Virtual audit teamwork:

Working, learning, and delivering high audit quality virtually.

Foundation of Audit Research practice note

Iver Wiertz, i.wiertz@maastrichtuniversity.nl

Prof. Dr. Wim Gijselaers

Dr. Therese Grohnert

Prof. Dr. Roger Meuwissen RA

Prof. Dr. Ann Vanstraelen

Executive Summary

Objective

This practice note provides insights into the FAR project 'Virtual Audit Teamwork'. Based on survey and interview results, we address three questions:

1. *How is audit quality perceived in strictly remote and hybrid working conditions?*
2. *What are strategic advantages, lessons learned, and structural challenges of virtual teamwork for the auditing profession?*
3. *To what extent do auditors wish to work virtually?*

Sample & Procedure

In total, 624 auditors participated in two surveys where they responded to questions on virtual teamwork, leadership, and team performance. This report shares insight into how auditors' perceptions of 24 audit quality facets changed over time due to varying degrees of virtual teamwork.

Key Findings

We find that virtual teamwork offers the auditing profession strategic advantages and valuable lessons, but it also presents structural challenges. Virtual teamwork is therefore not exclusively good or bad, but it offers a firm a trade-off between advantages and disadvantages.

As *advantages*, we identify that the quality and efficiency of an audit are perceived to be high while improving the working conditions of the audit profession. Furthermore, we document that virtual teamwork can promote the integrity of the auditing profession, that firms are able to leverage the flexibility that virtual teamwork offers, and that firms have been able to learn valuable lessons regarding complex social processes and formalized training.

However, we also find *structural challenges* related to virtual teamwork. Our findings indicate that virtual teamwork might have a long-term impact on the development of auditors and that the socialization of new employees remains challenging. Furthermore, our results suggest that although virtual teamwork can offer improvements to the working conditions of the auditor, virtual teamwork does not reduce the extent to which auditors perceive budget or deadline pressure.

We classified each of the 24 facets of audit quality as either a strategic advantage, a lesson learned, or a structural advantage. For the full classifications we refer to the table below. For a more in-depth insight and background to our findings we refer to remainder of this feedback report.

Strategic Advantages	Lessons learned
The efficiency of the audit	Quality of the fraud brainstorm
Embedding of a quality-oriented culture	Job engagement
Quality of the audit	Development of technical skills
Less fraud by clients	
Innovation	
Attention for professionally sceptical behaviours	
Cutting corners	
Amount of evidence gathered	
Attention for ethical behaviour	
Work-life balance	
Staff retention	

Structural challenges
Budget pressure
Deadline pressure
Challenges related to first-year engagements
Learning on the job
Social capital
Training of new employees
Social dynamics within the firm
Social dynamics within the office
Professional development

Introduction and key objectives

The overall intention of the FAR project 'Virtual Audit Teamwork' is to explore *how virtual teamwork affects working, learning, and the quality of an audit engagement*. Furthermore, we aim to provide answers to practitioners on how best to manage the opportunities and potential risks of virtual teamwork, by exploring the research question:

> *What role does virtual teamwork play in audit quality?*

Given the societal function that auditors serve, coupled with the potential adverse effects of virtual teamwork and the accounting profession's long-term commitment to virtual work arrangements, understanding virtual teams is a consideration of the past and present, and future of the auditing profession. This practice note adds to the dialogue between practice and research on this topic, and addresses three key questions:

1. *How is audit quality perceived in strictly remote and hybrid working conditions?*
2. *What are the strategic advantages, lessons learned, and structural challenges of virtual teamwork for the auditing profession?*
3. *To what extent do auditors wish to work virtually?*

In total, 624 auditors participated in two separate sample rounds where they responded to questions on virtual teamwork, leadership, and team performance.

Our sample consists of 203 audit staff members, 322 managers, and 99 directors/partners. Adding to these descriptives, we have also interviewed 37 auditors across six firms on their experiences of working virtually and how they perceived this to affect audit quality. We use the insights of these interviews to provide background and framing to the descriptive statistics related to the perceptions of the 24 audit quality facets. We hope these results provide more insight into the concerns surrounding virtual work and can help firms make informed decisions about remote work and virtual teamwork.

If you have any questions related to this practice note or would like to discuss the outcomes further, please feel free to contact us (i.wiertz@maastrichtuniversity.nl), and we would be happy to elaborate and further collaborate on this topic.

Approach

Based on a review of existing research, formal and informal talks with experienced auditors, input from FAR liaisons, and insights from the research team, we developed a list of 24 audit quality facets that might be impacted by virtual teamwork. We included this list of audit quality facets in two surveys administered to Dutch audit professionals, one in 2021, and one in 2022. The first survey allowed us to assess changes in perceptions of audit quality facets before and during COVID-19. This survey provides insight into how the radical switch to virtual teamwork and working under social distancing regulations and its potential impact on audit quality was perceived.

The second survey was administered in 2022. The circumstances this survey referred to were different from the previous year as social distancing measures had been lifted and on-site work was possible again. This survey allowed us to assess how hybrid work is perceived to impact audit quality in comparison to working strictly remotely.

In addition, we interviewed 37 auditors across six audit firms on their experiences of working virtually during 2021 and early 2022, allowing us to enrich the descriptive data from the survey with qualitative insights from the interviews.

survey 2-2022

Survey 1 -2

Pre-COVID19 - 2020
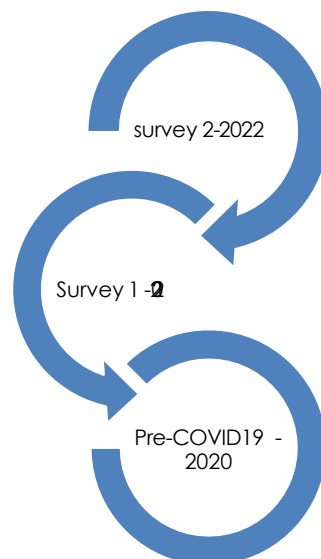
During both surveys, respondents indicated on a 5-point Likert scale whether they perceived a specific facet of audit quality to have improved or deteriorated as compared to the reference period, which is the year prior to the year the survey was administered. All scores above 3 indicate an improved perception of this audit quality facet whereas a score below 3 indicates a deteriorated perception of this audit quality facet. We calculated the mean of the perceived change for all the audit quality facets in the survey. We have responses from 346 auditors (131 staff auditor, 161 managers, 54 directors/partners) from survey 1, and 278 auditors (72 staff auditor, 161 managers, 45 directors/partners) from survey 2. For the full descriptives of this practice note, we refer to Appendix A, table 1.

I. How are facets of audit quality perceived in strictly remote and hybrid working conditions?

Survey 1 – Perceptions of audit quality facets during strictly remote working conditions.

Figures 1 and 2 show the positive and negative changes in auditors' perceptions of audit quality facets after a year of strict remote working conditions in 2021 as compared to their perceptions before the COVID-19 pandemic in 2020. During survey 1, respondents indicated on a 5-point Likert scale ranging from 1 = 'much lower than before' to 5 = 'much higher than before' whether they perceived a specific facet of audit quality to have improved or deteriorated as compared to the reference period, in this case 2020. In figure 1 and figure 2 the y-axis indicates the means of the perceived change over the respondents that participated in survey 1. All scores above 3 indicate an improved perception of this audit quality facet (figure 1), whereas a score below 3 indicated a deteriorated perception of this audit quality facet (figure 2). The facets have been sorted on whether they are a positive development or a negative development for this facet of audit quality. Furthermore, we arranged the audit quality facets in figures 1 and 2 from the highest perceived positive or negative change to the lowest from left to right.
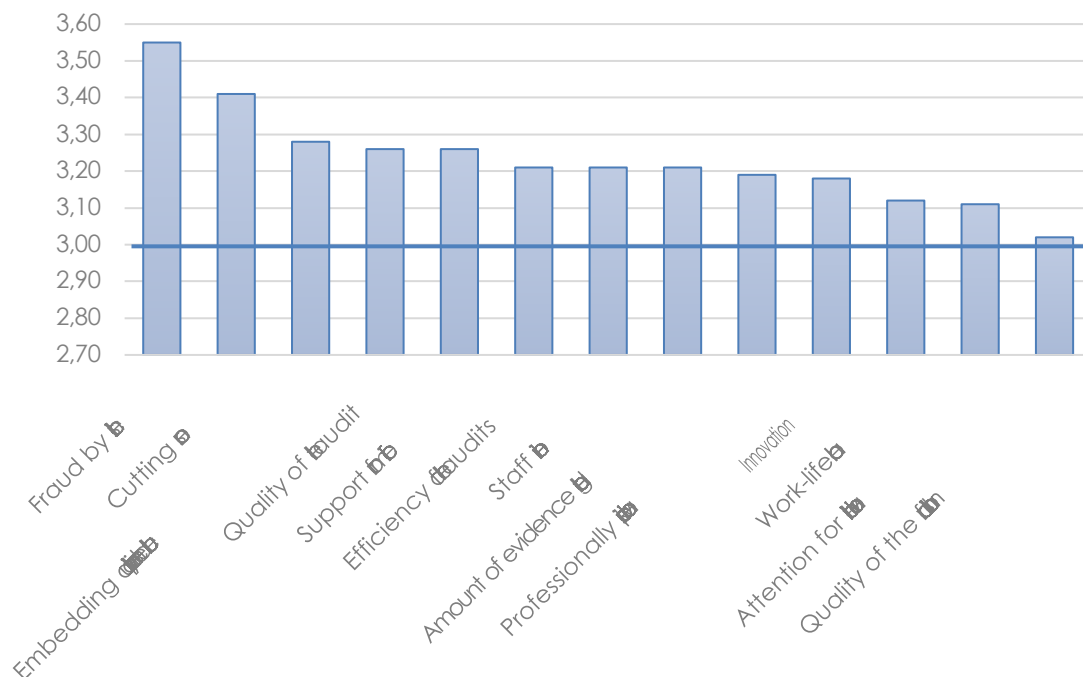

Figure 1. Perceived positive changes of audit quality facets in survey 1.
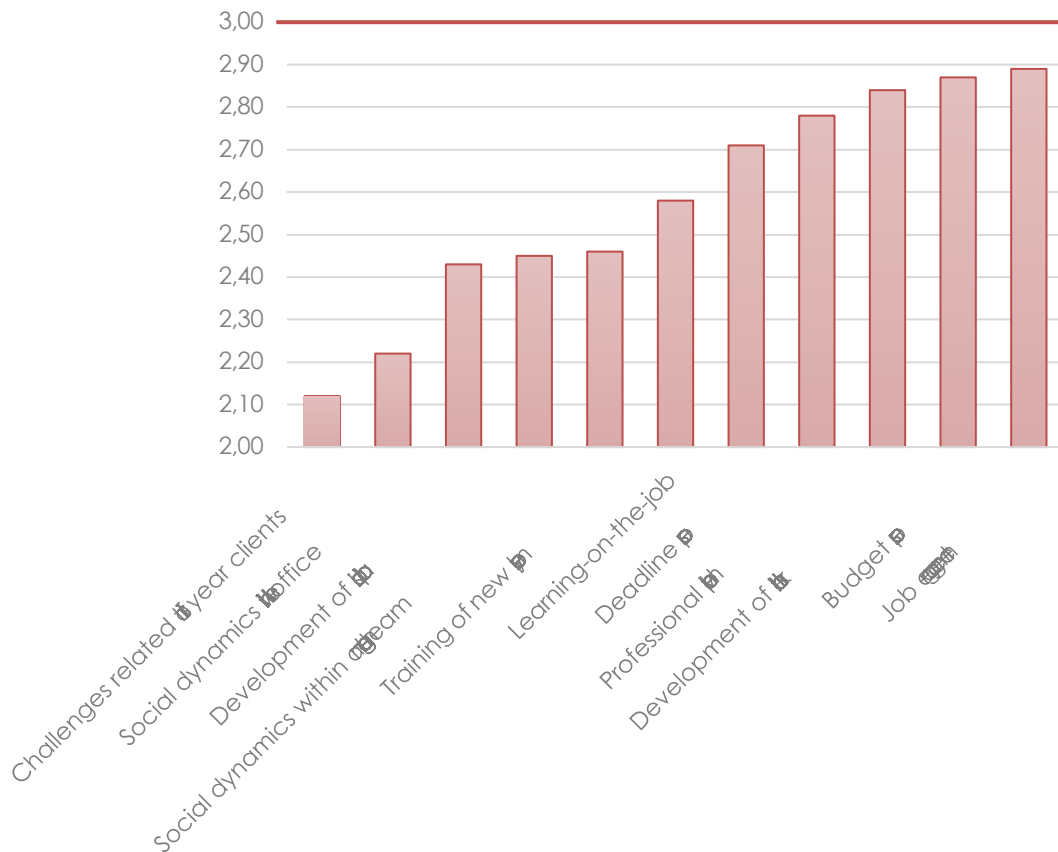
Figure 2. Perceived negative changes of audit quality facets in survey 1.

Findings survey 1

Based on these descriptive results and our interviews, our main findings are the following:

First, we find that auditors perceive *positive effects* of working remotely on the quality and efficiency of the audit. Related to the quality of the audit, interviewees indicated that clients are better able to answer questions and provide the relevant documentation required by the auditor necessary for a high-quality audit. Concerning the efficiency of the audit, interviewees indicated to be less distracted at home, that meetings are perceived to be more focused, and the reduction in travel time is now dedicated to improving the quality of the audit, as well as to a better work-life balance.

The second finding is that a virtual audit is perceived as more uncertain and that auditors exert additional effort to deal with this *uncertainty*. Although this key point might seem to contradict the previous key point, our respondents consistently indicated that the quality of an audit is more than sufficient, and remote or virtual work has not structurally affected the quality of an audit. However, our respondents indicate that they have less informal and background information. Because of the lack of this information, such as relevant anecdotal evidence about ongoing or future business deals and projects, the interviewees indicated that they initially felt less secure about the level of assurance they offered in a remote setting. Due to the limited physical presence, they might get a less rich picture of what is going on at the company.

However, due to the reduction in travel time and the capacity that was freed up by this, auditors engaged in more in-depth audit tests and additional audit work. Our respondents indicated that the actions they took, such as the gathering of additional evidence and additional consultations, were more than sufficient to counteract any risks associated with a remote audit. This narrative is reflected in the increased focus on sceptical and ethical behavior, the quality of fraud brainstorming, the amount of auditing evidence collected, and the decrease in cutting corners perceived by respondents in our survey.

Furthermore, our findings seem to suggest that the sudden changes in the way of working due to the COVID-19 pandemic can be seen as an *impetus for a culture change* in auditing. Concerning working arrangements, our interviewees mention the increased flexibility gained while collaborating virtually. They also illustrate a fundamental shift in point of view on remote work as a physical presence at the client's premises or in the office is now considered desirable, but no longer essential. Audit firms were forced to experiment, share knowledge, and innovate with new digital tools and working routines. Moreover, respondents felt more supported by their firm, experienced a more quality-oriented culture, a better work-life balance, and higher staff retention. Regarding this last facet, however, the effect might be temporary: auditors perceived fewer opportunities to change careers during the pandemic due to the inherent uncertainty.

In addition to the previously mentioned perceived positive effects, our respondents in the survey and the interviews indicated that there are also negative outcomes related to virtual teamwork.

First, our respondents universally express concern for the *social dynamics* within the engagement teams and the audit firm. Our respondents indicate that primarily communication with their colleagues is less intense, and it is much harder to develop both professional and personal familiarity with co-workers that are not part of your direct team. In addition, respondents indicate that it is much harder to have some more informal and incidental meetings with key members at client organizations. For many auditors, interactions with clients and colleagues are rewarding and enjoyable. Yet, all interviewees indicated that they miss these interactions when working remotely, even when their firm went to great lengths to support formal and informal contacts. This is reflected in the decreased perceptions of social dynamics within the office and the engagement team, and decreased job engagement. The findings from the survey and the interviews indicate that managing the social dynamics of audit teams while engaging in virtual teamwork will remain challenging.

A second negative outcome of virtual teamwork relates to audits that are performed for *first-year clients*. Auditors indicate that their perception of risk has increased especially with first-year clients. Interviewees mentioned that the procedures, practices, and key people within first-year client organizations are not yet known. A remote audit limits auditors in the extent to which auditors can build the desired familiarity to deliver a high-quality first-year audit.

Third, virtual teamwork is perceived to negatively affect auditors' *learning and professional development*. Respondents indicate that when they work virtually, they have the feeling that they are experiencing barriers to their learning and development as respondents are isolated from their teammates. This is concerning since auditing is a profession that is learned on the job, in close interaction with others that is a concerning realization. This isolation has several implications. First, respondents indicate that their learning and that of their colleagues suffer as they interact less with more experienced or skilled co-workers. Second, our respondents mention they feel they miss out on incidental learning by overhearing a discussion between partners and other high-ranked engagement members. Third, interviewees mention that asking questions to a supervisor is more difficult in a virtual setting, and when they do ask questions the 'back-and-forth' to answer questions is less intense. Fourth, respondents mention that it is often not only about knowing the right things but also to know the right people. However, when working remotely it is considered significantly harder to develop social capital as during informal on-site get-togethers. Interviewees noted that these challenges affect new and inexperienced colleagues more, while also more experienced auditors raised concerns about their long-term development. Overall, these observations suggest that auditors' professional development is challenged by prolonged periods of virtual teamwork.

Survey 2 – Perceptions of audit quality facets during hybrid working conditions.

Figures 3 and 4 show the positive and negative changes in auditors' perceptions of audit quality facets after a year of hybrid working conditions in 2022 as compared to their perceptions before the COVID-19 pandemic in 2021. During survey 2, respondents indicated on a 5-point Likert scale ranging from 1 = 'much lower than before' to 5 = 'much higher than before' whether they perceived a specific facet of audit quality to have improved or deteriorated as compared to the reference period, in this case 2021. In figure 3 and 4 the y-axis indicates the means of the perceived change over the respondents that participated in survey 2. All scores above 3 indicate an improved perception of this audit quality facet (figure 3), whereas a score below 3 indicated a deteriorated perception of this audit quality facet (figure 4). The facets have been sorted on whether they are a positive development or a negative development for this facet of audit quality. Furthermore, we arranged the audit quality facets in figures 3 and 4 from the highest perceived positive or negative change to the lowest from left to right.
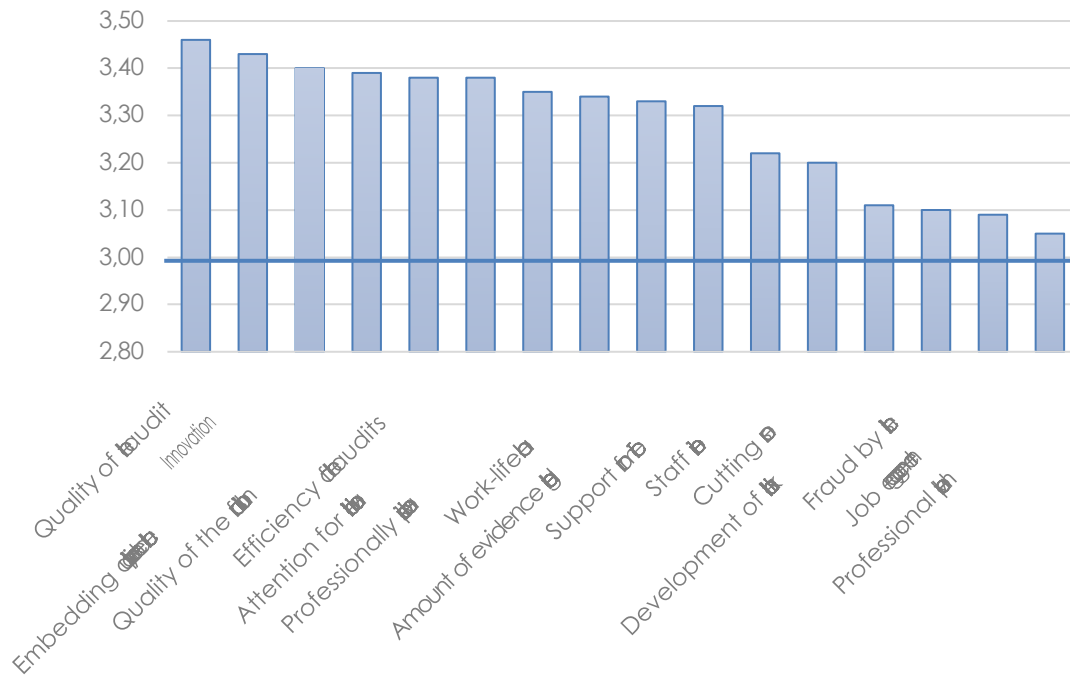
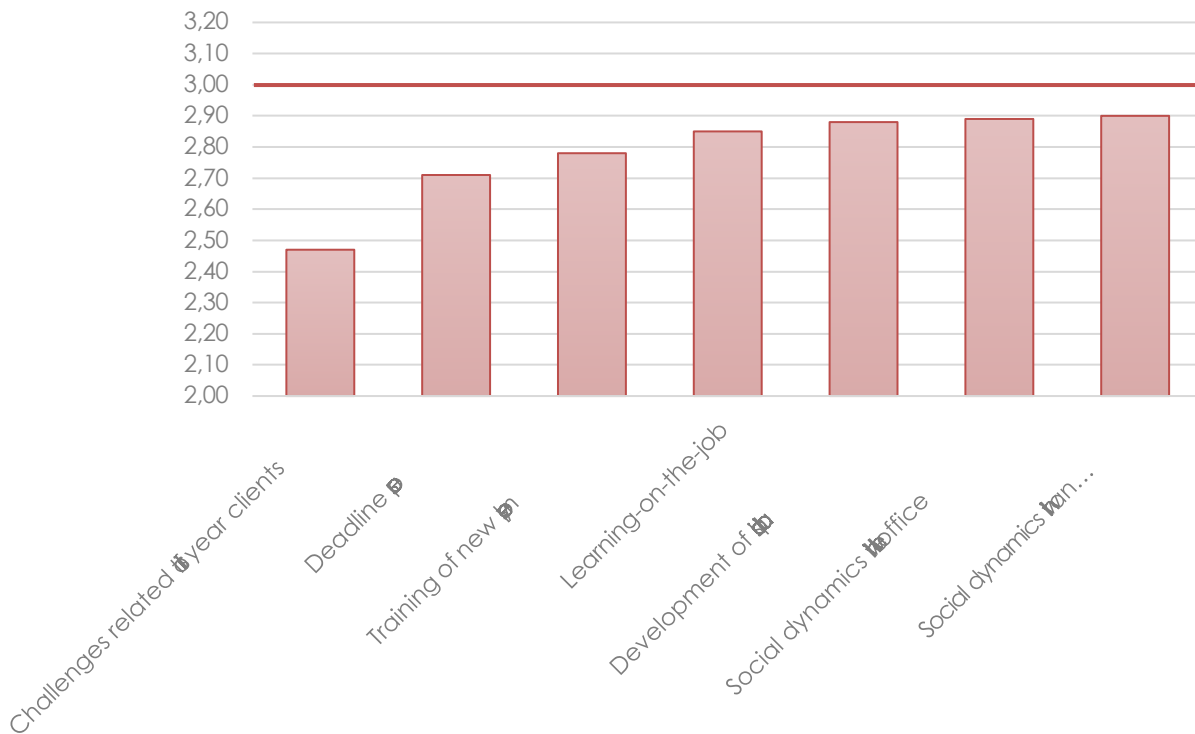*Figure 3.* Perceived positive changes of audit quality facets survey 2.

Figure 4. Perceived negative changes of audit quality facets survey 2.

Findings Survey 2

Based on these descriptive results and our interviews, we present the following findings. We compare the insights from the 2022 working environment which was characterized by a lower degree of virtuality with the working environment of 2021 which was characterized by a high degree of virtuality. It is important to note that the overall perceptions of the audit quality facets when working hybrid are fairly similar to the perceptions of audit quality facets when working strictly remotely. There are, however, some notable exceptions between working strictly remotely and in a hybrid manner, as both our survey data and interview data indicate.

We see an improvement in the perceptions related to the *development of technical skills and professional development* as our interviewees indicate that firms are now capable to host important and impactful training events face-to-face again. These events do allow for a better transfer of knowledge and a deeper interaction with materials that need to be studied. Our interviewees indicate that from the trainer's and the trainee's perspective, these initiatives were considered less effective and more strenuous to follow. However, our interviewees mentioned that specific training, shorter and more content-driven in nature, was more accessible. For these pieces of training hybrid arrangements substantially lowered the barriers to join as it eliminated a commute that would often outweigh the added value of joining the training. In addition, our interviewees indicate that the return to a training regime, that involved on-site training alleviated some concerns related to the development of auditors as it prevented the formation of a cohort of less or differently skilled auditors. In short, the possibility of returning to on-site training was welcomed because it improved the quality of the training, but also because it addressed concerns about professional development that existed when working remotely.

Second, our findings indicate that *job engagement* has improved under hybrid working conditions as compared to working strictly remotely. Related to this our interviewees mention that working hybrid offers the opportunity again to work from the firm's or client's office. Not only did this improvement reflect respondents' positive sentiment of the relaxing of social distance measures but also reflect a more structural point of view on their working arrangements. Our interviewees indicated they felt like they were getting a better deal when working remotely as they would get the best of remote work and they were getting more of the benefits of working on location. This allows for combining the perks of focussed individual work of remote work with the richer social experience that on-site work offers.

In addition to the previously mentioned improvements, some factors that have not improved provide some in-depth insights into how virtual teamwork is perceived within the auditing profession. Despite the increased opportunities for auditors to go back to the office and have more in-depth *social interactions*, we do not see this reflected in the social dynamics within the team or the firm. Our interviewees indicate that although they do have the opportunity to meet up with colleagues and key contacts within their client firms, these interactions are not as frequent and as rich as they were before COVID-19. Our interviewees speculate that this is mainly because they observe less attendance at the office as remote work is still considered a permanent fixture within

the auditing profession. Our interviewees raised the concern that due to this dichotomy between onsite and online colleagues, certain people are missing out on informally shared information and that these circumstances could potentially lead to fault lines within the team and firm. Furthermore, we observe that although technical skills and professional development have been perceived to increase when making the transition from strictly remote to hybrid working arrangements, this seems not to be the case for learning on the job, and the overall training of new employees. Due to the dichotomy in people working from home and the office, learning on the job is considered to still be hampered as team members miss out on incidental overhearing conversations between more experienced team members, or still experience barriers to asking questions to knowledgeable colleagues. A similar reason is mentioned for the limited extent to which auditors can develop social capital. As people are still working from home there are fewer opportunities for auditors to meet people outside of their regular social circle and have fewer opportunities to develop the personal and professional familiarity that is necessary to adequately develop social capital.

The persistent lowered perceptions of social dynamics within the team and the firm, learning-on-the-job, training of new employees, and the reduction in the build-up of social capital indicates that auditing is a social profession at heart but also that the profession has not yet returned to a level of social dynamics from before the pandemic.

II. What are the strategic advantages, lessons learned, and structural challenges of virtual teamwork for the auditing profession?

Considering the insights from both sample rounds and the interviews, we can shed light on the benefits, lessons learned, and challenges of virtual teamwork for the auditing profession.

Academic literature has identified a wide variety of strategic advantages and structural challenges related to virtual teamwork and we extend those with insights that are specific to the auditing profession. Academic literature mentioned the global availability of locally located talent, reduced travel time and expenses, and increased flexibility as strategic advantages to virtual teamwork. Concerning structural challenges, the literature mentions a wide variety of challenges such as challenges to leadership and communication, job engagement, and learning and development. The academic literature is relatively limited in providing insights on what challenges or advantages arise over a longer period of virtual teamwork. This FAR practice note adds understanding to the impact of virtual teamwork over two consecutive years of remote work with varying degrees of virtuality but also the lessons learned and potential challenges that arise over time.

To provide insight into where the opportunities and threats of virtual teamwork reside for the auditing profession, we grouped the facets of audit quality into three groups: strategic advantages, lessons learned, and structural challenges. We labelled an audit quality facet as a strategic advantage when it has been perceived as a persistent

positive contribution to the auditing profession and thus was
perceived to increase in both sample rounds. We employed a similar classification strategy for the structural challenges of virtual teamwork. If a facet of audit quality is persistently perceived as being diminished or decreased by virtual teamwork, we classify it as a structural challenge. If an audit quality facet is initially negatively impacted (or not significantly impacted) by virtual teamwork but shows a recovery over time we classify it as a lesson learned. For the classification of audit quality facets in strategic advantages, lessons

learned, and structural challenges, we refer to Figure 5.

Strategic Advantages	Lessons learned
The efficiency of the audit Embedding of a quality-oriented culture Quality of the audit Less fraud by clients Innovation Attention for professionally sceptical behaviours Cutting corners Amount of evidence gathered Attention for ethical behaviour Work-life balance Staff retention	Quality of the fraud brainstorm Job engagement Development of technical skills
Structural challenges	
Budget pressure Deadline pressure Challenges related to first-year engagements Learning on the job Social capital Training of new employees Social dynamics within the firm Social dynamics within the office Professional development	

Figure 5: Strategic advantages, lessons learned, and structural challenges related to virtual teamwork in the auditing profession.

Strategic advantages and lessons learned.

The first insight regarding the strategic advantages of virtual teamwork is related to the *perceptions of the quality and efficiency* of the audit. Respondents perceive these two facets of audit quality to be significant and persistently high during strictly remote working conditions and hybrid working conditions. Interviewees consistently mention that an audit with a remote component still has to adhere to the guidance and regulations that ensure high quality. Furthermore, the freed-up capacity due to reduced traveling time is partly reinvested into the audit. Concerning the efficiency of the audit our respondents mention that individual work is much more efficient when performed from home, with fewer disruptions and better focus. Furthermore, meetings have a better-structured format and agendas are more focused. Although the perception that

the efficiency and quality of the audit have not suffered due to virtual
teamwork in itself is powerful, this is even more powerful in conjunction with the perceived increase in staff retention and work-life balance. This indicates that it is possible through virtual teamwork to perform audits that are perceived as successful, while also creating a better environment for the audit employee to work in. Further investigation should be directed at whether the positive effect of virtual teamwork on personnel retention is causally related to virtual teamwork. Audit professionals might also have been less inclined to change jobs as there is more uncertainty related to their job prospects due to the economic impact and uncertainty related to the COVID-19 pandemic.

The second insight is related to structural advantages to the overall *integrity of the audit.* Our interviewees mention that there is additional attention paid to certain matters as they inherently consider a remote audit to be riskier. In addition, our interviewees mention that during the transition from on-site to remote work they felt that quality was a prime concern as much attention was directed at maintaining high quality and addressing risks to audit quality where they might exist. Further, acting ethically and in a professionally skeptical manner becomes even more important when working remotely. To this end, our interviewees have received guidance and training. Furthermore, our respondents indicate that the lack of visibility at the client has led them to be more skeptical of the evidence provided and how the evidence is delivered and presented by the client. Our interviewees mention that they want their clients to generate reports via screenshare, so the auditor can assess its reliability, and ask more questions related to the origins of certain documents or statements as their origin is harder to determine from the perspective of the auditor. In addition to these interview insights, the survey results indicate a persistent and significant positive impact of virtual teamwork on the embedding of a quality-oriented culture, attention to ethical and professionally skeptical behaviors, and the volume of evidence collected. Furthermore, our respondents perceive a decrease in the extent to which the auditor might be tempted to cut corners during an engagement. Overall, this indicates that virtual teamwork can bolster the integrity and appeal of the audit process and profession.

The third insight gained concerning structural advantages is related to the ability of the audit profession to *leverage the flexibility related to virtual teamwork*. As mentioned before, the transition from onsite to online forced the auditing profession to adopt an open mind toward new developments and working arrangements. Our interviewees mentioned a change in mentality in the profession. Perceptions surrounding virtual teamwork changed from remote work being only used under very strict conditions and limited circumstances to being a widely embraced and accepted way of working. The increase of flexibility that comes with increased acceptability of remote work is widely seen as a positive development that enables auditors to perform well at their jobs without making costly sacrifices to their private lives. In addition, our interviewees mention that after an initial phase of inertia, auditing firms are now embracing opportunities offered by remote work and trying to structure and incorporate this working arrangement to benefit the employee and the firm. Innovations in technology but also work design are capable of leveraging the potential offered by remote work. The findings of our surveys echo the points of view of our interviewees. Innovation and work-life balance are perceived to have been persistently positively affected by virtual teamwork. Internalizing innovations or restructuring existing working arrangements

requires skills and willingness on behalf of the firms. This indicates
that firms are capable of leveraging the flexibility that virtual teamwork offers by improving innovation and work-life balance.

This third insight is related to the ability of auditing firms to draw lessons from their experiences working remotely. Our interviewees and the findings of our surveys indicate that firms are capable of leveraging lessons learned in a virtual working environment over time. For instance, our findings seem to suggest that the complex dynamic and social processes underlying a fraud brainstorm can best be done face-to-face, as our respondents perceived an increase in quality when transitioning from performing these exclusively remote to a more hybrid setting. In addition, for certain facets of audit quality, we see a return to levels customary in face-to-face settings that were initially negatively impacted by virtual teamwork, such as the extent to which technical skills are developed, or the extent to which respondents feel engaged by their job. This indicates that firms have been able to learn valuable lessons concerning complex social processes and formalized training.

The fourth and last insight is related to the perception of the *likelihood of fraud* being committed. Our survey results seem to indicate that when working remotely the likelihood of fraud is perceived to be lower. Our interviewees mentioned that they have no reasons to suspect an increase in fraud during the initial stages of the COVID-19 pandemic and when working in a hybrid manner. The intuition behind this is generally that the person wanting to commit fraud does not have the same opportunity to do so due to virtual work. This finding contradicts previous academic literature showing that in times of crisis, the likelihood of fraud increases. Furthermore, we note that virtual teamwork can lead to ambiguity about the actions of others and allow individuals to 'operate under the radar' for longer periods of time, which could increase opportunities to commit fraud. Therefore, we call for future research on the likelihood of fraud in remote work.

> **Key insights strategic advantages and lessons learned:**
>
> - Respondents perceive the quality and efficiency of an audit as high when working remotely while improving the working conditions of the audit profession.
> - Virtual teamwork can act as a boost to the integrity of the auditing profession.
> - Firms are capable of leveraging the flexibility that virtual teamwork offers.
> - Firms have been able to learn valuable lessons concerning complex social processes and formalized training.

Structural challenges

There are several challenges to take into consideration when working remotely.

The first and main challenge of virtual teamwork is related to the *long-term development of auditors*. Considering that a large part of the auditing profession is learned on the job, the persistently perceived negative impact of virtual teamwork on

learning on the job can be considered worrisome. Participants in our interviews indicate that although the development of technical skills recovers when transitioning from strictly remote to hybrid working arrangements, this seems not to be the case for learning on the job and the overall training of new employees. Due to the dichotomy in people working from home and the office, learning on the job is considered to still be hampered as team members miss out on incidental overhearing conversations between more experienced team members, or still experience barriers to asking questions to knowledgeable colleagues. We should also note that our interviewees indicate that firms are better capable to host important and impactful training events in hybrid or face-to-face formats, but that specific training, shorter and more content- driven in nature, was more accessible in a remote environment. These hybrid training arrangements significantly lowered the barriers to participation as they eliminated a commute that would often outweigh the added value of joining the training. The risks of diminished learning on the job due to virtual teamwork might be the atrophy of necessary skills and the formation of cohorts of less or differently skilled employees over time. In the case of cohort formation, this has been a prime concern for the audit firms, particularly for professionals that recently entered the auditing profession. However, based on our interviews we have reasons to believe that these concerns might also apply to audit professionals that are further along in their careers. These audit professionals had fewer opportunities to coach, and mentor their subordinates, and thus fewer opportunities to develop managerial skills and leadership styles. In conclusion, the insights gained from our interviews and surveys indicate that virtual teamwork might have a long-term negative impact on the skill level and the development of auditors.

The second insight is closely related to the first. Audit professionals indicate that they experience a persistent negative influence on the *social dynamics* within the team and the firms and keep experiencing barriers to developing social capital. Despite the increased opportunities for auditors to go back to the office and have more in-depth social interactions, this does not seem to be reflected in the social dynamics within the team or the firm. Our interviewees indicate that although they do have the opportunity to meet up with colleagues and key contacts within their client firms, these interactions are not as frequent and as rich as they were before COVID-19. Our interviewees speculate that this is mainly because they observe less attendance at the office as remote work is still considered a permanent feature within the auditing profession. Our interviewees raised the concern that due to this dichotomy between onsite and online colleagues, certain people are missing out on informally shared information and that these circumstances could potentially lead to fault lines within the team and firm. These complex social processes are necessary to properly transfer the norms and values present within a firm to new incumbents and it appears that virtual teamwork acts as a barrier to these processes. The structural reduction in social dynamics in the firm and the engagement team can therefore negatively affect the socialization of new and inexperienced auditors.

The third insight may conflict with one of the strategic advantages. Although we see that virtual teamwork can create a working environment that is better capable of supporting audit professionals, our results also indicate *that budget and deadline pressure* remain persistently high. Interviewees add that during the initial transition, the

uncertainty and newness of the situation lead to an increased workload, further exacerbating work-related stress. During hybrid work, interviewees mention that whatever gain in productivity is realized due to virtual teamwork might either be offset by increased coordination efforts related to working remotely or factored in the setting of deadlines and budgets. Virtual teamwork, therefore, offers no real alleviation of the problems it encountered with budget and deadline pressure. These insights are reflected in persistent negative perception of deadline and budget pressure in both our survey rounds. Virtual teamwork therefore might not be the tool to alleviate the stress and pressure that is experienced by auditing professionals and firms need to further investigate methods of reducing stress and pressures to acceptable levels.

The fourth and last insight is related to the challenges that are present within a first-year engagement with a new client. As *new clients* are added to the portfolio, the auditor is not familiar with the client and its processes and procedures. Our interviewees mention that it is necessary to spend considerable time with the client to gain in-depth knowledge of the client's company and processes and develop the necessary social capital. More mature engagements are considered to be not impacted or only limitedly impacted by virtual teamwork, as the required familiarity with the client has been established and can be leveraged. Our survey findings reflect these concerns and indicate that the challenges of first-year clients are persistently perceived as high. Considering these circumstances, a first-year engagement might not be the most appropriate situation for virtual teamwork.

Key insights structural challenges:

- Virtual teamwork might have a long-term impact on the development of auditors.
- Virtual teamwork does not limit the extent to which auditors perceive budget or deadline pressure.
- The socialization of new employees remains challenging.
- First-year engagements are not the most suitable environment for virtual teamwork.

III. How would auditors like to work after the COVID-19 pandemic?

To explore the extent to which virtual teamwork is and will be part of the future of the auditing profession, we asked the respondents in both sample rounds about the number of days they would like to work from the office, the client, or the home office.

For sample one, respondents indicated that they would like to work from the office 1,5 days per week, from the client 1,8 days per week, and from home 1,8 days per week. For the second sample, respondents indicated that they would like to work from the office 1,9 days per week, from the client 1,5 days per week, and from home 1,6 days per week. This suggests that auditors' preferences to work at the firm's offices has increased after the COVID-19 pandemic. However, the respondent's preference to work from home has proven to be persistent, although with a slight decline. This decline could be due to the relaxation of the social distancing measures in-between the two sample rounds. Overall, these results show that virtual teamwork will continue to be an important factor in the audit practice.

PANEL A. SURVEY1
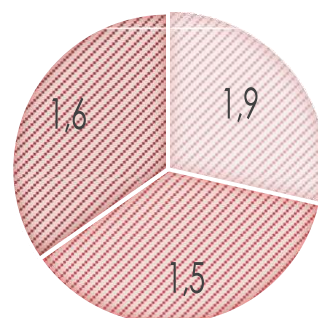■ Office ■ Client ■ Home
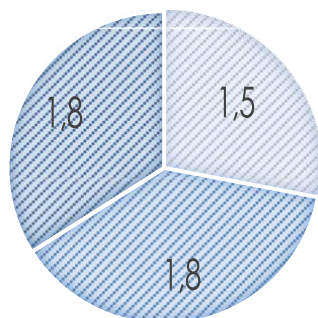
PANEL B. SURVEY 2
■ Office ■ Client ■ Home

Figure 3. Preferred vs. expected days working in the office, at the client, and from home.

Key insights:

- Auditors prefer to mainly work from the office or at the client's premises.
- Respondents prefer to work from home for one-third of their work week, namely between 1,8 and 1,6 days a week.
- We see an increase in preference to work at the office and less at the client's premises.

Appendix A: additional tables.

Table 1: Descriptive statistics for the perceptions of audit quality facets

	Survey 1		Survey 2	
	Mean	S.D.	Mean	S.D.
Quality of the audit	3,26 ***	0,760	3,46***	0,683
Efficiency of the audits	3,21 ***	1,021	3,38***	0,894
Budget pressure	2,87 **	0,871	2,84***	0,708
Deadline pressure	2,71 ***	0,837	2,71***	0,787
Staff retention	3,21 ***	1,092	3,22***	1,015
Attention for ethical behavior	3,11 **	0,774	3,38***	0,673
Professionally sceptic behavior	3,19 ***	0,791	3,35***	0,662
Cutting corners	3,41 ***	0,901	3,20***	0,736
Fraud by clients	3,55 ***	0,978	3,10 *	0,678
Quality of the fraud brainstorm	3,02	0,774	3,39 ***	0,716
Amount of evidence gathered	3,21 ***	0,774	3,33 ***	0,658
Embedding quality-oriented culture	3,28 ***	0,727	3,40 ***	0,638
Challenges related to first-year clients	2,12 ***	0,851	3,53 ***	0,826
Learning-on-the-job	2,58 ***	1,036	2,85 **	0,957
Development of social capital	2,43 ***	0,991	2,88 *	0,896
Development of technical skills	2,84 ***	0,849	3,11 **	0,787
Training of new employees	2,46 ***	1,047	2,78 **	1,036
Professional development	2,78 ***	0,769	3,05	0,721
Innovation	3,18 ***	0,850	3,43 ***	0,770
Social dynamics within an engagement team	2,45 ***	1,007	2,90	0,952
Social dynamics within the office	2,22 ***	1,081	2,89	0,986
Work-life balance	3,12 *	1,171	3,34 ***	0,943
Job engagement	2,89 **	0,747	3,09 *	0,655
Support from office	3,26 ***	0,800	3,32 ***	0,682

Notes: The means and standard deviations indicate the response given by participants on a 5-point Likert scale, scores above 3.00 indicate an improvement, and scores below 3.00 a deterioration of that audit quality facet. The stars behind the mean indicate whether the value significantly differs from 3.00. Significance is indicated with * $p < 0,05$, ** $p < 0,01$, and *** $p < 0,001$.