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Joint Audit and Stakeholder Perceptions: Empirical Study in Bulgaria

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Antoaneta Angelova-Stanimirova[*], Daniela Petrova[**], Snejana Bacheva[***], Iavor Bachev[****]

Abstract

Companies should concentrate on their chances to improve company operations, increase efficiency, and adjust to changes in order to gain a strategic advantage in the current complex business climate. Understanding how the business runs and how the control process is implemented is essential. The audit and its quality are among the most important matters. The provisions and execution of the joint audit are placed on the agenda following the modifications to the legal frameworks of Europe and Bulgaria. In the specialized literature, it is defined as an audit in which two different auditing firms form a joint opinion on the financial statements and are jointly and severally liable for the issued audit opinion. Through three categories of respondents, the purpose of this article is to empirically examine the perceptions of positive and negative aspects of the implementation of joint audit in Bulgaria. The results of the conducted research conclude a strong correlation between each specific positive aspect of the joint audit, regardless of the respondents' category – Supervisory institutions, Auditors, and Audited entities. So, the respondents acknowledge the advantages of joint audits and believe that enhancing these positive aspects will inevitably result in a rise in other positive aspects. The main recommendation for future research is to carry out an extensive investigation into the causal connections between the positive and negative individual correlations in a joint audit and cross-national research; analysis and proof are required to understand why joint audits work well in some circumstances while failing miserably in others.

Keywords: audit, joint audit, finance control, control, correlation analysis

JEL: M40, M42, M48

Introduction

The current business environment and complex landscape require from companies to focus on their opportunities about increasing efficiency, adapting to changes and improving business processes in search of a strategic advantage that will provide them with differentiation, increased competitiveness and corporate growth (Dai

[*] Department of Financial Control, Finance and Accounting Faculty, University of National and World Economy
[**] Department of Financial Control, Finance and Accounting Faculty, University of National and World Economy
[***] Department of Accounting and analysis, Finance and Accounting Faculty, University of National and World Economy
[****] Department of Financial Control, Finance and Accounting Faculty, University of National and World Economy

et al., 2024). It is crucial to understand how the business operates and manages its processes, how the company manages and influences them, and, in other words, how the control process is realized in the company (Lambovska, 2018).

The audit, as varieties of control idea derivatives (Nedyalkova, 2024), and their quality become the issues of primary significance. The two primary objectives of audits are increasing stakeholder confidence in the accuracy of information in the report and offering reasonable assurance that financial statements are free from material misstatements. After the changes in the European and Bulgarian legal context, the provisions and implementation of the joint audit are put on the agenda.

The present article's purpose is to empirically examine the perceptions of positive and negative aspects of joint audit in Bulgarian practice among three main categories of respondents: Supervisory institutions, Auditors, and Audited entities.

The following four research questions are answered in this article:

- What is the understanding of the "joint audit" concept, its features, and the legal context for its application?
- What is the methodological basis of the conducted research?
- What are the results of the empirical research on positive and negative aspects of the joint audit in Bulgarian practice?
- What are the correlations for positive and negative aspects of the joint audit in the Bulgarian practice in the direction of the three studied categories of stakeholders?

The research toolkit includes synthesis and analysis methods, descriptive statistics indicators and correlation analysis.

The study's limitations are related to the non-representative sample and the geographical location – in the territory of the Republic of Bulgaria. The study is not representative by nature, and generalizations are applied only to the research sample.

The article is divided into three main sections. The first section includes the theoretical background of the research area and answers the first research question aimed at understanding the research area. The second section answers the second research question and clarifies the methodology of the conducted research. The third section introduces the empirical results obtained, discusses the positive and negative aspects of the joint audit in Bulgarian practice, and answers the third and fourth research questions.

Theoretical background

There is a consentaneity in the specialized literature regarding the definition of a joint audit. It is widely believed that a joint audit is a procedure in which two separate audit companies review the financial statements of reporting entities. This involves a collaborative effort between the two auditor companies, resulting in a single report that is signed by both (Ratzinger-Sakel et al. 2013). Harber et al. (2023) emphasize that two auditor companies are required to approve the audit in a "joint audit". As a result, both auditors would be accountable for the audit opinion and audit liability. The main goal of joint audits (Kovermann and Velte, 2020) is to try to enhance auditor independence by having two auditors collaborate on a single engagement, with the assumption that they will mutually oversee each other. Proponents argue that this arrangement results in improved audit quality. Under Bianchi (2018), joint audits promote

knowledge transmission and enhance auditor expertise. He proposes that auditors acquire information and establish connections through collaboration, which has the potential to result in joint audit quality. The primary rationale for mandating or allowing joint audits is to enhance the caliber of the performed tasks (Nurunnabi et al. 2020).

The external auditor selection process is more intricate and distinct in a joint audit setting than in a single audit setting (Nekhili et al. 2023). In a competitive environment, audit engagement partners are obligated to collaborate. Client companies should then consider a variety of factors that are crucial for preventing audit failure, including the coordination issue between joint audit partners, the mutual planning of each audit process, the discussion of the audit strategy, and the negotiation with client firms. Additionally, the personal attributes of audit partners and their interpersonal style are of great importance.

Bhambhwani and Huang (2024) underscore that the literature on joint audits yields inconsistent proof regarding their impact on audit quality and believe that these inquiries are a promising area for future research. For instance, André et al. (2016) and Lesage et al. (2017) fail to establish a substantial correlation between joint audits and improved audit quality, contradicting Zerni et al. (2012), who determined that joint audits are associated with a higher quality of audit. Regardless of them, Deng et al. (2014) and Lobo et al. (2017) suggest that joint audits can result in a reduction in audit quality.

Interesting observations are seen in the following studies:

- Hoos et al. (2019) by Quick et al. (2024) state that joint audits led to a decrease in professional scepticism.
- Blockchain technology (Yang and Hsieh, 2024) enables partners to conduct joint audits and enhances the transparency of information, thereby fostering trust.
- In a joint audit scenario, Nekhili et al. (2022) contend that enhanced interaction between male and female partners in the joint auditor pair, through fostering collaboration and communication, grants a relative advantage to gender-diverse pairs over all-male partners.

A brief overview of the legal and documentary framework can be presented as follows:

According to Quick and Schmidt (2018), following the worldwide financial and economic crisis, the European Commission initiated a reform process to address particular requirements for statutory audits of public-interest companies. The aim of this reform is to regain public confidence in the reliability of financial statement audits. The audit market reform was completed by the European Parliament in April 2014 (European Parliament & Council of the European Union, 2014). In relation to the quality of audits, the new rule mandates that audit firms must rotate after a period of ten years (as stated in Article 17.1). According to Article 17.1, a public-interest corporation must hire a statutory auditor for a minimum of one year, and this engagement can be extended. Member States have the authority to mandate auditor retention, which means they can prolong the initial engagement time to more than one year and restrict the maximum duration to less than ten years (as stated in Article 17.2). Member States have the option to increase the maximum period to 20 years if they conduct a public tendering process for the statutory audit. They can extend it to 24 years if they want to execute a joint audit, as stated in Article 17.4. Once

the maximum time has passed, there is a mandated cooling-off period of at least four years before the auditor is allowed to conduct another statutory audit for the same client (as stated in Article 17.3).

In 2016, the Republic of Bulgaria implemented the Independent Financial Audit Act (IFAA) to comply with the provisions of Directive 2006/43/EC, as revised by Directive 2014/56/EU, and Regulation (EU) 537/2014, as stated by Bacheva et al. (2019). The Act includes substantial modifications, specifically on the audit of public-interest entities. A joint audit is conducted by two auditing firms and is mandatory for insurers, reinsurers, pension corporations, and credit institutions.

Research methodology

The development of the present study can be introduced to the following steps of work:

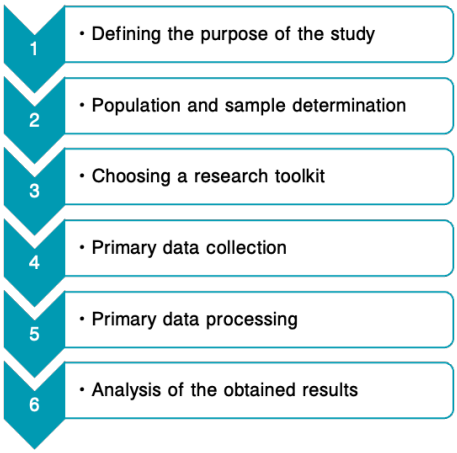

Figure 1. Research methodology (Adapted from Galster and Weyns, 2023)

The study was constructed in six main steps.

The first step of the study determines its objective: to empirically investigate the applicability of joint auditing for financial statements in Bulgaria through an analysis of the three stakeholders.

Determining the study population is the second step. All stakeholders involved in the joint audit constitute the general population.

The participants in the study can be divided into three categories. The first category consists of supervisory institutions. The second category consists of audit firms that have conducted joint audits (auditors). The third category consists of organizations which are subject to a joint audit (audited entities).

The general population of this study has the following form:

- Supervisory Institutions: 9 responses were received from different departments of three regulatory authorities (BNB, FSC, and KPNRO).
- Auditors: The auditors' population is limited to those who have performed a joint audit of financial statements in the last three years, which ensures the sustainability of the auditors' experience with the joint audit. These are 18 audit firms. Accordingly, 18 responses were received from the surveys sent to this group during the response

collection period. The percentage of responses received is 100.

- Audited Entities: According to data from the National Statistical Institute, as of the end of 2022, there are 25 credit institutions, 44 insurance companies, and 9 pension insurance companies in Bulgaria, managing 50 pension funds. In other words, the Audited Entities are 78, subject to joint audit according to Bulgarian legislation. The responses received in this survey from this category are 24, constituting 30.77%. Responses were received from all three groups subject to joint audit – credit institutions (10), insurance enterprises and reinsurance companies (10) and pension companies (4).

The cumulative total of respondents in this study is 51. In the first category, there are 9 respondents; in the second category, there are 18 respondents; and in the third category, there are 24 respondents.

The respondents included in the survey show a non-representative sample, as they have to meet criteria related to belonging to the relevant category and their knowledge and experience of joint audit.

In the next step, the researchers choose the research toolkit, an online questionnaire to collect empirical data. To this end, three questionnaires were developed to examine the applicability of the joint audit in Bulgaria in relation to the three identified interested categories of respondents. This study focuses on questions related to the positive and negative aspects of joint auditing. These questions use a Likert scale, with the most positive score being 1. Descriptive statistics will be used for analysis: mean and Pearson correlation coefficient. A descriptive statistic encapsulates a dataset's features. The most popular correlation coefficient is the Pearson correlation coefficient (Berman, 2016). It explains the direction and magnitude of the linear relationship between two numerical variables.

Primary data collection is carried out by distribution in electronic format through a link that directs the user to the relevant online form. The time required to complete the questionnaire is about 30 minutes. Respondents are allowed to complete the surveys over a period of two weeks so that they find enough time to complete the survey at a convenient and leisurely time for them.

The penultimate step was performed using the IBM software SPSS. This software provides the data presented in the following paragraph.

The exposition in the empirical results section presents the final step, which is the analysis of the results.

Empirical results and discussion

This paragraph focuses on the data collected in response to two main questions: the ranked items regarding the positive and negative effects of joint auditing. Tables 1 and 2 present the study's results using descriptive statistics and their arithmetic mean and the sample for the respondents in the three stakeholder categories.

Table 1 shows the summary results of the positive aspects of the joint audit identified by the researchers as: "Increases investor confidence"; "Increases the quality of audits"; "Enables more registered auditors to enter the market, reducing market concentration"; "The possibility of compromising independence is reduced"; "Enables technology transfer and promotes the promotion of good practices"; "Increases expert potential"; and "Reduces specific sample risk due to increased sample size and obtaining more

Table 1. The positive aspects of the joint audit

	Supervisory institutions		Auditors		Audited entities	
	Mean	N	Mean	N	Mean	N
A. Increases investor confidence (q1_1)	2,33	9	2,33	18	2,17	24
B. Increases the quality of audits (q1_2)	2,11	9	2,78	18	2,63	24
C. Enables more registered auditors to enter the market, reducing market concentration (q1_3)	2,44	9	2,59	17	2,42	24
D. The possibility of compromising independence is reduced (q1_4)	2,22	9	2,24	17	2,38	24
E. Enables technology transfer and promotes the promotion of good practices (q1_5)	1,89	9	2,29	17	2,30	23
F. Increases expert potential (q1_6)	2,11	9	2,41	17	2,50	24
G. Reduces specific sample risk due to increased sample size and obtaining more representative information (q1_7)	2,67	9	2,59	17	2,52	23

Source: SPSS data from the study

*Note: In column one, the abbreviations of the individual items studied for positive aspects are in parentheses. A five-point Likert scale was used to calculate the mean, with the most positive score being 1.

representative information". In the first category of respondents, 100% answered the question, while in the second and third categories, some respondents did not rank all the positive aspects of the joint audit. Across the three categories of respondents, there is a consistently high assessment of the positive aspects of joint audits. All means are under 3, which represents the middle of the possible score interval from 1 to 5. This clustering of high scores provides reassurance about the effectiveness of joint audits.

The first category of respondents – Supervisory institutions, ranks the positive elements of the joint audit as follows: the element of "Enables technology transfer and promotes the promotion of good practices" stands out with the highest score – 1.89, followed by two responses with a score of 2.11: "Increases the quality of audits" and "Increases expert potential". The results obtained in this category of respondents stand out from the others, as it is here that the highest average score – 1.89, of the entire survey was conducted. In parallel, this category also has the lowest average of 2.69 for the answer: "Reduces specific sample risk due to increased sample size and obtaining more representative information".

At Auditors, the second category of respondents, with the highest rating, is the element: "The possibility of compromising independence is reduced" – 2.24. In second place is the element "Enables technology transfer and promotes the promotion of good practices" – 2.29. Third place is for "Increases investor confidence", with a score of 2.33.

The last category of respondents, Audited entities, ranks their top three positive aspects of the joint audit as follows: "Increases investor confidence" – 2.17, with an average rating of 2.3 – "Enables technology transfer and promotes the promotion of good practices". Third place: "The possibility of compromising independence is reduced" – 2.38.

Table 2. The negative aspects of the joint audit

	Supervisory institutions		Auditors		Audited entities	
	Mean	N	Mean	N	Mean	N
A. Communication difficulties between auditors (q2_1)	3,63	8	3,56	18	3,25	24
B. Difficulty communicating with the client (q2_2)	3,25	8	3,94	18	3,71	24
C. The possibility that some aspects of the audit work may be duplicated and others omitted (q2_3)	3,13	8	3,72	18	3,39	23
D. Difficulties in reconciling different methodologies applied by the two auditors (q2_4)	3,50	8	3,33	18	3,33	24
E. Difficulties with the distribution of work (q2_5)	3,63	8	3,67	18	3,67	24
F. Greater customer engagement (q2_6)	3,75	8	3,22	18	3,26	23
G. Increase in audit costs (q2_7)	2,38	8	2,82	17	2,54	24
H. Limits the ability to provide additional services (q2_8)	3,63	8	3,39	18	3,30	23

Source: SPSS data from the study

*Note: In column one, the abbreviations of the individual items studied for negative aspects are in parentheses. A five-point Likert scale was used to calculate the mean, with the most positive score being 1.

The summarized results of the conducted research show that all respondents, regardless of their category, report in the top two the positive aspect of "Enables technology transfer and promotes the promotion of good practices", and only for Supervisory institutions this aspect is in the first place. It is striking that the positive aspects: "Increases investor confidence" and "The possibility of compromising independence" are in the top three in two of the categories by the respondents – Auditors and Audited entities, but their means are as high as in the first category of respondents for these aspects of the joint audit.

Regardless of the category the respondents are from, the positive aspects of joint audits are consistently reported with a high rating. This widespread support for joint audits across all respondent categories instils confidence in the future of this type of audit.

The summary findings of the joint audit's negative aspects are displayed in Table 2: "Communication difficulties between auditors", "Difficulty communicating with the client", "The possibility that some aspects of the audit work may be duplicated and others omitted", "Difficulties in reconciling different methodologies applied by the two auditors", "Difficulties with the distribution of work", "Greater customer engagement", "Increase in audit costs", and "Limits the ability to provide additional services".

The mean ratings of the negative aspects of the joint audit ranged from 2.38 to 3.94. The highest-rated negative aspect is in the first category of respondents – the Supervisory institutions, while the second category of respondents gives the lowest rating – Auditors.

The distribution of means among the three categories of respondents is:

Among the Supervisory institutions, "Increase in audit costs" stands out in first place with an average rating equal to 2.38. In second place, the aspect "The possibility that some aspects of the audit work may be duplicated and others omitted" is ranked with an average rating of 3.13. In third place,

with an average rating of 3.25, is "Difficulty communicating with the client".

The second category of respondents – Auditors – put "Increase in audit costs" in first place again, with a mean equal to 2.82, followed by "Greater customer engagement" – 3.22, and "Difficulties in reconciling different methodologies applied by the two auditors" in third place, with a mean of 3.33.

The Audited entities in the top three ranked the following negative aspects of the joint audit: "Increase in audit costs" – 2.54, "Communication difficulties between auditors" – 3.25, and "Greater customer engagement" – 3.26.

In connection with the presented results, the following findings can be made: the negative aspect of the joint audit – the "Increase in audit costs" – was ranked first by all three categories of respondents. The "Greater customer engagement" aspect is represented by the Auditors, and the Audited entities are in the top three negative aspects. The third category of respondents of the Audited organizations rated the negative aspects the most in general for the eight investigated aspects.

The resulting range of means of the results of this question strongly suggests that the negative aspects are less highly rated than the positive aspects. This balanced perception, with no clear clustering of scores in the first half of the Likert scale but rather a spread across the middle, indicates a comprehensive and fair assessment of the negative aspects of joint audits.

Appendices one to three present the interdependence between each of the investigated aspects of the joint audit – each with each positive aspect and each with each negative aspect – and the relationship between the positive and negative aspects divided by the category of the respondents.

The table's first row and first column show the coded names of the investigated aspects (Table 1 and Table 2). The correlation coefficients between the variable and itself are in the diagonal cells, which is why the value equals one. The values in the cells below and above this diagonal are the same because a double ratio of the individual aspects under study is formed due to their equal distribution vertically and horizontally. The table calculates the Pearson correlation coefficient, a measure of linear association. Statistically significant coefficients at $\alpha=0.05$ are marked with one asterisk, and those at $\alpha=0.01$ – with two asterisks.

Correlations for the first category of respondents are in the range of [-0.449; 0.953]. This range makes it possible to conclude that there is a very weak and strong correlation dependence in the results of the correlation analysis. The most strongly estimated relationship between the positive aspects is equal to 0.953 and is the correlation between "Increases investor confidence" and "Increases the quality of audits". This correlation gives reason to conclude that the two positive aspects of the joint audit are highly correlated, which means that when "Increases the quality of audits" aspect changes, there will also be a change in the other – "Increases investor confidence". The lowest estimated relationship equals 0.041 and is between "The possibility of compromising independence is reduced" and "Difficulty communicating with the client". According to this value of Pearson's coefficient, these two aspects of the joint audit lack correlation; in other words, the occurrence of changes in one aspect would not lead to changes in the other aspect. When reviewing the correlation dependences of the negative aspects of the joint audit, the strong correlation dependence

between the aspects of "The possibility that some aspects of the audit work may be duplicated and others omitted" and "Difficulties in reconciling different methodologies applied by the two auditors" is with a value equal to 0.793. *It is essential to note the facts that the strongest correlation is between two of the positive aspects of the joint audit, followed by correlations with the negative aspect "Communication difficulties between auditors" and the positive effect "The possibility of compromising independence is reduced" with a strong correlation dependence equal to 0.896. This result suggests that if communication difficulties between auditors exist, a greater likelihood of compromising independence can be expected. The correlations between the negative aspect "Communication difficulties between auditors" and the other six positive aspects of the joint audit with a significant correlation dependence, are in the range from 0.541 to 0.679. These data make it possible to conclude that the negative aspect, "Communication difficulties between auditors", has a significant correlation with all the investigated positive aspects of the joint audit, and a change in them would also lead to a change in it. An exception is "Reduces specific sample risk due to increased sample size and obtaining more representative information", as there is no causal relationship due to the fact that such a relationship is implied in the wording of the positive aspect itself.*

The second group category of respondents exhibits correlation dependences in the range of [-0.662; 0.914]. About this interval, it can be concluded that in this correlation analysis, there are both very weak correlation dependence and very strong correlation dependence, even significant negative correlation dependence. The most significant correlation dependence is with the two positive aspects, "Increases investor confidence" and "Increases expert potential", with a size of 0.914; therefore, when "Increases expert potential", has a positive change, a positive change will also be observed in "Increases investor confidence". The most insignificant correlation, or lack thereof, is between the positive and negative aspects "Enables more registered auditors to enter the market, reducing market concentration" and "Difficulty communicating with the client" – 0.006. The negative correlation dependence between the positive "Reduces specific sample risk due to increased sample size and obtaining more representative information" and negative aspects of the joint audit "Limits the ability to provide additional services" is with a value of -0.678. It can be defined as a random correlation since there is no reason that unites them. *A general overview of this correlation analysis allows for the conclusion that correlations between positive and negative aspects of joint auditing are either insignificantly correlated or significantly negatively correlated.*

The value of correlation dependencies for the third group of respondents is in the range of [-0.412; 0.785]. This analysis's correlations range from very weak to very strong positive correlation dependence and moderate negative correlation dependence. The correlation dependence of 0.785 is for the two positive aspects: "Increases expert potential" and "Reduces specific sample risk due to increased sample size and obtaining more representative information". For the reasons stated above, it should be excluded from the analysis. An absolute lack of correlation was observed for two relationships between positive and negative aspects of the joint audit with a value of 0, as follows: "Increases investor confidence" and "Communication

difficulties between auditors"; "Increases expert potential" and "Difficulties in reconciling different methodologies applied by the two auditors". *A review of the correlation analysis for the third group of respondents concludes that there are moderate to strong positive correlations between the positive aspects of joint auditing; for the negative aspects of the joint audit, results from no correlation dependence to a strong correlation dependence, as well as a weak negative correlation dependence between some of the considered aspects, are observed. The correlations between the positive and negative aspects of the joint audit have values that can, for the most part, be assessed as no or insignificant correlation (positive and negative) to a moderate negative correlation.*

The results of the three correlation analyses show that each of the three categories of respondents has its own opinion and shows different evaluations and correlations between the individual investigated positive and negative aspects of the joint audit. Regardless of the category of the respondents, the results show a strong correlation between the individual positive aspects of the joint audit. In other words, all three categories of respondents recognize the positive aspects of joint auditing and consider that an increase in each of them will also lead to an increase in the other positive aspects.

Conclusion

The study is dedicated to the question of how stakeholders in Bulgaria perceive the positive and negative aspects of the joint audit approach.

The research toolkit used in the article are synthesis and analysis methods, descriptive statistics indicators and correlation analysis.

Limitations of the study include the non-representative sample and the study's location. By its very nature, the study is not representative, and generalizations are only made to the research sample.

In the first section, "theoretical background", the authors synthesize the contemporary understanding and application of the concept of "joint audit", as well as its characteristics and the legal framework in which it is used.

The second section answers the second research question and describes the research methodology. The investigation was built in six primary phases. Establishing the study's goal is the first step in the process. Step two is to identify the study population. The general population is made up of all parties participating in the joint audit as stakeholders. Three categories might be used to group the study participants. 51 people have responded to this study overall. The survey participants who met the requirements for inclusion in the relevant category and for having knowledge and experience with joint audits constitute a non-representative sample. The researchers select the research toolbox, an online survey, in the fourth step. The delivery of primary data in an electronic format via a link. The IBM program SPSS was used to complete the primary data collection. The last step was the examination of the data.

The third section is focused on research questions three and four: what are the results of the empirical research on positive and negative aspects of the joint audit in Bulgarian practice, and what are their correlations of the three studied categories of respondents. The positive aspects of joint audits are routinely rated highly, regardless of the respondents' category. All respondents support joint audits, giving rise to optimism for this kind

of audit's future in Bulgarian practice. All three categories of respondents identified the "Increase in audit costs" as the most detrimental component of the joint audit. With no discernible score clustering, the range of means of the negative aspects of joint audits strongly implies that there is a balanced view. That suggests a thorough and impartial evaluation.

The results of this study, compared with other studies, in some cases produce diametrically opposed published conclusions. For example, Garcia-Blandon et al. (2021), citing the need to expand and update the available evidence, which is no longer sufficiently informative, subjected to a critical analysis of studies from the period 2016-2018, came to the conclusion that mandatory joint audits may even reduce audit quality.

Oliver Marnet (2022) reaches a different conclusion, according to which the chairs of Audit Committees, supervisory and regulatory authorities and auditors with experience in joint audits generally agree on a number of advantages of joint audits, emphasizing the contribution of cross-review, periodic task rotation and continuity to increasing auditor independence and professional scepticism. It should be noted that the two cited studies use a different approach and that Marnet's study is closer to the present study, which reports similar results.

Regarding the negative aspects of joint audits, the generalization in this study that all stakeholders perceive joint audits as inevitably associated with higher costs is consistent with the results of other authors (André et al., 2016). However, we do not examine specific scenarios that would lead to different outcomes of joint audits. Therefore, we cannot find a correspondence (or reject such a relationship) with the results of Henrike Biehl et al. (2021), who conclude that audit costs are at most as high as for a single audit if the difference in the expertise of the pair of auditors is slight and they balance the audit work.

The findings of the three correlation analyses demonstrate that each of the three respondent categories has a unique perspective and exhibits varying assessments and correlations between the variously examined positive and negative aspects of the joint audit. The results indicate a strong correlation between each specific positive aspect of the joint audit, regardless of the respondents' category. Put differently, the respondents belonging to all three categories acknowledge the advantages of joint auditing and believe that strengthening some positive aspects will inevitably lead to an increase in other positive aspects.

The survey was conducted to determine whether there are perceived net benefits from implementing a joint audit. The actual net benefits would require a different type of research based on measurable indicators. It is essential, however, whether auditors, audited entities and supervisory institutions feel that joint audits have advantages since these three groups of stakeholders represent different interests and their opinions should be made public to serve as a basis for discussion about the positive and negative sides and, therefore, the future of joint audits. We believe such studies can increase the legitimacy of possible regulatory decisions, such as introducing or refusing joint audits.

The following directions for future development can be highlighted:

- Conducting a thorough study of the cause-and-effect relationships between the positive and negative individual correlations in a joint audit. Studies can be conducted

at several levels: first, with the expert assessment; second, through experiment and detailed follow-up of inspection results through two experimental groups: first with joint audit and zero with the single audit.

- Systematic tracking of the opinion and significance of the compatibility audit among the three identified categories of respondents. Through comparative analysis, to establish the achievements and understanding in the research area and to identify the main threats and seek their causes, as well as tactics and strategies to overcome them.
- Creation of favourable models and studies on the impact of audit reforms and their successful incorporation and implementation in individual countries. Establishment of good practices and the possibility of their use and application in other countries.
- Seeking and pooling information to address knowledge gaps in countries yet to be thoroughly or consistently explored about joint audit practices and applications.
- There is a need for cross-country studies, analysis, and evidence to comprehend the reasons behind the success of joint audits in certain situations and their failure in others.
- Envision the potential benefits of collaboration among global academics and institutions in advancing our understanding of joint audits.

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References

André, P., Broye, G., Pong, C., Schatt, A., 2016. Are joint audits associated with higher audit fees?, *European Accounting Review*, 25 (2), pp. 245-274

Basheva, Sn., Petrova, D. and Bashev, J., 2019. The Joint Audit in Bulgaria - Issues and Prospects, *Economic Alternatives*, UNWE, (4), pp. 615-626

Berman, JJ., 2016. Data simplification: taming information with open source tools. Burlington, MA: Morgan Kaufmann, https://doi.org/10.1016/B978-0-12-803781-2.00004-7

Bhambhwani, S. M., Huang, A. H., 2024. Auditing decentralized finance, *The British Accounting Review*, 56 (2), 101270, ISSN 0890-8389, https://doi.org/10.1016/j.bar.2023.101270.

Bianchi, P. A., 2018. Auditors' joint engagements and audit quality: Evidence from Italian private companies. *Contemporary Accounting Research*, 35(3), pp. 1533-1577

Biehl, H., Bleibtreu, C., & Stefani, U., 2021. The Effects of Joint Audits on Audit Quality and Audit Costs: A Game-theoretical Explanation for Contradictory Empirical Results. SSRN Electronic Journal.

Dai, Y., Sun, S., Cao, R., Zhang, H., Chen, J., Geng, N., 2024. Residual levels and health risk assessment of trace metals in Chinese resident diet, *J. Environ. Sci.*, 136, pp. 451-459

Deng, M., Lu, T., Simunic, D.A., Ye, M., 2014. Do joint audits improve or impair audit quality?, *Journal of Accounting Research*, 52 (5), pp. 1029-1060

Galster, M., Weyns, D., 2023. Empirical research in software architecture — Perceptions of the community, *Journal of Systems and Software*, 202, 111684,

ISSN 0164-1212, https://doi.org/10.1016/j.jss.2023.111684.

Garcia-Blandon, J., Castillo-Merino, D., Argilés-Bosch, J. M., & Ravenda, D., 2021. Mandatory joint audit and audit quality in the context of the European blue chips. *Journal of Business Economics and Management*, 22(5), pp. 1378-1395. https://doi.org/10.3846/jbem.2021.14959

Harber, M., Maroun, W., Duboisée de Ricquebourg, A., 2023. Audit firm executives under pressure: A discursive analysis of legitimisation and resistance to reform, *Critical Perspectives on Accounting*, 97, 102580, ISSN 1045-2354, https://doi.org/10.1016/j.cpa.2023.102580.

Hoos, F., Pruijssers, J.L., Lander, M.W., 2019. Who's watching? Accountability in different audit regimes and the effects on auditors' professional skepticism, *Journal of Business Ethics*, 156 (2), pp. 563-575

Kovermann, J., Velte, P., 2019. The impact of corporate governance on corporate tax avoidance—A literature review, *Journal of International Accounting, Auditing and Taxation*, 36, 100270, ISSN 1061-9518, https://doi.org/10.1016/j.intaccaudtax.2019.100270.

Lambovska, M., 2018. A Fuzzy Model for Team Control and Its Application. *Management and Production Engineering Review*, 9(3), pp. 108-119, https://doi.org/10.24425/119540

Lesage, C., Ratzinger-Sakel, N.V., Kettunen, J., 2017. Consequences of the abandonment of mandatory joint audit: An empirical study of audit costs and audit quality effects, *European Accounting Review*, 26 (2), pp. 311-339

Lobo, G.J., Paugam, L., Zhang, D., Casta, J.F., 2017. The effect of joint auditor pair composition on audit quality: Evidence from impairment tests, *Contemporary Accounting Research*, 34 (1), pp. 118-153

Marnet, O., 2022. Joint audit and audit quality – Practitioners' insights, http://dx.doi.org/10.2139/ssrn.3912540

Nedyalkova, P., 2024. Concepts of the nature and development of control. In A. Derbali (Ed.), Recent Developments in Financial Management and Economics. IGI Global. pp. 14-25. https://doi.org/10.4018/979-8-3693-2683-1.ch002

Nekhili, M., Javed, F., Nagati, H., 2022. Audit partner gender, leadership and ethics: the case of earnings management, *J. Bus. Ethics*, 177 (2), pp. 233-260

Nekhili, M., Javed, F., Nagati, H., Manita, R., 2023. Homophily versus monitoring: Do all female board directors drive the gender assignment of audit partners?, *Journal of Accounting and Public Policy*, 42 (1), 107053, ISSN 0278-4254, https://doi.org/10.1016/j.jaccpubpol.2022.107053.

Nurunnabi, M., Donker, H., Jermakowicz, E., 2020. Joint audits and mutual ties of audit firm networks, *Business Horizons*, 63 (4), pp. 435-449, ISSN 0007-6813, https://doi.org/10.1016/j.bushor.2020.03.013.

Quick, R., Schmidt, F., 2018. Do audit firm rotation, auditor retention, and joint audits matter? – An experimental investigation of bank directors' and institutional investors' perceptions*, Journal of Accounting Literature*, 41, pp. 1-21, ISSN 0737-4607, https://doi.org/10.1016/j.acclit.2018.01.003.

Quick, R., Toledano, D.S., Toledano, J.S., 2024. Measures for enhancing auditor independence: Perceptions of Spanish non-professional investors and auditors, *European Research on Management and Business*

Economics, 30 (2), 100250, ISSN 2444-8834, https://doi.org/10.1016/j.iedeen.2024.100250.

Ratzinger-Sakel, N. V. S., Audousset-Coulier, S., Kettunen, J., Lesage, C., 2013. Joint Audit: Issues and Challenges for Researchers and Policy-Makers. *Accounting in Europe*, 10(2), pp. 175–199, https://doi.org/10.1080/17449480.2013.834725

Ratzinger-Sakel, N.V.S., Audousset-Coulier, S., Kettunen, J., Lesage, C., 2013. Joint audit: Issues and challenges for researchers and policy makers, *Accounting in Europe*, 10 (2), pp. 175-199

Yang, Y., Hsieh, Y., 2024. The critical success factors of smart port digitalization development in the post-COVID-19 era, *Case Studies on Transport Policy*, 17, 101231, ISSN 2213-624X, https://doi.org/10.1016/j.cstp.2024.101231.

Zerni, M., Haapamaki, E., Jarvinen, T., Niemi, L., 2012. Do joint audits improve audit quality? Evidence from voluntary joint audits, *European Accounting Review,* 21 (4), pp. 731-765

Appendix 1 – Correlation analysis ranked items on the positive and negative effects of joint auditing by supervisory institutions

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
q1_1	Pearson Correlation	1	,953**	,566	,718*	,669*	,756*	,866**	,613	-,271	,431	,254	-,161	,232	,122	,183
	Sig. (2-tailed)		,000	,112	,029	,049	,018	,003	,106	,517	,286	,544	,703	,581	,773	,664
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_2	Pearson Correlation	,953**	1	,431	,542	,638	,876**	,866**	,541	-,441	,427	,183	-,201	,378	,189	,138
	Sig. (2-tailed)	,000		,247	,132	,065	,002	,003	,166	,274	,291	,665	,633	,356	,655	,744
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_3	Pearson Correlation	,566	,431	1	,838**	,270	,216	,428	,674	,226	,532	,379	-,096	,249	,105	,172
	Sig. (2-tailed)	,112	,247		,005	,483	,577	,250	,067	,590	,175	,354	,821	,552	,804	,684
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_4	Pearson Correlation	,718*	,542	,838**	1	,343	,314	,415	,896**	,041	,540	,477	-,266	,383	,194	-,059
	Sig. (2-tailed)	,029	,132	,005		,366	,411	,267	,003	,924	,167	,232	,524	,349	,646	,890
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_5	Pearson Correlation	,669*	,638	,270	,343	1	,679*	,798**	,679	,114	,242	,267	-,272	,098	,400	,000
	Sig. (2-tailed)	,049	,065	,483	,366		,044	,010	,064	,788	,564	,522	,515	,818	,326	1,000
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_6	Pearson Correlation	,756*	,876**	,216	,314	,679*	1	,773*	,657	-,406	,339	,272	-,449	,646	,247	-,028
	Covariance	1,458	1,736	,444	,597	1,264	1,861	1,292	,679	-,500	,393	,286	-,464	,929	,607	-,036
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q1_7	Pearson Correlation	,866**	,866**	,428	,415	,798**	,773*	1	,637	-,063	,568	,442	,037	,162	,173	,395
	Sig. (2-tailed)	,003	,003	,250	,267	,010	,015		,090	,882	,142	,272	,930	,702	,681	,332
	N	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8
q2_1	Pearson Correlation	,613	,541	,674	,896**	,679	,657	,637	1	,379	,546	,635	-,290	,417	,122	-,236
	Sig. (2-tailed)	,106	,166	,067	,003	,064	,077	,090		,354	,161	,091	,485	,304	,773	,574
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_2	Pearson Correlation	-,271	-,441	,226	,041	,114	-,406	-,063	,379	1	,145	,426	,162	-,389	-,251	-,044

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
	Sig. (2-tailed)	,517	,274	,590	,924	,788	,318	,882	,354		,732	,292	,701	,341	,549	,918
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_3	Pearson Correlation	,431	,427	,532	,540	,242	,339	,568	,546	,145	1	,793*	,546	,372	,351	,257
	Sig. (2-tailed)	,286	,291	,175	,167	,564	,411	,142	,161	,732		,019	,161	,364	,394	,539
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_4	Pearson Correlation	,254	,183	,379	,477	,267	,272	,442	,635	,426	,793*	1	,381	,365	,160	,309
	Sig. (2-tailed)	,544	,665	,354	,232	,522	,514	,272	,091	,292	,019		,352	,374	,704	,456
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_5	Pearson Correlation	-,161	-,201	-,096	-,266	-,272	-,449	,037	-,290	,162	,546	,381	1	-,325	,122	,603
	Sig. (2-tailed)	,703	,633	,821	,524	,515	,264	,930	,485	,701	,161	,352		,433	,773	,114
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_6	Pearson Correlation	,232	,378	,249	,383	,098	,646	,162	,417	-,389	,372	,365	-,325	1	,449	-,264
	Sig. (2-tailed)	,581	,356	,552	,349	,818	,084	,702	,304	,341	,364	,374	,433		,265	,528
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_7	Pearson Correlation	,122	,189	,105	,194	,400	,247	,173	,122	-,251	,351	,160	,122	,449	1	-,165
	Sig. (2-tailed)	,773	,655	,804	,646	,326	,555	,681	,773	,549	,394	,704	,773	,265		,695
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
q2_8	Pearson Correlation	,183	,138	,172	-,059	,000	-,028	,395	-,236	-,044	,257	,309	,603	-,264	-,165	1
	Sig. (2-tailed)	,664	,744	,684	,890	1,000	,947	,332	,574	,918	,539	,456	,114	,528	,695	
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 2 – Correlation analysis ranked items on the positive and negative effects of joint auditing by audit firms that have conducted joint audits

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
q1_1	Pearson Correlation	1	,858**	,301	,881**	,634**	,732**	,588*	-,181	-,355	-,326	-,198	-,197	-,422	-,304	-,183
	Sig. (2-tailed)		,000	,241	,000	,006	,001	,013	,486	,162	,202	,447	,449	,092	,252	,482
	N	18	18	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_2	Pearson Correlation	,858**	1	,514*	,876**	,725**	,914**	,605*	-,390	-,407	-,585*	-,541*	-,420	-,502*	-,395	-,084
	Sig. (2-tailed)	,000		,035	,000	,001	,000	,010	,121	,105	,014	,025	,093	,040	,130	,748
	N	18	18	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_3	Pearson Correlation	,301	,514*	1	,276	,491*	,528*	,300	-,270	,006	-,281	-,417	-,417	-,198	-,243	,137
	Sig. (2-tailed)	,241	,035		,284	,045	,029	,243	,295	,980	,274	,096	,096	,445	,364	,600
	N	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_4	Pearson Correlation	,881**	,876**	,276	1	,546*	,739**	,550*	-,234	-,379	-,455	-,316	-,165	-,542*	-,256	-,194
	Sig. (2-tailed)	,000	,000	,284		,023	,001	,022	,367	,134	,067	,216	,528	,025	,338	,455
	N	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_5	Pearson Correlation	,634**	,725**	,491*	,546*	1	,862**	,648**	-,340	-,068	-,476	-,486*	-,398	-,073	-,265	-,235
	Sig. (2-tailed)	,006	,001	,045	,023		,000	,005	,182	,794	,053	,048	,114	,779	,321	,363
	N	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_6	Pearson Correlation	,732**	,914**	,528*	,739**	,862**	1	,603*	-,375	-,253	-,662**	-,631**	-,471	-,371	-,316	-,016
	Sig. (2-tailed)	,001	,000	,029	,001	,000		,010	,138	,327	,004	,007	,056	,143	,232	,951
	N	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17
q1_7	Pearson Correlation	,588*	,605*	,300	,550*	,648**	,603*	1	-,442	-,480	-,289	-,500*	-,279	-,355	-,464	-,678**
	Sig. (2-tailed)	,013	,010	,243	,022	,005	,010		,076	,051	,261	,041	,279	,163	,070	,003
	N	17	17	17	17	17	17	17	17	17	17	17	17	17	16	17
q2_1	Pearson Correlation	-,181	-,390	-,270	-,234	-,340	-,375	-,442	1	,741**	,753**	,778**	,746**	,408	,436	,268
	Sig. (2-tailed)	,486	,121	,295	,367	,182	,138	,076		,000	,000	,000	,000	,093	,080	,283
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_2	Pearson Correlation	-,355	-,407	,006	-,379	-,068	-,253	-,480	,741**	1	,538*	,435	,619**	,557*	,417	,263
	Sig. (2-tailed)	,162	,105	,980	,134	,794	,327	,051	,000		,021	,071	,006	,016	,096	,293

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_3	Pearson Correlation	-,326	-,585*	-,281	-,455	-,476	-,662**	-,289	,753**	,538*	1	,791**	,755**	,413	,450	-,050
	Sig. (2-tailed)	,202	,014	,274	,067	,053	,004	,261	,000	,021		,000	,000	,088	,070	,843
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_4	Pearson Correlation	-,198	-,541*	-,417	-,316	-,486*	-,631**	-,500*	,778**	,435	,791**	1	,620**	,484*	,582*	,187
	Sig. (2-tailed)	,447	,025	,096	,216	,048	,007	,041	,000	,071	,000		,006	,042	,014	,457
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_5	Pearson Correlation	-,197	-,420	-,417	-,165	-,398	-,471	-,279	,746**	,619**	,755**	,620**	1	,334	,445	-,154
	Sig. (2-tailed)	,449	,093	,096	,528	,114	,056	,279	,000	,006	,000	,006		,175	,073	,541
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_6	Pearson Correlation	-,422	-,502*	-,198	-,542*	-,073	-,371	-,355	,408	,557*	,413	,484*	,334	1	,382	,082
	Sig. (2-tailed)	,092	,040	,445	,025	,779	,143	,163	,093	,016	,088	,042	,175		,130	,745
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18
q2_7	Pearson Correlation	-,304	-,395	-,243	-,256	-,265	-,316	-,464	,436	,417	,450	,582*	,445	,382	1	,370
	Sig. (2-tailed)	,252	,130	,364	,338	,321	,232	,070	,080	,096	,070	,014	,073	,130		,143
	N	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17
q2_8	Pearson Correlation	-,183	-,084	,137	-,194	-,235	-,016	-,678**	,268	,263	-,050	,187	-,154	,082	,370	1
	Sig. (2-tailed)	,482	,748	,600	,455	,363	,951	,003	,283	,293	,843	,457	,541	,745	,143	
	N	17	17	17	17	17	17	17	18	18	18	18	18	18	17	18

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 3 – Correlation analysis ranked items on the positive and negative effects of joint auditing by organizations that are subject to a joint audit

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
q1_1	Pearson Correlation	1	,615**	,367	,679**	,665**	,622**	,693**	,000	,172	,032	,069	-,105	-,038	-,004	-,204
	Sig. (2-tailed)		,001	,078	,000	,001	,001	,000	1,000	,421	,885	,748	,625	,862	,987	,350
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q1_2	Pearson Correlation	,615**	1	,557**	,417*	,727**	,726**	,666**	-,285	,038	-,179	,070	-,033	-,285	-,248	-,377
	Sig. (2-tailed)	,001		,005	,043	,000	,000	,001	,176	,859	,413	,747	,878	,187	,242	,076
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q1_3	Pearson Correlation	,367	,557**	1	,428*	,647**	,426*	,390	-,062	,076	-,126	,033	,016	,022	,313	-,248
	Sig. (2-tailed)	,078	,005		,037	,001	,038	,066	,773	,725	,568	,879	,943	,920	,137	,255
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q1_4	Pearson Correlation	,679**	,417*	,428*	1	,650**	,502*	,353	-,013	-,116	-,111	-,182	-,230	-,015	,188	-,146
	Sig. (2-tailed)	,000	,043	,037		,001	,012	,098	,953	,590	,615	,394	,279	,947	,379	,507
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q1_5	Pearson Correlation	,665**	,727**	,647**	,650**	1	,722**	,657**	-,126	,069	-,391	-,100	-,381	,261	,399	-,005
	Sig. (2-tailed)	,001	,000	,001	,001		,000	,001	,566	,756	,065	,650	,073	,229	,059	,981
	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
q1_6	Pearson Correlation	,622**	,726**	,426*	,502*	,722**	1	,785**	-,382	-,091	-,236	,000	-,172	,013	,057	-,208
	Sig. (2-tailed)	,001	,000	,038	,012	,000		,000	,066	,672	,279	1,000	,422	,954	,790	,340
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q1_7	Pearson Correlation	,693**	,666**	,390	,353	,657**	,785**	1	-,373	-,061	-,107	-,189	-,412	-,004	,035	-,128
	Sig. (2-tailed)	,000	,001	,066	,098	,001	,000		,080	,783	,628	,387	,051	,987	,874	,561
	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
q2_1	Pearson Correlation	,000	-,285	-,062	-,013	-,126	-,382	-,373	1	,652**	,335	,291	,459*	,422*	,067	,169
	Sig. (2-tailed)	1,000	,176	,773	,953	,566	,066	,080		,001	,119	,167	,024	,045	,754	,440
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q2_2	Pearson Correlation	,172	,038	,076	-,116	,069	-,091	-,061	,652**	1	,449*	,247	,467*	,340	,018	,074
	Sig. (2-tailed)	,421	,859	,725	,590	,756	,672	,783	,001		,032	,245	,021	,112	,932	,736

		q1_1	q1_2	q1_3	q1_4	q1_5	q1_6	q1_7	q2_1	q2_2	q2_3	q2_4	q2_5	q2_6	q2_7	q2_8
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q2_3	Pearson Correlation	,032	-,179	-,126	-,111	-,391	-,236	-,107	,335	,449*	1	,432*	,600**	-,010	-,224	-,099
	Sig. (2-tailed)	,885	,413	,568	,615	,065	,279	,628	,119	,032		,040	,002	,964	,305	,653
	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
q2_4	Pearson Correlation	,069	,070	,033	-,182	-,100	,000	-,189	,291	,247	,432*	1	,637**	,168	-,039	-,007
	Sig. (2-tailed)	,748	,747	,879	,394	,650	1,000	,387	,167	,245	,040		,001	,443	,857	,976
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q2_5	Pearson Correlation	-,105	-,033	,016	-,230	-,381	-,172	-,412	,459*	,467*	,600**	,637**	1	-,026	-,267	-,013
	Sig. (2-tailed)	,625	,878	,943	,279	,073	,422	,051	,024	,021	,002	,001		,907	,208	,953
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q2_6	Pearson Correlation	-,038	-,285	,022	-,015	,261	,013	-,004	,422*	,340	-,010	,168	-,026	1	,765**	,630**
	Sig. (2-tailed)	,862	,187	,920	,947	,229	,954	,987	,045	,112	,964	,443	,907		,000	,001
	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
q2_7	Pearson Correlation	-,004	-,248	,313	,188	,399	,057	,035	,067	,018	-,224	-,039	-,267	,765**	1	,510*
	Sig. (2-tailed)	,987	,242	,137	,379	,059	,790	,874	,754	,932	,305	,857	,208	,000		,013
	N	24	24	24	24	23	24	23	24	24	23	24	24	23	24	23
q2_8	Pearson Correlation	-,204	-,377	-,248	-,146	-,005	-,208	-,128	,169	,074	-,099	-,007	-,013	,630**	,510*	1
	Sig. (2-tailed)	,350	,076	,255	,507	,981	,340	,561	,440	,736	,653	,976	,953	,001	,013	
	N	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).