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**FUTURE PERSPECTIVES OF INDEPENDENT PHARMACIES IN THE CZECH
REPUBLIC – COMPARATIVE ANALYSIS OF SELECTED FINANCIAL
INDICATORS OF INDEPENDENT PHARMACIES.**

Písek, J.

Abstract

Objectives: To evaluate the performance of independent pharmacies in the Czech Republic based on analysis of the latest available financial data of the sample of pharmacies.

Methods: The comparative analysis of pharmacies and their financial indicators in the period from 2013 to 2017 in a randomly selected sample. **Results:** Randomly selected sample includes nine micro-enterprises; one pharmacy operated in the commercial centre; a polyclinic pharmacy and eight community pharmacies. The company-specific table contains nineteen figures, seven ratios and three growth rates. **Conclusion:** A review of performance in the independent pharmacy segment based on financial results shows good financial status in most pharmacies examined. Seven companies in the sample have performed very well. Reducing personnel costs in the other two can achieve a balanced or profitable economy. Only one of the pharmacies is over-indebted and threatened by insolvency. The perspectives of operating independent pharmacies seem to be positive based on historical results and expected changes in the near future.

Key words: Pharmacies, Financial management, Economic competition.

JEL classification: G32, I11, M21, M41

1. Introduction

Business companies are currently facing an entirely new environment that is more dangerous and sneaky than any previous economic history. Events are coming with disproportionately greater dynamics, without early warning signals (Kislingerová 2010). The retail industry has undergone a significant transformation over the past decade, and it continues to evolve quickly. The pharmacy is exposed to a change faced by retail outlets around the world. Most retailers currently offer a similar assortment and similar services. Customers have much more in-depth knowledge, are ready to find and compare the prices of the goods, are educated on pricing strategies and are now prioritizing value. Current trends include new forms of retailing and combinations of them, increased competition across different forms of retailing, especially between retailers and e-commerce, and the growth of retail giants. We can observe increasing investment in technology and the expansion of multinational companies operating retail sales to new markets (Kotler and Keller 2013). At the same time, healthcare systems confront a significant increase in the cost of modern therapies and pharmaceuticals. The governments of all EU countries need to optimise and look for potential savings in health care to ensure sustainable funding (Busse et al. 2017). Independent pharmacies face the competition of chains and e-pharmacies that utilise economies of scale and bargaining power with suppliers to achieve favourable purchasing conditions they can offer to their customers. This way, the chains and e-pharmacies achieve higher turnover, market share and profit.

The financial analysis complements the forecast of the future development of the financial assumptions for the further existence of the company using analysis of the economy and finding the root cause of a problem (Grünwald and Holečková 2009). Any analysis may suffer from so-called "analysis paralysis", so it is necessary to keep calculations at a level where they ensure transparency and consistency with the economy of the business. The future is always uncertain, but if we predict the future development of financial indicators by existing sources of information and we will carefully manage the company through both short and long-term plans, we will provide a reasonable basis for success in business. On the other hand, as noted by Professor Kislingerová et al. (2007), aggregate data from the financial statements, i.e. the balance sheet, the profit and loss statement and the cash flow statement, is

not the complete information. They can't provide a full and detailed picture of business management, strengths and weaknesses, threats and opportunities.

In the case of pharmacies, the need to obtain all available information regarding the location of the establishment is beyond the changes that are being prepared or are visible abroad, such as the mail-order of prescription drugs or the switch from the volume to the performance remuneration of the pharmacy activities. The operation may affect the change of the lease contract, the relocation of medical offices, building changes in the neighbourhood and, last but not least, the opening of a competing pharmacy.

The business partners of a pharmacy evaluate the ability to pay its debts in time. Each pharmacy co-operates closely with its main supplier (wholesaler) who, based on experience from the commercial transactions, may subsequently modify business terms, such as a combination of the business credit (invoice maturity) and the trade surcharge (mark-up). A wholesaler can provide a loan for investment in a pharmacy facility or the opening of another subsidiary or the payment of a shareholder's share in case of a change of the shareholder's structure.

The financial analysis should indicate the level of financial risk in the current financing method, the current economic results and capital ratios. Furthermore, it should estimate the level of operational risk that the company can absorb. Financial accounting provides algorithms and data for this purpose (Grünwald and Holečková 2009). The primary source of information is the financial statement. Standard financial statements include a balance sheet, a profit and loss statement and a cash flow statement. By Section 21 of the Act on Accounting, the body registered in the Commercial Register must publish the financial statement and designated bodies have the obligation to add the annual report. The public financial statement includes the balance sheet, the profit and loss statement and the attachment, which describes and supplements the information in the statements. The data published are accessible to the general public via the Internet in the Public register at the Ministry of Justice website – <https://portal.justice.cz> (Veřejný rejstřík 2018).

When conducting a comprehensive analysis of financial statements, we will use five years of data (four years for Děčín, three for Klecany and U Zlatého lva) to facilitate horizontal analysis. Each financial statement, we will analyse using vertical analysis to see how different categories of statements affect results. Finally, ratio analysis will be used to isolate some

performance metrics in each company and also to merge data points between companies together to identify external changes affecting the entire pharmacy sector.

2. Background information

2.1 Current Pharmacy Trends

Pharmacy business has changed radically throughout Europe and the most advanced countries over the past decades due to competition from chains, pharmacies located in shopping centres and e-pharmacies (Písek and Pícha 2018).

„There is a danger that the high quality of patient counselling will soon disappear. Counselling is often considered as a waste of energy time that contributes little to maximising profits. Operators save costs by saving on human resources. The most extreme example of this trend is a mail-order pharmacy that eliminates many overhead and labour costs, and offers virtually no personalised access to the patient“ (Resnik et al. 2000).

Vogler, Arts and Habl (2006) compared the quality and availability of pharmacy care in three European countries where pharmacy chains are allowed, with three, where pharmacies are owned exclusively by pharmacists. The authors state that service levels are sufficient in all countries surveyed, but they are slightly higher in regulated (without chains). Liberalisation leads to vertical integration and the formation of large companies that can achieve significant market power that can lead to oligopolistic or even monopoly market structures. The formation of chains is accompanied by an increase in the number of pharmacies and concentration of the network with a tendency to clustering in attractive localities and the closure of pharmacies in smaller towns. Vogler et al. (2006) further suggest that a more significant increase in the number of pharmacies may lead to local deterioration of the pharmacies' economic situation and a reduction in the number of staff in pharmacies.

The team of authors (Moullin et al. 2013) defines in its article professional pharmacy services that should be provided in a community pharmacy. The goal is that the pharmacy is appropriately recognised not only as a source of pharmaceuticals and other products but also as a provider of professional services.

Vogler, Habimana and Arts (2014) compare the availability and quality of pharmacy service in five countries after the liberalisation of the conditions for operating pharmacies with four regulated countries. Availability is higher in cities but does not change in less

populated areas. The authors note that a substantial increase in the number of pharmacies occurs in five years after liberalisation, and then the total number of pharmacies is stabilising. The workload of pharmacists is increasing in liberalised countries. Expectations to reduce the price of unregulated assortment after liberalisation have not been met.

Martins and Queiros (2015) describe the case of Portuguese pharmacies as changing the range of pharmacies' services after the government puts forward pro-competitive measures. In the case of Portugal, authorities allowed the sale of over-the-counter medicines outside the pharmacies and liberalised the conditions for operating a pharmacy. The number of pharmacies had been increased by 32% between 2005 and 2011. The authors note that the number of pharmacies has grown only in large cities. Pharmacies have begun offering new services, such as vaccination, home delivery, smoking cessation programs, and more.

The increase of precarious work among professionals has been documented in many countries. The main problem in the UK was the growth in the number of pharmacists who decided to be self-employed, as opposed to seeking permanent employment. With the expansion of precarious work, a new, involuntary form of employment appeared, with the extension of 'zero-hour contracts' and 'exclusivity agreements'. These flexible and precarious working conditions are particularly affected by highly educated young health professionals (Traulsen and Druedahl 2018).

“Currently, there are shortages of health care providers with increasing shortages in primary care predicted for the future. Specifically for physicians, it is predicted there will be a shortage of at least 43,000 primary care physicians and 140,000 total physicians in the US by 2030. Community-based pharmacists, however, can help to address this problem” (Goode et al. 2019).

2.2 Pharmaceutical Market in the Czech Republic

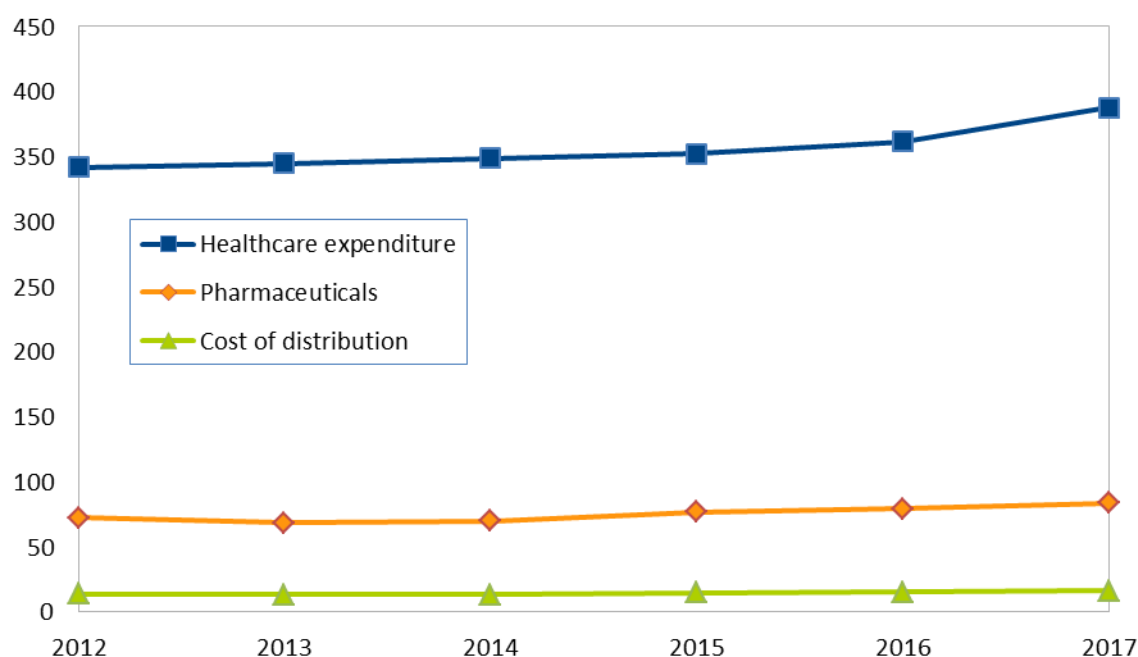
The pharmaceutical market is characterised by an asymmetry of information where the clear predominance is on the supply side and the soft budget constraint on the end customer. The consumer in most EU countries is a participant in the health insurance program, so he or she is not or only has a limited stake in the actual amount of healthcare spending he/she consumes (Ochrana et al. 2010). Recently, awareness has been increasing, thanks to the

discussion and exchange of information on social networks that strengthen the patient's position in communicating with healthcare professionals (Smailhodzic et al. 2016).

Healthcare costs

According to the Czech Statistical Office, from now on referred to as CSU (2019), approximately CZK 387 billion was spent on health care in 2017 compared to 2016, when this amount was CZK 362 billion (7% increase 2017 vs 2016). CZK 84 billion (final price for consumers excluding VAT), i.e. 22% of which was medicinal products. This amount increased by 5.6% compared to the previous year, according to the data of the State Institute for Drug Control (from now on referred to as SUKL (2019b)). The drug distribution price is included in the amount of 84 billion and accounts for 19.2% (IQVIA data, own calculation), or more than 16 billion crowns. Distribution accounts for 4.2% of total health care costs.

Fig. 1 Graph of the evolution of health care costs, cost of pharmaceuticals and distribution costs (CZK billions)



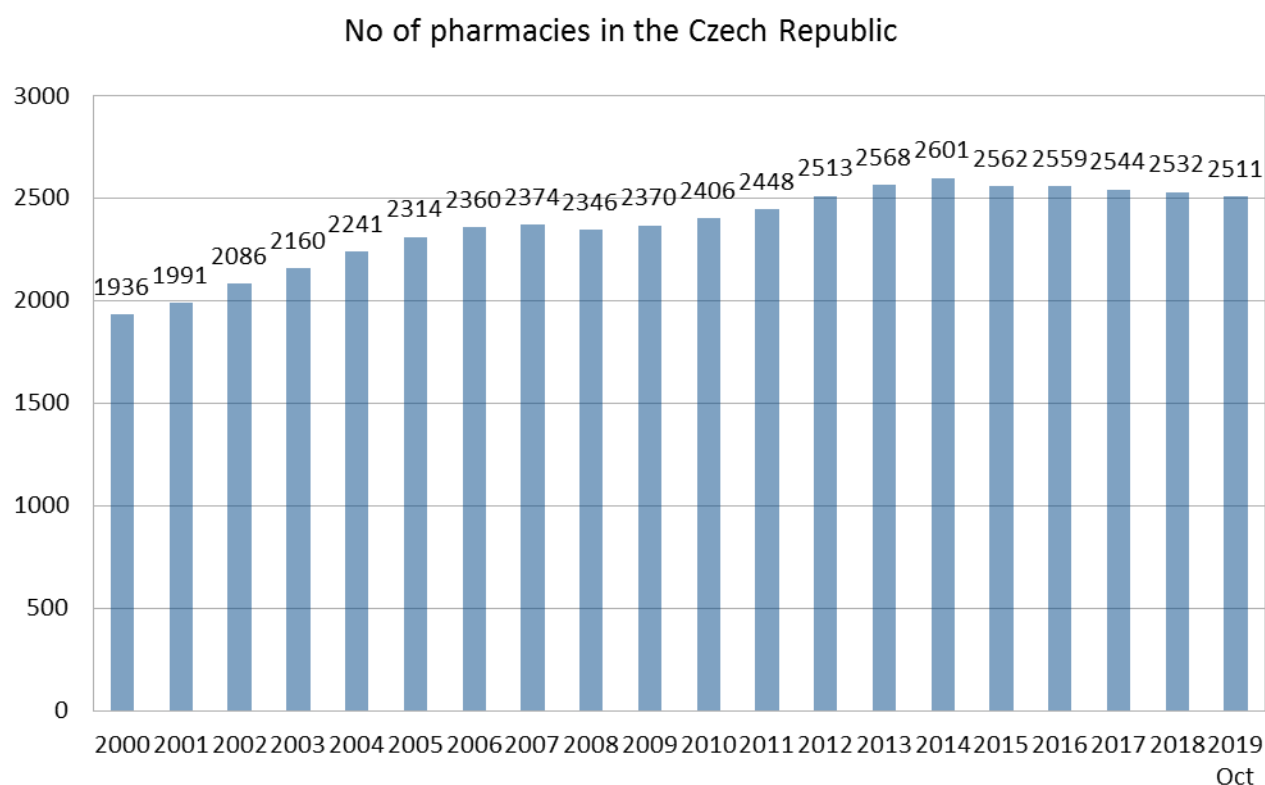
Source: CSU (2019) and SUKL (2019b). Author's elaboration

Drug consumption in the Czech Republic grew to CZK 90 billion in 2018, a further year-on-year increase of 6.8%. This amount is made up of 90% of prescription-only medicines (from now on referred to as "POMs"), and the remainder is over-the-counter medicines (SUKL 2019b).

Retail pharmaceutical market

912 pharmacies operated in the Czech Republic in 1989. SUKL (2019a) registered the highest number of 2,601 at the end of 2014. The current status is 2,511 as of October 15, 2019.

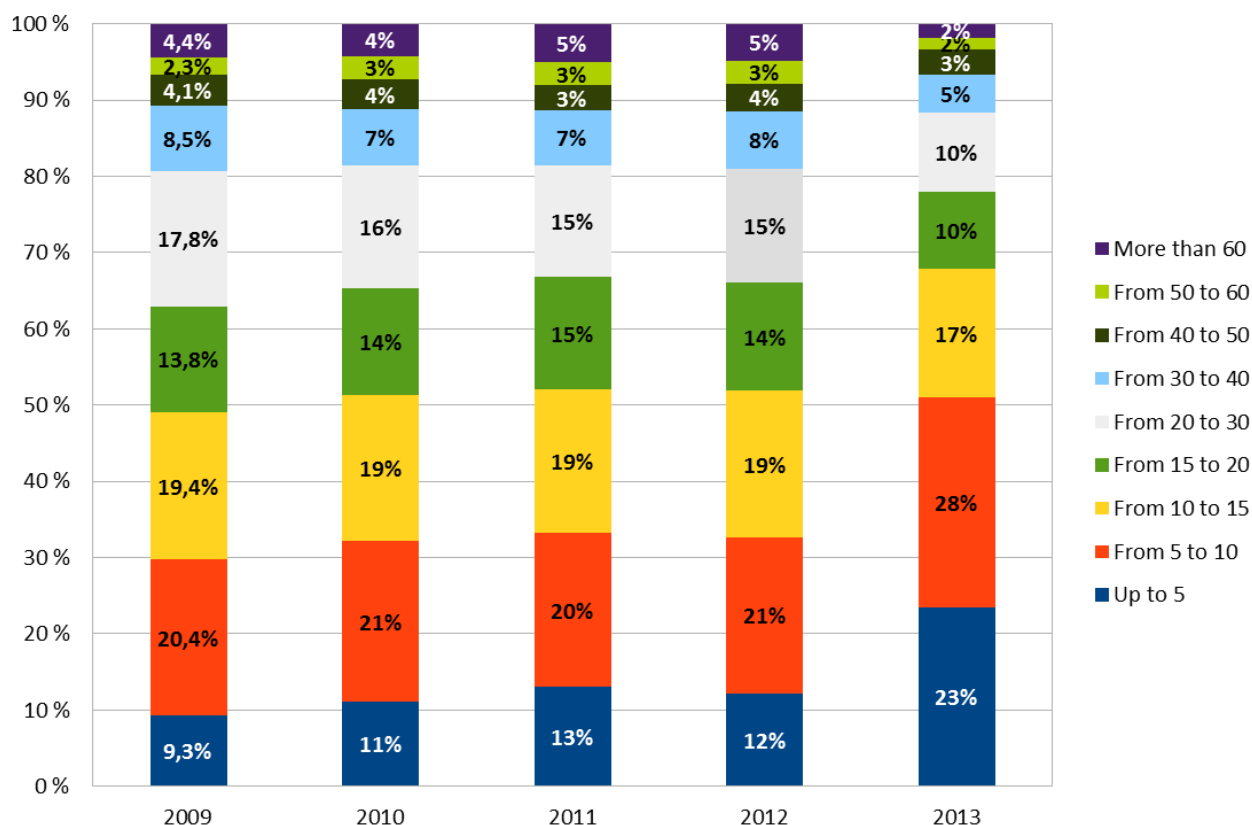
Fig. 2 Graph Number of pharmacies in the Czech Republic



Source: SUKL (2019a). Author's elaboration

According to data of the Institute of Health Information and Statistics of the Czech Republic (UZIS 2016), the average turnover of the pharmacy is between 20 and 21 million crowns per year. UZIS (2016) indicates the ratio of POMs versus over-the-counter medicines is 89% versus 11%. Food supplements, hygiene, cosmetics, or baby food are part of the range offered by each pharmacy. This category of products has a slightly lower contribution to the total turnover than over-the-counter products. Krejsta (2015) presented in his presentation the ratio of 82% of POMs and 18% turnover is the sale of all other products. The contribution of POMs could be 90% at the polyclinic pharmacy. On the contrary, it is lower in pharmacies in shopping centres, where POMs can account for only 65% of the turnover but remains the primary source of pharmacy revenue (personal work experience).

Fig. 3 Diagram of distribution of pharmacies according to the annual turnover of pharmaceuticals (turnover is in millions of CZK)



Source: UZIS (2014)

Graph 3 shows the distribution of pharmacies in the Czech Republic by the turnover of pharmaceuticals in the years 2009 to 2013. Unfortunately, the UZIS does not publish this statistic anymore; more recent data are not available. The graph shows that over the five years, the proportion of pharmacies with an annual turnover of up to ten million crowns has reached more than 50%, from about 30% in 2009. The Czech Chamber of Pharmacists push to authorities to increase the revenues of the pharmacies through the rise of payment for the dispensing fee, and in this effort, they succeeded this year (Cikrt 2018).

Pharmacy chains

Chains such as LEBO or Devčtsil originated in the early 1990s, but the significant change became the Celesio (now McKesson Europe) entered into the pharmacy segment in 1999. Phoenix followed as the Alliance Union Invest company taken over from its Austrian

competitor Jacoby in 2001. Penta entered the market by acquiring the Česká lékárna company with 33 pharmacies in 2004 (Metyš and Balog 2006).

The following chains operate in the Czech Republic (SUKL 2019a):

Chain (number of pharmacies)	August 2017	October 2018	October 2019
Dr.Max	415	431	455
BENU	200	216	232
IPC	34	36	42
Pilulka	29	35	34
Agel	25	28	30
Devětsil	20	20	21
EUC	12	19	19
Teta	14	15	9
Na Zdraví (DRFG)	15	15	sold to Dr.Max

Source: SUKL (2019a). Author's elaboration

Retail concentration has progressed in recent years through mergers and acquisitions in most retail segments and a similar process following in the Czech pharmacy chains. Dr.Max acquired “Lékárny Na Zdraví” in January 2019. BENU took over “Lékárny Fajn” with eleven branches in August 2019. EUC acquired Medifin a.s. in March 2018 and added another six pharmacies to the chain.

External factors as the market growth and the stable number of competitors are positive for pharmacy business in the Czech Republic, but pharmacies report a decrease in sales (UZIS 2014) and a decrease in profits due mainly to increased wage costs for employees (UZIS 2018). The Chamber of Pharmacists have been warning that “public pharmacies continue to lose revenue” (Chamber of Pharmacists 2016) or “the Congress convened the politicians to stop the liquidation of public pharmacies” (Chamber of Pharmacists 2017) or “most public pharmacies remain in a critical situation” (Chamber of Pharmacists 2018). Based on the evaluation of the financial results of ten pharmacies from the sample of 199 companies, we try to evaluate the overall situation of the whole industry and estimate the prospects for future development in the segment of independent pharmacies.

3. Aim of the paper and methods

Aim of the paper

The aim of this article is to evaluate the performance of independent pharmacies based on analysis of the latest available financial data of the sample of pharmacies. The results of the analysis will form part of the data from which we will subsequently evaluate the future perspectives of independent pharmacies. The partial aim is to identify opportunities for active management to maintain or improve the profitability of an independent pharmacy in the growing competition of pharmacy chains and mail order companies.

In addition to the main aim of the paper we formulated the following research question:

Can we identify significant (negative) deviations in selected accounting items (Sales of products, goods and services; Gross margin; Personal expenses and Profit/Loss after-tax) in year-over-year comparisons within the period under review?

Methods

The source of information for the comparative analysis is the primary data from the Public Register (Veřejný rejstřík 2018). We received a list of 369 subjects by entering the keyword "pharmacy" in the Public Register (data valid as of October 10, 2018). Nineteen companies were identified as being in liquidation or bankruptcy. Using a random number generator, we chose ten companies we examined whether they are active in business, i.e. they have at least the financial statements for two accounting periods between 2013 and 2017 and are listed on the list of SUKL (2019a) on October 10, 2018.

Data for the analysis was drawn from the Balance Sheets and the Profit and Loss Statements. The resulting company-specific table in MS Excel 2010 contains nineteen figures, seven ratios and three growth rates.

Line number six in the tables **Cash 2016-2017 Short-term financial assets (2013-2015)** includes the amount of cash or cash equivalents in years of 2016 and 2017 and the amount of Short-term financial assets in years till 2015 because of changes applied in the Balance Sheet structure valid from 2016. Cash funds are the only short-term financial asset in all pharmacies throughout the period under review.

Gross margin is the difference in **Sales of products, goods and services** minus **Costs of goods sold**

Inventory Turnover consists of **Sales of products, goods and services / Inventory**

Average Collection Period (in days) is **Short-term receivables (Trade receivables where available) / (Sales of products, goods and services / 360)**

Creditors Payment Period (in days) is **Short-term payables (Trade payables where available) / (Sales of products, goods and services / 360)**

Debt Ratio = Total debt (**Other sources**) / **Total assets**

Return on sales (net) = **Profit/Loss after tax / Sales of products, goods and services**

Current Ratio = **Current assets / Short-term payables (Trade payables where available)**

The sales growth rate, the profit/loss (after tax) growth rate and the gross margin growth rate – the change over a selected period of time; the base-year concept, and the percentage increase/decrease from the base year.

Personnel cost/Sales is **Sales of products, goods and services / Personal expenses**

We also analysed sales development, gross margin and personnel cost developments. We carried out a vertical analysis of Personnel cost in relation to company sales. We analysed the financial performance of individual pharmacies. Data extracted into comparative tables, where we analysed them horizontally and where we have comparable data, we calculated the average values.

4. Research data

In our randomly selected sample, nine out of ten enterprises according to turnover and number of employees are micro-enterprises. Děčín a.s. currently belongs to the IPC chain and is operated in the shopping centre „Pivovar“ in Děčín. The pharmacy U Asklepiea is a polyclinic pharmacy and exceeds the criteria for micro-enterprise by both the number of employees (fifteen) and the turnover. The remaining eight companies run community

pharmacies; they serve part of the city or the whole city. A community pharmacy is a pharmacy that deals directly with people in the local area (www.definitions.net).

Examined companies

Table 1 Sample from a set of companies operating pharmacies and their sales in thousands of Czech crowns

Number in list	Body	2013	2014	2015	2016	2017
124 (126)	Lékárna U Kašny	13 685	14 670	14 443	17 393	17 896
164	Lékárna U sv. Jakuba	21 946	22 585	25 287	26 331	27 085
94 (96)	Lékárna Klecany	8 221	7 789	7 860		
240 (241)	Lékárna U Asklepia	69 788	74 049	83 830	90 334	94 411
50	Lékárna U České koruny	7 855	21 321	22 524	22 412	23 384
366 (1)	Lékárna s.r.o.	13 670	12 831	12 645	12 544	11 565
331 (341)	Lékárna Děčín	0	807	6 470	9 003	12 029
293 (294)	Lékárna Primula	9 179	8 938	9 459	8 799	9 037
220	Lékárna U Zlatého lva	1 138	6 611	6 631		
180 (189)	Lékárna U Zlaté Koruny	16 692	15 251	14 676	13 094	13 473

Source: Veřejný rejstřík (2018)

An average of twelve million crowns of annual sales corresponds to an empirically derived threshold for a profitable pharmacy. This turnover is considered by pharmacists and those interested in operating a pharmacy as minimal for the sustainable operation of a pharmacy. Pharmacies with lower sales are mostly run by pharmacists who are often the only full-time pharmacies employee.

Table 2 Lékárna U Kašny (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	4 510	4 047	3 970	4 058	4 486
2	Tangible fixed assets	0	0	0	0	0
3	Current assets	4 410	3 947	3 870	3 921	4 373
4	Inventory	1 680	1 535	1 679		
5	Short-term receivables	1 130	491	523		
6	Cash funds (Short-term financial assets 2013-2015)	1 600	1 921	1 668		
7	Equity	1 404	1 673	1 922	2 318	2 797
8	Other sources	2 796	2 084	1 767	1 450	1 569
9	Reserves					
10	Long-term payables					
11	Liabilities to credit institutions					
12	Short-term payables (Payables 2016-2017)	2 796	2 084	1 767	1 450	1 569
13	Sales of products, goods and services	13 685	14 670	14 443	17 393	17 896
14	Costs on goods sold	11 398	12 034	12 228	13 690	
15	Gross margin	2 287	2 636	2 215	3 703	
16	Gross margin in %	16,7%	18,0%	15,3%	21,3%	
17	Personal expenses	1 427	1 533	1 563	1 686	
18	Interest expenses	0	0	0	0	0
19	Profit/Loss before tax	263	332	356	726	1 266
20	Profit/Loss after tax	213	269	285	588	1 026
21	Inventory Turnover	8,1	9,6	8,6	n.a.	n.a.
22	Average Collection Period (days)	29,7	12,0	13,0	n.a.	n.a.
23	Creditors Payment Period (days)	73,6	51,1	44,0	30,0	31,6
24	Debt Ratio	62%	51%	45%	36%	35%
25	Return on Sales (net)	2%	2%	2%	3%	6%
26	Current Ratio	1,6	1,9	2,2	2,7	2,8
27	Sales growth rate	100%	107%	106%	127%	131%
28	Profit/Loss (after tax) growth rate	100%	126%	134%	276%	482%
29	Gross margin growth rate	100%	108%	92%	127%	n.a.
30	Personnel (Payroll) cost/Sales	10,4%	10,4%	10,8%	9,7%	n.a.
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The company “Lékárna U Kašny” is owned by a physician gynaecologist. The pharmacy is located in a small medical centre, where the owner runs his office, and there practise three general practitioners and one dentist.

Table 3 Lékárna U sv. Jakuba (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	4 704	4 688	5 265	5 931	6 387
2	Tangible fixed assets	311	165	66	14	9
3	Current assets	3 775	4 485	5 126	5 844	6 302
4	Inventory	1 599	1 742	2 003		
5	Short-term receivables	1 111	1 182	1 303		
6	Cash funds (Short-term financial assets 2013-2015)	1 065	1 561	1 820		
7	Equity	2 378	2 716	3 200	3 845	4 364
8	Other sources	2 325	1 992	2 092	2 141	2 078
9	Reserves					
10	Long-term payables					
11	Liabilities to credit institutions					
12	Trade payables (Payables 2016-2017)	1 803	1 576	1 736	2 141	2 078
13	Sales of products, goods and services	21 946	22 585	25 287	26 331	27 085
14	Costs on goods sold	16 435	16 911	19 142	19 735	20 310
15	Gross margin	5 511	5 674	6 145	6 596	6 775
16	Gross margin in %	25,1%	25,1%	24,3%	25,1%	25,0%
17	Personal expenses	2 443	2 460	2 822	2 851	3 151
18	Interest expenses	0	0	0	0	0
19	Profit/Loss before tax	1 681	1 889	2 069	2 245	2 111
20	Profit/Loss after tax	1 369	1 539	1 684	1 844	1 719
21	Inventory Turnover	13,7	13,0	12,6	n.a.	n.a.
22	Average Collection Period (days)	18,2	18,8	18,6	n.a.	n.a.
23	Creditors Payment Period (days)	29,6	25,1	24,7	29,3	27,6
24	Debt Ratio	49%	42%	40%	36%	33%
25	Return on Sales (net)	6%	7%	7%	7%	6%
26	Current Ratio	2,1	2,8	3,0	2,7	3,0
27	Sales growth rate	100%	103%	115%	120%	123%
28	Profit/Loss (after tax) growth rate	100%	112%	123%	135%	126%
29	Gross margin growth rate	100%	100%	97%	100%	100%
30	Personnel (Payroll) cost/Sales	11,1%	10,9%	11,2%	10,8%	11,6%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The “U sv. Jakuba” pharmacy operates in the city with five thousand inhabitants, about 100 meters from the local health centre. It is a family business of father and son, both pharmacists. The only competing pharmacy is about 500 meters away in the outskirts of the city and serves patients in the after-care hospital.

Table 4 Lékárna Klecany (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	2 329	2 260	1 967		
2	Tangible fixed assets	452	286	120		
3	Current assets	1 870	1 959	1 816		
4	Inventory	322	338	360		
5	Trade receivables	811	795	883		
6	Cash funds (Short-term financial assets 2013-2015)	153	54	52		
7	Equity	1 230	1 207	957		
8	Other sources	1 099	1 053	1 010		
9	Reserves	70	70	70		
10	Long-term payables	0	0	0		
11	Liabilities to credit institutions	0	0	0		
12	Trade payables	837	802	830		
13	Sales of products, goods and services	8 221	7 789	7 860		
14	Costs on goods sold	6 319	5 923	6 169		
15	Gross margin	1 902	1 866	1 691		
16	Gross margin in %	23,1%	24,0%	21,5%		
17	Personal expenses	1 264	1 245	1 248		
18	Interest expenses	23	27	20		
19	Profit/Loss before tax	-245	-121	-153		
20	Profit/Loss after tax	-245	-121	-153		
21	Inventory Turnover	25,5	23,0	21,8		
22	Average Collection Period (days)	35,5	36,7	40,4		
23	Creditors Payment Period (days)	36,7	37,1	38,0		
24	Debt Ratio	47%	47%	51%		
25	Return on Sales (net)	-3%	-2%	-2%		
26	Current Ratio	2,2	2,4	2,2		
27	Sales growth rate	100%	95%	96%		
28	Profit/Loss growth rate	n.a.	n.a.	n.a.		
29	Gross margin growth rate	100%	104%	93%		
30	Personnel (Payroll) cost/Sales	15,4%	16,0%	15,9%		
	n.a. not applicable					

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

Klecany is a city with three thousand inhabitants and one pharmacy. The owner is the chief pharmacist working in this pharmacy.

Table 5 Lékárna U Asklepia (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	22 920	23 991	28 327	31 353	28 200
2	Tangible fixed assets	1 255	503	205	2 330	1 437
3	Current assets	21 600	23 428	28 062	28 960	26 695
4	Inventory	11 122	13 706	11 542	9 033	8 510
5	Short-term receivables	7 095	5 332	6 611	5 965	6 400
6	Cash funds (Short-term financial assets 2013-2015)	3 383	4 390	9 909	13 962	11 785
7	Equity	16 945	17 177	21 562	23 657	20 351
8	Other sources	5 975	6 814	6 765	7 696	7 849
9	Reserves	0	0	0	0	0
10	Long-term payables	0	0	0	0	0
11	Liabilities to credit institutions	0	0	0	0	0
12	Short-term payables	5 975	6 814	6 765	7 696	7 849
13	Sales of products, goods and services	69 788	74 049	83 830	90 334	94 411
14	Costs on goods sold	57 137	62 130	71 585	77 915	78 610
15	Gross margin	12 651	11 919	12 245	12 419	15 801
16	Gross margin in %	18,1%	16,1%	14,6%	13,7%	16,7%
17	Personal expenses	5 256	5 410	5 201	8 770	6 923
18	Interest expenses	0	0	0	0	0
19	Profit/Loss before tax	4 368	4 125	5 529	9 318	7 087
20	Profit/Loss after tax	3 324	3 232	4 385	8 094	5 694
21	Inventory Turnover	6,3	5,4	7,3	10,0	11,1
22	Average Collection Period (days)	36,6	25,9	28,4	23,8	24,4
23	Creditors Payment Period (days)	30,8	33,1	29,1	30,7	29,9
24	Debt Ratio	26%	28%	24%	25%	28%
25	Return on Sales (net)	5%	4%	5%	9%	6%
26	Current Ratio	3,6	3,4	4,1	3,8	3,4
27	Sales growth rate	100%	106%	120%	129%	135%
28	Profit/Loss growth rate	100%	97%	132%	244%	171%
29	Gross margin growth rate	100%	89%	81%	76%	92%
30	Personnel (Payroll) cost/Sales	7,5%	7,3%	6,2%	9,7%	7,3%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The pharmacy is located at the polyclinic with thirteen general practitioners, seven paediatricians and 34 specialist doctors. Three pharmacists are co-owners of the company.

Table 6 Lékárna U české koruny (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	8 084	6 731	8 775	9 499	9 970
2	Tangible fixed assets	0	0	0	0	403
3	Current assets	8 058	6 715	9 483	9 480	9 546
4	Inventory	3 042	1 742	1 849	2 188	2 382
5	Short-term receivables	830	1 212	1 418	1 659	1 836
6	Cash funds (Short-term financial assets 2013-2015)	1 310	3 761	5 481	5 613	5 308
7	Equity	590	776	1 802	2 451	2 884
8	Other sources	5 004	5 955	6 973	7 048	7 086
9	Reserves	0	0	0	0	0
10	Long-term payables	195	587	699	360	185
11	Liabilities to credit institutions	0	1 685	2 099	0	0
12	Short-term payables	4 809	3 683	4 175	6 688	6 901
13	Sales of products, goods and services	7 855	21 321	22 524	22 412	23 384
14	Costs on goods sold	6 430	17 822	17 753	18 082	18 771
15	Gross margin	1 425	3 499	4 771	4 330	4 613
16	Gross margin in %	18,1%	16,4%	21,2%	19,3%	19,7%
17	Personal expenses	725	1 821	1 841	1 884	1 977
18	Interest expenses	0	67	172	134	139
19	Profit/Loss before tax	500	223	1 298	809	506
20	Profit/Loss after tax	390	187	1 026	649	421
21	Inventory Turnover	2,6	12,2	12,2	10,2	9,8
22	Average Collection Period (days)	38,0	20,5	22,7	26,6	28,3
23	Creditors Payment Period (days)	220,4	62,2	66,7	107,4	106,2
24	Debt Ratio	62%	88%	79%	74%	71%
25	Return on Sales (net)	5%	1%	5%	3%	2%
26	Current Ratio	1,7	1,8	2,3	1,4	1,4
27	Sales growth rate	n.a.	100%	106%	105%	110%
28	Profit/Loss growth rate	100%	48%	263%	166%	108%
29	Gross margin growth rate	100%	91%	117%	107%	109%
30	Personnel (Payroll) cost/Sales	9,2%	8,5%	8,2%	8,4%	8,5%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The pharmacy “U české koruny” is the only pharmacy in the city with almost four thousand inhabitants. It is a thriving family business; the companions are the chief pharmacist and her daughter.

Table 7 Lékárna s.r.o. (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	3 493	3 104	2 764	2 584	2 660
2	Tangible fixed assets	0	0	0	0	0
3	Current assets	3 530	3 098	2 758	2 584	2 660
4	Inventory	998	1 102	1 176	1 028	1 204
5	Short-term receivables (Trade receivables 2016-2017)	978	594	711	658	596
6	Cash funds (Short-term financial assets 2014-2015)		1 402	871	798	751
7	Equity	1 554	1 685	1 516	1 428	1 407
8	Other sources	1 815	1 420	1 248	1 157	1 253
9	Reserves	0	0	0	0	0
10	Long-term payables	0	0	0	65	111
11	Liabilities to credit institutions	0	0	0	0	0
12	Short-term payables	1 815	1 420	1 248	1 306	1 253
13	Sales of products, goods and services	13 670	12 831	12 645	12 544	11 565
14	Costs on goods sold	10 405	9 870	9 872		
15	Gross margin	3 265	2 960	2 773		
16	Gross margin in %	23,9%	23,1%	21,9%		
17	Personal expenses	2 509	2 333	2 239	2 135	2 045
18	Interest expenses	0	0	0	0	0
19	Profit/Loss before tax	62	13	-80	-88	-19
20	Profit/Loss after tax	53	7	-80	-88	-21
21	Inventory Turnover	13,7	11,6	10,8	12,2	9,6
22	Average Collection Period (days)	25,8	16,7	20,2	18,9	18,6
23	Creditors Payment Period (days)	47,8	39,8	35,5	37,5	39,0
24	Debt Ratio	52%	46%	45%	45%	47%
25	Return on Sales (net)	0%	0%	-1%	-1%	0%
26	Current Ratio	1,9	2,2	2,2	2,0	2,1
27	Sales growth rate	100%	94%	93%	92%	85%
28	Profit/Loss growth rate	100%	13%	n.a.	n.a.	n.a.
29	Gross margin growth rate	100%	97%	92%	n.a.	n.a.
30	Personnel (Payroll) cost/Sales	18,4%	18,2%	17,7%	17,0%	17,7%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

Lékárna s.r.o. is one of the four pharmacies in the city with more than five thousand inhabitants. The owners are three pharmacists, two of them working in the pharmacy.

Table 8 Lékárna Děčín (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets		4 102	3 780	3 928	4 188
2	Tangible fixed assets		2 116	1 956	1 856	1 756
3	Current assets		1 973	1 812	2 060	2 421
4	Inventory		666	758	1 286	1 064
5	Trade receivables		138	265	398	364
6	Cash funds (Short-term financial assets 2013-2015)		720	396	209	364
7	Equity		1 099	-1 114	-3 278	-4 301
8	Other sources		2 998	4 874	7 188	8 392
9	Reserves		0	0	0	0
10	Long-term payables		1 400	1 809	2 196	3 009
11	Liabilities to credit institutions		0	0	0	0
12	Trade payables		1 404	2 884	4 785	5 244
13	Sales of products, goods and services		807	6 470	9 003	12 029
14	Costs on goods sold		639	5 085	7 027	9 192
15	Gross margin		168	1 385	1 976	2 837
16	Gross margin in %		20,8%	21,4%	21,9%	23,6%
17	Personal expenses		278	1 746	1 926	1 999
18	Interest expenses		0	3	3	23
19	Profit/Loss before tax		-894	-2 214	-2 164	-1 023
20	Profit/Loss after tax		-894	-2 214	-2 164	-1 023
21	Inventory Turnover		1,2	8,5	7,0	11,3
22	Average Collection Period (days)		61,6	14,7	15,9	10,9
23	Creditors Payment Period (days)		626,3	160,5	191,3	156,9
24	Debt Ratio		73%	129%	183%	200%
25	Return on Sales (net)		-111%	-34%	-24%	-9%
26	Current Ratio		1,4	0,6	0,4	0,5
27	Sales growth rate		n.a.	100%	139%	186%
28	Profit/Loss growth rate		n.a.	n.a.	n.a.	n.a.
29	Gross margin growth rate		100%	103%	106%	113%
30	Personnel (Payroll) cost/Sales		34,4%	27,0%	21,4%	16,6%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The company operates a pharmacy in the shopping centre “Pivovar” in Děčín and currently belongs to the IPC chain which acquired the company in April 2016.

Table 9 Lékárna Primula (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	1 383	1 516	1 630	1 628	1 371
2	Tangible fixed assets	-13	-11	64	32	-2
3	Current assets	1 386	1 517	1 558	1 586	1 358
4	Inventory	848	853	854	729	774
5	Short-term receivables (Trade receivables 2016-2017)	375	489	456	370	296
6	Cash 2016-2017 Short-term financial assets (2013-2015)	163	175	248	448	285
7	Equity	740	704	937	674	721
8	Other sources	643	812	695	951	650
9	Reserves	0	0	0	0	0
10	Long-term payables	0	0	0	0	75
11	Liabilities to credit institutions	0	0	0	0	0
12	Short-term payables (Trade payables 2016-2017)	643	812	695	548	398
13	Sales of products, goods and services	9 179	8 938	9 459	8 799	9 037
14	Costs on goods sold	6 944	6 797	7 242	6 833	6 867
15	Gross margin	2 235	2 141	2 217	1 966	2 170
16	Gross margin in %	24,3%	24,0%	23,4%	22,3%	24,0%
17	Personal expenses	1 254	1 246	890	948	917
18	Interest expenses	0	0	0	0	0
19	Profit/Loss before tax	521	484	820	450	624
20	Profit/Loss after tax	426	391	639	354	501
21	Inventory Turnover	10,8	10,5	11,1	12,1	11,7
22	Average Collection Period (days)	14,7	19,7	17,4	15,1	11,8
23	Creditors Payment Period (days)	25,2	32,7	26,5	22,4	15,9
24	Debt Ratio	46%	54%	43%	58%	47%
25	Return on Sales (net)	5%	4%	7%	4%	6%
26	Current Ratio	2,2	1,9	2,2	2,9	3,4
27	Sales growth rate	100%	97%	103%	96%	98%
28	Profit/Loss growth rate	100%	92%	150%	83%	118%
29	Gross margin growth rate	100%	99%	96%	92%	99%
30	Personnel (Payroll) cost/Sales	13,7%	13,9%	9,4%	10,8%	10,1%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

Primula's pharmacy is the only pharmacy in the city with 5,000 inhabitants. The owner is the chief pharmacist working in this pharmacy.

Table 10 Lékárna U Zlatého lva (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	1 069	1 691	1 858	2 471	1 801
2	Tangible fixed assets	0	0	0	0	
3	Current assets	1 069	1 691	1 858	2 471	1 801
4	Inventory	55	235	357	460	
5	Short-term receivables	231	369	444	654	
6	Cash funds (Short-term financial assets 2013-2015)	783	1 087	1 057	1 357	
7	Equity	419	493	797	1 056	1 198
8	Other sources	650	1 198	1 050	1 499	598
9	Reserves	0	0	0	0	
10	Long-term payables	115	112	0	6	
11	Liabilities to credit institutions	0	0	0	0	
12	Short-term payables	535	1 086	1 050	1 409	
13	Sales of products, goods and services	1 138	6 611	6 631		
14	Costs on goods sold	719	5 362	4 903		
15	Gross margin	419	1 249	1 728		
16	Gross margin in %	36,8%	18,9%	26,1%		
17	Personal expenses	164	824	814		
18	Interest expenses	0	0	0		
19	Profit/Loss before tax	219	101	304		
20	Profit/Loss after tax	219	74	304		
21	Inventory Turnover	20,7	28,1	18,6	n.a.	
22	Average Collection Period (days)	73,1	20,1	24,1	n.a.	
23	Creditors Payment Period (days)	169,2	59,1	57,0	n.a.	
24	Debt Ratio	61%	71%	57%	61%	33%
25	Return on Sales (net)	n.a.	1%	5%		
26	Current Ratio	2,0	1,6	1,8	1,8	
27	Sales growth rate	n.a.	100%	100%		
28	Profit/Loss growth rate	100%	34%	139%		
29	Gross margin growth rate	n.a.	100%	137%		
30	Personnel (Payroll) cost/Sales	14,4%	12,5%	12,3%		
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The pharmacy “U zlatého lva” is one of four “Nový Bor” pharmacies (12,000 inhabitants). The owner is the only pharmacy employee.

Table 11 Lékárna U Zlaté Koruny (financial statement data are in thousands CZK)

Line	Year	2013	2014	2015	2016	2017
1	Total assets	6 471	5 168	5 423	5 520	5 235
2	Tangible fixed assets	4 146	3 956	4 193	3 951	3 671
3	Current assets	2 259	1 145	1 127	1 556	1 547
4	Inventory	1 192	799	623	832	
5	Trade receivables	296	200	299	393	
6	Cash funds (Short-term financial assets 2013-2015)	708	136	195	251	
7	Equity	2 255	2 295	2 056	2 069	2 446
8	Other sources	4 148	2 844	3 334	3 451	2 788
9	Reserves	0	0	0	0	0
10	Long-term payables	1 044	723	0	0	0
11	Liabilities to credit institutions	0	0	0	0	0
12	Trade payables (payables in 2017)	2 785	1 908	2 076	2 161	2 778
13	Sales of products, goods and services	16 692	15 251	14 676	13 094	13 473
14	Costs on goods sold	12 498	11 663	11 136	10 540	10 036
15	Gross margin	4 194	3 588	3 540	2 554	3 437
16	Gross margin in %	25,1%	23,5%	24,1%	19,5%	25,5%
17	Personal expenses	2 813	2 612	2 676	2 401	1 859
18	Interest expenses	39	16	23	22	16
19	Profit/Loss before tax	514	53	-240	13	437
20	Profit/Loss after tax	419	40	-240	13	378
21	Inventory Turnover	14,0	19,1	23,6	15,7	n.a.
22	Average Collection Period (days)	6,4	4,7	7,3	10,8	n.a.
23	Creditors Payment Period (days)	60,1	45,0	50,9	59,4	n.a.
24	Debt Ratio	64%	55%	61%	63%	53%
25	Return on Sales (net)	3%	0%	-2%	0%	3%
26	Current Ratio	0,8	0,6	0,5	0,7	0,6
27	Sales growth rate	100%	91%	88%	78%	81%
28	Profit/Loss growth rate	100%	10%	n.a.	3%	90%
29	Gross margin growth rate	100%	94%	96%	78%	102%
30	Personnel (Payroll) cost/Sales	16,9%	17,1%	18,2%	18,3%	13,8%
n.a. not applicable						

Source: Veřejný rejstřík (2018). Author's elaboration in MS Excel 2010

The pharmacy “U Zlaté koruny” is located in the city centre of Znojmo, the closest competing pharmacy is 100 meters away.

5. Results

The surveyed set of 369 companies includes 170 companies that have not reported any sales revenue for the last three years (2015, 2016, and 2017) and can, therefore, be considered as companies that do not actively operate a pharmacy. Of the remaining 199 companies – including the sample of our pharmacies – only eight companies (4%) reported sales up to five million crowns per year (the last reporting year), 42 companies (21%) show sales of between six and ten million crowns, 47 companies (24%), has sales in the range of eleven to fifteen million, 38 (19%) ranging from 16 to 20 million, 27 (14%) between 21 and 30 million, fourteen (7%) between 31 and 40 million, ten (5%) from 41 to 50 million, three (1.5%) companies have sales between 51 and 60 million and ten (5%) are selling 61 million or more.

Table 12 Comparison of pharmacies according to achieved turnover in the last reported year in the selected sample (10 pharmacies), the set (199 companies) and the latest UZIS data from 2013 (2,527 reporting pharmacies)

Yearly Turnover in MIO CZK	Sample	Set	UZIS 2013
Up to 5	0%	4%	23%
From 6 to 10	30%	21%	28%
From 11 to 15	30%	24%	17%
From 16 to 20	10%	19%	10%
From 21 to 30	20%	14%	10%
From 31 to 40	0%	7%	5%
From 41 to 50	0%	5%	3%
From 51 to 60	0%	2%	2%
More than 60	10%	5%	2%

Source: Veřejný rejstřík (2018) and UZIS (2014)

Based on our previous research and practical experience, it is not possible to operate a pharmacy with an annual turnover of less than CZK 5 million due to the inability to pay operating costs. It is very likely that the data evaluated by UZIS are affected by incorrect reporting of pharmacies. Of the eight companies that reported sales of less than 5 million crowns per year (in the set), only one pharmacy operates the pharmacy (Lékárna Bitýška s.r.o.) and exceeded the turnover of 9 million in the year 2018.

Lékárna U Kašny

Sales have increased by almost a third over the past two years compared to the previous period. Pharmacy achieved sales growth of 20.4% in 2016. The gross margin achieved 21.3% in 2016 which is a 6% increase compared to 2015. The personnel cost to sales ratio is stable at 10%. The profit (after tax) had been rising every year and is more than one million crowns in 2017 which is 5.7% out of sales. The inventory turnover is just at the level of 8.6 in 2015, which can be attributed to the absence of the owner and his leniency, thanks to the excellent results in sales and profit. The business performance is very good and almost all indicators have improved in the period under review.

Lékárna U sv. Jakuba

The sales have increased by almost a quarter in the last five years. The company reported the highest growth in pharmacy sales by 12% in 2015. The gross margin is stable at 25%. The personnel cost increase has followed increased sales. The profit after tax is almost two million crowns which are more than 6% of sales. The business performance is excellent and almost all indicators have improved in the period under review.

Lékárna Klecany

The sales had slightly decreased between 2013 and 2014 (-4%) as well as the gross margin which was still very high at 21.5% in 2015. The Personnel cost to Sales ratio is at 16%, which is why the company was losing over the entire 2013 to 2015 period. The balance sheet for 2015 contained the amount of CZK 840 thousand of retained earnings which may be the main reason why the owner does not seek to shorten excessive costs. The business performance is stable as well as all indicators.

Lékárna U Asklepiea

The company performance is excellent thanks to very high sales, which have increased by 35% in 5 years. The gross margin is close to 17% in 2017; it can be influenced by B2B supplies with lower margin, or the company may reduce its tax liability by increasing the cost of goods sold. The Personnel cost to Sales ratio is at 7%. The net profit is almost six million

crowns in 2017 which is 6% of sales. The business performance is excellent in the period under review.

Lékárna U české koruny

The pharmacy achieves stable sales of over 20 million a year and 20% of the gross margin. The personnel costs are stable. Net profit peaked at CZK 1.3 million in 2015 and was less than 2% of revenue in 2017, probably due to the high cost of acquiring or investing in other projects? The maturity of invoices to suppliers increased in the reporting period, which resulted in an increase in the average maturity of liabilities over 100 days which is somewhat surprising if we find in the balance sheet cash fund amounted more than five millions crowns. The pharmacy performance is excellent and stable in the period under review.

Lékárna s.r.o.

The sales had decreased by 15% within five years. The gross margin was above 20% but we don't have data for 2016 and 2017. The company is in a slight accounting loss which covers a rich reserve fund from the retain profit (CZK 1.23 million in 2017) and thus is not in any way forced to save unreasonably high Personnel costs (18% of sales). The current business performance is good and stable.

Lékárna Děčín

The company has negative equity and is over-indebted. Děčín is an example of how costly it is to put into operation and to operate a pharmacy in the shopping centre. Even in the fourth year of operation, the company is in operating loss and in order to achieve the break-even, it is necessary to increase sales by another 36% to CZK 16.4 million per year (achieved CZK 14.8 million in 2018). The current business performance is not sufficient to cover operating costs.

Lékárna Primula

The financial indicators demonstrate the excellent ability of the pharmacy manager. The sales are stable at only nine million crowns but the margin achieved 24% in 2017. The personnel

cost includes probably only the chief pharmacist wage in the amount of approximately 55 thousand CZK per month in 2017. The net profit is almost half of million and 5.6% of sales. The company performance is excellent and stable in the period under review.

Lékárna U Zlatého lva

The pharmacy was opened in 2013 and achieved the sales of only 6.6 million both in 2014 and 2015 (2016 and 2017 data from the income statement owner hasn't published). The gross margin increased to 26% (+7%) in 2015. The owner was rewarded for his activities in the form of the wage of 50 thousand crowns a month and a net profit of 304 thousand in 2015. The financial results demonstrate profitable operation despite low sales.

Lékárna U Zlaté Koruny

The sales have fallen by one fifth in the period under review and are offset by staff cost reductions, making operations profitable again in the past two years. The gross margin is high (a high ratio of sales goods with unregulated margin?) and ranged between 20 and 25%. The company financial performance is affected by the high burden of repayment of fixed assets (real estate). The pharmacy works very well because the owner manages the costs associated with declining revenue due to increased competition.

Inventory Turnover shows the ability of management at individual pharmacies. It shows how well a chief pharmacist manages its inventory levels and how frequently a company replenishes its inventory.

Table 13 Inventory Turnover (per year)

Inventory Turnover	2013	2014	2015	2016	2017
Lékárna U Kašny	8	10	9		
Lékárna U sv. Jakuba	14	13	13		
Lékárna Klecany	26	23	22		
Lékárna U Asklepiea	6	5	7	10	11
Lékárna U české koruny		12	12	10	10
Lékárna s.r.o.	14	12	11	12	10
Lékárna Děčín			9	7	11
Lékárna Primula	11	10	11	12	12
Lékárna U Zlatého lva	21	28	19		
Lékárna U Zlaté Koruny	14	19	23	17	
<i>Total</i>	<i>113</i>	<i>133</i>	<i>135</i>	<i>68</i>	<i>53</i>
Mean	14	15	13	11	11

The highest Inventory Turnover is indicated at U Zlatého lva (up to 28), Klecany (26), U Zlaté Koruny (23), which can be attributed to the inventory management by the owner who directly participates in the operation of the pharmacy. U Asklepiea has reduced inventories, and it reached 11 in the last year under review. On the contrary, “U Kašny” pharmacy is at the level of 9, which can be attributed to the absence of the owner and his leniency, thanks to the excellent results in sales and profit. The average Inventory Turnover is decreasing and falls short of the industry-optimum of twelve (Herist et al. 2011) in the period under review.

The Average Collection Period is in the range of 15 to 30 days at pharmacies, which corresponds to the healthcare financial condition. The General Health Insurance Company usually pays received invoices within two to three weeks from the date of receipt (personal work experience). Klecany received payments for about 40 days, which indicates billing for a more extended period, probably using an external accountant. The Collection period below 15 days is too short but possibly by the extremely low dispensing of prescription medicines before Christmas. Input data are a mixture of Short-term receivables and Trade receivables (Klecany, Lékárna s.r.o. 2016-2017, Děčín, Primula 2016-2017 and U zlaté koruny). We can conclude that this fact did not significantly affect the informative value.

Table 14 Average Collection Period (in days)

Average Collection Period	2013	2014	2015	2016	2017
Lékárna U Kašny	30	12	13		
Lékárna U sv. Jakuba	18	19	19		
Lékárna Klecany	36	37	40		
Lékárna U Asklepiea	37	26	28	24	24
Lékárna U české koruny	38	20	23	27	28
Lékárna s.r.o.	26	17	20	22	22
Lékárna Děčín			37	31	23
Lékárna Primula	15	20	17	15	12
Lékárna U Zlatého lva		20	24		
Lékárna U Zlaté Koruny	8	5	8	12	
<i>Total</i>	<i>206</i>	<i>175</i>	<i>229</i>	<i>131</i>	<i>109</i>
Mean	26	19	23	22	22

The maturity of receivables represents the reimbursement of health insurance companies for pharmaceuticals on the basis of issued invoices. The average time is 22 days in the last reference year.

The Creditors Payment Period ranges from 16 days to over 100 days. Most of these obligations are payments for goods where conditions depend on an agreement with the supplier. The wholesaler can help finance a new pharmacy with extended payment, which is probably the case of Děčín pharmacy, where the maturity period is currently 157 days. The maturity of invoices of U české koruny and U Zlaté Koruny pharmacies to suppliers had increased in the reporting period, but the average maturity of liabilities stays slightly over 40 days. The due date is stable or even declining for other pharmacies, which may result in lower wholesaler's mark-up. We input a mixture of Short-term payables, Trade payables (Klecany, U sv. Jakuba 2013-2015, U zlaté koruny) and Total payables (U Kašny 2016-2017, U sv. Jakuba 2016-2017, Primula 2016-2017) in the calculation. According to the results, we can conclude that this fact did not significantly affect the informative value.

Table 15 Creditors Payment Period

Creditors Payment Period	2013	2014	2015	2016	2017
Lékárna U Kašny	74	51	44	30	32
Lékárna U sv. Jakuba	30	25	25	29	28
Lékárna Klecany	37	37	38		
Lékárna U Asklepiea	31	33	29	31	30
Lékárna U české koruny		62	67	107	106
Lékárna s.r.o.	48	40	36	33	39
Lékárna Děčín					
Lékárna Primula	25	33	26	22	16
Lékárna U Zlatého Iva		59	57		
Lékárna U Zlaté Koruny	60	45	51	59	
<i>Total</i>	<i>303,7</i>	<i>385,4</i>	<i>372,5</i>	<i>312,5</i>	<i>250,2</i>
Mean	43,4	42,8	41,4	44,6	41,7

Data from the Děčín Pharmacy were not included in the table due to the extremely long maturity, which is obviously allowed by an individual contract with the supplier.

The maturity and amount of the trade surcharge is part of the contractual terms with the supplier, usually, longer maturity means a higher surcharge. Lékárna U Kašny cut the creditors' payments period to 30 days in 2016 which probably helped to increase the gross margin by 6% to 21.3% in the same year. While Lékárna U české koruny extended the payment period to more than 100 days which resulted in a decrease of the gross margin by 2% to 19.3% in 2016.

The lowest 2017 Debt Ratio value achieved U Asklepiea (28%), U Jakuba and U Zlatého Iva (33%) and U Kašny (35%). The indicator is within a very narrow range of 47-53% in other companies under review. Only two pharmacies reach higher value – U české koruny (71%) where the reason can be a relatively long maturity of the short-term liabilities and therefore a relatively high amount of these liabilities and Děčín, which has the negative equity and is over-indebted.

Table 16 Debt Ratio

Debt Ratio	2013	2014	2015	2016	2017
Lékárna U Kašny	62%	51%	45%	36%	35%
Lékárna U sv. Jakuba	49%	42%	40%	36%	33%
Lékárna Klecany	47%	47%	51%		
Lékárna U Asklepiea	26%	28%	24%	25%	28%
Lékárna U české koruny	62%	88%	79%	74%	71%
Lékárna s.r.o.	52%	46%	45%	45%	47%
Lékárna Děčín					
Lékárna Primula	46%	54%	43%	58%	47%
Lékárna U Zlatého Iva	61%	71%	57%	61%	33%
Lékárna U Zlaté Koruny	64%	55%	61%	63%	53%
<i>Total</i>	<i>5</i>	<i>5</i>	<i>4</i>	<i>4</i>	<i>3</i>
Mean	52%	54%	49%	50%	43%

Data of the Děčín Pharmacy is not included in the table.

The Debt Ratio is in the range of 30% to 60% for most companies in the sample. The average value decreases and the indicator show the good business condition even for companies that are in the loss, such as Lékárna s.r.o. and Lékárna Klecany.

Table 17 Return of sales (net)

Return of sales (net)	2013	2014	2015	2016	2017
Lékárna U Kašny	2%	2%	2%	3%	6%
Lékárna U sv. Jakuba	6%	7%	7%	7%	6%
Lékárna Klecany	-3%	-2%	-2%		
Lékárna U Asklepie	5%	4%	5%	9%	6%
Lékárna U české koruny	5%	1%	5%	3%	2%
Lékárna s.r.o.	0%	0%	-1%	-1%	0%
Lékárna Děčín	n.a.	n.a.	n.a.	n.a.	n.a.
Lékárna Primula	5%	4%	7%	4%	6%
Lékárna U Zlatého lva	n.a.	1%	5%		
Lékárna U Zlaté Koruny	3%	0%	-2%	0%	3%
<i>Total</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Mean	3%	2%	3%	4%	4%

The average Return on Sales ratio has increased to four per cent, but individual companies show a high fluctuation in a year-on-year comparison, with the exception of the two most prosperous, i.e. U sv. Jakuba and U Asklepie.

Table 18 Current ratio

Current ratio	2013	2014	2015	2016	2017
Lékárna U Kašny	1,6	1,9	2,2	2,7	2,8
Lékárna U sv. Jakuba	2,1	2,8	3,0	2,7	3,0
Lékárna Klecany	2,2	2,4	2,2		
Lékárna U Asklepie	3,6	3,4	4,1	3,8	3,4
Lékárna U české koruny	1,7	1,8	2,3	1,4	1,4
Lékárna s.r.o.	1,9	2,2	2,2	2,0	2,1
Lékárna Děčín		1,4	0,6	0,4	0,5
Lékárna Primula	2,2	1,9	2,2	2,9	3,4
Lékárna U Zlatého lva	2,0	1,6	1,8	1,8	
Lékárna U Zlaté Koruny	0,8	0,6	0,5	0,7	0,6
<i>Total</i>	<i>18</i>	<i>20</i>	<i>21</i>	<i>18</i>	<i>17</i>
Mean	2,0	2,0	2,1	2,0	2,2

The Current Ratio keeps above the average value of two, which is typical for businesses with a combination of medium yield and medium risk. Pharmacies usually keep a negligible volume of short-dated goods in inventory, so the Current Ratio indicator is a true image of the

ability to generate liquidity to cover the liabilities, as the stock is usually a relatively rapid source of liquidity.

Stable sales growth has reported U Kašny, U Asklepia, U sv. Jakuba and U české koruny. Lékárna s.r.o. and U Zlaté Koruny sales have decreased due to increased competition in the period under review.

Table 19 Sales growth rate

Trend of sales	2013	2014	2015	2016	2017
Lékárna U Kašny	100%	107%	106%	127%	131%
Lékárna U sv. Jakuba	100%	103%	115%	120%	123%
Lékárna Klecany	100%	95%	96%		
Lékárna U Asklepia	100%	106%	120%	129%	135%
Lékárna U české koruny	n.a.	100%	106%	105%	110%
Lékárna s.r.o.	100%	94%	93%	92%	85%
Lékárna Děčín	n.a.	n.a.	n.a.	n.a.	n.a.
Lékárna Primula	100%	97%	103%	96%	98%
Lékárna U Zlatého lva	n.a.	100%	100%		
Lékárna U Zlaté Koruny	100%	91%	88%	78%	81%
<i>Total</i>	<i>7</i>	<i>9</i>	<i>9</i>	<i>7</i>	<i>7</i>
Mean	100%	99%	103%	101%	104%

The calculation of the average value does not include sales growth in the Děčín Pharmacy, which is due to a short period of operation.

The overall sales performance is stable for independent pharmacies, while the most chains report year-on-year increases mainly due to the acquisition or/and the opening of new subsidiaries.

Table 20 Profit/loss growth rate

Profit/Loss growth rate	2013	2014	2015	2016	2017
Lékárna U Kašny	100%	126%	134%	276%	482%
Lékárna U sv. Jakuba	100%	112%	123%	135%	126%
Lékárna Klecany	n.a.	n.a.	n.a.		
Lékárna U Asklepia	100%	97%	132%	244%	171%
Lékárna U české koruny	100%	48%	263%	166%	108%
Lékárna s.r.o.	100%	13%	n.a.	n.a.	n.a.
Lékárna Děčín	n.a.	n.a.	n.a.	n.a.	n.a.
Lékárna Primula	100%	92%	150%	83%	118%
Lékárna U Zlatého lva	100%	34%	139%		
Lékárna U Zlaté Koruny	100%	10%	n.a.	3%	90%
<i>Total</i>	<i>8</i>	<i>5</i>	<i>9</i>	<i>9</i>	<i>11</i>
Mean	100%	67%	157%	151%	182%

Six companies reported a profit in 2017. We can assume that Lékárna U Zlatého lva performs in positive numbers similar to 2013-2015, although it reported only the balance

sheets in 2016 and 2017. The owners of Lékárna s.r.o. (55 and 57 years of age) and Lékárna Klecany (62 years of age) prefer their remuneration in the form of wages and report a loss which is covered from the retain profit. Lékárna Děčín reported another loss of CZK 960,000 in 2018 and it is the only company with sales not sufficient to cover its operational expenditures.

U sv. Jakuba and U Zlaté Koruny reach a very high and stable gross margin at 25%, which is probably based on the business model or higher sales of the over-the-counter products. The lowest margin is reported by U Asklepiea may influence marketing (low prices/co-payments - high sales) or supplying healthcare facilities with a lower surcharge, or the company may reduce its tax liability by increasing the cost of the goods sold.

Table 21 Gross margin

Gross margin	2013	2014	2015	2016	2017
Lékárna U Kašny	17%	18%	15%	21%	
Lékárna U sv. Jakuba	25%	25%	24%	25%	25%
Lékárna Klecany	23%	24%	22%		
Lékárna U Asklepiea	18%	16%	15%	14%	17%
Lékárna U české koruny	18%	16%	21%	19%	20%
Lékárna s.r.o.	24%	23%	22%		
Lékárna Děčín		21%	21%	22%	24%
Lékárna Primula	24%	24%	23%	22%	24%
Lékárna U Zlatého lva		19%	26%		
Lékárna U Zlaté Koruny	25%	24%	24%	20%	26%
Total	175%	210%	214%	143%	135%
Mean	22%	21%	21%	20%	22%

Majority of pharmacies sell products with a margin of over 20%. The average value oscillates between 21% and 22% over the entire period under review.

Table 22 Gross margin growth rate

Gross margin growth rate	2013	2014	2015	2016	2017
Lékárna U Kašny	100%	108%	92%	127%	n.a.
Lékárna U sv. Jakuba	100%	100%	97%	100%	100%
Lékárna Klecany	100%	104%	93%		
Lékárna U Asklepiea	100%	89%	81%	76%	92%
Lékárna U české koruny	100%	91%	117%	107%	109%
Lékárna s.r.o.	100%	97%	92%	n.a.	n.a.
Lékárna Děčín	n.a.	100%	103%	106%	113%
Lékárna Primula	100%	99%	96%	92%	99%
Lékárna U Zlatého lva	n.a.	100%	137%		
Lékárna U Zlaté Koruny	100%	94%	96%	78%	102%
Total	8	10	10	7	6
Mean	100%	98%	100%	98%	102%

The average Gross margin growth is stable, but Lékárna U Asklepiea and Lékárna U Zlaté Koruny reported more than 20% of the decrease in 2016 in comparison with the base year. U Asklepiea achieved only 13.7% in 2016 (vs 18.1% in 2013) but taxed the record of profit in the amount of more than CZK 9.3 million, which may signal the pursuit of tax optimization. The Gross margin at U Zlaté Koruny dropped to 19.5% in 2016 vs 25.1% but increased again to 25.5% in 2017.

U Asklepiea reports the lowest Personnel Cost / Sales Revenue Ratio due to its high turnover. Pharmacies with a staff cost/revenue ratio approaching 10% earn a profit while those with 15% and more (Lékárna s.r.o. and Klecany) were in the loss in the period under review. Děčín shows the highest values, although the monitored indicator decreased each year.

Table 23 Personnel Cost / Sales Revenue Ratio

Personnel (Payroll) cost/Sales	2013	2014	2015	2016	2017
Lékárna U Kašny	10%	10%	11%	10%	n.a.
Lékárna U sv. Jakuba	11%	11%	11%	11%	12%
Lékárna Klecany	15%	16%	16%		
Lékárna U Asklepiea	8%	7%	6%	10%	7%
Lékárna U české koruny	9%	9%	8%	8%	8%
Lékárna s.r.o.	18%	18%	18%	17%	18%
Lékárna Děčín		34%	27%	21%	17%
Lékárna Primula	14%	14%	9%	11%	10%
Lékárna U Zlatého lva	14%	12%	12%		
Lékárna U Zlaté Koruny	17%	17%	18%	17%	14%
<i>Total</i>	<i>117%</i>	<i>149%</i>	<i>137%</i>	<i>105%</i>	<i>86%</i>
Mean	13%	15%	14%	13%	12%

The average value is between 12% and 15% over the entire period under review.

6. Discussion

A sample of ten companies provides a surprisingly comprehensive picture of the economic situation of pharmacies in the Czech Republic.

On the one hand, we have an excellent U Asklepia pharmacy in the sample, which has increased its sales by 35% over the last five years and reached almost nearly 100 million in 2017, while cutting inventory by nearly 25%. The company could improve in the gross margin where it is only at 17%, which may be due to B2B activities, where the mark-up is significantly lower than in pharmacy retail. On the other hand, we have in our sample three pharmacies with sales of up to ten million crowns per year. Primula and U Zlatého lva thanks to the management of their owners, who work as pharmacy managers, are performing well and making profits. Klecany's pharmacy is losing due to disproportionate (compare to turnover) personnel cost, which accounts for 67-74% of the generated gross margin. U Zlaté Koruny pharmacy faces a significant reduction in turnover by almost 20%, but it compensates for the reduction of personnel cost and again gains significant profits in the last reported year. A similar but more modest reduction in turnover at Lekárna s.r.o. on the contrary, is not offset on the cost side, so the company covers its losses from the retained profit. Pharmacies U Kašny, U Jakuba and U české koruny have good business performance. Pharmacy Děčín reports significant annual sales growth, but sales are unable to cover the high operating costs typical of a pharmacy operated in a shopping centre. It is necessary to increase the turnover by a further 36% to CZK 16.4 million a year to achieve operating profit.

The cost of opening a new pharmacy is relatively high, which is due to the requirements for the minimum technical and material equipment for medical facilities, which is regulated by the Decree of the Ministry of Health No. 92/2010 Coll., which describes the layout and equipment. The purchase price for the construction of the Děčín pharmacy is quoted at CZK 1.91 million in the Balance Sheet. According to own work experience, it is the usual price for a pharmacy in the shopping centre. The Retirement Home in Dobrá Voda opened a pharmacy in June 2018. The construction adjustment for the operation of a pharmacy was CZK 1.48 million according to the results of the tender procedure (Domov důchodců 2018). The price of the interior equipment and furniture is in the balance sheet of Lékárna Děčín a.s. mentioned in the amount of 277 thousand crowns. The cost suggests that most of the equipment is "second hand". The new equipment and furniture price is from one million

crowns. The companies of HELAGO or Čemus supply a complete solution (a "turnkey" pharmacy).

Operating costs are mostly fixed, and it is not easy to reduce them. Lékárna Děčín a.s. reports the 2017 personnel expenses in the income statement of CZK 2 million, services of 1.6 million and material and energy of CZK 131 thousand. The personnel costs at a pharmacy at a shopping centre are relatively higher than at community pharmacies, as part of a lease contract is the operator's commitment to hold the opening hours usually from 8 am to 8 pm seven days a week. Rent is the largest item in services and is usually significantly higher at pharmacies in shopping centres than in community pharmacies. The pharmacies' economics will probably negatively affect the guaranteed wages of employees in Dr.Max and BENU chain. Both chains offer in all advertisements (e.g. lekarnickainzerce.cz) the monthly wage for pharmacists of at least CZK 38 thousand in BENU and 40 thousand for Dr.Max, respectively, for pharmaceutical assistants 26 thousand both in Dr.Max and BENU from June 2018 (Dr.Max 2018). UZIS (2018) reports the average wage for pharmacists for CZK 39,272 in December 2016.

The Ministry of Health announced the 48 million crowns fund to support pharmacies in "inaccessible areas" in the framework of this year's conciliation procedure (Cikrt 2018). The Ministry of Health supports 71 pharmacies, where the provider receives a bonus amounting to a maximum of CZK 600,000 from the public health insurance system during 2019 (VZP 2019).

7. Conclusion

A random sample of ten pharmacies confirmed the good financial condition of community pharmacies with a monthly turnover of more than a million crowns. According to empirical experience, this boundary is perceived as guaranteeing financial stability. Two out of three pharmacies with a turnover of less than ten million a year have good profitability. The third, with lower turnover, can make a profit if the owner reduces personnel costs that are inadequate compared to the achieved revenues. The only poorly performed pharmacy, threatened with insolvency, is Děčín, where employees should work intensively to increase turnover to be able to cover at least operational costs. In the future, the economy of independent pharmacies may endanger the shortage of staff and the associated increase of wages, which now represent the majority of costs.

Inventory Turnover does not account for the overall economic condition of the sector, but it shows the ability of inventory management at individual pharmacies. Effective management of pharmacy inventory levels is essential to profitability, cash flow, customer service, and accurate estimations of future needs. We observe large differences in the ability to maintain a lower volume of inventory. The Inventory Turnover ratio is lower than the benchmark (12 turns per year) in almost all pharmacies under review, which is an indicator that inventory, is too high (binds too much cash). The pharmacy manager should use inventory more efficiently; i.e. push the Inventory Turnover higher. The average Inventory Turnover has decreased from 14 turns to 11 in the period under review, but the reason for this is the lack of the “inventory turnover” leader’s (Klecany, U Zlatého lva, U Zlaté Koruny) data in 2016 and 2017. Nine pharmacies report stable Inventory Turnover and U Asklepiea substantially improved. The Average Collection Period confirmed fast payments associated with reimbursed medicines from health insurance. Pharmacies receive their money in 22 days on average, and this indicator is stable throughout the reporting period. The only exception is the Klecany pharmacy, which apparently uses external force for invoicing and therefore receives its payments for approximately 40 days. The Creditors Payment Period is about 40 days in average, but there is a group of companies paying for 30 days (six pharmacies), which are well-prosperous pharmacies and those who pay their liabilities later, and where we can identify the effort to increase the business loan. The Debt Ratio is between 30% and 60% for most companies and the average value decreases. The Debt Ratio is stable for most

companies and it has decreased in two companies. The Return on Sales ratio is stable at around four per cent, but individual companies show a high fluctuation in a year-on-year comparison, with the exception of the two most prosperous, i.e. U sv. Jakuba and U Asklepieia. The Current Ratio keeps above the value of two, which is typical for businesses with a combination of medium yield and medium risk. The Current Ratio gives a good image of the ability to generate payment funds to cover liabilities, as stocks are usually a relatively rapid source of liquidity. The overall Sales growth rate is stagnant for pharmacies in the sample. Sales of four companies are growing, for two are decreasing and for three are stable. Gross margin is excellent and stable at 21 to 22% on average. The Ratio of personnel costs to sales divides pharmacies into two groups to those where this indicator is around ten per cent, which is probably the basis for positive financial results and those where the indicator exceeds fifteen per cent, which usually leads to operating losses. Personnel cost, especially for U Asklepieia, are very volatile and can be assumed that this is due to a reduction in taxed profits, and this variability to a lesser extent applies to most other pharmacies in the sample.

Based on financial data, and on the basis of all the comparative analyses carried out, the very good financial status of seven companies can be stated. For the other two, reducing the costs to the average values of the sample can achieve a balanced or profitable economy. Only one of the pharmacies is over-indebted and threatened by insolvency, but it still operates because it is part of a chain and its operation is subsidized by the Mother Company.

As for the research question, we didn't identify any significant negative changes in the selected accounting items within the period under review. Business performance varies from pharmacy to pharmacy and indicator to indicator however, no major fluctuations resulting from changes in external factors can be observed.

If we evaluate the future perspectives of operating independent pharmacies from a sample of ten companies in the 2013 to 2017 accounting period, it seems to be positive if the business 'as usual' goes on, i.e. neither the state nor the sector will be exposed to shock or long-term economic unfavourable situation, because in spite of the excellent results of the chain and the pressure of e-pharmacies in the field of over-the-counter and complementary products, the financial situation of independent pharmacies has not deteriorated in the last five years.

We are aware of the limitations of our research, and we will add new insights into the development of the medical segment and the pharmaceutical market, to follow the

developments in other EU countries to better understand the changes that have come and those ahead of us.

8. Reference list

- BUSSE, R., M. BLÜMEL, F. KNEIPS AND T. BÄRNIGHAUSEN Statutory health insurance in Germany: a health system shaped by 135 years of solidarity, self-governance, and competition. *The Lancet*, 2017, 390(10097), 882-897.
- CARROLL, N. V. *Financial Management for Pharmacists: A Decision-making Approach*. Edition ed. Philadelphia, PA, USA: Wolters Kluwer/Lippincott Williams & Wilkins, 2007. 330 p. ISBN 978-0-7817-6239-7.
- CIKRT, T. Také lékárníci se dohodli (Pharmacists have reached an agreement). *Zdravotnický deník*. 2018. Available from: <http://www.zdravotnickydenik.cz/2018/06/take-lekarnici-se-dohodli-uzavren-prekvapivy-kompromis-dohodovaci-rizeni-konci-historickym-uspechem/>.
- CHAMBER OF PHARMACISTS. *Výzva k řešení několikaletého propadu příjmů veřejných lékáren (several years of decline in public pharmacies' incomes)*. In: online; [lekarnici.cz/Resolution of congresses](http://lekarnici.cz/Resolution-of-congresses): 2016.
- CHAMBER OF PHARMACISTS. *Sjezd vyzývá poslance k zastavení likvidace veřejných lékáren (congress convened the politicians to stop the liquidation of public pharmacies)*. In: online; [lekarnici.cz/Resolution of congresses](http://lekarnici.cz/Resolution-of-congresses): 2017.
- CHAMBER OF PHARMACISTS. *Situace ve většině veřejných lékáren je nadále kritická (most public pharmacies remain in a critical situation)*. In: online; www.lekarnici.cz/press-releases, 2018.
- CSU. Health Accounts of the Czech Republic 2010-2017. Available from: <https://www.czso.cz/csu/czso/public-health>. Czech Statistical Office, 2019.
- DOMOV DŮCHODCŮ. *Stavební úpravy prostor pro využití lékárny DDDV (Construction of the premises for the use of DDDV pharmacy)*. Available from: <https://www.domov-dobravoda.cz/stavebni-upravy-prostor-pro-vyuziti-lekarny-dddv/>. D.D.D. VODA, 2018.
- DR.MAX. *Dr.Max zavádí garantovanou mzdu (Dr.Max introduces guaranteed wages)*. Available from: www.drmax.cz. Dr.Max, 2018.
- GOODE, J. V., J. OWEN, A. PAGE AND S. GATEWOOD Community-Based Pharmacy Practice Innovation and the Role of the Community-Based Pharmacist Practitioner in the United States. *Pharmacy*, Sep 2019, 7(3).
- GRÜNWALD, R. AND J. HOLEČKOVÁ *Finanční analýza a plánování podniku*. Edition ed. Prague, Czech Republic: Ekopress, 2009. ISBN 978-80-86929-26-2.
- HERIST, K. N., B. L. ROLLINS AND M. PERRI *Financial analysis in pharmacy practice*. Edition ed. London, UK: Pharmaceutical Press, 2011. ISBN 978-0-85369-897-5.
- KISLINGEROVÁ, E. *Podnik v časech krize*. Edition ed. Prague, Czech Republic: Grada Publishing, 2010. ISBN 978-80-247-3136-0.
- KISLINGEROVÁ, E., P. BOUKAL, V. ČEPELKA, J. HNILICA, et al. *Manažerské finance*. Edition ed. Prague, Czech Republic: C. H. Beck, 2007. ISBN 978-80-7179-903-0.
- KOTLER, P. AND K. L. KELLER *Marketing management - 14. vydání*. Edition ed. Prague, Czech Republic: Grada Publishing, 2013. ISBN 9788024741505.
- KREJSTA, M. Klíč k odlišení lékárny (How to differentiate pharmacy). In: *Příležitosti a trendy v oblasti úspěšného vedení lékárny*. Prague, Czech Republic: Androsa, 2015.
- MARTINS, L. AND S. QUEIROS Competition among pharmacies and the typology of services delivered: The Portuguese case. *Health Policy*, MAY 2015 2015, 119(5), 640-647.
- METYŠ, K. AND P. BALOG *Marketing ve farmacii (Pharmaceutical marketing)*. Edition ed. Prague, Czech Republic: Grada Publishing a.s., 2006. 206 p. ISBN 978-80-247-0830-0.

- MOULLIN, J. C., D. SABATER-HERNÁNDEZ, F. FERNANDEZ-LLIMOS AND S. I. BENRIMOJ Defining professional pharmacy services in community pharmacy. *Research in Social and Administrative Pharmacy*, 2013, 9(6), 989-995.
- OCHRANA, F., J. PAVEL AND L. VÍTEK *Veřejný sektor a veřejné finance (Public sector and public finances)*. Edition ed. Prague, Czech Republic: Grada Publishing, 2010. ISBN 9788024732282.
- PÍSEK, J. AND K. PÍCHA Liberalizace a integrace distribuce léčiv v EU 28 a Norsku. *Česká a slovenská farmacie*, 2018, 67(1/2018), 14-24.
- RESNIK, D. B., P. L. RANELLI AND S. P. RESNIK The conflict between ethics and business in community pharmacy: what about patient counselling? *Journal of Business Ethics*, 2000, 28(2), 179-186.
- SMAILHODZIC, E., W. HOOIJSMAN, A. BOONSTRA AND D. J. LANGLEY Social media use in healthcare: A systematic review of effects on patients and on their relationship with healthcare professionals. *BMC Health Services Research*, August 26 2016, 16(1), 442.
- SUKL. *Review and lists*. Available from: <http://www.sukl.eu/index.php?lang=2>. State Institute for Drug Control, 2019a.
- SUKL. *Supplies of medicinal products*. Available from: <http://www.sukl.eu/index.php?lang=2>. State Institute for Drug Control, 2019b.
- TRAULSEN, J. M. AND L. C. DRUEDAHL Shifting perspectives - Planning for the future of the pharmacy profession taking current labor market trends into consideration. *Research in Social & Administrative Pharmacy*, Dec 2018, 14(12), 1189-1194.
- UZIS. *Pharmaceutical service in 2013*. Available from: <https://www.uzis.cz/en>. Institute of health information and statistics of the Czech Republic, 2014.
- UZIS. *Pharmaceutical service in 2015*. Available from: <https://www.uzis.cz/en>. Institute of health information and statistics of the Czech Republic, 2016.
- UZIS. *Czech Health Statistics Yearbooks 1938 - 2016*. Available from: <https://www.uzis.cz/en>. Institute of health information and statistics of the Czech Republic, 2018.
- VEŘEJNÝ REJSTŘÍK. *Veřejný rejstřík a Sbírka listin (Public and Document Register)*. Available from: www.justice.cz. Ministry of Justice, 2018.
- VOGLER, S., D. ARTS AND C. HABL. *Community pharmacy in Europe. Lessons from deregulation—case studies*. Available from: <http://whocc.goeg.at/Publications/BooksReports>. WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, 2006.
- VOGLER, S., K. HABIMANA AND D. ARTS Does deregulation in community pharmacy impact accessibility of medicines, quality of pharmacy services and costs? Evidence from nine European countries. *Health Policy*, SEP 2014, 117(3), 311-327.
- VZP. *Bonifikace poskytovatelů lékařské péče (Grant Program for pharmacists)*. Available from: www.vzp.cz. General Health Insurance Company, 2019.