

State of the Art Review



What do we know about factors that affect business investment decisions?

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The UK has a longstanding ‘productivity puzzle’, which has received considerable attention. In the global financial crisis the UK’s productivity fell more and then recovered slower than in other OECD countries. One of explanations given for the UK’s lagging productivity growth is the lower business investment rates found in the UK compared to other comparable economies. The process of investment decision-making and the factors that feed into it is an understudied field that this paper aims to address by reviewing key evidence from the post global financial crisis period. The review identified the following factors affecting firms’ business investment decisions: firm size, exporting status, business structure and sector, financial health, funding sources and access to finance, human capital and management practices, return on investment, indirect benefits of investment, firm-level and macro-economic uncertainty, business leaders’ attitudes and perceptions, internal and external stakeholders, other investment options and investment history, policy intervention, especially monetary and fiscal policies, and macro-economic factors or shocks that affect market uncertainty and cost of investment. Many factors appear to apply to both ‘tangible’ and ‘intangible’ investments, though some factors have differential effects. The main evidence gaps are: a lack of uniform measures for many factors in the literature, as well as a lack of evidence on the process of investment decision-making, on stakeholders and the circumstances of their involvement, and on motivations to invest.

Background

Following the global financial crisis in 2007-2008, the UK experienced a sharper decline and slower recovery in productivity growth when compared to other advanced OECD economies (UK Government, 2019). We know that productivity varies between business sectors: for example, the service sector has traditionally experienced lower productivity than the manufacturing sector and the UK’s productivity growth slowdown has been contributed to the slowdown in the latter (Tenreyro et al., 2018, Tsoukalas, 2021). However, the UK’s poor productivity performance compared to other countries in the last

decade cannot be fully explained by differences in industrial structure.¹ This has led to the UK's slow recovery phenomenon being referred to as a 'productivity puzzle'.

The exact causes of the productivity puzzle remain unclear (McCann and Vorley, 2020), although one of the frequently cited explanations focuses on business investment levels. There is a recognised link between business investment and higher productivity growth (Bank of England, 2021, Luong and Hewitt-Dundas 2020). Business investment additionally has a number of other positive economic outcomes for firms and the economy as a whole such as higher growth and employment (Audretsch and Belitski, 2021, Pope et al., 2022). However, the UK has shown some of the lowest business investment rates among the OECD countries (Tsoukalas, 2021). This makes research into business investment decisions and factors that affect them salient.

Business investment is classified into two types - tangible (also often referred to as capital investment) and intangible:

- Tangible investment consists of physical assets such as machinery, equipment, vehicles, buildings, plants, etc.
- Intangible investment refers to non-monetary assets such as research and development (R&D), intellectual property, branding, marketing, staff training and education, organisational efficiency, service design, etc.

This distinction between tangibles and intangibles is important for studying productivity and business investment: despite historically low interest rates, coupled with a higher rate of return on capital, British firms have not invested as much into capital as could have been expected based on standard economic theory. This is known as a 'missing investment puzzle' and it can be partly explained by firms making intangible investments instead of tangible investments (Bailey et al., 2022). While there is good evidence that intangible investments enhance productivity (Karmakar et al., 2022), business sectors with the highest share of intangible assets experienced stronger slowdown in productivity growth, which indicates that there might be unique factors related to intangible investment: for example, it is harder to use intangible assets as a collateral when borrowing to fund investment and thus productivity improvements (Bailey et al., 2022). Measuring intangible investment is also more challenging: UK National Accounts capture some, but not all, intangible capital (Wilkes, 2022).

This paper summarises the key extant literature published since the global financial crisis (post 2008) on the factors that affect business investment decisions at the firm level.

Research evidence

Firm characteristics and resources

In terms of business characteristics, the evidence shows that larger business size (Fernandez de Guevara et al., 2021; Knuutila and Vuorio, 2023, Ozbugday et al., 2022) and exporting are associated with higher investment (Peters et al., 2022, Bompreszi et al., 2022). Firm structure also has an impact, though research findings here are not uniform: foreign-ownership has been associated with both higher and lower investment (Hrovatin et al., 2016, Rud et al., 2023), family-owned firms might be investing less due to conflicting investment priorities and risk-averseness (Kostka et al., 2013, Sekerci, 2020), while publicly-listed companies are more likely to invest in R&D (BEIS, 2022). Firm

¹ For example, see PwC, "UK Economic Outlook November 2019"

structure also determines incentives for investing, with some studies showing that higher executive compensation and bonuses reduce investment, possibly because decision-makers become more risk-averse (Adu-Ameyaw et al., 2022, Adelopo et al., 2023). The relationship of business sector to factors that affect investment is unclear as findings of studies vary in terms of whether sectors react differently to the same factors, if they do - which sectors are affected, and under what circumstances (e.g., exporting or not) (Yang et al., 2020, Nguyen and Trinh, 2023, Andersson et al., 2023 (1)).

Financially better-off firms invest more in both tangible and intangible assets (Every et al., 2023, Sakai, 2020, Melollina et al., 2018). Studies define financial health in various ways, such as cashflow, credit rating, leverage, indebtedness, current tangible and intangible assets, as well as access to finance. The latter is particularly important to small and medium enterprises (SMEs) and firms in rural areas as they find it harder to access finance to fund investments (Andersson et al., 2023 (2)). Sources of funding can also affect investments: for example, credit finance tends to fund capital investments, while technology investments are more likely to be internally funded (Long et al., 2020, Yang et al., 2020).

If firms have higher human capital - training, knowledge, technical expertise etc. - this positively affects business investment, particularly into intangibles, which require more specialised information (Lai et al., 2015, Zhang and Islam, 2020, Moreno-Mondejar and Cuerva, 2020). Firms with better management practices (e.g., monitoring performance) also invest more because, for instance, they forecast growth more accurately and identify investment opportunities better (Brandily et al., 2023).

Decision-making processes

Turning to decision-making, the evidence shows that firms invest based on an expected return on investment (ROI), typically understood in economic terms (Feulefack and Sergi, 2015, Globisch and Dütschke, 2020, Nabarro 2022). Firms prioritise investments with more certain and quicker returns (Klemick et al., 2019). Uncertainty is a key barrier to investment, especially for intangibles, which are considered riskier (Jones et al., 2021, Knuutila and Vuorio, 2023, Venmans, 2014).

Investment might also offer indirect benefits, such as future learning or increased productivity, but, typically, firms do not consider these (Kalantzis and Niczyporuk, 2022). This is often due to a lack of information and the associated costs to obtain it (Nehler and Rasmussen, 2016). Indirect benefits of investing in energy efficiency and novel technologies in particular are harder for firms to take into account (Rasmussen, 2020, Nehler et al., 2014) and risk-averse management might not want to invest in them (Veccioli 2019).

Various other attitudinal aspects of investment decision-makers are covered in the literature. For instance, leaders tend to invest if they perceive it as contributing to the main business objectives (Cooremans and Schonenberger, 2019), if they see strategic value in the investment area (Sheehan and Garavan, 2022), if they perceive the feasibility and desirability of investments to be higher (Koryak et al., 2015), and if they have business growth ambitions (Roper and Bourke, 2018). Optimistic managers invest and over-invest in capital (Elgebeily et al., 2021), while as we might expect, climate sceptics invest less in energy efficiency (Knuutila and Vuorio, 2023).²

In addition to business leaders, there is emerging evidence that some other internal and external stakeholders can increase investment in their respective fields, though this evidence is varied. This includes:

² It needs noting that this body of evidence applies to different types and objectives of investment.

- External energy efficiency consultants (Hoppmann et al., 2018, Globisch and Dütschke, 2020).
- Cooperating with other firms in R&D (Aboal and Garda, 2016).
- Technological collaboration with universities or research centres (Batalla-Busquets and Myrthianos, 2015).
- Energy/sustainability or facilities management teams (Globisch and Dütschke, 2020).
- Internal or external stakeholders with the role to promote productivity growth (Jones et al., 2021).
- IT managers (Turedi and Zhu, 2019).

Finally, decisions to invest need to be taken in consideration with other/previous investments (Ikonnikova et al., 2022, Klemick et al., 2019). For instance, firms that previously invested in R&D or energy efficiency are more likely to invest again (Costa-Campi et al., 2019), while capital investments might be made to facilitate process innovation (Costa-Campi et al., 2019, Zhang and Islam, 2020, Knuutila and Vuorio, 2023). Sometimes the decision to invest again is based on sunk costs (Manez et al., 2015). Investments might also crowd out each other: green investment is found to crowd out other types of investment (Hrovatin et al., 2016, Weche, 2019).

External factors

There seems to be a broad consensus in the literature that government policies impact business investment (Stern et al., 2020, van Ark et al., 2023). Targeted public policy affects specific investments, for example, financial support for R&D increases R&D investment (Becker, 2015, Hud and Hussinger, 2015). Environmental regulation and its levers (e.g., investment subsidies, carbon taxation) typically promotes green investments (Garcia-Quevedo and Jove-Llopis, 2021, Yang, 2023, Wilkes, 2022). Public investment overall, especially in innovation, infrastructure and human capital, can also encourage capital investments (Carella et al., 2023).

Fiscal policy, especially tax policy (e.g., capital tax, corporation tax, dividend taxes) affects investment by impacting business finances and cost of capital (Brusco and Glass, 2023, Jacob, 2021, Adam et al., 2022). So does monetary policy, sometimes to the point of crowding out investment types: low interest rates were found to incentivise firms to switch from productive to capital investment (Evemy et al., 2023, Brito et al., 2018). Intangible investments and firms with a large share of intangible assets appear to be less sensitive to monetary and fiscal policies: for instance, the higher depreciation rates of intangible assets are less affected by interest rates (Dottling and Ratnovski, 2020, Hanappi et al., 2023).

Other external factors, typically macro-economic such as market demand, affect firms' investment decisions (TPI, 2023). Notably, uncertainty discourages firms from investing (Melollina, 2017, Smietanka et al., 2018). To illustrate, in the UK, capital investment slowed down due to EU-exit and related uncertainty (Bank of England, 2021). Any factors that affect the costs and affordability of investment, directly or indirectly, affect investment levels: stock prices or their volatility might distort investment decisions through misleading price signals (Xiao, 2020, Alaali, 2020); real estate prices can serve as collateral to access credit to fund investment (Fougere et al., 2019); lower marginal cost of capital incentivises capital investments and vice versa (Dinh et al., 2013); external shocks such as the COVID-19 pandemic increase business debt and reduce investment (Bank of England, 2022); higher energy prices or energy usage incentivises firms to invest in energy efficiency (Uz, 2018, Cooremans and Schonenberger, 2019).

Overview and evidence gaps

This paper summarises the key factors that have been found to affect business investment in the post global financial crisis period. Some factors emerge as having differential effects on investment in tangible or intangible assets (e.g., fiscal policy, capital costs); however, many factors apply to both investment types.

First, businesses invest differently depending on their size, export status, sector and ownership structure. Larger firms and those that export are more likely to invest, however the evidence is not conclusive or uniform in case of other firm characteristics. The literature tends to show that firms that are financially better off invest more. This goes beyond just the availability of funding: various financial measures might be relevant, including current tangible and intangible assets; firms might use different funding sources, internal or external, to finance different investment types; when using external funding, access to finance is a consideration, especially for SMEs; and costs and macro-economic factors that affect costs introduce further incentives/disincentives to invest. In addition to financial resources, firms' human capital and good management practices enable firms to invest, especially in intangible assets that are more likely to require specialised expertise to assess them, their returns and their implementation.

Second, the primary driver of business investment appears to be a positive assessment of return on investment (ROI) - perceived or evaluated - mainly financial return. Firms can consider other indirect benefits of their investments (e.g., higher productivity), though these are typically harder for firms to identify and measure. The key barrier to investment is uncertainty: at firm-level on ROI as well as wider macroeconomic uncertainty which can be caused by various shocks. Uncertainty appears to have a stronger negative impact on intangible investments and investments in novel technologies that have higher associated risks and less known or certain returns.

Third, the literature highlights a variety of business leaders' perceptions and motivations that affect various types of investment. These could be summarised in saying that a positive attitude towards business growth and specific investments make decision-makers more likely to invest and vice versa. Furthermore, while leaders and managers seem to be the primary decision-makers, a number of different internal and external stakeholders feed into investment decision-making processes. Based on the evidence, stakeholder type seems to be dictated by investment type and objective (e.g., sustainability teams affect green investments). Different investment decisions might also interact, and the institutional history of investment decisions within firms affects current decision-making.

Lastly, certain external influences affect business investment decisions. Public policy support, such as financial support (e.g., R&D subsidies), and environmental regulation (for green and energy efficiency investments) tends to increase investment. Fiscal and monetary policies and public investment in general also influence business investment. Whether they incentivise, disincentivise or have unintended consequences, such as crowding out certain investment types, depends on policy specifics. However, intangible investments are less sensitive to fiscal and monetary policies because the latter primarily affect the cost of capital.

While the literature shows a number of internal and external factors affect business investment, evidence gaps remain. Beyond the aversion to uncertainty and perceptions on ROI, studies offer diverse measures of other factors including financial health or human resources. These are less uniform when it comes to business leaders' perceptions and attitudes. Furthermore, the exact mechanisms of how and why different factors

feature in decision-making are less known. Additionally, the literature highlights relatively few studies focusing on who makes investment decisions, what other actors are involved, and in what circumstances. The existing evidence base on these topics further differs in terms of investment types and investment objectives. Understanding the motivation for investment and its process and how it varies between different firms and investment purposes is important for it may have implications for productivity.

To narrow this evidence gap, ERC is at the time of writing undertaking a joint research project with the Productivity Institute (TPI) into what shapes firms' motivation and ability to make productivity-related investments. A large-scale UK representative business survey and a series of in-depth company studies aimed at examining business investment decision-making is underway, with results expected in 2025.

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