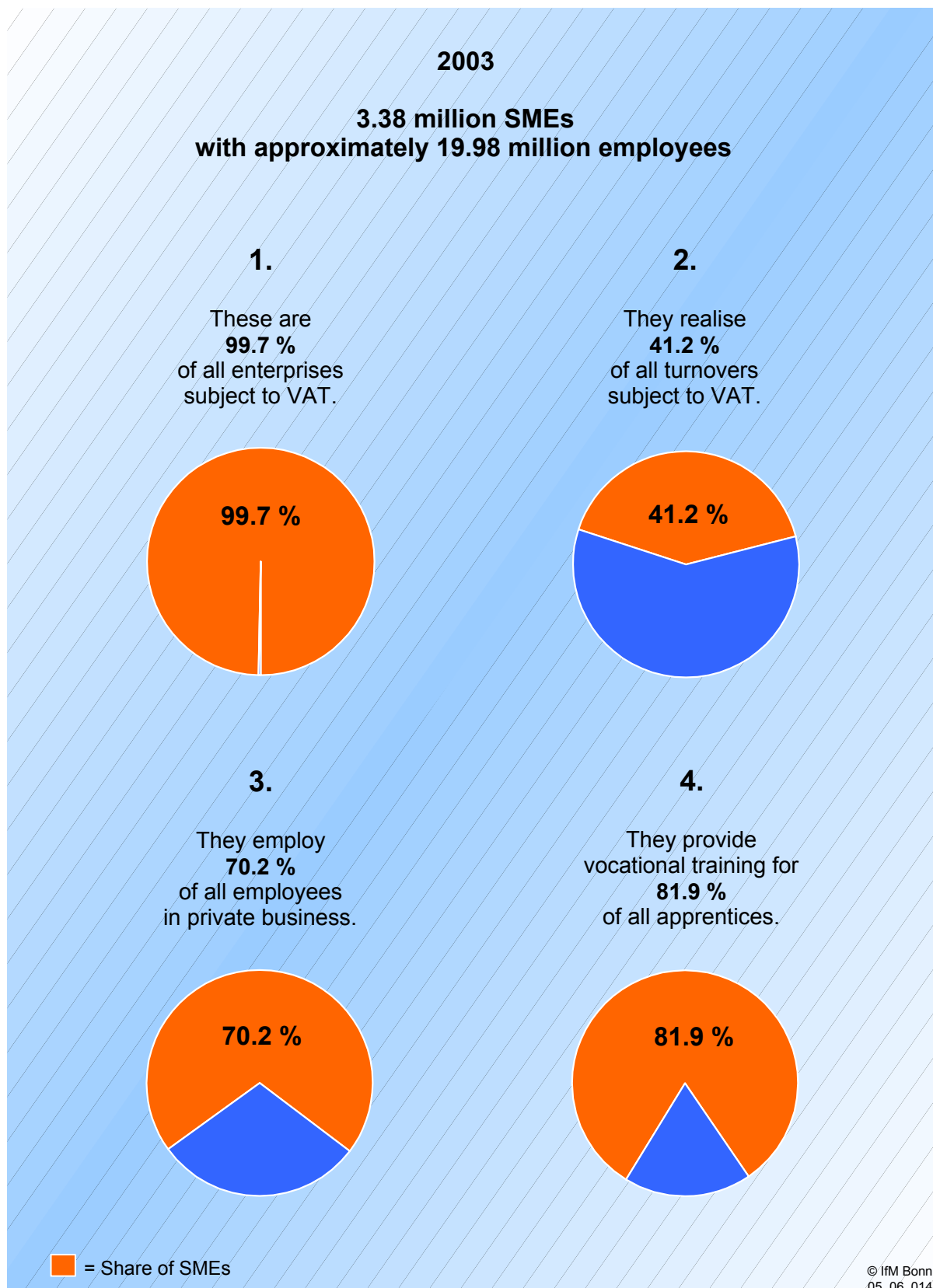
### **New Classification Scheme for SMEs after the EU (from 2005)**

Size of Enterprise	Number of Employees	Turnover (€/Year)	Balance sheet total (€/Year)
micro	up to 9	up to 2 Million	up to 2 Million
small	10 to 49	2 to 10 Million	2 to 10 Million
medium-sized	50 to 249	10 to 50 Million	10 to 43 Million
large	250 and more	more than 50 Million	more than 43 Million

© IfM Bonn

While it is compulsory to respect the staff headcount thresholds an SME has to satisfy either the turnover or the balance sheet ceiling and may exceed one of them without losing its status.

## 4. The Economic Weight of the German "Mittelstand"



## **II. STATISTICAL DESCRIPTION OF THE GERMAN "MITTELSTAND"**

### **1. Number of Enterprises and Turnover by Size-Classes**

The most important information source on enterprises and their turnover by size distribution is offered by the Statistics of Value Added Tax (VAT). Data used to be compiled in a two-year interval. Since 1997 they are published annually with a time-lag of two years. The data are supplied by the Financial Administration and subsequently elaborated and published by the Federal Statistical Office Germany.

Based on VAT-Statistics figure 1 illustrates the total number of SMEs of selected economic divisions and their turnover as percentage of the total number of enterprises and of the total turnover. Remarkably, the (quantitatively defined) "Mittelstand" tends to present lower shares in the manufacturing sector than in the other economic sections.

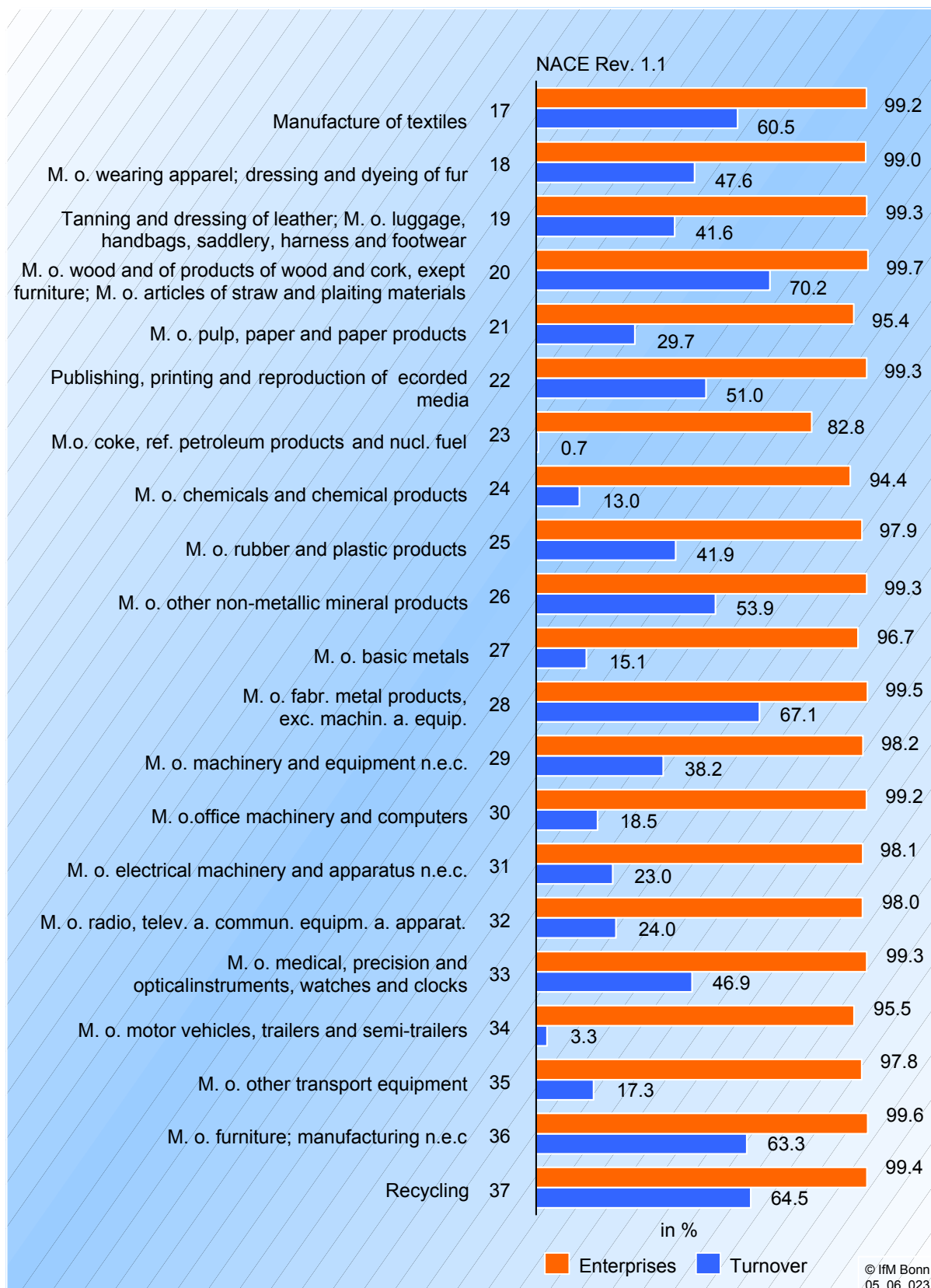
Table 1 provides some in depth informations about the size distribution of special relevant sections and the total number of enterprises and their turnover for 2002. The sections "agriculture, hunting and forestry", "fishing", "mining and quarrying", "electricity, gas and water supply", "public administration and defence, compulsory social security" and "education" are not explicitly mentioned. That is due to the fact that in these sections many numerical values are not to be disclosed and that most of the turnover in some of these sections is not subject to VAT.

Figure 2 illustrates the SMEs in Germany by their legal form. Nearly 70 per cent of all small and medium-sized enterprises are led as sole proprietorships meeting no formal or legal requirements. As far as they exceed a certain size they are obliged to register in a trade register which normally is necessary when the enterprise employs employees for which social security payments are obligatory. A sole proprietorship is the typical legal form for German SMEs of all sectors. Especially in "manufacturing" as well as in "wholesale and commission trade (except motor vehicles)" a large number of SMEs are constituted as limited liability companies (GmbH).

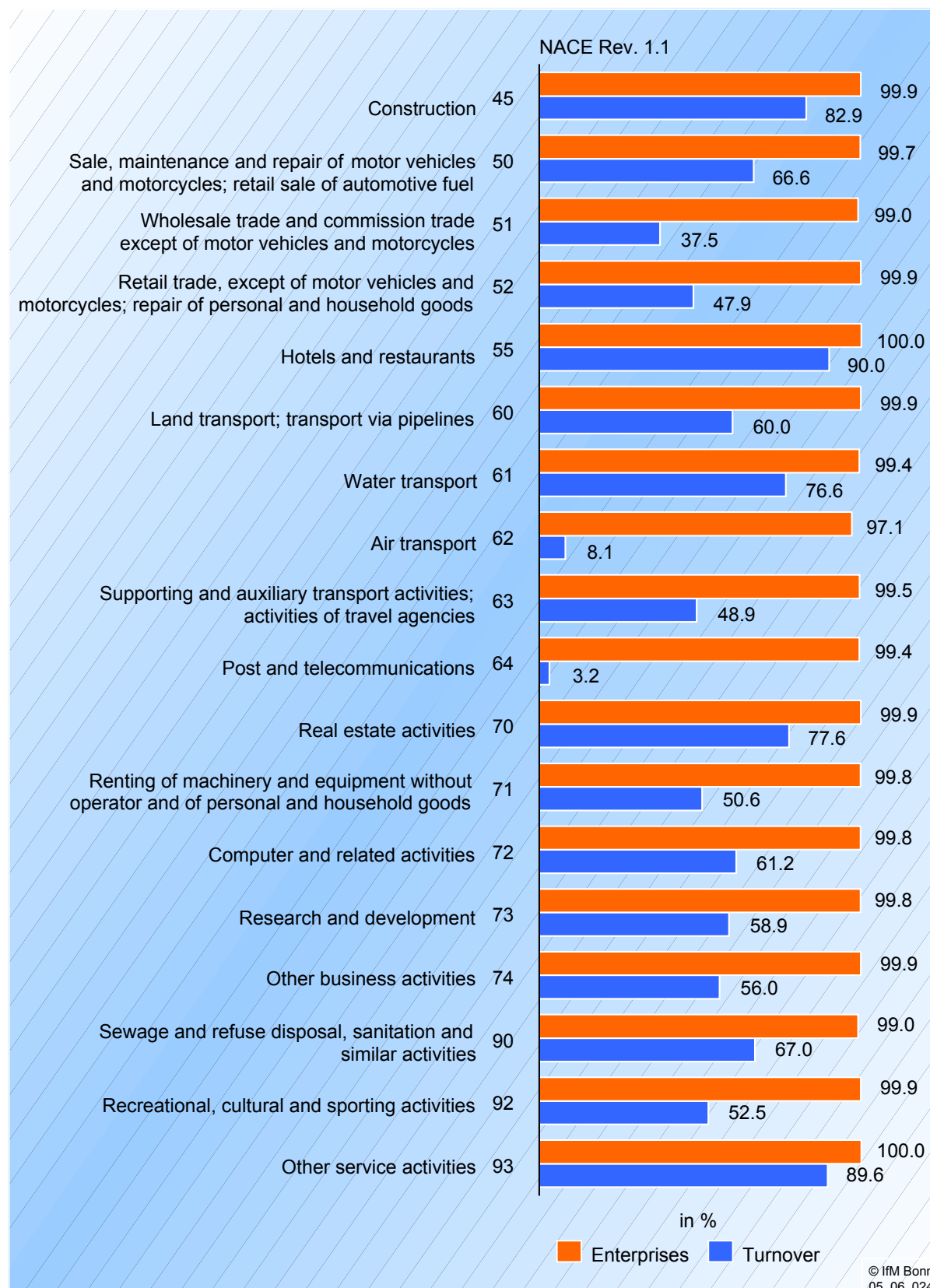
Next to the sole proprietorship, the limited liability companies represent the second most selected legal form for SMEs. In the case of an enterprise constituted as a limited liability however, the unity of risk and management may

not always exist, as the enterprise could be owned by a group of companies (bearing the entrepreneurial risk but not being involved in the daily management of the enterprise). Thus, an important (qualitative) criterion for the definition of an SME is missing. As a general rule, however, it can be assumed that the legal form of a limited liability is primarily chosen in order to restrict the financial risk of the involved owner-manager(s). This is to say that enterprises in the legal form of limited liabilities in most cases have to be regarded as classic SMEs; as long as they do not exceed the respective quantitative size-thresholds.

Figure 1: Share of SMEs in number of enterprises and turnover by economic sections, Germany, 2002



Continue Figure 1



Source: Federal Statistical Office Germany, VAT-Statistics 2002, Wiesbaden 2004; own calculations by IfM Bonn

Table 1: Enterprise- and turnover-size structure for selected economic sections,<sup>1)</sup> Germany, 2002

Enterprises with turnover from € ... to below ...	Sections A-O All economic sections				Section D Manufacturing			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	804 626	27.5	25 185.9	0.6	44 153	15.5	1 400.0	0.1
50 000 - 100 000	578 390	19.8	41 654.0	1.0	37 644	13.2	2 736.2	0.2
100 000 - 250 000	664 344	22.7	106 003.9	2.5	59 286	20.8	9 826.6	0.6
250 000 - 500 000	349 435	11.9	123 331.8	2.9	45 494	16.0	16 272.1	1.1
500 000 - 1 Mill.	229 728	7.8	161 249.7	3.8	34 682	12.2	24 431.1	1.6
1 Mill. - 2 Mill.	139 597	4.8	194 936.8	4.6	22 971	8.1	32 272.4	2.1
2 Mill. - 5 Mill.	90 936	3.1	279 699.0	6.6	18 995	6.7	59 754.1	3.9
5 Mill. - 10 Mill.	32 958	1.1	229 488.1	5.4	9 089	3.2	63 996.4	4.2
10 Mill. - 25 Mill.	20 990	0.7	322 505.2	7.6	6 778	2.4	105 858.1	7.0
25 Mill. - 50 Mill.	7 638	0.3	265 989.0	6.3	2 852	1.0	99 483.6	6.5
50 Mill. and more	7 928	0.3	2 502 518.8	58.8	3 176	1.1	1 105 231.6	72.7
<b>Total</b>	<b>2 926 570</b>	<b>100.0</b>	<b>4 252 562.3</b>	<b>100.0</b>	<b>285 120</b>	<b>100.0</b>	<b>1 521 262.2</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Section F Construction				Division G 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	62 577	19.6	2 023.0	1.0	16 248	15.4	518.2	0.3
50 000 - 100 000	56 510	17.7	4 096.5	2.1	14 527	13.8	1 057.1	0.6
100 000 - 250 000	78 696	24.7	12 878.5	6.6	21 661	20.5	3 561.5	2.0
250 000 - 500 000	53 479	16.8	19 034.7	9.7	15 710	14.9	5 639.1	3.1
500 000 - 1 Mill.	36 039	11.3	25 113.1	12.8	14 119	13.4	10 078.2	5.5
1 Mill. - 2 Mill.	18 032	5.7	24 846.9	12.7	10 323	9.8	14 464.0	8.0
2 Mill. - 5 Mill.	9 430	3.0	28 164.9	14.4	7 523	7.1	23 304.2	12.8
5 Mill. - 10 Mill.	2 536	0.8	17 386.1	8.9	2 893	2.7	20 129.6	11.1
10 Mill. - 25 Mill.	1 267	0.4	18 799.9	9.6	1 705	1.6	25 485.9	14.0
25 Mill. - 50 Mill.	284	0.1	9 763.0	5.0	483	0.5	16 782.3	9.2
50 Mill. and more	190	0.1	33 375.8	17.1	296	0.3	60 687.3	33.4
<b>Total</b>	<b>319 040</b>	<b>100.0</b>	<b>195 482.4</b>	<b>100.0</b>	<b>105 488</b>	<b>100.0</b>	<b>181 707.4</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Division G 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles				Division G 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	37 366	20.3	1 178.1	0.2	91 478	21.9	2 901.9	0.7
50 000 - 100 000	28 097	15.3	2 025.9	0.3	77 208	18.5	5 610.3	1.3
100 000 - 250 000	34 992	19.0	5 666.1	0.8	106 665	25.5	17 267.9	4.0
250 000 - 500 000	22 469	12.2	8 029.5	1.1	59 604	14.3	20 928.1	4.9
500 000 - 1 Mill.	18 761	10.2	13 365.9	1.8	38 669	9.2	27 313.7	6.4
1 Mill. - 2 Mill.	14 880	8.1	21 150.6	2.9	26 081	6.2	36 340.7	8.5
2 Mill. - 5 Mill.	13 223	7.2	41 824.4	5.8	12 996	3.1	38 466.3	9.0
5 Mill. - 10 Mill.	6 152	3.3	43 238.4	6.0	3 120	0.7	21 305.9	5.0
10 Mill. - 25 Mill.	4 645	2.5	72 072.5	10.0	1 359	0.3	20 625.3	4.8
25 Mill. - 50 Mill.	1 809	1.0	62 870.1	8.7	398	0.1	13 900.5	3.3
50 Mill. and more	1 780	1.0	452 684.0	62.5	544	0.1	222 510.6	52.1
<b>Total</b>	<b>184 174</b>	<b>100.0</b>	<b>724 105.5</b>	<b>100.0</b>	<b>418 122</b>	<b>100.0</b>	<b>427 171.3</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Section H Hotels and restaurants				Section I Transport, storage and communication			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	69 624	28.1	2 246.4	4.3	33 936	27.1	1 089.7	0.4
50 000 - 100 000	66 275	26.7	4 807.1	9.1	23 955	19.1	1 719.0	0.7
100 000 - 250 000	71 936	29.0	11 288.9	21.4	27 198	21.7	4 333.0	1.7
250 000 - 500 000	25 343	10.2	8 682.0	16.5	14 939	11.9	5 280.2	2.1
500 000 - 1 Mill.	9 183	3.7	6 232.1	11.8	10 684	8.5	7 534.6	3.0
1 Mill. - 2 Mill.	3 470	1.4	4 743.9	9.0	6 747	5.4	9 490.2	3.7
2 Mill. - 5 Mill.	1 540	0.6	4 575.9	8.7	4 694	3.7	14 563.7	5.7
5 Mill. - 10 Mill.	316	0.1	2 129.9	4.0	1 637	1.3	11 313.7	4.4
10 Mill. - 25 Mill.	117	0.0	1 717.1	3.3	933	0.7	14 146.3	5.5
25 Mill. - 50 Mill.	29	0.0	977.6	1.9	268	0.2	9 288.6	3.6
50 Mill. and more	28	0.0	5 249.2	10.0	287	0.2	176 617.6	69.2
<b>Total</b>	<b>247 861</b>	<b>100.0</b>	<b>52 650.0</b>	<b>100.0</b>	<b>125 278</b>	<b>100.0</b>	<b>255 376.6</b>	<b>100.0</b>

© IfM Bonn



Continue of table 1

Enterprises with turnover from € ... to below ...	Section J Financial intermediation				Division K 70 Real estate activities			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	6 572	42.0	200.5	0.6	110 978	43.5	3 305.8	2.8
50 000 - 100 000	3 461	22.1	243.7	0.7	52 236	20.5	3 708.0	3.1
100 000 - 250 000	2 612	16.7	401.0	1.2	44 079	17.3	6 874.6	5.8
250 000 - 500 000	1 130	7.2	397.5	1.2	18 848	7.4	6 628.3	5.6
500 000 - 1 Mill.	623	4.0	438.0	1.3	12 495	4.9	8 808.5	7.4
1 Mill. - 2 Mill.	455	2.9	637.5	1.9	8 162	3.2	11 413.5	9.6
2 Mill. - 5 Mill.	359	2.3	1 126.8	3.3	5 299	2.1	16 219.4	13.7
5 Mill. - 10 Mill.	187	1.2	1 319.1	3.9	1 616	0.6	11 313.8	9.5
10 Mill. - 25 Mill.	121	0.8	1 846.1	5.5	957	0.4	14 458.9	12.2
25 Mill. - 50 Mill.	56	0.4	1 942.3	5.8	276	0.1	9 454.4	8.0
50 Mill. and more	73	0.5	25 207.9	74.7	181	0.1	26 559.5	22.4
<b>Total</b>	<b>15 649</b>	<b>100.0</b>	<b>33 760.3</b>	<b>100.0</b>	<b>255 127</b>	<b>100.0</b>	<b>118 744.7</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Division K 71 Renting of machinery and equipment without operator and of personal and household goods				Division K 72 Computer and related activities			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	7 657	29.3	237.8	0.7	16 115	29.1	499.2	1.1
50 000 - 100 000	4 897	18.7	350.0	1.0	11 896	21.5	865.4	1.9
100 000 - 250 000	5 341	20.4	853.2	2.4	13 788	24.9	2 122.5	4.7
250 000 - 500 000	2 799	10.7	991.2	2.8	5 172	9.4	1 829.3	4.1
500 000 - 1 Mill.	2 127	8.1	1 501.2	4.2	3 587	6.5	2 516.5	5.6
1 Mill. - 2 Mill.	1 459	5.6	2 033.9	5.7	2 156	3.9	3 020.6	6.7
2 Mill. - 5 Mill.	1 123	4.3	3 533.4	9.9	1 517	2.7	4 701.0	10.4
5 Mill. - 10 Mill.	393	1.5	2 725.3	7.7	563	1.0	3 898.9	8.6
10 Mill. - 25 Mill.	184	0.7	2 763.1	7.8	314	0.6	4 828.5	10.7
25 Mill. - 50 Mill.	87	0.3	3 023.0	8.5	94	0.2	3 296.4	7.3
50 Mill. and more	63	0.2	17 580.9	49.4	95	0.2	17 519.0	38.8
<b>Total</b>	<b>26 130</b>	<b>100.0</b>	<b>35 593.0</b>	<b>100.0</b>	<b>55 297</b>	<b>100.0</b>	<b>45 097.1</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Division K 73 Research and development				Division K 74 Other business activities			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	2 488	33.3	77.0	1.3	144 210	32.3	4 501.7	1.6
50 000 - 100 000	1 589	21.3	113.8	1.9	97 481	21.8	6 980.5	2.5
100 000 - 250 000	1 662	22.3	257.3	4.4	102 409	22.9	16 014.9	5.6
250 000 - 500 000	643	8.6	226.4	3.9	46 557	10.4	16 396.3	5.8
500 000 - 1 Mill.	476	6.4	337.7	5.8	28 777	6.4	20 053.4	7.1
1 Mill. - 2 Mill.	262	3.5	367.6	6.3	14 871	3.3	20 601.0	7.3
2 Mill. - 5 Mill.	223	3.0	668.5	11.5	8 275	1.9	25 149.7	8.9
5 Mill. - 10 Mill.	56	0.8	375.9	6.4	2 391	0.5	16 380.0	5.8
10 Mill. - 25 Mill.	36	0.5	575.2	9.9	1 280	0.3	19 358.3	6.8
25 Mill. - 50 Mill.	12	0.2	437.9	7.5	394	0.1	13 660.7	4.8
50 Mill. and more	17	0.2	2 401.3	41.1	513	0.1	124 782.6	44.0
<b>Total</b>	<b>7 464</b>	<b>100.0</b>	<b>5 838.7</b>	<b>100.0</b>	<b>447 158</b>	<b>100.0</b>	<b>283 879.2</b>	<b>100.0</b>
Enterprises with turnover from € ... to below ...	Section N Health and social work				Section O Other community, social and personal service activities			
	Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>		Enterprises <sup>2)</sup>		Turnover <sup>3)</sup>	
	abs.	in %	in Mill. €	in %	abs.	in %	in Mill. €	in %
16 620 - 50 000	12 111	30.0	375.6	0.9	118 138	42.1	3 654.0	3.9
50 000 - 100 000	7 933	19.7	569.2	1.4	69 794	24.8	4 966.5	5.3
100 000 - 250 000	9 395	23.3	1 503.3	3.7	55 714	19.8	8 561.6	9.1
250 000 - 500 000	5 391	13.4	1 922.8	4.7	19 044	6.8	6 611.4	7.0
500 000 - 1 Mill.	3 180	7.9	2 182.6	5.3	9 353	3.3	6 478.8	6.9
1 Mill. - 2 Mill.	1 071	2.7	1 452.2	3.6	4 631	1.6	6 416.9	6.8
2 Mill. - 5 Mill.	548	1.4	1 682.6	4.1	2 507	0.9	7 716.8	8.2
5 Mill. - 10 Mill.	246	0.6	1 745.4	4.3	898	0.3	6 258.2	6.6
10 Mill. - 25 Mill.	181	0.4	2 956.4	7.2	504	0.2	7 590.2	8.0
25 Mill. - 50 Mill.	115	0.3	4 190.1	10.3	202	0.1	7 014.6	7.4
50 Mill. and more	141	0.3	22 243.7	54.5	158	0.1	29 288.2	31.0
<b>Total</b>	<b>40 312</b>	<b>100.0</b>	<b>40 823.8</b>	<b>100.0</b>	<b>280 943</b>	<b>100.0</b>	<b>94 557.2</b>	<b>100.0</b>

© IfM Bonn

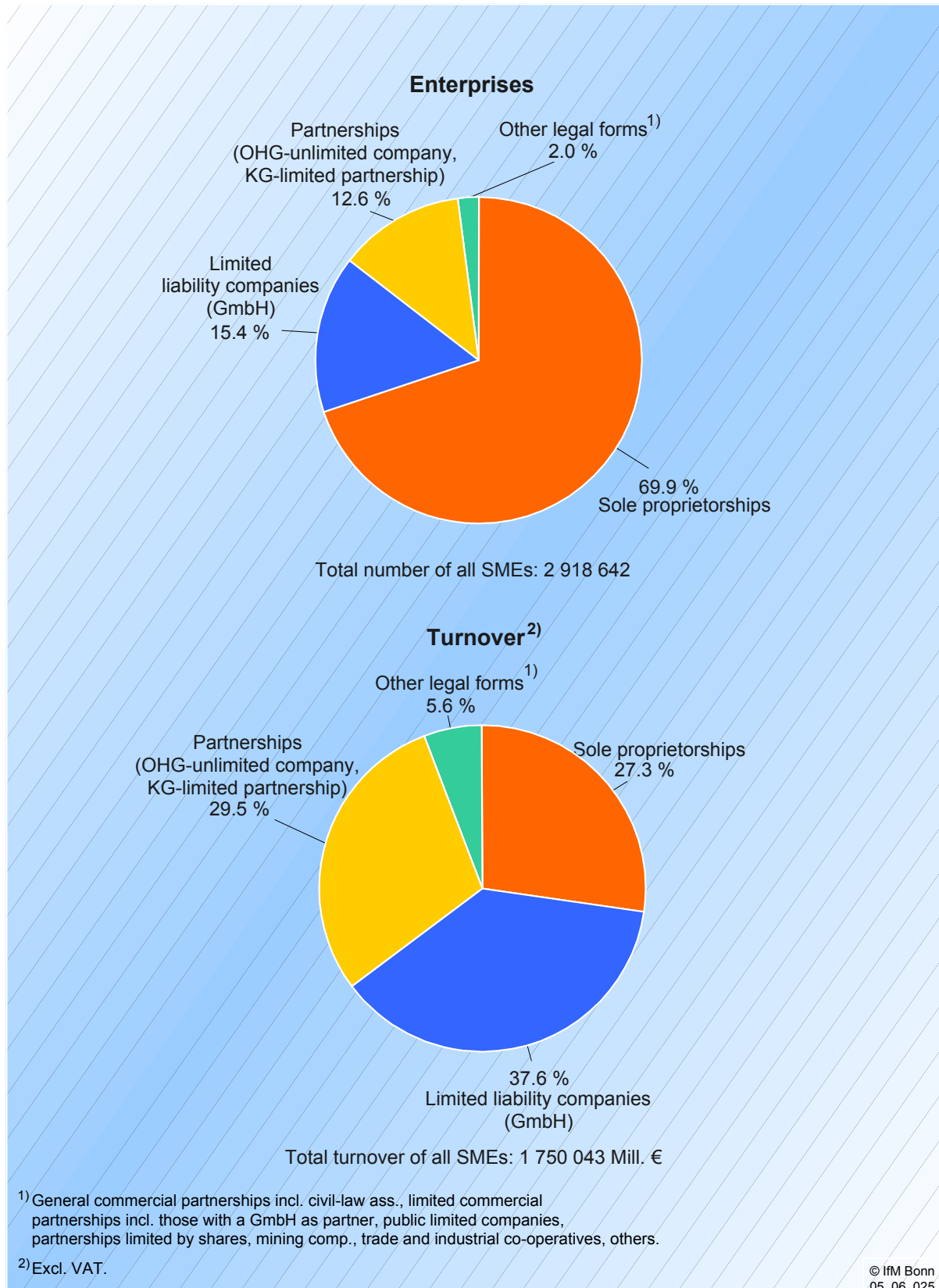
1) NACE Rev. 1.1.

2) Only enterprises liable to VAT with annual deliveries and other performances (turnover) exceeding Euro 16 620.

3) Excl. VAT.

Source: Federal Statistical Office Germany, VAT-Statistics 2002, Wiesbaden, 2004; own calculations by IfM Bonn

Figure 2: SMEs by legal forms, Germany, 2002



Source: Federal Statistical Office Germany, VAT-Statistics 2002, Wiesbaden 2004; own calculations by IfM Bonn

## 2. Development of Self-Employment, Enterprise Start-Ups and Closures

There are more than 3.4 million self-employed persons in Germany. In 2003 nearly one fifth of the self-employed belonged to the manufacturing industry, nearly one third in trade, transport and communication and the rest of the self-employed belonged to the service sector (agricultural sector excluded).

Table 2 represents the number and shares of self-employed in the economic sectors: manufacturing, trade/transport/communication, services. The table also provides the ratio of self-employed persons related to the total of working persons by sectors. The latter often is interpreted as indicator for the start-up emphasis among a national population.

The ratio increases between 1991 and 2003 from 7.3 % (1991) to 9.8 % (2003) due to an ongoing start-up emphasis in Germany. It can be shown, that the number of self-employed persons in service sector is increasing and in the manufacturing sector decreasing. This gives evidence to the fact that Germany like all other economies is transforming to a certain extent from an industrial to a service dominated economy.

Figure 3 shows the annual number of enterprise start-ups and closures over the period 1991 - 2003 in Germany. Since 1996 also the persons entering (or leaving) self-employment by way of taking over an existing enterprise (or transferring the enterprise to a new owner) are included. It is evident, that beginning with 1998 start-up emphasis decreased in Germany, but after a stabilisation in 2002 increased again in the year 2003. One reason for this can be seen in a considerable increase of start-ups carried out by unemployed persons. Stimulated by public subsidies for entering self-employment ("Überbrückungsgeld", and in addition since 2003 "Ich-AG") many unemployed persons prefer to change their status into that of a self employ business starter.

As a measure for the start-up and closure dynamics the indicators "intensity of enterprise start-ups and liquidations" are presented in figure 4. These indicators bring the number of start-ups and liquidations resp. in relation to 10 000 inhabitants in working age (18 - 64 years).

Insolvencies represent only a certain type of closures and must be transacted after the rules of a special legislation. As documented in table 3 the number of business insolvencies in Germany increased from 18 837 in 1994 to 39 320 in 2003. Among other factors a fundamental and widely welcomed reform of the

insolvency legislation in the year 1999 is responsible for the increase of the number of insolvencies.

The rate of business insolvencies (number of insolvencies per 1 000 enterprises) by economic sections is presented in table 4. While in the years 1994 - 2003 the intensity of liquidations only slightly increased and reached its maximum in 1999, the rate of business insolvencies has continuously increased (with one exception in 1999). In 2003 it reached a level that is almost the double from 1994. Especially the sections "construction", "financial intermediation" and "transport, storage and communication" show a particularly high rate of business insolvencies.

In table 5 business insolvencies in Germany 2003 are differentiated by enterprise age and legal forms resp., as well as by employment size. Approx. 80 % of the insolvencies of enterprises (with stated number of employees) concern enterprises with 0 to 5 employees, and only 0.8 % enterprises with 101 and more employees. Approx. 60 % of these enterprises with 0 to 5 employees are younger than 8 years, whereas approx. 70 % of the large enterprises are more than 8 years old. Differentiated by legal forms most business insolvencies concern limited liability companies (GmbH) (51.0 %), followed by sole proprietorships incl. small business ("Kleingewerbe").

Table 2: Self-employed persons and self-employed ratio, Germany 1991 - 2003 (excluding agricultural sector)

Year	Manufacturing Sector			Trade/Transport/ Communication			Services			Total		
	Self-employed		Self-employed ratio <sup>1)</sup>	Self-employed		Self-employed ratio <sup>1)</sup>	Self-employed		Self-employed ratio <sup>1)</sup>	Self-employed		Self-employed ratio <sup>1)</sup>
	in 1 000	in % <sup>2)</sup>	in %	in 1 000	in % <sup>2)</sup>	in %	in 1 000	in % <sup>2)</sup>	in %	in 1 000	in % <sup>2)</sup>	in %
1991	723	27.6	4.7	709	27.0	10.6	1 190	45.4	8.6	2 622	100.0	7.3
1992	758	28.2	5.2	710	26.4	10.7	1 224	45.5	8.6	2 692	100.0	7.6
1993	773	27.8	5.5	717	25.8	10.9	1 293	46.5	9.0	2 783	100.0	7.9
1994	794	27.2	5.8	741	25.4	11.3	1 382	47.4	9.4	2 917	100.0	8.4
1995 <sup>3)</sup>	725	24.4	5.6	1 062	35.8	12.9	1 182	39.8	8.6	2 969	100.0	8.5
1996	757	24.6	6.0	1 066	34.6	13.0	1 255	40.8	8.9	3 078	100.0	8.8
1997	778	24.3	6.3	1 088	34.0	13.3	1 337	41.7	9.4	3 203	100.0	9.2
1998	772	23.6	6.4	1 103	33.7	13.4	1 397	42.7	9.6	3 272	100.0	9.4
1999	762	23.3	6.3	1 091	33.3	13.1	1 422	43.4	9.6	3 275	100.0	9.3
2000	774	23.3	6.4	1 074	32.3	12.8	1 475	44.4	9.8	3 323	100.0	9.3
2001	763	23.0	6.4	1 055	31.8	12.4	1 501	45.2	9.7	3 319	100.0	9.3
2002	760	22.7	6.5	1 032	30.9	12.4	1 553	46.4	10.0	3 345	100.0	9.4
2003	771	22.4	6.8	1 035	30.0	12.5	1 640	47.6	10.4	3 446	100.0	9.8

© IfM Bonn

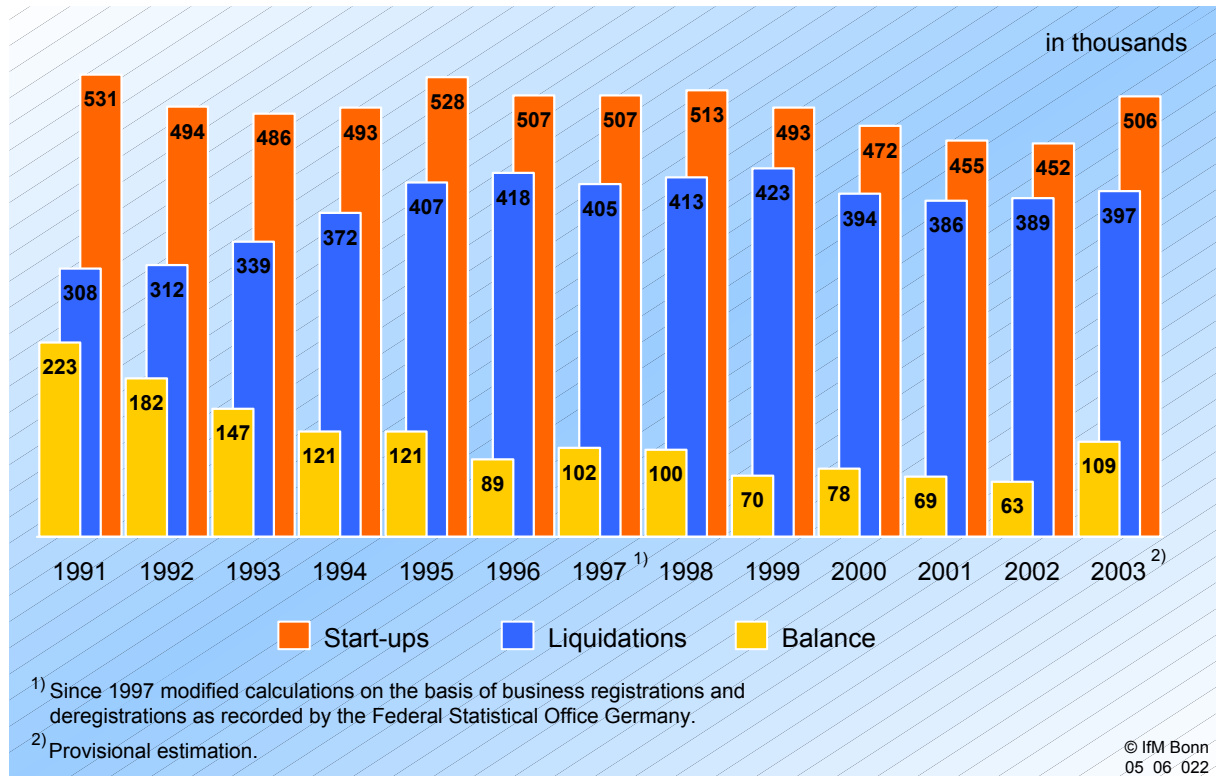
1) Self-employed ratio = self-employed as share of total working population (incl. self-employed), in %.

2) Horizontal structure.

3) A direct comparison with the values of the previous years is not possible as in 1995 the classification of economic sections has been changed.

Source: Federal Statistical Office Germany, Position and Development of Gainful Employment (Microcensus), Wiesbaden, various volumes; own calculations by IfM Bonn

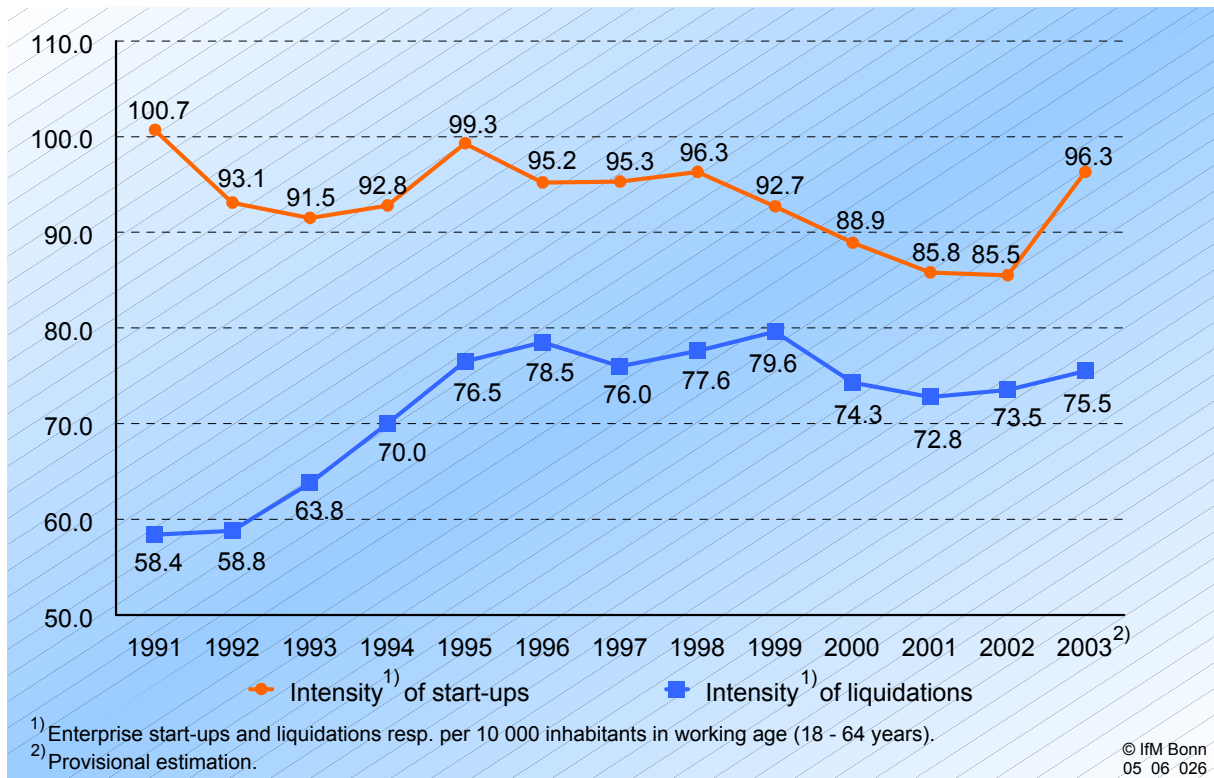
Figure 3: Enterprise start-ups<sup>1)</sup> and liquidations<sup>1)</sup>, Germany, 1991 - 2003



1) Since 1996 including persons entering (leaving) self-employment by way of taking over an existing enterprise (by transferring the enterprise to a new owner).

Source: Own compilation by IfM Bonn on the basis of business registrations and deregistrations as regarded by the Federal Statistical Office Germany

Figure 4: Intensity of enterprise start-ups<sup>1)</sup> and liquidations<sup>1)</sup>, Germany, 1991 - 2003



1) Since 1996 including persons entering (leaving) self-employment by way of taking over an existing enterprise (by transferring the enterprise to a new owner).

Source: Own compilation by IfM Bonn on the basis of business registrations and deregistrations and the current population projection as regarded by the Federal Statistical Office Germany

Table 3: Business insolvencies by economic sections, Germany, 1994 - 2003

Heading of classification <sup>1)</sup>	Economic section	Business insolvencies <sup>2)</sup>									
		1994	1995	1996	1997	1998	1999 <sup>3)</sup>	2000	2001 <sup>4)</sup>	2002	2003
A	Agriculture, hunting and forestry	328	381	403	479	509	509	470	538	559	677
B	Fishing	2	3	4	3	7	7	7	7	2	1
C	Mining and quarrying	16	15	22	14	26	26	24	31	37	32
D	Manufacturing	3 183	3 348	3 643	3 598	3 287	3 139	3 305	3 655	4 344	4 556
E	Electricity, gas and water supply	2	8	10	11	7	19	17	20	27	27
F	Construction	3 971	5 542	7 041	7 788	8 112	7 766	8 103	9 026	9 160	8 697
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	4 824	5 584	5 967	6 111	6 144	5 668	5 624	6 005	7 491	7 913
G 50	Sale, maintenance and repair of motor vehicles and motorcycles retail sale of automotive fuel	633	755	717	776	758	786	926	1 004	1 135	1 221
G 51	Wholesale trade and commission trade, except of motor vehicles and motorcycles	2 038	2 440	2 595	2 537	2 317	2 215	2 009	2 183	2 510	2 387
G 52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	2 153	2 389	2 655	2 798	3 069	2 667	2 689	2 818	3 846	4 305
H	Hotels and restaurants	1 006	1 235	1 476	1 679	1 819	1 674	1 927	2 204	2 655	3 104
I	Transport, storage and communication	1 321	1 457	1 499	1 558	1 468	1 299	1 714	2 137	2 451	2 593
J	Financial intermediation	146	140	182	198	191	185	198	233	383	438
K	Real estate, renting and business activities	3 314	3 825	4 353	4 878	5 031	4 797	5 151	6 694	8 174	8 671
K 70/71	Real estate activities, renting of machinery and equipment without operator and of personal and household goods	823	1 101	1 409	1 689	1 821	1 734	1 806	2 124	2 238	2 304
K 72-74	Computer and related activities, research and development, other business activities	2 491	2 724	2 944	3 189	3 210	3 063	3 345	4 570	5 936	6 367
M	Education	130	127	97	101	89	94	132	120	154	214
N	Health and social work	99	99	161	224	265	305	385	426	498	576
O	Other community, social and personal service activities	495	580	672	832	873	988	1 178	1 182	1 644	1 821
A-K,M-O	Total	18 837	22 344	25 530	27 474	27 828	26 476	28 235	32 278	37 579	39 320

1) Classification of economic activities: 1994 - 2002: WZ 93 (German version of NACE Rev. 1), since 2003: WZ 2003 (NACE Rev. 1.1).

2) Incl. small business ("Kleingewerbe").

3) Since 1999 a new insolvency law is effective.

4) In December 2001 the insolvency law was amended.

Source: Federal Statistical Office Germany, Insolvency-Statistics, Wiesbaden, various volumes



Table 4: Rate of business insolvencies by economic sections, Germany, 1994 - 2003

Heading of classification <sup>1)</sup>	Economic section	Rate <sup>2)</sup> of business insolvencies <sup>3)</sup>									
		1994	1995	1996	1997	1998	1999 <sup>4)</sup>	2000	2001 <sup>5)</sup>	2002	2003 <sup>6)</sup>
A	Agriculture, hunting and forestry	5.7	6.6	7.0	8.1	8.3	8.0	7.2	8.1	8.2	9.9
B	Fishing	2.2	3.4	4.6	3.4	7.9	7.7	7.6	7.6	2.2	1.1
C	Mining and quarrying	5.2	4.9	7.1	4.5	8.3	8.4	7.8	10.2	12.4	10.7
D	Manufacturing	10.6	11.3	12.4	12.3	11.2	10.7	11.3	12.6	15.2	15.9
E	Electricity, gas and water supply	0.3	1.2	1.3	1.4	0.8	2.0	1.7	1.8	2.3	2.3
F	Construction	13.3	18.4	23.0	25.0	25.5	24.1	25.1	28.1	28.7	27.2
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	6.2	7.3	8.0	8.2	8.2	7.7	7.7	8.3	10.6	11.2
G 50	Sale, maintenance and repair of motor vehicles and motorcycles retail sale of automotive fuel	6.4	7.7	7.3	7.7	7.4	7.6	8.9	9.6	10.8	11.6
G 51	Wholesale trade and commission trade, except of motor vehicles and motorcycles	9.5	11.7	12.8	12.6	11.6	11.4	10.5	11.6	13.6	12.9
G 52	Retail trade, except of motor vehicles and motorcycles repair of personal and household goods	4.6	5.3	6.0	6.3	6.9	6.0	6.2	6.6	9.2	10.3
H	Hotels and restaurants	3.7	4.6	5.7	6.5	7.1	6.6	7.7	8.9	10.7	12.5
I	Transport, storage and communication	10.3	11.5	11.9	12.4	11.5	10.2	13.5	16.9	19.6	20.7
J	Financial intermediation	8.2	8.0	10.6	11.9	11.3	11.2	12.3	14.7	24.5	27.9
K	Real estate, renting and business activities	5.2	5.9	6.6	7.1	7.0	6.5	6.8	8.6	10.3	10.9
K 70/71	Real estate activities, renting of machinery and equipment without operator and of personal and household goods	3.5	4.6	5.8	6.8	7.0	6.5	6.6	7.6	8.0	8.2
K 72-74	Computer and related activities, research and development, other business activities	6.2	6.6	7.1	7.4	7.0	6.5	6.9	9.1	11.6	12.5
M	Education	5.4	5.2	4.0	4.1	3.5	3.5	4.8	4.2	5.3	7.3
N	Health and social work	3.5	3.5	5.6	7.4	8.3	9.2	11.1	11.5	12.4	14.3
O	Other community, social and personal service activities	2.2	2.5	2.9	3.5	3.5	3.8	4.4	4.3	5.9	6.5
A-K,M-O	Total	6.8	8.1	9.2	9.8	9.7	9.2	9.7	11.1	12.8	13.4

© IfM Bonn

1) Classification of economic activities: 1994-2002: WZ 93 (German version of NACE Rev.1), since 2003: WZ 2003 (NACE Rev. 1.1).

2) Number of insolvencies per 1 000 enterprises (according to VAT-Statistics).

3) Incl. small business ("Kleingewerbe").

4) Since 1999 a new insolvency law is effective.

5) In December 2001 the insolvency law was amended.

6) Estimated.

Source: Table 3

Table 5: Business insolvencies by enterprise age, legal form and enterprise size, Germany, 2003

	Enterprises with ... employees							unknown
	Total	0	1	2-5	6-10	11-100	101 +	
<b>Enterprise age</b>								
less than 8 years	17 226	6 888	2 041	3 146	1 218	1 580	79	2 274
thereof: up to 3 years	8 349	3 275	997	1 572	606	751	30	1 118
4 - 8 years	8 877	3 613	1 044	1 574	612	829	49	1 156
8 and more years	12 404	4 328	1 334	2 058	1 101	2 062	166	1 355
Unknown	9 690	4 712	1 101	1 448	400	401	20	1 608
<b>Total</b>	<b>39 320</b>	<b>15 928</b>	<b>4 476</b>	<b>6 652</b>	<b>2 719</b>	<b>4 043</b>	<b>265</b>	<b>5 237</b>
<b>Legal form</b>								
Sole proprietorships <sup>1)</sup>	15 041	7 445	1 781	2 539	687	509	8	2 072
Partnerships (OHG - unlimited company), KG - limited partnership)	3 269	1 113	254	522	248	645	87	400
Limited liability companies (GmbH)	20 034	7 061	2 364	3 473	1 702	2 714	143	2 577
Public limited companies (AG), partnerships partly limited by shares (KGaA)	508	140	46	75	48	113	21	65
Other legal forms	468	169	31	43	34	62	6	123
<b>Total</b>	<b>39 320</b>	<b>15 928</b>	<b>4 476</b>	<b>6 652</b>	<b>2 719</b>	<b>4 043</b>	<b>265</b>	<b>5 237</b>

1) Incl. liberal professions.

Source: Table 3

### 3. "Mittelstand" and Employment

In general, job creation process derives from two origins. It happens in existing enterprises which increase their workforce or by the creation of enterprises. Jobs get lost when existing establishments reduce the number of employees or are closed either by insolvency or by closure.

Unfortunately there are no more official data available, which illustrate the job balance as a result of either the growth of existing or the result of market entries of new enterprises and the job losses as result of size reduction or market exits of existing enterprises.

The only data base providing the size distribution of German "Mittelstand" by employees is generated by the Federal Labour Agency in Nürnberg. In contrast to the above document VAT-Statistics the employment statistics exist only for units that employ persons which pay contributions to the social insurance. Furthermore the firm registered is not in any case the enterprise but can also be a local establishment (one enterprise can comprise more than one establishments).

Table 6 presents the distribution of German establishments by employment size-classes for the period 1999 - 2003. It reveals that the number of establishments as well as the number of employees decreased between 1999 and 2003. After a short increase between 1999 and 2000, the total establishments decreased in the period 1999 - 2003 almost by nearly 50 000. Three quarter of the establishments closed had 1 - 9 employees, 99.6 % had 1 - 49 employees.

Compared to 1999 the total number of employees decreased by 450 000 until 2003. Between 2001 and 2003 overall employment declined by even 850 000 since 2001. 77 % of the working places lost existed in establishments with 1 - 49 employees and approx. 25 % in large establishments with 500 and more employees.

The size and sector distribution of labour places in Germany (Table 7) reveals, that manufacturing sector still is characterised by a dominance of bigger companies and by this contributes more than 27 % to the overall employment. In the other economic sectors the size distribution by employment is more evenly and the shares of SMEs correspond better to the introductory remarks.

Table 6: Size structure of establishments<sup>1)</sup> and employment, Germany, 1999 - 2003

		Establishments with ... employees								Total <sup>2)</sup>
		1	2 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 a.m.	
<b>1999</b>										
Establishments	abs.	604 662	1 068 417	199 027	120 999	42 227	23 978	7 195	4 418	2 070 923
	in %	29.2	51.6	9.6	5.8	2.0	1.2	0.3	0.2	100.0
Employees	abs.	604 662	4 347 526	2 663 393	3 646 443	2 911 175	3 622 904	2 468 218	5 369 195	25 633 516
	in %	2.4	17.0	10.4	14.2	11.4	14.1	9.6	20.9	100.0
<b>2000</b>										
Establishments	abs.	605 836	1 068 399	200 432	122 614	43 113	24 582	7 355	4 482	2 076 813
	in %	29.2	51.4	9.7	5.9	2.1	1.2	0.4	0.2	100.0
Employees	abs.	605 836	4 353 445	2 682 721	3 699 555	2 971 755	3 715 015	2 529 911	5 445 491	26 003 729
	in %	2.3	16.7	10.3	14.2	11.4	14.3	9.7	20.9	100.0
<b>2001</b>										
Establishments	abs.	601 153	1 058 919	197 693	122 149	43 217	24 872	7 344	4 554	2 059 901
	in %	29.2	51.4	9.6	5.9	2.1	1.2	0.4	0.2	100.0
Employees	abs.	601 153	4 312 551	2 646 208	3 692 176	2 980 513	3 756 182	2 521 078	5 509 948	26 019 809
	in %	2.3	16.6	10.2	14.2	11.5	14.4	9.7	21.2	100.0
<b>2002<sup>3)</sup></b>										
Establishments	abs.	604 199	1 053 352	196 679	120 841	42 923	24 773	7 276	4 457	2 054 500
	in %	29.4	51.3	9.6	5.9	2.1	1.2	0.4	0.2	100.0
Employees	abs.	604 199	4 291 230	2 633 456	3 651 068	2 959 413	3 737 990	2 502 168	5 412 294	25 791 818
	in %	2.3	16.6	10.2	14.2	11.5	14.5	9.7	21.0	100.0
<b>2003<sup>3)</sup></b>										
Establishments	abs.	598 371	1 037 611	190 757	117 423	41 875	24 305	7 154	4 281	2 021 777
	in %	29.6	51.3	9.4	5.8	2.1	1.2	0.4	0.2	100.0
Employees	abs.	598 371	4 214 848	2 552 042	3 544 586	2 889 996	3 666 700	2 460 728	5 249 628	25 176 899
	in %	2.4	16.7	10.1	14.1	11.5	14.6	9.8	20.9	100.0

© IfM Bonn

1) Establishments (local units) with employees subject to social security contributions (reporting date: June 30th).

2) All economic sections excl. public administration and defence, compulsory social security activities of households as employers of domestic staff and extra-territorial organisations and bodies (NACE Rev. 1.1: A-K,M-O).

3) Provisional figures.

Source: Federal Labour Agency Germany, Statistics of Establishments and Employees, Nürnberg, various volumes; own calculations by IfM Bonn

Table 7: Employment by economic sections and size-classes, Germany, 2003<sup>1)</sup>

Economic section	Heading of classification <sup>2)</sup>	Employees																	
		Establishments with ... employees																Total	
		1		2 - 9		10 - 19		20 - 49		50 - 99		100 - 249		250 - 499		500 and more		abs.	in %
abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %
Agriculture, hunting and forestry; fishing	A,B	29 634	5.0	104 022	2.5	55 721	2.2	70 394	2.0	32 954	1.1	20 202	0.6	4 696	0.2	3 511	0.1	321 134	1.3
Mining and Quarrying	C	486	0.1	7 415	0.2	8 664	0.3	13 280	0.4	9 242	0.3	10 750	0.3	8 412	0.3	62 250	1.2	120 499	0.5
Manufacturing	D	42 815	7.2	471 538	11.2	423 823	16.6	740 954	20.9	711 711	24.6	1 171 465	31.9	939 577	38.2	2 436 027	46.4	6 937 910	27.6
Electricity, gas and water supply	E	719	0.1	6 508	0.2	8 726	0.3	22 060	0.6	27 180	0.9	44 657	1.2	45 924	1.9	94 280	1.8	250 054	1.0
Construction	F	52 259	8.7	533 613	12.7	350 611	13.7	353 395	10.0	190 063	6.6	159 125	4.3	61 818	2.5	45 003	0.9	1 745 887	6.9
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	G	133 003	22.2	962 728	22.8	578 742	22.7	759 917	21.4	536 058	18.5	553 918	15.1	254 550	10.3	251 738	4.8	4 030 654	16.0
Hotels and restaurants	H	59 020	9.9	271 824	6.4	120 904	4.7	158 234	4.5	68 824	2.4	52 300	1.4	22 329	0.9	12 741	0.2	766 176	3.0
Transport, storage and communication	I	28 632	4.8	209 377	5.0	167 508	6.6	250 437	7.1	187 064	6.5	221 887	6.1	152 264	6.2	272 111	5.2	1 489 280	5.9
Financial intermediation	J	21 238	3.5	75 744	1.8	47 124	1.8	90 219	2.5	101 544	3.5	178 842	4.9	149 574	6.1	386 402	7.4	1 050 687	4.2
Real estate, renting and business activities	K	132 436	22.1	593 825	14.1	361 316	14.2	487 695	13.8	417 146	14.4	496 859	13.6	267 461	10.9	360 547	6.9	3 117 285	12.4
Education	M	10 669	1.8	109 303	2.6	119 650	4.7	149 049	4.2	113 755	3.9	145 477	4.0	92 032	3.7	293 459	5.6	1 033 394	4.1
Health and social work	N	35 854	6.0	569 990	13.5	183 692	7.2	290 743	8.2	359 339	12.4	430 587	11.7	338 416	13.8	874 543	16.7	3 083 164	12.2
Other community, social and personal service activities	O	51 606	8.6	298 961	7.1	125 561	4.9	158 209	4.5	135 116	4.7	180 631	4.9	123 675	5.0	157 016	3.0	1 230 775	4.9
Total	A-K, M-O	598 371	100.0	4 214 848	100.0	2 552 042	100.0	3 544 586	100.0	2 889 996	100.0	3 666 700	100.0	2 460 728	100.0	5 249 628	100.0	25 176 899	100.0

© IfM Bonn

1) Provisional figures (reporting date: June 30th).

2) Classification of economic activities WZ 2003 (German version of NACE Rev. 1.1).

Source: Federal Labour Agency Germany, Statistics of Establishments and Employees, Nürnberg, 2004; own calculations by IfM Bonn

### III. SPECIAL ASPECTS

#### 1. Labour Intensive Production

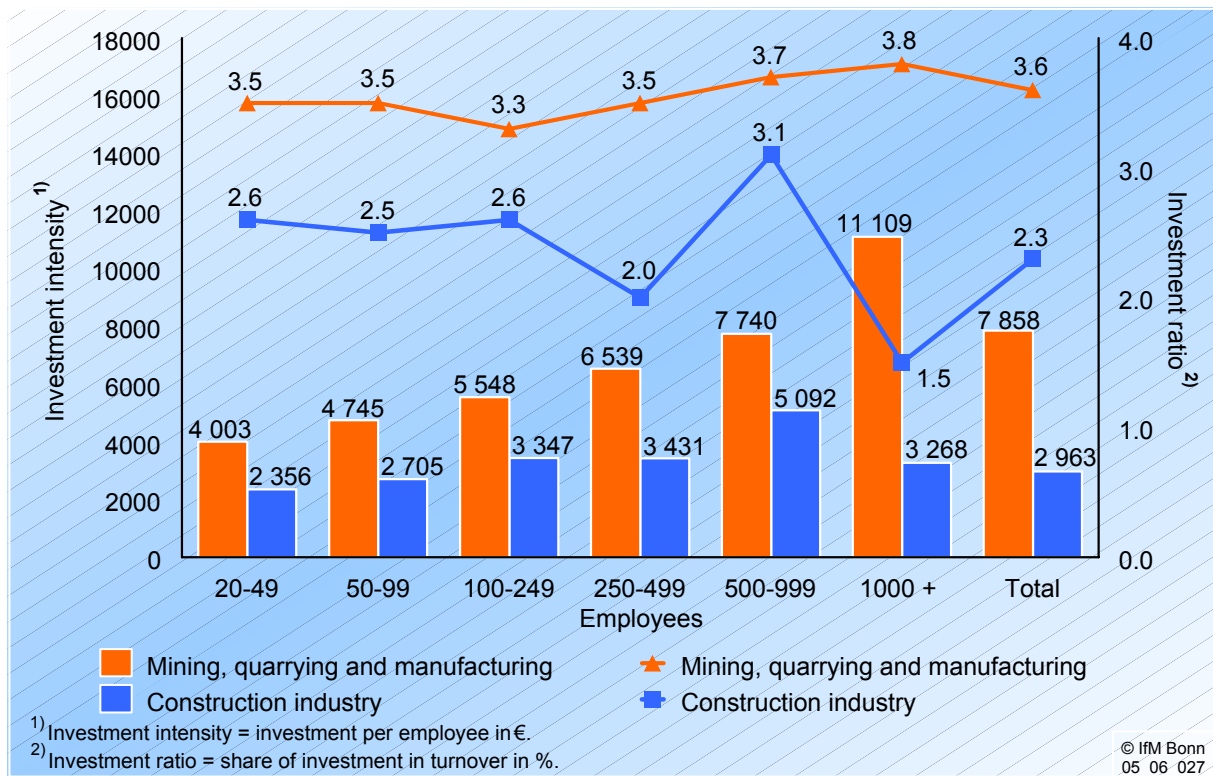
Some characteristics of the "Mittelstand" can be revealed by statistical data even if the qualitative features are not (directly) measurable. This concerns among other things the labour intensive methods of production and the extensive vocational training activities performed by enterprises of the German "Mittelstand".

Figure 5 illustrates the development of the investment intensity (investments per one employee) and the investment ratio (expressed as investments per turnover) by enterprise size-classes (number of employees). It has to be mentioned that the distribution of investment ratios obviously does not depend on an enterprises size. Regardless of size, enterprises in the section "mining, quarrying and manufacturing" invest between 3.3 % and 3.8 % of their turnover. However, this finding does not hold for the investment intensity. Here, investment spendings per employee increase remarkably with the size of the enterprise.

SMEs with 20 - 499 employees show an investment ratio of 3.4 % and an investment intensity of 5 360 € (enterprises with 20 - 249: 3.4 % and 4 929 €).

In the section "construction industry" the investment ratio of large firms does not follow a clear trend. SMEs with 20 - 499 employees have an investment ratio of 2.5 % and an investment intensity of 2 811 € (enterprises with 20 - 249: 2.6 % and 2 742 €).

Figure 5: Investment intensity and investment ratio in production industries, Germany, 2002



Source: Federal Statistical Office Germany, Statistics of Production Industries, Wiesbaden, 2004

## 2. High Relevance for Professional Training

The "Mittelstand" accounts for approximately 49 % of gross national value added but employs about 70 % of all employees. Figure 5 provides also an explanation for this phenomenon. In general, low investment spendings per employee hints at a rather labour intensive way of production. On the other hand, high investment expenditures per employee indicate a more capital intensive way of production. From this it can be concluded that compared to large enterprises SMEs feature on average a higher labour intensity, that is to say SMEs produce one output unit by employing relatively more labour and less capital. This result seems plausible since "Mittelstand" is not specialised in mass production but in differentiated (often customer-tailored) goods and services. This requires a highly skilled labour force and often makes investments in human capital more necessary than in capital goods. The "Mittelstand's" strong emphasis on the formation of human capital is - among other things - well documented by the fact that small and medium-sized enterprises provide more than 80 % of the vocational training-places in Germany.

As documented in table 8 SMEs still are the backbone of the professional education system in Germany regardless the fact that the overall number of professional education contracts since 2001 is decreasing. Due to the low dynamics in business cycle in 2001/2002 enterprises of all size classes had been forced to reduce the number of apprentices. But this is a general phenomenon and does not influence the SME-share in overall professional education. Additionally it can be seen, that micro enterprises with only one employee intensify constantly their educational activities.

The overall findings again strongly are influenced by the special conditions characterising the manufacturing sectors as it is documented in table 9.



Table 8: Vocational trainees<sup>1)</sup> and training-ratio<sup>2)</sup>, Germany, 1999 - 2003

		Establishments with ... employees								Total <sup>3)</sup>	SMEs <sup>4)</sup> 1 - 249 employees	SMEs <sup>5)</sup> 1 - 499 employees
		1	2 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 a.m.			
<b>1999</b>												
Vocational trainees	abs.	24 982	369 429	213 954	244 969	172 309	211 467	154 956	300 825	1 692 891	1 237 110	1 392 066
	in %	1.5	21.8	12.6	14.5	10.2	12.5	9.2	17.8	100.0	73.1	82.2
Training-ratio	in %	4.2	8.6	8.0	6.7	5.8	5.7	6.1	5.5	6.5	6.9	6.8
<b>2000</b>												
Vocational trainees	abs.	25 726	372 076	213 304	245 196	175 997	217 256	156 919	302 404	1 708 878	1 249 555	1 406 474
	in %	1.5	21.8	12.5	14.3	10.3	12.7	9.2	17.7	100.0	73.1	82.3
Training-ratio	in %	4.3	8.7	8.0	6.6	5.9	5.8	6.1	5.4	6.5	6.9	6.8
<b>2001<sup>6)</sup></b>												
Vocational trainees	abs.	26 136	370 669	209 510	243 882	175 797	220 218	162 971	303 426	1 712 609	1 246 212	1 409 183
	in %	1.5	21.6	12.2	14.2	10.3	12.9	9.5	17.7	100.0	72.8	82.3
Training-ratio	in %	4.4	8.7	7.9	6.6	5.9	5.8	6.4	5.4	6.6	7.0	6.9
<b>2002<sup>6)</sup></b>												
Vocational trainees	abs.	26 215	362 663	200 408	232 621	170 465	217 476	154 663	299 444	1 663 955	1 209 848	1 364 511
	in %	1.6	21.8	12.0	14.0	10.2	13.1	9.3	18.0	100.0	72.7	82.0
Training-ratio	in %	4.4	8.6	7.8	6.5	5.8	5.8	6.1	5.5	6.5	6.9	6.8
<b>2003<sup>6)</sup></b>												
Vocational trainees	abs.	27 410	356 604	192 142	224 382	167 211	216 111	152 406	294 984	1 631 250	1 183 860	1 336 266
	in %	1.7	21.9	11.8	13.8	10.3	13.2	9.3	18.1	100.0	72.6	81.9
Training-ratio	in %	4.7	8.7	7.7	6.4	5.8	5.9	6.2	5.6	6.5	6.9	6.8

© IfM Bonn

1) Reporting date: December 31th.

2) Training-ratio = number of vocational trainees in relation to the total number of employees.

3) All economic sections excl. public administration and defence, compulsory social security activities of households as employers of domestic staff and extra-territorial organisations and bodies (NACE Rev. 1.1: A-K,M-O).

4) According to the EU-definition.

5) According to IfM Bonn's definition.

6) Provisional figures.

Source: Federal Labour Agency Germany, Statistics of Establishments and Employees, Nürnberg, various volumes; own calculations by IfM Bonn

Table 9: Structure of vocational trainees by economic sections and employment size-classes, Germany, 2003<sup>1)</sup>

Economic section	Heading of classification <sup>2)</sup>	Vocational trainees																	
		Establishments with ... employees																Total	
		1		2 - 9		10 - 19		20 - 49		50 - 99		100 - 249		250 - 499		500 and more			
abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %	abs.	in %		
Agriculture, hunting and forestry; fishing	A,B	3 881	14.2	9 310	2.6	4 382	2.3	5 111	2.3	2 076	1.2	532	0.2	56	0.0	345	0.1	25 693	1.6
Mining and Quarrying	C	6	0.0	124	0.0	106	0.1	309	0.1	239	0.1	376	0.2	404	0.3	4 408	1.5	5 972	0.4
Manufacturing	D	2 860	10.4	44 720	12.5	34 451	17.9	45 670	20.4	35 749	21.4	56 127	26.0	43 606	28.6	109 986	37.3	373 169	22.9
Electricity, gas and water supply	E	5	0.0	99	0.0	190	0.1	925	0.4	1 620	1.0	3 451	1.6	2 874	1.9	6 528	2.2	15 692	1.0
Construction	F	4 975	18.2	57 362	16.1	34 511	18.0	30 010	13.4	13 456	8.0	9 555	4.4	3 055	2.0	2 032	0.7	154 956	9.5
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	G	4 797	17.5	71 236	20.0	48 944	25.5	64 129	28.6	43 550	26.0	36 343	16.8	14 846	9.7	12 051	4.1	295 896	18.1
Hotels and restaurants	H	737	2.7	17 435	4.9	16 032	8.3	21 138	9.4	10 738	6.4	6 995	3.2	1 649	1.1	1 758	0.6	76 482	4.7
Transport, storage and communication	I	589	2.1	5 373	1.5	3 540	1.8	6 810	3.0	6 672	4.0	10 746	5.0	7 943	5.2	10 243	3.5	51 916	3.2
Financial intermediation	J	775	2.8	3 899	1.1	1 746	0.9	4 876	2.2	6 275	3.8	12 566	5.8	11 382	7.5	21 609	7.3	63 128	3.9
Real estate, renting and business activities	K	5 065	18.5	47 427	13.3	23 379	12.2	19 513	8.7	9 612	5.7	9 885	4.6	6 216	4.1	11 424	3.9	132 521	8.1
Education	M	107	0.4	1 724	0.5	2 264	1.2	8 067	3.6	15 565	9.3	38 349	17.7	27 936	18.3	38 023	12.9	132 035	8.1
Health and social work	N	1 143	4.2	67 914	19.0	13 748	7.2	10 108	4.5	15 031	9.0	20 937	9.7	24 124	15.8	63 923	21.7	216 928	13.3
Other community, social and personal service activities	O	2 470	9.0	29 981	8.4	8 849	4.6	7 716	3.4	6 628	4.0	10 249	4.7	8 315	5.5	12 654	4.3	86 862	5.3
<b>Total</b>	<b>A-K, M-O</b>	<b>27 410</b>	<b>100.0</b>	<b>356 604</b>	<b>100.0</b>	<b>192 142</b>	<b>100.0</b>	<b>224 382</b>	<b>100.0</b>	<b>167 211</b>	<b>100.0</b>	<b>216 111</b>	<b>100.0</b>	<b>152 406</b>	<b>100.0</b>	<b>294 984</b>	<b>100.0</b>	<b>1 631 250</b>	<b>100.0</b>

© IfM Bonn

1) Reporting date: December 31th, provisional figures.

2) Classification of economic activities: WZ 2003 (German version of NACE Rev. 1.1).

Source: Federal Labour Agency Germany, Statistics of Establishments and Employees 2003, Nürnberg, 2004; own calculations by IfM Bonn

### 3. SME and Internationalization

In the year 2002 Germany realised an export performance of more than 736 billion €. SMEs share in this figure reaches nearly 21 %.

Though the share of exporting enterprises in the total of enterprises broken down by size-classes increases with the enterprises size, table 10 gives proof to the fact, that even in smaller size-classes with an annual turnover between 250 000 € and 500 000 € one out of seven SMEs is actively involved in export business. In the next size-class 500 000 € - 1 Mill. € already more than 20 % of all enterprises perform export based turnover.

Table 10: Exporting enterprises and their export based turnover, Germany, 2002 - absolute figures and export-ratios

Enterprises with turnover from € ... to below ...	Exporting enterprises <sup>1)</sup>		Export based turnover <sup>2)</sup>		Exporting enterprises rel. to the total number of all enterprises	Export based turnover rel. to the total turnover of all enterprises
	abs.	in %	in Mill. €	in %	in %	in %
16 620 - 50 000	19 417	6.0	165.9	0.0	2.4	0.7
50 000 - 100 000	25 235	7.8	387.0	0.1	4.4	0.9
100 000 - 250 000	51 832	16.0	1 439.7	0.2	7.8	1.4
250 000 - 500 000	48 862	15.1	2 477.4	0.3	14.0	2.0
500 000 - 1 Mill.	50 246	15.5	4 849.6	0.7	21.9	3.0
1 Mill. - 2. Mill.	43 761	13.5	8 749.7	1.2	31.3	4.5
2 Mill. - 5 Mill.	40 166	12.4	20 506.3	2.8	44.2	7.3
5 Mill. - 10 Mill.	18 910	5.8	25 063.4	3.4	57.4	10.9
10 Mill. - 25 Mill.	13 849	4.3	44 605.4	6.1	66.0	13.8
25 Mill. - 50 Mill.	5 556	1.7	45 431.7	6.2	72.7	17.1
50 Mill. a.m.	6 255	1.9	582 338.4	79.1	78.9	23.3
Total	324 089	100.0	736 014.4	100.0	11.1	17.3
SMEs	317 834	98.1	153 676.0	20.9	10.9	8.8

© IfM Bonn

1) Only enterprises liable to VAT with annual deliveries and other performances (turnover) exceeding Euro 16 620.

2) Excl. VAT.

Source: Federal Statistical Office Germany, VAT-Statistics 2002, Wiesbaden, 2004; own calculations by IfM Bonn

#### 4. Research and Development in SMEs

An official R&D-Statistic is not available in Germany. By this in this chapter the results of the survey of the Institute Statistics in Sciences (Wissenschaftsstatistik GmbH) are presented. The Institute analyses in a two-years turn by a postal questionnaire the spendings of the German business sector in research and development. The results are processed in size-classes and sectors. The most recent data origin from the 2001 survey.

The tables demonstrate, that expressed in an absolute amount of money, SMEs spend less for R&D reasons than large enterprises. Nevertheless table 11 shows that between 1991 and 2001 SMEs as well as enterprises of the bigger size-classes increased their spendings in R&D.

As percentage of turnover (table 12) small enterprises invest relatively more money in R&D activities than the rest of the business sector. The same is true even in a higher degree for the employment ratios as shown in table 13. SMEs with 100 employees at a maximum employ significantly more of their employees in R&D activities than the rest of the business sector.

Table 11: R&D-expenditures of the business enterprise sector by employment size-classes, Germany, 1991 – 2001

Enterprises with ... employees	R&D-Expenditures <sup>1)</sup>					
	1991 in Mill. €	1993 in Mill. €	1995 in Mill. €	1997 in Mill. €	1999 in Mill. €	2001 in Mill. €
less than 20						298.0
20 - 49	} 1 113.6	} 1 403.9	} 1 587.7	} 1 784.0	} 1 541.4	521.9
50 - 99						842.2
100 - 249				1 580.7	1 627.0	1 776.1
250 - 499	} 2 424.0	} 2 368.2	} 2 562.9	1 335.6	1 609.5	2 056.0
500 - 999	1 328.8	1 573.7	1 432.6	1 820.0	2 211.1	2 322.7
1 000 - 1 999	1 803.2	2 178.6	2 022.3	2 964.4	3 391.3	3 829.5
2 000 - 4 999	3 265.2	3 427.3	3 556.8	4 311.7	4 325.2	5 010.9
5 000 - 9 999	2 944.9	2 652.6	2 656.7	2 861.8	5 443.1	4 710.7
10 000 and more	15 927.4	15 554.5	15 752.2	16 371.6	19 106.8	21 871.1
Total	28 807.2	29 158.7	29 571.2	33 029.8	39 255.4	43 239.2

© IfM Bonn

1) Internal and external R&D-expenditures.

Source: Science-Statistics (Wissenschaftsstatistik GmbH), Essen, various volumes

Table 12: R&D-expenditures of the business sector in relation to turnover by employment size-classes, Germany, 1991 - 2001

Enterprises with ... employees	R&D-Expenditures <sup>1)</sup>					
	1991 in %	1993 in %	1995 in %	1997 in %	1999 in %	2001 in %
less than 20	} 4.8	} 5.6	} 6.1	} 6.2	} 5.7	13.9
20 - 49						6.6
50 - 99						4.9
100 - 249	} 2.6	} 2.9	} 2.7	3.5	3.5	3.6
250 - 499				2.7	2.7	2.9
500 - 999	2.1	3.4	3.0	3.5	3.1	3.5
1 000 - 1 999	2.9	2.9	2.5	3.5	3.6	4.5
2 000 - 4 999	2.4	2.6	2.5	2.9	2.6	2.2
5 000 - 9 999	4.3	3.3	3.5	3.4	4.3	3.4
10 000 and more	5.0	5.3	4.8	4.7	5.5	5.9
Total	3.8	4.0	3.7	3.9	4.2	4.2

© IfM Bonn

1) Internal and external R&D-expenditures.

Source: Science-Statistics (Wissenschaftsstatistik GmbH), Essen, various volumes

Table 13: Share of R&D-personnel in overall employment by employment size-classes, Germany, 1991 - 2001

Enterprises <sup>1)</sup> with ... employees	Percentage of employees involved in R&D <sup>2)</sup>					
	1991 in %	1993 in %	1995 in %	1997 in %	1999 in %	2001 in %
less than 20	} 7.8	} 9.0	} 9.9	} 10.3	} 10.4	21.8
20 - 49						11.0
50 - 99						8.0
100 - 249	} 4.1	} 4.4	} 4.5	5.5	5.5	5.7
250 - 499				4.4	4.6	4.8
500 - 999	3.7	4.7	5.1	6.1	5.6	6.5
1 000 - 1 999	4.4	5.0	4.9	6.1	6.0	6.8
2 000 - 4 999	4.4	4.9	4.9	6.2	5.5	6.6
5 000 - 9 999	5.6	5.3	6.1	6.2	8.1	6.8
10 000 and more	5.6	5.9	6.3	6.7	7.9	8.1
Total	5.0	5.5	5.8	6.4	6.9	7.2

© IfM Bonn

1) Enterprises with R&D expenditures.

2) Internal and external R&D-expenditures.

Source: Science-Statistics (Wissenschaftsstatistik GmbH), Essen, various volumes

## **APPENDIX:**

### **Institut für Mittelstandsforschung Bonn (IfM Bonn) Institute for SME-Research Bonn, Germany**

The IfM Bonn was founded as foundation of private law in the year 1957. Founders are the Federal Republic of Germany and the Land of North Rhine-Westphalia represented by the Federal Ministry of Economy and Labour and the Ministry of Economy and Labour of the land North Rhine-Westphalia. According to its statute the IfM Bonn has to analyse the status-quo, the development, chances and problems of small and medium-sized enterprises and to the support herewith the activities of the ministries. In accordance with its founders the institute develops an annual research program. In addition the institute annually carries out a number of research projects financed by third private or public bodies.

In addition to performing basic research and consultancy work on current issues concerning the small business sector, the IfM Bonn concentrates its efforts on the following fields of research: SME Statistics - Observation of Economic Development, SMEs and Public Sector, Life Cycles of Enterprises, SME-Management, SME-Finance, SME-Sales, SME-Employment and Personal Department, Co-operation of SMEs.

From time to time the IfM Bonn also conducts national and international colloquia and seminars. Within the framework of specific, internal seminars technical problems occurring in the context of SME-related studies are discussed with national and international experts. Furthermore, the IfM Bonn participates in national and international meetings and conferences in its fields of research and thereby submits its research findings for discussion.

All results of IfM's research projects and major investigations are published in the series "Schriften zur Mittelstandsforschung NF". Additionally, the IfM Bonn provides discussion papers regarding current issues of economic and management policy. These papers appear in IfM's minor series, entitled "IfM Materialien". Since 1999 IfM Bonn is represented in internet:

[www.ifm-bonn.org](http://www.ifm-bonn.org).

Figure 6: Organisational structure of the IfM Bonn 2003

