

Technical and non-technical innovations in the Czech Republic in 2003-2005

I. Enterprises with innovation activity

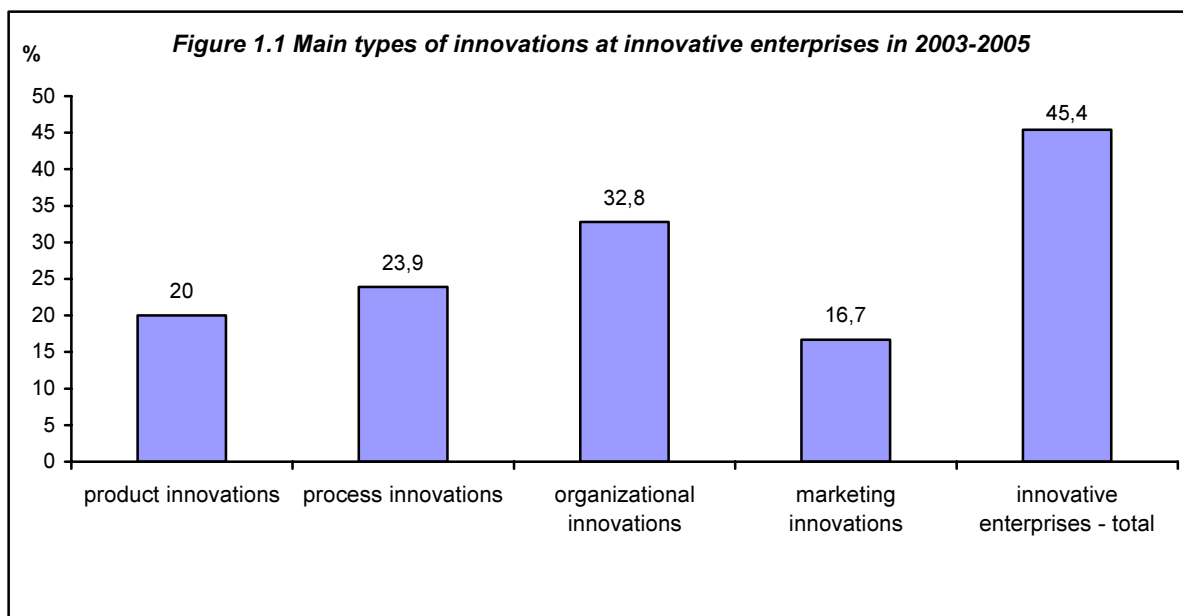
In the innovation survey, that is already the third from 1999, were except for so called technical innovations (product and process) included also questions concerning organizational and marketing innovations.

If it is not said otherwise then **innovating enterprise** is meant the enterprise, that has implemented at least one of the above stated innovations within the observation period and **innovative active enterprise** is the enterprise that has in the surveyed period innovative activities including the ongoing and interrupted ones. In other words, enterprises, that had innovation activities in the observation period no matter whether this activity lead into the implementation of innovation, are, according to the Oslo manual definition innovative active.

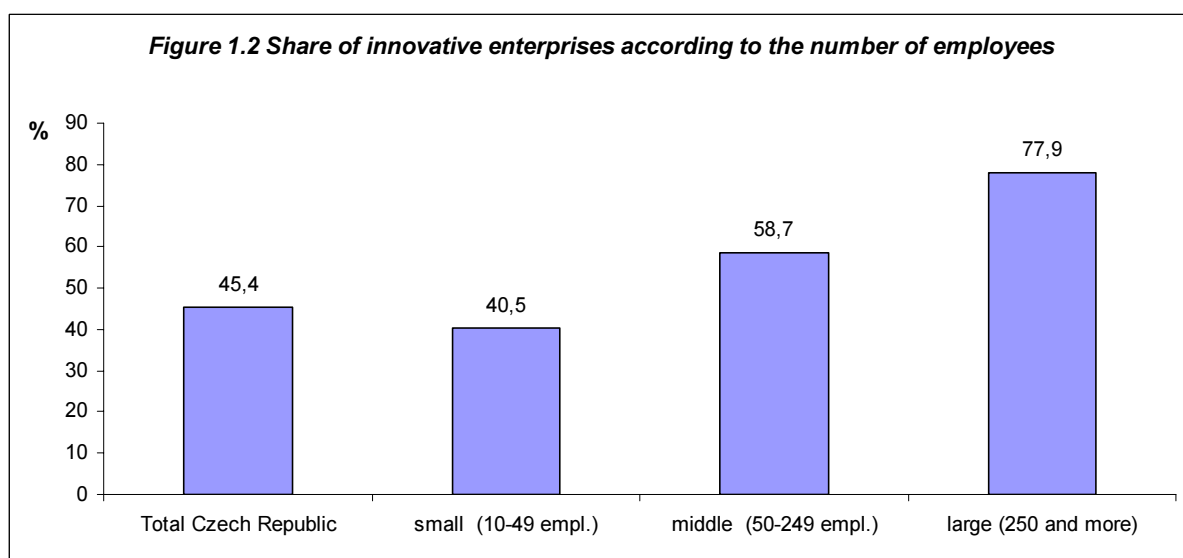
Tab. 1.1 Innovative enterprises in the Czech Republic in 2003-2005 according to the type of innovation

	Innovative enterprises		Enterprises with product innovation		Enterprises with process innovation		Enterprises with marketing innovation		Enterprises with organizational innovation	
	Number	%	Number	%	Number	%	Number	%	Number	%
Total CR	16343	45,4	7219	20,0	8601	23,9	6032	16,7	11812	32,8
Small enterprises (10-49 empl.)	11319	40,5	4450	15,9	5336	19,1	4076	14,6	7854	28,1
Medium enterprises (50-249 empl.)	3950	58,7	2082	31,0	2505	37,2	1495	22,2	3073	45,7
Large enterprises (250 and more)	1074	77,9	687	49,8	760	55,1	461	33,4	885	64,2
Mining and quarrying	49	40	15	11,9	24	19,4	11	9,1	41	33,9
Manufacturing	6764	54,8	3811	30,8	4038	32,7	2471	20,0	4597	37,2
Electricity, gas and water supply	136	40,6	37	10,9	82	24,4	15	4,4	104	30,9
Construction	1848	37,5	388	7,9	661	13,4	383	7,8	1501	30,5
Services	7546	41,2	2969	16,2	3796	20,7	3152	17,2	5569	30,4

Table 1.1 informs about innovative enterprises in the Czech republic in 2003-2005 according to the type of innovation in the main economic sectors and in the three size classes showing both absolute numbers and percentage share of innovative enterprises on the total number of enterprises. In the Czech Republic there are 45,4% innovative enterprises. The most frequently appears enterprises with organizational innovations (32,8%) followed by enterprises with process innovations (23,9%), product innovations (20,0%) and the lowest amount of enterprises is in the group of marketing innovators (16,7%) (see also figure 1.1).



From the results of the survey it is also evident the relation between size of the enterprise and innovation activity. Whether it goes for product, process, marketing or organizational innovation, it is always the highest number of innovative enterprises among large enterprises (77,9%) then among middle enterprises (58,7%) and at least in the group of small enterprises (40,5%) (see Figure 1.2)



According to the main sectors of economic activities are not so big differences among frequency of innovations. The highest amount of innovative enterprises is in manufacturing (54,8%), in services, there are 41,2% of innovative enterprises. Gas, electricity and water supply (40,6%) and mining and quarrying (40%) reach almost the same value of 40%.

It is interesting to compare innovation activity of the economic subjects that are a part of the enterprise group with headquarters abroad and national subjects. From the obtained results revealed that whilst among national subjects there were 43% innovative ones in 2003-2005, among enterprises with headquarters abroad there were 65% innovative active enterprises.

Tab. 1.2 Comparison of innovation surveys

Survey / Period	Type of innovation (% from the total number of all economic subjects)			Reporting units		
	Product or process innovations (in %)	Product innovation (in %)	Process innovation (in %)	Number of reporting units in the survey	Coverage (in %)	Response (in %)
TI 2001 (1999-2001)	29	23	17	3 686	18	63
TI 2003 (2002-2003)	26	22	12	3 802	16	81
TI 2005 (2003-2005)	29	20	24	8370	17	74

Table 1.2 shows trend of innovation activity focusing on results from the so far carried out innovation surveys. It is possible to say, that innovation activity is in the seven Years period relatively stable and is at the level of 26% in 2003 or 29% for both 2001 and 2005 for product or process innovation. It is necessary to say, that the survey in 2003 collected data for shorter, only two Years reference period, and therefore results can be influenced by this fact. Product innovation is on the contrary the highest in 2001 (23%), in 2003 declined on 22% and in 2005 reached value of 20%. With regard to the process innovation is the trend opposite, the highest number of process innovators is in 2005, and this is 24%, then in 2001 with 17% and the underflow was reported in 2003 with 12%. The table shows that number of reporting units was in 2001 and 2003 similar, it means 3686 in 2001 and 3802 in 2003. In case of the survey TI 2005 increased the sample size on 8370 units reflecting the fact, that into the survey were included new sectors and the regional aspect was taken into account which required bigger sample in order to assure quality of the results. Coverage is similar Min all surveys at the levels 18% in 2001, 16% in 2003 and 17% in 2005. Concerning response rate, the highest return of the filled questioners was reached in 2003 (81%), the lowest then in 2001, only 63%, and in the recent survey TI 2005 reached the response rate the satisfactory high level of 74%.

Innovation activity in particular regions of the Czech Republic presents figure 1.3. This indicator shows share of innovative enterprises on the total enterprises in the given region. It is evident, that the highest number of innovative enterprises was recorded in Jihomoravský region (63,7%) and in Prague (62,7%). High representations have also following regions: Pardubický (59,5%), Olomoucký (59,3%), Zlínský (56,6%), Vysočina (56%), Středočeský (55,7%) a Královéhradecký (55,7%). Above 50% got also Moravskoslezský region with 53,3%. Other regions: Jihočeský, Plzeňský, Ústecký, Liberecký reached values above 40% and in comparison with other regions was the lowest value of the indicator recorded in Karlovarský region, only 32,6%.

Figure 1.3 Innovative enterprises in regional breakdown

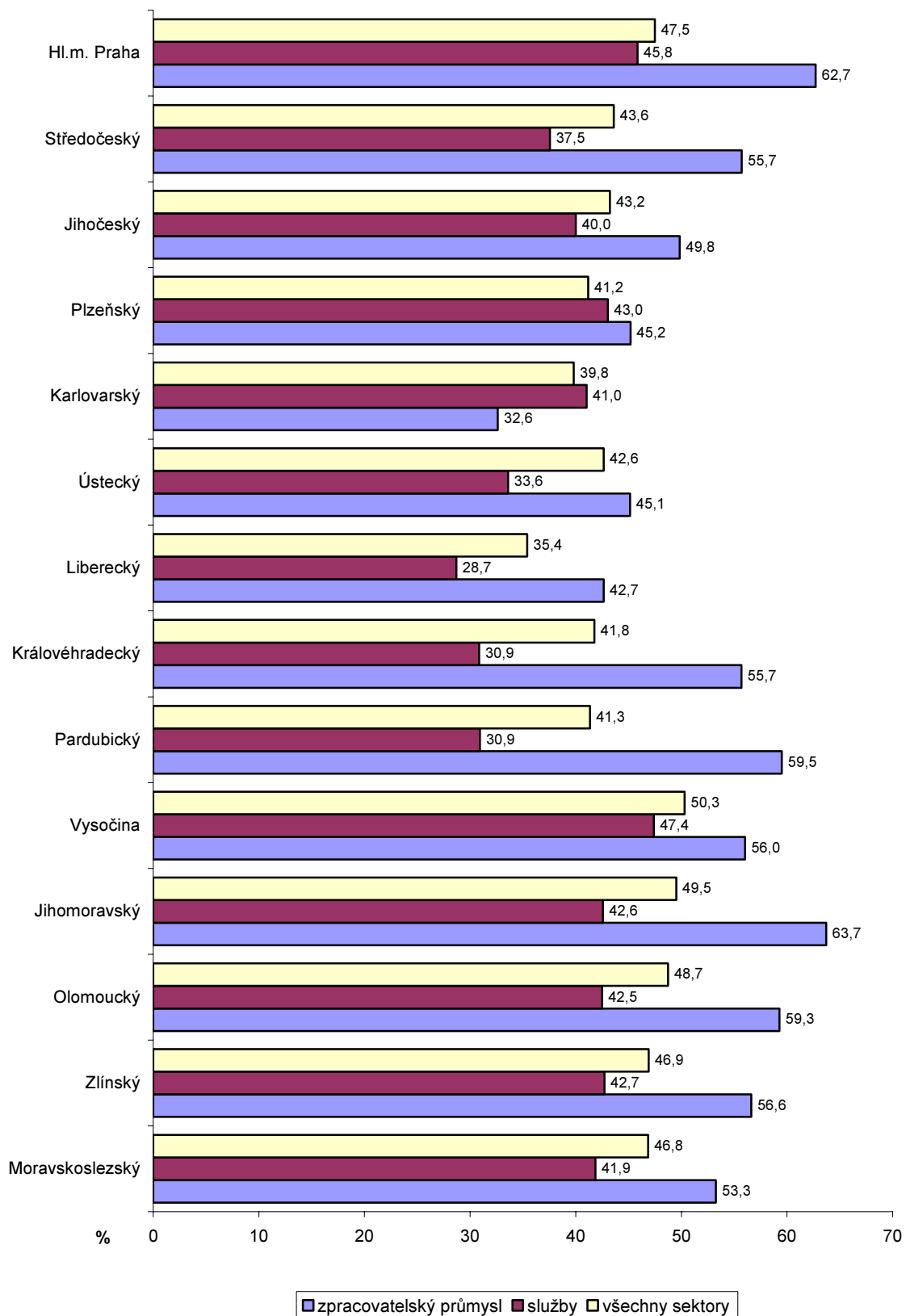


Figure 1.4 Share of innovative enterprises according to the regions

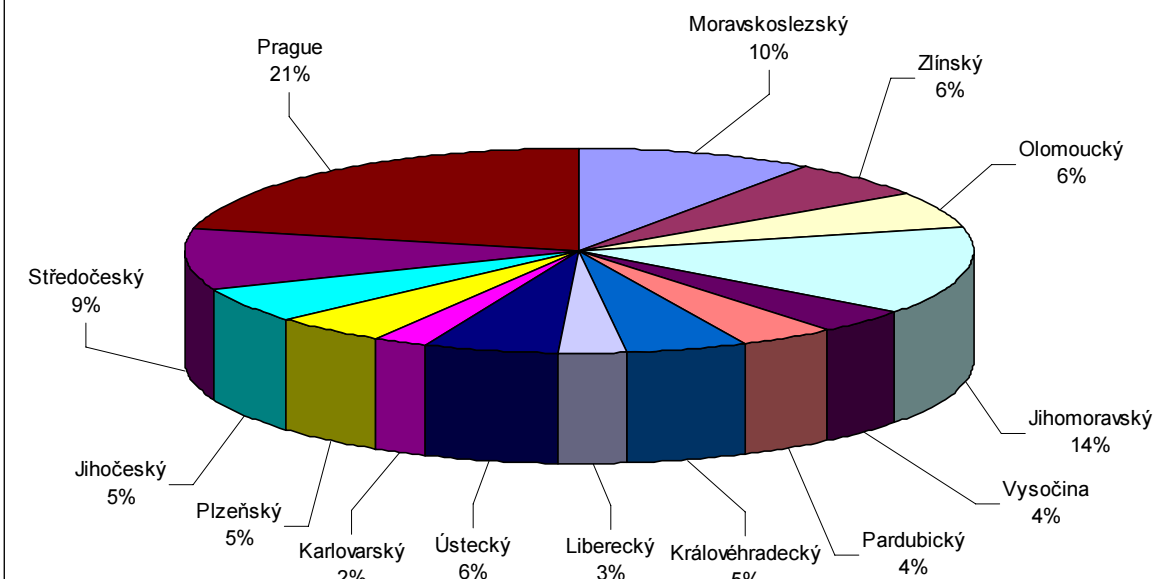


Figure 1.4 informs about share of innovative enterprises according regions. This indicator is calculated as a share of innovative enterprises in the given region on the total number of innovative enterprises in the whole Czech Republic. The most of the innovative enterprises are with regard to this indicator located in Prague (21%) and follows Jihomoravský region with 14%. Other regions already do not reach values of two digits and their shares are following: Středočeský region 9%, regions Ústecký, Olomoucký and Zlínský reached 6%, regions Plzeňský and Královéhradecký 5%, regions Pardubický and Vysočina 4% and the lowest representation of innovative enterprises is in region Liberecký (3%) and Karlovarský (2%).

Following figures (1.5 – 1.6) inform about share of innovative enterprises in the selected sectors of manufacturing or services on the total number of enterprises in the given sector.

Figure 1.5 shows the situation for manufacturing, where the dominant position have coke and chemicals (75,3%) followed by transport equipment NEC (68,4%) and machinery and equipment (64,9%) together with electrical and optical equipment (59,6%). Above 50% got also sectors rubber and other non-metallic (58,2%), food, beverages and tobacco (54,7%), and basic and fabricated metals (54,6%). The lowest share of innovative enterprises was on contrary in wood, pulp and printing (47,3%), in manufacturing NEC and recycling (43,1%) and in textile and leather (42,2%).

Figure 1.6 brings the same information for service sector. The highest number of innovative enterprises was in 2003-2005 in research and development (74,3%), financial intermediation (73,9%) and computer and related activities (71,9%). Other sectors reached much lower value of this indicator and it is about 40%. It is rental of machinery and equipment (47,4%), other business activities (44,1%) and retail, repairs of motor vehicles, retail sale of fuel (43,1%). The lowest share of innovative enterprises was in activities concerning real property (25,1%) followed by accommodation and feeding (25,9%), a bit higher values reached transport, storage and communication (35,2%).

Figure 1.5 Share of innovative enterprises in selected sectors of manufacturing on the total number of enterprises in the given sector

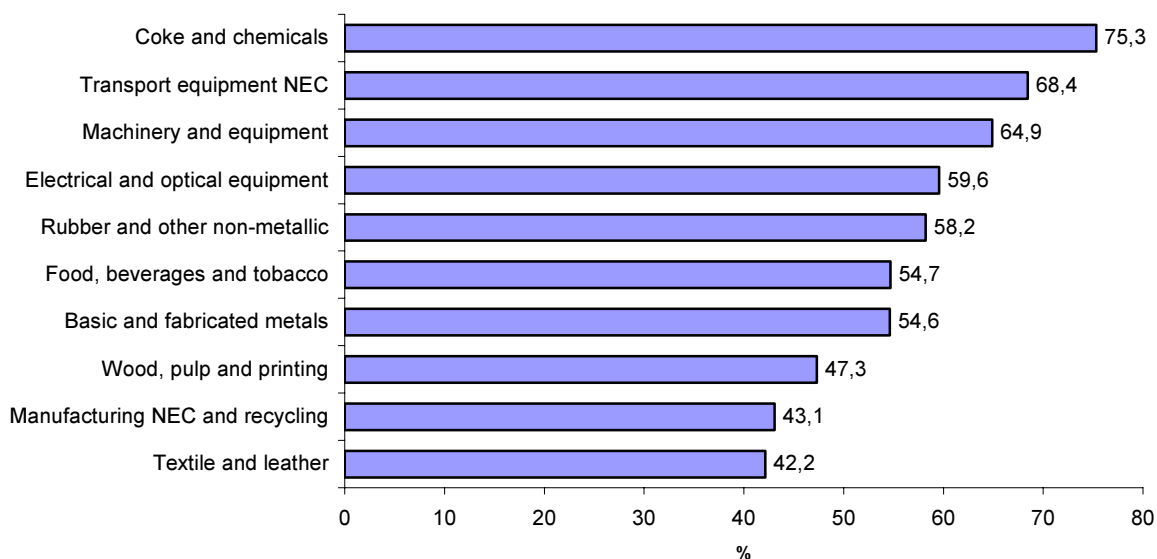


Figure 1.6 Share of innovative enterprises in the selected service sectors on the total number of enterprises in the given sector

