What Does Consulting Do?

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March 20, 2025

Preliminary and incomplete—but rapidly progressing.
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Abstract

We study the take-up of management consulting and its effects on client firms and workers. We leverage unique business-to-business transaction data based on the universe of Belgian value-added tax records from 2002 to 2022. This dataset allows us to comprehensively map and analyze the links between strategy consulting and client firms in an advanced economy. Our first set of results sheds light on the determinants of take-up of consulting among client firms. We document that consulting engagements are disproportionately concentrated among large and growing firms with low profitability and low total factor productivity. Conditional on take-up, the average firm spends about 4% of their payroll on consulting services, sharply concentrated in the first year of take-up. Our second set of results documents effects of consulting engagements on client firms and workers. Our identification strategy exploits the sharply episodic nature of consulting engagements and draws on event study designs comparing clients to matched control firms with similar industry, size, and productivity characteristics. We find that consulting engagements are associated with increases in labor productivity and, if anything, increases in firm size. We find positive and persistent effects on labor revenue shares and average hourly wages. Workforce composition shifts towards a higher share managerial workers. We find no evidence for increased outsourcing. Most effects persist for several years after the consulting engagement ends. Overall, the results are consistent with a view that consultants catalyze lasting and moderately positive organizational transformations in client firms—without negative effects on labor shares and average wages.

We thank Simon Handreke for excellent research assistance in early stages of this project. We thank Nick Bloom and David Sraer for useful feedback. The views expressed are those of the authors and do not necessarily reflect those of the National Bank of Belgium.

1 Introduction

Strategy and management consulting, estimated to have a market size of several hundreds of billions of dollars, shapes strategic and organizational decisions at the highest levels of corporations and governments.[1] Consultants advise firms on fundamental questions of competitive strategy, organizational design, and operations. Effects of consulting can go well beyond an increase in managerial quality, affecting stakeholders and particular workers. For instance, potential improvements in labor productivity could boost wages, or consultants may help managers redirect rents from workers to themselves or shareholders. According to an alternative view, consultants' recommendations may not translate into lasting organizational change, e.g., if firms lack implementation capacity or if consultants simply legitimize changes that management already intended to pursue. Yet, despite the ubiquity and *a priori* economic significance of the consulting industry, empirical research has been limited by the lack of comprehensive data on consulting relationships. Consulting firms are typically closely held partnerships that do not disclose client lists (Baaji, 2022, pp. 52–53), while client firms rarely announce or detail their consulting engagements, making it difficult to identify the scope, client network, and causal effects of strategy consulting on client organizations.

We overcome these measurement challenges by drawing on business-to-business transaction data to create the first comprehensive dataset of major strategy consulting relationships in an entire economy. Our approach draws on administrative value-added tax (VAT) records in Belgium matched with balance sheet data covering 2002 to 2023. We focus our analysis on the eleven largest strategy and management consulting firms ("consultancies" going forward) and identify the universe of their transaction links with their domestic client firms.

Our administrative data on major consulting relationships permit us to establish several new descriptive facts about the consulting market and client firms. Our analysis provides the first detailed description of the firm-level determinants of consulting take-up and spending in an entire economy. Consulting client firms exhibit distinct characteristics compared to non-clients. They are significantly larger, both in terms of employment and revenue, with take-up sharply concentrated among the largest firms. Recent firm growth, e.g., in terms of revenue and employment growth, also predicts take-up. Consulting engagements are disproportionately concentrated among firms with high labor

[1] See Appendix Figure A.1 for an overview of wide-ranging estimates of the size of the global consulting market.

productivity. However, we find a robust negative relationship between consulting service take-up and total factor productivity (TFP), consistent with firms whose operational inefficiencies create potential gains from interventions being more likely to retain consulting services. Moreover, client firms have lower profitability compared to non-clients, e.g., measured by the gross margin. Firms with lower leverage are more likely to take up consultants. Overall, our results suggest that large and growing firms with low TFP and low profitability but some financial flexibility disproportionately enlist external consulting services. Conditional on take-up, we observe substantial variation in annual spending on strategy consulting, averaging around EUR 245,000 (median) to EUR 328,000 (mean), corresponding to approximately 1% (median) to 4% (mean) of annual payroll. Larger firms and those with lower TFP and lower profitability exhibit systematically higher consulting expenditures, painting a similar picture for intensive-margin use of consulting services as for extensive-margin selection.

To identify the effects of consulting engagements on client firms, we exploit their sharply episodic nature in matched event study designs. We define consulting events as episodes where a firm's total spending on major strategy consultancies is at least three times its average spending in the prior three years. To ensure we capture meaningful consulting engagements while avoiding small or routine consulting work, we require a minimum increase of EUR 50,000 in the event year. We construct a balanced panel for each of the firms with a thus-defined consulting event in a four-year window around the event. The episodes we identify represent major consulting engagements: treated firms increase their consulting spending by about EUR 700,000 on average in the event year, equivalent to about 4% of their wage bill. We then match each consulting client firm to control firms in the same industry with similar pre-event characteristics but without a consulting event in the event year. Specifically, we select control firms within the same year, sector, and employment bin and, in within that cell, based on a propensity score based on firm characteristics measured in the year before the event. Because we match only on baseline-year levels of these key firm characteristics, we can test our key identification assumption by examining whether control firms were indeed on similar trajectories as treated firms in the pre-period—and find overall broadly similar pre-trends.

Our event study analysis reveals that strategy consulting engagements significantly reshape the productivity, scale, and organizational structures of client firms. Upon taking up consulting, treated firms experience sustained growth in both revenue and employment, consistent with consulting-induced expansions in firm scale. These changes are

accompanied by sharp increases in labor productivity, consistent with the interpretation that consulting interventions lead firms either to adopt efficiency-enhancing technologies and practices or to improve product quality and pricing power, as captured by our revenue-based productivity measures. We also document an increase in TFP.

Consulting engagements lead to persistent increases of average wages at client firms, with wages consistently about 2 percentage points higher in treated compared to matched controls. Importantly, we find no evidence of a decline in the labor share or a shift toward outsourcing or automation. In fact, our evidence directly points away from the hypothesis that consulting-driven productivity gains arise from reducing labor's share or from rent extraction at the expense of workers.

Lastly, we document lasting, organizational changes at client firms following consulting engagements, providing a mechanism for why we observe long-lasting effects on core, economic outcomes at client firms while consulting engagements themselves have short durations. We find that the share of managerial workers increases substantially—by approximately 10% relative to controls—indicating that consulting interventions trigger meaningful organizational restructuring toward enhanced managerial oversight. At the same time, treated firms increase employment and outsource less, as measured by the use of temp agency workers.

Due to the lack of comprehensive and high-quality data on the consulting industry, no prior work has used administrative data to comprehensively document strategy consulting relationships, making our paper the first, to our knowledge, to establish basic empirical patterns of take-up, spending, and firm-level effects at scale. Our paper builds on several strands of the literature examining the role of management practices and consulting in shaping firm outcomes. Management capabilities have been increasingly conceptualized as a "technology" that underpins productivity (Bloom and Reenen, 2007; Bloom, Sadun, and Van Reenen, 2016). Randomized evaluations in developing contexts confirm that targeted consulting can substantially improve performance (e.g., Bloom et al., 2013; Bruhn, Karlan, and Schoar, 2018; Bloom et al., 2020). Yet, it remains unclear whether these results generalize to high-income settings, where firms exhibit relatively sophisticated management practices (Bloom and Reenen, 2010; Bloom et al., 2012; Bloom, Sadun, and Van Reenen, 2016). We focus on a high-income country with high levels of productivity. Strategy and management consulting in such environments may focus on different strategic or organizational changes rather than basic "lean" or "quality control" measures. Nonetheless, our results point towards productivity-enhancing effects of consulting. Our

study also contributes to a strand of the literature that has documented the role of management styles and top executives' backgrounds on firm structure and performance (Bertrand and Schoar, 2003; Bennedsen, Pérez-González, and Wolfenzon, 2020; Bandiera et al., 2020) as well as the distribution of rents between workers and shareholders (Acemoglu, He, and Maire, 2022). Finally, our paper relates to existing empirical work using matched event studies to identify the effects of private equity and leveraged buyouts (e.g., Davis et al., 2014).

The rest of the paper is organized as follows. Section 2 provides a primer on strategy and management consulting firms. Section 3 describes our data, sample construction, and identification of consultant-client-firm links. We describe the selection into buying consulting services and descriptive results in Section 4. Section 5 describes our event study approach, and Section 6 reports its results. The last section concludes.

2 Primer: Strategy Consulting Firms

We provide an overview of the strategy consulting sector and existing hypotheses about their operations, client selection, and effects on client firms.

2.1 The Business Model

Strategy and management consulting firms provide a wide array of advisory services to businesses and organizations seeking to improve their performance, adapt to changing market conditions, or solve specific organizational challenges. While the exact offerings vary by firm, these services typically encompass several key domains (see McKenna, 2006a; Kipping and Clark, 2012, for surveys and historical accounts of the consulting industry).

The core services of strategy consulting firms include corporate strategy development, organizational restructuring, and operational improvements (Baaji, 2022). Corporate strategy work involves helping clients define their long-term objectives, identify growth opportunities, refine their business models, and make critical decisions about resource allocation. Organizational consulting focuses on designing optimal corporate structures, improving governance mechanisms, and managing change processes within the organization.

Operations consulting represents one of the largest practice areas, estimated to be around 25-31% of consulting revenues (Poulfelt et al., 2018). This practice area includes

process optimization, performance management, procurement and supply chain management, and project management services. Many strategy consulting engagements begin with diagnostic work to identify inefficiencies or underperforming areas within the client organization.

Over time, the industry has evolved to include implementation support as an increasingly important component of consulting services. As Christensen, Wang, and van Bever (2013) notes, consulting clients increasingly demand practical implementation assistance rather than merely receiving strategic recommendations.

Strategy consultants usually take on specific projects and bill hourly, with teams of consultants of various seniority. While some consultancies may specialize in specific client sectors, we select general strategy consultancies (with summary statistics on consulting firms and clients below).

2.2 Potential Mechanisms for Impact

Our review of the academic literature and expert observers permit us to formulate three broad (and not necessarily mutually exclusive) views of strategy consulting, with associated causal mechanisms and predictions for our research design:

First, consulting firms may engage in *transfer of knowledge and best practices* (see, e.g. Bloom et al., 2013; Bruhn, Karlan, and Schoar, 2018). According to this view, the consulting service may permit a client firm to reach higher productivity or cost minimization, improving profits at least in the long run, through actions the client firm would not have taken absent the consulting treatment.

Second, consulting services may *lend legitimacy and external validation* of pre-formed managerial decisions (see, e.g., Pfeffer, 1993; McKenna, 2006a). According to this view, the consulting event may facilitate certain actions that otherwise would not have been taken, or reduce disruption and conflict for an action managers would have needed to take anyway.

Third, consulting services may lead to *rent seeking*, permitting, e.g., managers to reallocate organizational rents from the broader workforce to themselves or from shareholders to managers (McKenna, 2006b).

3 Data: Universe of Business-to-Business Transaction Data

We detail our datasets, the identification of consulting spells, and our sample selection.

3.1 Datasets

We draw on and merge confidential firm-level data provided by the National Bank of Belgium (NBB) (see also Bernard et al., 2022; Baqaee et al., 2023). These administrative records span multiple linked datasets—each identified by the same unique firm identifier—and collectively allow for a comprehensive view of Belgian firms' activities and purchasing activities.

B2B Transactions Dataset. The key lever for our analysis is information on domestic firm-to-firm transactions derived from VAT (value added tax) customer listings. VAT-liable firms in Belgium must submit annual listings detailing the total invoiced sales (above a small regulatory minimum threshold) to each of their Belgian corporate customers. These listings are consolidated into the B2B Transactions Dataset at the NBB. Each record indicates the total annual (ex-VAT) value of goods or services firm i sold to firm j. These flows are highly reliable as they are subject to financial penalties for late or erroneous filings.

This dataset allows us to precisely measure the uptake and use of consulting services, and linking those transactions to supplier firms (consultancies) and their client firms. We detail the definition and identification of strategy consulting spells below.

Central Balance Sheet Office (Annual Accounts). Most incorporated Belgian firms file annual accounts with the Central Balance Sheet Office at the NBB. The accounts contain detailed financial information such as total sales, intermediate inputs, labor costs, balance sheet items, and value-added. Larger firms submit extensive reports each year; smaller ones may file abbreviated versions, omitting certain variables (in particular, revenue and input costs). For these variables, we draw on measures from VAT declarations (see below).

VAT Declarations. Beyond the annual customer listings, VAT declarations also include quarterly or monthly filings of total sales and purchased inputs for all VAT-liable entities. Since VAT returns are mandatory and more frequent than annual accounts, they capture firm activity more promptly. We use these data to supplement missing or incomplete

financial items for smaller firms, allowing us to track performance metrics consistently across the entire sample.

Crossroads Bank of Enterprises (CBE). This administrative registry (by the Federal Public Service Economy public agency) provides firm-level identifiers, details on ownership, legal form, year of establishment, sector of activity (NACE classification), and geographical location (postal code).

3.2 Sample Construction

We create a panel of non-financial Belgian firms from 2002 to 2023 with both firm-level accounting variables as well as comprehensive data on spending on consulting services.

We exclude purely administrative or dormant entities with negligible operating activity as well as firms in NACE (Statistical Classification of Economic Activities in the European Community) categories 11 (institutional sector), 12 (financial institutions), 13 (government sector), and above 82 (government-owned firms such as the national railway and postal services, entities in the government institutional sector). Banks are by default excluded from our sample because they lack annual accounts.

For our event study analysis, we remove firms that lack complete annual accounts from four years before to four years after designated take-up events and remove firms with fewer than ten full-time equivalent employees in the year before a take-up event. For our descriptive analysis, we sometimes draw on broader samples.

We convert all nominal amounts to 2020 euros using the GDP deflator.

3.3 Identifying Management Consulting Firms

A key advantage of our comprehensive Belgian B2B transaction data is that it allows us to systematically identify and track the largest strategy and management consulting providers in the economy, together with their network of domestic clients. Drawing on industry rankings and public directories, we pinpoint a set of 11 major strategy and management consultancies that focus on high-level organizational and strategic advice (rather than primarily offering audit or routine advisory services). We then link these consultancies to the corresponding legal entities and VAT numbers recorded in the CBE database, ultimately consolidating 50 Belgian VAT numbers affiliated with our target set

of firms.[2]

In line with our objective to focus on management consulting that shapes firms' strategic or organizational decisions, we exclude the "Big Four" accounting companies (Deloitte, EY, KPMG, and PwC). Although these firms do offer strategy and management consulting services, the bulk of their revenues stems from audit, assurance, and tax advisory engagements, making it difficult to parse pure strategy consulting from other services. Restricting attention to the 11 largest specialist consultancies ensures that the client–consultant relationships we observe center on precisely the kind of strategic and organizational interventions that lie at the heart of our analysis.

This coverage of all VAT-registered transactions provides a uniquely complete map of where, when, and how consulting engagements occur. By capturing the entire universe of client invoices for these consulting providers, our data overcome a longstanding empirical challenge: client lists are typically confidential, and many engagements remain undisclosed by either party. In our setting, however, the VAT records naturally reveal each client–consultant link, enabling us to identify every instance in which these major consulting firms bill domestic clients.

4 Mapping Take-Up and the Network of Consulting and Client Firms

We start our empirical analysis with a comprehensive *description* of the Belgian consulting industry. We detail the client firms' characteristics in terms of selection into taking up consulting services and the volume of the transactions. To our knowledge, this descriptive account is new to the literature. It permits us to answer substantive questions. For instance, do struggling firms on average take up consulting? Or does consulting, on average, target firms on positive growth trajectories? This descriptive analysis complements our event studies in the next section.

[2]In rare cases, the VAT numbers are also associated with foreign branches of multinational consulting firms, which we account for by using the associated VAT numbers. Hence, for prominent multinational consulting companies, our strategy covers both domestic and international consulting links.

4.1 Summary Statistics

As a starting point, we report basic summary statistics for client firms, non-client firms, and consulting firms in Table 1.

Client Firms In the table we compare ever-buyers to never-buyers of consulting services and label the former clients and the latter non-clients. First, focusing on client (column 4) versus non-client (column 3) firms, client firms tend to be larger along most dimensions. At the median, wages for client firms (EUR 86,446) are more than double those of non-client firms (EUR 35,608). Similarly, clients exhibit much higher median value added (EUR 7.63 million vs. EUR 144,000 for non-clients), revenue (EUR 31.5 million vs. EUR 534,000), and employment (78.45 FTE vs. 2.26 FTE). Mean values echo this pattern, although the magnitudes grow even larger.

In the table, we also report results for our sample of client firms in the year before they take up consulting services (Column (5)). We discuss those results in Section 5.

Consulting Firms Turning to consulting firms themselves (column 2) relative to their client firms (column 4), the median wage among consulting firms (about EUR 127,954) is higher than that of client firms (EUR 86,446). However, client firms are noticeably bigger in terms of total size measures such as median revenue (EUR 31.5 million for clients vs. EUR 14.1 million for consulting firms). Consulting firms do exhibit strong labor productivity at the median (VA/FTE of EUR 173,136 vs. EUR 137,172 for clients), but, at the mean, client firms have higher labor productivity, reflecting a wider right-tail distribution among client firms. The rest of the paper is focused on client firms, their take-up decisions, and behavior pre and post consulting events.

4.2 Distribution of Firm-Level Expenditures on Strategy Consulting

Figure 1 plots the distribution of annual spending on strategy consulting services among client firms. For this analysis, the sample is restricted to firms with strictly positive consulting spending in a given year. It aggregates spending within client firm and year across consulting firms for a measure of total, annual spending on strategy consulting. Appendix Figure A.2 for a disaggregated version on the transaction-spell level.

Panel (a) plots spending, measured in 2020 euros (natural logarithm). The mean is 12.7 and the median is 12.41, implying a mean annual expenditure of EUR 245,000 and a

mean annual expenditure of EUR 328,000. There is dispersion of spending on consulting services, with relatively fat left fails, so that mean and median align.

The dispersion in expenditure on consulting could reflect differences in transaction volume that is unrelated to client firm size, or could reflect differences in client size with transactions scaling proportionately. Panel (b) gauges this question by plotting consulting spending as a share of client firm payroll in a given year. The median firm that purchases consulting services spends an amount corresponding to about 1% of their annual payroll on consulting. Mean of consulting spending normalized by payroll is 4%. That is, for most firms, consulting services are a relatively homogeneous small portion relative to their scale. We confirm this perspective below in our analysis of client firm correlates of consulting take-up, find a positive relationship between consulting spending and firm sizes.

4.3 Extensive-Margin Analysis: Who Takes Up Consulting Services?

We now study the client firm correlates of take-up. We first study the extensive margin—whether to take up consulting at all—before turning to the intensive margin—consulting expenditure volume in a given year conditional on take-up.

Overall, we find that consulting client firms systematically differ from non-clients. They predominantly consist of the largest firms in terms of revenue and employment. They further exhibit higher recent growth, higher labor productivity and lower leverage ratios, but notably lower total factor productivity and lower profitability.

Figure 2 presents predictors of extensive-margin take-up of consulting services across various firm characteristics. The figure is a firm-level binned scatter plot of an indicator for consulting service purchases in year t against firm characteristics measured in year $t-1$. The sample is firms with no consulting purchases in $t-1$, so that we study newly establishment consulting engagements.[3] Appendix Figure A.3 replicates this analysis with year-industry fixed effects. Table 2 summarizes the results in univariate and multivariate regressions.

Consulting services are predominantly taken up by firms that are larger, both in terms of revenue and employment (Panels (a) and (b)). There is a distinct hockey stick pattern, with a mostly flat gradient of take-up at a low level close to zero, and a sharp increase in

[3]We find that consulting engagements are episodic and often concluded within a calendar year, except for a small set of "always-takers" that consists of extremely large firms.

the probability of take-up among the largest firms.[4]

A central question is whether consulting may boost firm-level productivity, and whether already-productive firms take it up or whether laggards bring in consultants to catch up. For productivity, we document a mixed image (Panels (e) and (f)). We find that labor productivity, measured as log revenue per worker, strongly predicts consulting take-up. The relationship is largely flat up to the median level of labor productivity and then strongly increases. For total factor productivity (TFP), we find a large negative relationship with take-up with the firms with the lowest TFP having the highest take-up of consulting services.[5] Firms with low TFP might benefit the most from improved management practices through consulting (Bloom et al., 2012; Bloom, Sadun, and Van Reenen, 2016), yet such firms may simultaneously lack the managerial expertise necessary to recognize their need for external consulting support. We suspect that the reconciliation of labor productivity and TFP relationship relates to labor intensity (vis-à-vis capital or intermediate inputs), but note that these two results are robust to controlling for sector-year fixed effects (Appendix Figure A.3).

Turning to measures of profitability and leverage (Panel (g) and (h)), we find that profitability (EBITDA/revenue) negatively predicts take-up. That is, unprofitable firms are more likely to take up consulting, consistent with cost pressure or need for restructuring triggering the firm's purchase of external management consulting. Finally, we next turn to leverage (debt-to-total-asset ratio) and find that lower leverage predicts consulting spending; firms with less debt obligations are more likely to enlist strategy consultants.

4.4 Intensive-Margin Analysis: Transaction Volume of Consulting Services By Client Firm Characteristics

We now turn to analyzing firm-level predictors at the *intensive-margin*: the amount of spending on consulting services conditional on take-up.

We present results in Figure 3. It mirrors the extensive-margin companion Figure 2, but we now plot as the outcome variable the volume of consulting services (2020 EUR,

[4]Complementing this perspective on firm size, we have also studied firm growth in the pre-period (-4 to -1), and found that revenue and employment growth in the last four years *positively* predict consulting take-up, particularly once one controls for sector-by-year effects. We will find similar patterns in pre-trends for employment and revenue in the event studies.

[5]We construct TFP by using information on value added (residualized by industry-year fixed effects) and estimating factor cost shares by industry for labor and capital (total assets), to identify Cobb Douglas output elasticities, and back out firm-level TFP.

ln) against firm characteristics. We consider only firms with strictly positive consulting spending in year t and plot consulting spending against characteristics in $t-1$. Appendix Figure A.4 does so with sector-year controls). Again, Table 2 summarizes the results in univariate and multivariate regressions.

Conditional on take-up, we find that size positively predicts consulting spending with an elasticity of about 0.3 to 0.5 for ln revenue and employment. That is, while larger firms purchase larger volumes of consulting services, the volume scales up substantially less than one to one.

Similar to our results for the extensive-margin analysis, we find a positive relationship between the volume of spending on consulting and labor productivity (though a decline in consulting volume for the firms with the highest labor productivity, although it may also capture outliers). We also find, again, a *negative* relationship between consulting spending and TFP: lower-TFP firms buy larger quantities of consulting services compared to more efficient ones.

We find a mildly declining relationship between consulting service spending and profitability, and a sharper drop for the most profitable firms. The relationship between consulting spending and leverage is mostly flat but similarly drops for the highest-leverage firms.

5 Event Study Design Exploiting Consulting Engagements

We now present event studies of consulting take-up on firm outcomes. We define events as sharp increases in consulting expenditure at client firms, and trace outcomes before and after among treated firms, compared to a set of matched control firms selected using propensity score matching based on pre-event outcomes.

5.1 Event Definition: Initiation of Major Consulting Engagement in Client Firms

We identify our event, the initiation of a major consulting engagement in client firms, as large, discrete jumps in a firm's annual spending on consulting services. Again, we restrict spending on consulting services to payments to the specific supplier firms that we have identified that predominantly engage in management and strategy consulting. Let $c_{i,t}$ be firm i's spending on consulting services in year t. We consider firm i to have a consulting

event in year t if its $c_{i,t}$ exceeds the average of $c_{i,t}$ over the past three years and, in absolute terms, exceeds EUR 50,000 (2020 EUR) in year t:

$$\text{ConsultingSpike}_{i,t} = \mathbb{1}\left(c_{i,t} \geq 3 \times \frac{1}{3}\sum_{k=1}^{3} c_{i,t-k}\right) \times \mathbb{1}\left(c_{i,t} \geq 50{,}000 \text{ EUR}\right). \quad (1)$$

With this restriction, we focus on the initiation of sizable new consulting engagements rather than incremental or low-level spending.

We then restrict our sample of consulting events to each firm's first such consulting event within our sample window and keep the firm regardless of whether or not it experiences a consulting event again after the first consulting event. Moreover, while we find that, on average, spending on consulting onsets as defined in Equation (1) exhibit a spike pattern, our definition in principle permits persistent increases or growth in this variable.[6]

Our restrictions lead to a sample of 325 firms that initiate a major consulting engagement in our sample window. We report summary statistics on treated firms that experience such a consulting event in Table 1 Column (5). Similar to the overall sample of client firms, treated firms are substantially larger and have higher labor productivity compared to non-client firms; but they are broadly similar to the overall sample of client firms that ever buy consulting services in our sample window.

5.2 Matched Control Group

We present our main strategy for constructing a suitable control group of firms for our sample of firms with consulting events in Section 5.1.

Matching on Observables Our primary approach matches each *treated* firm (i.e., a firm experiencing its first consulting event in year t) to control firms that never engage a consulting firm in our sample window. We focus only on potential treatment and control firms that survive in the entire event window we consider (i.e., as our event window is four years, we require firms to be observed from $t-4$ to $t+4$). We implement this matching procedure in two steps:

1. **Exact matching on broad industry, employment decile, and calendar year.** We

[6]The pre-period condition in Equation (1) means that 2005 is the first year in which a firm in our data can have a consulting event (with 2002-04 still serving as a pre-period for outcome variables).

require that a control firm be in the same broad industry (primary and manufacturing, utilities and construction, retail and wholesale, logistics and transportation, and services), be in the same decile of employment as the treated firm, and observed in the same calendar year t.[7]

2. **Propensity score matching on baseline characteristics in $t-1$.** Within each broad sector-year group, we select up to three control firms based on the propensity score using characteristics measured in $t-1$.[8]

By combining exact matching on sector, employment decile, and year with propensity matching on key firm-level variables, we seek to identify control firms with similar observable characteristics before the consulting event in the treated firms.

We end up with a sample of 296 treated firms (out of 325) that we match to 699 control firms. We drop 29 firms that either do not have a potential match in the same sector-employment decile-year cell or have potential controls with propensity scores outside the caliper. We consider a balanced panel of firms in the treated and control group and control group firms without a treatment event so that our approach sidesteps issues highlighted in the event study literature (see, e.g., Sun and Abraham, 2021).

5.3 First Stage: Characterizing Consulting Events

We start by presenting results on consulting expenditure itself, i.e., the first stage of our strategy. We do so in Figure 4. In Panel (a), we present results on take-up at the extensive margin, i.e., a firm-level indicator for having any positive level of consulting spending (without any restriction on volume) in a given year. We do not plot the control group firms because control group firms are never-takers (within our sample window), so all measures of consulting spending will be zero throughout for control firms. For the treated firms, we find flat pre-trends at a low level, confirming the underlying assumption of our event-based research design that consulting events are rare. At event time 0, firms that do take-up consulting see a large spike in this outcome. We also find that the event is lumpy: treated firms quickly return to zero or small consulting expenditure. Already one year

[7] We calculate employment deciles in the population of treated firms as treated firms are substantially larger than control firms.

[8] The characteristics we use for prediction of the propensity score are the (log) wage bill, (log) annual wage, (log) revenue, (log) total assets, and the employment decile, which we calculate in the population of treated firms. We use a caliper of 0.04 for the propensity score.

after the consulting event, only 40% of treated firms still buy consulting services. The fraction converges to about 20% after four years.

Additionally, Panel (a) shows an indicator for the presence of additional transactions with consulting firms other than the largest supplier in the event period, finding negligible, positive effects on this outcome, indicating that firms usually buy only from one supplier when they take up consulting. Complementing this perspective, Panel (b) shows the number of consulting suppliers, which is essentially 1 in the event period and then depreciates nearly one to one with the take-up indicator in Panel (a). Hence, these two figures show that consulting events are episodic and largely driven by one supplier firm, with about 40% of firms continuing consulting engagements after the first year.

In Panel (c), we present results on aggregate consulting expenditure (unconditional on take-up). In terms of timing, these results largely mirror those for extensive-margin take-up above. The overall spending on consulting increases to about EUR 700,000 in the event year and subsequently declines to about EUR 300,000 in the following year and then settles in a bit below EUR 200,000 in the subsequent year. We also plot the volume of transactions with the primary consultancy from the event period (if multiple), showing that the consultancy underlying the initial event accounts for essentially all of the post-event expenditure patterns.

Finally, Panel (d) complements Panel (c) by normalizing consulting spending by the wage bill. It shows that consulting engagements are typically large, about 4% relative to the wage bill, and then decline to an average of about 1% in the subsequent years.

We view the first-stage results as substantively interesting in their own right, rather than as a mere stepping stone towards the main firm-level outcomes (which we study next). Instead, our first-stage analysis confirms an intuitive but so far untested view of consulting: that management consulting is largely episodic in nature, with consultants usually spending no more than a year with the client firm, and then largely permanently ceasing interactions with client firms.[9] For instance, Bloom et al. (2020) summarize this view as follows:

> The received wisdom at a leading global management consulting firm when two of the authors were employed there was that such innovations lasted approximately three years. (p. 198)

[9] We note that by defining events as large increases in consulting expenditure, our research design drops a small share of firms that have persistent consulting relationships, which we have found are largely extremely large, often times quasi-public entities. This share of supplier-client links likely differs from our analysis sample and likely also constitutes substantively different relationships.

Our first set of event studies results also implies that any long-lasting effects of the consulting events on firm-level outcomes would plausibly stem from persistent organizational change brought about by decisions taken during that event, or persistent effects on manager behavior or practices, rather than from sustained input from management consultants.

6 Results: Effects of Consulting Events

We now present our results on firm outcomes. We do so in Figures 5—9. The figures are organized as Figure 4 but now plotting a series of outcome variables. We focus on the following core outcome variables: two firm size measures (revenue and employment), labor productivity (revenue per worker), TFP, the profit margin, and leverage. Those outcome variables mirror those in the descriptive analysis in Section 4. In addition, we now also plot labor-related outcomes that could indicate a shift in personnel policies or rent sharing, by studying the labor share (measured as the wage bill divided by revenue) and the log of mean wage.[10] For all variables, we normalize the outcome variable within the firm by dividing by the average pre-period level, i.e., we plot $\frac{Y_{i,t}}{\sum_{-4}^{-1} Y_{i,t}/4}$ (so that these values are centered around 1 in the pre-period). For variables that can be negative (profit margin), we instead take the within firm difference with the pre-period average, i.e., $Y_{i,t} - \sum_{-4}^{-1} Y_{i,t}/4$ (so that the profitability values are centered around 0 in the pre-period). We view these normalizations as an additional layer of alignment between the groups on top of the matching procedure discussed above.

We start by checking for pre-trends and understanding potential dynamic selection into consulting events, vis-a-vis existing views in the literature. We find broadly parallel pre-trends. We then move to studying the effects of consulting in the focal event period and the post-event outcomes.

6.1 Pre-trends and Pathways into Consulting Take-up

The event studies indicate broadly parallel parallel trends for our variables. We reiterate that our matching is based on one pre-period level, in $t = -1$, so that parallel pre-trends are not a mechanical result.

The broadly parallel pre-trends also indicate that, on average, consulting events are

[10] We have also experimented with labor share definitions using value added.

not systematically occurring in firms that do particularly poorly or well. For instance, a theory where management consulting attracts firms to restructure or particularly exposed to competitive pressures compared to its peers may exhibit lower profits or lower revenue or employment growth. Moreover, we may have expected an "Ashenfelter's dip" in performance-related outcome variables and indicates right before the event.

If anything, turning to revenue and employment (Figure 5), we find that firms grow somewhat more leading up to the event, rather than less.[11] Firms also do not appear to exhibit lower productivity growth (Figure 6, for labor productivity and TFP). Profits and leverage are also on broadly similar pre-trends (Figure 7). Finally, labor-related and organizational/personnel-related variables, namely labor share, wages, occupation composition and temp agency reliance (Figures 8 and 9), move strikingly similarly before the event.

Overall, our analysis of pre-event pre-trends point to essentially indistinguishable trajectories firms find themselves on leading up to the event (except perhaps for employment and revenue growth, consistent with the results in Section 4). We note that these parallel pre-trends are not mechanical, although the matching procedure and our normalization would have aligned average *levels*.

6.2 Effects on Firm Size

We now turn to the discussion of the effects of the consulting event on differential outcomes during the event (period $t = 0$) and its aftermath ($t > 0$) for treated firms to control firms. Supported by broadly parallel pre-trends one appealing interpretation of any gaps in outcome variables that may open up between the treated and control firms would indicate a causal effect of consulting itself. An alternative interpretation is one of dynamic selection sharply concentrated in the event period. Below, we describe these effects.

We start by studying effects on firm scale—revenue and employment. Shifts in these outcomes can be viewed as a basic measure of firm productivity (or shifts in costs). We report results in Figure 5. We find that firms grow upon taking up consulting. This effect could either indicate a conventional productivity effect: if consulting increases firms' productivity, optimal labor demand increases, leading firms to scale up.

[11] A possibility is to apply a more demanding matching procedure to align pre-trends in this variable, but we prefer to convey this fact as an interesting result. We have also experimented with control groups from the pool of future treated firms, when we found that pretends in these outcomes align.

6.3 Effects on Productivity

Next, we study productivity measures directly, reporting results in Figure 6. Consistent with a positive firm size effect, we find that labor productivity sharply increases when consultancies treat the client firm. We see a clear effect on labor productivity (Panel (a)). This effect could be driven by either a boost in efficiency (TFP), or could reflect a shift towards capital intensity—although the employment effects, if anything, point to a positive effect on employment.

To understand the scale and productivity effects more, we turn to our measure of TFP (Panel (b)). For this outcome, our design reveals more mixed but intriguing patterns. The conventional measure of TFP spikes in the event period as such—squarely consistent with the view that management consultants boost productivity by leading to either technological efficiency gains or boost product quality or prices (recall that our measure is revenue-based TFP and we do not have firm-level price information). However, we also present an alternative measure of TFP that nets out the mechanical effect of consulting on TFP itself (as the consulting event shows up as a large increase in intermediate inputs, which mechanically depresses value added and hence TFP). Cleansing our TFP measure from this effect reveals an even larger and clearer spike. The TFP boost is attenuated in the following two post-event periods and opens up again in the longer run.

6.4 Effects on Profitability and Leverage

Figure 7 reports effects on profitability and leverage. We do not find strong effects on profitability (when studying the ratio of EBITDA to revenue in Panel (a)), although absolute profit levels shift up due to the increase in revenue. Moreover, Panel (a) plots two profit measures: those including and excluding consulting expenditure—accounting for the mechanical effect of consulting spending on profit eliminates the profit dip in the event period itself (although the result implies that immediate revenue effects do not make consulting pay for itself in the initial period at least). Leverage appears more volatile (Panel (b)), with, if anything, the control group eventually settling in at a somewhat higher level (but we shy away from interpreting this effect in light of the pre-period patterns, and aim to dissect the effects into numerator and denominator ones).

6.5 Effects on Worker Outcomes: Labor Share and Wage

We now turn to labor outcomes in Figure 8. Our prime variables are the labor share as a stepping stone linking worker outcomes and firm outcomes (Panel (a)). We then study average wages (Panel (b)).

As for the labor share (the ratio of the wage bill to revenue), we find no shift for the first two periods, with a mild *increase* in periods 2 and 3, and an eventual return to the control group at the end of our event horizon. Hence, we can rule out substantial shifts in the in-house labor intensity of the organizations that bring on external consulting services, if anything pointing away from dramatic outsourcing or shifts into automation.[12]

Turning to compensation, we find a striking *increase* in the average wage. This increase, of about 2 percentage points, occurs already in the event period as such—and stays constant, so that the treated and control firms trace out parallel post-event trends with a 2 percentage point gap.

This result is in striking contrast to a view by which external managers may engage in compensation and personnel policy changes that lead to cost cutting in the labor domain, or to a reallocation of rents from workers to firms. Combined with the, if anything, positive effects on employment, we can also rule out an insider/outside dynamic whereby core workers retain their jobs and gain wages. Together, these findings also point away from compositional effects driving wage effects, although we caveat that we currently do not investigate composition adjusted wages. (As a next step, we aim to study compositional effects at the coarse occupational level, with first results below.)

6.6 Firm Organization, Skill Demand, and Outsourcing

We finally study whether consulting leads to changes in the organizational and skill structure in treated firms. Figure 9 presents those results. Panel (a) reports the effect on the share of managers in a firm's workforce. We find that the share of managers increases: relative to the control group, we see an increase of about 10% in the share of manager in the workforce. This is consistent with a broader and more lasting organizational change triggered by the consulting event and provides a first pathway for why we observe longer-term results even though the consulting episodes we study are short with a median duration of one year.

[12] We also study outsourcing to temp agencies directly, in Section 6.6, and find a decline in outsourcing. In ongoing work, we aim to study additional outsourcing by drawing on the business-to-business data.

The white-collar share in the workforce stays relatively unchanged and falls after two years relative to the control group (Panel (b)). The blue-collar share falls in the short-run but remains similar at longer horizons (Panel (c)).

Finally, we turn to a measure of outsourcing by focusing on the share of temp agency workers (measured as the number of temp agency workers normalized by the number of FTEs), which we can directly observe in the data. We find a sizable decline in the share of temp agency workers with a decline of about 40% relative to the control group. In ongoing work, we study the effect on outsourcing from the business-to-business data by focusing on supplier relationships with, e.g., cleaning or security firms (we can directly observe such firm-to-firm links in the administrative data, complementing the strategy of identifying outsourcing events through worker flows in Goldschmidt and Schmieder, 2017).

7 Conclusion

We have studied which client firms take up consulting services and how management and strategy consulting affect client firms. While consulting is a prominent industry believed to affect management quality and hence core firm level outcomes, evidence on which firms take up consulting and how consulting services affect their clients in advanced economies remains limited. Our key innovation is to leverage unique business-to-business transaction data based on the universe of Belgian value-added tax records from 2002 to 2022. This data set permits us to comprehensively map and analyze the links between strategy consulting and client firms. We have provided new descriptive evidence on which client characteristics drive take-up and the volume of transactions. We have also traced out the dynamic effects of take-up. To do so, our identification strategy exploits the sharply episodic nature of consulting engagements, enabling us to estimate effects in (matched) event study designs comparing consulting clients to matched control firms. These event studies reveal that consulting events are associated with strong firm growth, similar levels of profitability, with some positive effects on labor productivity and inconclusive effects on TFP measures. We find positive effects on the labor share and average wages, which persist over time. Hence, overall, consulting is associated with positive or neutral outcomes for firms and, arguably, workers.

Our findings also speak to a longstanding puzzle in the management literature: if firms are inefficient and management quality varies widely, why don't more firms seek

help? Prior work, including experimental evidence in low- and middle-income settings (e.g., Bloom et al., 2013), has highlighted widespread inefficiencies and suggested that perception and information barriers prevent firms from realizing their problems or seeking external advice. Yet, existing studies often focus, by design, on firms that did not take up consulting in the absence of an intervention by researchers. In contrast, our data reveal that within a high-income economy, large firms with relatively low total factor productivity are in fact more likely to enlist consulting services. This pattern suggests a degree of self-awareness among underperforming firms: conditional on reaching a certain scale, such firms appear capable of recognizing their shortcomings and acting upon them by hiring external consultants. This nuance—namely, that informational or perceptual frictions may bind less tightly for large firms—offers a more optimistic view of firms' ability to learn and respond to inefficiencies, and helps reconcile theoretical barriers to consulting take-up with observed behavior in practice.

A key open question our study raises concerns heterogeneity. First, our design estimates an average treatment effect, but it is possible that multiple event types (restructuring, labor cuts, growth events) coexist and deliver our average effect. Second, turning to workers, we aim to shed light on how consulting events may play our differently for different skill groups, managers vs. employees, or insiders vs. outsiders. Third, our design so far ignores additional such as shareholders and owners, customers, or other suppliers to the firm. We hope to shed light on those questions as our paper (rapidly) progresses.

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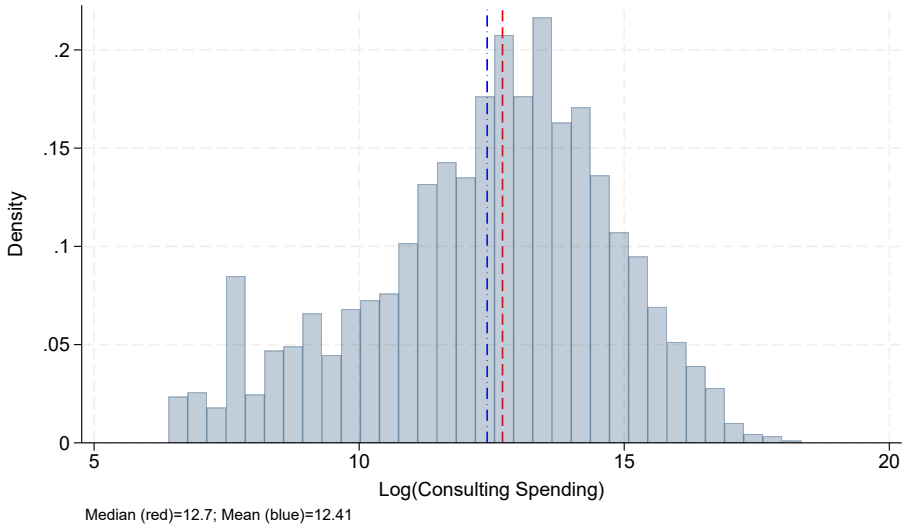
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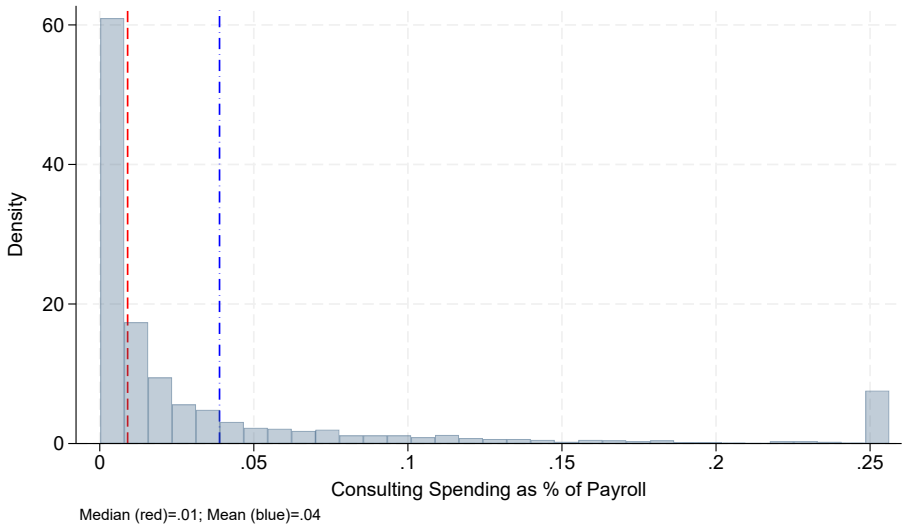
Figures

Figure 1: Distribution of Spending on Strategy Consulting Services

(a) Annual Spending on Strategy Consulting Services (2020 EUR, ln)

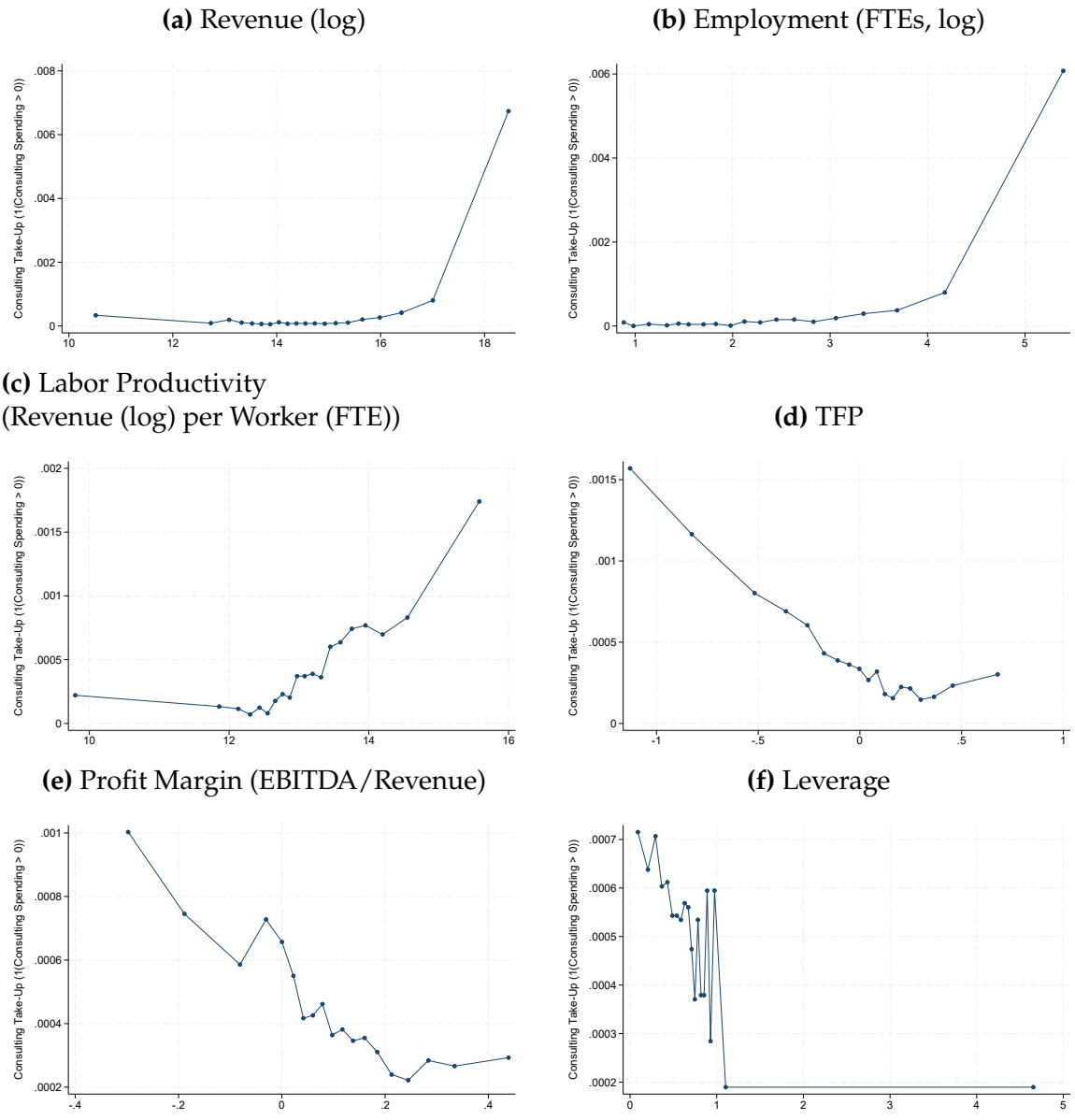


(b) Annual Spending on Strategy Consulting Services (% of Payroll)



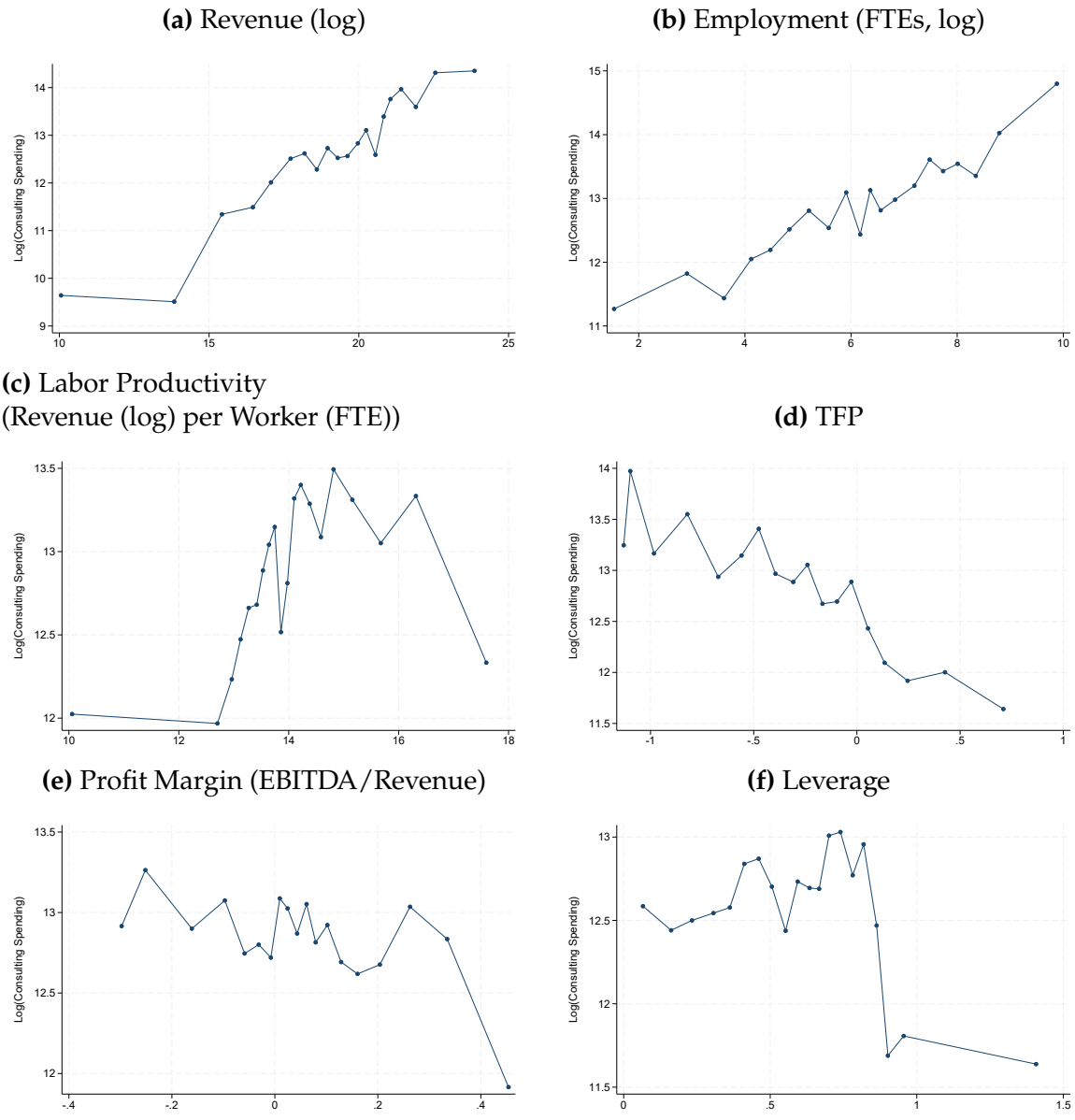
Note: The figure plots the distribution of annual spending on consulting services in the sample of firms that have strictly positive expenditure for consulting services in a given year. We aggregate spending on consulting services within a client-firm by year cell across different consulting firms. Panel (a) plots the annual spending on strategy consulting services (natural logarithm) using 2020 euros. Panel (b) plots annual spending on strategy consulting services as a share of the payroll. In Panel (b), we winsorize at the 5% level to remove outliers (particularly driven by firms low payroll rather than high consulting spending). Panel (a) is not winsorized. We provide a version of Panel (a) and (b) that plots the distribution of annual spending on consulting services, treating each client-firm by consulting-firm link as an individual observation rather than aggregating across consulting firms (see Appendix Figure A.2).

Figure 2: Extensive-Margin: Take-Up of Consulting Services By Firm Characteristics Among All Firms



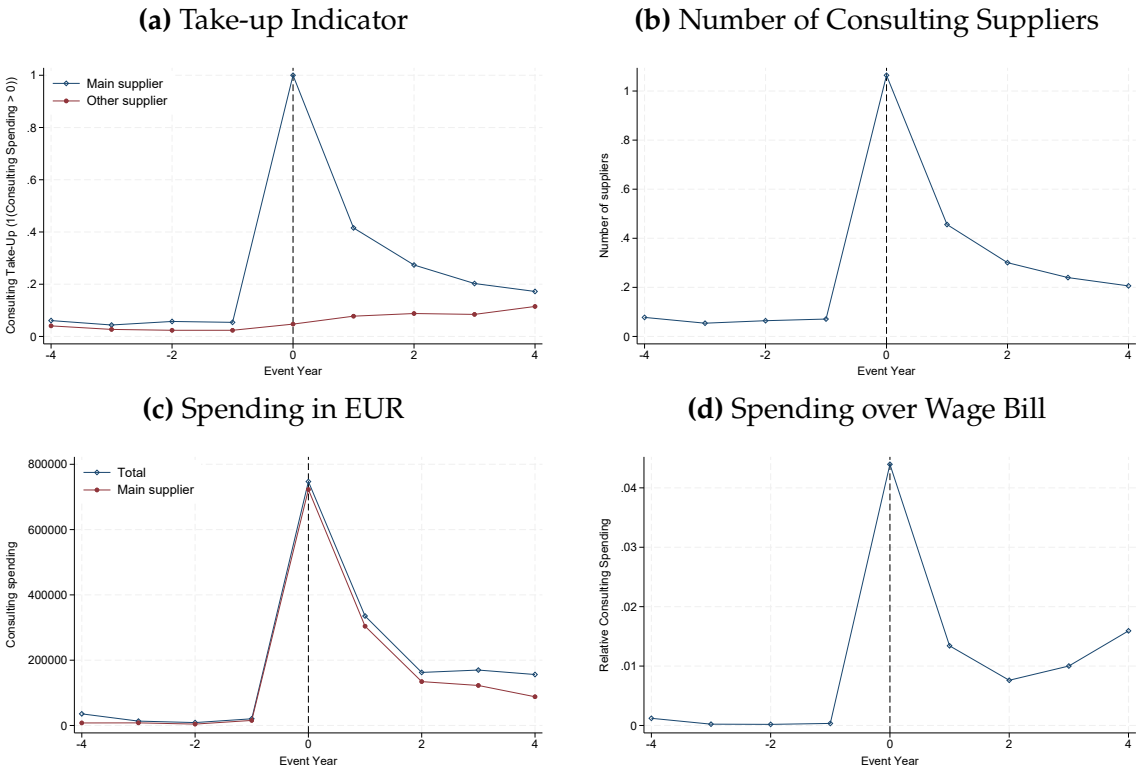
Note: The figures plot the probability of purchasing consulting services against various firm characteristics. The sample is restricted to firms that do not purchase consulting services in year $t-1$ and plots an indicator for whether or not consulting was purchased. The firm characteristics are measured in year $t-1$, the growth rates as log changes from $t-4$ to $t-1$. Leverage is measured as debt over total assets. We estimate log TFP based on a Cobb-Douglas production function and measure the NACE 2-digit factor shares as the ratio of the sum of the wage bill divided by the some of value added and use the factor shares to calculate firm-level measures of log TFP. All nominal values are deflated to 2020 euros using the GDP deflator. Variables are not winsorized, with the exception of the profit margin (due to large outliers). Appendix Figure A.3 reports a version of the figure controlling for sector-by-year fixed effects.

Figure 3: Intensive-Margin: Amount of Spending on Consulting Services By Firm Characteristics Among Firms with Take-up



Note: The figures plot spending on consulting services (2020 EUR, ln) against various firm characteristics. The sample is restricted to firms that have strictly positive spending on consulting services in year t against firm characteristics measured in year $t-1$ (growth rates measured as ln changes from $t-4$ to $t-1$). Leverage is measured as debt over total assets. We estimate log TFP based on a Cobb-Douglas production function and measure the NACE 2-digit factor shares as the ratio of the sum of the wage bill divided by the some of value added and use the factor shares to calculate firm-level measures of log TFP. All nominal values are deflated to 2020 euros using the GDP deflator. Variables are not winsorized, with the exception of the profit margin (due to large outliers). Appendix Figure A.4 reports a version of the figure controlling for sector-by-year fixed effects.

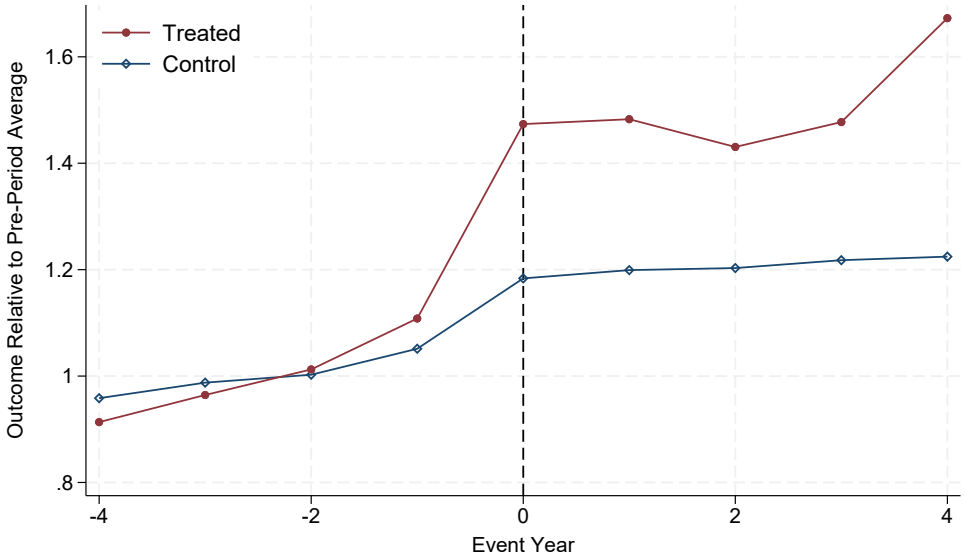
Figure 4: Event Study: First Stage on Consulting Take-Up and Expenditure



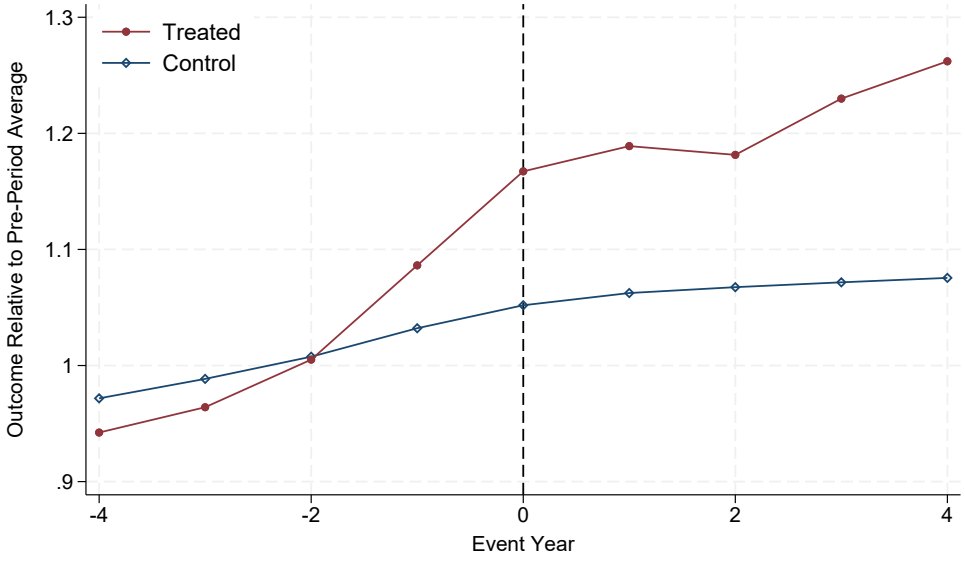
Note: The figures plot first stage results of the consulting engagement event. Panel (a) plots an indicator function for take up of any consulting services, as well as for receiving consulting services from suppliers other than the consultancy that provided the largest transaction (if multiple) in event 0. Panel (b) plots the number of individual suppliers. Panel (c) plots the spending in EUR on consultancies, as well as from the main supplier only (the consultancy with the largest transaction in the event year). Panel (d) normalizes total consulting spending by the client firm's wage bill.

Figure 5: Event Study: The Effects of Consulting Events on Firm Outcomes: **Firm Size**

(a) Revenue



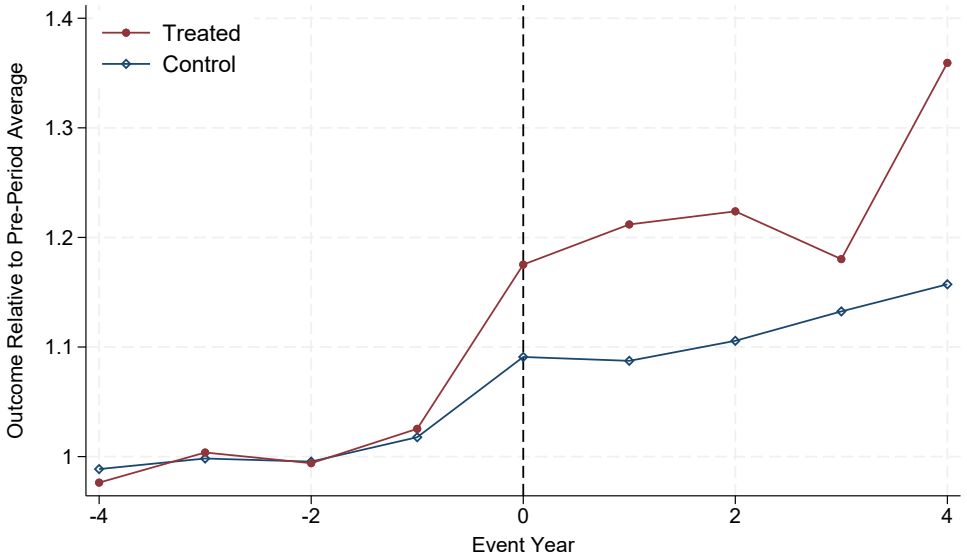
(b) Employment (FTEs)



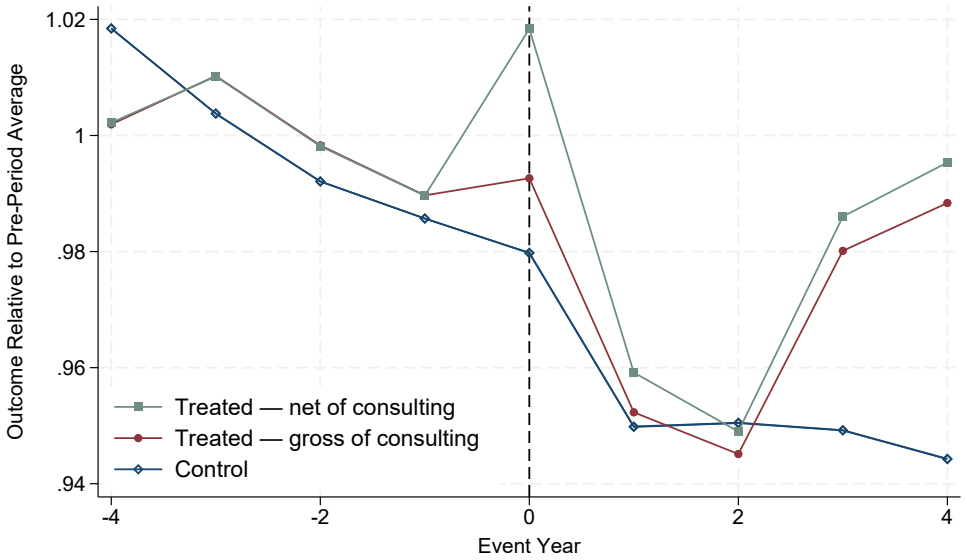
Note: The figures report results of the matched event study, plotting outcomes for firms that are treated as well as matched control firms with similar characteristics in the calendar year before the event. We normalize the outcome in a given event time by dividing by its firm's pre-event mean. Outcomes are winsorized at the 2% level.

Figure 6: Event Study: The Effects of Consulting Events on Firm Outcomes: **Productivity**

(a) Labor Productivity
(Revenue per Worker (FTE))



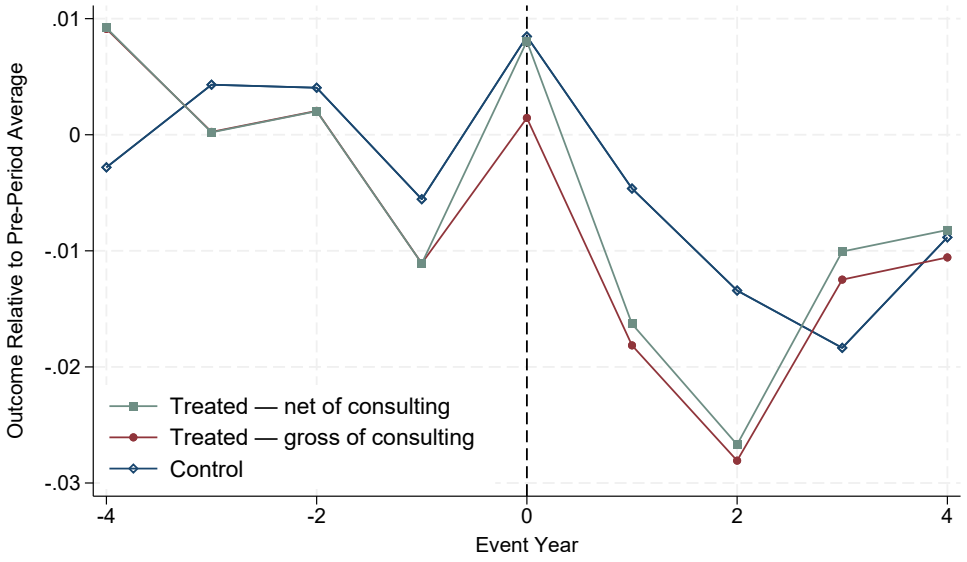
(b) TFP



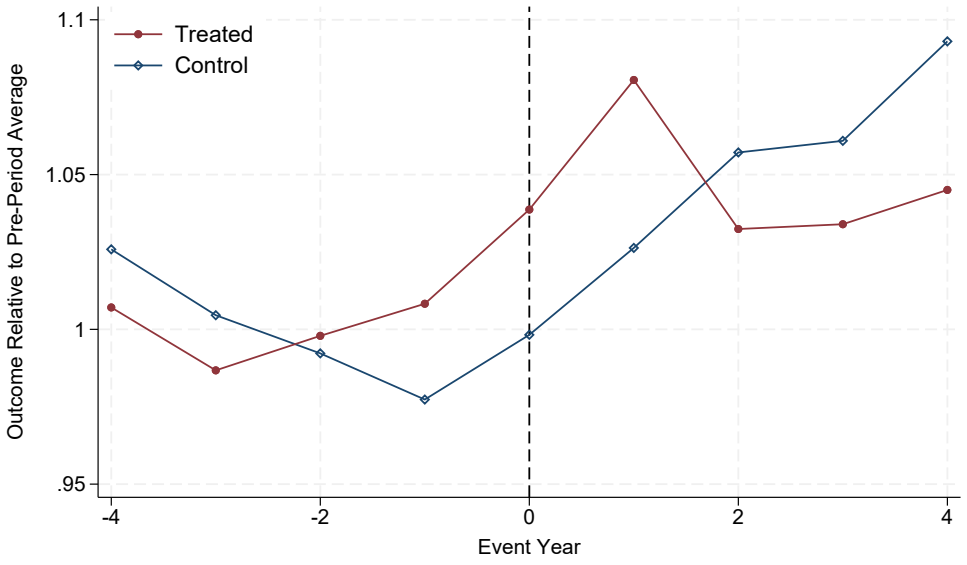
Note: The figures report results of the matched event study, plotting outcomes for firms that are treated as well as matched control firms with similar characteristics in the calendar year before the event. We normalize the outcome in a given event time by dividing by its firm's pre-event mean. For TFP, we report an additional outcome variant in which consulting expenditure is added back into the underlying value added variable, to generate a gross-of-consulting TFP measure. Outcomes are winsorized at the 2% level.

Figure 7: Event Study: The Effects of Consulting Events on Firm Outcomes: **Profitability and Leverage**

(a) Profit Margin (EBITDA/Revenue) (ppt.)



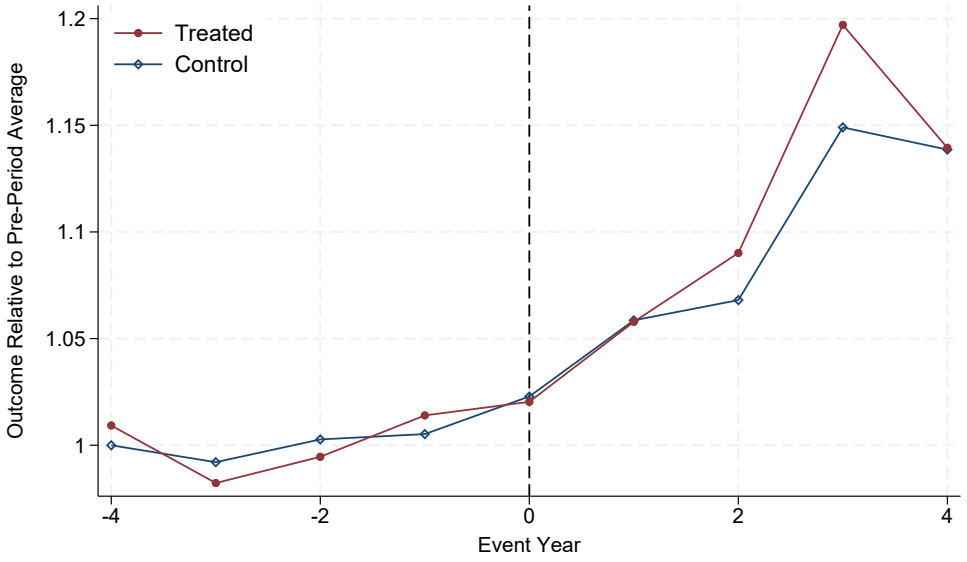
(b) Leverage



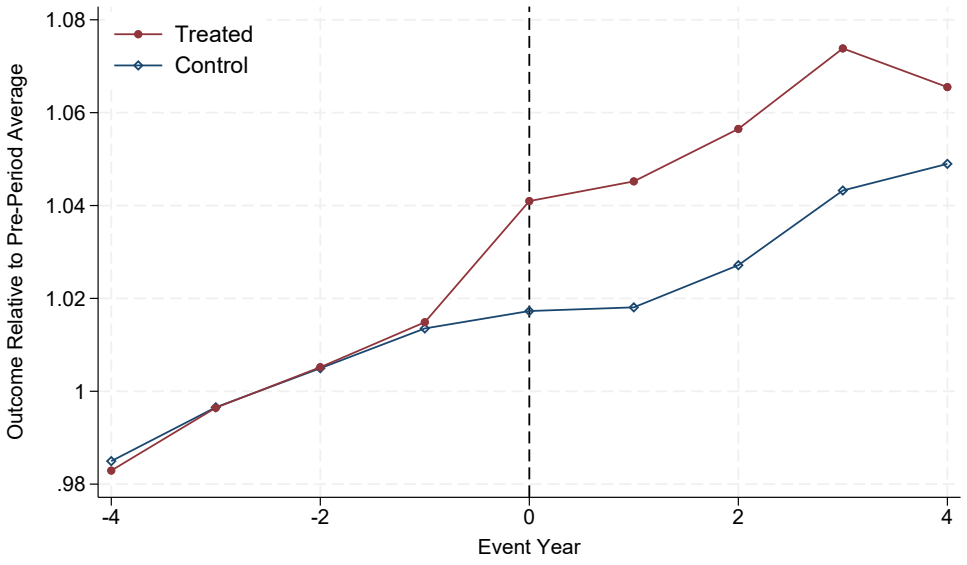
Note: The figures report results of the matched event study, plotting outcomes for firms that are treated as well as matched control firms with similar characteristics in the calendar year before the event. We normalize the outcome in a given event time by dividing by its firm's pre-event mean (except for profitability, which can be negative, so that we subtract the pre-event mean). For profitability, we report an additional outcome variant in which consulting expenditure is added back into profits, to generate a gross-of-consulting profit measure. Outcomes are winsorized at the 2% level.

Figure 8: Event Study: The Effects of Consulting Events on Worker Outcomes: **The Labor Income Share and Average Wages**

(a) Labor Share (in Total Revenue)



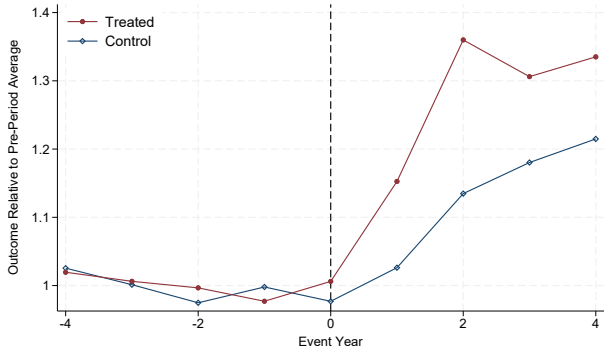
(b) Mean Wage



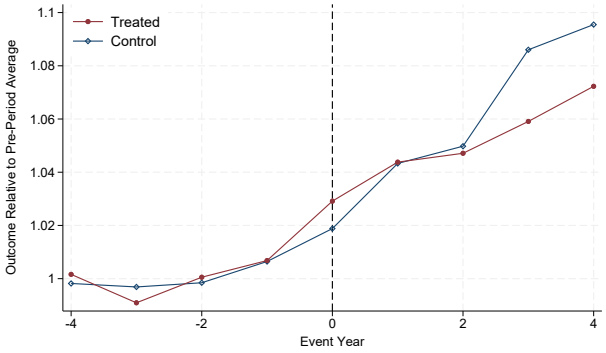
Note: The figures report results of the matched event study, plotting outcomes for firms that are treated as well as matched control firms with similar characteristics in the calendar year before the event. We normalize the outcome in a given event time by dividing by its firm's pre-event mean. Outcomes are winsorized at the 2% level.

Figure 9: Event Study: The Effects of Consulting Events on **Firm Organization and Skill Structure**

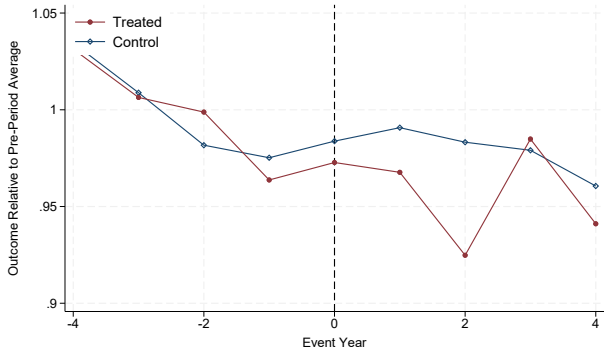
(a) Share of Managers (%)



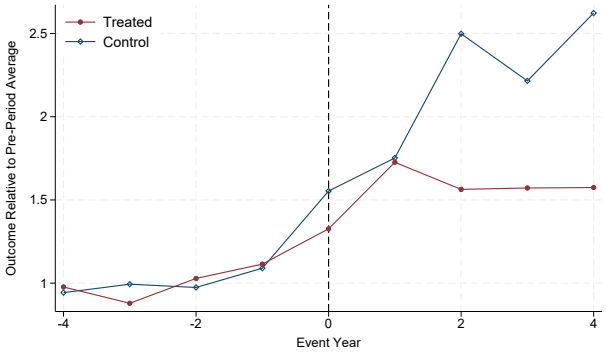
(b) Share of White-Collar Workers (%)



(c) Share of Blue-Collar Workers (%)



(d) Share of Temp Agency Workers (%)



Note: The figures report results of the matched event study, plotting outcomes for firms that are treated as well as matched control firms with similar characteristics in the calendar year before the event. We normalize the outcome in a given event time by dividing by its firm's pre-event mean. Outcomes are winsorized at the 2% level.

Tables

Table 1: Summary Statistics by Firm Type

	(1) All Firms	(2) Consulting Firms	(3) Non-Client Firms (Never Buyers)	(4) Client Firms (Ever Buyers)	(5) Client Firms (Event Study Firms)
Wage (EUR)					
Median	35658.11	127953.8	35608.14	86445.83	89356.16
Mean	[38879.44]	[121472.9]	[38621.73]	[128302.1]	[105771]
Std. Dev.	(36776.44)	(34737.02)	(26287.52)	(472343.2)	(61946.07)
Value Added (EUR)					
Median	144688.4	4835086	144183.1	7633212	3.29e+07
Mean	[861130.8]	[6840653]	[669824.6]	[5.83e+07]	[1.19e+08]
Std. Dev.	(1.42e+07)	(5924449)	(6816635)	(2.08e+08)	(2.73e+08)
Revenue (EUR)					
Median	535965.4	1.45e+07	533877.3	3.15e+07	1.30e+08
Mean	[4390553]	[3.27e+07]	[3344917]	[3.18e+08]	[6.95e+08]
Std. Dev.	(1.12e+08)	(5.09e+07)	(5.60e+07)	(1.65e+09)	(2.77e+09)
Employment (FTE)					
Median	2.266667	29.95455	2.26	78.45	230.55
Mean	[52.48973]	[38.06054]	[50.56017]	[722.2223]	[680.0109]
Std. Dev.	(2720.77)	(30.58576)	(2682.013)	(8928.678)	(1702.675)
VA/FTE (EUR)					
Median	57548.08	176174.2	57454.63	137171.6	138080.2
Mean	[83467.6]	[182801.7]	[82453.44]	[435447.2]	[239420]
Std. Dev.	(911504.9)	(66812.31)	(883647.5)	(4252442)	(472187.9)
Revenue / FTE (EUR)					
Median	205611.2	490356	205158.6	500232.8	486040.7
Mean	[491720.7]	[675500.3]	[481475.9]	[4024406]	[1728719]
Std. Dev.	(4386145)	(625423.6)	(4007208)	(3.32e+07)	(5173854)
N	305388	-	304399	1013	325

Note: The table reports summary statistics by firm type. Column (1) reports statistics for all firms in our sample (e.g., excluding financial firms and the government sector). Column (2) reports statistics for consulting firms. Column (3) reports statistics for non-client firms, specifically, firms that never buy consulting services in our sample period. Column (4) reports statistics for client firms, specifically, firms that at some point buy consulting services and reports statistics for them throughout the entire sample period. In column (5), we zoom into our sample of event study firms, i.e., firms that have a spike of consulting spending as defined in Section 5.1, and reports summary statistics for them in the year before they started purchasing consulting services.

Table 2: Firm-Level Predictors of Consulting Take-Up and Spending on Consulting

Outcome:	**Extensive Margin: Take-Up**				**Intensive Margin:** log(**spending on consulting, 2020 EUR**)			
Sample:	All Firms		No Consulting in $t-1$		All Firms		No Consulting in $t-1$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regression Model:	**Bivariate**	**Multivariate**	**Bivariate**	**Multivariate**	**Bivariate**	**Multivariate**	**Bivariate**	**Multivariate**
Revenue (log)	0.0132***	-0.0950***	0.0053***	-0.0407***	0.3398***	0.017	0.3034***	0.9406
	(0.0016)	(0.0246)	(0.0006)	(0.0144)	(0.0347)	(1.0808)	(0.0381)	(0.7985)
VA (log) / FTE	0.0127***	0.1238***	0.0056***	0.0513***	0.1178***	0.235	0.1078***	-0.7593
	(0.0026)	(0.0271)	(0.0015)	(0.0156)	(0.0398)	(1.0937)	(0.0299)	(0.8094)
Employment (log FTE)	0.0297***	0.1347***	0.0079***	0.0535***	0.3909***	0.4063	0.2967***	-0.6329
	(0.0037)	(0.0266)	(0.0014)	(0.0150)	(0.0353)	(1.0927)	(0.0336)	(0.8121)
Firm Age (log)	0.0051	-0.0173**	-0.0059**	-0.0119***	0.6728***	0.0977	0.4712***	0.1053
	(0.0052)	(0.0073)	(0.0024)	(0.0034)	(0.0691)	(0.0869)	(0.0655)	(0.0751)
TFP	-0.0176***	-0.0427***	-0.0085***	-0.0161***	-0.2335***	-0.4073***	-0.2138***	-0.3996***
	(0.0051)	(0.0065)	(0.0030)	(0.0035)	(0.0679)	(0.0769)	(0.0719)	(0.0823)
Gross Margin (EBIDTA/Turnover)	0.0000***	-0.0000*	0.0000*	0	0.0032***	0.0007	0.0019***	0.0011
	(0)	(0)	(0)	(0)	(0.0007)	(0.0009)	(0.0003)	(0.0008)
Leverage (Debt/Asset)	-0.0005***	-0.0026	-0.0003***	0.0011	-0.3489*	-0.5103**	-0.1976	-0.4295
	(0.0002)	(0.0066)	(0.0001)	(0.0039)	(0.1897)	(0.2077)	(0.1758)	(0.2679)
Δ Revenue (log)	0.0030***	-0.0014	0.0034***	0.0018	-0.0475	-0.0593	-0.0155	-0.0419
	(0.0011)	(0.0029)	(0.0012)	(0.0026)	(0.0375)	(0.0405)	(0.0373)	(0.0436)
Δ Employment (log)	-0.0038	0.0022	0.0093	0.0062	-0.0313	0.148	0.0536	0.0984
	(0.0093)	(0.0105)	(0.0098)	(0.0107)	(0.1335)	(0.0915)	(0.1158)	(0.1057)
N	13595	13595	11542	11542	1972	1972	979	979

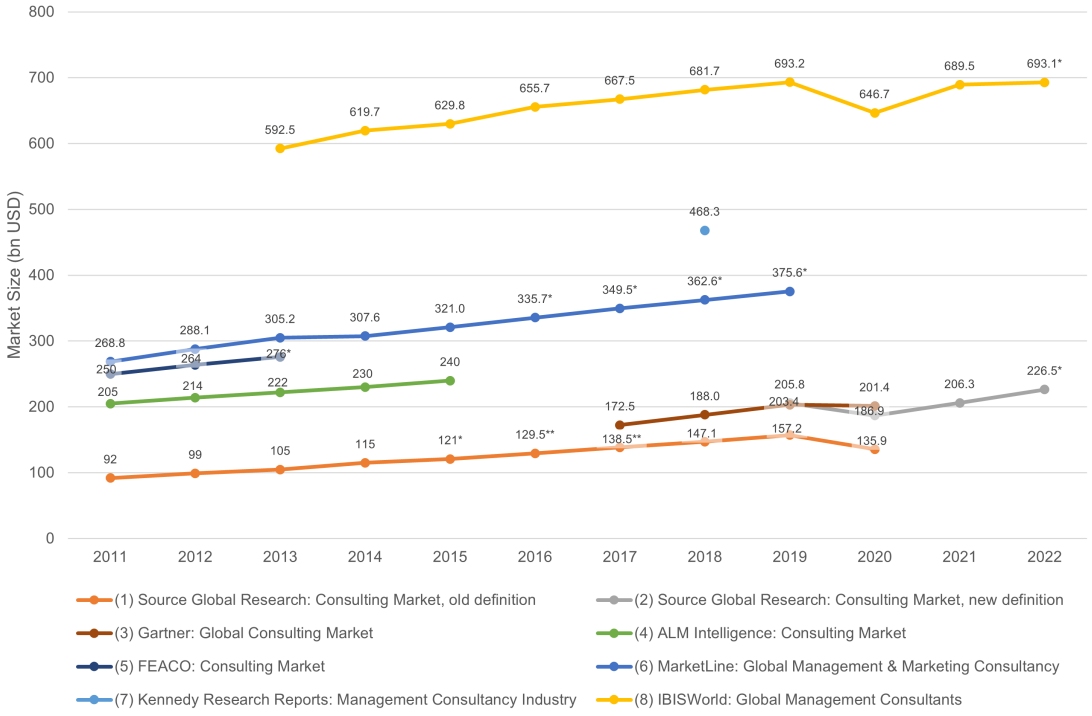
Notes: The table reports predictors of consulting take-up and consulting spending. Columns (1) through (4) report coefficients in a linear probability model with an indicator for strictly positive spending on consulting as outcome variable. Columns (4) through (8) report coefficients in a regression of log spending on consulting services on firm-level variables. Standard errors clustered at the firm level in parentheses. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Online Appendix of:
What Does Strategy Consulting Do?

Gert Bijnens, Simon Jäger, and Benjamin Schoefer

Appendix Figures

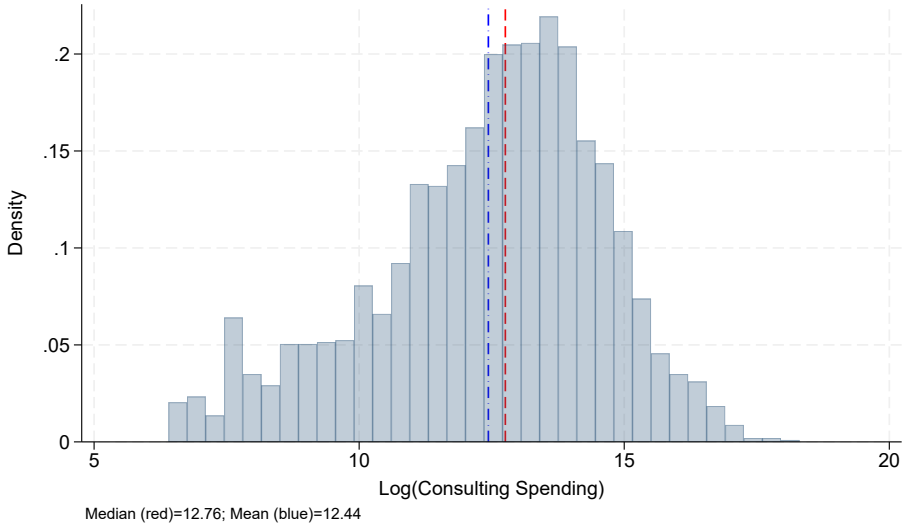
Figure A.1: Estimates of the Market Size of the Global Consulting Industry, 2011–2022



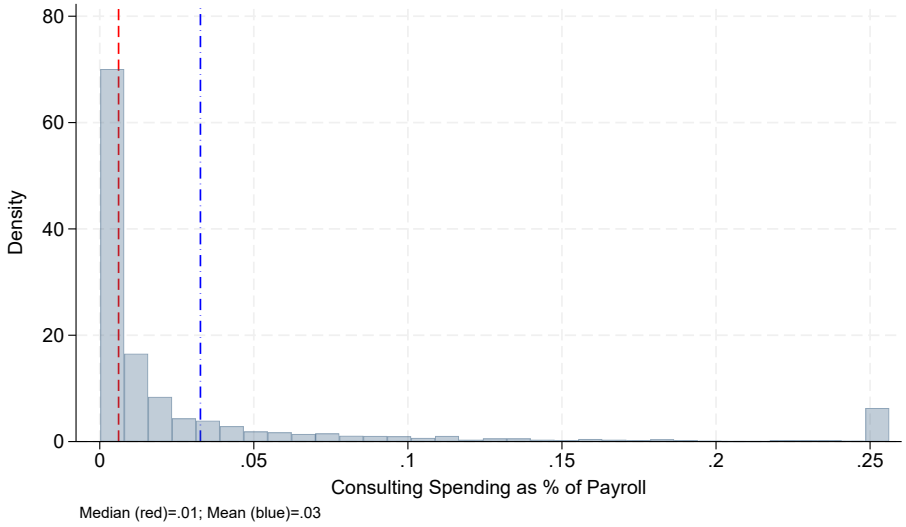
Note: Own representation based on (1) **Source Global Research.** 2020. "Datasets. Market Trend Reports 2020"; Data from Source Global Research cited by **Consultancy.org.** n.d. "Consulting Industry. Consulting market"; (2) **Source Global Research.** 2021. "Datasets. Market Trend Reports 2021"; **Source Global Research.** 2022. "Datasets. Market Trend Reports 2022"; (3) Gartner (2019); Gartner (2021); (4), (5) Data from ALM Intelligence, FEACO cited by **Consultancy.org.** n.d. "Consulting Industry. Consulting market"; (6) MarketLine (2016, p. 8); (7) Data from Kennedy Research Reports in Baaji (2022, p. 48); (8) IBISWorld (2022, p. 13). * forecasted values. ** extrapolated values.

Figure A.2: Distribution of Spending on Strategy Consulting Services (Not Aggregating Across Individual Consulting Firms)

(a) Annual Spending on Strategy Consulting Services (2020 EUR, ln)

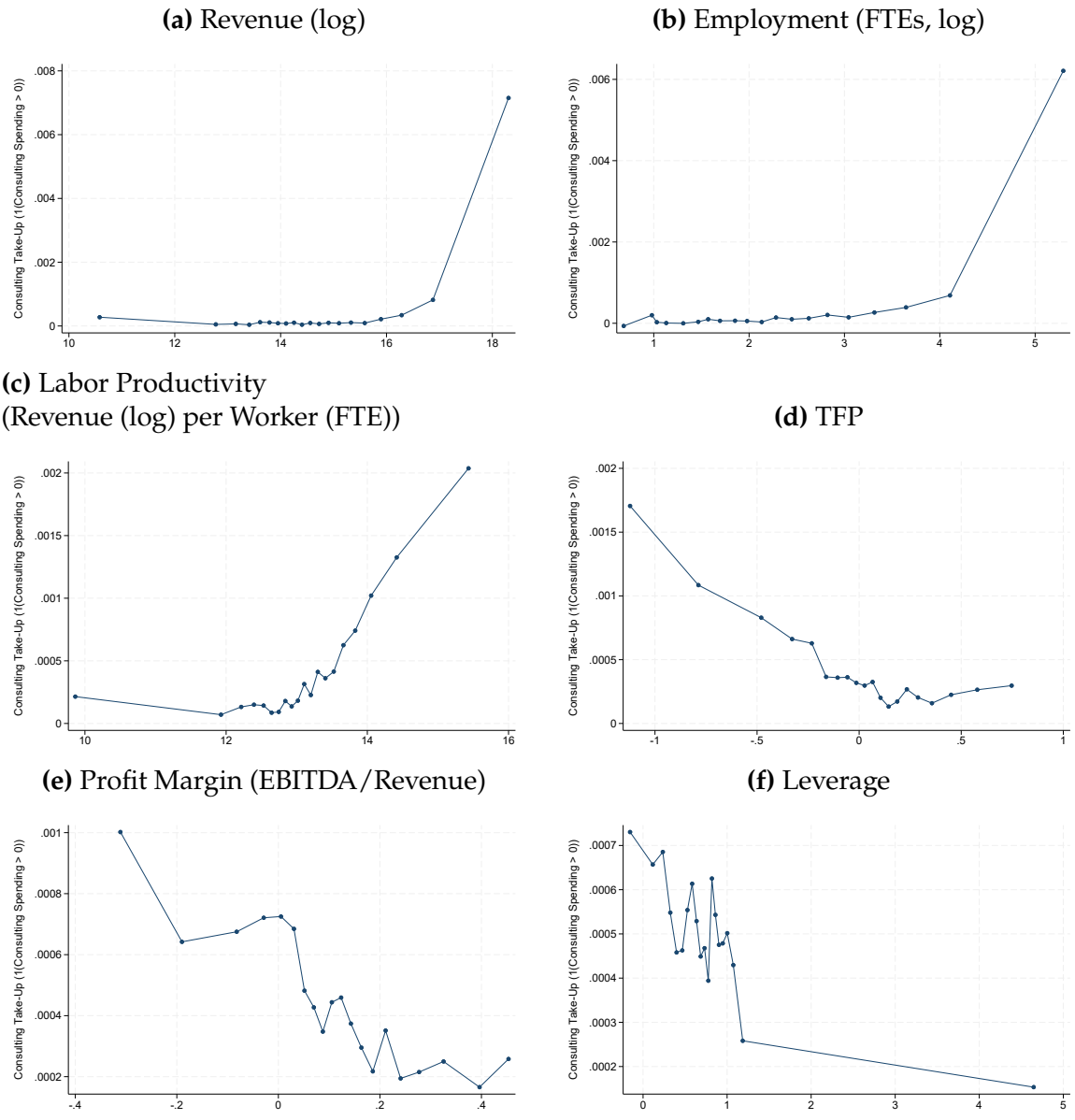


(b) Annual Spending on Strategy Consulting Services (% of Payroll)



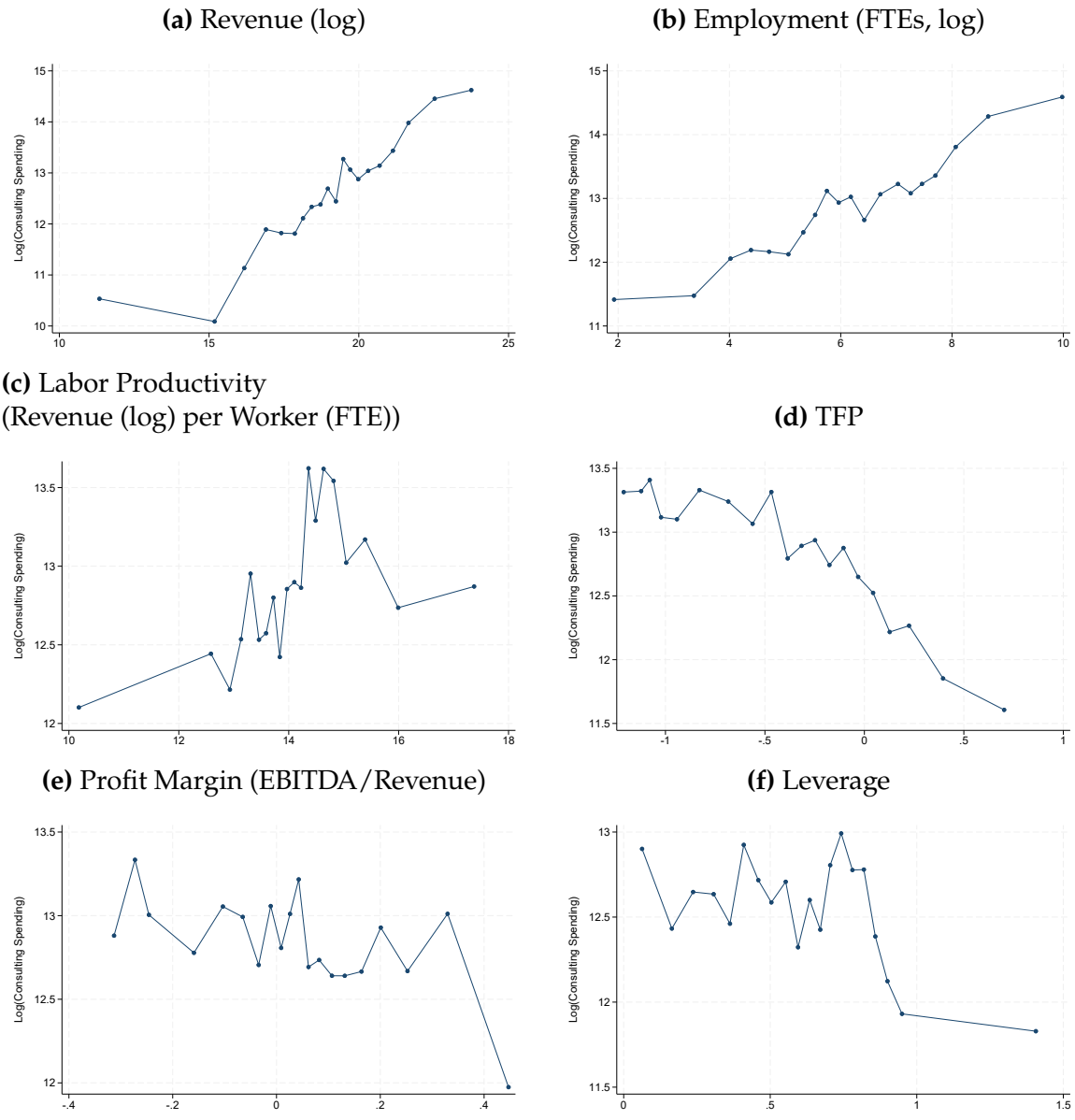
Note: The figure plots the distribution of annual spending on consulting services in the sample of firms that have strictly positive expenditure for consulting services in a given year. In contrast to Figure 1, we do not aggregate spending on consulting services within a client-firm by year cell across different consulting firms but instead treat each client-firm by consulting-firm link (with strictly positive spending in a given year) as an individual observation. Panel (a) plots the annual spending on strategy consulting services (natural logarithm) from individual consulting firms using 2020 euros. Panel (b) plots annual spending on individual consulting firms' strategy consulting services as a share of client firms' payroll. In Panel (b), we winsorize at the 5% level to remove outliers (particularly driven by firms low payroll rather than high consulting spending). Panel (a) is not winsorized.

Figure A.3: Extensive-Margin: Take-Up of Consulting Services By Firm Characteristics Among All Firms: Sector-Year Controls



Note: The figures plot the probability of purchasing consulting services against various firm characteristics. It follows the same structure as Figure 2 but controls for sector-by-year effects. We distinguish the following sectors: primary and manufacturing, utilities and construction, retail and wholesale, logistics and transportation, and services.

Figure A.4: Intensive-Margin: Amount of Spending on Consulting Services By Firm Characteristics Among Firms with Take-up: Sector-Year Controls



Note: The figures plot spending on consulting services (2020 EUR, ln) against various firm characteristics. It follows the same structure as Figure 3 but controls for sector-by-year effects. We distinguish the following sectors: primary and manufacturing, utilities and construction, retail and wholesale, logistics and transportation, and services.