Regional Institutions and FDI Resilience: Evidence from the Brexit Uncertainty Period

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Abstract

Economic uncertainty sparked by shocks negatively affects inward Foreign Direct Investment, as evidenced during the 2016–2019 Brexit negotiation period. In an era of geopolitical fragmentation and structural transitions, understanding how regions respond to global uncertainty shocks has become central to regional science. This paper examines whether regional Investment Promotion Agencies (IPAs) helped protect inward FDI during the Brexit negotiation period (2016-2019), exploiting heterogeneous pre-Brexit sector-targeting strategies across UK regions. I find that pre-2015 IPA targeting strategies increased inward FDI specifically in repeat investments within Knowledge Intensive Services (KIS) sectors —- those relatively under-exposed to Brexit uncertainty and more sensitive to ecosystem-building activities. Targeted region-sectors were 4.4 percentage points more likely to receive repeat KIS FDI, with 27.9% higher capital value. New FDI and manufacturing investments saw no impact. Effects concentrate outside South East England and among investments explicitly motivated by regional ecosystem factors, suggesting that IPAs' protective role during uncertainty operates primarily through ecosystem-building rather than information-assistance mechanisms. By embedding MNEs into specialised regional ecosystems, IPAs provide operational benefits that prove decisive when facing uncertainty shocks. These findings highlight how place-based institutions shape differentiated regional responses to global transition-era disruptions, contributing to uneven but policy-contingent patterns of regional resilience.

Keywords: Foreign Direct Investment; Investment Promotion Agencies; Brexit; Economic Uncertainty; Regional Development

JEL Codes: F21, F23, R11, R58

1 Introduction

Economic uncertainty sparked by shocks is known to negatively affect international trade and Foreign Direct Investment (FDI) (Dixit & Pindyck 1994). In an era of increasingly frequent disruptions – from geopolitical tensions and trade wars to pandemic-related supply chain fragmentation – attenuating the harmful effects of uncertainty on cross-border investment has become a pressing concern for policymakers worldwide (UNCTAD 2024).

A well-established literature points to institutions as key mitigating factors. By providing stability, reducing transaction costs, and offering operational support, institutional frameworks can reduce the 'tax' that uncertainty imposes on investment decisions (Buchanan et al. 2012, Mengitsu & Adhikary 2011, Globerman & Shapiro 2002). Yet institutional effectiveness is unlikely to be spatially uniform: regional economic structures, institutional capacities, and market access conditions shape both the severity of uncertainty shocks and institutions' ability to moderate them.

Investment Promotion Agencies (IPAs) represent a particularly relevant institutional actor in this context. These public bodies aim to attract inward FDI and harness its developmental benefits (World Bank 2023). The literature identifies two broad channels through which IPAs may influence FDI. First, they reduce information asymmetries by clarifying regulatory requirements and administrative processes, lowering entry costs for multinational enterprises (MNEs) (Morisset & Andrews-Johnson 2004, Lim 2008, Harding & Javorcik 2011). Second, they foster regional ecosystem assets – specialised labour pools, supplier networks, research capabilities and industry clusters – which enhance firms' embeddedness and operational performance (Beugelsdijk et al. 2010, Heilbron & Aranda Larrey 2020, Chidlow et al. 2015, Iammarino & McCann 2013).

While the information channel is well documented, robust empirical evidence on the ecosystem-building mechanism remains limited. More broadly, we lack clear empirical evidence on whether and how IPAs protect FDI during periods of fundamental uncertainty, which mechanism proves decisive, and how effects vary across space. Information provision addresses asymmetries where relevant knowledge exists but is costly to obtain. Fundamental uncertainty, by contrast, involves indeterminacy that cannot be resolved through information alone. In such settings, access to valuable regional ecosystems – which IPAs actively work to improve – may instead become critical. Yet whether this channel operates in practice remains largely untested.

The UK's unexpected Brexit vote in 2016 provides a compelling setting to examine this question. During the prolonged negotiation period (2016–2020), firms faced uncertainty regarding trade arrangements and single market access, posing a significant threat

to UK investment (Bloom et al. 2019, Dhingra et al. 2016). Empirical evidence confirms lower inward FDI following the referendum (Serwicka & Tamberi 2018). However, effects were heterogeneous. Manufacturing sectors faced acute trade-related uncertainty, while Knowledge Intensive Services (KIS) sectors were comparatively less exposed. At the same time, UK regions differed in their pre-existing IPA sector-targeting strategies. In many cases, these strategies were devised and implemented before Brexit was even contemplated, creating variation in institutional exposure across region-sectors. This paper exploits that variation to examine whether IPAs protected inward FDI during fundamental uncertainty, and through which mechanism.

I combine data on IPA sector-targeting strategies from the EU-funded MASSIVE survey (Crescenzi et al. 2018) with detailed FDI project data from Bureau van Dijk's Orbis-crossborder database. Focusing on strategies in place before 2015 mitigates endogeneity concerns, as targeting decisions plausibly pre-date Brexit-related considerations. The richness of the data allows two key distinctions: between new and repeat FDI by established MNEs, and between investments motivated by ecosystem-related factors and others (Chidlow et al. 2015, Love et al. 2025). These distinctions provide a direct empirical test of the underlying mechanism.

Using a Difference-in-Differences design over the 2016–2019 negotiation period, I find that pre-2015 IPA sector-targeting strategies increased inward FDI specifically in repeat investments and in KIS sectors. Targeted region-sectors were 4.4 percentage points more likely to receive repeat KIS FDI and attracted substantially higher capital investment. No effects are detected for new FDI or manufacturing sectors. This pattern indicates that ecosystem-building, rather than information provision, drives IPA effectiveness during fundamental uncertainty: established investors embedded in regional ecosystems respond, while new investors and trade-exposed manufacturing sectors do not.

Effects exhibit marked spatial heterogeneity. IPA effectiveness concentrates outside South East England and among projects explicitly motivated by regional ecosystem factors, reinforcing the interpretation that ecosystem access underpins the protective effect.

These findings carry an important policy implication. Regional institutions are not rendered ineffective by global shocks; rather, their role shifts. By embedding firms within specialised regional ecosystems, IPAs shape differentiated territorial responses to transition-era disruptions and contribute to uneven but institutionally mediated patterns of regional resilience.

The remainder of the paper proceeds as follows. Section 2 develops the conceptual framework and hypotheses. Section 3 describes data and methodology. Section 4 presents results, and Section 5 discusses robustness checks. Additional appendices and robustness analyses are available upon request.

2 Conceptual Background & Literature

The Brexit vote in June 2016 mired the UK in a period of deep uncertainty regarding the nature of its future relationship with the EU (Bloom et al. 2019). Even if certain quarters had anticipated the possibility of a 'leave' vote [1], the lack of clarity during the referendum campaign regarding exactly what Brexit entailed made it almost impossible for businesses to anticipate specific impacts and timelines (Dhingra & Sampson 2022). This kind of uncertainty has been well-documented to be particularly significant for foreign investors, effectively increasing the cost of investment (Dixit & Pindyck 1994, Buchanan et al. 2012, Mengitsu & Adhikary 2011).

Perhaps the biggest uncertainty derived from the spectre of losing access to the EU's single market for trade, services, capital and workers (Bailey & De Propris 2017). During negotiations, a wide range of potential outcomes were floated – from a 'soft' Brexit involving continued single market membership (akin to Norway) or customs union participation (similar to Turkey), to a 'hard' Brexit with a limited free trade agreement (comparable to Canada) or even no deal at all – each with vastly different implications for trade frictions, regulatory alignment, and labour mobility. A second concern regarded potential regulatory and policy divergence in safety, quality and environmental standards that businesses must meet to sell into the EU Single Market (Li et al. 2019, Holweg 2019, Bailey & Rajic 2022). For certain MNE investors, the Brexit vote constituted a credible threat of higher future operating costs – whether through trade tariffs, labour costs or regulatory compliance – which significantly undermined the rationale for UK operations.

Given this fundamental uncertainty, the question arises: could regional institutions have played any role in moderating Brexit's impact on FDI? There is growing recognition that territorial institutions – particularly at subnational or regional scale – may significantly influence MNE investment decisions by providing localised information, networks, and stability that buffer against broader uncertainties (OECD 2023, Crescenzi & Harman 2023, OECD 2026). Yet we have very little empirical evidence documenting this in action, either within the specific context of Brexit uncertainty or in other major shock contexts. In fact, the role of regional institutions in forging fruitful connections between MNEs and regions during periods of disruption has been termed a 'black box' in the literature (Yeung 2021). This section reviews what we know about how regional institutions, and Investment Promotion Agencies (IPAs) in particular, may influence FDI outcomes, before developing a conceptual framework and testable hypotheses for how these institu-

[1] In fact, the consensus among the literature is that Brexit was largely unexpected. Days before the referendum, pollsters put the chances of a 'leave' vote at under 30% (Bell, 2016), while studies of financial markets suggest little evidence these had priced in a leave vote (Davies & Studnicka, 2018). David Cameron, the Prime Minister responsible for calling the referendum, was so confident of a 'remain' win that he forbid government departments from making formal Brexit preparations.

tions might protect investment during fundamental uncertainty such as that created by Brexit.

2.1 Institutions, IPAs & FDI

Institutions are known to play a vital role in providing the guarantees necessary for economic transactions to occur (North 1990). In the context of FDI, they mitigate information asymmetries faced by MNEs entering new markets (or navigating shocks), reducing the operational risk effectively priced into cross-border investment decisions (Williamson 1975, 1985, Buchanan et al. 2012, Mengitsu & Adhikary 2011). Empirical research confirms that national institutional quality is a major determinant of FDI location (Bailey 2018). More recent work highlights that institutions operating at the regional scale also shape FDI location choices, particularly through spatial characteristics such as infrastructure, production linkages, and knowledge assets (Beugelsdijk et al. 2010). MNE location decisions are therefore not 'space-blind', but guided by the search for specific regional advantages (Dunning 2009).

Recognising this, regional institutions are increasingly mobilised to articulate these assets and enhance regional-sectoral ecosystems. Investment Promotion Agencies (IPAs) represent a prominent example: public bodies tasked with attracting inward FDI and harnessing its developmental benefits (World Bank 2023). IPAs engage across the investment lifecycle, from initial marketing and lead generation to post-investment aftercare for retention and expansion support (Loewendahl 2018, Heilbron & Aranda Larrey 2020).

While this breadth of activity suggests multiple mechanisms, the literature has coalesced around two primary – though overlapping – roles. The first conceptualises IPAs as *information intermediaries* that reduce search costs and regulatory uncertainty for MNEs entering unfamiliar markets. By clarifying administrative processes and regulatory requirements, IPAs help overcome the "liability of foreignness" and lower informational barriers to investment (Morisset & Andrews-Johnson 2004, Lim 2008).

The second positions IPAs as *ecosystem orchestrators*, leveraging regional assets to connect MNEs with specialised suppliers, skilled labour, research institutions, and innovation networks (McCann & Mudambi 2005, Dunning 2009). Access to such assets influences both FDI attraction and subsidiary performance (Alfaro & Chen 2018), suggesting that institutions capable of facilitating ecosystem embeddedness may shape investment outcomes. In practice, IPAs foster supplier linkages, support collaboration with research organisations, and develop sector-specific skills initiatives, thereby reinforcing territorial embeddedness.

Empirical research confirms that IPAs increase FDI inflows (Harding & Javorcik 2011,

Carballo et al. 2021), yet most studies emphasise the information-intermediary channel, particularly relevant for new investors facing entry-related uncertainty. In this view, IPAs reduce search costs and facilitate initial market entry. Emerging evidence, however, points toward a broader role. Crescenzi et al. (2021) find IPA effects concentrated in knowledge-intensive sectors, where access to localised capabilities and networks is likely to matter most. Forthcoming work by Alvarez-Vilanova *et al* suggests that IPA strategies are also effective in stimulating repeat investment and reducing divestment among already-established MNEs.

Together, these findings imply that IPA effectiveness may extend beyond entry to shaping post-entry expansion and retention decisions by firms embedded in regional economies. However, systematic empirical evidence isolating the ecosystem-orchestrator mechanism – and clarifying how its relevance differs between new and established investors – remains limited. In particular, we lack clear evidence on which channel proves more decisive under conditions of heightened uncertainty.

If ecosystem-building is indeed central in such contexts, its effectiveness is unlikely to be uniform. The ecosystem-orchestrator role is inherently coordination-intensive. Building the kinds of regional ecosystems that can shield against uncertainty requires sustained engagement across universities, industry associations, skills providers, and infrastructure bodies operating under distinct mandates and funding structures (Bachtler et al. 2019). Effective orchestration therefore depends on sufficient convening power and institutional authority to mobilise complementary resources (Sotarauta & Mustikkamäki 2010, Rodríguez-Pose & Garcilazo 2015). Institutional capacity thus becomes central to delivery.

In the UK, such capacity varies markedly across Combined Authorities, Local Enterprise Partnerships, and Upper Tier Local Authorities (Pike et al. 2016, O'Brien & Pike 2015). This heterogeneity, together with sectoral variation in Brexit exposure, provides a valuable setting to examine how institutional capacity moderates IPA effectiveness during fundamental uncertainty.

2.2 Conceptual Framework & Hypotheses

My conceptual framework starts from the understanding that IPAs may influence FDI decisions through two broad mechanisms: information sharing and ecosystem-orchestration. Under the information sharing mechanism, IPAs help MNEs by providing vital information and lowering information asymmetries in targeted sectors where they have built relationships and expertise, making (re)investment decisions less risky through better knowledge of regulatory requirements, administrative processes, and local market conditions. Under the ecosystem-orchestration mechanism, IPAs have an effect by taking action

to build attractive regional ecosystems within which investors become carefully embedded – through aftercare services, fostering supplier linkages, developing sector-specific skills programmes, and facilitating connections with research institutions.

In the context of Brexit uncertainty, I hypothesise that ecosystem-orchestration becomes more decisive than information provision. Unlike stable settings where IPAs reduce identifiable information asymmetries, Brexit generated fundamental uncertainty that regional agencies could not resolve. Regional IPAs had little influence over national trade negotiations, and qualitative evidence suggests limited scope for providing materially new information during this period (Fuller 2021). Where uncertainty stems from indeterminacy rather than informational gaps, traditional assistance may be insufficient.

Instead, prior ecosystem-building activities may prove relatively decisive. Where IPAs had already fostered embeddedness in valuable regional ecosystems, established investors could continue to derive operational benefits that offset uncertainty costs. In such cases, repeat investment may remain attractive despite heightened national-level risk.

To investigate my overarching hypothesis – that IPA effectiveness during uncertainty operates primarily through ecosystem-orchestration rather than information-sharing – I define two testable hypotheses regarding the heterogeneous effects I may expect to find. Because FDI of different types, sectors, and motivations is likely differentially influenced by Brexit uncertainty and more or less sensitive to different kinds of IPA activities, finding results in some categories over others can provide strong indication of the mechanism at play.

The first distinction I make is between new FDI and repeat FDI by established investors. If positive effects accrue to established investors rather than new FDI, this provides evidence in favour of the ecosystem-orchestration role, while the opposite would suggest information-sharing as the main channel. The intuition is twofold: first, established MNE investors considering repeat investment are more exposed to ecosystem-building activities because they already operate in the region and directly experience operational benefits, whereas new investors perceive these as potential rather than realised advantages. Second, established investors have already navigated market entry barriers, so their repeat FDI hinges relatively less on information provision and more on ecosystem embeddedness – access to skilled staff, suppliers, or R&D networks. Conversely, finding effects for new FDI would go against my main hypothesis and suggest that IPA roles in uncertainty contexts are much the same as in stable times.

The second distinction is between FDI in high Brexit uncertainty exposure sectors (manufacturing) and low exposure sectors (Knowledge Intensive Services). A larger effect for KIS FDI would provide further evidence that the operative channel is ecosystem-orchestration. Manufacturing sectors experienced particularly severe Brexit-related un-

certainty, with concerns over future access to intricate, 'just-in-time' supply chains weighing heavily on operational and investment decisions (Bailey & De Propris 2017, Bailey & Rajic 2022, Bloom et al. 2019). In such contexts, IPA impact may be limited: it matters little whether a region-sector has benefited from ecosystem-building activities if the broader locational advantage of UK access to the EU single market is at risk. Even established manufacturing investors may find that supply chain disruption outweighs the benefits of specialised regional ecosystems.

By contrast, KIS sectors faced different and often more manageable forms of uncertainty (Fuller 2021). While some KIS MNEs depended on EU market access, many threats could be addressed through less costly adjustments. The most significant concern – continued access to high-skill EU labour – was largely a longer-term rather than immediate operational issue. As a result, KIS sector MNEs contemplating investment may be more likely to proceed where ecosystem benefits – such as specialised R&D capabilities, collaboration with education and training institutions, or strong local policy networks – remain attractive. Conversely, if IPA strategies were found to affect manufacturing FDI, this would suggest that IPAs continue to operate, at least in part, through traditional information-assistance channels even under heightened uncertainty.

Table 1 summarises the conceptual framework and hypotheses discussed above. The following section outlines the data and empirical methodology that I take in order to explore these hypotheses.

Table 1: Summary of hypothesis and expected effects, vs. the 'counter-hypothesis'

Hypothesis	**Counter Hypothesis**
H1: In times of uncertainty, IPAs' role in growing FDI is limited to the ecosystem-building channel	**C1**: In times of uncertainty, IPAs' role in growing FDI continues to operate through channel of information assistance
Hypothesised effects	**Hypothesised effects (counter)**
Effect of IPAs concentrates on FDI types deriving relatively greater benefit from ecosystem factors, specifically:	Effect of IPAs is predominantly on FDI types deriving relatively greater benefit from information assistance:
H1.1: Repeat FDI	**C1.1**: New FDI
H1.2: KIS sector FDI	**C1.2**: Manufacturing FDI

3 Data & Methodology

To explore these hypotheses, I combine information on the sector-targeting strategies in place by IPAs with geo-located, UK-bound inward FDI from July 2010 to July 2019. The result is a panel dataset of region-sectors in the UK with 'treatment' dummies identifying those that were exposed to an IPA targeting strategy in the pre-Brexit period, and outcome data in terms of inward FDI (both new and repeat investment) both in the pre-Brexit vote (July 2010–June 2016) and post-Brexit vote (July 2016–June 2019) period. This section describes the data sources and presents descriptive patterns that motivate my empirical approach.

3.1 Data on Inward FDI into Great Britain

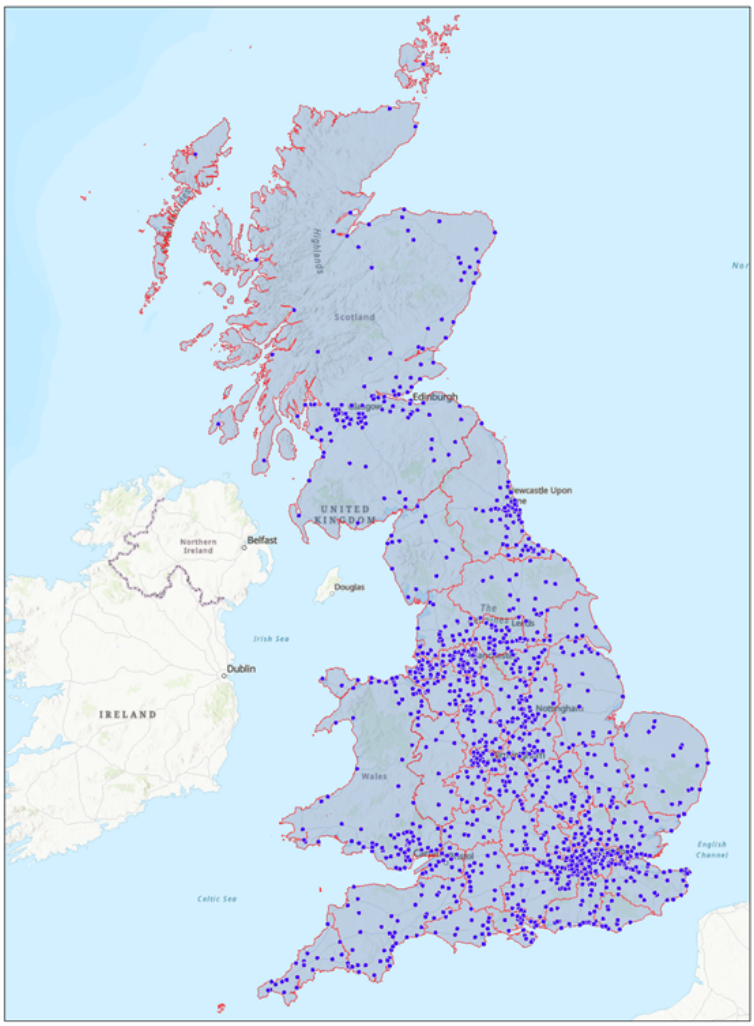


Figure 1: **Distribution of FDI projects into Great Britain, 2010-2019.**
Source: Orbis-crossborder (Bureau van Dijk / Moody's Analytics 2024).

Data on inward FDI are sourced from the Orbis-crossborder database by Bureau van Dijk (BvD) / Moody's Analytics (Bureau van Dijk / Moody's Analytics 2024). This provides geo-located information on every new FDI project/expansion made in a UK region going as far back as 2003, including capital value, jobs created and the project description, by NACE sector. In the empirical literature, a frequently-used inward FDI dataset is the fDiMarkets database by the Financial Times. However, I opt for the Orbis-crossborder dataset, as it contains systematic information on key variables such as the FDI motivation or the project description, which enables better exploration of treatment effect heterogeneity. The provision of NACE sector that each FDI project takes place in, which is present in the Orbis-crossborder data but not fDiMarkets[2], is also useful to more neatly identify investments in Knowledge-Intensive Services (KIS) and manufacturing sectors, which following the discussion in section 2 constitute a key distinction for my analysis.

Table 2: Basic descriptives on inward FDI projects in Orbis-crossborder database for Great Britain, 2010–2019

FDI Project Type	**Num. Projects**	**FDI Cap. Value (USD M)**	**FDI Jobs**
New	9,013	198,702	503,539
Repeat	3,422	114,404	256,205
Total	12,435	313,106	759,744

Source: Own elaboration with data from Orbis-crossborder by BvD/Moody's Analytics.

Given that the Brexit withdrawal agreement was signed in January 2020, plus the fact that the COVID-19 pandemic that closely followed caused a whole uncertainty shock of its own, I restrict the dataset to investments occurring from July 2010 through to June 2019. Moreover, I exclude Northern Ireland from my study, as its unique situation regarding the Irish border – which needed to remain open under the Good Friday Agreement – likely rendered it subject to a different nature and severity of uncertainty compared to Great Britain. Basic descriptives for FDI projects, in terms of number of events, FDI value and job creation, are shown in Table 2.

To contextualise the Brexit uncertainty period within broader European trends, Figure 2 plots the evolution of inward FDI into the UK relative to the five largest EU27 economies. While FDI into comparator countries increased markedly after mid-2016, UK-bound FDI remained largely flat. This divergence is consistent with existing evidence that the UK experienced a Brexit-related decline in inward investment relative to

[2]fDi Markets instead sorts FDI projects into their own sectoral classification, which would require applying a crosswalk onto the NACE classification.

a synthetic counterfactual (Serwicka & Tamberi 2018), and supports the interpretation of Brexit as a UK-specific uncertainty shock rather than part of a broader European slowdown.

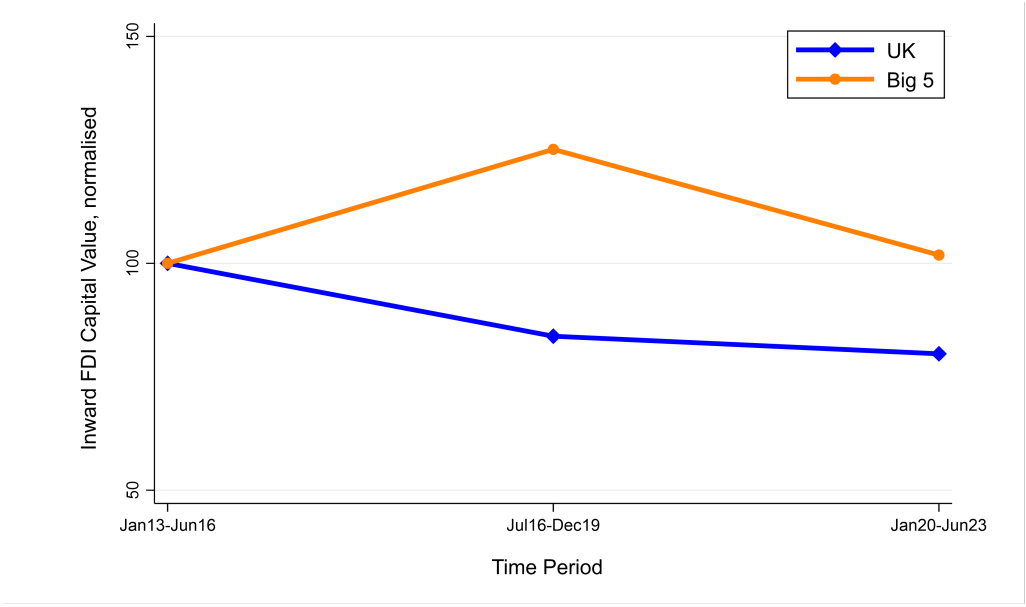


Figure 2: **Total value of inward FDI: UK vs. Big 5 EU27 economies (normalised).** Big 5 refers to Germany, France, Italy, Spain and Poland.

Source: Own elaboration using data from Orbis-crossborder (Bureau van Dijk / Moody's Analytics 2024).

3.2 Data on IPA Targeting Strategies

Data on the sector-specific targeting strategies of UK IPAs were collected through the 2018 MASSIVE survey of IPAs in Europe (Crescenzi et al. 2021). This covers 42 IPAs, 40 of which are English, sub-national IPAs while the remaining two are the national IPAs of the two devolved administrations in Great Britain (Scotland and Wales). These are shown in Figure 3, which distinguishes IPAs by institutional form as at 2018, and listed in Appendix **??**.

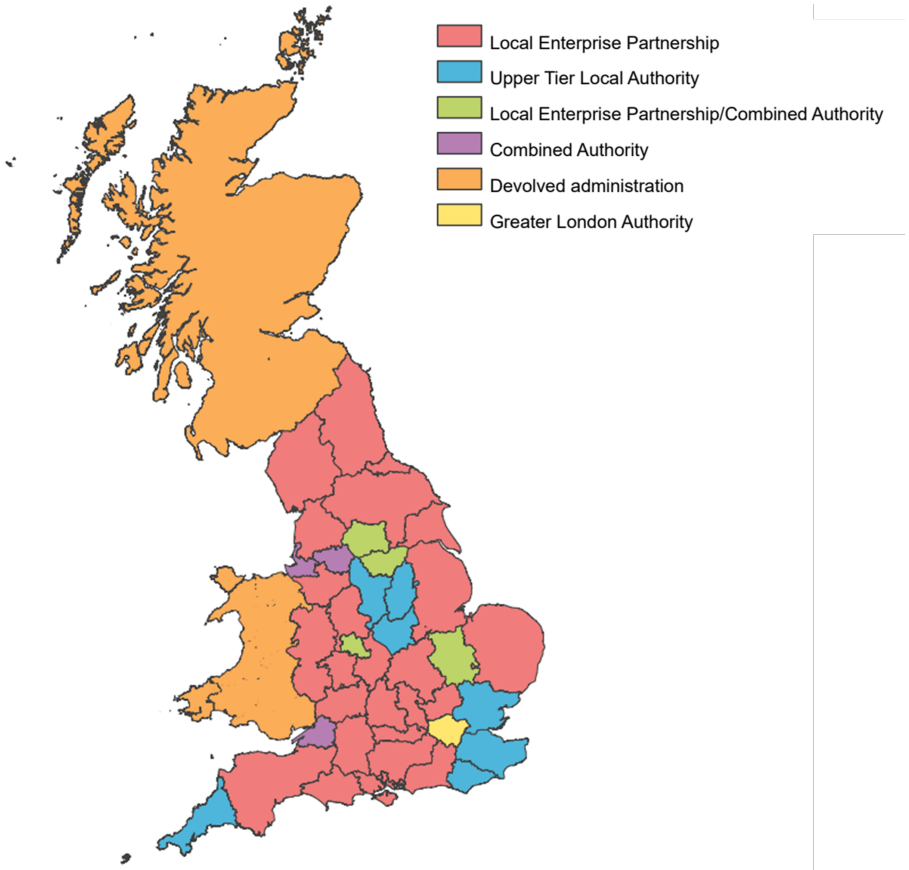


Figure 3: **Sample of IPAs in Great Britain, by institution type.**
Source: Own elaboration, MASSIVE Survey (2018).

3.2.1 Regional & Sectoral Variation in IPA Targeting Strategies

Of the 42 surveyed IPAs, 34 had sector-targeting strategies at any point in time and 22 had sector-targeting strategies in place before 2015 (and which can therefore be reasonably assumed to have been implemented independently of Brexit and its potential effects). My treatment group consists of the 218 region-sectors which were targeted by the corresponding IPA before 2015, to reflect the fact that Brexit was 'announced' in the 2015 Election Conservative Manifesto (published in March 2015). My control group comprises the remaining 622 region-sectors, excluding the few cases where an IPA started targeting a particular sector after 2015 (as these targeting decisions may well have been motivated by Brexit).

Table 3 shows that the treatment and control groups are broadly comparable in terms of regional and sectoral composition, though treated region-sectors are somewhat more likely to be in manufacturing (46.8% vs. 44.4%) and KIS sectors (25.2% vs. 18.2%).

Table 3: Composition of treatment and control groups

Variable	**Treatment group**	**Control group**	**All**
Num. region-sectors	218	622	840
Num. regions represented	24	41	42
Regional composition:			
Share of regions in South East England[a]	26.2%	26.1%	26.2%
Share of Combined Authorities	20.2%	15.5%	16.7%
Share of Local Enterprise Partnerships	39.0%	66.8%	59.5%
Share of County Councils	28.4%	12.6%	16.7%
Share Devolved Administrations[a]	12.4%	5.1%	7.1%
Sectoral composition:			
Num. sectors represented	20	20	20
Share of primary sectors	5.5%	10.6%	10.0%
Share of knowledge-intensive service sectors	25.2%	18.2%	20.0%
Share of other service sectors	18.3%	20.6%	20.0%
Share of manufacturing sectors	46.8%	44.4%	45.0%
Share of energy/utilities sectors	4.1%	5.3%	5.0%

[a]Including Greater London. Source: MASSIVE Survey (2018).

Figure 4 shows the sectoral distribution of IPA targeting strategies, distinguishing between strategies implemented at any point and those in place before 2015. There is considerable heterogeneity across sectors: while some sectors like food products and biotechnology were often targeted, others saw limited or late adoption of targeting strategies. This variation in regional strategies provides an observable dimension through which to examine whether and how regional institutions may have moderated the negative effects of Brexit uncertainty on inward FDI.

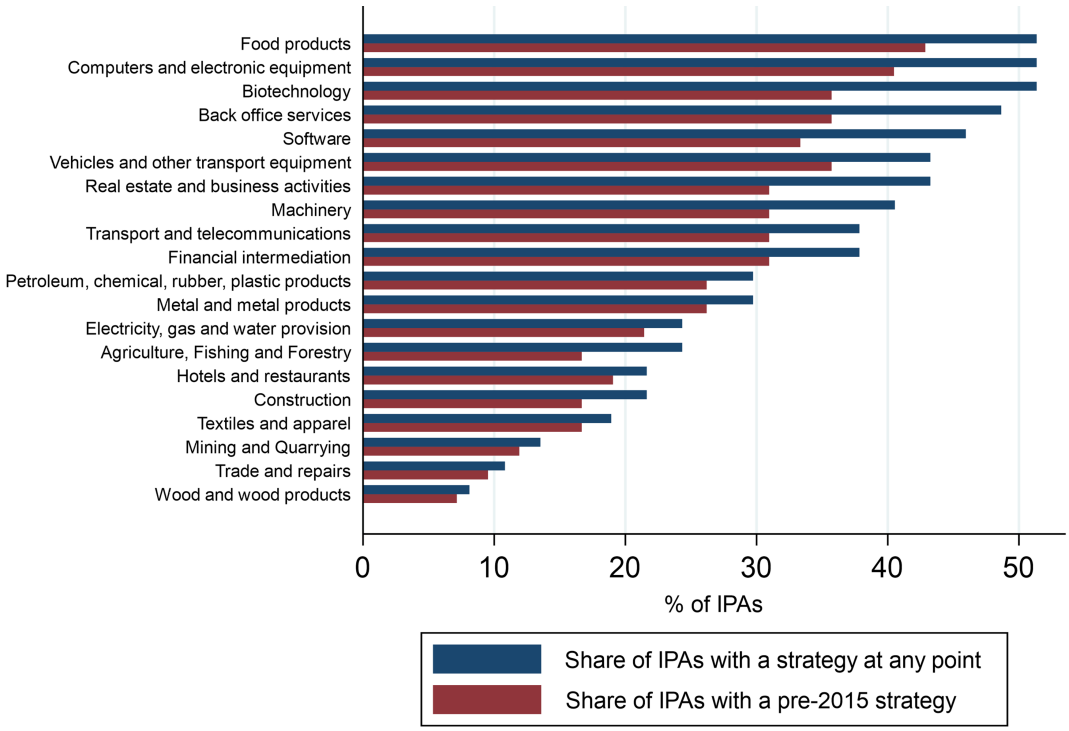


Figure 4: **Share of regional IPAs with sector-based strategies by sector.** Source: MASSIVE Survey (2018).

3.3 Empirical Approach

My empirical approach builds on Harding & Javorcik (2011) and Crescenzi et al. (2021), exploiting variation in sector-specific IPA targeting strategies to gauge causal impacts on inward FDI. Identifying such effects is empirically challenging because sector targeting is not random, but rather informed by pre-existing regional strengths or industrial objectives (Loewendahl 2001, 2018). Additionally, regions or sectors may be affected by contemporaneous shocks that correlate with treatment designation and confound results.

To mitigate this, past studies control for confounding variation through time, region and sector fixed effects, and employ staggered difference-in-difference specifications to verify pre-treatment parallel trends (Angrist & Pischke 2008). My approach builds on this work but deviates in two key ways. First, my treatment is the interaction of region-sector exposure to an IPA strategy and being in the post-Brexit period, rather than a time-varying treatment dummy. Since treatment 'switches on' simultaneously for all treated units, I estimate a standard Two Way Fixed Effects (TWFE) model. Second, I distinguish from the outset between new FDI and repeat FDI, in reflection of the fact that these face different obstacles and must therefore be considered separately.

Specifically, I estimate the following equations, separately for new and repeat FDI:

$$Y_{rst}^{New} = \beta_0 + \beta_1(Targeted_{rs} \times Post_Brexit_t) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \quad (1)$$

$$Y_{rst}^{Repeat} = \beta_0 + \beta_1(Targeted_{rs} \times Post_Brexit_t) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \quad (2)$$

Where Y_{rst}^{New} and Y_{rst}^{Repeat} denote new and repeat FDI into region r, sector s, time-period t, measured at both extensive (any FDI) and intensive margins (IHS of project count, capital value, jobs created)[3]. Time periods are defined as 12-month intervals from July 2010 through June 2019, yielding nine periods[4]. Knowledge-intensive service (KIS) sectors follow Eurostat's classification of NACE codes; manufacturing sectors comprise all NACE segment C codes.

$Targeted_{rs}$ equals one if region r targeted sector s before 2015, as gauged from the MASSIVE survey (Crescenzi et al. 2021). This cutoff excludes strategies potentially motivated by Brexit fears following the April 2015 Conservative manifesto pledge, ensuring pre-treatment targeting reflects regional strengths rather than Brexit-related considerations. Region-sectors where IPA strategies were implemented in 2015 or later are excluded from the sample.

$Post_Brexit_t$ denotes periods after the Brexit referendum (from July 2016). The coefficient of interest, β_1, captures the average change in Y_{rst} during the post-Brexit period for targeted region-sectors relative to untargeted ones. α_{rs}, δ_{rt}, and γ_{st} denote region-sector, region-time, and sector-time fixed effects. ε_{rst} denotes a heteroskedasticity-robust standard error, clustered at the region-sector level.

To evaluate dynamic effects and assess pre-treatment parallel trends, I estimate event-study specifications that replace the post-treatment indicator with period-specific interactions:

$$Y_{rst}^{New} = \beta_0 + \sum_{k \neq -1} \beta_k(Targeted_{rs} \times Period_k) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \quad (3)$$

$$Y_{rst}^{Repeat} = \beta_0 + \sum_{k \neq -1} \beta_k(Targeted_{rs} \times Period_k) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \quad (4)$$

Here, β_k coefficients correspond to the difference between treatment and control for

[3]The IHS transformation is preferred over the natural logarithm because it accommodates zero values, which are common in my data. The IHS transformation approximates the natural logarithm for large values but allows for zeros, maintaining the full sample. The transformation is defined as $IHS(x) = \ln(x + \sqrt{x^2 + 1})$.

[4]The choice of 12-month periods reflects data considerations around sufficient FDI activity per region-sector-period cell. Monthly or quarterly aggregation would result in many zero-valued cells, particularly for smaller regions or less popular sectors.

each time period k before or after the final pre-treatment period, with time periods defined identically to specifications (1) and (2).

For the main analysis, I exclude Greater London, Scotland, and Wales. These IPAs operate at fundamentally different scales than English regional IPAs: Greater London and the devolved administrations command substantially greater resources, institutional authority, and policy autonomy. Including them in the baseline specifications produces unstable estimates that obscure the patterns for typical regional agencies. Results including these IPAs are presented in the appendix and show consistent patterns.

Exploring my hypotheses about IPAs' role during heightened uncertainty requires moving beyond average treatment effects. I therefore estimate the above regressions for subsets of the data, examining heterogeneous effects by FDI sector, MNE motivation, and region characteristics. As discussed in Section 2.2, if ecosystem-building dominates, effects should concentrate among repeat FDI and KIS sectors. Moreover, evidence that effects are particularly large for FDI specifically motivated by ecosystem-related factors, or concentrated in less economically dense regions where ecosystem benefits are not readily available, would provide further support for my hypotheses. These heterogeneous effects are explored through sub-sample analysis.

3.3.1 Additional Empirical Challenges and Identification Tests

While the baseline specifications incorporate rich fixed effects and dynamic treatment models to assess pre-treatment trends, several additional identification concerns warrant explicit discussion.

First, IPA targeting strategies are documented to be effective during stable economic periods (Harding & Javorcik 2011, Crescenzi et al. 2021). If IPAs were already successfully attracting additional FDI prior to Brexit, positive pre-trends could reflect legitimate effectiveness rather than violations of parallel trends. The key question in this paper is therefore not whether IPAs work in normal times, but whether Brexit uncertainty altered the magnitude, sectoral distribution, or mechanism of their effectiveness. To address this, I conduct a complementary event study focusing exclusively on the pre-Brexit period (2010–2016), examining the dynamic effects of targeting strategy introductions during stable times:

$$Y_{rst}^{New} = \beta_0 + \sum_{k \neq -1} \beta_k \mathbb{1}[t - T_{rs}^* = k] + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \tag{5}$$

$$Y_{rst}^{Repeat} = \beta_0 + \sum_{k \neq -1} \beta_k \mathbb{1}[t - T_{rs}^* = k] + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \tag{6}$$

Here, $\mathbb{1}[t - T^*_{rs} = k]$ indicates k periods relative to the first introduction of targeting in region-sector rs (T^*_{rs}). This specification traces the evolution of FDI outcomes around strategy adoption and helps distinguish baseline IPA effectiveness from differential effects emerging during heightened uncertainty. These event studies are estimated both using standard dynamic TWFE and estimators that account for potential biases in staggered adoption settings (Sun & Abraham 2021).

Second, treatment effects during uncertainty may reflect so-called "flight-to-safety" dynamics rather than IPA effectiveness. During periods of heightened uncertainty, investors may disproportionately favour region-sectors with historically strong performance, independent of institutional targeting. If targeted region-sectors systematically coincided with structurally strong performers, estimated effects could capture resilience driven by pre-existing advantages rather than IPA strategy.

To address this, I construct a measure of pre-Brexit region-sector strength based on historical FDI performance prior to 2015. Specifically, I define a composite strength score capturing both the quality and magnitude of a region-sector's historical specialisation:

$$StrengthScore_{rs} = \left(\frac{\sum_{t<2015} FDI^{HighQuality}_{rst}}{\sum_{t<2015} FDI^{All}_{rst}} \right) \times \left(\frac{\sum_{t<2015} FDI^{HighQuality}_{rst}}{\sum_{r,t<2015} FDI^{HighQuality}_{st}} \right) \tag{7}$$

The first term measures the share of region-sector rs's FDI that is high-quality (based on business functions indicating headquarters, R&D, or innovation activities), capturing whether the region-sector's FDI profile tilts toward high-value activities. The second term measures region-sector rs's share of all high-quality FDI in sector s, capturing the region-sector's importance as a destination for quality investment within its sector. I define $Leading_{rs} = \mathbb{1}(StrengthScore_{rs} > 0.1)$, identifying region-sectors in the top tier of this composite measure. Results are robust to alternative thresholds (0.05, 0.20), available upon request.

I then augment specifications (3) and (4) as follows:

$$Y^{New}_{rst} = \beta_0 + \sum_{k \neq -1} \beta_k (Targeted_{rs} \times Period_k) + \sum_{k \neq -1} \phi_k (Leading_{rs} \times Period_k) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \tag{8}$$

$$Y^{Repeat}_{rst} = \beta_0 + \sum_{k \neq -1} \beta_k (Targeted_{rs} \times Period_k) + \sum_{k \neq -1} \phi_k (Leading_{rs} \times Period_k) + \alpha_{rs} + \delta_{rt} + \gamma_{st} + \varepsilon_{rst} \tag{9}$$

This allows me to distinguish resilience attributable to historically strong region-sectors from the incremental effect of IPA targeting. Persistence of the targeting effect after controlling for leading-region dynamics provides evidence against a generic concentration or flight-to-safety explanation.

Third, I examine whether treated and control region-sectors exhibited differential outcome trends prior to the Brexit referendum unrelated to IPA mechanisms. While dynamic specifications assess parallel trends graphically and statistically, I further implement placebo-style specifications assigning false treatment dates in pre-Brexit periods to verify that no spurious treatment effects emerge when no uncertainty shock occurred.

Finally, a range of additional robustness and sensitivity checks are conducted and reported in the Appendix. These include alternative clustering structures, variations in treatment timing definitions, inclusion of Scotland, Wales and Greater London, alternative sector classifications, and sensitivity to sample restrictions. Together, these tests reinforce the robustness of the main findings and clarify the specific channels through which IPA strategies operated during the Brexit uncertainty period.

4 Results

This section outlines the results of the regressions specified to verify the hypotheses outlined in section 2.3. For each of my two main outcomes – capital value and number of projects – I show results for three variants of my specification: first, a 'simple' specification that includes just 12-month period and region-sector fixed effects; second, a specification that adds region-by-time and sector-by-time fixed effects to absorb changes in my outcome explained by region-specific or sector-specific shocks; and third, a specification that additionally controls for the interaction between pre-Brexit FDI growth rates and the post-Brexit period, addressing the concern that IPA targeting may have correlated with pre-existing growth trajectories. Results for another two outcomes (number of FDI projects and job creation) are presented in the Appendix.

Table 4: Impact of pre-Brexit IPA targeting on inward FDI into English regions (excl. Greater London), 2010–2019, new vs. repeat investments

	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
NEW FDI						
Pre-2015 IPA targeting × Post-Brexit	0.001	-0.010	-0.014	0.001	-0.016	-0.017
	(0.096)	(0.126)	(0.125)	(0.021)	(0.030)	(0.030)
Observations	6,900	6,900	6,900	6,900	6,900	6,900
R-squared	0.411	0.497	0.497	0.430	0.506	0.506
REPEAT FDI						
Pre-2015 IPA targeting × Post-Brexit	0.308***	0.325**	0.323**	0.056**	0.057	0.057
	(0.097)	(0.140)	(0.141)	(0.024)	(0.036)	(0.036)
Observations	6,900	6,900	6,900	6,900	6,900	6,900
R-squared	0.332	0.412	0.412	0.343	0.427	0.427
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. New FDI includes Orbis-crossborder projects categorized as "Greenfield" or "New foreign location". Repeat FDI includes projects categorized as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2010 and ending in June 30th 2019 (giving 9 time periods). Unit of analysis are region-sector-12month cells. Greater London, Scotland, and Wales are excluded from all regressions, given that these IPAs operate at a fundamentally different scale than regional IPAs, and their inclusion produces unstable estimates that obscure patterns for typical regional agencies. That said, results including these IPAs show similar patterns, and are available upon request. Region-sectors where an IPA strategy was put in place in 2015 or later, and which can be more reasonably assumed to have been influenced by the announcement of the Brexit referendum within the 2015 Conservative election manifesto, are dropped from all regressions.*

Table 4 shows results for my full sample of region-sectors. It can be seen how IPA targeting appears to have no effect on new inward FDI into those region-sectors that were targeted. For repeat FDI, however, there is in fact some evidence that such strategies led to a positive increase in FDI during the Brexit negotiation period, particularly when measured at the intensive margin (FDI capital value).

To dig further into these results for repeat FDI, and in line with the theoretical distinction between information-provision and ecosystem-building mechanisms, Table 5 distinguishes between repeat FDI in KIS and manufacturing sectors. As discussed in section 2.2, each faced different threats deriving from Brexit uncertainty, and may therefore exhibit different reactions to treatment.

Table 5: Impact of pre-Brexit IPA targeting on inward repeat FDI into English regions (excl. Greater London), 2010–2019, manufacturing vs. KIS sector

	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
MANUFACTURING FDI						
Pre-2015 IPA targeting × Post-Brexit	0.158**	0.124	0.122	0.038**	0.022	0.022
	(0.073)	(0.112)	(0.112)	(0.016)	(0.024)	(0.025)
Observations	6,900	6,900	6,900	6,900	6,900	6,900
R-squared	0.342	0.399	0.399	0.325	0.386	0.386
KNOWLEDGE-INTENSIVE SERVICES FDI						
Pre-2015 IPA targeting × Post-Brexit	0.151***	0.171***	0.169***	0.038**	0.041**	0.041**
	(0.052)	(0.064)	(0.064)	(0.015)	(0.020)	(0.020)
Observations	6,900	6,900	6,900	6,900	6,900	6,900
R-squared	0.474	0.547	0.547	0.465	0.538	0.538
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

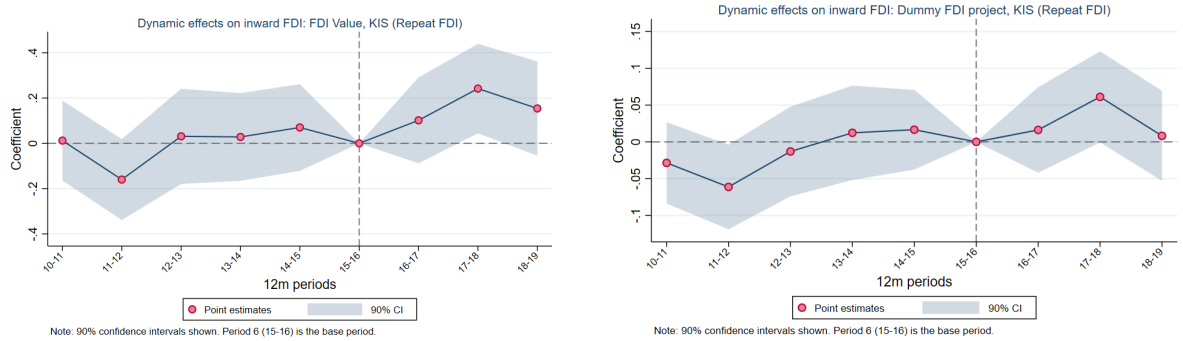
*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2010 and ending in June 30th 2019 (giving 9 time periods). Unit of analysis are region-sector-12month cells. KIS sectors identified in line with Eurostat definition of KIS NACE sectors, as detailed here:* `https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_(KIS)`. *Manufacturing sector FDI are all projects falling under NACE code C. Greater London, Scotland, and Wales are excluded from all regressions, given that these IPAs operate at a fundamentally different scale than regional IPAs, and their inclusion produces unstable estimates that obscure patterns for typical regional agencies. That said, results including these IPAs show similar patterns, and are available upon request. Region-sectors where an IPA strategy was put in place in 2015 or later, and which can be more reasonably assumed to have been influenced by the announcement of the Brexit referendum within the 2015 Conservative election manifesto, are dropped from all regressions.*

It can be seen how IPA strategies were effective in protecting repeat FDI where these applied to KIS sectors. For manufacturing sectors – where trade-related Brexit uncertainty was particularly acute – we find no robust evidence of IPA targeting effectiveness. While the simple specification (column 1) suggests a positive effect, this disappears when we control for region-specific and sector-specific time trends (columns 2-3), indicating that the initial result likely reflected confounding shocks rather than genuine treatment effects.

For KIS sectors, IPA targeting strategies implemented pre-2015 are associated with substantially larger repeat FDI investments during the Brexit uncertainty period. Region-sectors where such strategies were in place received investments that were, on average, 18.4% larger in capital value and 20.6% larger in job creation compared to non-targeted

region-sectors.[5] At the extensive margin, targeted region-sectors were 4.1 percentage points more likely to receive repeat KIS FDI. Results for number of projects (6.7% increase under OLS) do not survive specification using Poisson Pseudo-Maximum Likelihood, the appropriate estimator for count data, indicating sensitivity to distributional assumptions (results available upon request).

Figure 5: Dynamic treatment effects on KIS repeat FDI



(a) Capital value (IHS USD M)

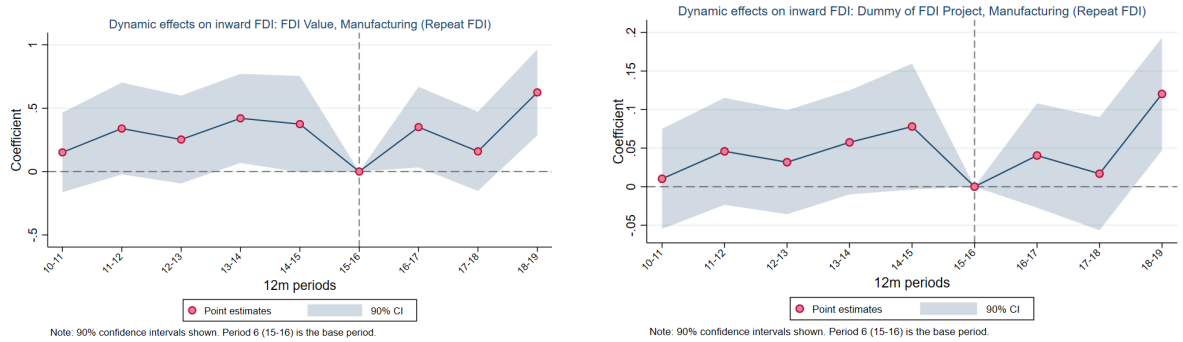
(b) Dummy of FDI project

Figure 5 presents dynamic treatment estimates, confirming parallel pre-trends between treated and control region-sectors. Pre-treatment coefficients hover around zero and remain statistically insignificant, validating our identification strategy. Post-Brexit, treatment effects emerge and persist across all three post-treatment periods, consistent with IPAs providing sustained protection against uncertainty shocks. Results for my other two outcomes, IHS job creation and IHS number of projects, are shown in Figure A1. When including Greater London, Scotland and Wales (see Figure A2), which as discussed are not considered fully comparable to English IPAs in terms of resourcing and capabilities (and are therefore excluded in our main results), dynamic effects on KIS repeat FDI follow a similar pattern - if anything, the post-treatment effect becomes stronger. Notably, effects are more pronounced on the intensive margin (capital value) than the extensive margin (whether any FDI occurred), suggesting that IPA targeting primarily influenced the scale of existing investors' commitments rather than simply maintaining their presence in the region.

Dynamic estimates for manufacturing repeat FDI (shown in Figure 6) confirm the absence of robust treatment effects in these sectors, with post-treatment coefficients remaining statistically indistinguishable from zero. Notably, coefficients in the pre-Brexit periods are also positive (though insignificant) and of similar magnitude to those observed post-referendum, suggesting no clear structural break at the onset of Brexit uncertainty.

[5]Percentage changes are calculated as $(e^{\beta} - 1) \times 100$ where β is the estimated coefficient from the preferred specification (column 2) using IHS-transformed outcomes.

Figure 6: Dynamic treatment effects on Manufacturing repeat FDI



(a) Capital value (IHS USD M)

(b) Dummy of FDI project

This pattern raises a natural question: do the positive effects observed for KIS repeat FDI truly reflect a distinct uncertainty-period mechanism, or do they simply represent a continuation of IPA effectiveness already present in normal times? The suggestive pre-treatment coefficients in manufacturing repeat FDI highlight this concern. If IPA targeting were equally effective prior to Brexit, the post-2016 divergence could reflect baseline effectiveness rather than a shock-specific institutional response.

I formally address this question in Section 5 through pre-Brexit event studies that isolate targeting effects during stable periods. As shown there, IPA targeting does not exhibit statistically significant associations with repeat FDI prior to 2016, reinforcing the interpretation that the KIS repeat FDI effects documented here emerge specifically during the Brexit uncertainty period.

4.1 Heterogeneous Effects

In order to further characterise the channel through which IPA targeting operates to protect inward FDI during times of uncertainty, in this section I further distil results by geography and FDI motivation. If stronger effects accrue to certain parts of the UK (for example, regions that are traditionally more/less economically dynamic), or for FDI projects motivated by particular factors (for example, those that cite access to a particular regional asset), then this may provide reinforcing evidence that the mechanism in play in such a context is indeed more associated with ecosystem-building than with information-sharing.

4.1.1 Geographic Heterogeneity

Table 6: Impact of pre-Brexit IPA targeting on inward repeat KIS FDI into English regions, 2010–2019, South East England vs. Outside South East England

	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
SOUTH EAST ENGLAND)						
Pre-2015 IPA targeting × Post-Brexit	-0.060	0.203	0.177	-0.034	-0.162	-0.172
	(0.083)	(0.628)	(0.635)	(0.023)	(0.127)	(0.129)
Observations	1,770	1,770	1,770	1,770	1,770	1,770
R-squared	0.423	0.536	0.536	0.368	0.495	0.495
Outside South East England						
Pre-2015 IPA targeting × Post-Brexit	0.235***	0.196***	0.196***	0.067***	0.055***	0.055***
	(0.064)	(0.062)	(0.062)	(0.018)	(0.019)	(0.019)
Observations	5,130	5,130	5,130	5,130	5,130	5,130
R-squared	0.494	0.566	0.566	0.498	0.568	0.568
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2010 and ending in June 30th 2019 (giving 9 time periods). IPA regions in South East England include: Berkshire LEP, Buckinhamshire LEP, Coast-to-Capital LEP, East Sussex CC, Enterprise M3 LEP, Essex CC, Hertfordshire LEP, Kent CC, Oxfordshire LEP and Solent LEP. Greater London is excluded. Unit of analysis are region-sector-12month cells. KIS sectors identified in line with Eurostat definition of KIS NACE sectors, as detailed here: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_(KIS). Region-sectors where an IPA strategy was put in place in 2015 or later, and which can be more reasonably assumed to have been influenced by the announcement of the Brexit referendum within the 2015 Conservative election manifesto, are dropped from all regressions.*

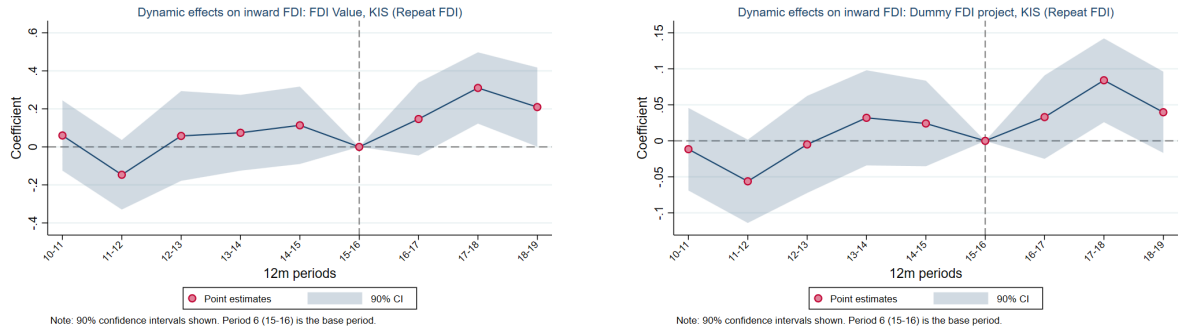
Table 6 examines geographic variation in IPA effectiveness, distinguishing between South East England (excluding Greater London) and the Outside South East England. If ecosystem-building mechanisms drive IPA effectiveness during uncertainty, effects should concentrate in regions where institutional infrastructure is less developed—outside the economically prosperous core where firms already have ready access to established networks and ecosystem benefits.

The results strongly support this prediction. IPA targeting shows robust positive effects in the Outside South East England, with a 21.6% increase in capital value (column 2) and 5.7 percentage point increase in the probability of receiving repeat KIS FDI (column 5). In contrast, we find no significant effects within South East England across

any specification or outcome. This geographic heterogeneity provides indicative evidence for the ecosystem-building mechanism: IPAs protect FDI during uncertainty by embedding firms within regional networks and support structures – functions that add greatest value where such infrastructure must be actively constructed rather than where it already exists.

Figure 7 presents event study estimates for rest of England (i.e., non-South East), confirming parallel pre-trends and the emergence of significant treatment effects post-Brexit. This demonstrates that IPA effectiveness 'switched on' during the Brexit uncertainty period specifically in regions where ecosystem-building activities are most valuable.

Figure 7: Dynamic treatment effects on KIS repeat FDI – Outside South East England



(a) Capital value

(b) Dummy of FDI project

4.1.2 Institutional Capacity

Table 7 distinguishes between effects for regions where the IPA role is taken on by a Combined Authority (CA), and those where this falls to smaller institutions such as Local Enterprise Partnerships (LEPs) or Upper Tier Local Authorities (UTLAs). Combined Authorities are statutory bodies with devolved powers and substantially greater resources than LEPs or UTLAs, making them better equipped for the complex coordination required for ecosystem-building activities (Pike et al. 2016, O'Brien & Pike 2015). If ecosystem-orchestration is indeed the primary channel through which IPAs protect FDI during uncertainty, effects should concentrate in these better-resourced, more capable institutions.

Table 7: Impact of pre-Brexit IPA targeting on inward repeat KIS FDI into English regions, 2010–2019, Combined Authorities IPAs vs. All other IPAs

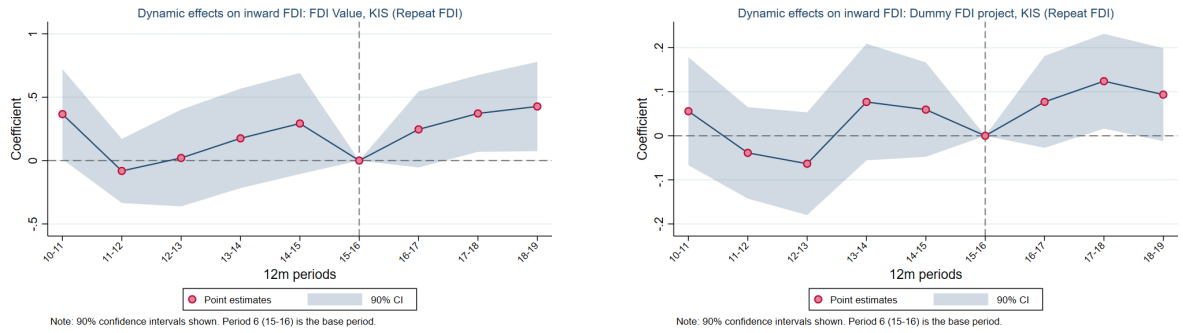
	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
COMBINED AUTHORITY IPAs						
Pre-2015 IPA targeting × Post-Brexit	0.395***	0.220**	0.219**	0.128***	0.083***	0.083***
	(0.109)	(0.094)	(0.094)	(0.035)	(0.030)	(0.030)
Observations	1,785	1,785	1,785	1,785	1,785	1,785
R-squared	0.602	0.694	0.694	0.598	0.692	0.692
LEPs/UTLAs						
Pre-2015 IPA targeting × Post-Brexit	0.048	0.110	0.107	0.001	0.008	0.007
	(0.055)	(0.086)	(0.086)	(0.014)	(0.024)	(0.024)
Observations	5,115	5,115	5,115	5,115	5,115	5,115
R-squared	0.382	0.464	0.464	0.355	0.443	0.443
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2010 and ending in June 30th 2019 (giving 9 time periods). Unit of analysis are region-sector-12month cells. Combined Authority IPAs are those where the FDI promotion service was provided within the context of a Combined Authority as at 2018, or comparable regional institutional forms (such as city-regions) which preceded these but were similarly characterised by their greater powers compared to other local authorities: Greater Manchester CA, West Midlands CA, Cambridgeshire & Peterborough CA, Tees Valley CA, West of England CA, Sheffield-City Region, Leeds City Region, Liverpool City Region, North East Combined Authority. KIS sectors identified in line with Eurostat definition of KIS NACE sectors, as detailed here:* `https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_(KIS)`. *Greater London, Scotland, and Wales are excluded from all regressions. Region-sectors where an IPA strategy was put in place in 2015 or later, and which can be more reasonably assumed to have been influenced by the announcement of the Brexit referendum within the 2015 Conservative election manifesto, are dropped from all regressions. Pre-Brexit Growth × Post controls for the interaction between region-sector-specific pre-Brexit FDI growth rates (IHS-transformed, calculated as the difference in average FDI between periods 4–6 and periods 1–3) and a post-Brexit indicator, addressing the concern that IPA targeting may have correlated with pre-existing growth trajectories.*

The results support this institutional capacity hypothesis. Combined Authority IPAs show robust positive effects, with a 24.5% increase in capital value (column 2) and 8.7 percentage point increase in FDI probability (column 5). In contrast, LEPs and UTLAs show no significant effects across any specification or outcome. This stark contrast suggests that ecosystem-building during uncertainty requires institutional capacity – statutory authority, devolved powers, and adequate resources – that fragmented LEPs and UTLAs lack.

However, the dynamic estimates for Combined Authorities (Figure 8) reveal somewhat noisier pre-trends than observed in the full sample or geographic splits, with pre-treatment coefficients showing more variability around zero. While this could reflect the smaller sample of CA regions reducing precision, it may also indicate that CA-targeted sectors were experiencing differential trends before Brexit. The post-treatment effects remain clearly positive and larger in magnitude than pre-treatment fluctuations, but the interpretation should acknowledge this additional uncertainty. The concentration of effects in CAs – institutions with greater capacity for complex ecosystem coordination – nevertheless provides additional evidence that ecosystem-building (as opposed to information provision) appears to drive IPA effectiveness during uncertainty.

Figure 8: Dynamic treatment effects on KIS repeat FDI – Combined Authorities



(a) Capital value

(b) Dummy of FDI project

4.2 Investment motivations and IPA effectiveness

The preceding analyses have used theory-guided heterogeneity to interpret the mechanisms through which IPAs protect FDI under uncertainty. The concentration of effects in repeat investments, in knowledge-intensive services, and in regions with greater institutional capacity all point toward ecosystem-building – rather than information provision – as the operative channel. In this section, we provide more direct evidence by examining investors' stated motivations for their projects.

The FDI data include information on the primary factors motivating each investment, which we group into two categories: ecosystem-related motivations (access to skilled labour, proximity to suppliers, knowledge spillovers, and cluster benefits) and non-ecosystem motivations (domestic market potential, access to European markets, and natural resource availability). If IPA targeting operates through ecosystem-building, we would expect the protective effect during Brexit uncertainty to concentrate among investments where ecosystem factors were the stated motivation.

This analysis requires an important caveat. Motivation data were recorded incon-

sistently in the early years of our sample, becoming more systematic only from 2016 onward. To address this, we restrict the sample to the 2013-2019 period and retain only region-sectors where at least one project recorded a motivation during the sample period, ensuring comparability across observations. We also exclude projects with unknown motivations, so that our comparison is between projects where ecosystem factors were explicitly cited versus projects where non-ecosystem factors were explicitly cited. These restrictions reduce our sample and shorten the pre-treatment period, but they are necessary for a meaningful comparison.

Results for new FDI, reported in Table A5, show no significant effects regardless of motivation. This is consistent with the expectation that, under heightened uncertainty, IPA effectiveness may not extend to investors who are new to the country: the entry costs facing first-time investors become prohibitive once the uncertainty 'tax' is factored in, and information provision by IPAs does little to resolve fundamentally unresolvable policy uncertainty. Ecosystem benefits, by contrast, flow primarily to established investors who have already absorbed entry costs and can leverage existing benefits provided by tailored regional ecosystems. If this logic is correct, we should observe IPA effects among repeat investors, concentrated in projects where ecosystem factors were the stated motivation.

Table 8: Impact of pre-Brexit IPA targeting on inward repeat FDI into English regions, by investment motivation, 2013–2019

	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
ECOSYSTEM-MOTIVATED						
Pre-2015 IPA targeting × Post-Brexit	0.155*	0.238**	0.228**	0.039	0.063**	0.061**
	(0.087)	(0.112)	(0.111)	(0.024)	(0.031)	(0.031)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.277	0.438	0.439	0.271	0.431	0.432
OTHER-MOTIVATED						
Pre-2015 IPA targeting × Post-Brexit	0.440***	0.285*	0.292*	0.104***	0.064*	0.066*
	(0.122)	(0.167)	(0.168)	(0.029)	(0.037)	(0.037)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.266	0.468	0.468	0.287	0.479	0.480
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

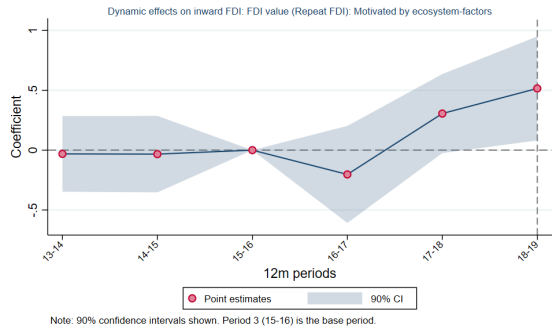
*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2013 and ending in June 30th 2019 (giving 6 time periods). Unit of analysis are region-sector-12month cells. Ecosystem-motivated FDI includes projects where investors cited ecosystem-related factors (access to skilled labour, proximity to suppliers, knowledge spillovers, cluster benefits) as the primary motivation. Other-motivated FDI includes projects citing non-ecosystem factors (domestic market potential, access to European markets, natural resource availability); projects with unknown motivations are excluded. Motivation data were recorded inconsistently before 2016; to ensure comparability, the sample is restricted to the 2013–2019 period and retains only region-sectors where at least one project recorded a motivation during the sample period. Greater London, Scotland, and Wales are excluded from all regressions. Region-sectors where an IPA strategy was put in place in 2015 or later are dropped from all regressions. Pre-Brexit Growth × Post controls for the interaction between region-sector-specific pre-Brexit FDI growth rates (IHS-transformed, calculated as the difference in average FDI between periods 4–6 and periods 1–3) and a post-Brexit indicator.*

Table 8 presents evidence consistent with this prediction. For ecosystem-motivated repeat FDI, IPA targeting is associated with a 25.6% increase in investment value and a 6.3 percentage point increase in the probability of receiving any investment during the Brexit uncertainty period. These effects are statistically significant at the 5% level and robust to the inclusion of sector-time and region-time fixed effects.

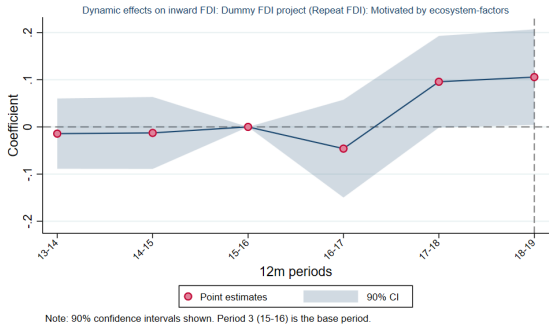
For non-ecosystem-motivated repeat FDI, the coefficients are also positive and weakly significant in the static specification. However, the dynamic analysis in Figure 9 reveals an important distinction. The ecosystem-motivated results display clean pre-trends: coefficients for 2013-14 and 201–15 are close to zero, with the effect emerging only after the Brexit referendum. In contrast, the non-ecosystem-motivated results show a pronounced

upward pre-trend, with coefficients rising steadily across the pre-treatment period. This pattern suggests that the apparent effect for non-ecosystem-motivated FDI may reflect differential pre-existing trajectories in treated region-sectors rather than a causal response to IPA targeting during uncertainty. Taken together, the evidence indicates that IPA targeting protected repeat FDI during Brexit uncertainty specifically where investors valued ecosystem factors – consistent with the ecosystem-building mechanism identified in the preceding analyses.

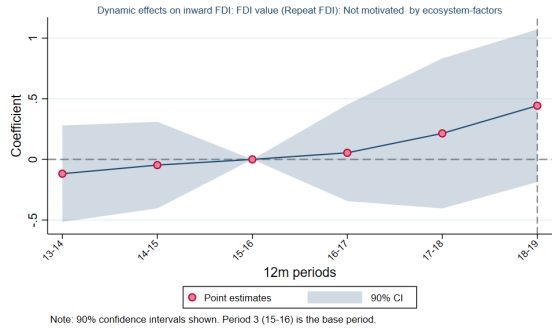
Figure 9: Dynamic effects of IPA targeting on repeat FDI, by investment motivation



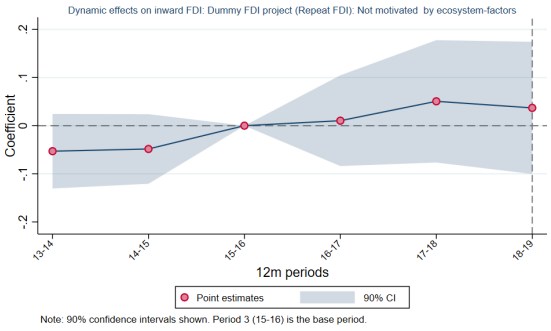
(a) Ecosystem-motivated: Capital value



(b) Ecosystem-motivated: Dummy of FDI project



(c) Other-motivated: Capital value



(d) Other-motivated: Dummy of FDI project

When we disaggregate by sector, the ecosystem-building interpretation finds further support. Table 9 shows that for repeat KIS FDI – where our main effects are concentrated – the distinction between motivation types is especially clear. Ecosystem-motivated KIS repeat FDI shows a significant effect on both the extensive margin (5.1 percentage points) and the intensive margin (coefficient of 0.128, equivalent to an increase of 13.6% in FDI project capital value). Non-ecosystem-motivated KIS repeat FDI, by contrast, shows no significant effect once sector-time and region-time fixed effects are included, with coefficients that are smaller in magnitude and statistically insignificant. Results for my two additional outcomes, presented in Figure A7, confirm these patterns.

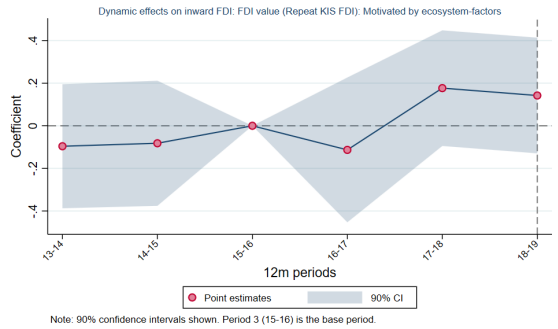
Table 9: Impact of pre-Brexit IPA targeting on inward repeat KIS FDI into English regions, by investment motivation, 2013–2019

	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
ECOSYSTEM-MOTIVATED						
Pre-2015 IPA targeting × Post-Brexit	0.128*	0.130*	0.128*	0.050**	0.051**	0.051**
	(0.072)	(0.076)	(0.077)	(0.021)	(0.024)	(0.024)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.314	0.449	0.449	0.318	0.458	0.458
OTHER-MOTIVATED						
Pre-2015 IPA targeting × Post-Brexit	0.177**	0.135	0.138	0.044**	0.034	0.035
	(0.082)	(0.111)	(0.112)	(0.019)	(0.026)	(0.026)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.257	0.435	0.435	0.245	0.432	0.432
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

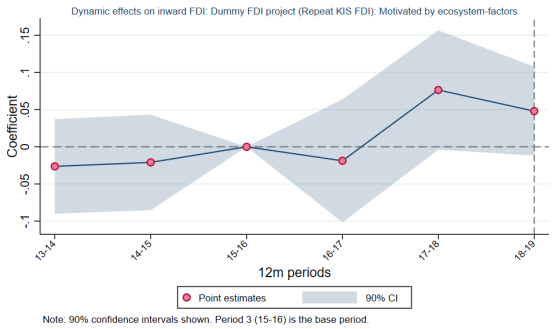
*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2013 and ending in June 30th 2019 (giving 6 time periods). Unit of analysis are region-sector-12month cells. KIS sectors identified in line with Eurostat definition of KIS NACE sectors, as detailed here:* `https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Knowledge-intensive_services_(KIS)`. *Ecosystem-motivated FDI includes projects where investors cited ecosystem-related factors (access to skilled labour, proximity to suppliers, knowledge spillovers, cluster benefits) as the primary motivation. Other-motivated FDI includes projects citing non-ecosystem factors (domestic market potential, access to European markets, natural resource availability); projects with unknown motivations are excluded. Motivation data were recorded inconsistently before 2016; to ensure comparability, the sample is restricted to the 2013–2019 period and retains only region-sectors where at least one project recorded a motivation during the sample period. Greater London, Scotland, and Wales are excluded from all regressions. Region-sectors where an IPA strategy was put in place in 2015 or later are dropped from all regressions. Pre-Brexit Growth × Post controls for the interaction between region-sector-specific pre-Brexit FDI growth rates (IHS-transformed, calculated as the difference in average FDI between periods 4–6 and periods 1–3) and a post-Brexit indicator.*

Figure 10 presents the dynamic effects for ecosystem-motivated KIS repeat FDI. The patterns are reassuring: pre-treatment coefficients for 2013–14 and 2014–15 are close to zero and statistically insignificant, consistent with parallel trends prior to the Brexit referendum. The effect emerges in the 2017–18 period and persists into 2018–19, with point estimates that are positive and – for the extensive margin – statistically distinguishable from zero. The slight dip in 2016–17, immediately following the referendum, mirrors the pattern observed for all repeat FDI and may reflect an initial shock period before IPA-supported ecosystem benefits could stabilise investment flows.

Figure 10: Dynamic effects of IPA targeting on ecosystem-motivated repeat KIS FDI



(a) Capital value



(b) Dummy of FDI project

The results for repeat FDI into manufacturing sectors, reported in Table 10, present an interesting contrast that nonetheless aligns with theoretical expectations. Given that manufacturing FDI faced acute trade-related Brexit uncertainty, we disaggregate investment motivations beyond the simple ecosystem versus non-ecosystem distinction used for KIS. Specifically, we separate non-ecosystem motivations into domestic market potential (firms seeking to serve UK consumers) and market access/trade (firms seeking to serve European markets via UK operations), allowing us to test whether any observed effects reflect tariff-jumping logic versus broader attempts to mitigate trade uncertainty. For ecosystem-motivated manufacturing repeat FDI, we find no significant effect—coefficients are close to zero and precisely estimated. This is consistent with the interpretation that under severe uncertainty about future trading arrangements, ecosystem benefits alone were insufficient to sustain manufacturing investment, regardless of how attractive the local skills base or supplier network.

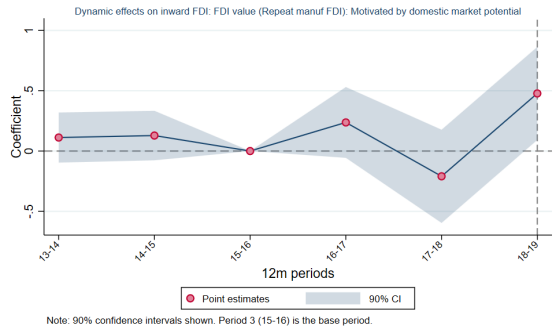
For non-ecosystem-motivated manufacturing repeat FDI, the disaggregation reveals important heterogeneity. Domestic-market-motivated investments show weakly positive effects, suggesting potential tariff-jumping behavior where firms expanded UK production to maintain access to UK consumers. While it is true that these effects hold for only one outcome (FDI project dummy), and the dynamic effects demonstrate that the impact does not hold uniformly across all three post-Brexit vote periods (see Figure 11), market access/trade-motivated investments – those most directly exposed to Brexit trade uncertainty – show null effects throughout. Results for job creation and number of projects (Appendix Table A7 & Figure A8) show similar patterns. This pattern suggests that while there may have been some modest IPA effectiveness for manufacturing FDI oriented toward the domestic market, IPAs could not systematically protect manufacturing investments during this period, particularly those predicated on using the UK as a platform to serve European markets.

Table 10: Impact of pre-Brexit IPA targeting on inward repeat manufacturing FDI into English regions, by investment motivation, 2013–2019

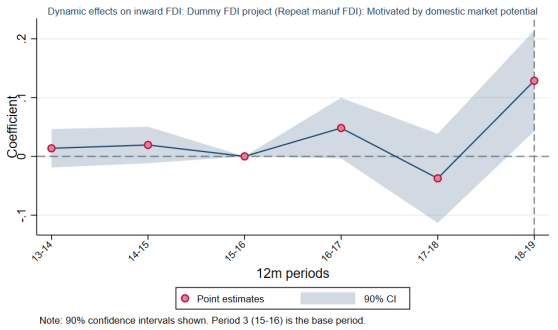
	IHS cap. value			Dummy FDI		
	(1)	(2)	(3)	(4)	(5)	(6)
ECOSYSTEM-MOTIVATED						
Pre-2015 IPA targeting × Post-Brexit	-0.013	0.020	0.013	-0.013	-0.014	-0.015
	(0.050)	(0.073)	(0.072)	(0.011)	(0.016)	(0.016)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.222	0.429	0.432	0.212	0.417	0.419
OTHER-MOTIVATED: DOMESTIC MARKET POTENTIAL						
Pre-2015 IPA targeting × Post-Brexit	0.211***	0.087	0.088	0.058***	0.034	0.035*
	(0.074)	(0.098)	(0.099)	(0.018)	(0.021)	(0.021)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.185	0.353	0.353	0.194	0.360	0.361
OTHER-MOTIVATED: MARKET ACCESS/TRADE						
Pre-2015 IPA targeting × Post-Brexit	0.074	-0.001	-0.005	0.037**	0.019	0.019
	(0.050)	(0.057)	(0.059)	(0.016)	(0.017)	(0.017)
Observations	1,875	1,854	1,854	1,875	1,854	1,854
R-squared	0.215	0.387	0.387	0.223	0.397	0.397
Region-Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector×Time FE	No	Yes	Yes	No	Yes	Yes
Region×Time FE	No	Yes	Yes	No	Yes	Yes
Pre-Brexit Growth × Post	No	No	Yes	No	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. *Standard errors are clustered at the region-sector level. Each outcome refers to FDI projects listed in Orbis-crossborder as "Expansions", "Co-locations" and "Re-locations" under variable "Project type". Dummy FDI indicates whether any FDI project occurred in a given region-sector-time cell (extensive margin). Time periods are 12-month intervals from July 1st to June 30th, beginning on July 1st 2013 and ending in June 30th 2019 (giving 6 time periods). Unit of analysis are region-sector-12month cells. Manufacturing FDI includes all projects falling under NACE code C. Ecosystem-motivated FDI includes projects citing ecosystem-related factors (access to skilled labour, proximity to suppliers, knowledge spillovers, cluster benefits). Domestic market potential includes projects citing access to UK domestic market. Market access/trade includes projects citing access to European markets or export opportunities; projects with unknown motivations are excluded. Motivation data were recorded inconsistently before 2016; to ensure comparability, the sample is restricted to the 2013–2019 period and retains only region-sectors where at least one project recorded a motivation during the sample period. Greater London, Scotland, and Wales are excluded from all regressions. Region-sectors where an IPA strategy was put in place in 2015 or later are dropped from all regressions. Pre-Brexit Growth × Post controls for the interaction between region-sector-specific pre-Brexit FDI growth rates (IHS-transformed, calculated as the difference in average FDI between periods 4–6 and periods 1–3) and a post-Brexit indicator.*

Figure 11: Dynamic effects of IPA targeting on domestic market-motivated repeat manufacturing FDI



(a) Capital value



(b) Dummy of FDI project

Taken together, these results provide direct evidence that the protective effect of IPA targeting during Brexit uncertainty operated primarily through ecosystem-building mechanisms. The effect concentrates among investments where investors explicitly valued ecosystem factors, emerges cleanly in the post-referendum period without problematic pre-trends, and is strongest in knowledge-intensive services where ecosystem considerations are theoretically most salient. The manufacturing results, far from undermining this interpretation, reinforce it: where ecosystem logic did not apply, IPA effectiveness was limited to facilitating a distinct type of investment – tariff-jumping by firms committed to serving the UK domestic market.

5 Robustness Checks

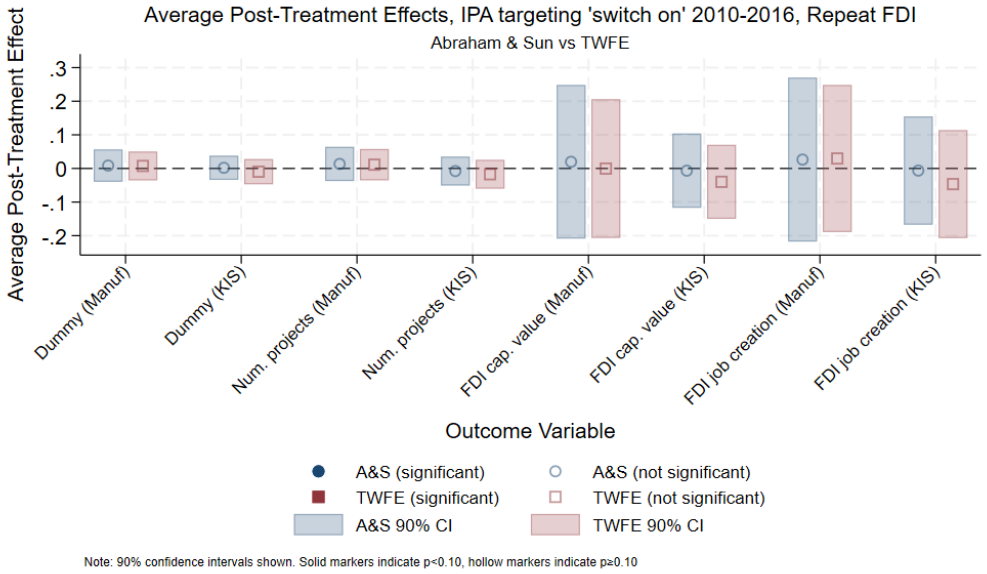
This section reports three sets of robustness results that directly correspond to the identification concerns outlined in Section 3.1.1: (i) whether IPA effectiveness during Brexit uncertainty simply reflects pre-existing normal-times effectiveness, (ii) whether flight-to-safety dynamics bias estimates upward, and (iii) whether results are driven by pre-existing differential trends rather than genuine responses to the Brexit shock.

5.1 Pre-Brexit IPA Effectiveness

A natural question arising from the existing literature on IPA effectiveness is whether the positive effects observed for KIS repeat FDI are truly specific to the post-Brexit uncertainty period, or simply reflect the well-documented effectiveness of IPA targeting in normal times. If the latter, my results would represent a continuation of pre-existing IPA impacts rather than evidence that uncertainty contexts specifically activate additional, ecosystem-building mechanisms.

Both under a standard TWFE model and when applying corrections for potential biases in staggered estimation (Sun & Abraham 2021), IPA targeting strategies show no significant association with increased inward FDI during the pre-Brexit period (2010–2016), for either manufacturing or KIS sectors (Figure 12). While this null result should be interpreted with caution given the limited post-treatment windows available, it provides reassurance that the positive effects observed for KIS repeat FDI under specifications (1)–(4) are unique to the post-Brexit uncertainty period rather than reflecting a continuation of pre-existing trends.

Figure 12: **Average post-treatment effects of IPA targeting strategies switching on between 2010 and 2016, repeat FDI.**



Note: The equivalent figure for new FDI is shown in Appendix Figure A3. Individual event study plots for each outcome are available upon request.

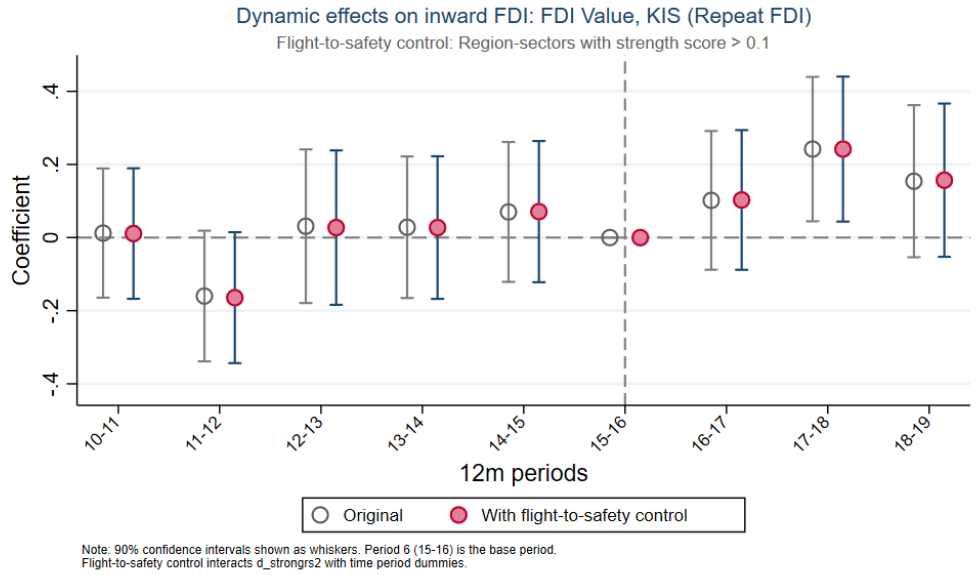
This pattern – where IPA effectiveness 'switches on' during the Brexit uncertainty shock – suggests that English IPAs play a distinct protective role during crises. The concentration of effects in repeat KIS FDI – which is relatively more sensitive to ecosystem-related factors in investment decision-making – suggests that ecosystem-building mechanisms, rather than traditional information-provision, drive IPA effectiveness under uncertainty.

5.2 Flight to Safety Effects

Figure 13 presents the dynamic treatment effects for repeat KIS FDI capital value when including the $Leading_{rs} \times Period_k$ control described in Section 3.1.1. The results remain

substantively unchanged from the main specification [6]. Two factors explain this stability. First, the correlation between treatment status and region-sector strength is modest ($\rho = 0.038$, $p < 0.01$): while IPAs were somewhat more likely to target stronger region-sectors, the relationship is weak, limiting the scope for flight-to-safety dynamics to confound my estimates. Second, examination of the $Leading_{rs} \times Period_k$ coefficients reveals no significant differential FDI growth in leading region-sectors during the post-Brexit period – the flight-to-safety surge that this test is designed to capture does not appear to be a prominent feature of post-Brexit FDI patterns in my data. Together, these findings suggest that while flight-to-safety is a theoretically important concern in uncertainty contexts, it does not materially bias the treatment effects estimated in this study.

Figure 13: **Dynamic treatment effects on KIS repeat FDI capital value with and without flight-to-quality control**



5.3 Pre-existing Differential Trends

A related concern is that the estimated treatment effects may reflect pre-existing differential trends between targeted and non-targeted region-sectors rather than genuine responses to Brexit uncertainty. If IPAs systematically targeted region-sectors that were already on upward FDI trajectories, the post-Brexit divergence I attribute to IPA effectiveness could simply be a continuation of these pre-existing dynamics.

I address this concern through two complementary approaches. First, my preferred specifications include a control for pre-Brexit FDI growth interacted with a post-Brexit indicator ($PreBrexitGrowth_{rs} \times Post_t$). This parametric adjustment allows region-sectors

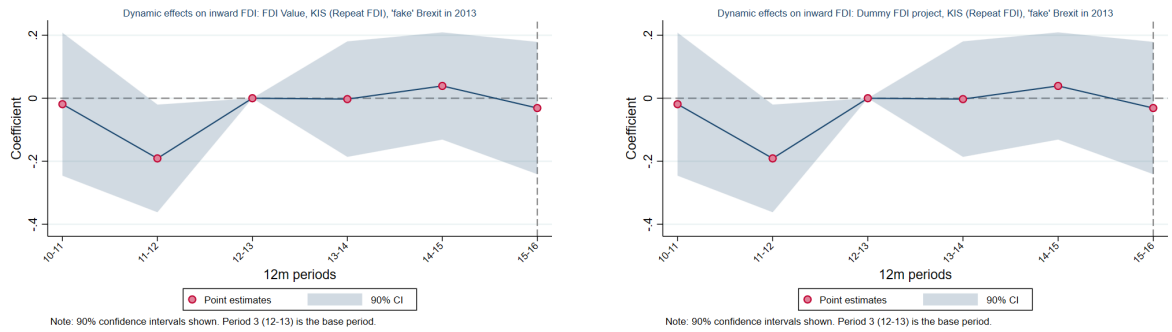
[6] Results are robust to alternative thresholds (0.05, 0.20), and available upon request.

with stronger pre-treatment growth to follow different post-treatment trajectories, absorbing any mechanical relationship between historical momentum and post-Brexit outcomes. As reported in Tables 5–9, the inclusion of this control does not materially attenuate the estimated treatment effects, suggesting that differential pre-existing momentum is not driving the results.

Second, I implement a placebo test that provides a more direct assessment of whether the treatment-control comparison yields spurious effects in periods when no true effect should exist. Specifically, I restrict the sample to the pre-Brexit period (2010–2016) and estimate the dynamic specification with a 'fake' Brexit date in 2013, using the 2012–13 period as the base. If my results were driven by pre-existing differential trends rather than a genuine response to Brexit uncertainty, I would expect to observe significant 'effects' emerging in the fake post-treatment periods (2013–14, 2014–15, 2015–16).

Figure 14 presents the results of this placebo test for repeat KIS FDI. The pattern is reassuring: coefficients in the fake post-treatment periods are small, statistically insignificant, and show no systematic upward drift. This contrasts sharply with the main results (Figure 5), where clear positive effects emerge in the actual post-Brexit periods (2017–18, 2018–19). The absence of spurious effects under fake treatment timing strengthens confidence that the estimated post-2016 effects represent genuine institutional responses to Brexit uncertainty rather than the continuation of pre-existing trends.

Figure 14: Placebo test: Dynamic treatment effects with fake Brexit date in 2013



(a) IHS capital value

(b) Dummy FDI

Taken together, these two approaches provide convergent evidence that the main results are not artefacts of pre-existing differential trends. The parametric growth control addresses the concern within the main specification, while the placebo test demonstrates that the difference-in-differences design does not generate spurious effects when applied to periods without genuine treatment.

6 Conclusions

Uncertainty sparked by systemic shocks is known to negatively affect inward Foreign Direct Investment, and the Brexit negotiation period provides a salient example of how such transition-era disruptions reshape international capital flows. Comparing to a scenario where Brexit had not happened, the UK saw lower FDI inflows in the years following the Brexit referendum when uncertainty was highest (Serwicka & Tamberi 2018, Bloom et al. 2019). However these effects are highly heterogeneous by sector, FDI type and, most importantly, by region. This paper has investigated whether the UK's regional institutions, specifically Investment Promotion Agencies' targeted strategies to support particular sectoral ecosystems before Brexit was even contemplated, created the conditions for MNE investors to better resist uncertainty, explaining why certain types of FDI, or FDI in certain sectors, held up better than others.

Drawing on literature from International Business and Economic Geography, I posit that MNEs operating in a regional ecosystem characterised by greater density of and access to certain key assets, at least partly because regional institutions have targeted resources toward building this, are likelier to perceive certain benefits which motivate their continued FDI when faced with costly uncertainty. I find that pre-2015 IPA sector-targeting strategies were effective at increasing inward FDI in the form of KIS sector repeat FDI specifically, in line with my hypotheses around the sectors and FDI types most likely to see an impact in such a context. At the extensive margin, targeted region-sectors were 4.4 percentage points more likely to receive repeat KIS FDI. At the intensive margin, they received 11.5% more projects, with 27.9% higher capital value and 29.3% higher job creation. By contrast, new FDI and manufacturing sector investments saw no significant impact.

Importantly, my analysis reveals meaningful geographic and motivational heterogeneity in these effects. The positive impact of pre-Brexit IPA targeting strategies is significantly stronger in regions outside the relatively wealthier and more agglomerated South East of England. In other words, regional institutions proved most effective precisely where ecosystems are less dense and immediately accessible, requiring active institutional intervention in connecting investors to key regional assets. Additionally, when examining FDI projects by their stated motivations, I find the strongest effects for investments explicitly motivated by regional ecosystem factors, such as access to specialised talent pools, research capabilities, or supplier networks. These findings provide evidence for my proposed mechanism: institutional effectiveness during uncertainty stems primarily from the ability to build and facilitate access to regional assets that remain valuable despite broader uncertainty. More broadly, these findings illustrate how place-based institutions mediate the spatial consequences of global transition shocks, producing uneven

but institutionally contingent regional outcomes.

This paper constitutes a contribution to our understanding of how regional institutions can help to support the broader aims of regions vis-à-vis internationalisation, namely to attract quality, durable investments that can foster regional resilience to shocks. My findings highlight the specific importance of ecosystem-building activities in less advantaged regions, suggesting that targeted institutional support is most valuable where market mechanisms alone fail to create accessible regional assets. These findings carry implications for regional development policy in an era of structural transformation. They suggest that strengthening ecosystem-oriented institutional capacity may be particularly important in regions lacking dense agglomeration advantages, where resilience to global shocks depends more heavily on active coordination and asset articulation. IPAs offer one institutional vehicle for this work, but the broader lesson extends to regional development agencies, local authorities, and other place-based institutions charged with supporting economic resilience.

However, much more research is needed, particularly with regards to disentangling exactly how regional institutions operate to deliver these kinds of ecosystem benefits, including what type of coordination exists with other regional and institutional actors. Further attention should also focus on how the heterogeneous and often limited institutional capabilities of British regional IPAs, particularly following the dissolution of England's Regional Development Agencies in 2011, may have influenced their ability to engage successfully with MNEs and economic internationalisation more broadly. Finally, future work might also explore whether these results hold in other uncertainty contexts beyond Brexit, and whether institutional capabilities developed during one crisis enhance resilience to subsequent shocks.

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