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Financial Analysis And Its Use For Management Decisions

Bachelor Thesis

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Aim: The main aim of the bachelor thesis is to analyze the financial soundness of the selected companies, interpret the results in terms of the decision-making process, and create proposals to achieve better financial results.

Content areas:
1. Description of financial statements under Czech accounting legislation.
2. Financial analysis and its explanation.
3. Processing of financial analysis of selected accounting entities.
4. Comparison of obtained results in terms of time and field of business.
5. Solution proposals leading to better financial results.

Length of thesis: 25 – 30 stran

Recommended literature:

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I would like to thank Ing. Josef Horák, PhD. for his professional supervision of my thesis, advice, and information. Also, I would like to thank my family for their support during my studies.

Contents

List of abbreviations and symbols

ROA Return on Assets

ROE Return on Equity

SCF Statement of Cash Flow

CEP Courier, Express, Parcel

EVA Economic Value Added

EBT Earnings Before Taxes

EBIT Earnings Before Interest and Taxes

Introduction

The presented Bachelor Thesis is dedicated to the financial analysis of five selected companies of the CEP Industry in the Czech Republic; the main objective of this work is to analyse the soundness of the selected companies in order to compare the results and interpret them in terms of the managerial decision making for later compile proposals for improvement.

This work is divided into two parts; the first is theoretical, collecting information on the four financial statements and the notes to the financial statements according to the Czech Accounting Standards. Later the work focuses on financial analysis, its importance for managerial decision-making, its users and the methodology used. Both horizontal and vertical analyses and explained, including the formulas used for elaboration and their advantages and disadvantages. Moreover, financial ratios are divided into four types: liquidity ratios, solvency ratios, profitability ratios and finally, and activity ratios. For each group, four ratios were selected that were considered helpful for the analysis. This part includes the equations for the ratios calculation and the interpretation of the results. Subsequently, this work details different scoring methods such Kralicek Quick Test, Altman Z-score and IN05 Index. The equation for the calculation and the value for each method were presented for the variables.

The second part is based on a practical case, where five companies from the Courier Express and Parcel industry are analysed and later compared in terms of their financial results. It is relevant to mention that these five companies were selected for their stable position in the Czech market in the last five years. Also, all of them have their annual reports for 2017 – 2021 published according to Czech Accounting Law.

The practical part is subdivided into three main sections; first, relevant information about the industry and each company is presented to understand the analysis's context better. Later, horizontal and vertical analysis for each firm is shown; accounts with significant changes were selected for further explanation. The following section compares the five selected companies for 2017 – 2021 using

specific financial ratios. Moreover, the results are compared with the average industry results. However, this data was available only for the period 2017 – 2019.

In the last part, this thesis summarises the previously obtained results for interpreting managerial decision-making and compiling a recommendation for improvement for the companies and the future of the CEP industry in the Czech Republic, considering the current market situation.

1. Financial statement

This chapter describes four basic financial statements, according to the Czech Accounting Act from 1991, which is aligned with the E.U. acquis Communautaire. The four financial statements that will be delineated are included in the Closing Financial Report: the balance sheet, the income statement, the cash flow statement, the statement of changes in the Equity and the footnote.

According to Czech Accounting Act, companies will have divided into groups according to the criteria explained in table 1

Table 1: Accounting unit classification

Accounting unit type	Asset	Annual net turnover	Average number of employees
Micro unit	Up to 9 million CZK	Up to 18 million CZK	Up to 10 employees
Small unit	Up to 100 million CZK	Up to 200 million CZK	Up to 50 employees
Medium unit	Up to 500 million CZK	Up to 1000 million CZK	Up to 250 employees
Large unit	Over 500 million CZK	Over 1000 million CZK	Over250 employees

Source: Czech Accounting Act 1991

As defined by Czech Accounting Law, the Financial Report may be presented in either a full or a summarised version. As for micro accounting, the unit must present a summarised version of the balance sheet; however, it is not obligated to publish the income statement, compile the resting financial statements, and is not subject to a mandatory audit. All this is based on the declaration 500/2002 Sb., § 3a, out. 2. b. The same rules are applied to a small unit not subject to a mandatory audit.

In the case of the mandatorily audited units, they must present the Financial Report in its full version, including the compilation of the cash flow statement and the statement of change in the Equity; it must also compile a Final Financial Report at the end of the accounting period such an Annual Report where is included all mandatory information of the Note to Financial Statements; failure to comply this norm is punished by a fine.

1.1 Balance Sheet

The balance sheet is a financial statement that each accounting unit must compile in either the full or summarised version at a particular moment. It contains the necessary information to know the financial position of the company. (Sekhar, 2018) This statement is based on the following formula:

$$Assets = Liabilities + Equity\ (1)$$

This statement is formed by the assets, the liabilities and the stockholders' Equity and the interrelationship between them. (James M. Johnson, 2016)

The assets represent the cash, cash equivalents, land, building, Goodwill, patents, copyrights, Etc. under the company's economic control; the creditor or the owners directly or indirectly finance them. Assets are divided into non-current (the company keeps them for more than one year) and current (the company keeps them for less than one year; each group is subdivided into categories (Sekhar, 2018).

- **Non-Current assets:** Assets that have been under the firm's control for more than one year. These are divided into two categories:
  - A. **Tangible non-current assets:** in this category are included assets that are physically existing in the firm as lands, buildings, machinery, furniture, Etc. Usually recorded in the balance sheet at their cost price, the depreciation is reduced according to its useful life.
  - B. **Intangible non-current assets:** in this category are included assets that are not physically part of the company as patents, copyrights, franchises, Etc.

- **Current assets:** These are assets that are in the company for one year or can be converted into cash in a period of one year. These assets are presented according to their liquidity. Examples of current assets include cash at the bank, accounts receivable, prepaid expenses, inventory, estimated accounts receivable, deferred expenses Etc.

On the other side of the equation are the liabilities, which are classified into current and long-term; these are the external resources used to obtain the assets. (Sekhar, 2018)

- **Long-term liabilities:** Debts that must be paid within more than one accounting period as bank loans
- **Current liabilities:** Short-term debts payable within one accounting year, for example, accounts payables, outstanding expenses, income tax liability, Etc.

The Equity, also known as the owner's Equity, is the financial interest of the owners and is the second resource used to obtain the assets; in this part of the balance sheet are found accounts as the equity capital, which is the core funding of a business, is paid by investors in exchange for common or preferred stock. Also, part of the Equity are the reserves, resulting from economic activities during the financial period. (Sekhar, 2018)

1.2. Income Statement

The financial performance or income statement summarises the company's revenues and expenses during the accounting period, which results in earnings or losses. The income statement starts at the top with the revenues from which the expenses are deducted in order to realise the net Profit. Main revenues and expenses in a financial period; holds essential information to control and understand the performance of a business. It is also an essential tool for determining the basis for calculating taxes liabilities. (Shields, 2020)

According to the E.U. directive 4, The Czech Republic recognises two types of vertical statements that allow the firm to decide whether to use the division of expenses by its nature or function.

Classifying expenses by their function is structured based on three categories (production, commercial and administrative). In the first part is found the cost of goods sold; after deducting it from the net sale is obtained a gross margin which is

the base for deducting the two other expense categories. This method is the most suitable for analyzing the effectiveness of the company in general and each category. (Vančurová, 2013)

Commercial expenses encompass payroll expenses, advertisement, transport, and other expenses in the commercial area. Part of the administrative expenses is office supplies, depreciation of assets used in the administrative work and payroll expenses for administrative workers. (Vančurová, 2013)

While classifying expenses by their nature, it is necessary to answer the question: what was consumed/used? In this case, the expenses are irrelevant to which activity. Cost of merchandise, depreciation, and personnel expenses are just a few of the most common categories for this method. (Vančurová, 2013)

The figure exposes the main differences between these two methods.

Figure 1: income statement by function vs income statement by nature

Income Statement by Function (Vertical Presentation)		Income Statement by Nature (Vertical Presentation)	
	Net sales revenue		Net sales
-	Cost of goods sold (cost of sales)	+	Other operating revenues
=	Gross margin	-	Cost of merchandise and raw materials sold and consumed
-	Commercial and distribution expenses	-	Labor and Personnel expenses
-	Administrative expenses	-	Other operating expenses
-	Other operating expenses	-	Depreciation expense
=	Operating income	=	Operating income

Source: (C.Richard, et al., 2007)

The revenues are not a cash number; these are reported when earned. They are classified into two groups: operating revenues and non-operating revenues. The first group includes revenues generated by the central core of the firm, for example, revenues from good sales or service fees. The non-operating revenues project those from a different, uncommon activity; these are not necessarily frequent, including gains from investing, property sales, or foreign currency exchange. (Sekhar, 2018)

The costs are expenditures used to create or sell goods or services or to obtain assets. Costs can be designed as variables, meaning their level varies according to the activity; for example, energy expenses change according to consumption. Expenses may be designed as fixed, which means that they do not change their levels according to the activity, for example, a lease. The costs are divided into four types:

- **Cost of goods sold:** These are the costs incurred when any good or product is sold. It includes direct materials and labour and anything necessary to help the product to be produced; usually for manufacturing companies, in the case of service companies, this account is called cost of services. (Smith, 2018)

- **Operating expenses:** Expenses incurred while selling goods and services under this account are expenses that happened while running the firm's core line as I.T. expenses, executive salaries, or training expenses. It also includes the salaries of sales workers. (Butler, 2022)(Smith, 2018)

- **Financial expenses:** This account includes expenses from any loan from creditors and lenders, such as interest or loan fees. It shows the cost of the company borrowing money. This will be deducted from the financial revenues in order to obtain financial Profit. (Smith, 2018)

- **Extraordinary expenses:** are expenses outside the company's regular activities; they are not repetitive, usually write-offs that are just one-time events. For example, expenses when selling land or any unexpected machinery reparation. These should be considered when analyzing the income statement, as they can distort the evaluation and the interpretation of results. (Smith, 2018)

In an income statement, three performance results can be found:

- **Earnings before taxes and interest (EBIT):** It is calculated by deducting the operating expenses from the gross profit, including the interest and taxes. It is also known as the operating Profit and is used to analyze the company's

operational core without regard to the source of financing. The EBIT includes depreciation, which can lead to varying results when comparing companies in different industries. (Sekhar, 2018)

- **Earnings before taxes (EBT):** It does not include the effect of the taxes expenses on the company's financial performance, which is very useful when comparing the company with industry peers. It can be calculated by deducting interest expenses from EBIT. EBT may not include the non-operating Profit. (Sekhar, 2018)

- **Net income (N.I.)** is calculated by deducting taxes and expenses from the EBT. This result is used to calculate earnings per share; nevertheless, new investors should review the numbers used to calculate the N.I. since it is very susceptible to manipulation. (Accounting Tools CPE, 2022)

1.3. Cash Flow Statement (SCF)

The cash flow statement reports the inflows and outflows of cash and equivalent liquid assets, which makes it an essential tool for liquidity management. It details how the company's cash increases and decreases in one accounting period. (James M. Johnson, 2016)

According to the implanting decree on double-entry bookkeeping No. 500/2002 coll. Issued by the Ministry of Finance of the Czech Republic, wherewithal and equivalent will be considered for cash flow, as for wherewithal is understood any cash, money in bank accounts, and money on its way, and as for equivalent is understood any financial asset which is liquid in the short-term. The cash flow statement divides the company's activities into three categories:
- **Operations:** it is the activity that is generated the primary income for the company, also including in this group any other activity that cannot be included in the investing or financing group. As an example of transactions that may be included in this group, it is possible to mention income payments from clients for products or services, outcoming payments to the company's suppliers, or any

payroll transaction. A company growing rapidly may show a negative cash flow from operating activities. (International Accounting Standards 7) (James M. Johnson, 2016)

- **Investing:** originated from investing activities; these are important because they represent the extent to which disbursements have been made for economic resources that will produce income and cash flows in the future. As examples can be mentioned: income or outcome payments for the acquisition or selling of properties, intangible assets, and other non-current assets. From the example, this part of the CFS is directly related to the balance sheet, concretely the long-term assets. (International Accounting Standards 7) (Sekhar, 2018)

- **Financing:** cash flow related to activities to obtain and pay resources from the business owner and third parties. This information is helpful for forecasting cash needs to cover commitments with suppliers of capital to the company. An example of a transaction of financing cash flow is incoming payment from the issuance of shares or other capital instruments or outcoming payments from the issuance of loans or funds borrowed, whether long-term or short-term. From the example, this part of the CFS is directly related to long-term liabilities. (International Accounting Standards 7) (Sekhar, 2018). In this statement, a positive number represents a cash income, which increases the company's assets; on the other hand, a negative number denotes that the company has paid out capital, for example, paying g dividends to the shareholders; in the case of having a negative number in this section of the cash flow statement, ideally, the operational section must be upbeat, as it is the primary driver of the cash flow.

For formulating the cashflow, there are two different methods:

- **Direct method:** Based on ordering the inflows and outflows in the corresponding category explained above.

- **Indirect method:** the profit/loss is corrected by reducing the non-monetary transactions. This method is not recommended since it does not present detailed information that might be useful for future cash flows.

Figure 2 shows the different presentations of the two methods mentioned above

Figure 2: Cash Flow Statement direct and indirect method

Direct Method	
Cash from Customers	
Sales Revenue	+
Accounts Receivable	+/- Δ
Unearned Revenue	+/- Δ
Cash to Suppliers	
Cost of Goods Sold (COG:	-
Inventory	+/- Δ
Accounts Payable	+/- Δ
Cash for Operating Expenses	
Prepaid Expenses	+/- Δ
Supplies	+/- Δ
Accrued Liabilities	+/- Δ
Wages	+/- Δ
Cash for Interest	
Interest Expense	+/- Δ
Cash for Taxes	
Tax Expense	+/- Δ
Total:	**Net Cash**

Indirect Method	
Net Income	+
Amortization Expense	+
Depreciation Expense	+
Loss	+
Gain	-
Accounts Receivable	+/- Δ
Inventory	+/- Δ
Prepaid Expenses	+/- Δ
Supplies	+/- Δ
Accounts Payable	+/- Δ
Accrued Liabilities	+/- Δ
Wages	+/- Δ
Interest	+/- Δ
Taxes	+/- Δ
Total:	**Net Cash**

Source: Frank, Jeri. The Essential Guide to Direct Cash Flow and Indirect Cash Flow. 2017.

1.4. Statement of Changes in Equity

The statement of changes in Equity reflects all changes in the firm's Equity during one period, variations in due equity operations with partners (variations in the capital), many variations that occur in Equity (such as the distribution of the result) and adjustments to Equity due to changes in accounting criteria and corrections of errors. Generally, it can be described as a picture of the changes in equity during one accounting period, usually one year. This statement shows two main activities: investment by owners and distribution to owners. In addition, net income influences equity value; this is a clear example of how financial statements are related, which will be explained at the end of the chapter. (Franklin and others, 2019)

This information is essential since it allows the reader to acknowledge the percentage of loss or equity gain in two comparable periods. The transactions appearing on this statement are dividend payments, treasury stock purchases, net Profit or loss, or effects of fair value changes for certain assets. (Serrat, 2011)

1.5. Note to The Financial Statements

The Note to the financial statements refers to the extra information that a company supplies for the financial report. It usually explains any inconsistency or irregularities that might have been found in the past year. It explains what accounting methodology was used, for example, what method was used to value the inventory, what depreciation method was used or any condition or specific terms attached to debts or loans. In case of changes in the methodology, these must also be specified in the notes. Further details of all transactions and calculations are found in this part of the financial report; it allows a deeper analysis of each statement. (Shields, 2020)(Franklin and others, 2019)

In the Czech Republic, the Ministry of Finance sets the mandatory content of the Note to the Financial Statements. This information is presented with the financial report but can also be presented as part of the annual report (in the case of audited entities), which must be public and published through the tax office.

According to the Czech Accounting Standards, companies must share general information, such as headquarters, identification number, organizational structure, Etc. Also, the accounting period for the financial statements must be included in the general information of the entity. In addition, information about the accounting methods is applied for pricing and depreciation and what is proceeded for transactions in foreign currencies. The firm must indicate in this part of the financial report any situation that may influence the interpretation of its financial situation. (Mrkosová, 2020)

Companies must provide further information about specific accounts in the income statement and balance sheet. This account is defined by the Czech Standards, such

as information about leasings, accounts receivable and payable after the due date; in case of changes in the Equity, further information must be detailed, as well as details about the profit distribution and method of payment. (Mrkosová, 2020)

1.6.   Relationship Between Statements

- **Balance sheet and income statement:** These two statements are directly connected, and changes are reflected. For example, when revenue increases are reported in the income statement, this reflects in the balance sheet as an increase in the stockholder's equity. In addition, any write-down of an asset on the balance sheet appears as a loss on the income statement. (Fridson and others, 2011) (Smith, 2018)

- **Balance sheet and cash flow:** The balance sheet presents assets and liabilities that result from the income and outcome flow reported in the cash flow statement. (Smith, 2018)

- **Balance sheet and changes in the equity:** The changes in the shareholding shown in the balance sheet are detailed in the statement of changes in Equity. These two statements are directly connected. The balance sheet indicates the situation of the equity when it was structured, while the statement of changes in Equity gives a picture of the changes during the accounting period. (Sekhar, 2018)

- **Income statement and cash flow:** The income statement and the cash flow statement are interconnected by net Profit as this is the first line in cash flow in its indirect method version and comes from the income statement. (James M. Johnson, 2016)   (Palaniappan, a další, 2012) (Smith, 2018)

- **Income statement and statement of changes in the Equity:** these statements are related in terms of the net profit coming from the income

statement reported in the statement of changes in the equity (Sekhar, 2018) (Smith, 2018)

2. Financial Analysis

The following chapter encompasses the two essential methods for analyzing a company's financial statements. The financial analysis is a methodology that approaches future challenges and opportunities for the firm by evaluating its current financial performance, the management of financial resources and its effectiveness.

Its principal users are potential investors, competitors, and creditors. Investors are interested in learning about the company's ability to continue growing, generating cash flow, and issuing dividends; in general, they are interested to know if the company will be doing well enough for them to increase earnings through their investment. Creditors are interested in the company's ability to pay debts back, for example, if the company is interested in getting a loan. (Butler, 2022)

The first method explained in this chapter comprises vertical and horizontal analysis; both are used to picture a company's financial situation primarily for internal uses but can also be used for company comparations. The second uses many ratios that allow the user principally to compare the company's financial situation with the average in the industry or other direct competitors. (Butler, 2022)

2.2. Vertical analysis

This analysis is an evaluation that allows the reader to recognise the percentage weight of each item for a determined period; this analysis indicates the relation of each component to the whole for a single accounting period. The percentage base is the total assets and the total liability, respectively, for the balance sheet. For the statement of financial performance, the percentage base is the net sales. The previous is if a company has an equitable distribution of its assets according to its operational and financial needs. (Sekhar, 2018) (Butler, 2022)

The following formulas might be used for the calculations

Table 1: Vertical Analysis Formula

Vertical Analysis Formula	
Income Statement	$\frac{Income\ statment\ item}{Total\ sales}\ x\ 100$
Balance Sheet	$\frac{Balance\ sheet\ item}{Total\ assets}\ x\ 100$

Source: (Sekhar, 2018)

2.3. Horizontal analysis

"It is a procedure that consists of comparing homogeneous financial statements in two or more consecutive periods of determining the increases and decreases or variations of the accounts, from one period to another.**.** *(Gómez, 2001)*

This method is dynamic, unlike vertical analysis. It is also known as a comparative analysis, showing the changes in each financial statement item (balance sheet and income statement) in two or more years.   In addition, it offers a broader understanding of the changes shown in value and percentage form, facilitating interpretation and decision-making. On the other hand, one of the disadvantages is that when the value of the first year (base year) is equal to 0, it is not possible to indicate the difference for the following years. This method is one of the most popular as it triggers further investigation when significant changes are found. (Sekhar, 2018) (Butler, 2022)

The following formula may be used for the calculations:

$$Horizontal\ analysis = \frac{(comparasion\ year - base\ year)}{base\ year}\ x\ 100 \qquad (\ 2\ )$$

2.4. Financial ratios

Financial ratios are an instrument used for financial analysis; they allow the collection of a considerable amount of financial data to understand different aspects of a company and compare them to see its evolution. Ratios are based on the relationship between the line items of the financial statements, and they cover different categories such as profitability, Solvency, Liquidity and Operating performance. The company's ratios are usually compared with ideal industry or historical ratios to have a real utility in the economic-financial analysis. (Gillingham, 2015) (Franklin and others., 2019) For the ratios to be explanatory, at least one of the two following types of comparison is required.

- **Dynamic analysis:** comparison of the current ratio with a previous one or the expected ratio for the period.
- **Static analysis:** comparison of the company's ratio with ratios from similar companies or the industry average.

The use of financial ratios for analysis has some limitations as they are calculated based on historical data, which may be affected by a particular situation during the year. That is why ratios should have a context to understand the values better; they may be combined with other outside data points. When analysing a company by its ratio, it should be considered that further investigation is necessary and that external factors are essential when using ratios in decision-making. (Gillingham, 2015)

2.4.1. Liquidity ratios

Liquidity ratios determine the ability of a company to meet its short-term obligations. Liquidity is an essential factor of the company's operation, as it allows it to maintain its operations going forward, keeping a high paying level to its creditors. Liquidity could also be the first indicator of operating problems as it has an impact directly on the creditors (Gillingham, 2015) (James M. Johnson, 2016). Four ratios will be included in the explanation.

2.4.1.1. Current ratio

The current ratio indicates the company's ability to meet its short-term financial obligations based on its ability to generate cash flow. It uses all the short-term liquid assets, including inventory and accounts receivable, which is why creditors or lenders should pay close attention to the composition of the ratio, as the inventory or accounts receivable could comprise the most prominent part, and the company will not meet the current liabilities that must be paid during one operating cycle. The users of this ratio must also be mindful of the industry the ratio is performed for, as a high ratio could underutilize the company resources. (Gillingham, 2015) (Butler, 2022)

The following formula may be used for the calculations:

$$Current\ Ratio = \frac{current\ assets}{current\ liabilities} \qquad\qquad (\,3\,)$$

2.4.1.2. Quick ratio

It is also known as the Acid Test Ratio. This is a more conservative ratio which answers whether the company can pay in the short term by using the current assets (not including inventory) and indicates the soundness of the company's liquidity and solvency. This ratio excludes the inventory because, generally, inventory is less liquid than other accounts included in the current ratio as accounts receivable. Therefore, in this case, a higher ratio means a better result, but the ideal is to have the company ratio in line with the average for the industry. (Butler, 2022)

The following formula may be used for its calculation:

$$Quick\ Ratio = \frac{current\ assets\ - inventory}{current\ liabilities} \qquad (\,4\,)$$

2.4.1.3. Cash ratio

The cash ratio is an extreme liquidity ratio that projects whether the company can satisfy its debts using only cash and cash equivalents. From this, it is possible to mention that this ratio is more conservative than the previous ones. The cash ratio usually has a value under 1,00 since cash is usually tied up in production. (Gillingham, 2015)

$$Cash\ Ratio = \frac{cash}{current\ liabilities} \qquad (5)$$

2.4.1.4. Net Working Capital

Indicates the degree of the current assets financed by using long-term resources. (Kosnarová, 2018). For its calculation, the following formula may be used

$$Net\ working\ Capital = current\ assets - current\ liabilities\ (6)$$

2.4.2. Profitability ratios

As its name says, profitability ratios indicate whether a company is profitable. They also measure the efficiency of a firm by evaluating the use of assets and equity to generate profits and revenues. This means that the company is using its assets correctly to generate revenues that will compensate for the expenses that occurred. (Gillingham, 2015) (Fridson and others., 2011) This part of the financial analysis generates significant interest in potential and current investors.

2.4.2.1. Return on Assets (ROA)

According to the Spanish National Stock Market Commission, ROA indicates a company's profitability in relation to its total assets and the return obtained from the assets. A higher ROA value will show an improvement in profitability, while a decrease in the value could mean a profit deterioration.

ROA should be used to compare companies in the same industry as other industries may have a higher or lower figure and will cause a wrong comparison. For example, it is impossible to compare a manufacturing company with a service company; the first has expensive equipment in its assets. (Gillingham, 2015) (Butler, 2022)

For its calculation is used the following formula is used:

$$ROA = \frac{EBIT}{total\ assets} \qquad (7)$$

2.4.2.2. Return on Equity (ROE)

Return on Equity is one of the most determining indicators when assessing any company's profitability level, strongly favoured by investors. It measures the profitability of the Equity; it shows the net income as a percentage of the equity. It is recommended to use the average equity value as equity levels may have changed during the accounting period. (Butler, 2022)

A higher ROE value means that the company is capable of generating higher profitability; nevertheless, it is not recommended for investors to rely only on this ratio; a further previous investigation is needed. (Butler, 2022)

$$ROE = \frac{net\ income}{equity} \qquad (8)$$

2.4.2.3. Return on Capital Employed (ROCE)

Return on Capital Employed indicates the ability of the company to generate earnings concerning the capital employed. Capital Employed is understood as the stockholder's equity added to the long-term finance. (Gillingham, 2015)

ROCE is recommended when evaluating highly leveraged and capital-intensive companies. This value should increase yearly, meaning the company benefits from its employed capital. (Gillingham, 2015)

The following formula may be used for its calculation:

$$ROCE = \frac{EBIT}{Capital\ Employed} \quad (\ 9\ )$$

2.4.2.4. Profit Margin

The Profit Margin aims to know whether a particular product or service produces enough Profit once all the cost has been covered. It measures the degree of profitability after deducting all operational expenses. The expected ratio can vary according to the industry, and the best is to use a relevant peer group value for comparations within the industry. (Gillingham, 2015)

The following formula may be used for its calculation:

$$Profit\ Margin = \frac{EBIT}{sales} \quad (\ 10\ )$$

2.4.3. Solvency ratios

Solvency ratios measure the capacity of a company to pay its long-term financial obligations and stay financially stable. A company with solvency produces revenues higher than long-term debts. These ratios give a picture of inherent financial risk and potential insolvency. (Butler, 2022)

2.4.3.1. Debt to Equity Ratio

The Debt-to-Equity Ratio measures the degree of assets financed by the stockholder's equity and debts. The goal for the stockholders is to have a low value, as this means that their resources finance a high percentage of the company's

assets. A high value on this ratio means a significant risk for the company as it shows a big percentage of the assets financed by externals resource, which results in high-interest expenses. (Butler, 2022)

The formula for its calculation is:

$$Debt\ tp\ Equity = \frac{total\ liabilities}{shareholder's\ equity} \qquad (\ 11\ )$$

2.4.3.2. Debt to Assets Ratio

Debt to Assets Ratio, also known as the Debt Ratio, measures the percentage of assets financed through debt. The ideal scenario for the company is to have a low value of these ratios, meaning that it does not have the majority of its assets pledged to debts. A meagre ratio may significate an underutilization of its finance; on the other hand, a high ratio projects the difficulty the company has to pay off its debts in order to continue its operations. (Butler, 2022)

The formula for its calculation is:

$$Debt\ to\ Assets = \frac{total\ debts}{total\ assets} \qquad (\ 12\ )$$

Some authors use the total liabilities instead of total debts, which does not lead to an accurate result when using the total debts, including long-term and short-term debts. The difference between total debts and total liabilities is that the first term does not include accounts such as salaries payable, accounts payable, and similar. (Butler, 2022)

2.4.3.3. Interest Coverage Ratio

The interest coverage ratio measures the company's ability to pay for its interest expenses for its outstanding debts. It gives a picture of how many times the

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company's operating income can cover the interest expenses. A high ratio represents how a company can pay over the interest expenses several times, while a low ratio indicates the possibility of the company being unable to pay for its debt, and its financial strength is weak. (Butler, 2022)

The formula for its calculation is:

$$Interest\ Coverage = \frac{EBIT}{interest\ expenses} \quad (\,13\,)$$

2.4.3.4. Fixed Charge Ratio

The fixed charge ratio estimates the company's ability to cover its fixed expenses with its income before taxes and interest. This ratio is very flexible for using it with any fixed cost. In conclusion, it shows how many times greater the income is compared to the fixed cost. (Butler, 2022)

The formula for its calculation is:

$$Fixed\ Charge = \frac{EBIT + fixed\ charge\ before\ taxes}{fixed\ charge\ before\ taxes + interest} \quad (\,14\,)$$

2.4.4. Activity ratios

Activity ratios allow the analysis of the rotation cycles of the selected economic element, usually expressed in days. They measure the effectiveness with which the company uses its available resources. The best way to understand the results obtained from this ratio category is to compare them to benchmark values or industry standards. (Gillingham, 2015)

The areas of interest are sales, accounts receivable and inventory. A company with a high activity ratio is efficient and capable of generating revenues rapidly. (Franklin and others, 2019)

2.4.4.1. Accounts Receivable Turnover Ratio

The accounts Receivable turnover ratio defines how the receivable accounts rotate in one accounting period. The best scenario for a company is to receive the cash as fast as possible, allowing it to reinvest the money; if the turnover period is too long, the company may consider stricter credit lending practices. (Franklin and others, 2019)

The formula for its calculation is:

$$Accounts\ Receivable\ Turnover = \frac{credit\ Sales}{average\ account\ receivable} \qquad (\,15\,)$$

2.4.4.2. Accounts Payable Turnover Ratio

The accounts payable turnover ratio presents the relationship between credit purchases made for one year and the final balance of accounts payable. This ratio examines the company's activity, liquidity, and efficiency in paying its credit purchases. Naturally, when the firm pays its debt in a short period, it grants better terms for future purchases. Nevertheless, paying too soon may mean that the company is losing opportunities with the existing savings; also, the company may be forced to accept higher interest rates; therefore, it has unnecessarily higher interest expenses. (Gillingham, 2015)

The formula for its calculation is:

$$Accounts\ Payable\ Turnover = \frac{credit\ purchases}{average\ account\ payable} \qquad (\,16\,)$$

2.4.4.3. Total Asset Turnover Ratio

The total assets turnover ratio measures the efficiency with which assets are used to generate revenues. The company's goal is to use as few assets as possible to

generate sales; therefore, a higher value for this ratio is the best scenario meaning a very efficient use of its assets to produce net sales. (Franklin and others, 2019)

The formula for its calculation is:

$$Total\ Assets\ Turnover = \frac{net\ sales}{average\ total\ assets} \qquad (\,17\,)$$

2.4.4.4. Inventory Turnover Ratio

The inventory turnover ratio determines the number of times the entire inventory will be sold and replaced in one accounting period. A higher number is ideal; nevertheless, if the number of times is too high, it may mean that the company is not available to meet the demand. On the other side, if the number of times is too low, it may reflect that the company has too much inventory for that demand. (Franklin and others, 2019)

The formula for its calculation is:

$$Inventory\ Turnover Ratio = \frac{cost\ of\ goods\ sold}{average\ inventory} \qquad (\,18\,)$$

Another information of interest for good inventory management is the inventory conversion period. Which projects the time in days that it takes to turn the inventory into sales. (Franklin and others, 2019)

$$Inventory\ Conversion\ Period = \frac{inventory}{daily\ sales} \qquad (\,19\,)$$

2.5. Economic Value Added (EVA)

The Economic Value Added is a measurement of the financial performance that captures the actual economic Profit of a company. It evaluates the annual financial performance of the firm. (KALDYBEKOVA, 2018)

The formula for its calculation is:

$$EVA = NOPAT - Cost\ of\ Capital \quad (\ 20\ )$$

Where NOPAT is calculated by resting the corporate income tax from EBIT, the cost of capital is calculated by multiplying the Weighted Average Cost of Capital (WACC) by the capital invested. (KALDYBEKOVA, 2018)

EVA gives a positive value when NOPAT is higher than the Cost of Capital, meaning that the company has created an economic value. The cost of capital is the company's minimum rate of return. (KALDYBEKOVA, 2018)

2.6. Scoring

In this fragment will be explained different scoring methods - The Altman model for predicting the g chances of a business going bankrupt and the IN05 Index prediction of financial distress. Moreover, for measuring the quality of the business, Kralicek Quick Test.

2.6.1.1. Altman Z-Score

Its calculation is based on five financial ratios calculated from values found in the financial statements. (Maunová, 2016). The formula for its calculation goes as follows:

$$Z = 0,717X_1 + 0,847X_2 + 3,107X_3 + 0,42X_4 + 0,998X_5 \quad (\ 21\ )$$

Where:

X_1 = Working Capital / Total assets

X_2 = Retained earnings / Total assets

X_3 = EBIT/ Total assets

X_4 = Market value of equity / Book value of total liabilities

X_5 = Sales / Total assets

For the interpretation of the results, a score lower than 1,23 means the company is headed to bankruptcy, while a score higher than 2,9 means that the company is not tending to go bankrupt. The rest of the scores stay in the grey zone, which is neutral. (Maunová, 2016)

2.6.1.2. IN05 Index

This prediction model is a similar version of the Altman Z-Score; nevertheless, it was created in the Czech Republic and tested on Czech companies. (Maunová, 2016). The calculation is based on the following equation:

$$IN05 \ = \ 0,13 \cdot A + 0,04 \cdot B + 3,97 \cdot C + 0,2 \cdot D + 0,09 \cdot E \ (\ 22\ )$$

Where:

A = Assets / Liabilities

B = EBIT / Interest expenses

C = EBIT / Asset

D = Revenues / Assets

E = Current Assets / (Short-term liabilities + bank loans)

F = Debts after expiration / Revenues

A score higher than 1,6 can be interpreted as a satisfactory financial situation, and a score lower than 0,9 is interpreted as a weak financial situation, and it can be deduced that the company has major financial problems. The middle interval is a neutral area where the company is not heading to go bankrupt but is not in a satisfactory financial situation. (Maunová, 2016)

2.6.1.3. Kralicek Quick Test

For this Quick Test, four indicators are divided into two categories; The first relates to financial stability, the first indicator corresponds to Equity in the balance sheet, and the second corresponds to the debt payment period. The second category relates to efficiency; the first indicators correspond to the profitability of assets, and the second indicator to the Cash Flow percentage of the revenues. (Maunová, 2016)

The following chart supports the previous explanation for a better understanding.

Table 2: Kralicek's QuickTest Estimates

Indicators	1 excellent	2 very well	3 well	4 poor	5 dangerous
R1 Equity / Total Assets	> 30%	> 20%	>10%	> 0%	Negative
R2 Debt Settlement Period from Cash Flow	< 3 years	< 5 years	< 12 years	< 30 years	> 30 years
Financial Stability	Arithmetic mean of total assets and Debt Settlement Period from Cash Flow				
R3 Operating Cash Flow / Sales	> 10 %	> 8 %	> 5 %	> 0 %	negative
R4 EBIT/ Total Assets	> 15 %	> 12 %	> 8 %	> 0 %	negative
Profit Situation	Arithmetic mean of Operating Cash Flow and ROA				
Total Grading	Arithmetic mean of all four indicators				

Source: (Polo, 2014)

As mentioned before, this test evaluates the company's performance based on four different indicators and gives it a score where 1 is the best possible result, and 5 is the poorest performance.

3. Financial Analysis of the Selected Companies

In the first part of this chapter, five companies from the Courier Express and Parcel industry in the Czech Republic will be described; these firms perform postal and courier activities internationally and domestically. The primary objective is to set a context for the financial analysis of their data and to understand the companies' operations better.

Consequently, the leading information from its company financial analysis will be presented, and significant changes will be explained according to the information found in the Notes to the financial statements.

3.2. Relevant information about The Selected Companies

For this bachelor's thesis, five companies from the CEP industry have been selected; all have the same legal, commercial form, Ltd. and have their financial statements based on the same accounting period.

According to the Czech Telecommunication Office, In the CEP industry are more than 60 registered providers of postal services. Offering different services such as C2C, B2B and B2C, all these business models have gained traction due to cost-effectiveness and tracking facilities.

According to Effigy Consulting, the Czech Republic had presented a growth of more than the 30% in the CEP industry in 2020, a year when the COVID-19 Pandemic affected most economic sectors worldwide. Companies that belong to this industry have room for growth, as the demand has increased rapidly during the last three years. E.C. also forecasts a constant growth of at least 10% for the next five years in this industry.

3.2.1. Czech Post

Czech Post is a state-owned enterprise that started on January 1st, 1993 and was established by the Ministry of Economy of the Czech Republic on December 16th, 1992. It is regulated by Act. No 77/1997 Coll, on state enterprises. As of December 31st, 2021, the Ministry of the Interior of the Czech Republic acted as the company's founder. [1]

The Czech Post, as of the year 2020, has registered around 28,000 full-time employees. Also, they delivered 52 million parcels during that year, around 1,128,800 parcels at one time. Their most frequent service is the delivery to one of their 7,000 pick-up locations by the Balikovna service.

Czech Post not only delivers to all locations in the country but also manages overseas international postal operations to over 220 countries; it offers the most extensive choice of services among the local logistic operators.

3.2.2. General Logistics Systems Czech Republic Ltd.

General Logistics Systems Czech Republic, better known by the abbreviation GLS CZ, is a subsidiary company of the GLS Group, one of the biggest Courier Service companies in Europe with a presence in more than 35 countries. GLS CZ has its central HUB in the city of Jihlava; it has around 28 depots in the Czech Republic and more than 1000 parcel shops, which facilitates the pick-up process for customers and is also an eco-friendlier delivery option. [2]

GLS CZ has developed a program called ThinkGreen, a group of environmental protection measures. ThinkGreen is part of every activity, from planning routes and using electric vehicles to using solar energy in their offices.

GLS CZ was registered on March 24th, 2005. The business corporation was submitted to the law in accordance with §777 paragraph 5 of Act No. 90/2012 Coll. on business companies and cooperatives.

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[1] **Czech Post. 2020.** *Annual reports.* 2020. Official website ceskaposta.cz.
[2] **GLS Czech Republic s.r.o.** Annual reports 2021. Official website gls-group.eu/CZ

3.2.3.   PPL CZ Ltd.

Professional Parcel Logistic C.Z. Ltd. It is a company in the CEP industry present for more than 27 years. It is part of the Deutsche Post DHL Group and is currently part of the division of DHL E-commerce Solutions; DPDHL is currently present in more than 200 countries worldwide, giving the possibility to their clients not only to send parcels within Europe but to all around the globe. [3]

In the Czech Republic, PPL CZ counts 25 depots and more than 4000 parcel shops and boxes daily, sending around 2000 parcels.

The business corporation was submitted to the law in accordance with §777 paragraph 5 of Act No. 90/2012 Coll. on business companies and cooperatives on May 26th, 1999, after a fusion of 8 companies: PPL Praha Ltd., PPL Nationale Ostrava Ltd., PPL Brno Ltd., PPL Hradec Kralove Ltd., PPL-Professional Parcel Logistic Ltd., UNISPED INTERNATIONALE Ostrava Ltd., PPL West Bohemia Ltd., and PPL Northern Bohemia Ltd.

3.2.4.   DHL Express (Czech Republic) Ltd.

The business corporation was submitted to the law in accordance with §777 paragraph 5 of Act No. 90/2012 Coll. on business companies and cooperatives on June 27th, 1998; at this time, the company was registered as Danzas Plc. On January 1st, 2004. Danzas Plc. Became the legal successor of DHL International (Czech Republic) Ltd. and changed its name to the current DHL Express (Czech Republic) Ltd.[4]

DHL Express (Czech Republic) Ltd., like PPL CZ Ltd., is part of the Deutsche Post DHL Group. The DHL Express Division offers Time Definite International Shipments, enabling door-to-door delivery at predefined times.

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[3] PPL CZ s.r.o. Annual Reports 2021. Official Website ppl.cz
[4] DHL Express Czech Republic s.r.o. Annual Reports 2021. Official Website. Dhl.com/cz

Being part of the Deutsche Post DHL Group allows DHL Express (Czech Republic) Ltd. to be present in more than 220 countries and to enjoy the facilities the DHL virtual airline has. They can offer clients an exclusive service where all parcels are monitored in real-time till they are delivered. The DHL Group is planning to expand its aircraft fleet in the near future, bringing many facilities for the subsidiary company in the Czech Republic.

3.2.5. Zasilkovna Ltd.

Zasilkovna Ltd. is a Czech firm that started its operation in 2010. The business idea is based on co-working with e-shops to facilitate its products' distribution and offer its clients an easy and fast pick-up process. [5]

In 2014 Zasilkovna expanded to Slovakia while delivering to five countries in Europe. In 2018 the holding company Packeta Group started its operations with six entities: Zasilkovna Czech Republic, Packeta Hungary, Packeta Rumania, Packeta Slovakia, Packeta Germany and Packeta Poland; nowadays, the Packeta Groups has also expanded to the USA and the UAE. They have also achieved to co-work with 92,000 pick-points and 28,000 e-shops.

Packeta offers three different delivery services: delivery to an address, delivery to a pick-up point and innovative and eco-friendly service, delivery to the Z-box points. Z-boxes are self-service pick-up points, giving users access to their parcel 24h and helping protect the environment.

3.3. Vertical and Horizontal Analysis of The Selected Companies

This sub-chapter will be focused on the vertical and horizontal analysis of the selected companies from the CEP industry in the last five years. The main objective is to understand the balance sheet and income statement structure to use later when

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[5] Zasilkovna s.r.o. Annual Reports 2021. Official Website Zasilkovna.cz

comparing the results and concluding and interpreting them. In addition, this analysis will help identify significant changes in the different accounts over the years; these changes must be detailed in the notes to the financial statements.

3.3.1. Czech Post

The following graph has detailed the structure of the liabilities. It is visible how Czech Post finances a more significant percentage of its assets through external resources; this percentage slightly increases yearly. In 2017, most of the assets were financed by its resources; however, by 2021, the liabilities' structure significantly changed, as over 64% of the assets were financed by debts.

Figure 3: Liabilities Distribution of Czech Post
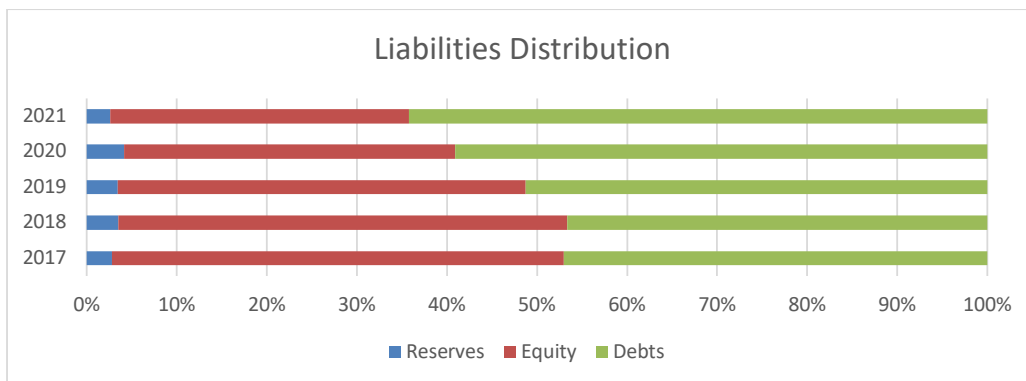
In the vertical analysis of the balance sheet of Czech Post is visible that the non-current tangible assets are above 40% of the total assets in every year; in 2019, after an inventory, it was concluded that the value of the tangible fixed assets must be amended as its value was decreased. Furthermore, it is visible that the current assets are more than 50% of the total assets every analysed year; In 2021, the short-term assets are slightly larger than the short-term debts, resulting in a slave current liquidity.

Table 3: Vertical Analysis of The Balance Sheet of Czech Post

	BALANCE SHEET AS AT	2017	2018	2019	2020	2021
	Total Assets	100,00%	100,00%	100,00%	100,00%	100,00%
B.	Non-current assets	48,19%	48,71%	43,75%	40,03%	38,40%
B.II.	Tangible assets	44,93%	45,41%	41,91%	38,40%	36,85%
C.	Current Assets	51,81%	51,29%	56,25%	59,97%	61,60%
C.II.2.	Short-Term receivables	21,70%	17,55%	30,68%	37,41%	43,69%
C.IV.	Cash and cash equivalents	25,96%	28,07%	24,13%	21,09%	16,29%
	Total Liabilities	100,00%	100,00%	100,00%	100,00%	100,00%
A.I.	Share Capital	17,74%	18,35%	17,58%	17,12%	17,13%
C.II.	Short-term Debts	43,11%	43,01%	48,28%	56,20%	61,15%

One of the most visible differences in the fixed financial assets happened in 2019 when Czech Post decided to exercise a decisive influence in the company Poštovní tiskárna cenin Praha Plc. And Czech Post Security Ltd. Unfortunately, the quality of the scanned annual report for the 2019 Czech Post is inferior; there is incomplete information on page 42, where these changes are detailed. In 2019 also, part of the estimated accounts payable related to the revenues from the sale of postal services where transferred to short-term receivables accounts, which resulted in an increase of 82,49% in comparison with 2018. As it is well known, in 2020, as a result of the lockdown, the demand for postal and courier services increased rapidly; this is reflected in the Economic Result for the year 2020, which is noticeably higher than in 2019.

Table 4: Horizontal Analysis of The Balance Sheet of Czech Post

	BALANCE SHEET AS AT	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
	Total Assets	-3,35%	4,40%	2,66%	-0,05%
B.I.	Intangible fixed assets	-1,93%	-16,57%	-5,39%	-6,05%
B.III.	Fixed financial assets	-2,03%	-72,76%	-22,78%	0,00%
C.II.1.	Long-term receivables	56,68%	-97,20%	17,39%	-18,52%
C.II.2.	Short-term receivables	-21,80%	82,49%	25,16%	16,72%
C.IV.	Cash and cash equivalents	4,49%	-10,26%	-10,25%	-22,83%
	Total Liabilities	-3,35%	4,40%	2,66%	-0,05%
A.V.	Economic result for the accounting period (+/-)	171,79%	-242,45%	351,32%	-58,62%
C.III.	Timing Difference	-2,26%	-5,04%	2,43%	-100,00%

On a significant change in 2019, the labour cost ascended to 61,19% of the total revenues from selling services. Even though the number of employees was reduced to a total of 28 927 workers, payroll expenses increased as the company decided to

increase the salary of the managerial positions. Since this year, this account has stayed around 60% of the total revenues for selling services.

Table 5: Vertical Analysis of The Income Statment of Czech Post

	INCOME STATEMENT FOR	2017	2018	2019	2020	2021
I.	Revenues from the sale of products and services	100,00%	100,00%	100,00%	100,00%	100,00%
A.3.	Services	17,18%	17,89%	18,38%	20,10%	22,13%
D.1.	Labour costs	53,32%	54,51%	61,19%	61,68%	60,31%
III.	Other operating income	6,42%	9,76%	17,73%	13,66%	15,86%
F.	Other operating expenses	4,65%	6,63%	5,82%	6,81%	4,65%

The year 2021 turned stronger than 2020 concerning the sale of goods; in 2020, the revenues for the sale of good was 182 million CZK, and in 2021 the revenues for goods sale were 229 million CZK. In the horizontal analysis the mighty increase in the Profit for the year 2020 compared to 2019; was explained in the horizontal analysis of the balance sheet.

Table 6: Horizontal Analysis of The Income Statement of Czech Post

	INCOME STATEMENT FOR	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
II.	Revenues from the sale of goods	-40,88%	-3,98%	-5,70%	107,14%
A.1.	Costs of goods sold	-48,62%	-5,38%	-10,57%	-7,27%
III.	Other operating income	50,09%	75,45%	-22,76%	14,91%
F.	Other operating expenses	40,91%	-15,18%	17,27%	-32,36%
***.	Economic result for the accounting peri	-371,79%	42,45%	351,66%	4,00%

3.3.2. General Logistics Systems Czech Republic Ltd.

In the vertical analysis of the balance sheet, in all years, the current assets are a more considerable percentage than the fixed assets; same as all years, the current assets have a higher value than the short-term debts. For all accounts, the values stay in a particular range with nono significant structural changes.

Table 7: Vertical Analysis of The Balance Sheet of General Logistics Systems Czech Republic Ltd.

BALANCE SHEET AS AT		2017	2018	2019	2020	2021
	Total Assets	100,00%	100,00%	100,00%	100,00%	100,00%
B.	*Fixed assets*	33,64%	41,38%	44,40%	36,92%	56,95%
B.II.	Tangible fixed assets	33,34%	41,14%	44,25%	36,80%	56,86%
C.	*Current assets*	66,36%	58,62%	55,60%	63,08%	43,05%
C.II.2.	Short-term receivables	38,38%	37,99%	34,70%	38,07%	28,93%
C.IV.	Wherewithal	27,75%	20,37%	20,47%	24,82%	13,71%
	Total Liabilities	100,00%	100,00%	100,00%	100,00%	100,00%
A.	*Equity*	60,54%	64,27%	64,70%	57,06%	62,76%
A.I.	Stocks	0,63%	0,49%	0,47%	0,30%	0,25%
A.IV.	Previous years' profit or loss (+/-)	43,60%	46,99%	44,62%	36,39%	46,69%
A.V.	Previous years' profit or loss (+/-)	16,25%	16,74%	19,56%	20,34%	15,80%
B.	*Reserves*	1,72%	2,16%	1,99%	2,74%	0,93%
C.I.	Long-term liabilities	0,69%	0,55%	0,36%	0,68%	0,61%
C.II.	Current liabilities	37,05%	33,02%	32,95%	39,52%	35,70%

Figure 4 presents the structure of the liabilities of GLS CZ Ltd.; visibly, the company finances most of its resources; it also has a significant percentage of external resources above 30%, which apports balance to the liabilities structure. In 2020 GLS CZ Ltd. had the most significant, most considerable reserves, which were made to cover unused vacations and bonuses.

Figure 4: Liabilities Distribution of GLS CZ Ltd.
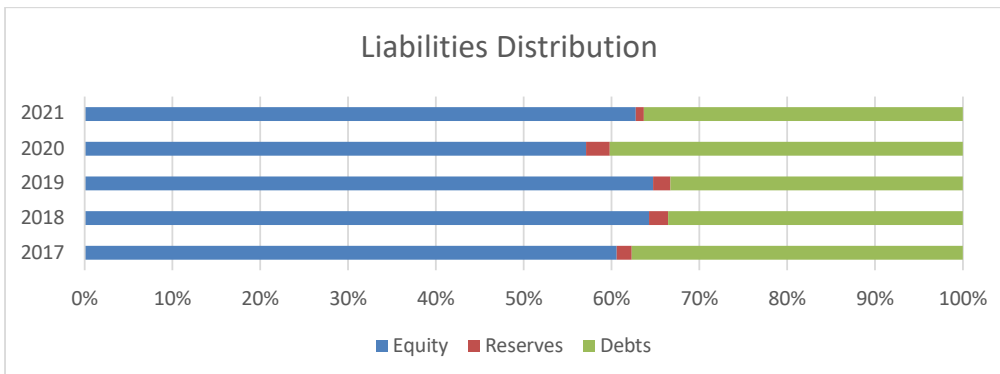
From the horizontal analysis, the fixed asset has essential changes in two different periods: 2018-2017 and 2021-2020. In both periods, these results result from an increment of the fixed financial asset. However, there is no detailed information in the annual report. The chart also presents changes in the long-term and short-term receivables accounts. Only the second one is detailed in the notes to financial statements, which are for a value of 152 232; adjusting entries have also been

compiled for the receivables after the due. In 2021 GLS CZ Ltd acquired a loan from GLS Hungary Kft. For more than 73 million CZK, this debt should be paid by the end of September 2020.

One of the significant differences is the Profit in the period 2020-2019, this was a successful year for the CEP industry in general, but for companies such as GLS CZ Ltc. that are more commonly used for domestic shipping, it was even more, as they achieve to have excellent results.

Table 8: Horizontal Analysis of The Balance Sheet of General Logistics Systems Czech Republic Ltd.

	BALANCE SHEET AS AT	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
	Total Assets	27,38%	5,90%	54,99%	21,50%
B.	*Fixed assets*	56,68%	13,63%	28,87%	87,44%
B.I.	Intangible fixed assets	3,18%	-32,90%	22,83%	-1,83%
B.II.	Fixed financial assets	57,15%	13,90%	28,90%	87,73%
C.	*Oběžná aktiva*	12,52%	0,44%	75,85%	-17,09%
C.I.	Stocks	-5,36%	22,64%	35,69%	349,89%
C.II.1.	Long-term receivables			-100,00%	
C.II.2.	Short-term receivables	26,09%	-3,27%	70,02%	-7,69%
	Total Liabilities	27,38%	5,90%	54,99%	21,50%
A.	*Equity*	35,22%	6,60%	36,70%	33,63%
A.I.	Stock	0,00%	0,00%	0,00%	0,00%
A.IV.	Previous years' profit or loss (+/-)	37,26%	0,56%	26,41%	55,88%
A.V.	Profit or loss of the current accounting period (+/-)	31,25%	23,76%	61,12%	-5,63%
B.	*Reserves*	60,22%	-2,18%	113,08%	-58,77%
C.I.	Long-term liabilities	2,40%	-31,42%	192,46%	9,34%
C.II.	Current liabilities	13,51%	5,69%	85,91%	9,75%

The service expenses are constantly around 80% of the revenues; other expenses, such as labour costs and editing values in operations, are lower percentages and do not represent significant changes

Table 9: Vertical Analysis of The Income Statement of General Logistics Systems Czech Republic Ltd.

	INCOME STATEMENT FOR	2017	2018	2019	2020	2021
I.	Revenues from the sale of products and ser	100,00%	100,00%	100,00%	100,00%	100,00%
A.3.	Services	82,08%	80,80%	80,48%	79,29%	81,43%
D.1.	Labour costs	3,87%	4,14%	4,03%	3,54%	3,79%
E.	*Editing Values in an Operations Area*	1,20%	1,12%	1,28%	1,06%	1,14%

As mentioned before, the year 2020, besides the difficulties, allowed many firms in this industry to achieve an excellent result; many workers were working remotely, which allowed the firm to keep its expenses for activity consumption, similar to the previous year, which did not happen in the following year, where is it visible an increment of about 40%.

Table 10: Horizontal Analysis of The Income Statement of General Logistics Systems Czech Republic Ltd.

	INCOME STATEMENT FOR	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
I.	Revenues from the sale of products and services	23,22%	16,22%	45,03%	15,87%
A.2.	Material and energy consumption	11,11%	19,14%	0,02%	40,62%
A.3.	Services	21,30%	15,77%	42,88%	19,00%
D.1.	Labour costs	31,84%	13,02%	27,44%	24,15%
E.	Editing Values in an Operations Area	14,96%	33,34%	20,36%	24,56%
III.	Other operating income	-15,73%	31,93%	15,38%	36,98%
F.	Other operating expenses	13,84%	-5,41%	28,07%	19,09%

3.3.3. PPL CZ Ltd

The total assets are compiled from the majority of current assets. However, in 2021 the fixed assets are higher than the current ones, information lenders may find interesting in case of PPL CZ Ltd would be interested in acquiring a loan. In the same year, there was a decrease in the percentage of short–term receivables as the ones after the due date were compiled by adjusting entries.

Table 11: Vertical Analysis of The Balance Sheet of PPL CZ Ltd.

	ROZVAHA K	2017	2018	2019	2020	2021
	Total Assets	100,00%	100,00%	100,00%	100,00%	100,00%
B.	Non-current assets	32,47%	29,88%	45,26%	41,19%	57,48%
B.II.	Tangible assets	29,35%	25,20%	36,29%	34,14%	52,09%
C.	Current Assets	67,53%	70,12%	54,74%	58,81%	42,52%
C.II.2.	Short-Term receivables	56,39%	41,12%	48,43%	51,75%	29,98%
C.IV.	Cash and cash equivalents	9,48%	27,62%	4,58%	5,70%	10,67%
	Total Liabilities	100,00%	100,00%	100,00%	100,00%	100,00%
A.	Equity	48,25%	36,54%	56,34%	56,75%	58,87%
A.III.	Profit funds	25,43%	19,89%	26,66%	19,95%	13,88%
A.IV.	Previous years' profit or loss (+/-)	15,26%	11,94%	21,02%	21,24%	24,93%
A.V.	Profit or loss of the current accounting period (+/-|	6,32%	3,74%	7,36%	14,59%	19,38%
B.	Reserves	0,59%	0,44%	0,70%	2,63%	2,43%
C.II.	Short-term Debts	48,67%	61,22%	40,38%	38,39%	36,77%

Figure 5 compiles the distribution of the assets for the last accounting periods

Figure 5: Assets Distribution of PPL CZ Ltd.
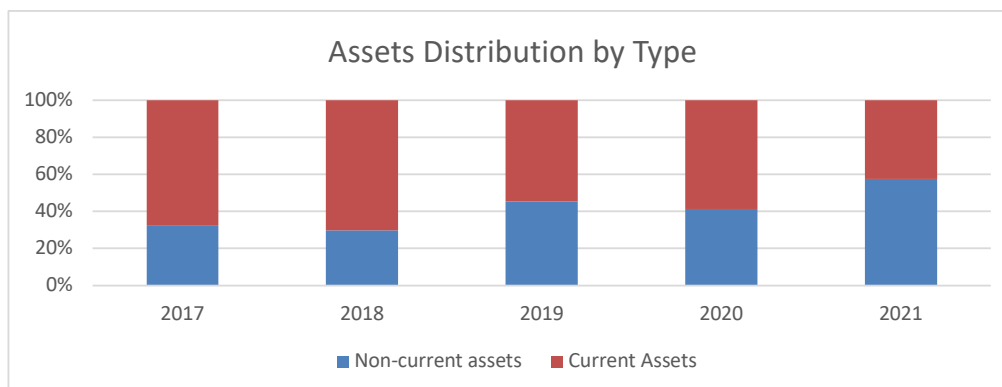
The reserves were increased in 2020 under two concepts: reserves for unused vacations and reserves in case of an accident. In 2019 the company acquired new software and increased the account's unfinished intangible fixed assets. Mayor changes are presented in the profit for the years 2020 and 2021; these will be explained in the horizontal analysis of the income statement.

Table 12: Horizontal Analysis of The Balance Sheet PPL CZ Ltd.

	ROZVAHA K	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
	Total Assets	27,87%	-25,39%	33,65%	43,73%
B.	*Fixed assets*	17,69%	13,01%	21,63%	100,54%
B.I.	Intangible fixed assets	91,99%	42,88%	5,05%	9,70%
B.II.	Tangible fixed assets	9,79%	7,46%	25,72%	119,31%
C.	*Current assets*	32,77%	-41,76%	43,60%	3,93%
C.I.	Stocks	3,70%	-29,00%	1,47%	134,44%
C.II.2.	Short-term receivables	-6,76%	-12,14%	42,82%	-16,72%
C.II.3.	Accruals of assets	14,45%	50,78%	10,75%	56,61%
C.IV.	Cash and cash equivalents	272,38%	-87,62%	66,09%	169,11%
	Total Liabilities	27,87%	-25,39%	33,65%	43,73%
A.	*Equity*	-3,17%	15,04%	34,61%	49,10%
A.IV.	Previous years' profit or loss (+/-)	0,00%	31,37%	35,04%	68,71%
A.V.	Profit or loss of the current accounting period (+/-)	-24,20%	46,72%	164,82%	90,94%
B.	*Reserves*	-5,55%	19,54%	402,26%	32,54%
C.I.	Long-term liabilities	-8,67%	8,05%	16,21%	24,22%
C.II.	Current liabilities	60,86%	-50,80%	27,09%	37,67%
C.III.	Accruals of liabilities	26,84%	-13,91%	-9,97%	39,70%

During the total analysed period, PPL CZ Ltd. kept its services expenses around 75% or lower. Labour costs have been reduced significantly since 2020 as the firm reduced the number of employees during this year.

Table 13: Vertical Analysis The Income Statment of PPL CZ Ltd.

	INCOME STATEMENT FOR	2017	2018	2019	2020	2021
I.	Revenues from the sale of products and services	100,00%	100,00%	100,00%	100,00%	100,00%
A.2.	Material and energy consumption	1,88%	1,73%	1,92%	1,76%	1,34%
A.3.	Services	74,37%	75,30%	75,04%	71,52%	67,46%
D.1.	Labour costs	14,40%	14,74%	13,02%	10,08%	9,31%

The Horizontal analysis is reflected a minor increment of the revenues for 2018-2017 and 2021-2020. Even though the year 2020 did not have a considerable increment in revenue, the reduced labour cost and material and activity consumption allowed the firm to achieve a successful increment in profit for that year and the following one.

Table 14: Horizontal Analysis The Income Statment of PPL CZ Ltd.

	INCOME STATEMENT FOR	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
I.	Revenues from the sale of products and services	11,85%	7,47%	7,39%	26,26%
A.2.	Material and energy consumption	3,37%	18,87%	-1,67%	-3,43%
A.3.	Services	13,26%	7,10%	2,35%	19,10%
D.1.	Labour costs	14,51%	-5,13%	-16,80%	16,54%
E.	Editing Values in an Operations Area	-17,87%	-15,32%	0,30%	45,21%
III.	Other operating income	13,82%	-30,18%	-3,13%	-22,77%
F.	Other operating expenses	44,05%	-12,03%	8,74%	-22,76%
*.	Operating profit or loss (+/-)	-25,66%	40,26%	172,55%	81,05%
*.	Financial result (+/-)	-21,14%	-18,19%	284,49%	42,67%
**.	Profit or loss before tax (+/-)	-26,42%	50,81%	161,59%	86,57%
***.	Economic result for the accounting period (+/-)	-24,20%	46,72%	164,82%	90,94%

3.3.4.   DHL Express (Czech Republic) Ltd.

DHL Express (Czech Republic) Ltd., mainly used for international shipping, did not have as good results in 2020 as its competitors. The Czech Republic was under a lockdown during the majority of the month of 2020, which brought restrictions and limited international shipping options. Logistic and manufacturing chains were

generally limited and with reduced activities. Figure 4 is shown the structure of the assets; visible changes happened in 2020, increasing the fixed assets.

Figure 6: DHL Express C.Z. Ltd. Assets Distribution by Type
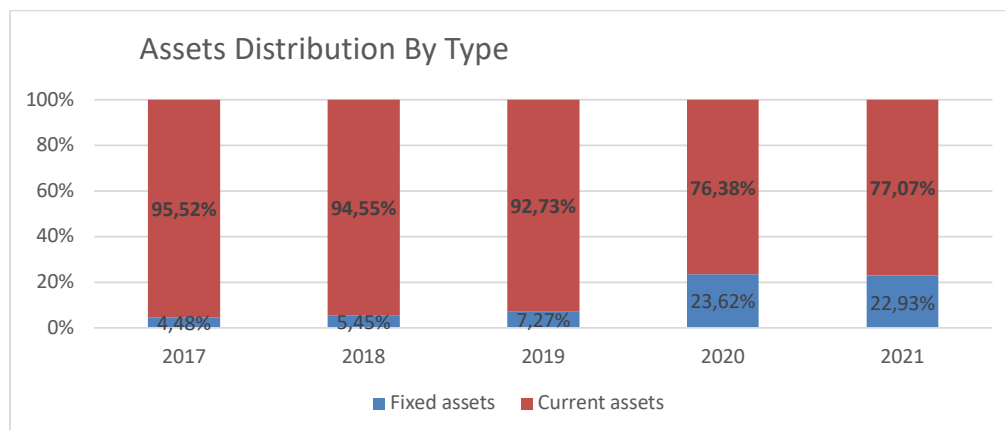
In 2020 DHL Express C.Z. Ltd. changed its asset structure, and there was an increase in the account Tangible Fixed Assets of over 52 million CZK. In the Annual Report, there is no further information about this transaction. The short-term receivable accounts were over 90% during the first three analyzed years, yet in 2020 was created an adjusting entry for this account. This year also, the company paid short-term debts after they were due. Consequently, there is a significant reduction in the percentage of current liabilities in the liabilities structure.

Table 15: Vertical Analysis of The Balance Sheet of DHL Express Czech Republic Ltd.

	BALANCE SHEET AS AT	2017	2018	2019	2020	2021
	Total Assets	100,00%	100,00%	100,00%	100,00%	100,00%
B.	Fixed assets	4,48%	5,45%	7,27%	23,62%	22,93%
B.II.	Tangible fixed assets	4,39%	5,40%	7,16%	23,40%	22,59%
C.	Current assets	95,52%	94,55%	92,73%	76,38%	77,07%
C.II.2.	Short-term receivables	93,88%	93,82%	91,92%	74,57%	74,82%
	Total Liabilities	100,00%	100,00%	100,00%	100,00%	100,00%
A.	Equity	14,48%	20,88%	18,94%	19,94%	22,79%
A.I.	Stock	1,88%	1,84%	1,81%	4,57%	4,25%
A.V.	Profit or loss of the current accounting period (+/-)	4,27%	10,87%	9,10%	9,56%	13,14%
C.II.	Current liabilities	76,39%	75,66%	76,87%	69,44%	63,77%
C.III.	Accruals of liabilities	3,43%	2,63%	3,33%	8,48%	11,13%

As it was explained before, in 2020, DHL activities were restricted by the lockdown, which resulted in significant changes between 2019 and 2020; the Profit for 2020 was 58,38% lower than the previous year, as the revenues were low; accounts receivable also presented a slaver value than the previous year as a reflection of the situation on that year. In Figure 6, it is visible better financial results in the year 2018 than in 2017.

This is not necessarily a result of more significant revenues; in this case, this is influenced by the account's other financial revenues that increased by 5,5 million CZK in 2018; in this account are included revenues from stock and Profit generated by financial assets.

Table 16:Horizontal Analysis of The Balance Sheet of DHL Express Czech Republic Ltd.

	BALANCE SHEET AS AT	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
	Total Assets	1,84%	1,78%	-60,39%	7,61%
B.	*Fixed assets*	23,91%	35,61%	28,77%	4,45%
B.I.	Intangible fixed assets	-45,78%	127,80%	-19,79%	67,38%
B.II.	Tangible fixed assets	25,33%	34,88%	29,50%	3,89%
C.	*Current assets*	0,80%	-0,18%	-67,38%	8,59%
C.I.	Stocks	-3,13%	-10,26%	70,17%	-9,74%
C.II.1.	Long-term receivables	-69,87%	30,83%	-36,01%	71,85%
C.II.2.	Short-term receivables	1,77%	-0,28%	-67,87%	7,97%
C.II.3.	Accruals of assets	4,28%	-28,25%	18,00%	31,33%
	Total Liabilities	1,84%	1,78%	-60,39%	7,61%
A.	*Equity*	46,92%	-7,69%	-58,31%	23,00%
A.V.	Profit or loss of the current accounting period (+/-)	158,97%	-14,78%	-58,38%	47,96%
B.	*Reserves*	-85,22%	6,25%	-1,67%	15,99%
C.II.	Current liabilities	0,86%	3,40%	-64,22%	-1,17%
C.III.	Accruals of liabilities	-21,97%	28,85%	1,01%	41,22%

Service Cost stays above 80% over the analysed period, with minor changes over the years. Labour expenses stayed around 8% over the first three years; however, in 2020 increased, the number of employees, their salaries, and health and social insurance expenses; consequently, since 2020, these expenses represent around 14% of the expenses.

Table 17: Vertical Analysis of The Income Statement of DHL Express Czech Republic Ltd.

	INCOME STATEMENT FOR	2017	2018	2019	2020	2021
I.	Revenues from the sale of products and services	100,00%	100,00%	100,00%	100,00%	100,00%
A.2.	Material and energy consumption	0,81%	0,80%	0,77%	1,10%	0,87%
A.3.	Services	88,14%	88,26%	88,11%	84,25%	85,37%
D.1.	Labour costs	8,69%	8,61%	8,88%	14,64%	14,79%
F.	*Other operating expenses*	2,27%	0,40%	1,10%	0,96%	1,13%
***.	Economic result for the accounting period (+/-)	0,03%	0,03%	0,03%	0,06%	0,07%

In 2019 other operating expenses increased by a significant percentage; this account compiles expenses that do not depend on sales, such as marketing and office expenses. In this case, the company desired to use an invoicing service company that works long-term with many DHL Group members.

Table 18: Horizontal Analysis of The Income Statement of DHL Express Czech Republic Ltd.

	INCOME STATEMENT FOR	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
I.	Revenues from the sale of products and services	3,41%	1,32%	-58,54%	28,58%
A.2.	Material and energy consumption	2,74%	-2,02%	-40,83%	1,01%
A.3.	Services	3,56%	1,14%	-60,35%	30,28%
D.1.	Labour costs	2,45%	4,50%	-31,60%	29,86%
III.	*Other operating income*	-25,37%	24,55%	-9,66%	30,08%
F.	*Other operating expenses*	-81,56%	177,07%	-64,12%	51,42%
*.	Operating profit or loss (+/-)	11,36%	5,80%	-47,36%	-14,34%

3.3.5. Zasilkovna Ltd.

Accounts receivables show a value higher than 75% besides in 2018 when the accounts receivables after the due were compiled adjusting entries, which resulted in a decrease in the percentage for this year. Additionally, a big part of the accounts receivable was paid, which increases the cash and cash equivalents.

Table 19: Vertical Analysis of The Balance Sheet of Zasilkovna Ltd.

	BALANCE SHEET AS AT	2017	2018	2019	2020	2021
	Total Assets	100,00%	100,00%	100,00%	100,00%	100,00%
B.	*Fixed asset*	2,41%	1,44%	1,70%	4,90%	9,78%
B.II.	Tangible fixed assets	2,19%	1,05%	1,25%	4,55%	8,37%
C.	*Current assets*	97,59%	98,56%	98,30%	95,10%	90,22%
C.II.2.	Short-term receivables	84,36%	52,46%	76,54%	84,76%	82,26%
C.IV.	Cash and cash equivalents	12,36%	43,24%	18,71%	5,06%	2,33%
	Total Liabilities	100,00%	100,00%	100,00%	100,00%	100,00%
A.	*Equity*	11,78%	15,46%	15,98%	18,79%	14,95%
A.V.	Profit or loss of the current accounting period (+/-)	8,54%	15,06%	15,74%	16,49%	13,86%
C.II.	Current liabilities	88,14%	77,26%	68,84%	60,81%	66,72%
C.III.	Accruals of liabilities	0,05%	7,04%	14,87%	20,14%	6,13%

During the years 2020 and 2021, there we significant changes in the fixed assets. In 2020 was an increment on account of other tangible fixed assets and account construction Z-Box, which is one of this company's current most used methods for delivery. In 2021 there was an acquisition of new software, and from the notes to the financial statement, it can be deduced that the firm is working on new software as it has an increment in the account of unfinished intangible fixed assets.

Table 20: Horizontal Analysis of The Balance Sheet of Zasilkovna Ltd.

	BALANCE SHEET AS AT	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
	Total assets	74,44%	72,27%	89,72%	41,68%
B.	*Fixed assets*	4,01%	103,34%	447,80%	183,11%
B.I.	Intangible fixed assets	206,39%	102,46%	47,33%	473,82%
B.II.	Tangible fixed assets	-16,13%	103,66%	592,51%	160,76%
C.	*Current assets*	76,18%	71,82%	83,54%	34,40%
C.I.	Stocks		249,87%	69,40%	-42,88%
C.II.1.	Long-term receivables	589,56%	137,15%	-48,31%	116,29%
C.II.2.	Short-term receivables	8,48%	151,36%	110,09%	37,50%
C.IV.	Cash and cash equivalents	510,25%	-25,44%	-48,73%	-34,61%
	Total Liabilities	74,44%	72,27%	89,72%	41,68%
A.	*Equity Accruals of liabilities*	128,99%	77,99%	123,11%	12,75%
A.V.	Profit or loss of the current accounting period (+/-)	207,80%	80,06%	98,75%	19,04%
B.	*Reserves*		142,18%	58,71%	1227,11%
C.II.	Current liabilities	52,92%	53,49%	67,58%	55,47%
C.III.	Accruals of liabilities	24074,51%	263,96%	157,05%	-56,92%

The Expenses structure during the last five years has not changed much, as seen in Figure 9. The majority is covered by activity consumption, where are expenses related to the central core of the activities, in this postal and courier services.

In 2021, there is a significant percentage of the Editing Value in an operation area due to the constructions during 2020 and 2021.

Figure 7: Expenses Distribution of Zasilkovna Ltd.
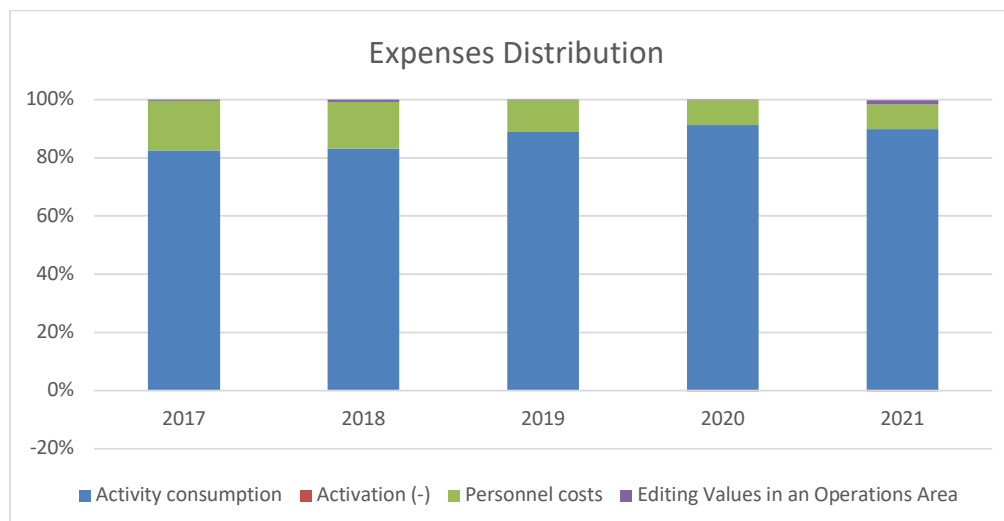
Labour expenses were above 10% during the first two years; nevertheless, since 2019, and even though the number of employees increased, the percentage of payroll expenses decayed to 7% and was lower; this reflects the increment of the revenues from sales of services that happened since 2019.

Table 21:Vertical Analysis of The Income Statement of Zasilkovna Ltd.

	INCOME STATEMENT FOR	2017	2018	2019	2020	2021
I.	Revenues from the sale of products and services	100,00%	100,00%	100,00%	100,00%	100,00%
A.2.	Material and energy consumption	6,74%	3,96%	5,09%	4,09%	4,66%
A.3.	Services	71,61%	70,75%	76,52%	80,27%	79,92%
D.1.	Labour costs	11,70%	10,58%	7,20%	5,65%	5,79%

In 2017 the firm decided to sell some goods for 122 000 CZK. Unfortunately, there is no available further information about this transaction in the annual report. Significant changes in the consumption of materials started in 2019, this year, Zasilkovna expanded, and the number of pick-up points increased, increasing the expenses for activities. Since the expansion, the firm decided to use a recruitment agency, which means an increment of expenses of 53 million C.

Table 22: Horizontal Analysis of The Income Statement of Zasilkovna Ltd.

	INCOME STATEMENT FOR	2018 - 2017	2019 - 2018	2020 - 2019	2021 - 2020
I.	Revenues from the sale of products and services	56,66%	77,61%	104,55%	71,87%
II.	Revenues from the sale of goods	-100,00%			
A.1.	Costs of goods sold	-100,00%			
A.2.	Material and energy consumption	-7,95%	128,18%	64,58%	95,60%
A.3.	Services	54,77%	92,11%	114,56%	71,12%
D.1.	Labour costs	41,70%	20,87%	60,52%	76,18%
E.	*Editing Values in an Operations Area*	121,90%	-38,83%	55,27%	1104,73%
III.	*Other operating income*	47,03%	161,25%	-61,24%	2538,55%
F.	*Other operating expenses*	109,10%	-33,93%	122,94%	1353,09%
*.	*Operating profit or loss (+/-)*	198,66%	68,08%	67,08%	23,54%
J.	Interest payable and similar charges	-81,73%	-78,95%	650,00%	13176,67%
*.	Financial result (+/-)	216,06%	116,13%	196,21%	23,53%
***.	Economic result for the accounting period (+/-)	207,80%	80,06%	98,75%	19,04%

4. Comparison of Financial Ratios for the selected companies

This chapter will focus on comparing the financial ratios of the selected firms from the CEP industry for the last five years. The following ratios used for the comparison have been selected according to the needs of the industry and in order to find a common problem in the selected firms.

The financial ratio analysis will use the industry average values from 2017, 2018 and 2019. Unfortunately, the Ministry of Industry and Trade has not yet published the value for 2020 and 2021.

4.2. Current Ratio

The current ratio measures the company's capacity to meet its short-term obligations. In this case, companies are from the CEP industry, which means they do not have inventory, and in case they do, the value is significantly reduced.

An excellent current ratio lies between 1,5 to 2. In 2017 the only company meeting a good ratio was GLS CZ Ltd. Nevertheless, Zasilkovna Ltd. and Czech Post presented a poor ratio, which resulted in the influence of their accounts receivable, which will be explained later in this chapter. 2018, 2019 and 2020 present similar results as 2017, with the difference that in 2020, PPL CZ Ltd. achieved a good ratio.

In 2021 none of the firms met the ideal ratios and nevertheless have similar value as the industry average.

Table 23: Current Ratio Comparation from 2017 to 2021

Current Ratio	2017	2018	2019	2020	2021
GLS	1,79	1,78	1,68	1,60	1,21
Czech Post	1,08	1,04	1,11	1,02	1,01
PPL	1,39	1,14	1,35	1,53	1,15
DHL	1,18	1,20	1,15	0,97	1,01
Zasilkovna	1,10	1,15	1,15	1,17	1,23
Industry average	1,84	1,86	1,32	N.A.	N.A.

In the following graph, it is visible the behaviour of this ratio for each company. In 2021 Zasilkovna Ltd. and GLS CZ Ltd. had very similar results. However, the first has an increasing tendency, and the second has a decreasing tendency.

Figure 8: Current Ratio Comparison for 2017 - 2021
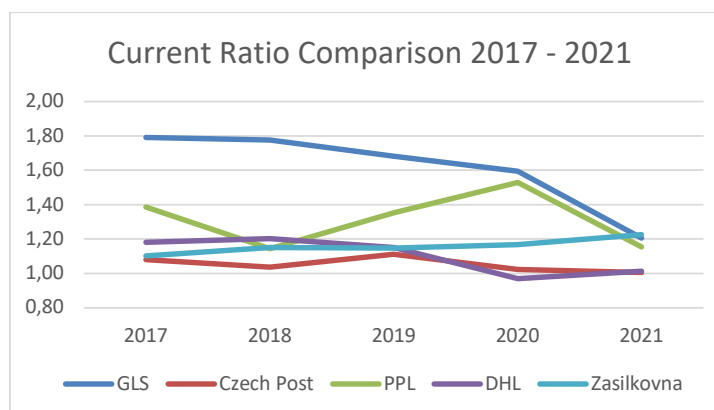
The second graph compares each firm's current ratio with the industry average for 2017, 2018 and 2019; data from 2020 and 2021 was unavailable. The industry average has a decreasing tendency corresponding to the analysed companies' results.

Figure 9: Current Ratio Comparison with The Industry Average for 2017 - 2019
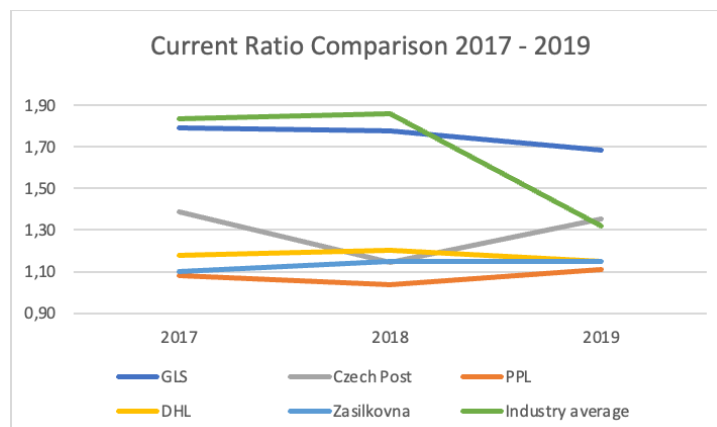
4.3. Quick Ratio

The Quick Ratio measures the company's capacity to meet its short-term obligations without counting on the inventory. As in was explained before, in the case of this industry, inventory does not play a significant role in terms of liquidity measurement since most of the companies have nearly no inventory. This is visible in the second table, as results are almost identical to the Current Ratio.

Table 24: Quick Ratio Comparison from 2017 to 2021

Quick Ratio	2017	2018	2019	2020	2021
GLS	1,79	1,77	1,68	1,59	1,20
Czech Post	1,06	1,02	1,09	1,01	0,99
PPL	1,36	1,13	1,33	1,51	1,12
DHL	1,18	1,20	1,15	0,96	1,01
Zasilkovna	1,10	1,15	1,15	1,16	1,22
Industry average	1,80	1,82	1,30	N.A.	N.A.

Figure 10 represents the behaviour of this ratio for each company. Results are similar to the ones in Figure 8

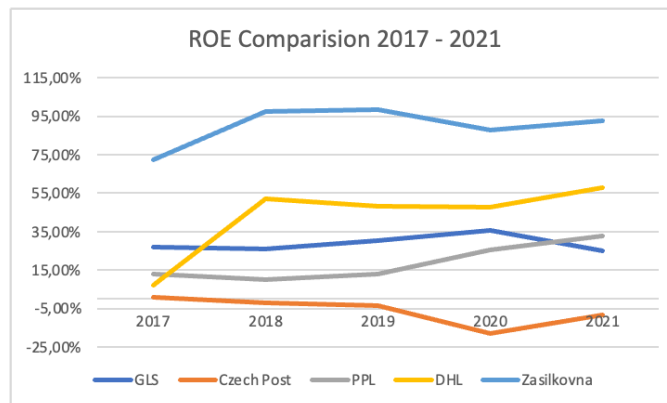Figure 10: Quick Ratio Comparison for 2017 - 2021
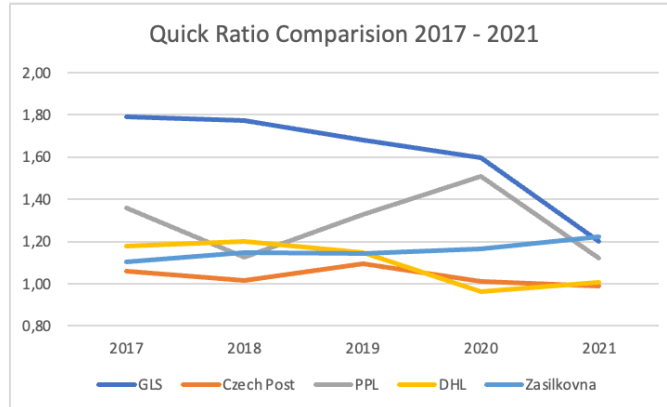
Figure 11 compares each firm's current ratio with the industry average for the years 2017, 2018 and 2019; data from 2020 and 2021 was not available. Results are similar to the one in Figure 9

Figure 11: Quick Ratio Comparison With The Industry Average for 2017 - 2019
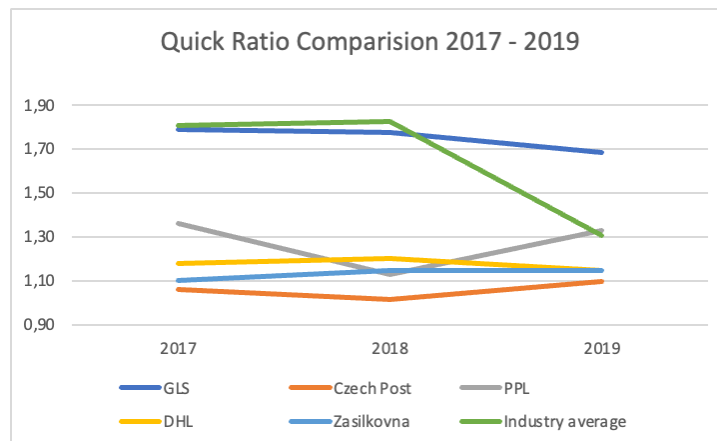
4.4.   Cash Ratio

The Cash Ratio of a company should have a value between 0,5 to 1 ideally. This is a very conservative liquidity ratio, where significant differences are seen in the analysis of the CEP industry; At the same time, Czech Post is a company owned by

the state, working in a more traditional form and has a very high Cash Ratio, DHL Express C.Z. Ltd. a private company working primarily on international shipping has a cash ratio close to 0. The only firm which met the industry average was GLS CZ Ltd. in 2017. Otherwise, none of the companies did.

Table 25: Cash Ratio Comparison from 2017 to 2021

Cash Ratio	2017	2018	2019	2020	2021
GLS	0,75	0,62	0,62	0,63	0,38
Czech Post	0,57	0,62	0,48	0,36	0,27
PPL	0,19	0,45	0,11	0,15	0,29
DHL	0,001	0,002	0,002	0,005	0,005
Zasilkovna	0,14	0,51	0,22	0,06	0,03
Industry average	0,79	1,11	0,57	N.A.	N.A.

The behaviour of the Cash Ratio of DHL Express C.Z. Ltd. presents steadiness and no significant changes. In 2019 all companies presented a lower or identical to the previous year's cash ratio, with a tendency to a long-term decrement; only PPL CZ Ltd. presents 2019 with an increasing tendency

Figure 12: Cash Ratio Comparison 2017 - 2021
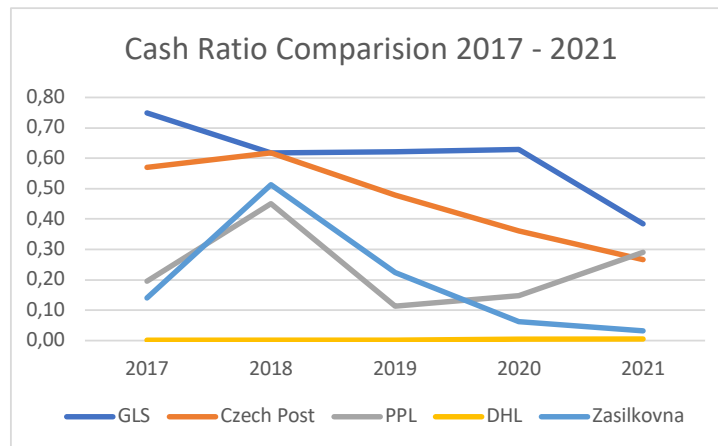
The industry average is very high, meaning that most companies in the CEP industry work mostly with cash or have very current liabilities. In 2017 and 2018, none of the companies overcame the industry average; the closest to it was GLS CZ Ltd. in

2017. On the other hand, in 2018, the industry presented a rapid decrease; therefore, GLS CZ Ltd. achieved a higher ratio than the average in 2019.

Figure 13: Cash Ratio Comparison with The Industry Average for 2017 – 2019
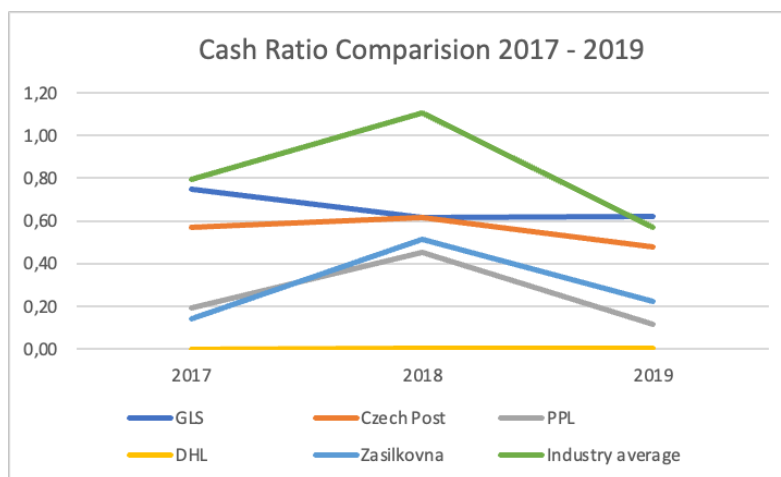
4.5. Return on Assets

The ROA measures the profitability of the Assets; a value over 5 % is an outstanding result, which PPL CZ Ltd., DHL Express Ltd., and Zasilkovna meet. The best result is obtained by GLS CZ Ltd., which has over 20% yearly, meaning that their asset management successfully generates profits.

Table 26: ROA Comparison from 2017 to 2021

ROA	2017	2018	2019	2020	2021
GLS	20,10%	20,78%	24,17%	25,16%	19,54%
Czech Post	0,45%	-1,41%	-1,84%	-6,57%	-3,09%
PPL	8,00%	4,62%	9,31%	18,21%	23,64%
DHL	6,04%	12,70%	11,47%	12,35%	15,19%
Zasilkovna	11,07%	19,08%	19,67%	20,56%	18,17%
Industry average	0,75%	-7,91%	-0,28%	N.A.	N.A.

As seen in Figure 14, Czech Post obtained a negative ROA, meaning that in 2018 and 2019, it did not generate enough profits, but in 2020 and 2021, the financial

result was negative. The graph is also presented the gradual increase of PPL CZ Ltd. obtaining an outstanding result in 2021 of 23,64%

Figure 14: ROA Comparison for 2017 – 2021
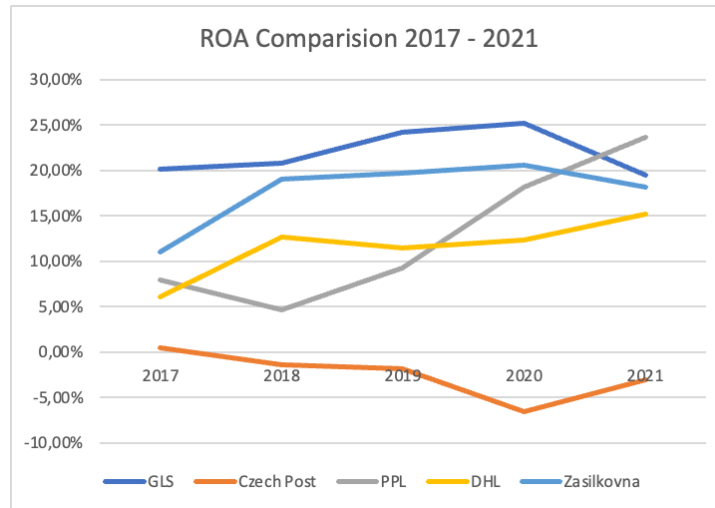
Figure 15 compares each firm's ROA with the industry average for the years 2017, 2018 and 2019; data from 2020 and 2021 was not available. On average, the CEP industry had inferior asset management in 2018; nevertheless, all companies presented a better ROA than the average for this year.

Figure 15: ROA Comparison With The Industry Average for 2017 – 2019
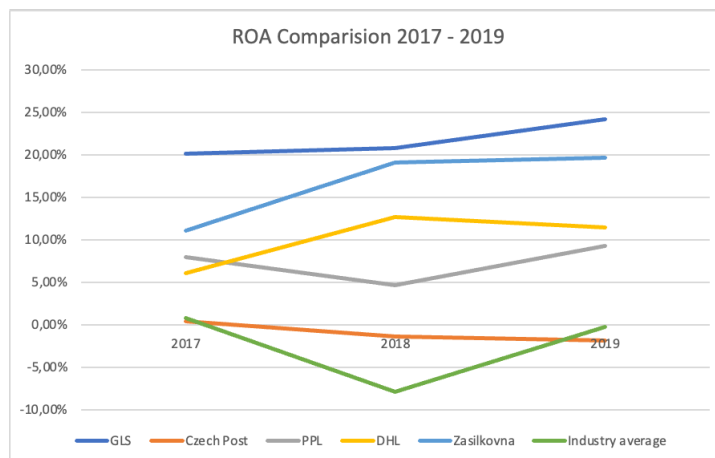
4.6. Return on Equity

The ROE measures the ability of the companies to generate profit from the investment received from the shareholders. Czech Post presents a low ROE ratio every year, lower than 5% in 2017 and negative in 2018, 2019,2020 and 2021, corresponding to the years when the company enquired to a loss. The rest of the companies present a strong ROE ratio.

Table 27: ROE Comparison from 2017 to 2021

ROE	2017	2018	2019	2020	2021
GLS	26,84%	26,05%	30,24%	35,64%	25,17%
Czech Post	0,77%	-2,17%	-3,27%	-17,70%	-8,12%
PPL	13,09%	10,25%	13,07%	25,71%	32,93%
DHL	7,29%	52,03%	48,03%	47,95%	57,68%
Zasilkovna	72,47%	97,41%	98,55%	87,78%	92,68%
Industry average	0,81%	-16,48%	-1,39%	N.A.	N.A.

In Figure 16 is observed that since 2020 all companies besides GLS CZ Ltd. have presented a gradual increase. Consequently, PPL CZ Ltd. presents a constant growth in the ROE Ratio yearly. This, combined with the ROA ratio result, indicates the company's outstanding performance in the last years.

Figure 16: ROE Comparison for 2017 – 2021

Figure 17 compares each firm's ROA with the industry average for the years 2017, 2018 and 2019; data from 2020 and 2021 was not available. In 2018 all companies obtained a result higher than the industry average, not meaning that all of them obtained profit during this year, which is the case of the Czech Post; as mentioned before, the financial result was a loss this year.

Figure 17: ROE Comparison With The Industry Average for 2017 – 2019
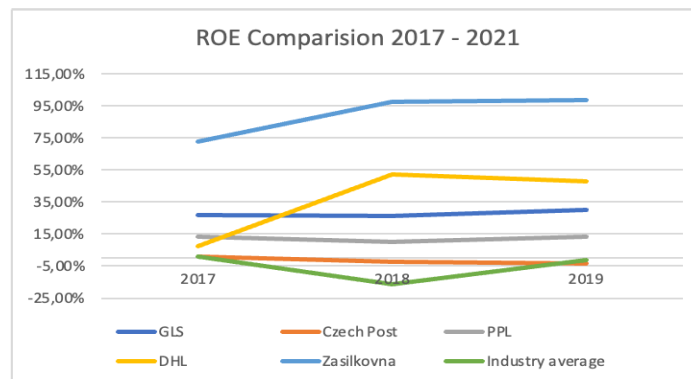
4.7. Profit Margin

The Profit Margin measures the profitability of the courier services offered by these five companies. Even though all are in the CEP industry, each offers a different service. While DHL Express Ltd. focuses more on international shipping, thanks to the aeroplane fleet that GLS acquire, Zasilkovna mostly co-works with pick-up points and E-commerce to offer their services.

In Average, GLS CZ Ltd. has the highest Margin Profit, with an average profit margin of 11,16%. The lowest Profit Margin is from Czech Post, which presents a negative margin meaning the business model is not sustainable business model; however, this is a company that belongs to the state and is subsided by it.

Table 28: Profit Margin Comparison from 2017 to 2021

Profit margin	2017	2018	2019	2020	2021
GLS	10,17%	10,87%	11,52%	12,82%	10,44%
Czech Post	0,51%	-1,58%	-2,23%	-8,18%	-3,84%
PPL	4,42%	2,91%	4,08%	9,93%	14,67%
DHL	1,56%	3,22%	2,92%	3,01%	3,09%
Zasilkovna	6,21%	11,92%	11,92%	11,55%	8,41%
Industry average	3,94%	-7,59%	-0,31%	N.A.	N.A.

Figure 18 compares each firm's ROA with the industry average for the years 2017, 2018 and 2019; data from 2020 and 2021 was not available. In 2019 all companies besides the Czech Post achieved a higher profit margin higher than the average of the industry average. Zasilkovna Ltd., GLS CZ Ltd, and DHL Express C.Z. Ltd. present a steady curve, while PPL CZ Ltd. presents a moderated increase.

Figure 18: Profit Margin Comparison With The Industry Average for 2017 – 2019
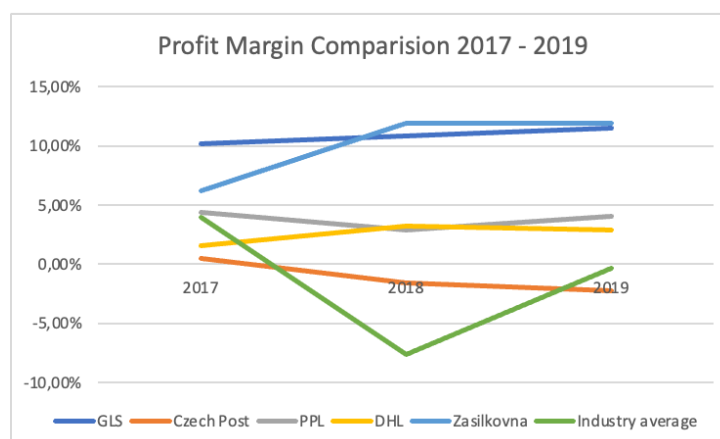
4.8.   Accounts Receivable Turnover

The Accounts Receivable Turnover presents the number of days to receive the accounts receivable; this will variate for the industry. In this case, it is a service company, meaning its customers do not usually pay immediately. On average, the highest ART is from Zasilkovna Ltd.; nevertheless, 2021 has the lowest; the average value was influenced by the result from 2017 and 2018, as it did not have such a large number of co-working e-commerces and pick-up points as nowadays. Czech Post, on average, has the lowest ART, maintaining it for around 30 days.

Table 29: Account Receivable Turnover Comparison for 2017 – 2021

Accounts receivable turnover	2017	2018	2019	2020	2021
GLS	66,38	65,43	56,76	67,33	51,67
Czech Post	29,88	52,05	24,49	27,95	31,31
PPL	58,21	52,91	44,52	60,37	50,86
DHL	57,51	53,75	53,33	41,37	31,86
Zasilkovna	154,89	110,81	56,33	54,55	31,86

The following figure presents the five years overview of the Accounts Receivable Turnover of the five selected companies.

Figure 19: Accounts Receivable Turnover Overview for 2017 – 2021
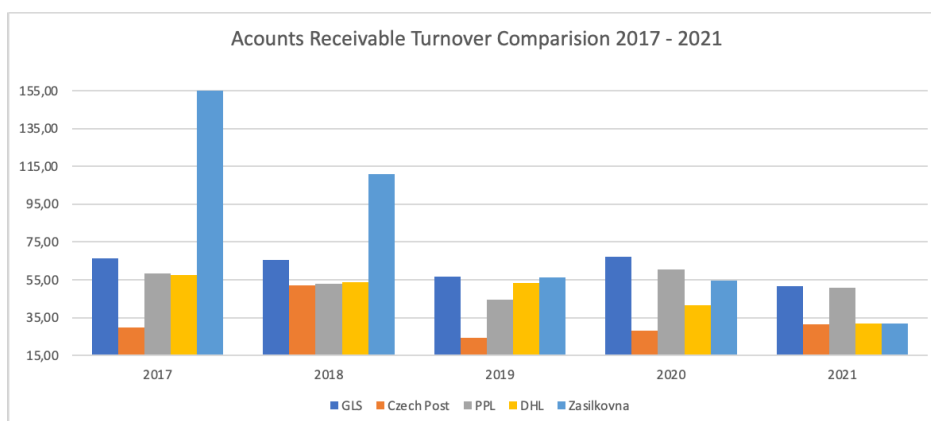
4.9. Account Payable Turnover

The Accounts Receivable Turnover presents the days to pay the accounts payable. This ratio is directly connected to the Accounts Receivable Turnover and the Cash Flow, poor management of these ratios could cause a deficit in the cash flow. Only Zasilkovna presents a higher Accounts Payable Turnover than Accounts Receivable Turnover. The lowest Accounts Payable Turnover is from Czech Post with a value of 0,10, which is reflected later in liquidity problems.

Table 30: Account Payable Turnover Comparison for 2017 – 2021

Accounts payable turnover	2017	2018	2019	2020	2021
GLS	60,30	58,27	52,66	66,26	52,01
Czech Post	0,15	0,12	0,08	0,07	0,07
PPL	55,20	47,25	27,85	29,56	31,12
DHL	28,44	27,85	28,39	11,93	7,82
Zasilkovna	156,83	151,60	50,27	50,89	60,31

Figure 20 presents the five years overview of the Accounts Receivable Turnover of the five selected companies.

Figure 20: Accounts Payable Turnover Overview for 2017 – 2021
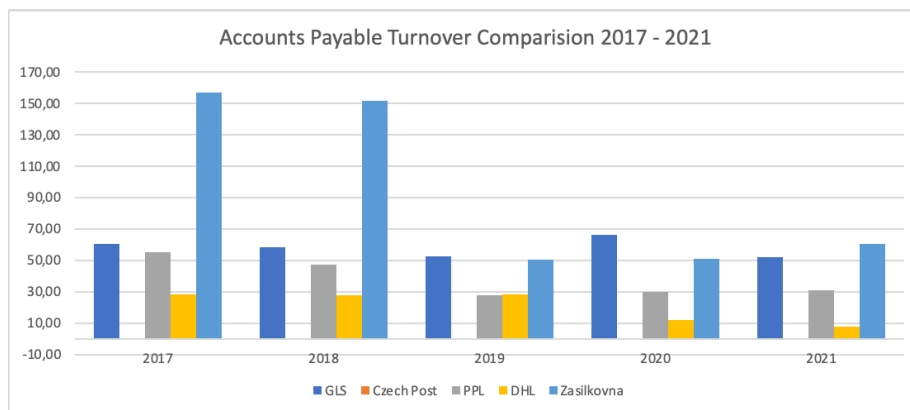
4.10. Solvency

In Table 31, there are summarized values of the debt to assets and the proprietary ratio of the selected companies. The ideal scenario is not to have debts higher than the Equity, meaning a more stable financial situation.

Table 31: Solvency Comparison for 2017 – 2021

Solvency		2017	2018	2019	2020	2021
GLS	Debt to assets	39,46%	35,73%	35,30%	42,94%	37,24%
	Propietary ratio	60,54%	64,27%	64,70%	57,06%	62,76%
Czech Post	Debt to assets	49,85%	50,13%	54,69%	63,23%	66,84%
	Propietary ratio	50,15%	49,87%	45,31%	36,77%	33,16%
PPL	Debt to assets	51,75%	63,46%	43,66%	43,25%	41,13%
	Propietary ratio	48,25%	36,54%	56,34%	56,75%	58,87%
DHL	Debt to assets	85,52%	79,12%	81,06%	80,06%	77,21%
	Propietary ratio	14,48%	20,88%	18,94%	19,94%	22,79%
Zasilkovna	Debt to assets	88,22%	84,54%	84,02%	81,21%	85,05%
	Propietary ratio	11,78%	15,46%	15,98%	18,79%	14,95%

To better understand the data, the following figures present the distribution of the assets for each company.

Figure 21: Zasilkovna Ltd Solvency
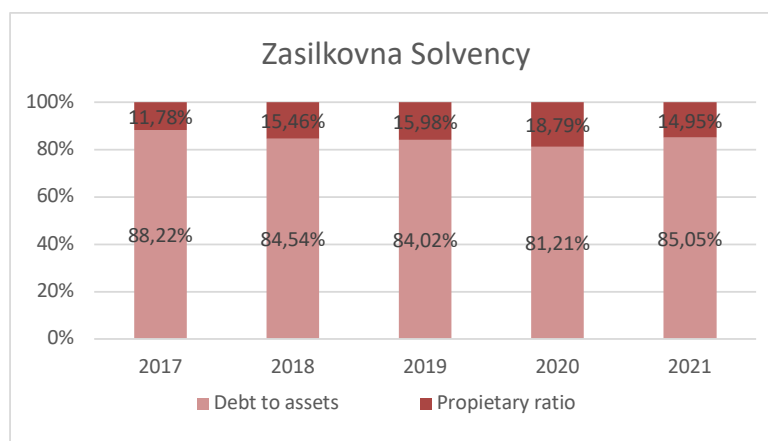
Zasilkovna Ltd. has shown a similar structure over the last five years; debts have financed over 80% of its assets, and less than 20% of the assets came from its

resources. This is not the ideal scenario for a company with low liquidity as if it would be, for some reason, forced to disburse the total debt.

Figure 22: Czech Post Solvency
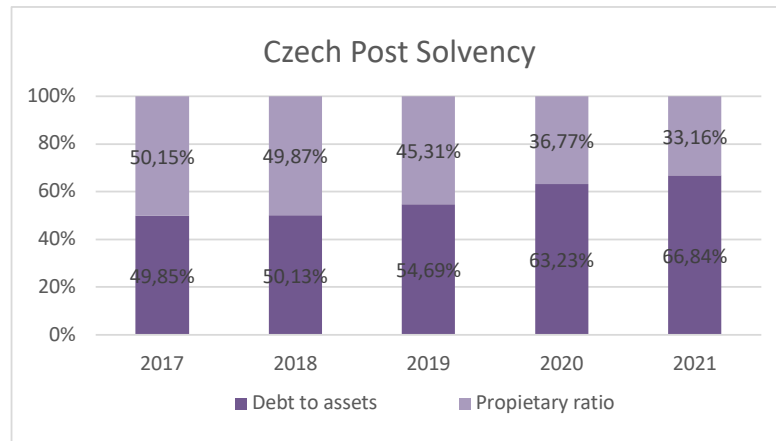
The Czech Post, a firm owned by the Czech state, has kept the distribution of the resources used to finance assets in a balance in the last five years; however, in 2021, it presents the lowest percentage of assets covered by equity. The most favourable for the firm is to have a higher percentage covered by equity than by debts, which Czech Post only applied in 2017.

Figure 23: GLS CZ Ltd. Solvency
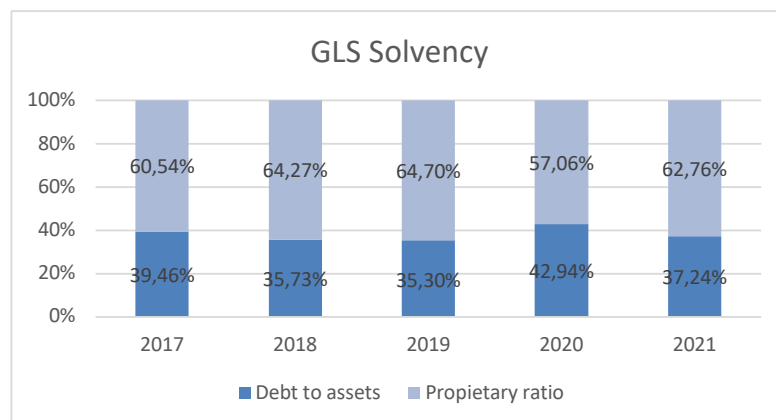
GLS Czech Republic Ltd. has since 201,7 more than 57% of its assets financed by equity. From my point of view, it is an excellent balance to keep the diversification of the resources and to maintain financial stability.

Figure 24: DHL Express C.Z. Ltd. Solvency
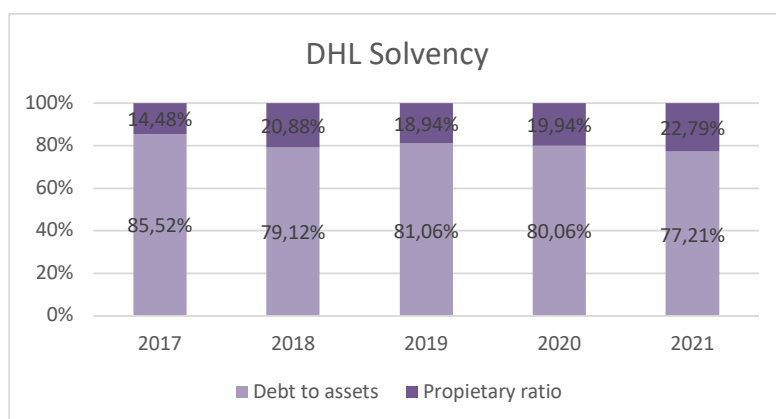
DHL Express Czech Republic Ltd. has a very similar distribution as Zasilkovna Ltd.; as mentioned before, this is not ideal; after the analysis of the financial ratios, it was concluded that DHL Express C.Z. Ltd. has the weakest liquidity from all five companies and in case the company would have to pay out all its debts it would not be able to cover them.

Figure 25: PPL CZ Ltd. Solvency
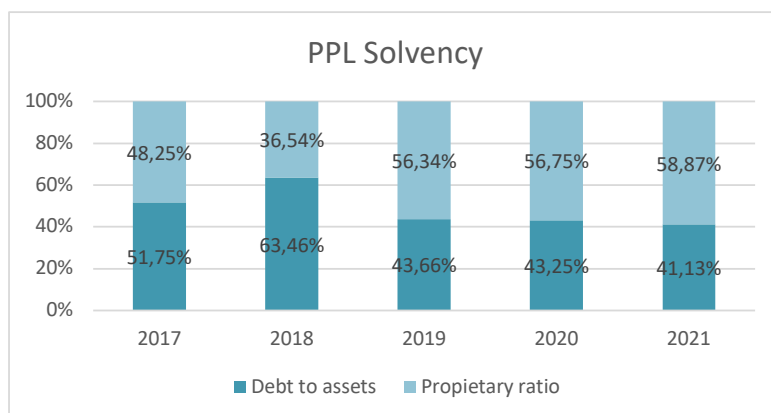
PPL CZ Ltd. in 2017 and 208 presents a good balance with 48,25% and 36,54% of the assets financed by shareholders, respectively. The following three years show a better structure, considering that the company's liquidity also raised. In 2021 the liquidity went slightly down. However, this may not represent a significant risk as more debts cover less than 42% of the assets.

In summary, Zasilkovna Ltd. and DHL Express C.Z. Ltd. present around 80% of their assets financed by debts during all five years. In such a scenario, the firms are considered risky, having to assume high-interest expenses. From my point of view, the best debt to Equity ratio is from GLS CZ Ltd., which every year has a percentage of assets financed by equity than its debts; PPL CZ Ltd. also has had an outstanding debt to Equity Ratio in the last three years; nevertheless, the first two years do not present significant risk.

5. Solution Proposal

Unlike other industries, the CEP industry had ample economic growth opportunities during 2020, when the COVID-19 pandemic started. Understandably, the demand for courier services rapidly increased as the lockdown was prolonged in the Czech Republic, but companies had to face new challenges, such as the restrictions for international shipping and logistic problems.

I decided to use Kralicek's Quick Test to evaluate the performance of the selected companies for the years 2017, 2018, 2019, 2020 and 2021. After applying the test, I conclude that in general terms, GLS CZ Ltd. and PPL CZ Ltd. have had an excellent performance in this period and tend to maintain their level or improve in the future. On the other hand, the resting three companies (Czech Post, Zasilkovna Ltd., and DHL Express C.Z. Ltd.) have shown a good performance, with room for improvement in different aspects.

Table 32: Kralicek's Quick Test For The Selected Companies for the period 2017 - 2021

Company	Criteria	2017	2018	2019	2020	2021
Czech Post	Equity quota	1	1	1	1	1
	Debt repayment period	3	3	3	3	5
	Cash Flow	3	4	4	5	4
	ROA	4	5	5	5	5
	Výsledek	2,75	3,25	3,25	3,5	3,75
PPL	Equity quota	1	1	1	1	1
	Debt repayment period	2	2	2	1	1
	Cash Flow	3	3	3	1	1
	ROA	3	4	3	1	1
	Výsledek	2,25	2,5	2,25	1	1
DHL	Equity quota	3	2	3	3	2
	Debt repayment period	5	3	3	2	3
	Cash Flow	4	4	4	4	4
	ROA	4	2	3	2	1
	Výsledek	4	2,75	3,25	2,75	2,5
Zasilkovna	Equity quota	3	3	3	3	3
	Debt repayment period	3	1	2	2	3
	Cash Flow	3	2	2	2	3
	ROA	3	1	1	1	1
	Výsledek	3	1,75	2	2	2,5
GLS	Equity quota	1	1	1	1	1
	Debt repayment period	1	1	1	1	1
	Cash Flow	2	2	1	1	2
	ROA	1	1	1	1	1
	Výsledek	1,25	1,25	1	1	1,25

In the previous chapter, the liquidity ratios results were analysed and compared; therefore, I conclude that one of the common problems the selected companies have is liquidity, the current ratio for the majority of the years is under the recommended value. Significantly for firms Zasilkovna Ltd. and DHL Express C.Z. Ltd., both entities should increase their current and cash liquidity, considering the percentage of debt to the asset they have. One possible solution could be reducing short-term liabilities, rescheduling, and converting them to long-term debts. Specifically, for Zasilkovna Ltd., controlling the accounts receivables would also positively influence its liquidity; from the annual report, it is known that the company had a significant percentage of trading accounts receivable after the due date, moreover the firm could implement a shorter period for receiving the COD payments from the partner pick-up points.

In 2021 all previously mentioned firms had a significant decrease in their liquidity ratios; according to the current political instability, it would be reasonable to pay extra attention to the trade deficit, which is unfavourable for most of the companies in this analysis. This improvement will allow the entities to have more extensive financial resources and diversify them. Therefore, these financial resources could be invested, increasing the firms' financial profit, and allowing the firm a more favourable cash flow.

Another aspect for improvement is sustainability, which is hardly uncharted territory for the courier industry. Nevertheless, there are still many goals to achieve as the ones set by the European Commission on its program "a European Green Deal', where the goal is to have no net emissions of greenhouse gases by 2050. Companies such as DHL Groups take the initiatives with its program "Go Green"; I faithfully believe that the CEP industry could improve significantly if actions as including alternative transport or the use of common pick-up points are done, and in the long term, this will result on lower activity expenses for the companies and a better experienced for the clients.

The use of technology is vital for improvement in the long term. Currently, one of the problems companies from this industry has to face is the logistic when cooperating with eCommerce since clients nowadays tend to return packages after online shopping. This implicated very complicated logistics, which could be improved by using technology, starting to offer online clear information where the clients can drop off the packages and how to proceed when returning a package. Just a few courier companies offer a self-service picking-up/ dropping-off point; implementing these points in strategic places will facilitate the transportation of the parcels to the depots and later to their final destination. Also, with the help of software, clients could plan the day and time of delivery to avoid unnecessary trips for attempting the delivery of the parcel.

Conclusion

The presented Bachelor Thesis discussed the relevant theoretical formation of financial analysis methods; it has explained their uses, advantages, and disadvantages as well as possible interpretation of the results obtained. Later, the theoretical section has explained the different financial ratios, in addition to the calculation of each of them and the interpretation of the results.

Later it was dispensed financial analysis for five selected firms for the CEP industry. This analysis aimed to find significant changes in the financial statements for the period 2017 – 2021 as well as explain the reason for the changes according to the information obtained from the annual reports. Moreover, the five selected firms were analysed using financial ratios, where afterwards, all firms were compared, aiming to find a common weakness and compare in terms of the average industry ratios.

In the last part, the comparison results were used to compile recommendations according to the weaknesses found previously. In conclusion, the CEP industry has had significant growth since the pandemic in 2020, related to the increasing demand for courier services. Understandably the industry had to face new challenges according to the current situation, for example, the use of technology and the sustainability of their services.

This bachelor thesis has concluded two main weaknesses of the selected companies, the first on the low liquidity levels of the majority of the analysed firms, and the second one is the trade deficit, as companies tend to have more extended periods of payment for the accounts receivable than for the accounts payable.

When solved, both previously mentioned problems will allow the firms to have a more favourable cash flow, generate more significant profits, and reduce unnecessary expenses.

In conclusion, I reckon that in the last five years, there have been two companies in a significantly stronger financial position which are GLS CZ Ltd. and PPL CZ Ltd. both has shown not only stability but also growth, especially in the year 2020 and 2021. For the rest of the firms, the year 2020, as for the whole industry, was a year of opportunities to develop their business and grow in terms of innovation and technology.

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