



Accounting for Transparency: a Framework and Three Applications in Tax, Managerial, and Financial Accounting

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Received: 4 December 2023 / Accepted: 6 November 2024
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Abstract This article presents how the Collaborative Research Center TRR 266 Accounting for Transparency understands and studies transparency in organizations and markets. Starting from our transparency definition, which is rooted in a sender/receiver framework, we discuss how accounting, taxation, and their regulation affect transparency and illustrate selected economic consequences of transparency. We use three analyses to exemplify our research approach. These analyses illustrate that (i) firms use tax literacy and tax advice as substitutes in their strategies to cope with signals sent by tax regulators about complex tax regulations, (ii) trade-offs between tighter management controls and employee motivation lead firms to design hybrid work environments that facilitate information exchange within the firm, and

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(iii) managers' understanding of how financial statement users benefit from firm disclosures affects the managers' assessments of disclosure regulation. Overall we argue that transparency is context-specific, hard to achieve, and often has ambiguous consequences. We conclude by highlighting selected transparency-related questions that interdisciplinary work with a particular emphasis on institutional details can meaningfully address.

Keywords Transparency · Financial accounting · Managerial accounting · Business taxation · Disclosure · Hybrid work · Management controls · Tax advice · Tax complexity · Tax literacy

JEL Classification M41; D82; H25; H32; L21; M12; J24

1 Introduction

The transparency of organizations such as firms, government agencies, and other organizations is a matter of public debate. Transparency—defined as the quality of information generated, distributed, received, and processed by economic agents—is an attribute of the communication between a sender and a receiver. The quality of information is comprised of its disclosure, accuracy, and clarity (Schnackenberg and Tomlinson 2016), where disclosure describes the availability of signals to and their reception by receivers, accuracy describes the precision of these signals, and clarity describes their understandability. Complementary to the focus of information economics (Arrow 1996), we focus on what makes signals informative, as signals per se are not necessarily correct, understandable, or decision-relevant. Information is the outcome of the sender/receiver signal exchange, and transparency is a central characteristic of this outcome.

Transparency can reduce economic frictions and improve decision-making, for example, by allowing better capital-market allocation decisions (e.g., Kelly and Ljungqvist 2012; Lang et al. 2012; Leuz and Wysocki 2016). However, transparency comes with costs. It can hinder risk sharing or contractual coordination, for example, by replacing reciprocal trust with costly monitoring or by destroying the option for insurance markets (e.g., Prat 2005; Fox and van Weelden 2012; Golman et al. 2017). Many disciplines study transparency. In the field of accounting research, until recently, transparency has predominantly been studied as a problem of disclosure regulation and information provision (e.g., Bushman and Smith 2003; Bushman et al. 2004; Barth and Schipper 2008; Lang and Maffett 2011). As such, research has focused on the role of the sender in the communication process. Research on the role of the receiver has emphasized behavioral biases in the perception and processing of published accounting information (e.g., Libby et al. 2002; Libby and Emett 2014). However, research is scarce on whether those potential misperceptions by individual receivers and the resulting processing costs cause frictions in the aggregate market perception of accounting information and thus affect market outcomes (e.g., Blankespoor et al. 2020). Also, research about the drivers and implications of misperceptions of complex regulatory information is scarce (e.g., Blaufus et al.

2022; Gassen and Muhn 2024). Moreover, research has mainly focused on the individual roles of senders or receivers and less on their interactions and potential interdependencies.

This article introduces some of the works of the Collaborative Research Center TRR 266 Accounting for Transparency that we established to transform the above approach to a holistic research program, embracing the sender as well as the receiver and, as such, the whole communication process. We explore how accounting and taxation influence transparency and how transparency affects society. Accounting and taxation affect transparency whenever they affect the quality of information distributed by the sender and processed by receiver. Senders can influence the quality of information by, for example, disclosing signals to a broader audience, appointing external auditors or advisors to enhance the signals' accuracy, or standardizing recurring signals to improve their clarity.

An important part of our work relates to the role of regulation. We study regulators as information senders and firms as well as other economic agents as receivers, together generating "regulatory transparency". We also investigate how transparency of regulation and transparency of firms translate into the perceptions and decisions of economic agents.

We develop this research program based on empirical evidence: While research in accounting documents impressive effects of information provision, both within firms and on markets (e.g., Hombach and Sellhorn 2019; Huang et al. 2020; Christensen et al. 2021; Lee et al. 2021), what generates these outcomes often remains vague. Recent studies have also shown that users often are unaware of information, struggle to understand it, or fail to act on it (e.g., De Simone et al. 2020; Joshi 2020; Overesch and Wolff 2021; Asay et al. 2024; Graham et al. 2017; Gassen and Muhn 2024). Influential survey studies, such as the work of Brown et al. (2015), have extended the understanding of the intermediation role of sell-side analysts. Bischof et al. (2020) provide relevant insights from the textual analysis of legislative documents on how politicians shape regulation in response to special-interest pressure. Stantcheva (2021) provides survey evidence on individuals' biased views of tax regulations, and Fochmann et al. (2022) about firms' tax-related misperceptions.

These micro-level findings are at least partly at odds with macro-level findings documenting that, at least in aggregate, firms react efficiently to regulation, that accounting information enhances firm decision-making, and that it improves the informational efficiency of capital markets. Our research program can be understood as an attempt to reconcile these different streams of literature. We want to understand whether and how transparency manifests in specific sender/receiver relationships and how it affects outcomes within firms, between regulators and firms, and between firms and markets.

To provide an overview of our work in this area, we will use the next section to introduce the transparency framework that forms the basis for our research. We will then present three exemplary analyses that showcase our research approach and the role of transparency in regulation. The first explores how the availability of tax literacy (internal tax knowledge) and the likelihood of firm losses relate to the demand for tax advice (external tax knowledge). We discuss the potential costs and benefits of using tax literacy and tax advice to navigate the complexity of tax

regulation, mitigate tax-related risks, and enhance firms' investment and financing decisions. Our findings are consistent with tax literacy and tax advice partly being substitutes. The second analysis discusses how the implementation of working from home (WFH) has shifted how firms and employees send and receive information to and from each other. It suggests that hybrid work, i.e., when employees spend some days of the week in the office and work from home during the other days, might be a pragmatic yet helpful approach, allowing workers to credibly signal their productivity while still enjoying the benefits of WFH. These signals mitigate information asymmetries of pure WFH environments and enable a more efficient provision of incentives. The third analysis uses data from a survey experiment to provide causal evidence on how the salience of arguments related to the costs and benefits of transparency affects the demand for transparency regulation by decision-makers in firms.

2 A Sender/Receiver Framework for Studying Transparency

We derive our transparency framework from the literatures in information science (e.g., Zins 2007), psychology (e.g., Schnackenberg and Tomlinson 2016), and economics (e.g., Arrow 1996). Information manifests in communicational exchange. An informed individual (the sender) generates and sends a signal. This signal is transmitted to a receiver. The receiver processes the signal and revises their personal priors accordingly. This change in priors constitutes information. The signal and its resulting information effect can be characterized by attributes, such as disclosure, accuracy, and clarity, and together these attributes reflect the transparency of the exchange and its resulting information.

Disclosure captures whether the sender makes his or her knowledge available by sending signals to the receiver and whether the receiver receives these signals. The accuracy of a signal describes its general ability to update priors, while the clarity of a signal describes its receiver-specific ability to update priors. While we acknowledge that the latter two constructs are not clearly disjunct and, in particular, the notion of a “general ability” of a signal to update priors is non-trivial to operationalize, we find these concepts, which are based on the literature in organization science (Schnackenberg and Tomlinson 2016), to be very helpful when studying transparency determinants and effects.

Our sender/receiver framework, also depicted in Fig. 1, widens the focus from the information outcome (a change of priors) to the process (the transmission of signals) and its resulting information effect. This shift in focus is instrumental for assessing the mechanism of whether and, if so, how transparency arises. Another advantage of our approach is that its drivers are—at least in principle—easier to observe. A change in prior beliefs can only be assessed by surveying the person or indirectly by observing changes in behavior and using theory to justify that these changes in behavior are the plausible result of a change in prior beliefs. In contrast, emitted signals and their precision can be observed, and it can also be observed who receives the signal. However, the act of signal processing is harder to observe, similar to the limits of observing changes in priors.

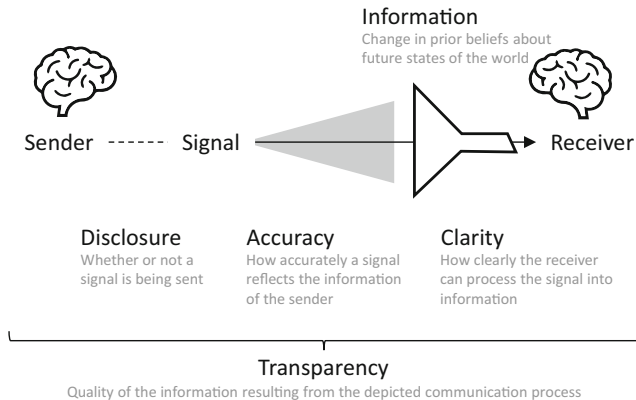


Fig. 1 Sender/receiver framework of transparency. Notes: This figure illustrates the sender/receiver framework. It depicts how the process (transmission of signals between senders and receivers) results in an information effect, which changes prior beliefs. It also shows that transparency, understood as the quality of information resulting from the communication process between sender and receiver, is determined by disclosure, accuracy, and clarity. Source: Own graphical illustration

As another key consequence of our framework, transparency is a sender/receiver-specific outcome. Its determinants are context-specific, encompassing a strong micro-level component. While regulation normally operates on a macro scale, the characteristics of the affected individual firm and its industry affect the firm's reception of these regulations. Then, in applying the regulation, firms disseminate regulated information by sending signals to receivers. To the extent that receivers differ in their capacity to receive, process, and interpret signals, the resulting information and its transparency effect will vary at the receiver level.

A strategic component of the sender/receiver framework also offers a link to findings of the information design literature (e.g., Bergemann and Morris 2019). Senders develop expectations about how receivers will respond to their signals. Given that senders cannot foresee the responses of receivers, this strategic component adds additional frictions: Senders might intentionally manipulate their signals, but this manipulation can fail if they are misinformed about the way that receivers will receive and process their signals. This strategic component becomes even more complex when regulators design information systems, as these build on expectations about firms as receivers and ultimately about stakeholders that receive the regulated signals from firms.

While the next sections showcase three exemplary studies that use this framework, as a first example of applying our framework, consider the Corporate Sustainability Reporting Directive (CSRD) of the European Union. Once transformed into national law, it will broaden the scope of required corporate sustainability reporting (CSR) disclosures, enhance their standardization, and increase the number of firms subject to this disclosure mandate. However, at least until now, many firms have not been fully aware of the full scope of this new regulation (see the evidence from the German Business Panel, June 2023; Bischof et al. 2024a), meaning that they failed to acquire the regulatory signal. Moreover, many firms lack the know-how and human

resources to apply the new regulation, even once it becomes more widely understood and mandatory, resulting in the regulatory signal at least currently lacking clarity for a significant subset of receivers. Turning to firms as senders, it is thus unclear whether firms can generate the signals required by the disclosure regulation. It is also unclear how accurate these signals will be. The next step will have to focus on the receiver of the CSR disclosures. Compared to more traditional financial disclosures, nonfinancial disclosures are often qualitative and are likely to be demanded by a much more diverse group of receivers (e.g., nongovernmental organizations, consumers, employees), whose objectives might differ from those of more traditional receivers of financial accounting information. This heterogeneity necessitates assessing the clarity of the disclosure signals across the various receivers. Also, the signals will inform different decisions by the various receivers. Building on this, a key challenge in assessing the ultimate transparency effects of a regulation like the CSRD is following the causal chain suggested by our transparency framework. This implies testing whether (a) firms acquire and process the regulation so that they can (b) make appropriate internal decisions to (c) send compliant and accurate CSR disclosure signals that are consistent with their overall disclosure strategy. These signals should then (d) possess a level of receiver-specific clarity that (e) eventually leads to relevant changes of priors of recipients that (f) cause them to act on these changes.

Finally, related to the strategic component discussed above, it would be interesting to study whether regulators try to design CSR disclosure frameworks in a way that avoids greenwashing, assuming that reporting firms have an incentive to do so. This can lead to regulators relying more on externally verifiable data points. At the same time, they can underestimate the ability of some stakeholders as receivers of CSR disclosures to use soft CSR disclosures for an updating of their priors, thus triggering distributional effects.

The next sections will continue to illustrate the application of our sender/receive framework.

3 What Correlates with the Demand for Tax Advice?

3.1 Introduction to the Role of Tax Advice and Tax Literacy and Research Question

How firms organize their decision-making is the focus of a large literature. Taxes are widely believed to influence firm decision-making. They can alter decisions on investments as well as affect a firm's financing decisions (see Hall and Jorgenson 1967; and Fama and French 1998 for classic contributions). While there is a consensus that taxes can harm investments (Pindyck 1991; Alvarez et al. 1998; Niemann 2004, 2011; Gries et al. 2012; Graham et al. 2017; Hanlon et al. 2017; Jacob et al. 2022; Osswald and Sureth-Sloane 2024), firm value and the cost of capital might also be affected in opposite directions (Hassett and Hubbard 2002). The asymmetry in the tax treatment of profits and losses, due to loss offset restrictions, a common feature of many tax systems, generates further complications and creates heterogene-

ity between firms that expect losses and those that do not (Zwick and Mahon 2017). Firm decision-makers trying to navigate the complex environment of tax regulation (Hoppe et al. 2023) might face difficulties in anticipating their firms' tax burden because of unclear or inconsistent signals from legislators, tax administrations, and tax courts. As a consequence, firm decision-makers may have difficulty accounting for taxes when making investment and financing decisions (Meissner and Rostam-Afschar 2017). Recent research has shown that the complexity of tax regulation can lead to tax misperceptions (Stantcheva 2021; Fochmann et al. 2022), which in turn increase the uncertainty about the expected tax burden (e.g., Blaufus et al. 2022).¹

In this environment, firm decision-makers may invest in tax literacy (internal tax knowledge), either through their own experience or by acquiring it from existing or new employees.² Alternatively, they may acquire tax advice (external tax knowledge) from external contractors, consultants, or advisors. However, it is unclear whether tax advice can be a substitute for tax literacy in a firm or whether tax advice presupposes a certain level of tax literacy; without that literacy firms may be unable to incorporate the advice into their business decisions. It is important to understand what mix of different types of tax knowledge (literacy and advice) should be built up in a firm in an environment of operational uncertainty, complex regulation, and tax risk. This is particularly important, for example, for start-ups, which may have little tax literacy, and for growing firms with significant investments and mergers and acquisitions.

This study aims to open the black box of tax planning (Feller and Schanz 2017; Dyreng and Maydew 2018) by providing empirical evidence on firms' demand for tax advice, the role of tax literacy, and how firms' demand for tax advice and tax literacy are related when they are making investment and financing decisions. Since tax rates are determined by taxable profits and losses, we also examine the role of loss expectations in this context. In practice, the asymmetric treatment of taxable losses and profits through loss offset restrictions is very common. Research (reviewed in Hanlon and Heitzman 2010; Feld et al. 2013; Jacob 2021) has investigated the tax effects on risky investment and financing decisions with mixed results. For example, Langenmayr and Lester (2018) and Osswald and Sureth-Sloane (2024) show that the encouraging effect of loss offsets hinges on firms' expectations about future loss recovery. In light of this evidence, we distinguish between firms that expect to be profitable and those that expect to incur losses.

We see firms as receivers and tax regulators (legislators, tax administrations, tax courts) as the senders of signals about the application and interpretation of tax regula-

¹ The (lack of) understanding of tax systems has become an increasingly important policy issue. As a consequence, supranational organizations have launched tax education initiatives to enhance understanding and increase long-term tax morale and compliance (OECD 2021; TaxCompEU, the Competency Framework for Taxation of the European Union). Furthermore, some national organizations require a minimum level of tax literacy as a prerequisite to start a business in specific industries (Rostam-Afschar 2014), and firms seem to invest in tax literacy to cope with tax complexity, for example, leading to more employees in firms' tax departments (Chen et al. 2021; Barrios and Gallemore 2023), especially in subsidiaries in high-tax complexity countries (Giese et al. 2024).

² Godbout et al. (2017) speak of tax literacy as "having the knowledge, skills, and confidence to make responsible tax decisions".

tions that determine firms' tax expectations. Specifically, firm decision-makers must anticipate the tax implications when making investment (or financing) decisions, not knowing whether they will incur a profit or loss and thus not knowing their tax rate. Unexpected changes in the tax code or other uncertainties, such as inefficiencies in tax procedures or post-tax audit adjustments, might make firms choose to invest in tax knowledge (tax advice or tax literacy) to mitigate this uncertainty. To sum up, complex and uncertain tax regulation can influence firms' investment and financing decisions and, in turn, the demand for tax advice, depending on the firm's level of tax literacy and its economic situation. However, the degree of substitutability between tax advice and tax literacy is an empirical question.

Our empirical study of the demand for tax advice is based on the German Business Panel (Bischof et al. 2024a). We use new survey evidence on more than 800 firm decision-makers from the panel (GBP). The sample covers a range of legal forms (mostly corporations but also sole proprietorships, partnerships, etc.) and sizes (mostly small and medium-sized firms but also very large firms with more than 1000 employees). This provides sufficient variation to study firms' demand for tax advice. We examine the relationship between the demand for tax advice and the level of tax literacy present in the firm, depending on the firm's economic situation, proxied by loss expectations. We extract tax advice, tax literacy, and loss expectations from our survey data and study the correlation of these variables and other firm characteristics, such as industry.

As expected, we find that tax literacy is negatively associated with the demand for tax advice. This suggests a substitutive relationship between tax advice and tax literacy. Again, as expected, we find that the likelihood of firm losses increases the demand for tax advice.

Understanding the role of tax literacy and tax advice is important because increasing tax literacy and tax advice could help improve the transparency (accuracy and clarity) of tax regulation and procedures for firms. It is also important because firms are exposed to increasing tax complexity and tax risk, which both affect investment and compliance (Gao and Zimmerman 2009; Diller et al. 2017; Hoppe et al. 2020, 2023; Euler et al. 2024; Diller et al. 2024). While there are some survey studies of individuals' tax knowledge (e.g., Slemrod 2006 and Stantcheva 2021 for the United States, Chardon et al. 2016 for Australia, Pham et al. 2020 for Canada), little is known about the level of firm decision-makers' tax knowledge. Yet Graham et al. (2017) provide evidence of a negative effect of accounting-related education of U.S. corporate tax managers on tax rate misperception. Fochmann et al. (2022) survey managers and owners of German firms of different sizes and legal forms and find that better tax literacy is negatively associated with tax misperception. At the same time, empirical evidence shows that tax complexity might lead to more tax employees in firms' tax departments (higher tax literacy) and lower tax burdens (Chen et al. 2021; Barrios and Gallemore 2023), more employees (higher tax literacy) in local subsidiary tax departments, and lower tax risk (Giese et al. 2024). However, it is unclear what factors determine firms' investments in tax knowledge in general and in tax literacy and tax advice in particular. Belnap et al. (2024) find that the tax literacy of internal actors involved in tax matters explains more of the variation in corporate tax outcomes than does external tax advice. However, it is

unclear which of these two channels firms use to achieve and maintain the level of tax knowledge necessary to deal with tax complexity and tax risk, how these two channels interrelate, and whether tax advice and tax literacy are substitutes or complements.

3.2 Survey Data and Descriptive Analysis

Our analysis is based on survey data collected by the GBP between December 2021 and December 2022. Bischof et al. (2024a) provide a detailed description of the GBP. Firms' contact information was obtained from the Bureau van Dijk Orbis database, web scraping techniques, self-registration, professional associations, and other contacts. The sample of firms that participated in our survey was drawn randomly from the GBP contact database and invited to participate via email. A total of 838 respondents completed our questionnaire.

In Fig. 2, we show how the firm respondents assess their firm's tax literacy.³

It reports the relative frequency of the self-rated individual tax literacy of firm respondents on a scale from 0 to 10, where 10 is the highest level.⁴ The solid (dashed) curve shows the probability density function of the normal (Poisson) distribution for

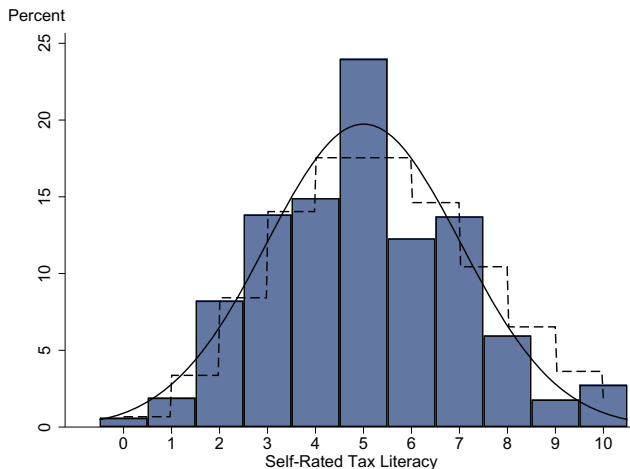


Fig. 2 Distribution of Tax Literacy. Notes: The graph shows firm respondents' relative frequency of self-rated individual tax literacy on a scale from 0 to 10, where 10 is the highest level of tax literacy (internal tax knowledge). The exact question wording is "Wie würden Sie Ihre eigenen Steuerkenntnisse einschätzen?" The solid (dashed) curve shows the probability density function of the normal (Poisson) distribution for reference. Source: Own graphical illustration

³ In survey data, firm decision-makers can be directly asked about their decision-making, but their information may be limited to their department, unit, or their personal information. In the GBP, the large majority of the respondents self-report to be owners or CEOs (557 of 838), and only 21 (12) indicate that they work as a department head (clerk).

⁴ Pham et al. (2020) show that the correlation between individual tax literacy measured by quiz questions and self-reported levels of tax literacy is positive and significant.

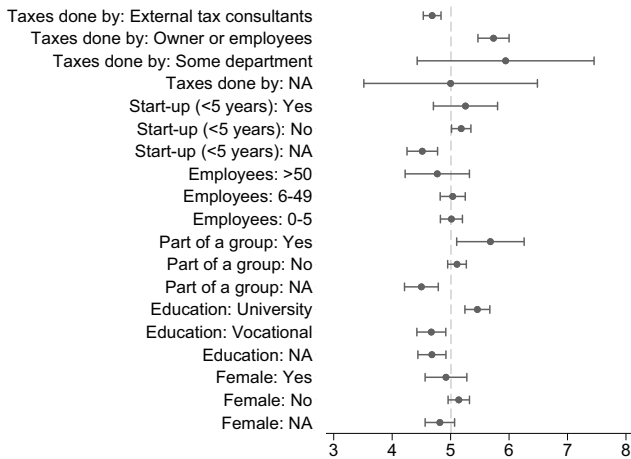


Fig. 3 Heterogeneity in self-rated individual tax literacy. Notes: This figure shows how our measure of tax literacy varies across firm characteristics and socio-demographic characteristics of the respondents. Tax literacy is measured on a scale of 0 to 10. The figure displays group averages and their 95% confidence intervals. Education groups are defined as vocational if the indicated highest degree is a vocational degree (apprenticeship, master of crafts degree, technician degree) and as university education if the degree is obtained at a university (bachelor, master, Ph.D., habilitation). Although some vocational degrees, such as the master of crafts (part III of the exam), include tax knowledge as a prerequisite to start a business (Rostam-Afschar 2014, Fossen et al. 2020), university graduates rate their tax knowledge significantly higher (Moučková and Víték 2018). Source: Own graphical illustration

reference. Tax literacy is highly dispersed with almost symmetric tails. Although the normal distribution seems to approximate the distribution of tax literacy quite well, normality is rejected by all common tests. Sixty percent of the respondents self-rate themselves as tax literate (five or higher on our tax knowledge scale from 0 to 10). The share of firms with self-assessed tax literacy of less than five (tax illiterate) is 40%. Interestingly, a large share of respondents, 75% (72%), indicates seeking tax advice for investment (financing) decisions.

Figure 3 explores heterogeneity in self-rated individual tax literacy across firm characteristics and socio-demographic characteristics of the respondents. If respondents handle taxes on their own, they rate themselves as more knowledgeable about taxes. By contrast, respondents who employ a tax advisor rate themselves as significantly less knowledgeable about taxes.⁵ Also, education seems to be an important determinant of self-rated tax knowledge. There are no significant differences across gender, firm size, or firm age alone, although there are some industries in which combinations of these variables significantly differ. Regarding firm size, larger firms

⁵ This result is consistent with those of Graham et al. (2017), who find a negative relation between tax misperceptions and accounting-related education among corporate tax managers. By contrast, the literature on individuals does not provide a clear pattern for education or tax knowledge (Gensemer et al. 1965; Fujii and Hawley 1988; Rupert and Fischer 1995; Slemrod 2006; Gideon 2014; Blaufus et al. 2015; Ballard and Gupta 2018; Amberger et al. 2023). For example, Ballard and Gupta (2018), Gideon (2014), Jackson et al. (2005), and Rupert and Fischer (1995) find more pronounced tax misperceptions for individuals who use tax advisory services.

Table 1 Differences Across Tax Literacy: Summary Statistics

	TAX ILLITERATE			TAX LITERATE			<i>P</i> -value
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD	
Tax advice: investment	228	0.807	0.396	380	0.711	0.454	0.008***
Tax advice: financing	216	0.801	0.400	371	0.677	0.468	0.001***
Loss expected for current year	310	0.235	0.425	481	0.195	0.397	0.178

This table reports summary statistics on firm characteristics as well as the difference between those classified as tax illiterate (self-rated individual tax literacy below five on a scale from 0 to 10) and tax literate (self-rated individual tax literacy of five and above) in our sample. The *P*-values in the last column are based on t-tests for equality of means across the tax literacy groups

***, **, * denote two-sided statistical significance at the 1%, 5%, and 10% levels, respectively

indicate less tax literacy than those with fewer than 50 employees. However, the difference is not statistically significant. In contrast to our expectations, where we argue that start-ups may have little tax literacy and growing firms with significant investments and mergers and acquisitions may have more tax literacy, the data show no significant difference between these groups.

Our next step is to examine the correlations between levels of tax literacy and the demand for tax advice. To measure these variables, we use our survey questions and firm respondents' self-rating of their tax literacy. We also use their response to the question of whether they use tax advisors.⁶ Table 1 shows our main variables of interest by the binary classification of tax illiterate (self-rated individual tax literacy below five on a scale from 0 to 10) and tax literate (self-rated individual tax literacy of five and above) in our sample, distinguishing for tax advice on investment and financing decisions. We separately investigate investment and financing decisions because the literature has shown that the sign of the effect may differ, depending on factors like the type of tax (Hassett and Hubbard 2002). Tax advice for either investment or financing decisions is significantly higher for tax-illiterate decision-makers. A larger share of this group also expects to incur losses. However, the difference between the groups is not statistically significant.

3.3 Exploring Tax Advice: Multiple Regression

Based on our theoretical reasoning, we expect that investments in tax advice and tax literacy are partly substitutes. Given the few studies of tax knowledge, it is unsurprising that there is no evidence on how tax literacy and tax advice are related. For financial literacy, Lusardi and Mitchell (2014) reference arguments that financial literacy and financial advice can be complements rather than substitutes. However, they conclude that little is known about the effects of financial advice and whether it can improve financial decision-making.

⁶ The original questions were in German, for tax literacy: "Wie würden Sie Ihre eigenen Steuerkenntnisse einschätzen?" and for tax advice: "Holen Sie bei diesen betrieblichen Entscheidungen professionellen Rat zu steuerlichen Aspekten von externer Seite (z. B. von einem Steuerberater) ein? Investitionsentscheidungen? Finanzierungsentscheidungen?".

To see whether we find patterns consistent with our expectations, we conduct a regression analysis that associates tax advice and tax literacy in a business context. We analyze the demand for tax advice as

$$K_i^{external} = \beta_0 + \beta_1 K_i^{internal} + \beta_2 Loss_i + \theta_i + \eta_t + \varepsilon_i \quad (1)$$

where $K_i^{external}$ is a binary indicator for the propensity to seek tax advice (external tax knowledge). $K_i^{internal}$ is a binary indicator for (self-rated) tax literacy (internal tax knowledge), and $Loss_i$ is a binary indicator for expecting a loss for the current year. θ_i denotes industry fixed effects, η_t are month fixed effects, and ε_i is an error term.⁷ The parameters of interest β_1 and β_2 measure the impact of tax literacy and expected loss on the demand for tax advice. Tax advice may be sought when making decisions about operational investments or financing. In our analysis, we investigate both.

The associations of tax literacy and loss expectations with demand for tax advice are likely endogenous. Both explanatory variables are influenced by observable and unobservable determinants that might directly affect the demand for tax advice. Tax advice itself could, in turn, have a reverse impact on both explanatory variables. We take an agnostic view and run regressions that could reveal interesting correlations as a starting point for future research.

Table 2 reports our exploratory results on the demand for tax advice on tax aspects of operational investment and financing decisions. The first two OLS columns for either variable report the OLS estimates of Eq. 1, for our dependent variable tax advice, using the binary indicator for being tax literate (self-rated tax literacy of five and above) and ignoring the endogeneity of tax literacy. Quantitatively, becoming tax literate reduces the demand for tax advice to zero. This comports with our expectation that tax literacy and tax advice are substitutes. On the other hand, expecting a loss increases the demand for tax advice by about nine percentage points. Again, this comports with our expectations. Self-rated tax literacy could interact with loss expectations. For example, firm decision-makers who are confident about their tax literacy would be less likely to seek tax advice if they expect a loss for the current year compared to tax-illiterate firm decision-makers in the same situation. The second columns for both variables in Table 2 also report such estimates. The results show a negative coefficient on the interaction term that is statistically significant. The magnitude of the interaction suggests that the likelihood of seeking tax advice is higher when expecting losses but only for tax illiterate respondents.

3.4 Conclusions

This study suggests that tax knowledge—gained either through external tax advice or tax literacy within the firm—helps firms navigate the complexities of the tax system,

⁷ We have collapsed the multinomial variable tax literacy into a binary variable to be comparable with the variable for tax advice. For example, we can compare their shares: 75% (72%) seek tax advice in investment (financing) decisions, 60% self-classify as tax literate. The results endure when using different cutoffs or re-estimating the regressions with the plain multinomial variable or using logit models.

Table 2 Associations with Demand for Tax Advice

	INVESTMENT		FINANCING	
	OLS	OLS	OLS	OLS
Self-rated tax literacy ≥ 5	-0.096** (0.040)	-0.068 (0.045)	-0.108*** (0.042)	-0.070 (0.048)
Loss expected for current year	0.089* (0.050)	0.181*** (0.068)	0.074 (0.048)	0.185*** (0.061)
Self-rated tax literacy $\geq 5 \times$ Loss expected for current year		-0.147* (0.089)		-0.181** (0.087)
Observations	583	583	565	565
Industry FE	YES	YES	YES	YES
Month FE	YES	YES	YES	YES
Mean of dependent variable	0.743	0.743	0.719	0.719
SD of dependent variable	0.438	0.438	0.450	0.450

This table shows the regression effects on investments in tax advice. The specification is $K_i^{external} = \beta_0 + \beta_1 K_i^{internal} + \beta_2 Loss_i + \theta_i + \eta_t + \varepsilon_i$, where $K_i^{external}$ is either a binary indicator for the propensity to seek advice on tax aspects of operational investment decisions or for financing decisions. $K_i^{internal}$ is a binary indicator for tax literate (self-rated individual tax literacy of five and above), and $Loss_i$ a binary indicator for expecting a loss for the current year. θ_i denotes industry fixed effects, η_t are month fixed effects and ε_i is an error term. The sample consists of repeated cross-sections. Firms are treated as independent units in each cross-section. At the bottom of the table, we report the mean and standard deviations of dependent variables. Robust standard errors are in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

including the nonlinearities of tax schedules, while managing tax risk, ensuring tax compliance, and structuring tax planning to align with their strategies. Based on survey data from the GBP, our exploratory analysis shows that only 60% of firm decision-makers rate themselves as tax literate. We find an interesting pattern: When tax literacy is high, demand for tax advice is low. However, when firms expect a loss, the demand for tax advice increases, but this increase seems to be concentrated among participants who assess their tax literacy to be low. These results are consistent with a substitutive relationship between tax advice and tax literacy.

Our findings help evaluate different strategies of firms, namely investment in tax advice or tax literacy. Our findings also point to effective strategies to mitigate the lack of transparency in tax regulation. Appropriate strategies seem to depend on the economic situation of firms and are thus context-specific.

Our analysis should not be understood to establish a causal link between tax literacy and demand for tax advice. Since tax literacy is closely tied to other firm and manager characteristics, providing causal evidence based on observational and survey data would be challenging. We believe, however, that our large-scale survey evidence on firm decision-making can provide interesting insights into the demand for tax advice and open up avenues for further research. Future studies could improve understanding of the demand for tax literacy and tax advice by analyzing administrative tax data as well as private and administrative labor market data. In addition, researchers could use tax literacy initiatives in field experiments to study the causal effect of tax literacy on tax advice. This should help researchers under-

stand how firms can cope with the complexity of their regulatory environments and might contribute to the enhancement of regulatory transparency.

4 Working from Home and Productivity—How Transparency Within Firms Affects Employment Relations

4.1 Introduction to Working from Home and Research Question

Employment relations are generally characterized by information asymmetries that lead to a lack of transparency, as not all decision-relevant information is publicly available. An employee usually has more information about his or her daily tasks and the way he or she performs them than the supervisor or the firm owners. Remote work or working from home (WFH) significantly increases this information asymmetry, as regular interactions in the office that might provide additional signals disappear. With WFH, supervisors lack signals about how employees work and employees receive less information about decision outcomes and decision-making processes in the firm. This results in reduced transparency in the relationship for both sides. Nonetheless, WFH has gained momentum in recent years, fueled by advances in technology, changes in job design, changing attitudes toward work-life balance, and unforeseen circumstances such as the COVID-19 pandemic. The immediate consequence of the pandemic was a huge increase in the amount of WFH. Figure 4 shows the percentage of full paid workdays worked from home in the United States from 1965–2024. Whereas WFH was at very low levels until the pandemic—about 5% of full paid workdays were worked from home in 2018—it sharply increased to more than 60% in 2020. Even after the relaxation of pandemic restrictions, WFH remained at significantly higher levels than before. In the United States, the percentage of full paid workdays worked from home still amounted to almost 30% in 2024 (Barrero

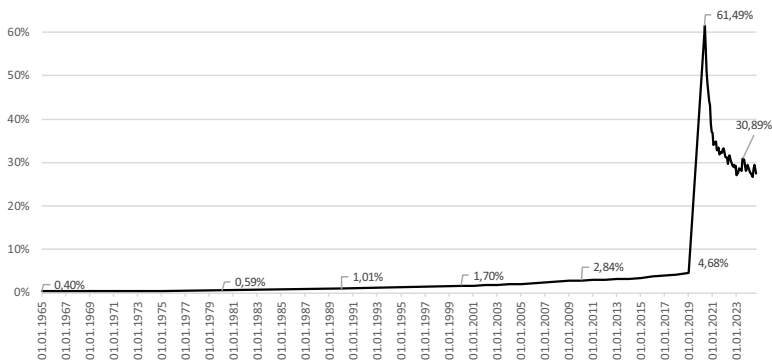


Fig. 4 Historical development of the percentage of full paid workdays worked from home in the United States. Notes: Own graphical illustration based on data from Barrero et al. (2021b)

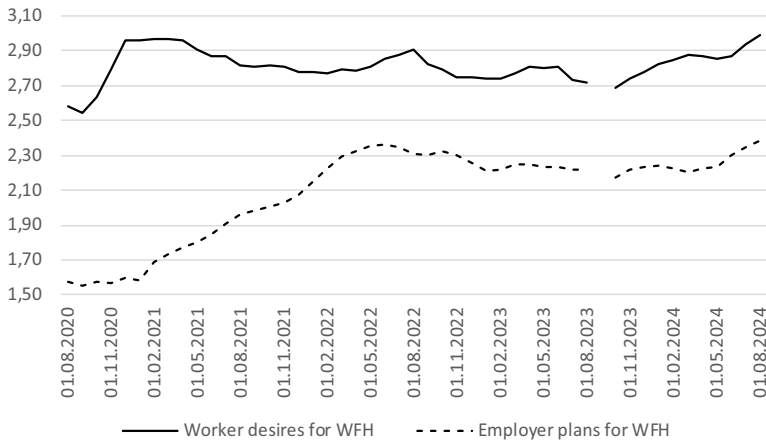


Fig. 5 Average days per week WFH after the pandemic ends desired by workers and planned by employers in the United States. Notes: This figure shows the average days per week WFH after the pandemic ends desired by workers ($N=130,238$) and planned by employers ($N=121,156$) in the United States. Own graphical illustration based on data from Barrero et al. (2021b). September 2023 data is missing due to quality issues with the survey

et al. 2021b). Similar observations can be made for Europe.⁸ Researchers predict that this effect will be permanent (e.g., Bick et al. 2023).

Despite the increase in WFH, there still exists a discrepancy between employees' desire and firms' willingness to provide WFH opportunities, as indicated by recent surveys. In the United States, on average, employees would like to work about 0.5 working days more from home than firms plan to allow (see Fig. 5).

One of the potential reasons for the mismatch of employee and firm WFH preferences is information asymmetry related to key factors in the employer-employee relationship and the restricted flow of information in WFH settings. Based on empirical studies (e.g., Emanuel and Harrington 2023; Gibbs et al. 2023; Atkin et al. 2023), we identify information asymmetry related to employee productivity as being one of the reasons for conflicting perceptions of the benefits of WFH. Based on the sender/receiver framework, we predict that WFH reduces transparency in the employment relationship. We analyze different mechanisms that help overcome the reduction in transparency. In particular, we propose that hybrid working environments allow employees to send credible signals about their productivity, which reduce the employer's information asymmetry about employee productivity and could help align the conflicting perceptions about the benefits of WFH.

⁸ In Germany, the share of employees working at least partially from home was 24.2% in 2022, which almost doubled compared to before the pandemic (12.8% in 2019). In the European Union, the share was 22.6% in 2022, with the Netherlands (53.2%), Sweden (45.0%) and Finland (40.6%) having the highest and Romania (4.3%), Bulgaria (4.4%), and Greece (9.8%) the lowest shares (https://www.destatis.de/DE/Presse/Pressemitteilungen/Zahl-der-Woche/2023/PD23_28_p002.html). Note that the European data reports the share of employees working at least partially from home, whereas the U.S. data refers to the percentage of full-paid workdays worked from home.

4.2 The Productivity Puzzle

Studies have shown that WFH is associated with benefits for firms, such as increased mental health of employees, higher job satisfaction, more organizational commitment, and cost reductions from space savings and global hiring (Kitagawa et al. 2021; Gajendran and Harrison 2007; Martin and MacDonnell 2012; Barrero et al. 2023). However, when firms decide whether to allow WFH for their employees, a central question for them seems to be the *productivity* consequences. Following the common definition, productivity is the relation of output to the time invested (Barrero et al. 2023). Put differently, the output (or performance) is the result of productivity multiplied by time invested (or effort provided). When considering empirical studies on performance and productivity in WFH contexts, the results are ambiguous. The term “productivity” is also not used consistently in these studies.

Bloom et al. (2015) conduct a field experiment in a Chinese travel agency before the pandemic and find that WFH does not lead to “shirking from home” but instead to increased performance. Employees’ performance increased by 13% when working from home, due to working more minutes per shift (i.e., due to an increase in effort) and a quiet and more convenient work environment. After the experiment, the WFH option was given to the whole firm, which led to a performance increase of 22%. Kitagawa et al. (2021), on the other hand, report reduced performance associated with WFH in four Japanese manufacturers and find poor WFH setups and communication difficulties to be the major drivers. The pandemic forced firms to install WFH without preparation, which might have resulted in poor WFH environments. However, after several months, these initial problems are typically mitigated: people became more acquainted with remote working styles and better technologically equipped, and they got used to online communication systems. Kitagawa et al. (2021) provide some evidence that young workers are unaffected by a shift to WFH, as they are more familiar with online communication. Yet even recent work by Emanuel and Harrington (2023) finds that fully remote work leads to lower productivity than fully in-person work. In a similar vein, Gibbs et al. (2023) analyze data from a large Asian IT services company and find that WFH increased hours worked by 18%, but average output declined, resulting in a loss in productivity of about 19%. The productivity decrease was due to a greater need for communication and coordination, which was especially pronounced for employees with children at home and for women, who usually bear the greater burden of care work at home.⁹

Atkin et al. (2023) state that—despite the various studies—the knowledge about the productivity effects of WFH remains limited. This relates in particular to problems with the experimental design, such as the measurement of productivity (which we will discuss in Sect. 4.3), treatment effects, selection effects, and factors related to work environments, employee ability, and personality. Concerning the latter, the authors explain that workers with high ability might self-select into more structured office work, while less able workers prefer WFH, resulting in a sorting effect. When overall output is measured for office-work employees and WFH employees, the latter would yield lower output, but this is attributable to their lower ability and not to

⁹ Whether WFH can be productive can also depend on the type of tasks an employee has to perform.

the WFH context itself.¹⁰ Atkin et al. (2023) conduct a field experiment in India and show that the productivity of workers assigned to WFH is indeed 18% lower than that of workers assigned to the office. When workers are allocated to WFH based on their preferences, they are 27% less productive when working from home compared to working in the office. Atkin et al. (2023) argue that there might be restrictions that drive people's preferences for WFH, such as care responsibilities at home, that then negatively affect workers' productivity.

Employer and employee perceptions related to productivity in a WFH context differ as well. In a survey of 20,000 people in 11 countries in 2022, Microsoft analyzed responses together with Microsoft 365 productivity signals, LinkedIn labor trends, and Glint People Science findings. It found a strong disconnect between the share of employees who report to be productive in WFH (87%) and the share of leaders who say they have full confidence that their team is productive when working from home (12%, Microsoft 2022). Bloom et al. (2023a) show that managers greatly differ in their assessment of how WFH affects productivity, Barrero et al. (2021a) illustrate a similar result for workers. Generally, the controversies surrounding the productivity effects of WFH seem to be largely attributable to the complexity of the issue (Barrero et al. 2023).

4.3 Impact of Working from Home On Transparency

WFH studies assume that productivity equals output per time invested. The empirical studies base their predictions on the assumption that all three components of this equation can vary, meaning that if the same output is generated in less time, this automatically entails an increase in productivity. When performance or output is measured, it is therefore not always clear whether a change in output is attributable to a change in effort or a change in productivity.

The theoretical literature analyzing employment relations, such as the principal-agent-theory, usually assumes that productivity is a constant, person-related factor¹¹ that is observable by employers and employees (e.g., Jensen and Meckling 1976). The production function is then common knowledge in these relations, and information asymmetry can only occur for specific choices of the employee, e.g., the amount of effort invested, which is usually unobservable to the employer. Variations in output are then attributable to changes in effort (or random events beyond the employee's control), and contractual solutions need only address the information asymmetry related to the choice of effort.

WFH adds a layer of complexity to the employment relation by making the production function itself unknown to the employer. In particular, the productivity

¹⁰ One could address this by controlling for ability, if a reliable measure or proxy is available.

¹¹ This assumption is very well supported by empirical evidence. In a study conducted with data from mine workers in the 1920s, productivity was slightly shaped by working experience but only to a very small extent, leading the author to conclude that productivity profiles were almost flat (Shearer 1996). In the WFH context, many people perceive their productivity to be unchanged by the new work environments. Data from the Survey of Working Arrangements and Attitudes in the United States covering the first half of 2023 shows that 43% of workers perceive their productivity to be the same when working from home. Another 43% believe it to be higher, but this increase is mainly due to saved commuting time.

of a WFH employee is unknown to the employer, resulting in increased information asymmetry and reduced transparency.¹² With physically distant working spaces, employees as senders of information have fewer opportunities to signal their productivity. Moreover, physically distant working spaces make effort choices even less observable and controllable, and monitoring is often impossible (Greer and Payne 2014; Allen et al. 2015), and it is unclear how WFH will affect employees' effort provision.¹³ The increased information asymmetry and reduced transparency could thus be factors that provide the ground for the conflicting preferences of employers and employees related to WFH. Based on these observations, one can conclude that decreased transparency about employee productivity caused by WFH can have a huge impact on organizational design, the organization of work, and the provision of incentives. It makes it more difficult for firms to design efficient contracts, form teams, and allocate work. Reducing information asymmetry with respect to employee productivity thus seems to be a major factor for firms when they provide WFH opportunities.

A natural way for firms to address the challenges of WFH and the resulting loss of transparency would be an adaptation of management control systems (MCS) to the WFH environment. The literature distinguishes between results controls, action controls, personnel controls, and cultural controls (Merchant and Van der Stede 2017). Examples include an adjustment of job design and incentive contracts, the installation of monitoring systems, or the use of more structured working styles. However, not all possible controls enable firms to address the information asymmetries related to employee productivity. Action controls, for example, merely address aspects related to an employee's motivation and effort choice. Cultural controls often relate to physical or social arrangements that are difficult to establish in WFH settings. Results controls are hard to implement if employers lack knowledge about employee productivity. Personnel controls—in particular, the job design—might help firms address productivity aspects, but require employer knowledge about which jobs can be best performed at home.

Barrero et al. (2023) explain that jobs usually involve several tasks that might be quite different in terms of their suitability for being performed at home. For example, jobs like phone-based customer support might include tasks that can be well performed at home, whereas other tasks may require the presence in the office. In a similar vein, Flassak et al. (2022) show empirically that supervisors tend to standardize the tasks of employees who work from home. Hence, an *adaptation of the job design* (personnel control) could be one way for firms to address the transparency issues in WFH contexts related to productivity and effort choice.

Flassak et al. (2022) also demonstrate in their survey analysis that firms adapt their *action controls* to WFH settings. However, strengthening action controls is costly, as it requires the involvement of supervisors. Moreover, they find that firms with weak action controls ask their employees to participate in more meetings when

¹² This has also consequences for potential contractual solutions to incentive problems in the employment relations (e.g., Dürr et al. 2020).

¹³ The literature argues that WFH might provide more opportunities for employees to shirk but also may increase their commitment, resulting in the provision of extra effort (Rupietta and Beckmann 2016).

working from home, which results in fewer remaining work hours per day. Whether stronger controls help or hinder WFH outcomes, is not answered in their study. In a similar vein, Christ et al. (2012) show that preventive action controls that restrict autonomy have a significant detrimental effect on intrinsic motivation. An extreme example for the adaptation of MCS to increase transparency in WFH environments is the *installation of monitoring software* that tracks what employees are doing when working from home, such as video surveillance (Jeske 2021). While this very strong form of an action control allows firms to reduce information asymmetry related to effort to a minimum, its installation is very costly, because employees might perceive such intense monitoring as a breach of trust. Moreover, it does not speak to the information asymmetry regarding productivity. Whether more transparency related to employee effort in WFH environments through tighter controls improves firm performance has to be assessed in a cost-benefit analysis that also needs to consider that employees react differently to controls, depending on their characteristics and personalities. However, tighter controls might not necessarily constitute a firm's best response to the transparency issues associated with WFH and in particular to the information asymmetries regarding employee productivity.

Another aspect of WFH is that sender/receiver communication is more difficult in physically distant working spaces. This not only applies to the firm and its employees, but also to employees in horizontal hierarchical structures. For example, supervisors might be less able to provide direction and support (Gajendran and Harrison 2007; Lill 2020) to their teams when at least part of the team is working from home. Moreover, WFH employees might face more professional isolation (Golden et al. 2008). As a potential consequence, employees as receivers have less clarity about firm decision-making (e.g., related to task allocation and job design). WFH therefore also poses informational challenges regarding the design of information systems: while information in offices is easily shared, WFH requires firms as senders to think about what information should be shared remotely, how it should be shared, and the need to ensure that any signals have been (correctly) received.

4.4 Hybrid Work as a Potential Solution

Recent research suggests that hybrid work may solve some of the communication difficulties of WFH. Barrero et al. (2023) show that hybrid work, i.e., combining WFH days with office days, does not seem to harm productivity, but improves employee recruitment and retention. Spending some of their working time in the office allows employees to signal their productivity to their supervisors, making it easier for them to assess the production function. More frequent observations of employee productivity improve the firm's information and increases transparency. This, in turn, reduces contracting costs and allows for the provision of efficient incentives for the desired amount of effort. Provided that in-person collaboration seems to be necessary for creativity and innovation, just as face-to-face meetings are essential for developing ideas and keeping people motivated and focused (Bloom et al. 2020), there are several reasons to think that hybrid work can help overcome

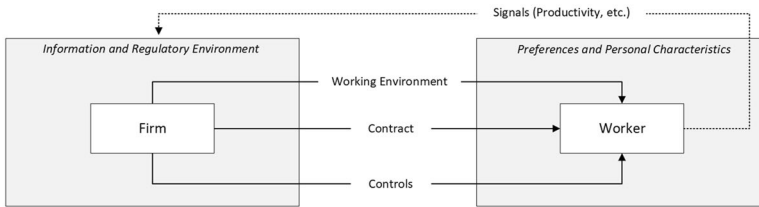


Fig. 6 Firm and worker in a sender-receiver-framework. Notes: This figure illustrates communication between the firm and the employee or worker in a sender/receiver framework of information. Own graphical illustration

transparency issues without the need to increase formal controls.¹⁴ This might align employer and employee perceptions of the benefits of WFH and increase firms' willingness to provide WFH opportunities.

The overall design of the workplace, however, needs to consider that in such an environment, firms and employees will act as senders and receivers of information.

Fig. 6 depicts the firm and the employee or worker in a sender/receiver framework. The firm designs the working environment (such as WFH, hybrid work, office work, tasks to be performed, etc.), offers an incentive contract, and installs a MCS based on the information available and the regulatory environment.¹⁵ Thereby, the firm sends signals to the worker who receives them and reacts to them against the background of his or her preferences and personal characteristics. The information received by the worker impacts his or her provision of effort. A formal control mechanism, such as monitoring software, might increase the firm's information about worker effort but at the same time be detrimental to the worker's motivation.

Designing a hybrid working environment would enable the worker to send signals about productivity back to the firm. The worker then becomes a sender of information and affects the information environment of the firm, which can use the worker's information when making decisions. The transparency generated by partly working in the office increases the firm's information about the worker's productivity, which again facilitates the design of incentives. At the same time, communication among workers or between workers and their supervisors will be eased. An intelligent design of the working environment can thus help the firm extract information needed for efficient contract design, such as employee productivity. The firm can then reduce the need for formal controls or the adaptation of incentive contracts and create transparency without installing formal control mechanisms.

The empirical evidence in Fig. 7 suggests that U.S. survey data generally support the view that hybrid work is becoming more common. Among all full-time employees, in 2024, the majority work in fully onsite environments (58.5% of all full-time employees). Hybrid work is already more common (with 28.4%) than fully remote work (13.3%). However, when looking at the subgroup of employees eligi-

¹⁴ Hybrid work can also result in more complexity and can entail switching costs and might thus hurt performance (Bloom et al. 2023b). The benefits of more transparency thus need to be weighed against the potential costs of hybrid work.

¹⁵ For instance, installing monitoring software might be prohibited by local laws.

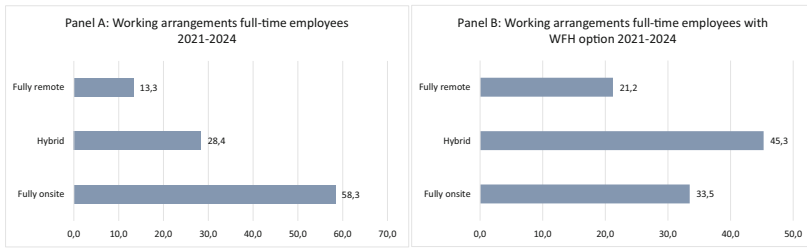


Fig. 7 Working arrangements for full-time employees (Panel A) and full-time employees with the option to work from home (Panel B) in the United States. Notes: This figure illustrates working arrangements for full-time employees ($N=14,969$) and full-time employees with the option to work from home ($N=15,587$) in the U.S., indicated by the fact that they currently work more than one day remotely or did so at some point since the start of the pandemic. The figure includes average values from November 2021 until August 2024. September 2023 values are missing due to quality issues with the survey. Source: Own graphical illustration based on data from Barrero et al. (2021b)

ble to WFH (indicated by the fact that they either currently work more than one day remotely or did so at some point since the start of the pandemic), hybrid work is clearly dominating other forms of work, with 45.3% (compared to 33.5% fully onsite and 21.2% fully remote) in 2024. Hence, among the workers that are either currently given or have been given the opportunity to work remotely in the past, most now find themselves in hybrid environments.

4.5 Conclusions

WFH poses challenges to firms and employees as it decreases transparency due to increased information asymmetries on both sides. Firms as senders of information are less able to transfer decision-relevant signals to remote workers, who then have less information about what decisions are made and how. At the same time, employees as senders are less able to credibly signal their productivity, resulting in less transparency about their productivity for firms as receivers. Related to the latter point, changes in the information situation have often been accompanied by adaptations of firms' MCS in the past, in particular, an increase in action controls. However, tighter action controls might not be informative about productivity and might demotivate employees. A potential alternative is to adapt the workplace design (potentially combined with personnel controls in form of job design) in a way that reduces information asymmetries while maintaining the benefits of WFH. Hybrid working environments allow firms to better assess employee productivity, while employees still benefit from WFH and can use their on-site days to improve teamwork and communication as well as to gathering decision-relevant information.

Increasing transparency in the employment relationship is essential for an efficient organizational design, including the design of incentive contracts as well as job design and task allocation. If firms have credible signals about their employees' productivity, the provision of efficient incentives will be less costly for them. Moreover, higher transparency about productivity might also align the conflicting perceptions of firms and employees related to the benefits of WFH and motivate more firms to offer the WFH option.

One important aspect is that personal characteristics of employees will play a fundamental role when it comes to optimal workplace design. Research, such as by Vandenberghe et al. (2008), finds that personality traits affect the importance that individuals attach to such employment factors as the quality of work, the quality of social relationships, development and career opportunities, variable pay, and the flexibility of working conditions. Orland and Rostam-Afschar (2021) show that preferences and behavioral strategies impact people's reactions to wage uncertainty. Personal characteristics of employees are thus likely to affect (1) how much employees value WFH; (2) how information sent by the firm in the form of workplace design, incentive contracts, and management control systems is perceived by the employee; and (3) what type of information the employee sends to the firm. Consequently, workplace design cannot rely on a one-size-fits-all solution but must consider employee preferences and characteristics.

5 Costs and Benefits of Transparency—When Do Managers Demand Disclosure Regulation

5.1 Introduction to the Trade-Offs in Disclosure Regulation and Research Question

The regulation of corporate transparency is controversial. Disclosure requirements impose significant costs on firms, both direct ones from implementing a disclosure process and indirect ones, such as proprietary costs (e.g., Verrecchia 1983). Regulators frequently justify these costs by the social value of standardized and thus comparable disclosures (Leuz and Wysocki 2016; Becker et al. 2021), especially the facilitation of trading. The literature supports this relation and shows that the strength of disclosure regulation is associated with capital market growth (La Porta et al. 1997, 2006) and financial stability (Bischof et al. 2021). While academic evidence on the trade-off is rich and robust on the macro level, it is less clear how corporate managers view the costs and benefits at the firm level and whether this affects their support for disclosure regulation and increased levels of transparency. The standardized financial report serves as the signal in this setting. The signal is costly to produce for the senders (i.e., the firms affected by the disclosure regulation), whereas receivers benefit in multiple ways, depending on their relationship with the firm (e.g., investors can benefit from more precise inputs into their valuation models and lenders can benefit from more precise information about credit risk). From the perspective of the individual manager, the trade-off between these costs and benefits is particularly interesting because firms also act as receivers of signals sent by other firms (e.g., when screening the financial reports of their competitors, their customers, or their suppliers). While managers, and corporate interest groups, often bring forward the costs of providing financial reports in regulatory debates about new disclosure standards (e.g., Ramanna 2015), their perception of the corresponding benefits of using signals produced by these reports is more ambiguous. In times of increasing disclosure requirements (e.g., the recent expansion of the

mandate for ESG-related disclosures through the European CSRD), it is important to understand the perception and thus the acceptance of those rules on the firm level.

In this section, we illustrate how evidence from the German Business Panel (GBP) can speak to this question by means of a survey experiment. More than 1400 participating managers and other decision-makers of German companies participated in the survey. As non-experimental survey evidence frequently falls short of identifying the determinants of individual perceptions (i.e., the perceived costs and benefits in the assessment) and rarely offers exogenous variation, an experiment can manipulate the salience of specific costs (such as increasing bureaucracy and documentation requirements) and specific benefits (such as well-functioning capital markets) by assigning participants randomly to different groups. Prior to the treatment, we document whether respondents' companies are subject to any disclosure requirements and how useful the information disclosed by competitors is for their business. The outcome variables of interest are the respondents' judgments of the desirability of disclosure regulation. We use the satisfaction with general economic policy that should not be specifically affected by the salience of information about the costs and benefits of specific disclosure regulations as a benchmark that helps rule out that the information treatment affects participants' perceptions of regulations other than disclosure requirements.

5.2 The Experimental Survey and Descriptive Statistics

Our analysis uses survey data collected by the GBP between July 2021 and December 2022. Bischof et al. (2024a) describe the survey method and the sampling approach. The sample of companies that participated in the experimental survey on disclosure regulation was drawn randomly from the aggregate pool of GBP participants. We invited these companies via email as part of the regular GBP waves. A total of 1446 respondents completed this questionnaire. We illustrate the experimental design in Fig. 8.

We randomly assign respondents with equal probability to three treatment groups and one control group. All respondents receive a set of identical questions. We induce exogenous variation in the perceived magnitude of the costs and benefits of transparency by exposing participants in the treatment groups to additional information on actual events in the recent past. Thus, the treatment is an information experiment similar to the salience treatments of Colonelli et al. (2024). We use real-world messages about the benefits and costs of transparency regulation from the German Federal Government and the German Federal Statistical Office. Thus, we use a setting in which the salience of a particular signal is experimentally controlled and the ultimate receiver of these signals is the firm (or, more precisely, one key decision-maker in the firm).

The first treatment, COSTS, includes a negative valence framing intended to increase the salience of the costs of preparing transparent disclosures. The additional information states: "Increasing reporting, information, and verification requirements are making everyday business life more difficult." The following factual information cites a recent increase in the Bureaucracy Cost Index of the German Federal Statistical Office and a brief definition of the index before presenting the question

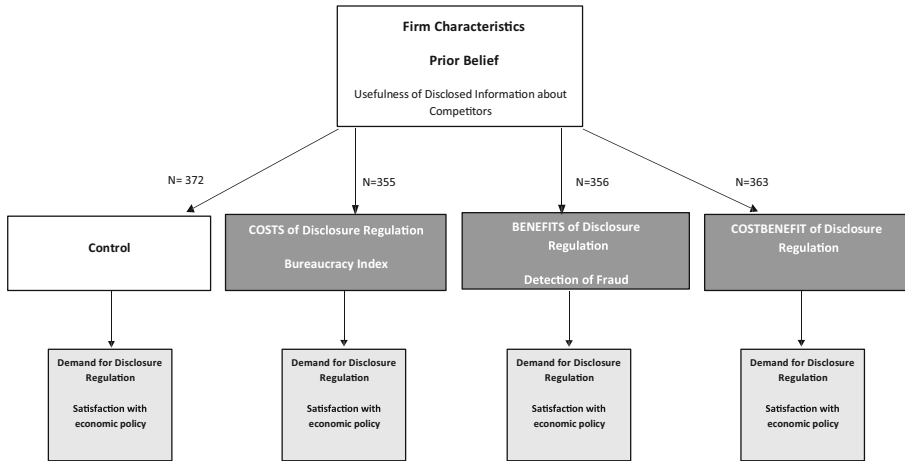


Fig. 8 Experimental Design. Notes: This figure illustrates our experimental design, including the randomization layers and the sample sizes associated with each treatment and control group. The total number of participants in the experiment is 1446. Source: Own graphical illustration

on the company's demand for disclosure regulation. We expect this treatment to reduce demand for disclosure regulation if preparation costs are critical to managers' overall perception of this form of regulation.

Our second treatment, BENEFITS, provides a positive valence framing intended to increase the salience of the benefits of disclosures. The additional information states that stricter audits and greater transparency are necessary to prevent accounting fraud, including illegal earnings management. Moreover, it cites the official justification of the German Federal Government Financial Market Integrity Strengthening Act,¹⁶ which refers to general capital market benefits of reliable external reporting. While the information is as accurate as in the COSTS treatment, the content and the language emphasize specific market-wide benefits of disclosure regulation that plausibly spill over to the firm. We expect this treatment to increase demand for disclosure regulation if market benefits are critical to managers' overall perception of this form of regulation.

Our third treatment, COSTBENEFIT, combines both the positive and negative framing. We use more balanced wording by describing the benefits with "on the one hand" and the costs with "on the other hand". A treatment like the third one offers an opportunity to measure differences in treatment intensity between the two framings and to corroborate the findings on the treatments with the individual cues. If the cues provided in the COSTS and BENEFITS treatments provided linear, additive information (rather than a new dimension), summing effects should result in a statistically identical estimate as in the COSTBENEFIT treatment. Put differently, if the positive and negative statements had identical intensity, their effects should cancel each other out. However, the effect is ambiguous because of the different

¹⁶ The Financial Market Integrity Strengthening Act (Finanzmarktintegritätsstärkungsgesetz) came into force on 1 July 2021.

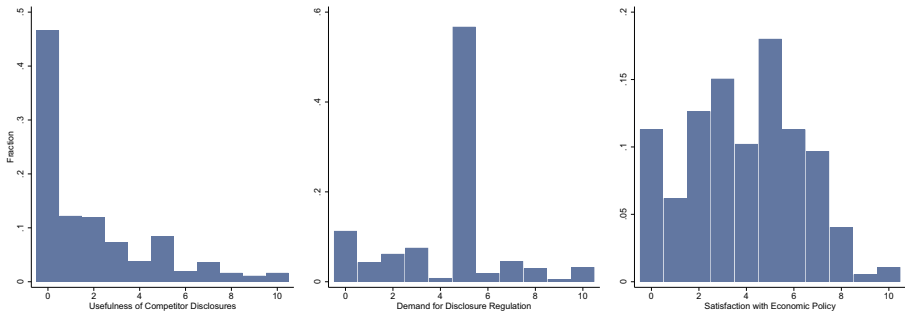


Fig. 9 Histograms of Usefulness of Competitors' Disclosures, Demand for Disclosure Regulation, and Satisfaction with Economic Policy. Notes: This figure shows summary statistics for the control group. 372 observations have been assigned to the control group. Usefulness, demand, and satisfaction are measured on a scale from 0 to 10 (10 indicating the highest usefulness, demand, and satisfaction). Source: Own graphical illustration

channels, with disclosure costs being directly borne by the firm and market-wide benefits only indirectly spilling over to the firm (e.g., through the cost of capital channel).

The baseline group, CONTROL, provides no additional information and directly presents the questions on corporate disclosure regulation. The appendix includes a complete translation of the questionnaire.¹⁷ 78.9% of survey respondents from the control group report that they are subject to some mandatory disclosure requirement. Disclosure regulation is thus familiar to them. Figure 9 shows the distribution of these respondents' unipolar assessment of the usefulness of competitors' disclosures as well as their bipolar assessments of the demand for disclosure regulation and their satisfaction with general economic policy (on 11-point Likert scales ranging from 0 to 10). Overall, the baseline participants view information from their competitors' disclosures as not especially useful (with an average score of 1.9 and a score of 5.0 at the 90% quantile). While they prefer less disclosure regulation and a score of 4.3 on average, at least those respondents at the 90% quantile view more regulation as desirable (with a score of 7.0). Economic policy satisfaction shows an average score of 3.9 and a score of 7.0 at the 90% quantile. Table 3 illustrates linear correlations between these variables. The correlation between the demand for disclosure regulation and the usefulness of competitors' disclosures and between the demand for disclosure regulation and satisfaction with economic policy is positive and statistically significant. Generally, the clustering of the demand for disclosure regulation at the midpoint of the bipolar scale implies that respondents, on average, are indifferent toward the level of current regulation. Thus, an already weak change

¹⁷ The validity of our experimental design hinges on the absence of systematic differences between treatment and control groups. Untabulated summary statistics for a series of firm and respondent characteristics for each of the groups and test statistics from Wald tests of the equality of means across all groups show that our between-participants comparisons allow valid inferences. To address the generalizability of the results to the population of active companies in Germany, we provide statistics for firm size and industry provided by the German Federal Statistical Office as a comparison on request.

Table 3 Correlation Between Perceptions of Competitors' Disclosures, Demand for Disclosure Regulation, and General Satisfaction with the Economic Policy

	Usefulness of competitors' disclosures	Demand for disclosure regulation	Satisfaction with general economic policy
Demand for disclosure regulation	0.218***		
Satisfaction with general economic policy	0.013	0.203***	
Observations	369	372	372

This table reports the correlation between the three dependent variables that we employ in our regression specifications. The sample is based on the control group only. 372 observations have been assigned to the control group

***, **, * denote statistical significance at the 1%, 5%, and 10% levels after Bonferroni adjustment, respectively

in the salience of costs and benefits of this regulation (i.e., a low treatment intensity) could change the overall desirability of more regulation.

5.3 Experimental Results

5.3.1 Costs and Benefits of Corporate Disclosure Regulation

The aim of our survey experiment is to elicit managers' cost-benefit assessments of current disclosure regulation. To this end, we obtain OLS estimates of the average treatment effects by comparing differences in means between the treatment and control groups. The specification is

$$Y_i = c + \sum_{j=1}^{j=3} \varphi^j T_i^j + \varepsilon_i \quad (2)$$

where and T_i^j are indicator variables for the three treatment groups. The baseline group is CONTROL, and c is the mean of the dependent variable Y_i under CONTROL. 'Treatment: COSTS' is equal to 1 for the sample of individuals subject to the costs of disclosure treatment. 'Treatment: BENEFITS' is equal to 1 for the sample of individuals subject to the benefits of disclosure treatment. 'Treatment: COST-BENEFIT' is equal to 1 for the sample of individuals subject to the treatment that presents information on both the costs and benefits of disclosures.

We find that all information treatments significantly shift the demand for disclosure regulation (Table 4, column (1)) but, as expected, largely leave the satisfaction with general economic policies not directly linked to the information treatment unaffected (column 2).

The results suggest that the salience of preparation costs and market benefits resulting from disclosure regulation influence how firms assess the desirability of this form of regulation but that these information treatments do not interfere with the general perception of economic policies (i.e., participants relate them to disclosure regulation as intended). Preparation costs and market benefits are thus relevant inputs into the overall assessment of disclosure regulation by firms. Specifically, Table 4 shows that the effect of the COSTS treatment reduces demand for disclo-

Table 4 The Information Provision Experiment: Framing of Corporate Disclosure Regulation

	Demand for disclosure regulation	Policy satisfaction
Treatment: COSTS	-0.781*** (0.170)	0.004 (0.178)
Treatment: BENEFITS	1.176*** (0.174)	0.153 (0.173)
Treatment: COSTBENEFIT	0.313* (0.178)	-0.027 (0.174)
Observations	1441	1446
BENEFITS vs COSTS	0.000	0.397
BENEFITS vs COSTBENEFIT	0.000	0.860
COSTS vs COSTBENEFIT	0.000	0.295
Mean of dependent variable CONTROL	4.301	3.909
SD of dependent variable CONTROL	2.294	2.386

This table shows the treatment effects of our experiment on demand for disclosure regulation and economic policy satisfaction. The specification is $Y_i = c + \sum_{j=1}^3 \varphi^j T_i^j + \varepsilon_i$, where Y_i is either demand for disclosure regulation or policy satisfaction and T_i^j are indicator variables for the three treatment groups. The baseline group is CONTROL, and c is the mean of the dependent variable Y_i under CONTROL. Treatment: COSTS is equal to 1 for the sample of individuals subject to the costs of disclosure treatment. Treatment: BENEFITS is an indicator variable equal to 1 for the sample of individuals subject to the benefits of disclosure treatment. Treatment: COSTBENEFIT is an indicator variable equal to 1 for the sample of individuals subject to the treatment that includes both costs and benefits of disclosure. Demand for disclosure regulation represents how much firm decision-makers support disclosure requirements. Economic policy satisfaction represents how much firm decision-makers are satisfied with economic policy in general. All dependent variables are measured on a scale that ranges from 0 to 10. The table also reports the p -values for the tests of differences in the treatment effects across treatments. At the bottom of the table, we report mean and standard deviations of dependent variables measured using only information from the control group. The sample is based on 1446 observations. Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

sure regulation by 0.781 points on average. The effect of the BENEFITS treatment is also statistically and economically significant, increasing demand for disclosure regulation by 1.176 points on the 10-point Likert scale. The latter finding suggests that participants view the market-wide benefits of disclosure regulation positively, even though the reference to stricter audit and enforcement procedures points to firm-level costs, consistent with managers internalizing at least some of the market-wide benefits of disclosures, plausibly because these benefits are likely to spill over to the firm (e.g., in the form of lower cost of capital or easier access to capital markets).

The coefficient estimate for the COSTBENEFIT treatment amounts to about a third of one point on the Likert scale (0.313) and is statistically different from zero. This pattern implies that the information in the BENEFITS treatment leads to higher treatment intensity than the COSTS treatment, consistent with the benefits being less prevalent in how control group participants assess disclosure regulation (or participants having weaker priors about the benefits). Thus, in the individual treatments, we need to adjust our estimates for this difference. We find that the

effect of the BENEFITS is still 1.1 times larger than that of the COSTS treatment.¹⁸ Overall then these findings imply that any disclosure regulation requires more specific communication about expected benefits if regulators aim to enhance acceptance among affected firms.

5.3.2 Heterogeneity Across Usefulness of Competitors' Disclosures

Irrespective of any information treatment in the experiment, at least some managers will also have experience in the use of corporate disclosures. The GBP survey captures this experience through a pre-treatment question about managers' use of information from disclosures by peer firms. If they use those disclosures, they likely have awareness of the benefits of corporate disclosures beyond any treatment. In a further analysis, we exploit this data to examine whether the participants' reactions to the information treatment interact with their innate views. Table 5 presents this cross-sectional analysis of the main results where we interact the TREATMENT indicator with an indicator variable that is equal to 1 if participants indicate, prior to the information treatment, that they perceive the disclosures of their firms' competitors as being somewhat useful (i.e., with a score of at least 3 on a Likert scale from 0 to 10).

The results in Table 5 meaningfully correspond with these pre-treatment views. Columns (1) and (2) present the baseline effect and a positive and statistically significant coefficient estimate of 1.163 for the USEFULNESS indicator, suggesting that participants who view disclosures of their peer firms as being generally useful (without any information treatment) express a greater demand for disclosure regulation. Column (2), in particular, is interesting in this regard as it reveals a negative coefficient estimate (albeit statistically insignificant) for the interaction term, suggesting that the generally positive treatment effect of the salience of disclosure benefits is muted for those managers who were aware of those benefits, even without the information treatment. This result also confirms that the treatment worked for at least some participants (without such experience).

A different picture emerges from the results for the COST treatment. While column (1) implies that the salience of disclosure costs mutes the perceived demand for disclosure regulation statistically significantly (-0.524), participants who view their competitors' disclosures as more useful react even more strongly to the cues in the COST treatment. The effect is significant and large, implying that, although they have relatively strong priors about disclosure benefits, they judge that those benefits do not warrant higher costs. Overall these results suggest that managers who are experienced in the use of disclosures provided by their peer firms and thus plausibly have some intuition about the market-wide benefits of disclosure regulation are also more sensitive to the salience of disclosure costs. This result could be consistent with firms previously unintentionally overweighting these benefits relative to the costs if they benefit from disclosures of their peer firms.

¹⁸ Under the assumption that the treatment effects are additive, i.e., $\varphi^1 + \varphi^2 = \varphi^3$, the adjusted effect is $(1.176)/(0.781 + 0.313) = 1.075$.

Table 5 Heterogeneity in the Demand for Disclosure Regulation Across Managers' Pre-Treatment Views of Disclosures

	Usefulness of competitors' disclosures			
	Demand for disclosure regulation	Demand for disclosure regulation	Policy satisfaction	Policy satisfaction
	COSTS	BENEFITS	COSTS	BENEFITS
Treatment × Usefulness	-0.871** (0.358)	-0.567 (0.356)	-0.088 (0.385)	-0.377 (0.375)
Treatment	-0.524** (0.205)	1.329*** (0.213)	0.025 (0.214)	0.264 (0.209)
Usefulness	1.163*** (0.253)	1.163*** (0.253)	0.451 (0.277)	0.451 (0.277)
Observations	722	728	727	728
Mean of dependent variable CONTROL	4.301	4.301	3.909	3.909
SD of dependent variable CONTROL	2.294	2.294	2.386	2.386

This table shows the heterogeneous effects of the information treatments on participants' demand for disclosure regulation and satisfaction with economic policy, using participants' pre-treatment view of the usefulness of competitors' disclosures as the interaction term. The specification is: $Y_i = \kappa + \phi L_i \times T_i + \phi T_i + \chi L_i + \nu_i$. Treatment T_i : COSTS is equal to 1 for the sample of individuals subject to the costs of disclosure treatment. Treatment T_i : BENEFITS is an indicator variable equal to 1 for the sample of individuals subject to the benefits of disclosure treatment. The baseline group is CONTROL, and κ is the mean of the dependent variable Y_i under CONTROL and if group indicator L_i is zero. We group respondents into two groups based on their self-reported perceived usefulness of competitors' disclosures: 0–2 (baseline), 3–10 (useful). Demand for disclosure regulation by firm decision-makers supports disclosure requirements (on a scale from 0 to 10). Economic policy satisfaction represents how much firm decision-makers are satisfied with economic policy in general and is also measured on a scale from 0 to 10. Robust standard errors are in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5.4 Conclusions

We present evidence on how managers and other decision-makers of companies in Germany perceive the costs and benefits of disclosure regulation, especially when a firm both sends signals to other market participants and receives them from the financial statements of competitors and other peers. We use a survey experiment to illustrate how a manipulation of the salience of the costs of documentation requirements (or, more generally, bureaucracy) associated with disclosure regulation has negative effects on the perception of disclosure regulation while the salience of the capital market benefits of corporate transparency has positive effects. These results are consistent with managers and decision-makers seeing the cost-benefit trade-off that accounting research has established on the macro level.

These findings can be a starting point for future research that informs regulators about the design and communication of future disclosure requirements, such as the current endeavors to expand ESG reporting. For example, many managers have expressed highly critical views of regulations such as the CSRD or, more specifically, the ESRS (e.g., Bischof et al. 2024b). Findings like the ones presented in this section

suggest that such a pattern of negative perception is also consistent with a regulator's failure to establish a market-wide understanding of the benefits of regulation.

6 Concluding Remarks

As conceptualized by our sender/receiver framework and as supported by the presented research, transparency manifests at the micro level through communication. Regulation can alter and complicate that communication. Our survey data collected by the German Business Panel highlight some channels through which business decision-makers become informed about tax regulation. It seems that decision-makers' personal attributes, such as tax literacy, are crucial. Concurrently, as a substitutional channel, our survey respondents rely on external tax advice to substantiate their tax-related decisions. As sound business decisions are contingent on the decision-maker having access to transparent information and being able to process that information, it is important to understand how personal attributes can shape the information environment of firms and consequently their financing and investment decisions.

Moving from the single decision-maker case to delegated decision-making, information has always been a focal point of the analysis. Our work in the area of work from home settings revisits this aspect by focusing on organizational designs that facilitate the information exchange necessary in WFH settings. Building on the key findings from the agency literature, we explore how applied organizational design choices, like hybrid work schemes, can enhance information exchange between sending workers and receiving superiors.

While our first two settings study transparency questions when signals between senders and receivers of information can be inferred from observational data, our last setting explores the topic of public financial disclosure when signals are randomly provided to survey participants. Here the firm receives a signal sent by interest groups in an experimentally manipulated way. This allows us to study how much different sorts of messages can change the demand for disclosure regulation. We know little about the actual preferences and perceptions that drive firm decision-making in this regard. Again, using survey data from the German Business Panel, we show how the preferences of firm decision-makers for public disclosure can be influenced by modifying the salience of the costs and benefits of disclosure, supporting the notion that they view disclosure decisions as a consequential strategic choice.

Table 6 provides an overview of how the transparency framework underlying this research is applied to the three exemplary analyses presented, illustrating the role of transparency in regulation, within firms, and in markets.

We hope that our work adds to the understanding of how transparency manifests in organizations and how it affects society. Our findings so far have reinforced our priors that details matter when it comes to transparency. Business decisions are sometimes misguided as decision-makers sometimes fail to assess information correctly. Providing transparent information is context-dependent and costly. Organizational designs often fail because transparency levels are too low or too high. Public disclosure can create societal benefits but can also impose costs on firms, re-

Table 6 Role of transparency in regulation, within firms, and in markets: Three applications

Transparency dimensions	(1) Demand for tax advice and tax literacy	(2) Work-from-Home	(3) Firm-level demand for financial disclosure regulation
Sender	Tax regulators: legislators, tax administrations, tax courts	Employees	Firms subject to disclosure regulation
Receiver	Decision-makers in firms	Management	Peer firms
Signal(s)	Complex information about tax regulation, especially tax rate, tax loss	Productivity measures, either sent (remote) or observed (in-office)	Financial (and non-financial) results
Disclosure	Information about tax regulation disclosed by legislators, tax administrations, and tax courts	Whether or not these measures are sent, choice of hybrid versus full-remote setting, observability of productivity in-office	Information about a firm's financial and non-financial performance
Accuracy	Additional tax knowledge (tax advice, tax literacy) improves accuracy of tax expectations	Verifiability of productivity measures for remote work, link of observable in-office outcomes with productivity	Accuracy of reports depends on the nature of the fundamental business (e.g., the fundamental accruals in earnings reports) and the implicit and explicit reporting choices of the firm (e.g., discretionary accruals in earnings reports)
Clarity	Additional tax knowledge (tax advice, tax literacy) improves clarity of information on tax rates and tax losses	Ability of management to infer employee productivity from measures or observed behavior	The clarity depends on the information processing by the peer firms (receivers)

This table shows how the transparency framework that forms the basis of this research is applied to the presented three exemplary analyses that showcase the role of transparency in regulation, within firms, and in markets

distribute wealth, and fail to reach its societal objective by creating a false impression of transparency.

The fascinating aspect of all this is that transparency spans multiple fields. Its technical aspects relate to information systems and engineering. Its regulation is subject to legal analysis. Its theoretical aspects shape information economics and information design. Its communicational core is studied extensively in psychology. Its organizational implications are the subject of organizational behavior. And its market outcomes affect fields such as marketing, finance, and labor economics. Finally, its societal consequences are a topic for sociology, political science, and other fields of social science.

To us, the grand challenges in this area are thus cross-cutting. For example, how can digitalized data detached from individual communication flows be leveraged for decision-making and regulation? How will artificial intelligence affect the demand for transparency? Are trust and transparency complements or substitutes? Can transparency be too much to cope with? Can transparency destroy altruism? Does information supply create information demand? Does public transparency crowd out private information production? Can transparency regulation be an efficient market coordination tool?

All these questions are broad, and the informed reader might argue we already have evidence that speaks to (some of) them. However, our point is that the answers to most, if not all, of these questions will likely be highly context-specific. Details will matter. In some settings, a specific transparency-related mechanism will work well, while in other supposedly similar settings, it will fail. As accountants and researchers, we take this as good news. Our hope is that, by “accounting for transparency”, we can continue to join others to sort out what works and what does not in this realm, one study at a time.

7 Appendix

7.1 The Questionnaire

7.1.1 *Prior*

To what extent does your company gain valuable information about competitors from the disclosures of other companies in your industry (e.g., the publication of annual financial statements in the Federal Gazette)?

None (0) — Very many (10)

7.1.2 *CONTROL*

In your opinion: Based on the current level of corporate transparency, how would you adapt regulations on transparency in your industry?

Much less disclosure requirements (0) — No change (5) — Much more disclosure requirements (10)

7.1.3 TREATMENT I: COSTS

Background information:

More and more reporting, information and verification requirements are making everyday business life more difficult.

The German Federal Statistical Office's Bureaucracy Cost Index (BKI), for example, has recently recorded a slight increase. The BKI makes the bureaucratic burden on companies tangible and shows how it develops over time. This includes applications, notifications, labels, statistics, or verifications.

(Source: Federal Statistical Office)

7.1.4 TREATMENT II: BENEFITS

Background information:

Cases like Wirecard call for stronger controls and a higher level of transparency.

Trust, integrity, and reliable players are essential for a stable financial market. Manipulation of the balance sheets of capital market companies is shaking confidence in the German financial market and causing it serious damage. Following the events surrounding Wirecard, it is necessary to strengthen the regulatory framework for the management and supervision of companies. The Act to Strengthen Financial Market Integrity is intended to help with this. The aim of the law is to restore and permanently secure confidence in the German financial market.

(Source: The Federal Government)

7.1.5 TREATMENT III: COSTBENEFIT

Background information:

On the one hand, more and more reporting, information, and verification obligations are complicating everyday business life.

The German Federal Statistical Office's Bureaucracy Cost Index (BKI), for example, has recently recorded a slight increase. The BKI makes the bureaucratic burden on companies tangible and shows how it develops over time. This includes applications, notifications, labels, statistics, or verifications.

(Source: Federal Statistical Office)

On the other hand, cases like Wirecard call for stronger controls and a higher level of transparency.

Trust, integrity, and reliable players are essential for a stable financial market. Manipulation of the balance sheets of capital market companies is shaking confidence in the German financial market and causing it serious damage. Following the events surrounding Wirecard, it is necessary to strengthen the regulatory framework for the management and supervision of companies. The Act to Strengthen Financial Market Integrity is intended to help with this. The aim of the law is to restore and permanently secure confidence in the German financial market.

(Source: The Federal Government)

Acknowledgements We gratefully acknowledge funding by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation): Collaborative Research Center (SFB/TRR)—Project—ID 403041268—TRR 266 Accounting for Transparency.

Conflict of interest C. Sureth-Sloane is a member of the Supervisory Board of Deloitte in Germany, a role strictly limited to supervisory functions within the German two-tier system. She confirms that this research has been carried out independently and has not been influenced by any party related to her supervisory role. J. Bischof, J. Gassen, A. Rohlfling-Bastian and D. Rostam-Afschar declare that they have no competing interests.

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