

INSOLVENCY PROCEEDINGS – ESSENTIAL CHARACTERISTICS

Dagmar Čámská – Jiří Klečka

Abstract

The paper is focused on enterprises entering insolvency proceedings in 2019. The paper's aim is to find out and describe the essential characteristics of the companies declaring bankruptcy according to the Insolvency Act No. 182/2006 Coll. in the Czech Republic. Although individual insolvency proceeding documents are accessible online, summarized results about insolvencies are limited. Imperfect and incomplete information causes difficulties when legal changes should be implemented and when business practice should react to current development. The data sample analysed is extracted from the prepaid corporate database, Albertina. This paper provides information about the debtor's prevailing economic activity and regional residency. The results gained are interpreted and summarized with the use of absolute and relative frequencies. Firstly, regional or industrial discrepancies may be detected. Secondly, time changes could be discovered because the numbers obtained are compared with the previous research works based on elderly data and companies which entered insolvency in previous years. Potential shifts can occur due to economic cycle phase, industry development, and other factors.

Key words: insolvency proceedings, economic activity, regional residency, Czech Republic

JEL Code: G33, M21

Introduction

The knowledge of insolvency proceedings and their dynamics could be helpful for the changing of insolvency legal framework or setting regional policies focusing on employment and subsidiary programmes. Although individual insolvency proceedings are available online free of charge many aggregated parameters are not accessible. It has a consequence that business practice as well as government authorities are not able to react to the dynamics of the insolvency proceedings.

The aim of this paper is to find out selected characteristics of the insolvency cases in the Czech Republic. Mostly discussed issue is the sensitivity of belonging to a particular economic sector. Some sectors seem to be riskier than the others and therefore their exposure to risk of default is higher (Ganguin and Bilardello, 2004). Different sectors of economy achieve different performance and essential characteristics such as corporate leverage mentioned by Frank and Goyal (2009) and Öztekin (2015). Belonging to a particular branch could influence the accuracy of financial prediction (Fairfield et al., 2009 and Lee and Alnahedh, 2016).

Regional corporate residency also belongs to significant factors describing insolvent cases. First, it is an important factor determining the capacities of regional court systems. Second, there is the impact on unemployment and regional disparities. Jurajda and Terrell (2009) mentioned that differences in regional unemployment are large and persistent in transition economies. The Czech Republic is one example of the transition economy. Any deterioration can have significant effects. Pošta (2018) pointed out that the analysis of structural unemployment at the regional level is sparse. Pavelka (2017) repeated the connection of long-term unemployment and the phase of the economic cycle. This author also highlighted the rate of individual distraints as a significant factor causing regional differences in long-term unemployment. Corporate level of insolvencies could have also an impact on employment.

The structure of the paper is following. The introduction aforementioned also contains brief literature review. The next part defines data sample which will enable to find out answers to research questions focusing on prevailing economic activity and regional residency of insolvent companies in the Czech Republic. The research carried out brings results introduced in the following part. These results are compared with the previous research work published by Čámská (2013). The last part Conclusion repeats the main results, possible consequences and it highlights limitations and the possible ways of further research.

1 Data sample

Data sample presents insolvency cases starting in the Czech Republic in the year 2019. This data sample was extracted from Albertina, the prepaid corporate database. First, the database provided the list of all companies registered as limited liability and joint-stock which went bankrupt according to the Insolvency Act No. 182/2006 Coll. in the Czech Republic. The database does not provide complete information because the year of insolvency declaration is

missing from a number of records. Second, the missing year was traced manually in the Business Register. Third, only enterprises declared bankruptcy in 2019 remained in the data sample for further processing.

The records were divided into separated categories according to their principal business activity and regional residency. Classification of business activities follows the methodology of CZ-NACE and therefore following groups are distinguished: Agriculture, Forestry and Fishing; Industry; Construction; Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles; Transportation and Storage; Accommodation and Food Service Activities; Information and Communication; Financial and Insurance Activities; Real Estate Activities; and Professional, Scientific and Technical Activities. These groups can be found in tables 1 and 2. The Czech Republic has officially 14 regions and therefore also regional residency is analysed from this perspective. The paper distinguishes the following regions: Prague; Central Bohemian; South Bohemian; Plzeň; Karlovy Vary; Ústí nad Labem; Liberec; Hradec Králové; Pardubice; Vysočina; South Moravian; Olomouc; Zlín; and Moravian-Silesian. These regions can be found in tables 3 and 4.

Absolute frequencies of insolvent companies belonging to the specific field of economic activity or region could conduct to misleading results. The monitored groups differ in the frequency of companies belonging to. This obstacle could be solved by relative frequencies using the total amount of companies as the comparable bases. The total amount of companies belonging to specific fields of economic activity and specific region is published annually by Czech Statistical Office (2020a, b). There is one obstacle. Czech Statistical Office reports numbers of two types of companies – registered and active companies. Registered companies should consist of all entrepreneurial entities including sole traders as well. On the other hand, active companies contain only entities which show some entrepreneurial activity. In some fields of economic activity there are significant differences between the groups of registered and active enterprises.

The results gained are compared with the previous research work published by Čámská (2013). The previous research was based on data describing the year 2012. It should be noted that there are several reasons why the two data samples would differ. First, it is the time development when the environment changes and evolves. Second, the data source is not similar. The previous research work was based on the data published by Labour Office Czech Republic. This office collects data because of employees' protection. If the employees do not receive salary payment from their employer they have a right to ask Labour Office. The data

files of Labour Office mainly covered only a limited time period. It means that the previous data sample did not cover the period of the full year but maximally approximately half a year. It should be noted absolute numbers recorded in the years 2012 and 2019 are not comparable. Relative frequencies can be comparable in the way of different fields of economic activity and regions.

2 Results

The results presented will show which industry sectors are more affected than the others and if it is possible to detect regions which bear the burden of corporate insolvencies more than the others. Tables 1 and 2 are focused on the analysed fields of economic activity and tables 3 and 4 are focused on the regions affected. One table always works with the recent data and the other one is dedicated to the previous research work. The structure of tables 1 and 2 is described in the following sentence. The first two columns describe the sectors analysed, the third one shows the absolute number of insolvent companies in the given year, the fourth and fifth one display the total number of registered and active companies in the given year and finally the last two columns provide the share of the insolvent companies on the total number. The structure of tables which present the regions' results is comparable as in the case of the sectors' results. It should be repeated that tables describing different time moments could not be fully comparable because of reasons mentioned in the previous chapter.

Table 1 shows the recent development of insolvent companies according to industry sector belonging. The most affected sectors are Industry, Wholesale, and Construction in absolute numbers. Insolvent cases also influenced in relative terms the general Industry the most. The order of other sectors is different. According to the number of the active enterprises, Real Estate Activities are followed by Transportation and Storage, Wholesale, Construction, and Financial and Insurance Activities.

The comparison with the previous results cannot be conducted in the case of numbers reported but the ranking is can be provided. Table 2 informs that relatively the most affected branches were Transportation and Storage, Wholesale, Real Estate Activities, Accommodation and Food Services, and Industry. There are visible some time shifts. The old data showed the exception of Accommodation and Food Services. On the other hand, the recent data proved the exception of Financial and Insurance Activities and extreme high values for general Industry. The less vulnerable sectors are Agriculture, Information and Communication, and Professional, Scientific and Technical Activities in both time moments.

Tab. 1: Number of companies in 2019

CZ-NACE		Insolvent	Registered	Active	Share on registered	Share on active
A	Agriculture, Forestry and Fishing	36	134,695	86,006	0.0267%	0.0419%
B-E	Industry	276	350,062	209,878	0.0788%	0.1315%
F	Construction	171	335,443	190,354	0.0510%	0.0898%
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	253	618,094	271,815	0.0409%	0.0931%
H	Transportation and Storage	44	76,978	44,908	0.0572%	0.0980%
I	Accommodation and Food Service Activities	37	154,947	75,664	0.0239%	0.0489%
J	Information and Communication	18	73,223	51,891	0.0246%	0.0347%
K	Financial and Insurance Activities	9	15,281	10,133	0.0589%	0.0888%
L	Real Estate Activities	85	176,295	71,628	0.0482%	0.1187%
M	Professional, Scientific and Technical Activities	104	386,236	237,569	0.0269%	0.0438%
	All	1033	2,321,254	1,249,846	0.0445%	0.0827%

Source: authors based on Albertina, Czech Statistical Office (2020a), and Czech Statistical Office (2020b)

The results observed seem quite unexpected. The year 2012 is connected with the consequences of the global economic crisis. On the other hand, the year 2019 is considered the peak of the economic cycle. It seems that overall economic situation does not have significant impact on structural sectoral consequences. It can be concluded that some sectors are more vulnerable or exposed to the risk of default than the others.

Tab. 2: Number of companies in 2012

CZ-NACE		Insolvent	Registered	Active	Share on registered	Share on active
A	Agriculture, Forestry and Fishing	8	105,263	69,565	0.0076%	0.0115%
B-E	Industry	77	326,387	186,682	0.0236%	0.0412%
F	Construction	70	327,103	189,189	0.0214%	0.0370%
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	154	669,565	301,961	0.0230%	0.0510%
H	Transportation and Storage	24	74,303	46,512	0.0323%	0.0516%
I	Accommodation and Food Service Activities	33	140,426	73,661	0.0235%	0.0448%
J	Information and Communication	13	56,034	37,572	0.0232%	0.0346%
K	Financial and Insurance Activities	1	41,667	28,571	0.0024%	0.0035%
L	Real Estate Activities	33	152,074	70,064	0.0217%	0.0471%
M	Professional, Scientific and Technical Activities	34	336,634	198,830	0.0101%	0.0171%
	All	447	2,229,456	1,202,607	0.0200%	0.0372%

Source: modified according Čámská (2013)

The next analysed parameter is enterprise regional residency. Table 3 shows the recent development of insolvent companies according to their regional residency. The most affected regions are Prague, South Moravian, and Moravian-Silesian in absolute numbers. These regions are situated around the largest cities as Prague, Brno, and Ostrava. Such results could be expected. The relative order is the same. Fourth and fifth place are occupied by the regions Karlovy Vary and Ústí nad Labem.

The comparison with the previous results cannot be carried out in absolute and relative terms but the ranking of regions can be achieved. Table 4 informs that relatively the most affected regions were Hradec Králové, South Moravian, Prague, Moravian-Silesian, and Zlín in the year 2012. Hradec Králové was also quite high in ranking 2019 but Zlín was much less affected. Central Bohemian, South Bohemian, and Vysočina belong to the less vulnerable regions in both time moments.

Tab. 3: Insolvent companies according to regions in 2019

Region	Insolvent	Registered	Active	Share on registered	Share on active
Region Prague	328	524,608	304,703	0.0625%	0.1076%
Region Central Bohemian	61	276,015	153,522	0.0221%	0.0397%
Region South Bohemian	32	130,807	69,027	0.0245%	0.0464%
Region Plzeň	46	116,366	57,414	0.0395%	0.0801%
Region Karlovy Vary	23	58,160	25,770	0.0395%	0.0893%
Region Ústí nad Labem	59	138,838	66,249	0.0425%	0.0891%
Region Liberec	32	94,950	45,529	0.0337%	0.0703%
Region Hradec Králové	52	112,970	60,028	0.0460%	0.0866%
Region Pardubice	33	96,299	51,715	0.0343%	0.0638%
Region Vysočina	20	90,491	50,949	0.0221%	0.0393%
Region South Moravian	151	257,080	141,337	0.0587%	0.1068%
Region Olomouc	51	112,299	57,610	0.0454%	0.0885%
Region Zlín	43	114,416	60,971	0.0376%	0.0705%
Region Moravian-Silesian	102	197,955	105,022	0.0515%	0.0971%
Total Czech Republic	1033	2,321,254	1,249,846	0.0445%	0.0827%

Source: authors based on Albertina, Czech Statistical Office (2020a), and Czech Statistical Office (2020b)

Tab. 4: Insolvent companies according to regions in 2012

Region	Insolvent	Registered	Active	Share on registered	Share on active
Region Prague	127	529,377	290,208	0.0240%	0.0438%
Region Central Bohemian	20	317,598	176,907	0.0063%	0.0113%
Region South Bohemian	17	158,543	87,415	0.0107%	0.0194%
Region Plzeň	23	147,419	77,246	0.0156%	0.0298%
Region Karlovy Vary	9	83,396	38,700	0.0108%	0.0233%
Region Ústí nad Labem	24	178,718	87,525	0.0134%	0.0274%

Region Liberec	8	118,766	58,376	0.0067%	0.0137%
Region Hradec Králové	47	134,689	75,565	0.0349%	0.0622%
Region Pardubice	17	114,072	63,019	0.0149%	0.0270%
Region Vysočina	14	105,185	62,059	0.0133%	0.0226%
Region South Moravian	74	291,162	163,547	0.0254%	0.0452%
Region Olomouc	9	138,970	73,644	0.0065%	0.0122%
Region Zlín	25	136,725	75,598	0.0183%	0.0331%
Region Moravian-Silesian	50	248,824	131,392	0.0201%	0.0381%
Total Czech Republic	464	2,703,444	1,461,201	0.0172%	0.0318%

Source: modified according Čámská (2013)

Conclusion

This paper was focused on some essential characteristics of insolvent enterprises which declared bankruptcy in 2019. The selected characteristics were prevailing economic activity and regional residency. The results achieved were compared with the previous research work published in 2013. The comparison was possible only in the way of ranking according the most or less affected fields of economic activity and regions. The other comparison was limited because the data samples did not cover the same time period.

The results showed that the phase of the economic cycle did not influence the fields of prevailing economic activity and regions significantly. Some sectors and some regions are more vulnerable and therefore they have higher numbers of insolvent enterprises than the others. It remains a question if coronavirus' consequences for the economy influence the parameters analysed.

The limitations of the paper should be pointed out. The paper focused only on selected characteristics. The analysis of other parameters should provide additional information enabling reaction to current development. The other parameters could include enterprise size (expressed as the value of total assets or annual turnover and the number of employees), reasons of bankruptcy, companies' age, and enterprises' connection to supply chain. First, the paper range is limited. Second, it is difficult to collect this data because companies and especially insolvent ones do not publish their financial statements regularly. The reasons of bankruptcy and the connection to supply chains cannot be connected with quantitative but with qualitative kind of research. Annual comparison could be conducted and more

discrepancies could be visible. The research conducted covered only the companies such as limited liability and joint-stock companies therefore sole traders were excluded. Sole traders create the majority of entrepreneurial entities in the absolute numbers. On the other hand, the value created and number of employees in the case of sole traders is negligible. It means that this paper focused on entities which influence the economy the most.

The discussion of paper's limitations has opened several other research ways which show that there are many interesting possibilities for the further research. The next years will show especially the impact of coronavirus crisis on the economy and entrepreneurship.

Acknowledgment

The paper is one of the outputs of the research project “Financial characteristics of enterprise in bankruptcy” registered at Grant Agency of Academic Alliance under the registration No. GAAA 10/2018.

References

- Čámská, D. (2013). Basic Characteristics of Enterprises in Insolvency. *Proceedings of International Scientific Conference on Hradec Economic Days 2013 - Economic Development and Management Region, Czech Republic*, 83-88.
- Czech Statistical Office. (2020a). *Businesses by principal activity - territorial comparison – active businesses*. https://vdb.czso.cz/vdbvo2/faces/cs/index.jsf?page=vystup-objekt&z=T&f=TABULKA&pvo=ORG04&katalog=30831&&evo=v460 ! VUZEMI97-100_1&c=v3~2_RP2019MP12DP31&str=v8&kodjaz=203
- Czech Statistical Office. (2020b). *Businesses by principal activity - territorial comparison – registered businesses*. https://vdb.czso.cz/vdbvo2/faces/cs/index.jsf?page=vystup-objekt&pvo=ORG04&f=TABULKA&z=T&katalog=30831&str=v7&evo=v460 ! VUZEMI97-100_1&c=v3~2_RP2019MP12DP31
- Fairfield, P.M., Ramnath, S., & Yohn, T.L. (2009). Do Industry-Level Analyses Improve Forecasts of Financial Performance? *Journal of Accounting Research*, 47(1), 147–78. <https://doi.org/10.1111/j.1475-679X.2008.00313.x>
- Frank, M.Z., & Goyal, V.K. (2009). Capital Structure Decisions: Which Factors Are Reliably Important? *Financial Management*, 38(1), 1–37. <https://doi.org/10.1111/j.1755-053X.2009.01026.x>

Ganguin, B., & Bilardello, J. (2004). *Standard & Poor's Fundamentals of Corporate Credit Analysis*. McGraw-Hill Professional.

Jurajda, S., & Terrell, K. (2009). Regional unemployment and human capital in transition economies. *Economics of Transition*, 17(2), 241-274. <https://doi.org/10.1111/j.1468-0351.2009.00351.x>

Lee, G.K., & Alnahedh, M. (2016). Industries' Potential for Interdependency and Profitability: A Panel of 135 Industries, 1988-1996. *Strategy Science*, 1(4), 285–308. <https://doi.org/10.1287/stsc.2016.0023>

Öztekin, Ö. (2015). Capital structure decisions around the world: which factors are reliably important? *Journal of Financial and Quantitative Analysis*, 50(3), 301–323. <https://doi.org/10.1017/S0022109014000660>

Pavelka, T. (2017). Long-term Unemployment in the Czech Republic and the Effect of Distraints. *Proceedings of 11th International Days of Statistics and Economics, Czech Republic*, 1153-1162.

Pošta, V. (2018). Estimates of structural unemployment rates at a regional level: Example of the Czech economy. *Business and Economic Horizons*, 14(5), 970-987. <https://doi.org/10.15208/beh.2018.66>

Contact

Dagmar Čámská

Czech Technical University in Prague, MIAS School of Business, Department of Economic Studies

Kolejní 2637/2a, Prague 6, 160 00, Czech Republic

dagmar.camska@email.cz

Jiří Klečka

University of Chemistry and Technology Prague, Department of Economics and Management
Technická 5, Prague 6 – Dejvice, 166 28, Czech Republic

jiri.klecka@vscht.cz