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BACHELOR'S THESIS

FINANCIAL ANALYSIS OF THE BIG FOUR IN SLOVENIA

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EMA POLONA KASTELIC

AUTHORSHIP STATEMENT

The undersigned Ema Polona Kastelic, a student at the University of Ljubljana, School of Economics and Business, (hereafter: UL SEB), author of this written final work of studies with the title Financial Analysis of the Big Four in Slovenia, prepared under the supervision of Assistant Professor Mina Ličen, PhD.

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ABSTRACT

This thesis presents a financial analysis of the Big Four auditing firms– EY, KPMG, Deloitte and PwC – between 2020 and 2023. It explores the role of these four companies in Slovenia. The purpose of auditing as a process to ensure the accuracy and completeness of financial statements. This is crucial in building trust and confidence in financial reporting, as it provides a true representation of the company's financial position. This is most important to investors, lenders, and other stakeholders.

With a financial analysis, the thesis evaluates the performance of the Big Four in Slovenia, looking further into key financial measures such as profitability, efficiency, liquidity, and leverage. The analysis shows that however the Big Four present the biggest accounting firms in Slovenia, they each face challenges and show varying degrees of financial stability. The study further highlights the role of auditing firms in complying with legal standards, ensuring financial statement integrity, and addressing emerging global trends such as environmental, social, and governance (ESG) factors. The thesis contributes to understanding, how the Big Four manage their resources and offers insights into their financial performance and their role in the auditing profession.

KEY WORDS: Financial ratio, auditing, profitability, financial performance

SUSTAINABLE DEVELOPMENT GOALS

POVZETEK

Diplomsko delo predstavlja finančno analizo štirih največjih revizijskih družb – EY, KPMG, Deloitte in PwC – v obdobju med letoma 2020 in 2023. Raziskuje vlogo teh štirih podjetij v Sloveniji. Namen revidiranja je zagotoviti točnost in popolnost računovodskih izkazov, kar je ključno za vzpostavljanje zaupanja in zanesljivosti v finančnem poročanju, saj zagotavlja resničen prikaz finančnega in premoženjskega stanja podjetja. To je še posebej pomembno za vlagatelje, posojilodajalce in druge deležnike.

S finančno analizo naloga ocenjuje uspešnost družb iz skupine velikih štirih ti. Big Four v Sloveniji ter se poglobi v ključne finančne kazalnike, kot so dobičkonosnost, učinkovitost, likvidnost ter finančni vzvod. Analiza pokaže, da čeprav Big Four predstavlja največje revizijske družbe v Sloveniji, se vsaka od njih sooča z izzivi in kaže različno stopnjo finančne stabilnosti. Študija dodatno izpostavlja vlogo revizijskih družb pri spoštovanju zakonskih standardov, zagotavljanju integritete računovodskih izkazov ter obravnavanju novih

globalnih trendov, kot so dejavniki okolja, družbe in upravljanja (ESG). Naloga preiskuje, kako Big Four upravlja s svojimi viri, ter ponuja vpogled v njihovo finančno uspešnost in njihovo vlogo v revizijskem poklicu.

KLJUČNE BESEDE: Finančni kazalnik, revizija, dobičkonosnost, finančna uspešnost.

CILJI TRAJNOSTNEGA RAZVOJA

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LIST OF ABBREVATIONS

APOA – Agency for Public Oversight of Auditing
EU – European Union
EUR – Euro

IAASB – International Auditing and Assurance Standards Board
IFRS – International Financial Reporting Standards
ISA – International Standards on Auditing
ISQC – International Standard on Quality Control
PIE – Public Interest Entities
ROA – Return on Assets
ROE – Return on Equity
SAS – Slovenian Accounting Standards
SIA – Slovenian Institute of Auditors

1 INTRODUCTION

The auditing industry plays an important role in ensuring transparency, accuracy, and reliability in financial reporting in both the public and private sectors. It serves as a guideline for financial reporting and instils confidence among stakeholders, investors, and regulatory bodies, ensuring that companies' financial positions are presented accurately. Auditors provide an independent evaluation of financial statements, verifying compliance with applicable laws, standards, and regulations. This is particularly important in a global economy, where businesses commonly operate across borders and require a standardized reporting system. (Government of Slovenia, n.d.).

Audits can be conducted internally, where auditors are employed by the company they audit. Alternatively, a company may hire an external auditor if required by law. Lastly, an audit can be initiated by the government, with the auditor appointed by the court (Government of Slovenia, n.d.).

In Slovenia, auditors follow domestic, international and European Union (*sl.* Evropska unija; EU) regulations. The Slovenian auditing industry is regulated by the Agency for Public Oversight of Auditing (*sl.* Agencija za javni nadzor and revidiranjem; APOA), which oversees audit firms and ensures compliance with the International Standards on Auditing (*sl.* Mednarodni standardi revidiranja; ISA). A financial reporting framework followed in Slovenia is the Slovenian Accounting Standards (*sl.* Slovenski računovodski standardi; SAS); however, many companies use the International Financial Reporting Standards (*sl.* Mednarodni standardi računovodskega poročanja; IFRS) (IFAC, 2024).

Among the most influential players in the auditing profession worldwide, as well as in Slovenia, are the Big Four accounting firms: Deloitte, Ernst & Young (EY), Klynveld, Peat, Marwick, Goerdeler (KPMG), and PricewaterhouseCoopers (PwC). These companies offer a wide range of services, including financial auditing, risk management, tax advisory, and consulting. Their presence in Slovenia is significant, as they serve multinational corporations, large domestic companies, and public sector entities. Their operations are centralized, ensuring high standards of professionalism, technical expertise, and regulatory compliance.

Fast improving technology has had an influence on the auditing profession. Artificial intelligence now plays a crucial role in audits, with improving productivity of audit firms as well as automating processes that used to be more time consuming. This improves audits as well as makes them less prone to mistakes. This effect on performance could be seen in the firms' financial results.

This thesis will present a comparative analysis of the Big Four in Slovenia, focusing on their financial performance from 2020 to 2023. The objective is to evaluate the effectiveness and efficiency of these firms' operations using financial ratios. The analysis will assess key financial indicators, including profitability, efficiency, liquidity, and leverage ratios. This will provide insights into how these four firms compare to each other and how they navigate the Slovenian market. This thesis aims to determine how each firm utilizes its resources and manages its financial structure.

This thesis is structured into four chapters. The first chapter provides an overview of the auditing profession in practice, covering the main purpose of auditors, the audit process, and different types of audits. It also defines which companies are required to hire an external auditor. It examines the auditing industry in Slovenia, focusing on regulatory bodies that establish frameworks for companies and auditors. This chapter also includes a historical overview of auditing in Slovenia, discussing the impact of the country's transition from a socialist economy to a market-driven system. The second chapter provides an overview of the Big Four in Slovenia, listing all four firms and offering a brief background on their operations. Chapter three will introduce the financial ratios used in the financial analysis, defining key indicators such as profitability, efficiency, liquidity, and leverage ratios. Chapter four will focus on the role of artificial intelligence and what changes have been implemented in the profession with the advancement of technology. In the conclusion results of the financial analysis and a comparison of the performance of the Big Four will be presented.

This thesis relies on secondary data sources, including publicly available financial reports (AJPES), regulatory filings, and industry publications, to conduct the financial analysis. Additionally, ChatGPT was utilized as a tool to assist in developing ideas and structuring the research, ensuring a comprehensive and well-organized approach to the analysis.

1 THE AUDITING PROFESSION IN SLOVENIA

1.1 Auditing as a profession

Auditing is the process of collecting evidence by independent experts – certified auditors. The main purpose is to confirm the completeness and accuracy of the company's financial statements. Revised financial statements present a true representation of the company's financial position. This means that business transactions have occurred and have been correctly recorded in the financial statements. An audit is performed to increase users' trust in the financial statements and their accuracy. This is done by an auditor's opinion which is published in the Annual Report as a determination on whether the statements are in accordance with reporting standards. A frame of financial reporting in Slovenia is the SAS, however IFRS may be used as well (Government of the Republic of Slovenia, n.d.).

An audit is conducted based on legal requirements stated in the Companies Act (*sl.* Zakon o gospodarskih družbah) or on a voluntary decision by owners or management. The audit thresholds are based on the EU Audit Directive. As stated in Article 57 of the Companies Act, large and medium-sized companies must be audited. The obligation to have the annual report audited also applies to companies that exceed at least two of the following three criteria in two consecutive years. Firstly, total assets must exceed EUR 5 million, secondly, net revenue must exceed EUR 10 million and lastly the company must have an average of 50 employees or more during the financial year. The criteria mentioned above determined whether a company is a large company and therefore obligated to an annual audit.

The person who performs the audit must be a certified auditor, who is regulated by law, meaning that the state defines who is authorized to perform audits. The auditor issues audit opinions, which must comply with ISA. The auditor helps ensure the company's financial results are credible and that they comply with Slovenian accounting standards and laws. (Government of the Republic of Slovenia, n.d.)

There are three types of auditing. Firstly, an internal audit is conducted within the company, where auditors are employed by the organization they audit. Internal auditors use the company's standards to conduct the audit. The results help improve internal controls and facilitate managerial changes if needed. This allows a company to ensure compliance with laws and regulations and to ensure that its financial reporting accurately reflects its actual financial position. (Tuovila, 2024a)

Secondly, a company hires an auditing firm to perform an external audit. The benefit of hiring a firm to verify the company's financial statements is that it eliminates bias in the review. These audits identify whether there are any material misstatements in the financial statements. An external auditor's opinion is valuable to users of the financial statements when they make decisions regarding the company. These users are mostly investors, lenders, underwriters, etc (Government of the Republic of Slovenia, n.d.).

Thirdly, there are government audits, which are performed to verify the accuracy of taxpayers' returns. In Slovenia, special audits may be conducted. These audits, stipulated by the Companies Act (ZGD-1), can be initiated by a company's shareholders if they suspect irregularities in the financial statements. In such cases, the auditor is appointed by the court (Government of the Republic of Slovenia, n.d.).

1.2 Historical overview

The auditing industry in Slovenia has evolved significantly over the years, implementing economic, international, and regulatory trends. This development is tied to Slovenia's transition from a socialist economy to a market-driven system. The reason for this transition was Slovenia's independence from Yugoslavia in 1991. This caused the establishment of a strict financial and corporate governance framework. Auditing practices that enhance transparency were introduced. The auditing industry was small and not very well developed in the socialist era, however with the privatization of businesses in 1990 the private sector grew, and so did the demand for reliable financial reporting and external audits. Ever since then, the industry has grown, with both local auditing firms as well as international accounting firms, such as KPMG, Deloitte, PwC, and EY which have all established a strong presence in the Slovenian market. The auditing industry underwent some changes in 2014 when the Directive 2014 and Regulation 2014 were introduced. These regulations divided the previous single auditing framework into two. This implemented stricter requirements for audits of public interest entities (PIEs), such as a mandatory auditor rotation, enhanced transparency, and fee restrictions. These regulations caused changes in audits in Europe in a way that they distinguished PIEs and non-PIEs. Directive 2014 limited national adaptations to add-ons only, whereas the previous Directive 2006 allowed add-ons as well as carve-outs. This change emphasized a stricter alignment with global standards and therefore caused less flexibility for national modifications. Directive 2014 also explicitly defines international auditing standards as ISAs and International Standard on Quality Control (ISQC) (Duhovnik, 2016).

1.3 Regulatory framework and regulatory bodies

With Slovenia being a member of the European Union (EU), Slovenia is subject to the accounting, auditing and financial reporting requirements established in EU Regulations and Directives.

Companies must follow the regulations defined in the Companies Act (ZGD-1) for the preparation of their financial statements. This Act transposes the EC Accounting Directive. In Slovenia PIEs, credit institutions, pension funds, insurance undertakings, and companies with direct or indirect state or municipal ownership must apply IFRS in their separate as well as consolidated financial statements. All companies that do not fall under the previously mentioned, may choose either IFRS or SAS. Companies that choose IFRS must follow these regulations for a period of at least five years. Auditing standards follow the regulations defined in the Auditing Act (ZRev-2) which adapts ISA and other International Auditing and Assurance Standards Board (IAASB) pronouncements. All audits must be conducted by audit firms and auditors that are licensed by the Agency for Public Oversight of Auditing (*sl.* Agencija za javni nadzor nad revidiranjem; APOA) (IFAC, 2024).

The two main laws that regulate the auditing profession in Slovenia are the Auditing Act (*sl.* Zakon o Revidiranju, ZRev-2) and the Companies Act (*sl.* Zakon o gospodarskih družbah, ZGD-1).

The only supervisory and regulatory body in Slovenia is APOA. This body ensures that auditors and audit firms comply with legal and ethical standards, conduct quality control reviews, and maintain professional competence. They conduct inspections of all audit firms and statutory auditors in Slovenia. The APOA operates independently and collaborates with other EU regulatory bodies to uphold the integrity of the profession. (CFRR, 2021)

In recent years, there has been an increased emphasis on the role of audits in preventing financial fraud and ensuring corporate sustainability. This aligns with global trends emphasizing environmental, social, and governance (ESG) factors in auditing practices. Slovenian regulators and auditing firms are actively exploring ways to integrate these considerations into traditional financial audits, marking a new chapter in the industry's evolution. (Generis, 2024)

2 OVERVIEW OF THE "BIG FOUR" IN SLOVENIA

The "Big Four" consists of the four biggest accounting firms, which are, KPMG, EY, Deloitte, and PwC. These companies provide auditing services, tax advisory, consulting, legal advisory and financial advisory services. Each of these companies is made up of two or more subsidiaries, so auditing services are provided by one of these subsidiaries.

These four companies are global leaders in professional services, as well as leaders in Slovenia. They are well established in Slovenia as the auditing firms of the biggest companies.

Modern auditing in the UK began in the mid-19th century, when the joint stock company was developed. The British Companies Act required public companies to conduct an audit of their financial statements by an auditor selected by shareholders. With the plummet of Great Western Railway's stock, William Welch Deloitte was called to audit the company. This later led to an increase in demand for people skilled to solve complex problems connected to businesses. In 1933 Securities Act in America, it was stated, that public corporation have an obligation to having independent audits conducted yearly. In the beginning individual accountants started to open firms in London and New York as well as in other countries that were the destinations of capital flows. The development of technology in the post Second World War period enabled accountants to start focusing on other aspects of their client's business, such as management, when the service of consultancy was introduced. (Shore & Wright, 2018)

It all began with the "Big Eight," a group of accounting firms that gradually expanded the scope of their services. Initially focused on audits and tax consultancy, these firms began offering business advisory services, marking their shift into management consulting. A wave of mergers soon followed, consolidating the eight firms into fewer, larger entities. Over time, this led to the founding of what we now know as the "Big Four." (Shore & Wright, 2018)

2.1 KPMG

After its last merger, KPMG has been offering its services since 1987, when two firms merged in Amsterdam, Netherlands. KPMG offers audit and assurance services as well as tax and advisory services. The company has been operating in Slovenia since January 1993 (KPMG, n.d.).

KPMG Slovenija has an average of 38,9 employees with its headquarters on Železna cesta 8a in Ljubljana. The company is 99% owned by KPMG Slovenija d.o.o., with the remaining 1% held by its director Domagoj Vuković (Ebonitete.si, n.d.).

2.2 Ernst & Young

EY was established in 1989 in Chicago, Illinois after the latest merger of two major accounting firms. Currently they have offices across 150 countries, with 400.000 employees. EY has been operating in Slovenia since 1995. They offer a comprehensive range of professional services such as audit and assurance, consulting, tax and advisory services. EY Slovenia is established as a trusted advisor to many Slovenian businesses (EY, n.d.).

EY in Slovenia has an average of 85,96 employees with its offices on Dunajska cesta 111, Ljubljana. 52,84% of the company is owned by EY Europe, 29,74% is owned by Ernst & Young CEA Services Limited and the remaining 17,42% is owned by Ernst & Young d.o.o. (Ebonitete.si, n.d.).

2.3 Deloitte

Deloitte is an accounting firm that was established, with the last of several mergers, in the United Kingdom in 1845. They provide their services in over 150 countries and employ more than 415.000 people. Deloitte provides services in audit and assurance, risk advisory, tax and financial advisory. They have been present in Slovenia since 1993 and are one of the leading professional services providers (Deloitte, n.d.).

Deloitte has an average of 47,87 employees in Slovenia and is based on Dunajska cesta 165 in Ljubljana. Its ownership is divided among Yuri Sidorovich (66,92%), Deloitte Pannonadria Holdings LTD (13,14%), Praevisio društvo s ograničenom odgovornošću za upravljanje društvima (10,51%) and Barbara Žibert Kralj (9,43%) (Ebonitete.si, n.d.).

2.4 PricewaterhouseCoopers

PwC is a company that delivers assurance, tax, consulting, and legal services that is present globally. Their headquarters is in the United Kingdom, and they have offices in over 149 countries and more than 370.000 employees. The company was created in 1998 when two firms Price Waterhouse and Coopers & Lybrand merged, this presents the last of multiple previous mergers. The company is well established in Slovenia where they have been operating since 1993 (PwC, n.d.).

PwC has an average of 51,81 employees with its headquarters on Cesta v Kleče 15 in Ljubljana. Its ownership is divided by two directors – Primož Kovačič (0,17%) and Thomas Magill (0,17%). 75,18% is owned by PriceWaterhouseCoopers in Poland and 24,48% is owned by PriceWaterhouseCoopers Eastern Europe B.V. (Ebonitete.si, n.d.)

2.5 Market Concentration of the Big Four in Slovenia

The Big Four in Slovenia held 52% of the whole market share, based on the total revenue of audit firms in 2023. EY ranks as the largest audit firm in Slovenia, as they generated EUR 7,6 million in total revenue in 2023 which is 17% of all comprehended revenue from all audit firms. A close second is Deloitte which holds a 14% market share, next is PwC with 12% and lastly KPMG with 10% market share. Looking only at revenue generated from conducting audits of financial statement, which presents the majority of total revenue, the Big Four together hold 46,8% of market share, based on revenue from conducted audits from all audit firms. EY in this case holds 15%, Deloitte 13%, followed by PwC with 11% and lastly KPMG with 9%. The three audit firms that follow the Big Four and are part of the Big Seven are Forvis Mazars, BDO and Grand Thorton Audit (Agencija za javni nadzor and revidiranjem, 2024).

These four firms audit most of Slovenia's largest companies by revenue. In 2023, the top company, Petrol d.d., with 5.6 billion EUR in revenue, was audited by PwC. The second largest, Holding Slovenske Elektrarne d.o.o., with 5.2 billion EUR in revenue, was audited by Deloitte. The third-largest, Belektron d.o.o., with 3.3 billion EUR in revenue, was audited by EY (Agencija Republike Slovenije za javnopravne evidence in storitve, 2024; Mladina, 2024)

Together, these firms conducted audits of financial statements in 2023 for 14 of the 20 largest companies in Slovenia. They also audit the country's largest banks. For example, KPMG audited Addiko Bank d.d., NLB d.d., and UniCredit Banka Slovenija d.d., while EY audited OTP Banka d.d., Banka Intesa Sanpaolo d.d., and SID Banka d.d. Sparkasse d.d. was audited by PwC. Two of the biggest insurance companies, Zavarovalnica Triglav d.d. and Zavarovalnica Sava d.d., were audited by Deloitte, whereas Generali d.d. was audited by KPMG (AJPES, 2024).

3 FINANCIAL ANALYSIS

In evaluating the performance of the Big 4, and being able to compare them, financial metrics serve as a critical tool to understand their operational profitability, efficiency and financial stability. These metrics offer a quantitative foundation to compare how effectively resources are being utilized.

The Big 4 focus on a service-oriented environment, which means that most assets are intangible, unlike manufacturing firms, where most assets are tangible. Assets mainly held by these companies are human expertise, relationships with clients and licences for programs, which they use. Metrics such as profitability, efficiency, liquidity and leverage offer an overview of these companies' financial status and positioning amongst each other.

The chosen period for the financial analysis of these four companies was significantly affected by Covid-19 in 2020 and subsequent recovery in the following years. These events had a major impact on the operations of the Big 4. They had to face challenges such as remote audits which hinder obtaining evidence from clients, meetings with clients as well as technology, where the pandemic raised the risk of the control environment being compromised. There was significant uncertainty, which required auditors to approach their work with a greater degree of scepticism and challenge. Another impact of the pandemic was the reduced predictive value of historical results. To be able to rely on past results to predict the future, a certain level of stability in historical trends is essential. However, the substantial economic disruptions caused by the pandemic, reduced the relevance and reliability of prior data as the base for forecasting events in the future (KPMG, 2020).

3.1 Revenue

Table 1: Revenue 2020 – 2023

	2020	**2021**	**2022**	**2023**
KPMG	2.368.183,61	2.403.532,24	2.673.925,37	3.931.008,61
EY	6.221.670,00	6.428.483,00	6.997.124,00	7.467.789,00
Deloitte	5.223.284,55	5.628.972,76	5.502.453,67	6.416.296,61
PwC	3.022.258,00	4.014.719,00	4.485.377,00	5.428.716,00

Source: Annual reports.

Table 1 shows revenue throughout the period from 2020 to 2023. As seen above, EY presents with the highest revenue, on the other hand KPMG shows the lowest value in revenue.

3.2 Shareholders' equity

Table 2: Shareholders' equity

	2020	**2021**	**2022**	**2023**
KPMG	(372.829,64)	(1.767.387,64)	(1.468.825,98)	(986.865,62)
EY	1.603.756,50	1.515.463,00	1.379.586,00	1.397.748,50
Deloitte	852.792,02	951.035,97	734.289,23	257.432,89
PwC	624.619,50	356.321,00	574.972,00	689.992,50

Source: Annual reports.

Table 2 shows the average value of shareholders' equity for all four firms from 2020 to 2023. KPMG on the one hand has a negative value of equity throughout the whole period. The other three firms present a positive value. EY presents with the highest value.

3.3 Net Income

Table 3: Net Income

	2020	2021	2022	2023
KPMG	(789.554,95)	(606.316,72)	(396.559,95)	(239.519,34)
EY	977.653,00	748.756,00	705.898,00	785.081,00
Deloitte	742.215,48	1.217.780,80	438.692,09	364.483,74
PwC	(15.224,00)	353.456,00	294.496,00	418.396,00

Source: Annual reports.

Table 3 shows net income. As seen above, KPMG has a negative net income, whereas EY presents with the highest income in the years 2020, 2022 and 2023. Deloitte reached a peak value in 2021, and PwC had a negative net income in 2020 but showed a significant improvement in the following years.

3.4 Average assets

Table 4: Average assets

	2020	2021	2022	2023
KPMG	2.290.937,04	1.163.556,45	1.483.453,20	2.038.608,14
EY	3.702.930,00	3.589.755,00	3.617.039,50	3.596.950,00
Deloitte	3.161.814,22	3.504.322,32	3.655.035,68	3.802.052,94
PwC	1.379.668,00	1.323.497,50	1.456.792,00	1.631.739,50

Source: Annual reports.

Table 4 shows average assets. PwC shows the lowest value of assets, EY and Deloitte present the highest values.

3.5 Profitability ratios

Profitability ratios focus on how effectively the firms convert their resources into profits. (Supriyadi, 2021)

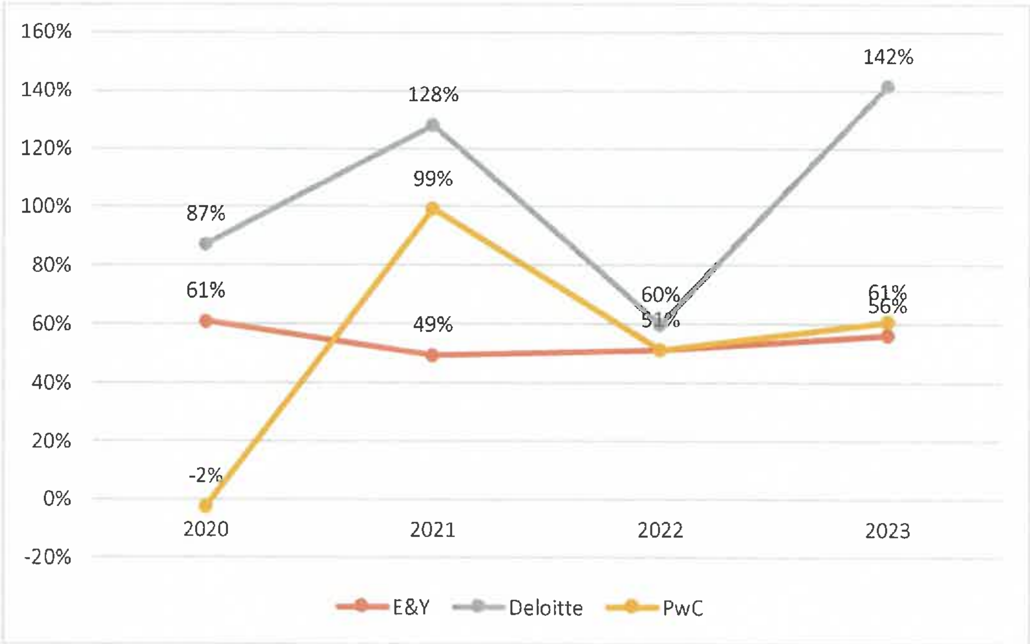
3.5.1 ROE

Return on Equity measures how well a company is managing the capital, which shareholders have invested. ROE is a frequently used tool to compare a company to its competitors. A higher ROE indicates that a company is efficient in generating income from its equity financing. (Furhmann, 2024)

$$ROE = \frac{Net\ Income}{Shareholder's\ Equity} \tag{1}$$

Figure 1 illustrates ROE in the period from 2020 to 2023.

Figure 1: ROE



Source: own work

KPMG was excluded from this analysis as it had negative shareholders' equity as well as negative net income which led to a positive ROE and therefore caused the data to be misleading.

EY shows a generally stable level of ROE with some fluctuations, peaking at 61% in 2020 and declining to 49% in 2021 because of a slight decrease in both shareholders' equity and net income. Despite this, EY maintains a relatively strong and consistent ROE, indicating effective management of equity and profitability. Regardless of a slightly higher revenue, the company shows a decrease in net income in 2021 due to higher costs. The same applies in the following years.

The ROE values for Deloitte show considerable volatility, with periods of both growth and decline. The increase in 2021 is the result of an increase in both equity and net income, which was higher due to a slight increase in revenue and a decrease in both costs of services as well as employee expenses by approximately 300 thousand euros. In 2022, there was a 68% decline driven by a significant drop in equity, primarily caused by a decrease in retained earnings and net income, which was affected by an increase in the costs of services in 2022.

PwC shows a negative ROE in 2020, which indicates poor returns on shareholders' equity, resulting from a negative net income. However, in the following years, considerable growth is seen, peaking at 99% in 2021, which suggests an increase in net income as well as shareholders' equity, and therefore reflects a better use of invested equity.

Overall, EY shows the most consistent performance, whereas others exhibit varying degrees of volatility and recovery. KPMG appears to be the weakest performer among the four, primarily due to the significant fluctuations in ROE resulting from negative equity.

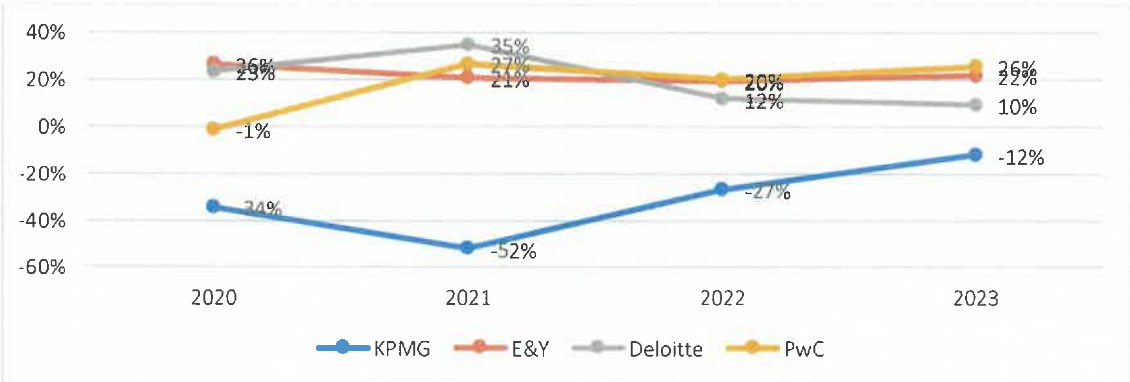
3.5.2 ROA

Return on Assets measures a firm's operating efficiency in generating profits from its assets before the effects of financing (Singh, Gupta & Chaudhary, 2024). It can be understood as an indicator of how profitable a company is relative to its total assets. It is an important tool used by management, analysts, and investors to determine whether the company is efficient. A higher ROA indicates that the company is efficient in generating profits (Hargrave, 2024).

$$ROA = \frac{Net\ Income}{Total\ Assets} \tag{2}$$

ROA is presented in the Figure 2.

Figure 2: ROA



Source: own work.

KPMG shows the least efficient use of its assets, as ROA is negative throughout the entire period. Asset efficiency was the lowest in 2021 at -52%, but an improvement is seen in 2023. These results are consistent with the negative net income and equity mentioned above, further reinforcing KPMG's weak financial position. KPMG showed a slight improvement in net income due to decreased depreciation and amortisation expenses for tangible and intangible fixed assets in 2022. The company significantly increased its assets in 2022, revealing a short-term financial investment in the form of a short-term receivable for capital contribution. With higher revenue in 2023, KPMG increased its net income by approximately 150 thousand euros. Regardless of this improvement, due to high costs, the firm still shows a negative net income.

EY shows consistent asset utilisation for generating profits through all periods, with a peak in 2020. This stable performance suggests effective management and good returns on the company's asset base. Regardless of higher revenue in 2021, net income decreased due to an increase in costs.

Deloitte had a drop in ROA in 2022, which shows less effective use of its assets, thus generating less income. Its fluctuating ROA indicated variability in asset efficiency. It reached its peak in 2021 due to higher net income, led by a decrease in costs.

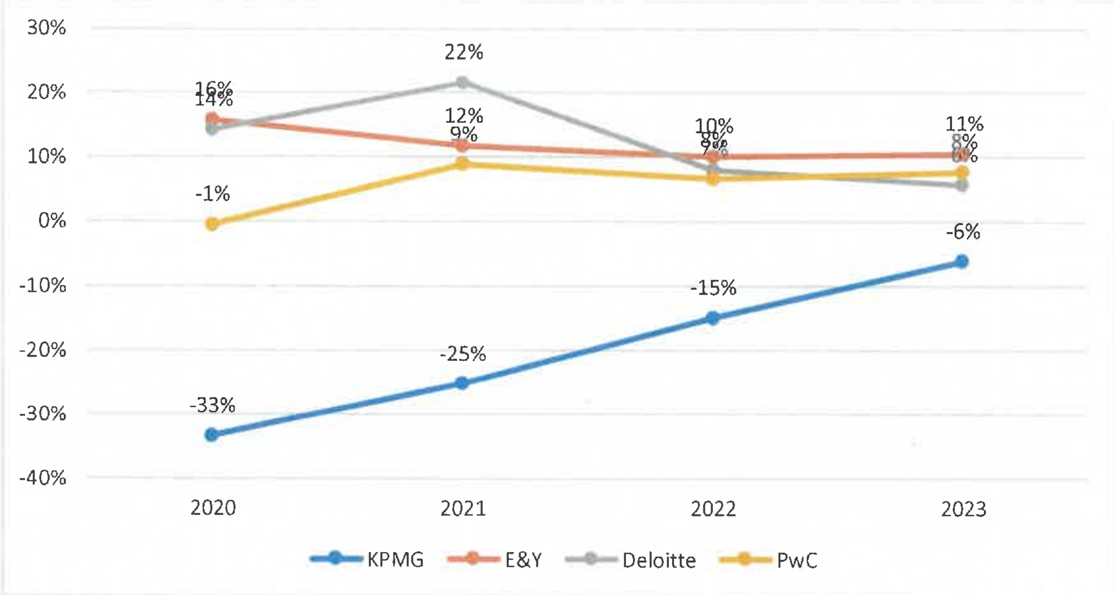
PwC shows significant improvement from -1% in 2020 to 27% in 2021, keeping ROA relatively stable in 2022 and 2023. This was a consequence of an increase in revenue by approximately one million euros in 2021.

3.5.3 Net Profit Margin

Net Profit Margin is used to calculate what percentage of profit is generated from a company's revenue. It shows the amount of net profit obtained per dollar of revenue. It is an indicator of how a company controls its costs and generates profit from its sales. A high profit margin means a company is efficient in controlling costs and provides a price high enough to cover costs. It is a good tool to use to compare companies in the same industry but cannot be used to compare companies across different industries. (Corporate Finance Institute, n.d.)

$$Net\ Profit\ Margin = \frac{Net\ Income}{Revenue} \tag{3}$$

Figure 3: Net Profit Margin



Source: own work.

Net profit margin shows the percentage of revenue that remains as profit after all expenses, which means it indicates how effectively a company manages its costs.

KPMG had a negative net profit margin throughout all periods, which is a result of a negative net income. A slight improvement is seen in 2022 and 2023 due to higher revenue and higher net income. This means the company has been managing its costs better or may have implemented more effective cost control. EY shows a relatively stable net profit margin, with a peak in 2020, resulting from the highest value in net income. Deloitte reached a peak net profit margin in 2021 with 22%, due to net income being the highest as a result of lower costs, already addressed in the analysis of ROE and ROA. Revenue remained stable throughout the whole period, with a peak in 2023 at almost 6.5 million EUR. These results show an effective cost management strategy. A slight decline is seen in 2022 and 2023 due to a decrease in net income.

PwC's net profit margin was negative in 2020, reflecting ineffective cost control, as evidenced by a negative net income. The following years show a slight improvement, culminating in a stable net profit margin.

3.6 Efficiency ratios

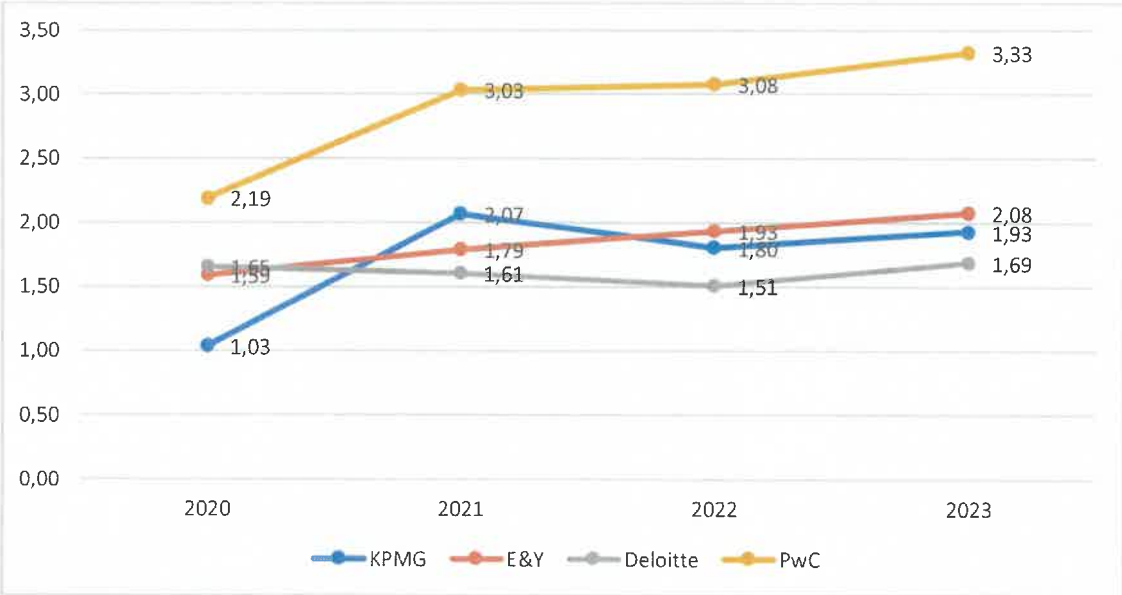
Efficiency ratios assess a company's ability to effectively utilize its resources, such as assets and capital to produce income. These ratios measure, how often a business can achieve a specific metric in a predetermined time frame or how much time is required in order for a business to compete segments of its operations. (Corporate Finance Institute, 2024)

3.6.1 Asset turnover ratio

Asset turnover ratio shows how effectively a company generates revenue from its available assets. It determines how many dollars in sales is generated from one dollar of assets a company owns. (Corporate Finance Institute, 2024)

$$\textit{Asset Turnover Ratio} = \frac{\textit{Revenue}}{\textit{Average Total Assets}} \tag{4}$$

Figure 4: Asset Turnover Ratio 2020-2023



Source: own work

Figure 4 shows that the asset turnover ratio is above one throughout the whole period across all companies. KPMG shows growth in the asset turnover ratio from 2020 to 2021, when they generated nearly the same amount of revenue with almost €700,000 less in assets in 2021. EY has the highest revenue throughout the period, while Deloitte shows a consistent asset turnover ratio throughout all years, which means the company utilises its resources effectively. PwC shows the highest value of the ratio, which demonstrates efficient use of its assets, as they are generating high revenue with the least assets. It is important to make a connection between the asset turnover ratio and net profit margin because this helps determine whether the company is generating net income from its revenue stream. In the case of KPMG, the asset turnover ratio is above 1; however, the net profit margin is below 0, which could indicate a poor pricing strategy, preventing the company from retaining more net income from revenue.

3.7 Liquidity ratios

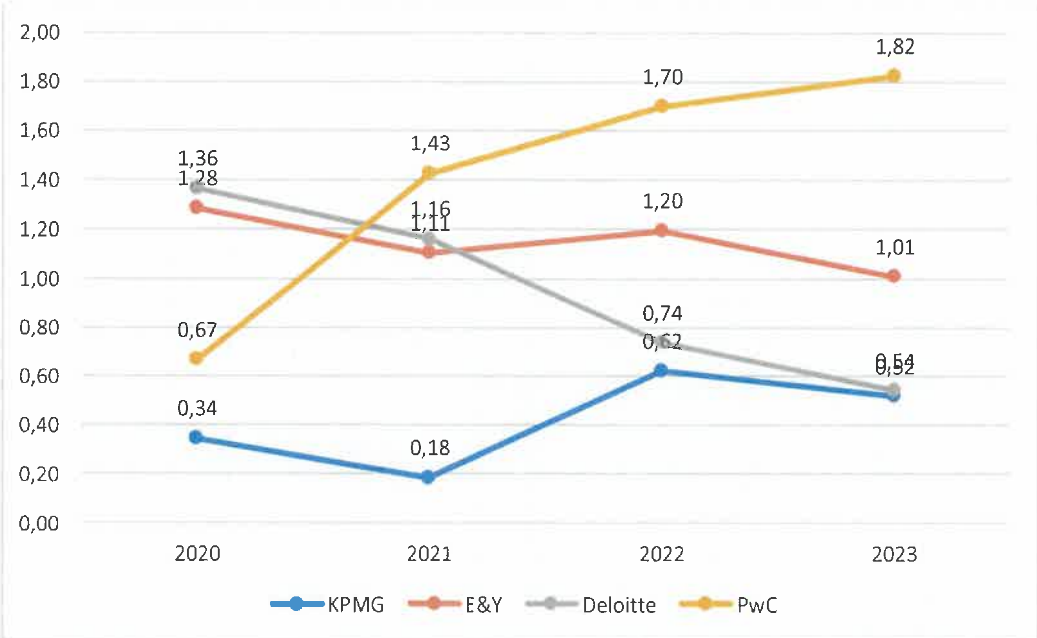
The role of liquidity ratios is to determine the financial stability of a company and its ability to pay off short term as well as long term obligations. They assess the riskiness of a company and help with decisions on whether to extend credit to a firm or not. (Corporate Finance Institute, 2024)

3.7.1 Current ratio

This ratio is also known as the working capital ratio. It determines whether a company can pay its short-term obligations that are due within one year. It provides a comparison between the total current assets and total current obligations. It includes all current assets, such as accounts receivable, inventory, cash and marketable securities. A current ratio greater one, means that a company can cover its current liabilities using its current assets. On the other hand, if the ratio is too high, that can suggest that a company is not investing enough money into its growth and is leaving too much cash unused. (Corporate Finance Institute, 2024)

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities} \tag{5}$$

Figure 5: Current ratio



Source: own work.

Figure 5 presents the current ratio. A typically accepted range for the current ratio is between 1.2 and 2. A current ratio higher than 2 can indicate that the company has excessive liquidity and is not investing enough in its operations. KPMG consistently had the lowest current ratio throughout the entire period, clearly indicating the company's inability to meet its short-term obligations and liabilities with its short-term assets, potentially signalling liquidity issues. The company's short-term assets decreased from 2020 to 2021 due to a decline in short-term receivables, which led to a decrease in the current ratio, further highlighting its inability to cover short-term liabilities. EY, on the other hand, maintained a stable current ratio, with only a slight decline in 2023, which still reflects a healthy balance between liquidity and efficient asset utilization. Deloitte experienced its highest current ratio in 2020, followed by a decline in subsequent years, reaching its lowest point in 2023 due to a reduction in assets and an increase in liabilities. Assets declined due to a lower value of short-term receivables as well as a decrease in cash and cash equivalents in 2023. In 2020, PwC was unable to cover its short-term liabilities with its short-term assets, but starting in 2021, the company reduced its current liabilities and increased its assets, resulting in a peak current ratio in 2023. The decrease in current liabilities was primarily caused by a reduction in short-term financial liabilities to banks. The increase in assets in 2021 was driven by higher receivables.

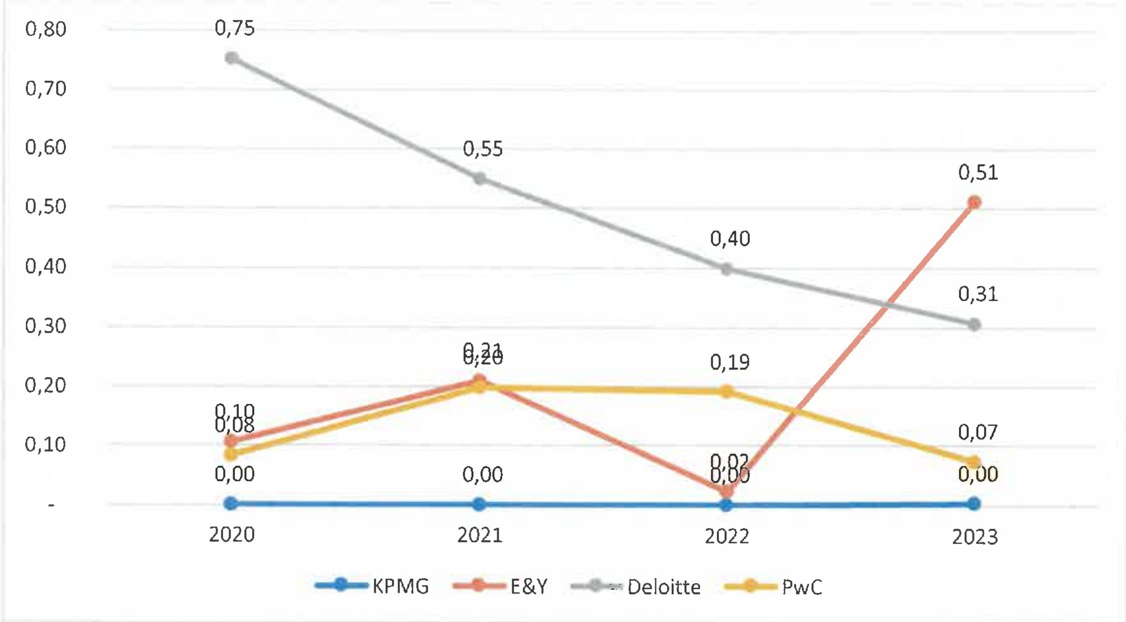
Quick ratio analysis was not relevant for these four companies as they do not have any inventory, and the values would be identical to the calculations of the current ratio.

3.7.2 Cash ratio

The cash ratio determines whether a company is able to pay its short-term debt exclusively with cash and cash equivalents. In this case only the companies most liquid assets are considered. It is preferred, that the ratio is higher, although there is no ideal figure but 0,5 to 1 is favoured.

$$Cash\ Ratio = \frac{Cash\ and\ cash\ equivalents}{Current\ Liabilities} \tag{6}$$

Figure 6: Cash ratio



Source: own work.

An ideal cash ratio is approximately 0.5, which means that the company has enough cash to cover 50% of its current liabilities. Figure 7 shows the cash ratio in the period from 2020 to 2023. KPMG exhibits an incredibly low level of cash compared to its current liabilities, covering only 0.03% of its current liabilities from 2020 through 2022 and 0.3% in 2023. This indicates significant challenges in managing assets held in cash and cash equivalents.

On the other hand, Deloitte reports the highest cash ratio, with an average of 0.5, peaking at 0.75 in 2020. Although the coverage of its current liabilities using cash and cash equivalents decreased slightly in 2022, the company still holds a significant amount of cash compared to other firms, averaging approximately EUR one million. In 2022, the company's current liabilities increased due to a rise in operating current liabilities by €1,400,054, leading to a decline in the cash ratio.

EY had a low cash ratio in 2020 and 2022 but a relatively high cash ratio in 2021 and 2023. This could be a consequence of the company's strategic, financial, and operational decisions, such as investments, debt repayments, and other long-term financial strategies. PwC maintained a relatively low cash ratio, with a peak in 2021, when the company was able to cover 20% of its current liabilities with cash and cash equivalents.

3.8 Leverage ratios

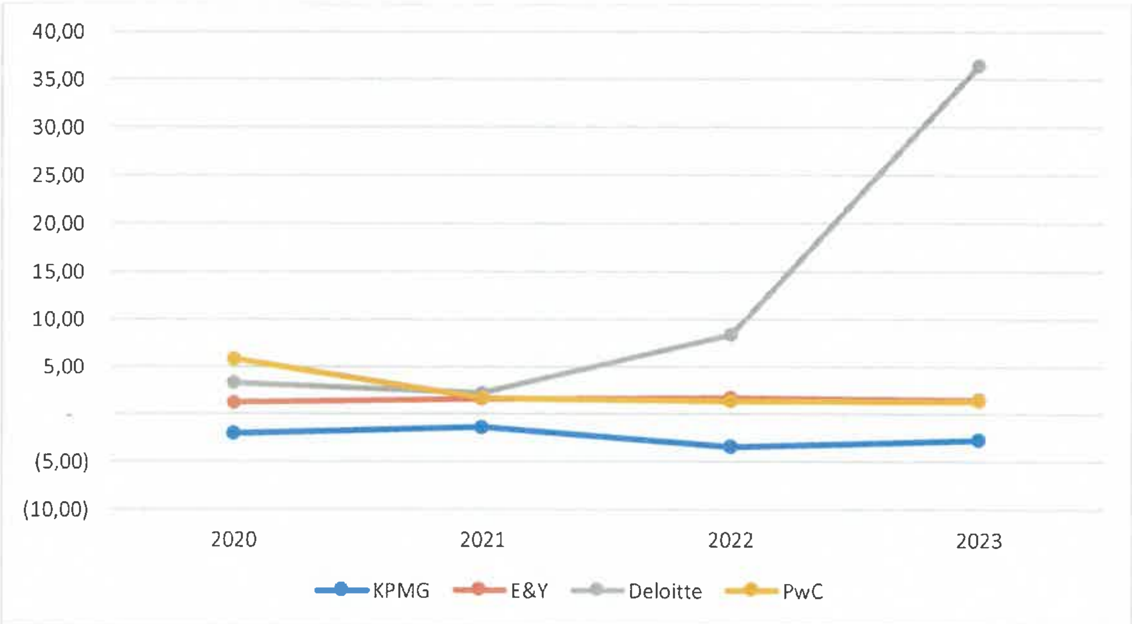
Leverage ratios determine whether the company's assets are being financed by debt or equity. They indicate the level of debt in comparison to other accounts in the balance sheet, cash flow statement or income statement. They show how well a company is using borrowed money as well as the company's solvency and capital structure. (Corporate Finance Institute, 2024)

3.8.1 Debt to equity

Debt to equity is a ratio that measures the balance between a company's total debt and liabilities and its total shareholders' equity. It determines whether a company relies more on debt or equity for financing. It includes all debt that consists of short-term and long-term debt as well as other fixed payment obligations. A higher debt-to-equity ratio means that a firm finances its operations with debt. The appropriate debt-to-equity depends on the industry. (Corporate Finance Institute, 2024)

$$Debt - to - Equity\ Ratio = \frac{Debt}{Shareholders'Equity} \tag{7}$$

Figure 7: Debt - to - equity ratio



Source: own work

Figure 7 shows that KPMG had a negative debt-to-equity ratio from 2020 to 2023, indicating that its liabilities exceeded its equity. The cause of this is negative retained earnings, which result in a negative value in shareholders' equity. This also means that liabilities exceed the company's total assets. This is a strong indicator of financial distress, signaling high financial risk and showing that the company is entirely reliant on debt to sustain its business.

EY's debt-to-equity ratio remained stable throughout the period, with a peak in 2022. This indicates a balanced approach to financing, with a slightly higher reliance on debt rather than equity.

Deloitte had the highest ratio, peaking in 2023 when the company had €36.43 in debt for every euro in capital. This reflects the highest reliance on debt among all the companies. The significant change in 2023 was due to a decline in net income by more than €300,000, leading to a lower value of shareholders' equity. Such a high ratio could indicate increased financial risk.

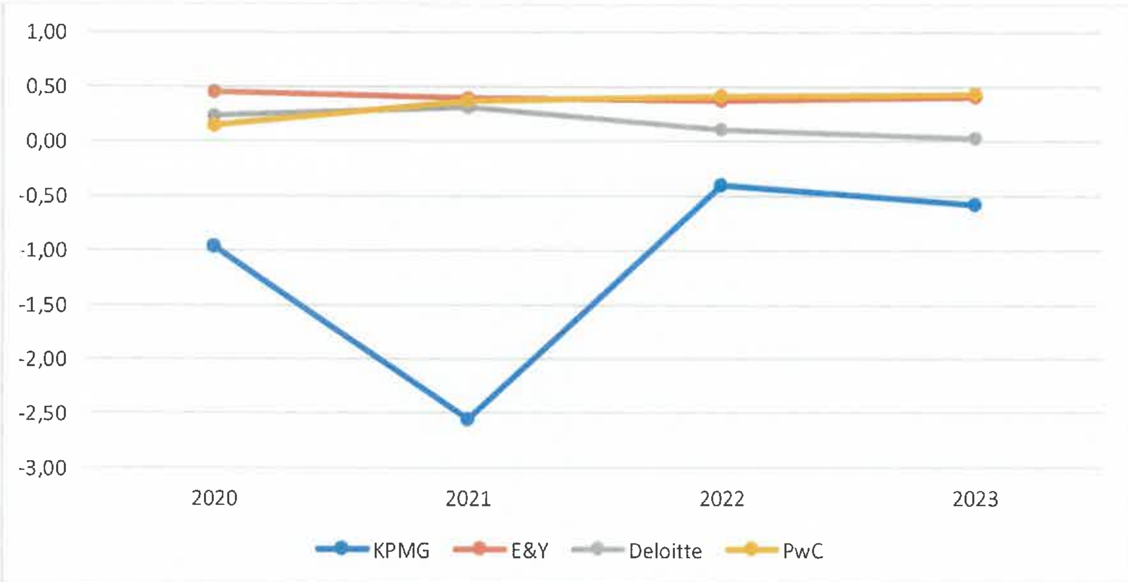
PwC, on the other hand, had its highest ratio of 5.79 in 2020, followed by a decline in subsequent years. This change signals an increase in shareholders' equity—in 2020, net income was negative but increased by approximately €368,000.

3.8.2 Equity ratio

It is a leverage ratio that measured the balance between shareholders' equity and total assets. It indicates the portion of a business that shareholders could claim in the event of a liquidation. (Corporate Finance Institute, 2024)

$$Equity\ Ratio = \frac{Shareholders'Equity}{Total\ Assets} \tag{9}$$

Figure 8: Equity ratio



Source: own work.

Figure 8 illustrates that EY was the most financially stable among all companies, with its equity ratio remaining stable throughout the entire period, ranging from 37% to 45%. This indicates that the company had a balanced capital structure, relying on both debt and equity, which suggests financial stability. PwC had the lowest ratio in 2020 at 15%, indicating that the company was relying on debt. However, shareholders' equity increased in 2021 and remained steady in the following years, which could suggest an increased reliance on equity. Deloitte relied more on debt than equity, experiencing a decline in 2022 and an even steeper decline in 2023 due to significantly lower shareholders' equity, primarily caused by negative retained earnings. KPMG showed a negative equity ratio, with the lowest value of -256% in 2021, resulting from a decline in assets as well as shareholders' equity due to negative retained earnings. This means that KPMG relies entirely on debt to finance its operations.

3.9 Employees and efficiency

3.9.1 Average number of employees

Table 5: Average number of employees 2020-2023

	2020	2021	2022	2023
KPMG	53,46	46,17	35,51	38,9
Ernst&Young	79,56	82,92	87,57	85,96
Deloitte	59,71	47,97	37,27	47,87
PwC	52,33	48,19	45,21	51,81

Source: own work.

Table 5 shows the average number of employees throughout the period from 2020 to 2023. EY shows the highest number of employees, with the number of employees relatively steady in all years. The average number of employees in EY is 84, Deloitte annually employees an average of 48 employees and PwC employs an average of 49 people per year. KPMG, Deloitte and PwC all show a slight decline in the number of employees from 2020 to 2022. An increase is seen from 2022 to 2023.

3.9.2 Annual revenue per employee

Table 6: Annual revenue per employee

	2020	2021	2022	2023
KPMG	44.298,23	52.058,31	75.300,63	101.054,21
Ernst&Young	73.935,38	77.526,33	79.903,21	86.875,16
Deloitte	87.477,55	117.343,61	147.637,61	134.035,86
PwC	57.753,83	83.310,21	99.212,05	104.781,24

Source: own work.

To determine the efficiency of employees it is important to determine the annual revenue per employee. This is shown in table 6, which shows that Deloitte has the highest revenue per employee amongst all companies, which suggests that their employees are the most efficient. They reached a peak in 2022, where an employee contributed on average 147,6 thousand EUR of revenue. The average annual revenue at Deloitte is 121,6 thousand EUR. In EY, the average is 79,5 thousand EUR whereas in PwC the average is 86,2 thousand EUR. Even though KPMG, Deloitte and PwC employ a similar amount of people, table 4 shows that KPMG has the lowest annual revenue per employee. This suggests that they are not as efficient as the comparing companies. As presented in table 4, an employee in KPMG contributes on average 57 thousand EUR in revenue.

3.9.3 Added value per employee

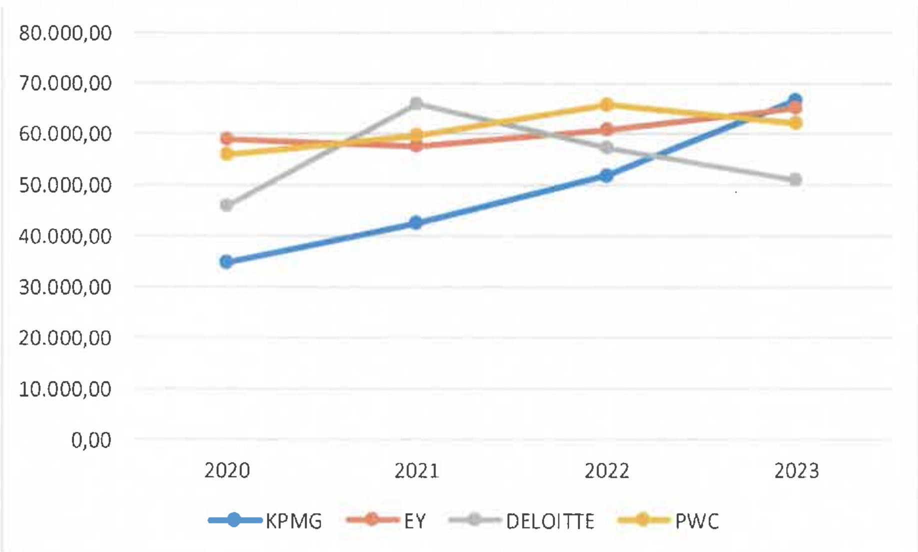
Table 7: Added value per employee

	2020	**2021**	**2022**	**2023**
KPMG	34.699,16	42.553,22	51.829,46	66.706,69
Ernst&Young	58.878,38	57.513,83	60.851,12	65.100,55
Deloitte	45.872,99	65.855,49	57.189,97	50.983,94
PwC	55.870,08	59.628,4	65.783,75	62.062,71

Source: Ebonitete.si

Table 7 shows the added value per employee. This is a key performance indicator that measures how much economic value each employee contributes to the company. This metric reflects not only the productivity of the workforce but also how effectively a firm manages its resources and structures its services.

Figure 9: Added value per employee



Source: Ebonitete.si

Figure 9 shows movement of added value per employee during the period from 2020 to 2023. During the observed period, KPMG showed growth, with value added per employee nearly doubling from €34,699.16 in 2020 to €66,706.69 in 2023, suggesting significant improvements in efficiency or a strategic shift toward higher-value services. EY maintained a consistently high performance, starting at €58,878.38 in 2020 and reaching €65,100.55 by 2023, with only a minor drop in 2021, indicating steady operational effectiveness. Deloitte, in contrast, exhibited variability, its value peaked at €65,855.49 in 2021 but dropped in the following years. This decline may point to challenges in maintaining cost efficiency or shifts in service delivery models. PwC showed minimal growth until 2022, followed by a slight drop in 2023, which may reflect external market pressures or internal adjustments in workforce or operations.

3.9.4 Average monthly salary per employee

Table 8 shows the average gross annual salary per employee, calculated by dividing the costs of salaries by the average number of employees.

Table 8: Average monthly salary per employee (in EUR)

	2020	2021	2022	2023
KPMG	2.645,71	2.786,64	3.299,59	3.517,21
Ernst&Young	2.832,32	2.998,52	2.981,58	3.037,34
Deloitte	1.856,19	2.133,67	2.642,59	2.549,46
PwC	2.704,83	3.179,44	4.074,17	3.505,85

Source: own work.

As presented above, PwC had the highest monthly salary per employee, with a peak salary of EUR 4,07 thousand and an average of EUR 3,3 thousand. Following with an average monthly salary of EUR 2,96 thousand is EY with a peak in 2023. KPMG shows an average monthly salary of EUR 2,91 thousand and lastly Deloitte shows the lowest value of EUR 2,29 thousand monthly on average. Across all companies a trend of slight increases from 2020 to 2023 in the average monthly salary can be seen.

4 THE ROLE OF TECHNOLOGY IN AUDITING

Improving technology has had a significant impact on the process of auditing. Firstly, digitalization enabled audits to be conducted using computer programs and no longer on paper, which made the process much more effective and faster. With fast improving technology in all areas, auditing has benefited from changes in the recent years with the development of artificial intelligence. Data-driven technologies have automated a lot of manual work such as routine tasks. This makes work faster as well as it minimizes the chance for mistakes (KPMG, n.d.).

AI will play a crucial role by increasing speed of audits as well as accuracy. This will happen in a way, that AI will be able to detect patterns and make predictions that outperforms human auditors. This is especially important when sampling data that is to be tested, it provides support and advice on how to conduct certain processes. In the recent years the question on how AI and human intelligence are different. Whereas artificial intelligence gives the most logical answer, human intelligence is driven by creativity, intuition and emotion, which are crucial traits when conducting an audit. Analysing large amounts of data and identifying anomalies is something AI excels at beyond human capability. However, setting strategic direction, navigating ethical complexities, and designing meaningful frameworks are tasks that still require human judgment and insight. This presents a key opportunity; while auditing heavily relies on accurate data extraction, true value comes from professionals engaging directly with clients to gain contextual understanding. It's this human perspective that ensures data is properly interpreted and turned into meaningful insights. Although AI is a great tool, it also presents certain risks, especially with security. Recent research shows that 54% of organizations experience challenges due to data security (KPMG, n.d.).

The ongoing issue is how auditors can ensure that AI systems meet the standards that are expected of them especially in a line of work where trust and security of data that auditors handle is incredibly important. To move forward with technology, firms will have to invest in technology and train their employees to learn how to work with these changes to stay competitive and reach their full potential (KPMG, n.d.).

5 CONCLUSION

The auditing profession in Slovenia became more important with the transition from a socialist economy to a market-driven economy. With its entrance into the European Union, Slovenia was obligated to follow the regulations and directives of the EU. Audits are conducted for PIEs as well as private corporations by audit companies such as the Big Four, which are the leading accounting firms in the world—KPMG, EY, Deloitte and PwC. These four companies audit the largest firms in Slovenia.

The financial analysis of KPMG, EY, Deloitte, and PwC shows clear differences in how each firm performs. KPMG has the weakest profitability, with negative return on assets and net profit margin across all years. Its return on equity is also negative, mainly because the company has negative equity. This shows that KPMG is in a poor financial position and struggling to manage its resources effectively. EY, by contrast, shows strong and steady profitability. It manages its assets and equity well, keeps costs under control, and earns solid profits year after year. Deloitte's profitability varies during the period, which suggests the company is affected by changing costs, even though its revenue remains strong. PwC had a weak year in 2020, with negative profitability, but has steadily improved since then. This shows that PwC has worked on growing its revenue and controlling costs, leading to better financial results over time.

Looking at efficiency, all firms have an asset turnover ratio above one, meaning they generate more revenue than the value of their assets. KPMG improved slightly from 2020 to 2021 by earning about the same revenue while using fewer assets. Still, this efficiency does not help much because the company continues to lose money, likely due to poor pricing or cost control. EY does not have the highest asset turnover, but it earns the most revenue overall, which supports its strong profitability. Deloitte keeps a steady asset turnover ratio, showing that it uses its resources consistently well. PwC leads in this area, with the highest asset turnover ratio. This means PwC gets the most revenue from its assets, which shows that its operations are lean and efficient.

The liquidity ratios show how well the firms can handle short-term financial needs. KPMG performs poorly again here, with low current and cash ratios, which means it may have trouble paying short-term debts. EY has a more stable liquidity position, with small changes over the years. This suggests that EY manages its current assets and liabilities carefully. Deloitte started with strong liquidity but saw a decline by 2023 because its cash decreased, and its liabilities increased. This may point to future problems if the trend continues. PwC improved its liquidity over time by increasing its current assets. This shows better short-term financial strength and supports its overall improvement.

Leverage ratios show how much the firms rely on debt compared to equity. KPMG again ranks lowest, as it has negative equity and relies entirely on debt. This creates serious financial risk and makes the firm less stable in the long run. EY has a healthy balance between debt and equity, which lowers financial risk and supports steady growth. Deloitte's debt levels rise, especially in 2023, when falling income caused its debt-to-equity ratio to increase sharply. This suggests growing financial pressure and more risk. PwC was highly leveraged in 2020 but improved its position by raising equity. This shift means PwC is now in a more stable position with less risk from debt.

This analysis concludes that KPMG shows weak performance in all areas—profitability, efficiency, liquidity, and leverage—which raises concerns about its financial future. EY stands out as the strongest and most stable firm, with consistently good results across all categories. Deloitte performs well in some areas but faces growing risks due to its reliance on debt and uneven profitability. However, the firm shows potential growth as it has the highest revenue per employee. PwC shows the most improvement, recovering from a weak starting point and moving toward stronger financial health. This analysis provides an overview of the financial strengths and weaknesses of the Big Four in Slovenia, highlighting the details of their financial strategies and overall financial health.

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