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IS RELATIONSHIP BANKING SUPPORTING FIRMS' ADAPTATION TO AN UNCERTAIN WORLD?

ABSTRACT

While the emergence of a polycrisis era – with overlapping, causally entangled crises, such as pandemics, war, inflation, natural disasters, etc. – heightens persistent uncertainty and challenges societal stability, we ask whether informal business frameworks may help firms to adapt to the changed business environment. Namely, we focus on relationship banking, an implicit contractual arrangement between a firm and its main bank, and study whether this arrangement supports a firm's successful adaptation.

Using microdata on a sample of 2,370 firms, representative of the Italian productive landscape, we test four key hypotheses linked, directly or indirectly, to a firm's ability to adapt. First, we investigate whether relationship lending – the most visible expression of relationship banking – amplifies a firm's bank credit availability. Second, we check whether relationship banking boosts a firm's green investments in response to the energy shock. Third, we verify whether relationship banking associates with a firm's safer access to export markets in response to Trump's tariffs shock to trade. Fourth, we examine whether relationship banking is associated with nearshoring as a response to supply chain disruption shocks.

Our evidence suggests that, indeed, relationship banking is supporting firms' adaptation to the polycrisis.

Keywords: Polycrisis; Firms' Adaptation; Informal Business Frameworks; Relationship Banking
JEL Classification: D22; F14; F60; G21; L10; L25

RIASSUNTO

Il relationship banking sta aiutando le aziende ad adattarsi a un mondo incerto?

Mentre l'emergere di un'era di una policrisi – con crisi sovrapposte e causalmente intrecciate, come pandemie, guerre, inflazione, disastri naturali, ecc. – accresce l'incertezza persistente e mette a dura prova la stabilità sociale, ci chiediamo se framework aziendali informali possano aiutare le imprese ad adattarsi al mutato contesto economico. In particolare, ci concentriamo sul relationship banking, un accordo contrattuale implicito tra un'impresa e la sua banca principale, e studiamo se tale accordo favorisca il successo dell'adattamento dell'impresa.

Utilizzando microdati su un campione di 2.370 imprese, rappresentative del panorama produttivo italiano, verifichiamo quattro ipotesi chiave legate, direttamente o indirettamente, alla capacità di adattamento di un'impresa. In primo luogo, analizziamo se il relationship lending – l'espressione più visibile del relationship banking – amplifica la disponibilità di credito bancario di un'impresa. In secondo luogo, verifichiamo se il relationship banking stimola gli investimenti verdi di un'impresa in risposta allo shock energetico. In terzo luogo, verifichiamo se il relationship banking sia associato a un accesso più sicuro dell'impresa ai mercati di esportazione in risposta allo shock tariffario di Trump sul commercio. In quarto luogo, esaminiamo se il relationship banking sia associato al nearshoring come risposta agli shock di interruzione della catena di approvvigionamento.

Le nostre evidenze suggeriscono che, in effetti, il relationship banking sta sostenendo l'adattamento delle imprese alla policrisi.

1. INTRODUCTION

In recent decades increasingly harsh and frequent conflicts and crises seem to be marking the end not only of the most intense phase of globalization occurred since the 1990s but of the entire prolonged period of relative peace and stability since the end of the Second World War (Fan *et al.,* 2025; Ramirez, 2025). While initially those events were seen as isolated, we are gradually coming to terms with the idea that they are likely interconnected. Relatively to the crises, the

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term "polycrisis" has been coined more than thirty years ago by Morin and Kern (1993) and publicized more recently by, among the others, World Economic Forum (2023)[1].

The emergence of a polycrisis era – marked by overlapping and causally entangled shocks such as pandemics, wars, inflation, and climate-related disasters, while making it increasingly important to understand how risks interact across domains and propagate through interconnected systems (Pescaroli *et al.,* 2018), has transformed institutional uncertainty from the exception into the rule (Klyver and McMullen, 2025). This context challenges the traditional assumptions of stability that underpin much of the economics and business literature, and calls for new perspectives on how firms and entrepreneurs adapt. Recent contributions highlight that resilience in the polycrisis hinges not only on strategic and organizational responses, but also on deeper factors such as antifragility, self-efficacy, hope, and courage, which shape firms' ability to navigate complexity and uncertainty. In this regard, community-based adaptation emerges as a critical resource: evidence shows that a strong sense of belonging and collaboration can significantly enhance firms' technological performance and resilience in times of systemic disruption (Mudany *et al.,* 2025; Audretsch and Kariv, 2025).

A noticeable aspect is that polycrisis destroys at various levels existing institutions. For instance, Madaboyina (2025) concludes that the rise of nationalism – an endogenous response to the polycrisis – is weakening multilateral institutions while Curran (2018) highlights how multiple crises damage institutions.

Then, an important consideration is whether a firm's adaptation to those changing circumstances can benefit from institutional arrangements which go unscathed and resist the crisis[2]. In this domain we find the role of informal institutions which are slow moving and thus may prove fundamental for persistence (e.g., Roland, 2004) also because compared to formal institutions they may be more resilient to some of the external shocks (Douarin and Schnyder, 2025). Indeed, the literature finds that informal institutions can complement formal institutions (e.g., Guiso, Sapienza and Zingales, 2004; Goletsis, Christogeorgou and Mylonidis, 2025).

[1] For a more precise definition, Rakowski *et al.* (2025) characterize the polycrisis as "*multiple co-occurring, causally entangled crises with synergistic and cascading effects on multiple systems degrading humanity's prospects*". Similarly, Lawrence (2024) defines the global polycrisis as "*the causal entanglement of crisis in multiple global systems in ways that significantly degrade humanity's prospects*".

[2] On his part, Horwitz (2018) proposes that households can take on the role of crisis shock absorbers.

Accordingly, in this paper, we build on that intuition and ask whether the informal business framework represented by relationship banking – an implicit contractual arrangement between a firm and its main bank – can help a firm adapt to the changing business scenario in which it must operate.

Relationship banking, within the strand of the extensive literature on relationship lending, constitutes a form of financial intermediation that mitigates the informational asymmetries particularly severe in contexts of innovation and uncertainty. Unlike transactional banking – primarily reliant on "hard" information – long-term firm–bank relationships allow for the acquisition of "soft" information and the construction of trust, thereby enhancing banks' ability to evaluate both project quality and borrower soundness (Petersen and Rajan, 1994; Berger and Udell, 1995, 2006). This strengthens access to credit as well as the provision of complementary services typically associated with relationship banking (Boter and Lundström, 2005; Sapienza *et al.,* 2006; Lundberg, 2019). Under conditions of external shocks and systemic uncertainty, the trust dimension becomes especially relevant: financial intermediation rests not only on credit assessment but also on trust-building (Guiso, Sapienza and Zingales, 2024), fostering resilience and supporting firms in adopting forward-looking strategies (Thakor and Merton, 2024; Morse and Sastry, 2024). By focusing on long-term profitability rather than short-term transactional margins, banks are incentivized to accompany firms in their strategic adaptation, confirming that relationship banking plays a crucial role not only through the financial channel but also by guiding firms' investment decisions in response to shocks.

We should acknowledge that relationship banking is usually associated with traditional banking and the advent of digital banking is reducing the extent of traditional banking (Carmignani *et al.,* 2020; Keil and Ongena, 2024; Wang, Liu and Kie, 2025). Nevertheless, it seems that relationship banking remains a meaningful concept even in increasingly digital banking systems. The classic literature shows that its value lies in repeated interaction and the production of soft information (Boot, 2000). Recent evidence suggests that digitalization does not eliminate this logic; rather, it tends to complement it, especially in SMEs and corporate banking, where human interaction remains important and digital tools increasingly support a blended service model (Fasano and La Rocca, 2024; Lóska and Uotila, 2024).

In recent years, firms have faced a succession of major shocks that have heightened uncertainty

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and compelled strategic adaptation. The energy crisis triggered by the Russia-Ukraine war forced companies to choose between contractionary responses and forward-looking investments in green technologies. The rise of protectionism, exemplified by U.S. tariff policies, pushed firms either to absorb higher costs or to seek alternative markets. Finally, disruptions to global value chains – driven by climate change, the COVID-19 pandemic, and escalating geopolitical tensions – have further tested firms' resilience and capacity for innovation (Alfaro and Chor, 2023).

To the best of our knowledge, while there is an extensive literature on the role of relationship banking in facilitating credit access, and a smaller strand examining its influence on firms' strategic choices, little is known about its crucial role in supporting firms as they confront the current major shocks.

Empirically, we draw on data from a 2025 survey of 2,370 Italian manufacturing firms to test whether relationship banking facilitates firms' adaptation to the uncertainty generated by the unfolding polycrisis in terms of: i) enjoying easier access to credit; ii) making more green investments in response to the energy shock; iii) obtaining safer access to export markets in response to Trump's tariffs shock to trade; iv) engaging in a more intense nearshoring as a reaction to supply chain disruption shocks.

Without overly disclosing the details of the subsequent work, we can anticipate that, by and large, the empirical results support the four hypotheses that we just outlined.

In the remainder of the paper, Section 2 is devoted to survey the literature and formulate our four hypotheses. Next, in Section 3, we describe the data used to run our empirical analysis and describe the variables employed in our regressions. Thereafter, Section 4 displays our econometric strategy while Section 5 discusses the main results achieved. Finally, Section 6 concludes highlighting the possible limitations of our findings and suggesting new promising ventures for future research on the topic.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Relationship Banking and Credit Access

The traditional literature on asymmetric information in credit rationing, beginning with Stiglitz

and Weiss (1981), highlights the role of enhanced information availability in expanding credit supply. By strengthening the informational basis available to financial intermediaries, improved transparency reduces the perceived riskiness of borrowers and mitigates both moral hazard and adverse selection problems. In other words, a richer and more reliable informational framework enables a more accurate assessment of borrowers' default risk[3].

This is the basis of relationship banking (RB), in more general terms, and of its most visible expression, relationship lending (RL), on which a large literature has focused. More specifically, a strand of literature at the micro level addressing RL studied the extent to which the intensity, length and uniqueness of firm-bank relationships, under the umbrella of lending technologies, affect risk evaluation, and hence loan and contracting terms (e.g., Petersen and Rajan, 1994; Berger and Udell, 1995). Moreover, another strand of literature addressing RB more generally has found positive effects on a firm's performance such as in terms of both innovation (e.g., Cosci, Meliciani and Sabato, 2016) and exports (e.g., Bronzini and D'Ignazio, 2017; Paravisini, Rappoport and Schnab, 2023).

Still on RL, Berger and Udell (2006) define a lending technology as "a unique combination of primary information source, screening and underwriting policies/procedures, loan contract structure, and monitoring strategies/mechanisms". In reality, the literature focuses on two types of lending technologies: transactional lending and relationship lending (see, e.g., Berger and Udell, 2006; Bartoli *et al.,* 2013). Transactional lending relies on hard information (quantitative information, such as that derived from balance sheets, collateral guarantees, credit scoring). While, relationship lending is driven by soft information (i.e., qualitative information): over time, banks gather proprietary information – beyond readily available public information and remaining confidential – through their interactions with the firm, its owner, and the surrounding community across multiple dimensions, and they incorporate this knowledge into their decisions regarding borrowers' creditworthiness and to adapt lending terms accordingly (Rajan, 1992, Boot, 2000; Berger and Udell, 2002). Basically, relationship lending relies on the reduction of credit risk, achieved through the reconstruction of a more comprehensive informational base by the financial intermediary (Banerjee , Gambacorta and Sette, 2021; Berger

[3] Indeed, Jaffe and Stiglitz (1990) emphasize the uncertainty regarding the borrower's ability or willingness to repay the loan. Their discussion, however, essentially frames credit risk in terms of the probability of default, linked both to the borrower's repayment promise and to the bank's risk-screening activity (pp. 839 ff.). At the same time, the authors acknowledge the role of continuing relationships in lowering the lender's informational costs.

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and Udell, 1995; Gambacorta, Sabatini and Schiaffi, 2025). And, indeed, RL is one of the most important lending technologies adopted by banks and their borrowers (Berger and Udell, 2006; Kysucky and Norden, 2016).

Relationship lending shows several positive effects for firms (e.g., Duqi, Tomaselli and Torluccio, 2019). First, it favors access to credit, especially for more informationally opaque firms (e.g., small firms). Moreover, RL supports extending credit at lower interest rates over time as reputation and the ties are established. In addition, RL may lower the requirements of collateral. Furthermore, relationship lending sustains the reduction of liquidity constraints by using regular, on-time repayments as indicators of borrower quality, which strengthens trust and enhance prospects for subsequent funding. Also, RL helps mitigating information asymmetries by means of ongoing monitoring and the accumulation of soft, proprietary information. And RL appears to reduce adverse selection. Finally, some works highlight that RL supports sustainable profitability by managing risk effectively, rather than relying on elevated interest rates that diminish expected returns. In summary, relationship lending supports firm's access to financial resources through both a "quantity channel" and a "price channel" (Petersen and Rajan, 1994; Berger and Udell, 1995; Bartoli *et al.*, 2013).

However, whereas the impact of relationship banking on a firm's availability of bank credit may be exhaustively captured by relationship lending, relationship banking can likely exert a more extensive influence on other dimensions of firm adaptation as well. In other words, there is a partial overlap between relationship lending (RL) and relationship banking (RB) but the impacts of the latter seem to extend beyond those of the former. Starting with the definition and scope, RB consists in a multi-product, multi-period bank–client engagement (deposits, payments, advisory, lending, treasury, underwriting) including information, consulting and coordination roles. Instead, RL is a specific lending technology: credit extended using soft borrower-specific information collected over repeated interactions; loan pricing/availability responds to this information (Boot, 2000; Berger and Udell, 2006). Then, in terms of the primary mechanism to support firm investment, RL seems to rely solely on the credit channel – by improving availability and cost of loans for opaque firms; where, indirectly, lines of credit and monitoring may enable firms to expand their investments – while RB materializes through more comprehensive channels – such as providing information/advice, cash and risk management, coordination of finance, cross-selling of tailored products – which all reduce implementation

risk and help firms adapt investments to shocks and changing circumstances. To exemplify, this is in line with the results of various authors. Namely, Boot (2000) defines RB as involving not only funding but also various other financial services, e.g., letters of credit, deposits, check clearing, and cash management services. In turn, Herrera and Minetti (2007) find that the information of a firm's main banks, proxied by the duration of credit relationships – i.e., stronger RB – promotes innovation at that firm. On their part, Bartoli *et al.* (2014) show that among the exporting small firms those using bank services to support their exports have a higher probability of being better placed in both the intensive and the extensive margin and these impacts are statistically significant only when the main bank of the firm is an internationalized bank (RB instead of RL). Similarly, De Bonis, Ferri and Rotondi (2015) find that the likelihood of a firm venturing into Foreign Direct Investments rises with the length of the relationship with the firm's main bank (suggesting a possible advisory role of RB). Moreover, Yildirim (2020) documents that RB may reduce a borrowing firm's risk of default and boost its efficiency. Also, contrasting relational vs economic preferences in small firms owners' choice of a primary bank, Hill and Scott (2015) find that relational preferences affect the type of bank chosen and remain relatively stable over time, sustaining the idea that RB supports business opportunities for small firms. Furthermore, Han *et al.* (2014) highlight the value of advice from banks as a substitute for entrepreneurial human capital, especially when bankers use private information (RB) to determine the nature and level of financial and non-financial assistance that they are prepared to supply to their clients. Besides, Palmieri and Geretto (2023) argue and report evidence supporting the view that RB can promote a borrowing firm's adaptation to embodying the Environmental, Social, Governance (ESG) new metric in its business conduct and approach to finance, thus becoming more resilient to shocks and reducing its risk of default. Finally, Morse and Sastry (2024) reach the conclusion that, through RB, banks may exercise a stewardship role inducing partner firms to decarbonize their production process.

Following the previous discussion, we will thus now replace relationship lending with relationship banking.

Finally, considering the discussion above, we advance the following hypothesis:

Hp.1. Relationship banking is positively associated with greater bank credit availability

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2.2. Relationship Banking and Firms' Innovation Strategies under Rising Uncertainty

Since the banker plays a key role in business innovation (Schumpeter, 1912), the type of relationship between a firm and its main bank becomes crucial. Indeed, several empirical studies demonstrated that lack of financial resources is one of the main barriers for innovation (e.g., Mohnen *et al.*, 2008).

In this regard, relationship banking can be a key factor, because very often the introduction of an innovation or a change of strategy entails a high level of risk and uncertainty. The associated particularly severe information asymmetries make hard information (bred by transactional banking) insufficient to accurately assess creditworthiness, thereby amplifying financial constraints. In contrast, by investing in acquiring soft information, RB is more suitable to evaluate innovation projects and the borrower's quality, so reducing information asymmetries while enhancing access to credit and the provision of the other complementary services typical of RB[4] (Boot, 2000; Berger and Udell, 2006; Brancati, 2015).

Accordingly, in line with the discussion above, we can argue that relationship banking proceeds via two fundamental channels: the "financial channel" attributable to the easing of financial constraints on the borrower; the "relational channel" through a wider relational support directed toward the entrepreneur's innovative orientation and production strategy (Cosci, Meliciani and Sabato, 2016).

Relationship lenders play a key role in the continuation of lending and supporting innovation particularly at times of unfavorable macroeconomic shocks[5] (Berger and Udell, 2002): thanks to the valuable information acquired (learning process), they can more readily adapt lending terms in response to changing circumstances (Agarwal and Hauswald, 2010; Bolton *et al.*, 2016).

Thus, relationship banks, instead of searching economies of scale by using standardized credit instruments, pursue economies of scope arising from the provision of specialized credit instruments (Alessandrini, Presbitero and Zazzaro, 2010). Conversely, transaction-based lenders, that base decisions on hard data and collateral, may lack the knowledge of the borrower-

[4] Many empirical studies demonstrated the positive impact of relationship lenders on innovation (for a review, see Cosci, Meliciani and Sabato, 2016).

[5] For instance, several empirical studies found that relationship banks after the 2008 crisis eased continuation-lending terms in response to the crisis (Ferri *et al.*, 2019, Bolton *et al.*, 2016) by enabling firms to maintain higher level of investments (Banerjee, Gambacorta and Sette, 2021).

specific details that enable continued lending through crises or exogenous shocks, particularly when collateral depreciates quickly (Beck, 2023).

In addition to the classic theoretical framework, uncertainty has emerged as a further factor impacting a firm's innovation strategy conditional on its relationship with a main bank. In the current phase of the world economy, along the polycrisis, measurable risk is increasingly giving way to structural uncertainty, largely induced by external shocks and not reducible only through the mere enrichment of the informational base available to financial intermediaries. The crises of 2007 and 2023, for instance, reshaped corporate lending to the detriment of smaller firms, where informational opacity and the weight of fixed costs become more binding under reduced credit availability (Russo, Nigro and Pastorelli, 2024). More recently, a state of "permanent uncertainty" has emerged, driven by several recent shocks – ranging from geopolitical conflicts to energy crises and supply chain disruptions – fundamentally different from the episodic, finance-driven crises of the past. Some recent contributions (see Kamara and Koirala, 2023) underline how such dynamics tend to compress credit supply and, in turn, slow economic activity.

As discussed above, within long-term firm-bank relationships, the credit dimension – while still central – becomes embedded in a broader relational framework that also encompasses factors shaping firms' competitiveness and an expanded conception of the investment process. Under conditions of uncertainty, both external and investment-specific, financial intermediation must therefore rest on trust-building, which presupposes enriching the informational dimension with a strong injection of trust.

Several scholars have deepened the analysis of trust within the framework of relationship lending by introducing the notion of Trust-Based Relationship Lending (TBRL) (Guiso, Sapienza and Zingales, 2024). This approach emphasizes a reciprocal, trust-centered interaction between a firm and its main bank, where assessment criteria extend beyond traditional financial indicators – included the extraction of information through Artificial Intelligence (Gambacorta, Sabatini and Schiaffi, 2025) – by emphasizing factors such as firm loyalty and satisfaction with the quality of the relationship. Such a perspective appears particularly well-suited to situations featuring systemic uncertainty (Thakor and Merton, 2024).

Relationship banking, by activating trust-based processes, contributes to fostering the

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implementation of irreversible investments under conditions of geopolitical uncertainty. According to the "Bad News Principle" (Bernanke, 1983), an increase in uncertainty induces firms to postpone irreversible investments (Banerjee and Dutta, 2022), which today also include those aimed at countering external shocks. Indeed, it is well known that firms invest when the cost of waiting – namely the foregone opportunities, unrealized profits, or the risk of losing competitive advantage – exceeds the informational value that would be gained by delaying the decision (i.e., the benefit of waiting to reduce uncertainty). Relationship banking substantially raises the cost of waiting because through trust-based mechanisms and the extensive availability of information – particularly soft information – it makes deferring investment less advantageous.

In light of the multiple shocks that have hit economies and entrenched a state of permanent uncertainty, it becomes relevant to investigate whether relationship banking – through its distinctive features as outlined above – can support firms in mitigating such shocks by fostering the adoption of the most appropriate forms of innovation.

In our analysis we consider three shocks. Firstly, the energy shock related to the steep rise in energy costs following the outbreak of the Russia–Ukraine war, which has increased uncertainty and forced companies to confront significant strategic decisions: from the least forward-oriented and innovative, such as the reduction of the production, to the most forward-oriented and innovative, such as green investments.

Thus, in line with the literature addressed above, we can argue that relationship lending can play a key role in supporting innovation in the green field in response to energy shock. Specifically, we posit the following hypothesis:

Hp.2. Relationship banking is positively associated with the green investments in response to the energy shock

Secondly, the shock related to the rise in protectionism following the introduction of tariffs by Trump's administration that has strongly raised uncertainty and confronted firms with challenging strategic choices: from the less innovative ones, such as to shoulder tariffs, to the more innovative ones, such as to search for new/safer markets. According to the literature, in the internationalization field the firm's main bank plays a key role since market strategy (e.g.,

entering a new market) entails substantial risks of multiple dimensions besides additional costs, often requiring operational and development support together the financial one (Sapienza *et al.*, 2006; Lundberg, 2019). Several studies underlined the critical role of banks as critical partners, serving as channels for financial resources, international market intelligence, and advisory support (e.g., Boter and Lundström, 2005). Given the features of relationship banking, we can argue that it can play a key role in supporting more innovative market orientation strategies in response to exogenous shocks such as Trump's tariffs. Specifically, we posit the following hypothesis:

Hp.3. Relationship banking is positively associated with access to new export markets in response to Trump's tariffs shock

Thirdly, we consider the shock to the global value chains, due to several threats: i) extreme weather phenomena induced by climate change (both near-term – e.g., drought/flooding – and long-term – e.g., rising sea levels/desertification); ii) the COVID-19 pandemic (having a temporary but deep impact); iii) and the rise of geopolitical risks associated to the Russia-Ukraine war and the US-China rivalry (Alfaro and Chor, 2023)[6]. In this scenario, to remain competitive, firms need to make strategic decisions partly based on geography. Indeed, the recent wave of nearshoring – i.e., selecting suppliers in geographically proximate countries rather than in distant locations – seems to descend from a calculation in which the mentioned threats raise the risk of having distant suppliers to a level which overshadows the possible benefits in terms of higher quality and/or lower cost. As such, nearshoring enhances resilience while mitigating dependence on distant markets (Alfaro and Chor, 2023) through three main beneficial channels: i) lowering the costs of transportation and logistics that allow to increase the capacity to respond more quickly to market demands as well; ii) facilitating collaboration and project management thanks also to cultural and linguistic proximity, that positively affect the quality of work as well as of the final product and the alignment with expectations and standards; iii) enhancing the control of production. Moreover, factors such as rising labor costs in Asia and volatility in transportation expenses have rendered it a more attractive alternative (for a detailed analysis about the benefits of nearshoring see Montaño-Arango *et al.*, 2025). Thus, since nearshoring is a strategic choice in contrasting supply chain disruption, we can argue

[6] In turn, this last factor might be compounded by Trump's heightened tariffs of 2025.

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that relationship banking, as in the other cases of innovation strategies contrasting external shocks, supports nearshoring. Accordingly, we posit the following hypothesis:

Hp.4. Relationship banking is positively associated with nearshoring as a response to supply chain disruption shocks

3. DATA

The data come from a special survey conducted by the Centro Studi Tagliacarne-Unioncamere (Italian Union of Chambers of Commerce) in 2025 (April – June) on a sample of 2,370 Italian manufacturing companies within 5 and 499 employees. The availability of fresh data makes it possible to assess firms' current behavior in response to recent shocks, such as the tariffs imposed during the Trump administration, as well as other pressing events, including the surge in energy prices and the ongoing reconfiguration of global supply chains.

The sample corresponds to 1.9 percent of the total Italian company population. The sampling procedure ensured the statistical representativeness of the data (with an oversampling of medium-sized firms) by considering both exhaustive and random sampling criteria. Three dimensions of firms were considered in the stratification: i) Industry (nine economic activities of section C of the manufacturing industry of the Nace Rev. 2 classification[7]); ii) size class in terms of employees (5-9, 10-49, 50-249, 250-499); iii) geographical location (North-West, North-East, Centre, South and Islands). The survey was conducted using the CATI method (Computer-Assisted Telephone Interviewing) by a professional contractor to collect both qualitative and quantitative information about the company; several preliminary meetings were held with the contractor to explain to the interviewers the exact meaning of the questions, particularly in relation to the new questions, such as those on Trump's tariffs impact. The quality of the data was then validated.

Table 1 reports the description of the variables, while the summary statistics are presented in Table 2.

[7] Nace Rev. 2 is the Statistical classification of economic activities https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015

TABLE 1 - *Variables Description*

Variables	Type	Description
Dependent variable		
CREDIT	Dummy	1 = if the firm obtained from the bank the full amount of credit requested; 0 = otherwise
GREEN	Dummy	1 = if the firm has undertaken investments in renewable energy to counteract the impact of the energy cost shock; 0 = otherwise
MARKET	Dummy	1 = if the firm searched for new foreign markets for sales to counteract against the shock from Trump tariffs
NEARSHORING	Dummy	1 = if the firm adopted nearshoring strategies by increasing suppliers geographically closer within the EU to counteract the supply shock
Main independent variables		
RELATIONSHIP	Dummy	1 = if the firm maintains a long-term relationship with its bank, also based on trust-based advisory interactions aimed at improving the firm's financial and business strategies; 0 = otherwise
Control variables		
Size	Discrete	Number of employees (source: ISTAT data)
Sector	Dummies	1 = if the firm belongs to a n-sector (9 manufacturing sectors according to Nace rev2 classification: C10-C11: Food and beverages; C13-C15: Textiles, apparel, leather and related products; C16-C18: Wood, paper products and printing; C19:C22: Chemicals, pharmaceuticals, rubber, plastics; C23: Non-metallic mineral products; C24-C25: Basic metals and fabricated metal products; C26-C27: Electronic, optical and electrical equipment; C28-C30: Machinery and transport equipment; C31-C33: Furniture and other manufacturing); 0 =otherwise (source: ISTAT data)
Human capital	Continuous	Share of employees with tertiary degree (0-100) (source: ISTAT data)
Age	Discrete	Number of years since inception (source: ISTAT data)
Geographical location	Dummies	1 = if the firm belongs to a n-NUTS2 classification: 1 = North-West; 2 = North-East; 3 = Center; 4 = South (source: ISTAT data)
Family	Dummy	1 = if the firm is family-owned; 0 = otherwise
Youth	Dummy	1 = 1 if the firm is youth-owned (majority ownership held by individuals under the age of 35); 0 = otherwise
Female	Dummy	1 = if the firm is women-owned (majority ownership held by women); 0 = otherwise
Foreign	Dummy	1 = if the firm is foreign-invested firm; 0 = otherwise (source: ISTAT data)
Energy intensity	Dummy	1 = if the firms is energy-intensive (top-three tertile according to energy consumption per value added); 0 = otherwise (source: ISTAT and TERNA data)
Export	Dummy	1 = if the firm exports; 0 = otherwise
Export USA	Continuous	Share of exports to the United States over total firm turnover (source: ISTAT data)
Past turnover growth	Dummy	1 = if the firm experienced an increase in turnover in 2022

Note: source is indicated in parentheses whenever it differs from the survey data.

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TABLE 2 - *Summary Statistics*

	Mean	Std. Dev.	Min	Max
CREDIT	0.713	0.453	0	1
GREEN	0.178	0.383	0	1
MARKET	0.099	0.299	0	1
NEARSHORING	0.184	0.387	0	1
RELATIONSHIP	0.407	0.491	0	1
Size	59.816	72.822	5	491
Sector				
C10-C11	0.121	0.326	0	1
C13-C15	0.104	0.306	0	1
C16-C18	0.078	0.269	0	1
C19-C22	0.097	0.296	0	1
C23	0.049	0.215	0	1
C24-C25	0.197	0.398	0	1
C26-C27	0.081	0.274	0	1
C28-C30	0.155	0.362	0	1
C31-C33	0.117	0.322	0	1
Human capital	0.067	0.092	0	0.813
Age	31.300	16.557	0	191
North-West	0.363	0.481	0	1
North-East	0.319	0.466	0	1
Center	0.178	0.382	0	1
South	0.140	0.347	0	1
Family	0.840	0.367	0	1
Youth	0.050	0.218	0	1
Female	0.107	0.309	0	1
Foreign	0.396	0.489	0	1
Energy intensity	0.315	0.465	0	1
Export	0.640	0.480	0	1
Export USA	0.012	0.054	0	0.878
Past turnover growth	0.813	0.390	0	1

Notes: For all variables other than Size, Age, and Export USA, the mean corresponds to the proportion of firms for which the variable equals one (percentages can be obtained by multiplying by 100). Size denotes the average number of employees per firm, Age the average number of years since firm foundation, and Export USA the share of exports to the United States relative to total firm turnover. For variable descriptions, see Table 1.

FIGURE 1 - *Share of Firms with Relationship Banking (RB firms) and without Relationship Banking (Other firms)*



Source: own elaboration on Centro Studi Tagliacarne survey 2025.

4. ECONOMETRIC STRATEGY

The empirical analysis is conducted through a probit model, as this represents the econometric framework best suited to the binary character of the dependent variables (Wooldridge, 2010; pp. 453-459). Specifically, our probit model is as follows:

$$\text{Prob}(Y = 1)_i = \Phi(\beta_0 + \beta_1 RELATIONSHIP_i + \beta_2 C_i + \varepsilon_i) \quad (1)$$

where Y is the dependent variable differing according to our four hypotheses. In particular, it refers to the probability of obtaining from the bank the full amount of credit requested (CREDIT); the probability of investing in renewable energy to counteract the impact of the energy cost shock (GREEN); the probability of searching for new foreign markets for sales to counteract against the shock from Trump tariffs (MARKET); the probability of adopting nearshoring strategies by increasing suppliers geographically closer within the EU to counteract the supply shock (NEARSHORING). The main independent variable *RELATIONSHIP* measures the relationship banking taking value 1 if the firm maintains a long-term relationship with its bank, also based on trust-based advisory interactions aimed at improving the firm's financial and business strategies (in the Appendix, we report the corresponding survey question from which this variable is constructed). C is a vector of control variables (see Table 1 for details on all variables). Φ is a standard normal cumulative distribution function. Finally, ε_i is the normally distributed random error with zero mean and constant variance $N(0, \sigma^2)$ that captures

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any other unknown factors. To know the effects of any explanatory variable on the response probability $P(Y = 1|\mathbf{x})$ we calculated the marginal effects (average marginal effects). Marginal effect indicates «the effect on conditional mean of Y of a change in one regressor, say, x_j» (Cameron and Trivedi, 2010; p. 343). Collinearity problems do not emerge since all values of Variance Inflation Factor (Table A2 in Appendix) are below of the critical value of 10 (Yoo *et al.*, 2014).

5. RESULTS AND DISCUSSION

We test all the hypotheses by contrasting firms engaged in relationship banking (hereafter RB firms) – that is, firms maintaining a long-term relationship with their bank, including trust-based advisory interactions aimed at improving financial and business strategies – against all other firms (non-RB firms).

All regressions are estimated under the *ceteris paribus* condition, incorporating controls for geographical area, firm age, firm size, industry, human capital, type of entrepreneurship, past performance, as well as other specific factors depending on the dependent variable. For example, energy intensity is included when analyzing responses to energy shocks, while exports to the United States are considered in the case of Trump's tariff shock. A full description of these controls is reported in Table 1.

Controlling for all these variables, we find that RB firms (variable RELATIONSHIP) are 15.6% more likely (Marginal Effect ME is statistically significant at the 1% level; Table 3, Model A) to obtain from their bank the full amount of credit requested, compared to non-RB firms[8]. Hence, Hypothesis 1 (*Hp.1. Relationship lending is positively associated with greater bank credit availability*) is confirmed.

This evidence underscores the crucial role of relationship banking in facilitating credit access (Petersen and Rajan, 1994; Berger and Udell, 1995), particularly during periods of credit tightening. According to data from the Bank of Italy (Banca d'Italia, 2025), loans to firms decreased at an average year-on-year monthly rate of 2.8% over the period from January 2024 to May 2025 (the latest month available). This finding is especially relevant at a time when

[8] To mitigate potential multicollinearity, besides estimating the full specification (Table 3), we progressively added blocks of control variables; the corresponding results are reported in Tables A3-A6 in the Appendix.

enterprises need to step up investments to remain competitive in the era of green and digital transitions.

In line with this last point, we also find that RB firms are more likely to undertake investments in renewable energy to mitigate the impact of the energy cost shock (i.e., setting *GREEN* as dependent variable) than non-RB firms (ME of RELATIONSHIP = 0.057, $p < 0.01$; Table 3, Model B). Hence, Hypothesis 2 (*Hp.2. Relationship banking is positively associated with green investments in response to the energy shock*) is confirmed.

This provides novel and critical empirical evidence, suggesting that relationship banking plays a key role not only through the financial channel, but also by steering firms' strategic decisions toward more forward-looking investment choices (as underlined by Morse and Sastry, 2024 concerning the decarbonization) in response to shocks. Importantly, this influence operates even under conditions of heightened uncertainty – such as the current debate on the costs (including regulatory burdens) and the expected returns of the energy transition.

A second piece of evidence supporting the key role of RB in helping firms cope with shocks comes from the case of Trump's tariff shock. Our results show that RB firms are significantly more likely to search for new foreign markets to offset the negative impact of Trump's tariffs (*MARKET* as dependent variable) compared to non-RB firms (ME of RELATIONSHIP = 0.053, $p<0.01$; Table 3, Model C). Hence, Hypothesis 3 (*Hp.3. Relationship banking is positively associated with access to new export markets in response to Trump's tariff shock*) is confirmed.

A third piece of evidence comes from the supply chain shock. When examining firms' adoption of nearshoring strategies – specifically, increasing reliance on geographically closer suppliers within the EU as a response to the supply shock – we find that RB firms are significantly more prone to pursue this strategy than non-RB firms (marginal effect of *RELATIONSHIP* = 0.031, $p < 0.05$; Table 3, Model D).

These two last evidences contribute to the literature by highlighting a dual function of RB. The first one, the advisory role of RB in supporting firms' international market intelligence (Boter and Lundström, 2005; Sapienza *et al.*, 2006; Bartoli *et al.*, 2014; Lundberg, 2019). The second one is the ability of RB to sustain firms' strategic choices during macroeconomic shocks (Berger and Udell, 2002).

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TABLE 3 - *Results: Marginal Effects of Probit Regressions*

	CREDIT	GREEN	MARKET	NEARSHORING
	(A)	(B)	(C)	(D)
RELATIONSHIP	0.156***	0.057***	0.053***	0.031**
	(0.018)	(0.016)	(0.012)	(0.016)
Size	0.022	0.025**	0.033***	0.026**
	(0.000)	(0.000)	(0.000)	(0.000)
Human capital	0.091	0.039	0.116	0.104
	(0.110)	(0.093)	(0.068)	(0.089)
Age	-0.082	0.059	0.034	0.024
	(0.001)	(0.000)	(0.000)	(0.000)
North-East	-0.034	-0.003	0.036**	-0.023
	(0.022)	(0.019)	(0.015)	(0.019)
Center	0.003	0.015	0.029	-0.015
	(0.027)	(0.023)	(0.018)	(0.023)
South	-0.004	0.035	0.020	0.014
	(0.030)	(0.025)	(0.020)	(0.025)
Family	0.021	0.027	0.016	-0.024
	(0.025)	(0.022)	(0.017)	(0.021)
Youth	0.032	-0.056	0.036	0.020
	(0.043)	(0.038)	(0.026)	(0.035)
Female	-0.032	-0.017	0.025	-0.024
	(0.029)	(0.026)	(0.019)	(0.027)
Foreign	0.031	0.016	0.034**	
	(0.023)	(0.019)	(0.014)	
Export	-0.004	0.047**		0.010
	(0.022)	(0.019)		(0.019)
Past turnover growth	0.056**	0.014	-0.001	-0.005
	(0.023)	(0.021)	(0.017)	(0.020)
Energy intensity		-0.016		
		(0.026)		
Export USA			0.177**	0.187
			(0.092)	(0.131)
Sector	Y	Y	Y	Y
Obs	2,370	2,370	2,370	2,370
LR chi2	122.52***	83.11***	111.25***	83.14***
Pseudo R2	0.043	0.037	0.073	0.037

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. For firm size, the reported marginal effect indicates the change in probability associated with an increase of 10 employees. For firm age, the reported marginal effect indicates the change in probability associated with a 10-year increase.

The trust-based dimension of relationship lending (Guiso, Sapienza and Zingales, 2024) appears especially well suited to contexts of systemic uncertainty (Thakor and Merton, 2024). This is because macroeconomic shocks often need to reallocate resources rapidly (e.g., toward green investments, new export markets, or nearshoring). RB facilitates this process by offering flexible credit conditions and renegotiation options. Such financial flexibility reduces the costs and risks of implementing strategic changes, making it more likely that firms will adopt forward-looking rather than defensive strategies.

Relationship banking focuses on long-term profitability rather than short-term transactional margins, they are more inclined to support firms in adopting strategies that strengthen resilience (e.g., diversification of markets, investment in energy efficiency, supply chain reconfiguration). This long-term orientation aligns the incentives of banks and firms in favor of strategic adaptation to shocks.

As our empirical analyses are based on cross-sectional data, our estimates may be affected by endogeneity concerns arising from unobserved firm-level characteristics that cannot be controlled for through fixed effects. In particular, firms' engagement in relationship lending may reflect underlying, time-invariant traits that are not directly observable and may simultaneously influence the outcome variables. While these limitations prevent a strict causal interpretation of the results, we address this concern by implementing a Propensity Score Matching (PSM) approach as a robustness check. Although PSM does not resolve endogeneity driven by unobservables, it allows us to explicitly control for observable differences between treated and control firms, ensure common support, and account for potential non-linearities in the selection process.

Thus, we address the issue of causality through probit regression after the nearest-neighbour matching (Abadie and Imbens, 2006, 2011) by contrasting treated firms with untreated firms of a control group. In our case, treated firms are those maintaining a long-term relationship with their main bank (i.e., firms with RELATIONSHIP = 1). Since this treatment is not randomly assigned and may depend on several firm-level characteristics, we need to construct an appropriate control group of untreated firms (i.e., among the firms with RELATIONSHIP = 0) that share similar observable characteristics with treated firms but do not maintain a long-term bank relationship. To identify firms in the control group, we employ nearest-neighbour

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matching following Abadie and Imbens (2006, 2011), using nearest neighbours with replacement and a fixed number of matched units[9].

We identified the untreated firms (i.e., companies with RELATIONSHIP = 0) in the control group through the propensity score approach (Rosenbaum and Rubin, 1983, 1985), defined as the estimated probability of being treated conditional on a set of observable firm-level characteristics (for both treated and untreated units). Specifically, we estimate the likelihood of being a firm maintaining a long-term relationship with its main bank (RELATIONSHIP = 1) as a function of the following characteristics: firm size, sector of activity (including detailed manufacturing sector classifications), human capital, firm age, geographical location (North-West, North-East, Center, South), governance structure (family-owned, youth-led, female-led, foreign-owned), energy intensity, export activity (including exports to the US), and past turnover growth.

Finally, we run the cross-sectional regression on the subsample of treated and matched control firms by applying the Probit (eq.1):

TABLE 4 - *Results: Marginal Effects of Probit Regressions after Propensity Score Matching (PSM)*

	CREDIT	GREEN	MARKET	NEARSHORING
	(A)	(B)	(C)	(D)
RELATIONSHIP	.172*** (.020)	.065*** (.013)	.060*** (.010)	.026* (.014)
+ controls				
Obs	2,069	2,069	2,069	2,069
LR chi2	161.49***	173.17***	157.7***	149.64***
Pseudo R2	.033	.049	.066	.039

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.

[9] We also imposed common support, excluding treated observations whose propensity score was higher than the maximum or lower than the minimum propensity score among control firms (for further methodological details, see Cerulli, 2022).

As a robustness check, we also apply the inverse probability weighting (Horvitz and Thompson, 1952; Rosembaum and Rubin, 1983; Wooldridge, 2002) according to which:

- for *treated* units the inclusion probability is equal to the propensity score: $p(D=1 \mid \mathbf{x})$
- for *untreated* units the inclusion probability is equal to: $p(D=0 \mid \mathbf{x}) = 1 - p(D=1 \mid \mathbf{x})$

where $\mathbf{x}$ is the vector of observable exogenous confounding variables assumed to drive the non-random assignment into treatment (Cerulli, 2022; pp. 102-107).

The results obtained after matching are consistent with the baseline estimates, lending further credibility to our findings. By comparing firms maintaining a long-term relationship with their main bank (treated, RELATIONSHIP = 1) with a control group of firms sharing similar observable characteristics (untreated matched, RELATIONSHIP = 0) – through regression after matching – we find a positive and statistically significant effect of long-term bank relationships on the outcomes of interest (Table 4). These results are further confirmed when applying the inverse probability weighting technique (Table 5).

TABLE 5 - *Robustness Check: Marginal Effects of Probit Regressions with Inverse Probability Weighting (IPW)*

	CREDIT	GREEN	MARKET	NEARSHORING
	(A)	(B)	(C)	(D)
RELATIONSHIP	.152*** (.012)	.058*** (.011)	.054*** (.009)	.030*** (.011)
+ controls				
Obs	2,368	2,368	2,368	2,368
LR chi2	226.3***	170.7***	222.75***	171.37***
Pseudo R2	.041	.037	.071	.037

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.

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6. Conclusions

The escalating frequency and severity of conflicts and crises appear to signal not only the end of the most intense phase of globalization since the 1990s, but also a rupture with the broader post-war era of relative stability (Fan, Wo and Xiang, 2025; Ramirez, 2025). What were once perceived as isolated shocks are now increasingly understood as interconnected events, forming what has been conceptualized as a *polycrisis* (Morin and Kern, 1993; World Economic Forum, 2023). The rise of systemic uncertainty challenges long-standing assumptions of stability in economics and business, and demands new frameworks to explain how firms can adapt. The polycrisis threatens to erode established institutions, as nationalism weakens multilateral frameworks (Madaboyina, 2025) and overlapping crises undermine institutional effectiveness (Curran, 2018).

This raises the question of whether firms can rely on institutional arrangements that prove more resilient to such shocks. Informal institutions, being slow-moving and deeply embedded, may provide such stability, complementing formal structures and enhancing persistence in times of disruption (Roland, 2004; Douarin and Schnyder, 2025; Guiso, Sapienza and Zingales, 2004; Goletsis, Christogeorgou and Mylonidis, 2025).

Building on this intuition, our analysis explores whether an informal business framework, by focusing on relationship banking – an implicit contractual arrangement between a firm and its main bank – can support firms' adaptation to an increasingly uncertain and volatile business environment. More specifically, whatever the origin of the polycrisis, the aim of this paper was to address a simpler research question. Namely, since such a manifold crisis endangers at the same time firm performance and the institutions on which firms typically rely for support against negative shocks, can a firm benefit from the specific type of informal business framework represented by relationship banking? Indeed, the ability of a firm to navigate the polycrisis will depend on its ability to adapt to the changed circumstances, including heightened uncertainty.

From this perspective, by exploiting a unique firm-level database coming from a survey on 2,370 Italian manufacturing firms carried out in 2025, we investigated whether relationship banking supports a firm's adaptation to the uncertain world testified and unfolded by the polycrisis in terms of: i) enjoying easier access to credit; ii) making more green investments in response to the

energy shock; iii) obtaining safer access to export markets in response to Trump's tariffs shock to trade; iv) engaging in a more intense nearshoring as a reaction to supply chain disruption shocks.

The findings coming from the econometric analysis provide germane support for each and every one of our four hypotheses. We found that firms maintaining a long-term relationship with their bank, including trust-based advisory interactions aimed at improving financial and business strategies (that we called RB firms) are more likely: i) to obtain from their bank the full amount of credit requested; ii) to undertake investments in renewable energy to mitigate the impact of the energy cost shock; iii) to offset the negative impact of Trump's tariffs – by searching for new foreign markets – mainly within the EU; iv) to adopt nearshoring strategies – specifically, increasing reliance on geographically closer suppliers within the EU as a response to the supply shock. Thus, even though we are facing a clear redefinition of financing channels increasingly based on FinTech and AI (Boot, 2017), relationship banking may still be valuable, since it emerges not only as a financial arrangement, but also as a key complementary institutional mechanism that reinforces firms' adaptive capacity in an era of persistent uncertainty. Policymakers should therefore ensure that regulatory frameworks do not undermine banks' incentives to cultivate soft information and advisory interactions, particularly for SMEs.

This may be particularly important for Italy's competitiveness, as a large share of its businesses are small-sized and family-owned. Such firms are typically less equipped to cope with shocks, financially more constrained in access to credit, and exhibit higher risk aversion, which can act as an additional constraint in times of heightened uncertainty. As a result, they require, besides a more accessible source of finance, also a strong advisory support to make sound strategic and investment decisions.

The relevance and generalizability of our findings undergo various possible limitations. First, working on a cross-section database, our analyses do not account for possible causality mechanisms. Second, our analyses are limited to manufacturing firms only and for a single country. Third, in some cases a firm's business strategy is associated with its strategic intentions. Fourth, relationship banking is captured through a single binary variable, which calls for additional robustness checks employing alternative measures of this phenomenon (e.g., the duration of the relationship, or whether the firm engages in single-bank versus multiple-bank relationships). Firth, and last, while we have argued that relationship banking may survive the

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transition from traditional banking to digital banking, the modalities through which relationship banks adapts to the digital banking business are yet to be assessed. All these issues can help shape future research directions to overcome the mentioned limitations of our study.

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APPENDIX

Question on Relationship Banking (from the Survey Questionnaire)

Does the company have strong, long-standing trust-based relationships with its main bank, also aimed at improving its financial and business strategies?

☐ Yes

☐ No

Question on variable CREDIT (from the Survey Questionnaire)

With respect to your firm's financing needs, how would you assess the credit granted by the bank(s)?

☐ Adequate (the full amount of requested credit was granted)

☐ Not fully adequate (the amount of credit granted was slightly lower than requested)

☐ Inadequate (the amount of credit granted was substantially lower than requested)

☐ The credit request was not approved

Question on variable GREEN (from the Survey Questionnaire)

Which of the following strategies has your firm adopted in order to counteract the increase in energy costs?

☐ Investments in renewable energy generation facilities (e.g. solar photovoltaic systems)

☐ Financial or contractual strategies with energy suppliers

☐ Reorganization of input procurement with other firms along the supply chain

☐ Reduction or relocation of production (including offshoring)

☐ Investments in new machinery

☐ Digitalization

☐ Reorganization of production processes to reduce energy costs (e.g. shifts to lower-cost time slots)

☐ Modification of products or services

☐ Other (please specify)

☐ No strategy adopted

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Question on variable MARKET (from the Survey Questionnaire)

Which sales- and production-related strategies does your firm intend to adopt in response to the U.S. tariffs introduced by the Trump administration?

☐ We are willing to absorb the tariffs (bearing the tariff costs) in order to maintain sales in the U.S. market

☐ We will increase the prices of goods and services sold in the U.S. market

☐ Search for alternative foreign sales markets to the United States, with a preference for EU markets

☐ Search for alternative foreign sales markets to the United States, with a preference for non-EU markets

☐ We plan to relocate or establish production facilities in the United States

☐ We plan to increase production in the firm's existing facilities located in the United States

☐ Other strategies (please specify)

☐ No strategy adopted

Question on variable NEARSHORING (from the Survey Questionnaire)

As a response to supply-chain shocks, has your firm acquired new foreign suppliers? If so, where are these new suppliers mainly located compared to the previous ones?

☐ In geographically closer countries within the European Union compared to previous suppliers *(nearshoring of supply)*

☐ In geographically more distant countries outside the European Union compared to previous suppliers *(farshoring of supply)*

☐ No change in supplier location: the location of foreign suppliers is/was the same as that of the previous ones *(exclusive)*

TABLE A1 - *Summary Statistics by Relationship Lending*

	RELATIONSHIP=1	RELATIONSHIP=0	t-test
CREDIT	.809	.647	9.048***
GREEN	.221	.149	4.41***
MARKET	.14	.071	5.254***
NEARSHORING	.209	.166	2.56**
Size	69.238	53.356	5.221***
Sector			
C10-C11	.112	.127	-1.131
C13-C15	.088	.115	-2.165**
C16-C18	.075	.081	-572
C19-C22	.116	.084	2.539**
C23	.063	.038	2.654***
C24-C25	.206	.19	989
C26-C27	.083	.08	228
C28-C30	.162	.151	725
C31-C33	.094	.133	-2.953***
Human capital	.071	.065	1.565
Age	31.672	31.044	.896
North-West	.368	.359	451
North-East	.325	.316	456
Center	.178	.177	083
South	.129	.148	-1.345
Family	.836	.843	-437
Youth	.054	.047	76
Female	.11	105	362
Foreign	.448	.36	4.302***
Energy intensity	.296	.328	-1.669*
Export	.703	597	5.412***
Export USA	.014	.01	1.539
Past turnover growth	.837	.797	2.53**

Notes: The table reports the mean and t-test with significance level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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TABLE A2 – *Variance Inflation Factor (VIF) for Main Independent Variables*

Variable	VIF
C10-C11	1.772
C13-C15	1.467
C16-C18	1.364
C19-C22	1.567
C23	1.494
C24-C25	1.789
C26-C27	1.383
C28-C30	2.303
C31-C33	1.505
Human capital	2.108
Age	1.580
North-West	1.966
North-East	2.690
Center	1.921
South	4.593
Family	5.100
Youth	1.075
Female	1.161
Foreign	2.687
Energy intensity	4.035
Export	5.132

Notes: The values of VIF reported refer to the regression having as dependent variable CREDIT (Table 3, column A).

TABLE A3 - *Results: Marginal Effects of Probit Regressions Building Block CREDIT*

	CREDIT	CREDIT	CREDIT	CREDIT
	(A)	(B)	(C)	(D)
RELATIONSHIP	.016*** (.018)	.159*** (.018)	.159*** (.018)	0.156*** (0.018)
Controls				
Size	.000** (.000)	.000*** (.000)	.000** (.000)	0.022 (0.000)
Human Capital		.107 (.107)	.111 (.108)	0.091 (0.110)
Age		-.001 (.001)	-.001 (.001)	-0.082 (0.001)
North East		-.032 (.022)	-.032 (.022)	-0.034 (0.022)
Center		.002 (.027)	.003 (.027)	0.003 (0.027)
South		-.005 (.03)	-.007 (.03)	-0.004 (0.030)
Family			.019 (.025)	0.021 (0.025)
Young			.031 (.043)	0.032 (0.043)
Female			-.033 (.029)	-0.032 (0.029)
Foreign				0.031 (0.023)
Export				-0.004 (0.022)
Past turnover growth				0.056** (0.023)
Energy intensity				
Export USA				
Sector		Y	Y	Y
Obs	2,370	2,370	2,370	2,370
LR chi2	82.79***	112.52***	114.72***	122.52***
Pseudo R2	.029	.039	.040	0.043

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.

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TABLE A4 - *Results: Marginal Effects of Probit Regressions Building Block GREEN*

	GREEN	GREEN	GREEN	GREEN
	(A)	(B)	(C)	(D)
RELATIONSHIP	.063*** (.016)	.061*** (.016)	.061*** (.016)	0.057*** (0.016)
Controls				
Size	.000*** (.000)	.000*** (.000)	.000*** (.000)	0.025** (0.000)
Human Capital		.07 (.088)	.07 (.088)	0.039 (0.093)
Age		.001 (.000)	.001 (.000)	0.059 (0.000)
North East		-.006 (.019)	-.005 (.019)	-0.003 (0.019)
Center		.008 (.023)	.010 (.023)	0.015 (0.023)
South		.023 (.025)	.027 (.025)	0.035 (0.025)
Family			.026 (.022)	0.027 (0.022)
Young			-.054 (.029)	-0.056 (0.038)
Female			-.019 (.026)	-0.017 (0.026)
Foreign				0.016 (0.019)
Export				0.047** (0.019)
Past turnover growth				0.014 (0.021)
Energy intensity				-0.016 (0.026)
Export USA				
Sector		Y	Y	Y
Obs	2,370	2,370	2,370	2,370
LR chi2	41.31***	70.12***	74.000***	83.11***
Pseudo R2	.018	.031	.033	0.037

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.

TABLE A5 - *Results: Marginal Effects of Probit Regressions Building Block MARKET*

	MARKET	MARKET	MARKET	MARKET
	(A)	(B)	(C)	(D)
RELATIONSHIP	.057***	.056***	.055***	0.053***
	(.012)	(.012)	(.012)	(0.012)
Controls				
Size	.000***	.000***	.000***	0.033***
	(.000)	(.000)	(.000)	(0.000)
Human Capital		.143**	.154**	0.116
		(.064)	(.064)	(0.068)
Age		.000	.000	0.034
		(.000)	(.000)	(0.000)
North East		.036	.037	0.036**
		(.015)	(.015)	(0.015)
Center		.029	.028	0.029
		(.018)	(.018)	(0.018)
South		.019	.016	0.020
		(.02)	(.02)	(0.020)
Family			.014	0.016
			(.017)	(0.017)
Young			.035	0.036
			(.026)	(0.026)
Female			.021	0.025
			(.019)	(0.019)
Foreign				
Export				
Past turnover growth				-0.001
				(0.017)
Energy intensity				
Export USA				0.177**
				(0.092)
Sector		Y	Y	Y
Obs	2,370	2,370	2,370	2,370
LR chi2	71.74***	97.31	97.31	111.25***
Pseudo R2	.046	.065	.065	0.073

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.

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TABLE A6 - *Results: Marginal Effects of Probit Regressions Building Block NEARSHORING*

	NEARSHORING	NEARSHORING	NEARSHORING	NEARSHORING
	(A)	(B)	(C)	(D)
RELATIONSHIP	.034** (.016)	.031** (.016)	.032** (.016)	0.031** (0.016)
Controls				
Size	.000*** (.000)	.000*** (.000)	.000*** (.000)	0.026** (0.000)
Human Capital		.135 (.086)	.119 (.086)	0.104 (0.089)
Age		.000 (.000)	.000 (.000)	0.024 (0.000)
North East		-.023 (.019)	-.024 (.019)	-0.023 (0.019)
Center		-.016 (.023)	-.016 (.023)	-0.015 (0.023)
South		.013 (.025)	.012 (.025)	0.014 (0.025)
Family			-.025 (.021)	-0.024 (0.021)
Young			.021 (.035)	0.020 (0.035)
Female			-.026 (.027)	-0.024 (0.027)
Foreign				
Export				0.010 (0.019)
Past turnover growth				-0.005 (0.020)
Energy intensity				
Export USA				0.187 (0.019)
Sector		Y	Y	Y
Obs	2,370	2,370	2,370	2,370
LR chi2	23.64***	77.56***	80.45***	83.14***
Pseudo R2	.105	.034	.035	0.037

Notes: The table displays average marginal effects. Standard errors in parentheses. Likelihood ratio (LR) chi-square testing the joint significance of the explanatory variables. *** p < 0.01, ** p < 0.05, * p < 0.1.