The Institutional Politics of Development Finance: ODA's Role in Shaping Subnational DFI Investments

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Abstract

Development finance institutions (DFIs), operated by donor governments to support private sector development in the Global South, often face informational barriers when deciding where to invest abroad. We argue that traditional Official Development Assistance (ODA), delivered through bilateral aid agencies, can guide these investment decisions. Specifically, aid agencies generate valuable, location-specific, investment-relevant knowledge through their ODA-funded activities across regions of the Global South. When shared with DFIs, this information reduces uncertainty and increases the likelihood of DFI investment in those same regions. To test this expectation, we leverage an original geocoded dataset comprising investments by 12 DFIs from 12 OECD-DAC donor countries, matched with subnational ODA data from the GODAD dataset for the period 2000–2020. Our quantitative analyses reveal a robust and consistent association between ODA activity and DFI entry at the subnational level. To probe the mechanism, we conduct qualitative case studies of Germany, France, and the United States, illustrating how aid agencies and DFIs exchange information and coordinate investment decisions. Our findings contribute to a growing literature on the spatial allocation of development finance and provide new insight into how traditional ODA and national DFIs interact as part of an evolving development cooperation bureaucracy.

Keywords: Development Finance Institutions (DFIs), Official Development Assistance (ODA), Subnational Aid Allocation, Information Asymmetries, Institutional Coordination

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1 Introduction

As foreign aid budgets stagnate or decline across many OECD Development Assistance Committee (DAC) donors, national Development Finance Institutions (DFIs) have gained prominence in development cooperation. National DFIs are stand alone agencies that are owned and mandated by donor governments to extend loans or equity financing to the private sector of a developing country (Hos et al. 2024). The 2015 Addis Ababa Conference and subsequent initiatives, such as the "From Billions to Trillions" agenda (World Bank 2015) and the European Consensus on Development (European Commission 2017), have considered DFIs as a key driver in advancing the 2030 Agenda. These institutions, pursuing positive development outcomes alongside the commercial success of their clients, provide long-term public financing to boost market creation in country regions under-served in private capital.

Over the past decade, national DFIs of OECD DAC donor countries have significantly expanded their investment portfolios (see Figure 1), and this growth is expected to continue. Between 2018 and 2021, 85 percent of bilateral aid to the private sector was allocated by DFIs, underscoring their lead role in this area (Craviotto 2023). Most recently, the Trump administration's fiscal budget proposal for 2026 suggested a USD 3 billion capital increase for the U.S. Development Finance Corporation (DFC).[1] In the reauthorization plan sent to the U.S. House of Representatives in June 2025, the White House details its plan to increase the DFC budget from USD 60 billion to USD 250 billion by the end of 2031, which would make the DFC the largest international development agency in the United States.[2] European governments also expect a significant and sustained expansion of their DFIs. The European Union's first draft budget for 2028-2023 announced a 75% increase for its Global Europe instrument which backs DFI investments with guarantees.[3] Similarly, the Danish government has announced plans to double the investment portfolio of Denmark's national DFI,

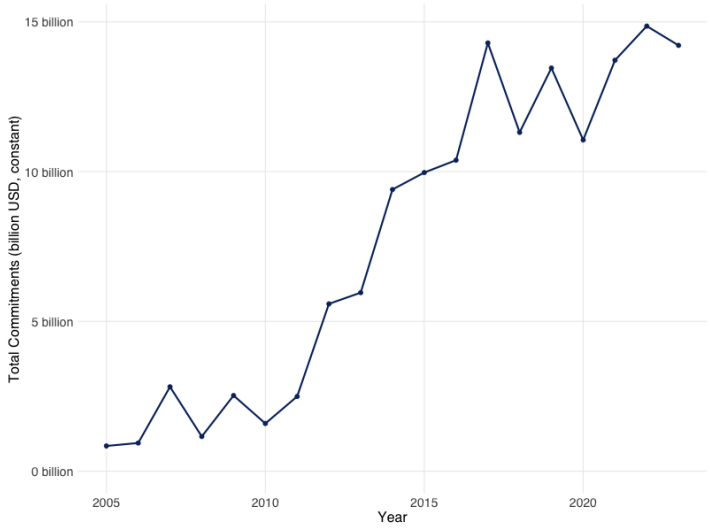
1. https://www.devex.com/news/trump-has-big-plans-for-dfc-as-reauthorization-deadline-looms-110592. Consulted on August 13, 2025.

2. https://www.reuters.com/world/us/trump-administration-proposes-bigger-role-development-finance-corporation-2025-07-25/. Consulted on August 13, 2025

3. https://www.devex.com/news/devex-invested-the-eu-advances-its-europe-first-plan-110552. Consulted on August 14, 2025.

the IFU.[4]

Figure 1: DFI investment commitments over time (2005–2023)



Note: Authors' data. Figure shows annual gross investment commitments by 12 DFIs to recipient countries, aggregated across donors. Amounts represent newly committed outflows in each year, reported in constant US dollars. The data capture commitments at the time investments are approved; repayments, exits, and interest flows back to DFIs are not observed and therefore not netted out.

Despite the growing importance and scale of national DFIs, we only have a limited systematic understanding about their behavior. Supporters consider DFIs pivotal actors for providing public investments that advance development objectives in markets where private capital is scarce but development needs are high (OECD 2016a). Critics, on the other hand, highlight that national DFIs are, in part, profit-driven and may thus prioritize commercial success over development impact (Craviotto 2023). Or, in spite of financing needs, they may underinvest in distant markets where risks are high and relatively difficult to assess.

This critique highlights a central challenge for DFIs: although they are increasingly expected to finance private sector development across recipient regions under-served in capital, they face significant information asymmetries. They lack contextual and investment-specific knowledge to accurately assess local market conditions, identify investable opportunities, and evaluate local political and institutional risks across regions of the Global South.

4. https://amwatch.com/AMNews/Fund_Management/article18247031.ece. Consulted on August 14, 2025.

They also lack the expertise to ensure that their investments have development impact, which DFI funded projects expect to generate.

In this paper, we posit that information exchange with traditional bilateral aid agencies—and the grant-based development assistance they provide—reduces informational asymmetries for DFI decision-makers and act as catalysts of DFI investment in more high-risk regional markets. Traditional bilateral aid agencies are typically embedded in local contexts through long-standing aid partnerships, in-country offices, and sectoral expertise. This expertise enables them to generate and interpret local information that DFIs do not have but require to make informed investment decisions.

At the same time, traditional aid agencies possess the necessary technical competency in development that makes it more likely that DFI financing contains elements that lead to development impact, including, for example, climate- or gender-related objectives. DFIs need information and development expertise to fulfill their mandate and thus create incentives for inter-agency coordination. We expect that ODA activities in regions across the Global South thus facilitate DFI investment in firms that are located in these same regions.

We test our argument using an original dataset of DFI investments from 2000-2020 that covers 12 DFIs from 12 traditional donor countries.[5] We geo-code DFI investments at the subnational level using geographical coordinates derived from Orbis, a comprehensive, global database that contains firm-level data on more than 580 million firms around the world. We regress our outcome variable of interest on traditional ODA activities using the Global Official Development Assistance Dataset (GODAD) (Bomprezzi et al. 2025a). We find empirical support for our argument: the presence and size of traditional ODA in a particular region leads to higher likelihood of DFI investments in that same region. We further probe the causal mechanism of information exchange via inter-agency coordination through qualitative evidence derived from extensive interviews with officials from traditional aid agencies and national development finance institutions and/or analyses of policy and institutional documents as well as seconardy literature on the United States, Germany, and France.

5. Although our DFI investment data cover the period from 2000 to 2024, the GODAD data is limited to 2020 and therefore restricts our analysis to the 2000-2020 time frame.

Our study advances a still limited systematic understanding of national DFIs by theorizing inter-agency coordination as a central mechanism that shapes the international development strategies of Global North donors.[6] This perspective extends and refines theoretical debates on bureaucratic organization and politics in donor countries (Bau et al. 2025; Carcelli 2024; Carnegie et al. 2024; Dietrich 2021).

Finally, our analysis adds to a growing body of literature that examines aid allocation at the subnational level, offering new insights into how aid and national development finance intersect spatially within recipient countries (Bomprezzi et al. 2025a; Briggs 2017, 2018, 2019, 2021; Dreher et al. 2019a; Nunnenkamp et al. 2017; Öhler et al. 2019). It is at the subnational level where aid and DFI activities intersect most directly. Aid flows may be nationally negotiated, but political and economic characteristics affect how they are allocated within recipient countries (Jablonski 2014, 2026; Tang 2026). DFI investments are typically local or regional in scope, targeting specific markets, sectors, or infrastructure corridors. By leveraging geocoded data on both aid and development finance projects, our study reveals how information generated through traditional aid activities at the regional level helps guide where DFIs choose to invest, thus shaping the geography of donor-driven private sector engagement.

2 The Private Sector in Development Cooperation

2.1 Donor governments and the Pursuit of Private Sector Development

The 2030 Agenda, the Addis Ababa Action Agenda, and the "From Billions to Trillions" vision as articulated by the international community, frame private sector development as essential for growth, job creation, improved living standards, and stronger public revenues. Reflecting this consensus, many donor governments have increasingly oriented their development cooperation strategies and aid bureaucracies toward supporting private sector

6. For a study of the lending practices of one multilateral DFI, the World Bank's International Finance Corporation, see Dreher et al. (2019b).

development abroad. In the United States, for example, the Power Africa Initiative and, later, the 2018 Private Sector Engagement Policy, turned private sector development from a sector-specific approach into a broader priority across foreign aid agencies, missions, sectors, and operating units (USAID 2018). While this prioritization of private sector development has been particularly pronounced in the U.S. case, the majority of DAC donor governments also increasingly advance private sector development through coordinated, system-wide approaches.

Traditionally, donor governments pursued these goals through aid agencies and the official development assistance that they provide. ODA supports regulatory reforms, the rule of law, and institutional capacity building to foster environments conducive to private sector–led growth. For example, USAID's Broad Agency Announcements invited private sector partners to define problems and co-develop solutions (USAID 2020). Germany's Development Cooperation Scouts Program embeds development personnel in local and regional business associations to build financial partnerships, facilitate policy dialogue, and promote responsible business (OECD 2021a). In some cases, aid agencies also provide direct grants to generate development outcomes, as illustrated by Netherlands' Health Insurance Fund that subsidize premiums for low-income groups in Africa and thus increasing demand for health services and improving their quality (OECD 2016b, 39). While these projects are in place to make developing countries more attractive to private finance, ODA, on its own, has proven insufficient to spur investment. Studies document that ODA-funded private sector initiatives have only had marginal impact on the mobilization of private finance (Gräfin 2021; IDOS 2024). In response, many donor governments have expanded their development cooperation beyond its traditional ODA base to include national development finance institutions (DFIs). As publicly backed investors, national DFIs complement aid efforts by providing loans and equity to early-stage, commercially viable, development-relevant firm and financial institutions in developing countries. Thus, private sector promotion in development cooperation has shifted from being pursued primarily through aid agencies and ODA to being embedded in a wider system of donor instruments that combines grant-based support with state-backed development finance.

2.2 Development Finance Institutions and Development Cooperation

Development Finance Institutions are government-owned or government-backed financial entities established to promote private sector investment in markets that commercial investors tend to avoid. Most bilateral DFIs were created during the decades following the Second World War, as donor governments sought instruments to support economic development in newly decolonizing nations and to channel private capital into markets considered too risky for commercial lenders. The United Kingdom established what is now British International Investment in 1948, the Netherlands founded FMO in 1970, the United States launched OPIC — the predecessor to the current U.S. International Development Finance Corporation — in 1971, and France created Proparco in 1977. Germany's DEG, established in 1962, and Sweden's Swedfund, founded in 1979, followed a similar logic. Modeled in part on the International Finance Corporation, the private sector arm of the World Bank Group set up in 1956, these institutions were designed to to operate between commercial and concessional finance and to crowd in private investment where it would not otherwise flow.

Historically, DFI operations were focused on providing finance in emerging and developing markets, with commercial viability of prospective investees being a primary driver of investment decisions. As a result, investments typically took place in less risky and easy to assess markets (Hos et al. 2024; ODI 2021), following a demand-driven model where potential client firms approach DFIs with financing requests.

A more recent integration of DFIs into broader development cooperation frameworks has affected the scope of their mandates and investment decisions. Donor governments now expect DFIs to meet not only their financial self-sustainability mandate, but require that they produce to development outcomes. This requires investment structuring to account for and comply with environmental, social, and governance (ESG) standards, to align with the Sustainable Development Goals (SDGs), and to embed robust impact measurement frameworks. Finally, donor governments are increasingly pushing DFIs to finance private sector in regions of the world that lack commercial capital (ODI 2021). Because these regions typically

exhibit higher risks and are difficult to assess remotely from DFI offices in donor countries, DFIs struggle to identify investment opportunities that simultaneously meet commercial sustainability and development criteria.

These limitations are compounded by the lean staffing models on which DFIs typically operate. Unlike traditional aid agencies, which often maintain a large workforce in headquarters and country offices, DFIs are generally headquartered in donor capitals with minimal in-country presence and rely on small teams to manage sizeable portfolios. In 2023, for example, the U.S. Development Finance Corporation (DFC) employed just 681 staff, compared to nearly 10,000 at USAID, despite managing a financing volume equivalent to 50 percent of USAID's (DFC 2024). Like the DFC, European bilateral DFIs such as BII, Proparco, and FMO each manage multi-billion dollar portfolios. Their staff numbers remain low however, in the hundreds and spreading across investment, risk, legal, and compliance functions. This leaves limited capacity for the time-intensive work of market screening, pipeline development, and on-the-ground due diligence that identifying viable investments in frontier markets requires.

3 ODA and the Subnational Allocation of DFI Investment

National development finance institutions (DFIs) face substantial information problems when investing in the Global South. To identify viable investees and make sound investment decisions, they must assess not only commercial prospects, but also the local political, regulatory, and implementation environments in which those projects will operate. These informational problems are particularly pertinent at the subnational level. At the subnational level, reliable information about investee credibility, local institutions, bureaucratic constraints, and development needs should be costly to obtain and even more difficult to verify. We argue that traditional aid agencies with their long-standing local presence, sectoral expertise, and relationships with local actors help reduce this uncertainty at the subnational level. In doing so, they influence where DFI investment goes within recipient countries. Recognizing this information function, donor governments have increasingly established mechanisms for inter-agency coordination that encourage aid agencies and DFIs to interact

as well as share information about investment and development relevant knowledge.

Traditional aid agencies generate highly valuable information through their local presence and aid operations. Because they implement projects, work with local implementation partners, monitor project implementation, and engage with public authorities, they accumulate locally embedded knowledge about political and regulatory risk. They also have information on the credibility of counterpart institutions and bureaucratic investment constraints. They know when working in certain places is feasible and understand the broader development needs and constraints of local economies. We do not argue that aid agencies provide DFIs with all forms of information relevant to investment decisions such as, for example, a market analysis that aims to identify specific firms as potential investees. However, over time traditional aid agencies have increasingly supported projects that target private sector development (Brazys 2025). Through these sector-specific activities, aid agencies acquire information not only about local development needs, but also about the institutional, regulatory, and sectoral conditions that make private investment more or less feasible.

They also generate investment-relevant knowledge through aid-granting processes that hire local firms in both hard and soft aid sectors. Recent efforts to promote local ownership have expanded the pool of domestic firms competing for development contracts, while contract monitoring systems track their performance. For example, between 2008 and 2016, USAID awarded USD 13 billion in contracts, many of which were awarded to local private suppliers (Harris 2023). Because contracting requires detailed objectives and deliverables, aid agencies must develop a closer understanding of local market conditions, firms, and their operations (Pfanner 2025, 4). These activities allow them to actively map the organization of the private sector in developing countries and identify its development needs and constraints. This type of information can help DFIs evaluate where investment is more likely to be implemented successfully and where it may generate positive developmental impact.

Traditional aid agencies are especially relevant information providers for DFIs because they maintain a sustained on-the-ground presence that other donor institutions often lack. Compared with foreign ministries, embassies, or donor business associations, aid agencies typically possess more detailed knowledge of local implementation environments. Aid

officials interact regularly with public agencies, civil society organizations, development contractors, and, when contracting out projects, with firms operating in funded sectors. Through these engagements, aid officials learn which regions or communities are administratively accessible. They also learn about which local actors are reliable, which sectors pose difficulties, and where, in the past, aid projects encountered difficulties or succeeded. In short, agencies produce operational knowledge about recipient regions that is highly relevant for DFI investment decision-making.

Why would traditional aid agencies share all this information? Scholars of bureaucratic politics might argue that aid agencies are unlikely to share information because of inter-agency competition, which can create incentives for withholding information (Kilby 2011). One important reason why we would expect coordination between agencies is institutional complementarity. National DFIs and aid agencies are typically part of the same donor state apparatus and are, increasingly, expected to work together to advance broader development objectives. Author interviews with officials from aid agencies reveal that they are inclined to share information with DFIs because successful DFI investments can also advance the aid agencies' own development objectives, demonstrate policy relevance, and strengthen their influence over the broader donor strategy (Carcelli 2024).

Moreover, aid agencies understand that scaling up private sector capacity requires financing that they cannot offer. While they extend grants, firms need sizable equity or direct investment. Financial institutions such as local banks or microfinance providers require loan guarantees to expand their lending. Such financing, tailored to private sector needs, falls in the remit of DFIs. This complementarity suggests that aid agencies have incentives to share their information and knowledge and coordinate with DFIs even when their mandates differ.

The sharing of information can occur in several ways. It may be informal, through personal networks, consultations, project referrals, and repeated interactions between aid officials and DFI staff. It may also be formal where donor governments coordinate information flow through regular and scheduled inter-agency meetings and working groups. At times, donors have specific bureaucratic units that are set up to promote exchange between

traditional aid with DFI investments. In both cases, the mechanism is the same: prior ODA engagement in a given region generates knowledge, contacts, and implementation experience that reduce information problems for DFIs that want to invest in developing countries.

Our argument implies that ODA shapes the subnational allocation of DFI investment within recipient countries. Where a donor has already implemented aid activities, it is more likely to possess locally-embedded information relevant to subsequent DFI investment decisions. We therefore expect national DFIs to be more likely to invest in regions where the same donor has previously supported ODA projects.

> **Hypothesis:** *Regions with a greater presence of Official Development Assistance (ODA) will also be more likely to receive Development Finance Institution (DFI) investment*

4 Data

To evaluate whether traditional ODA predicts investments by national DFIs, we draw on three main sources: an original dataset of DFI investment projects dating back to the 1970s, a commercial database of private companies worldwide, and the Geocoded Official Development Assistance Dataset (GODAD) (Bomprezzi et al. 2025a). This section describes the data sources and the procedures used to construct the variables for our analysis.

4.1 DFI Investments

To capture the timing, scale, and location of DFI activities, we use an original, work-in-progress global dataset of investment-level projects undertaken by national DFIs in developing countries. The dataset covers 7,248 individual investments financed by 12 DFIs from 12 traditional donor countries between 1970 and 2024. These DFIs are: the Austrian Development Bank (OeEB, Austria); the Belgian Investment Company for Developing Countries (BIO, Belgium); the German Investment Corporation (DEG, Germany); British International Investment (BII, United Kingdom); the U.S. International Development Finance Corporation (DFC, United States); the Finnish Fund for Industrial Cooperation (Finnfund, Finland);

the Dutch Entrepreneurial Development Bank (FMO, Netherlands); the Investment Fund for Developing Countries (IFU, Denmark); the Norwegian Investment Fund for Developing Countries (Norfund, Norway); the French Development Finance Institution (Proparco, France); Swedfund International (Swedfund, Sweden); and the Swiss Investment Fund for Emerging Markets (SIFEM, Switzerland). All twelve are government-backed institutions from high-income donor countries, primarily mandated to promote private-sector development in lower- and middle-income economies.

The dataset records, for each investment, the donor country, recipient country, investee name, year of commitment, and committed amount. To construct the time–series cross-sectional dataset, we identified unique investments through systematic searches of DFI annual reports and official websites. Each investment was coded independently by two separate teams, following detailed coding protocols. Coders extracted investment-level information from donor websites, press releases, annual reports, and—when available—internal project databases, supplementing these with third-party sources such as investee websites, national news outlets, and specialized industry platforms. For U.S. investments approved between 2000 and 2019, we incorporated data from the Center for Global Development (CGD), cross-checking all entries against our own sources. Discrepancies between sources were resolved through clarification and triangulation with CGD, while disagreements between coders were adjudicated by a senior member of the research team.

Our empirical analysis primarily focuses on the extensive margin of DFI activity—whether a DFI is present in a given region–year. Commitment data are nevertheless collected in full to allow examination of the intensive margin in supplementary analyses.[7] All financial amounts are expressed in constant 2015 U.S. dollars. We first converted all commitments to U.S. dollars using annual exchange rates from the Bank for International Settlements (BIS 2025), and then adjusted for inflation using the U.S. GDP deflator from the World Bank's World Development Indicators with 2015 as a base year.

We subsequently match the DFI investment dataset with firm-level data from Orbis (Moody's 2024), a commercial database compiling information from government and pri-

7. In robustness checks, we replace the binary presence indicator with the number or total value of DFI projects in a region–year to examine the intensive margin.

vate sources on over 550 million entities worldwide. In the first step, we match DFI investee names with firm names in Orbis. For cases without an exact match or where multiple potential matches appeared, we manually confirm the correct match by cross-referencing DFI project documentation and specialist platforms such as PitchBook. This procedure yields 4,696 investments associated with 2,379 unique investees in Orbis, out of the 7,248 total investments in our dataset.[8]

4.2 Geolocating DFI Investments

After combining the project-level DFI investment data with firm-level information from Orbis, we identify the location of each matched investee. We begin by extracting geographic coordinates from Orbis address data, which typically include the country, city, and up to four address lines. The completeness of this information varies: at least city and country are available for approximately 82% of firms, at least one address line for 4,542 firms (≈ 79%), and direct latitude–longitude coordinates for 1,169 firms (≈ 20%).

To maximize geolocation accuracy, we construct search strings from the available address components and cross-validate across three configurations. The `Full` configuration includes all available address lines, the city, and the country. The `City` configuration uses only the city and country. The `Low` configuration combines the lowest-level address line available—such as address line 4 if all four are present—with the city and country.[9]

We geocode these search strings using the *Nominatim* algorithm,[10] which queries OpenStreetMap data.[11]

8. Of these 2,379 investees, 593 received more than one investment (see Figure B.1). Coverage varies across donors (Figures B.2 and B.5), but the match rate is roughly similar across all donors. Orbis also provides information on firms' sectors, business activities, and, when available, balance sheet data from national business registers (Figure B.3).

9. For example, if all four address lines are available, the `Low` configuration uses only address line 4.

10. https://nominatim.org/release-docs/develop/

11. Implementation is carried out using the *tidygeocoder* package in R.

4.3 Mapping Coordinates to ADM1/ADM2

For each firm in the Orbis address data, we obtain up to four sets of geographic coordinates using different geocoding strategies.[12] Each coordinate set is mapped to ADM1- and ADM2-level administrative units using Version 3.6 of the Database of Global Administrative Areas (GADM). ADM1 and ADM2 correspond to first- and second-order subnational units (e.g., provinces/states and districts/counties), and are designed to provide consistent administrative units across countries.[13] Because administrative hierarchies differ across countries, the number and geographic size of ADM1 and ADM2 units vary substantially.[14] This yields up to four potential ADM1/ADM2 assignments per firm, allowing us to cross-check results and identify the most accurate location.

To assess baseline accuracy, we compare the ADM1/ADM2 units derived from string-based geocoding against those obtained directly from Orbis coordinates for firms where both are available. Across configurations, matches are correct in 93.6–98.2% of cases at the ADM1 level and 91.2–96.5% at the ADM2 level, indicating high reliability.

We then assign each firm to a final ADM1/ADM2 unit using a structured decision process. First, if raw Orbis coordinates are available, we use the ADM unit derived from them. Second, if raw coordinates are unavailable but all geocoding strategies return the same unit, we assign that unit. Third, if results conflict, we apply a majority rule—assigning the location returned by two of the three strategies. If all three differ, the ADM unit is coded as missing. Using this procedure, we successfully identify ADM1 units for 3,777 investees (about 80.4% of matched firms) and ADM2 units for 3,294 investees (about 70.1%).

We note that Orbis coverage is uneven in ways that can affect representativeness.[15] Orbis tends to over-represent larger, older, and more productive firms (Bajgar et al. 2020). Firm address is also more likely to be available for firms with more detailed administrative records, which may tilt geocoded matches toward urban areas and higher-capacity localities. In addition, Orbis exhibits survivorship bias because recent data vintages exclude firms that have

12. These include the raw coordinates provided by Orbis and those generated from the three search string configurations: `Full`, `City`, and `Low`.
13. See https://gadm.org/index.html.
14. See Appendix Section A for ADM1- and ADM2-level summary statistics.
15. We would like to thank an anonymous reviewer for calling attention to this important issue.

ceased operating or stopped reporting for extended periods (Kalemli-Özcan et al. 2024). Indeed, the share of DFI projects successfully linked to Orbis is higher in more recent years (Figure B.4). At the same time, match rates are broadly even geographically, alleviating concerns that the matched sample is concentrated in a few regions or countries with high administrative capacity. Excluding countries with fewer than 5 DFI projects, the match rate distribution is bell-shaped with a mean of 63.9% (median 64.7%), and we do not observe a strong association between a recipient country's economic size and either the number of identified DFI projects or the likelihood of a successful match (Figure B.6).

4.4 Merge DFI Data with GODAD Data

In the final step, we merge the matched and geocoded DFI investment data with the GODAD dataset (Bomprezzi et al. 2025b). GODAD provides subnational location information for ODA activities reported by traditional donors to the OECD Creditor Reporting System (CRS), covering 19 bilateral donors—including European providers and the United States—from 1973 to 2020. Geographic coordinates are extracted using Natural Language Processing (NLP) applied to project descriptions in the CRS.

We match DFI and ODA observations at both the donor–recipient ADM1–year and donor–recipient ADM2–year levels. Because DFI coverage is sparse before 2000, the empirical analysis is limited to 2000–2020. For GODAD observations without a corresponding DFI investment, the dependent variable is coded as zero.

5 Research Design

Our empirical strategy directly tests whether subnational ODA activity from a bilateral donor increases the likelihood that the same donor's DFI invests in that region. Consistent with our theoretical focus on the extensive margin of DFI activity, we estimate the probability of DFI presence at the regional level as a function of ODA exposure.

5.1 Outcome and Independent Variables

The dependent variable, `DFI Dummy`, is a binary indicator equal to 1 if a DFI project from donor j is present in region r of recipient country c in year t, and 0 otherwise. This specification captures the *extensive margin* of investment—where DFIs choose to enter—rather than the amount they invest once present.[16]

The key independent variable is ODA from donor j to in region r of recipient country c in the preceding year *t-1*, measured at the ADM1 or ADM2 level. Throughout the analysis, ODA is defined at the donor–region–year level and is explicitly matched to investment decisions made by the same donor's Development Finance Institution (DFI). We operationalize donor-matched ODA exposure using three alternative measures:

1. `ODA dummy`$_{jrct-1}$: a binary indicator equal to one if donor j undertook any ODA activity in region r of country c in year $t-1$, and zero otherwise;
2. `ODA count (log)`$_{jrct-1}$: the natural logarithm of the number of ODA projects implemented by donor j in region r of country c in year $t-1$;
3. `ODA commitment (log)`$_{jrct-1}$: the natural logarithm of total ODA commitments by donor j to region r of country c in year $t-1$, measured in constant USD.[17]

These three measures capture distinct dimensions of the informational mechanism that we theorize. The ODA binary measure captures whether a donor has any subnational presence or local foothold in a region-year from which information can be generated. The logged number of ODA projects captures the density and repetition of donor engagement which should strengthen information and cumulative learning about local partners, implementation conditions, and political or regulatory risks. The logged value of ODA commitments then captures the depth of donor involvement, which is more likely to correspond with broader stakeholder engagement, and more intensive information production. These three measures allow us to asses whether DFI investment responds only to donor presence or also to more intensive forms of subnational ODA engagement.

16. In Section 6.3, we complement this focus by examining the *intensive margin* in robustness checks, using the number and total value of projects as alternative dependent variables.

17. For the logged count and commitment measures, we add 1 to the raw values before taking the logarithm.

A challenge with interpreting ODA-DFI relationship is that ODA could affect *measurement* rather than investment behavior by changing the likelihood that DFI investees can be found in Orbis. If ODA systematically improves the visibility or documentation of firms in treated regions, this could mechanically strengthen the observed ODA–DFI association even in the absence of knowledge generation and sharing. We view this risk as limited for four reasons. First, Orbis coverage tends to be more complete for larger and more formal firms and for locations with stronger administrative capacity, whereas ODA often targets comparatively under-served areas; this pattern would more plausibly attenuate rather than inflate estimated effects. Second, local ODA projects are unlikely to drastically improve regional, let alone national administrative capacity, Third, any hidden capacity-building channel that meaningfully alters firm registration, reporting, or geocoding is unlikely to materialize within the short lag structure used in the main analysis. Fourth and finally, we explicitly account for these pathways in our design, as detailed below and in Appendix Section C.

5.2 Control Variables

Our empirical models include several covariates to account for sub-national socio-economic and political conditions that may confound the allocation of DFI investments. These controls help mitigate omitted variable bias by capturing underlying regional characteristics that could independently influence both donor behavior and investment patterns.

To address the possibility that co-location mechanically raise the probability of spatial overlap between ODA and DFI even under independent allocation, we control for the number of ODA projects and the number of DFI projects implemented by a donor in a given recipient country at a given time. Conditioning on these counts absorbs variation arising from a growing density of development finance operations.

To proxy for local economic development and regional size, we control for the logarithm of nighttime light intensity and total population, both measured at the corresponding ADM1 or ADM2 levels depending on the unit of analysis. Both variables are drawn from the GLocal dataset (Morales-Arilla and Gadgin Matha 2024), which harmonizes geospatial

data at subnational administrative levels across countries. Due to temporal variation in data availability, we use the DMSP Stable Lights dataset (`dmsp_stable_lights`) through 2013 and the Extended DMSP series (`ntl_dmsp_ext`) from 2014 onward. To ensure comparability over time, we normalize the two measures using data from 2013—the only year in which both are available—scaling the latter to maintain consistency across time.[18] The DMSP data are produced by the Earth Observation Group and are derived from the U.S. Air Force's Defense Meteorological Satellite Program, which captures low-resolution visible and infrared imagery to proxy local infrastructure and human activity.[19]

Population data come from NASA's Socioeconomic Data and Applications Center (SEDAC) and reflect estimates of population distribution at a 30 arc-second resolution.[20] Since these data are only available at five-year intervals, we apply linear interpolation to construct annual estimates. Both nighttime lights and population rasters are aggregated to ADM1/ADM2 regions using zonal statistics, as implemented in the GLocal dataset.

Finally, to account for potential political favoritism, we include an indicator equal to one if the region is the birthplace of the country's national leader. This variable comes from the Political Leaders' Affiliation Database (PLAD), which provides geocoded information on leaders' birthplaces and ethnic backgrounds, as well as biographical details such as tenure and education (Bomprezzi et al. 2025a).[21] PLAD is compiled through structured online searches drawing on sources including the CIA World Factbook, Encyclopaedia Britannica, Munzinger, Ethnicity of Celebs, and major news outlets such as BBC News, The Guardian, and The Washington Post.

To address simultaneity and reverse causality concerns, we lag all time-varying covariates by one year. In Section 6.3, we test the robustness of our results to additional sets of controls, including governance quality, environmental conditions, and geographic characteristics, as well as to alternative lag specifications of the dependent variable.

18. Normalization is not performed in cases where either measure is missing or takes a value of zero.
19. See https://eogdata.mines.edu/products/dmsp/
20. https://www.earthdata.nasa.gov/data/tools/sedac-population-estimator
21. https://plad.uni-goettingen.de/data/

5.3 Sample

The empirical analysis covers up to 145 recipient countries, 2,611 ADM1 regions, and 33,060 ADM2 regions over the period 2000–2020. We exclude countries that joined the OECD Development Assistance Committee (DAC) prior to 2020 from the recipient pool to maintain a consistent set of developing-country recipients. The unit of observation is a donor–recipient country–region–year dyad at either the ADM1 or ADM2 level.

The sample is unbalanced, as both the spatial coverage of ODA in the GODAD dataset and the availability of geocoded DFI investments vary across donors, recipients, and years. While the GODAD data extend back to 1973, we restrict the analysis to the 2000–2020 period to align with the coverage and quality of the geocoded DFI data. At both ADM1 and ADM2 levels, the data contain a large proportion of zeros in the dependent variable, reflecting the fact that most regions receive no DFI investment in a given year. This sparsity motivates our focus on the extensive margin of investment in the baseline analysis.

5.4 Estimation Strategy

A central empirical challenge in interpreting the relationship between subnational ODA and DFI investment is endogeneity. ODA and DFI activity may co-move in response to unobserved, time-varying local factors such as emerging business opportunities or political and regulatory change. There is also a risk of simultaneity or reverse causality if aid programming and investment planning respond to shared forward-looking signals. Our strategy does not claim to fully eliminate these concerns but instead adopts a research design that substantially narrows the scope for alternative explanations.

Our baseline specification estimates the relationship between subnational ODA activity and the likelihood of DFI investment using ordinary least squares (OLS) with high-dimensional fixed effects:

$$\texttt{DFI Dummy}_{jrct} = \beta \text{ODA}_{jrct-1} + \boldsymbol{\gamma} \boldsymbol{X}_{rct-1} + \mu_{jt} + \theta_{jr}\lambda_{ct} + \epsilon_{jrct}$$

Here, $\texttt{DFI}_{jrct}$ is a binary indicator equal to one if donor j's DFI invests in region r of

country c in year t, and zero otherwise. ODA_{jrct-1} denotes one of the three ODA measures described in Section 5.1, and $\boldsymbol{X}_{rct-1}$ is the vector of baseline controls described in Section 5.2. To mitigate simultaneity and reverse causality concerns, we lag all time-varying explanatory variables and covariates by one year. Lagging ODA ensures that aid exposure temporally precedes observed DFI entry and aligns with our theoretical claim that information generated through ODA affects investment decisions with a delay.

To address omitted variable bias, we include a tight fixed effects structure. Donor-year fixed effects (μ_{jt}) absorb time-varying shocks to a donor's global development finance portfolio in a given year, while recipient-year fixed effects (λ_{ct}) capture national-level changes in the recipient—such as macroeconomic shifts or political events—that affect all regions equally. We additionally include donor–region fixed effects (ϕ_{jr}), defined at the same administrative level as the unit of analysis—donor-ADM1 fixed effects in ADM1-level regressions and donor-ADM2 fixed effects in ADM2-level regressions. These fixed effects absorb all time-invariant, pair-specific factors shaping a donor's baseline propensity to operate in a given subnational unit, such as historical ties or institutional familiarity. Identification therefore comes from comparing changes in lagged ODA exposure to changes in the likelihood of subsequent DFI investment within donor–region pairs over time, net of donor-wide, country-wide, and time-invariant donor–region characteristics. While this approach cannot fully rule out all sources of endogeneity, it provides a conservative and transparent basis for studying whether observed patterns are consistent with the informational mechanism we theorize.

We cluster standard errors at the recipient-country level and evaluate alternative clustering schemes and fixed effects such as donor–recipient or region–year fixed effects in Section 6.3. We do not include these in the baseline because, given the rarity of DFI investments, most identifying variation arises from cross-regional differences within a country–year. Adding all of these fixed effects simultaneously would absorb much of this variation, leaving limited scope to estimate the relationship of interest.

6 Results

6.1 Baseline Results

The baseline results support our core hypothesis: regions with higher levels of traditional ODA activity are significantly more likely to receive DFI investment. Table 1 reports OLS estimates using alternative operationalizations of ODA at both the ADM1 and ADM2 levels. Across all specifications, the coefficient on ODA is positive and statistically significant at conventional levels. The magnitude and consistency of these effects indicate that regions with greater engagement from traditional aid donors are systematically more likely to attract investment from development finance institutions.

Table 1: Official Development Finance and DFI Investment, 2000-2020

	DFI Dummy					
Region	ADM1			ADM2		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	0.0007^{+}			0.0008***		
	(0.0004)			(0.0002)		
ODA Count t-1 (log)		0.0029***			0.0024***	
		(0.0006)			(0.0005)	
ODA Commitment t-1 (log)			0.0002***			0.0002***
			(0.0001)			(0.0000)
Population t-1 (log)	0.0026	0.0025	0.0025	0.0002	0.0002	0.0002
	(0.0017)	(0.0017)	(0.0017)	(0.0001)	(0.0001)	(0.0001)
Nighttime Light t-1 (log)	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0000	0.0000	0.0000
	(0.0016)	(0.0016)	(0.0016)	(0.0000)	(0.0000)	(0.0000)
Leader Birthplace	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0022	0.0022	0.0022
	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0047***	-0.0047***	-0.0047***	-0.0003***	-0.0003***	-0.0003***
	(0.0007)	(0.0007)	(0.0007)	(0.0001)	(0.0001)	(0.0001)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,399	2,399	2,399
# Donor-Region	32,256	32,256	32,256	427,320	427,320	427,320
Observations	632,976	632,976	632,976	8,533,884	8,533,884	8,533,884
R^2	0.20938	0.20963	0.20955	0.15712	0.15732	0.15727
Adjusted R^2	0.16266	0.16293	0.16284	0.11240	0.11261	0.11256

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

While the estimated coefficients may appear modest in absolute terms, their substantive significance becomes clearer when placed in context. The unconditional probability of any DFI investment is just 0.177% at the ADM1 level and 0.0114% at the ADM2 level, or 17.7 and 1.14 DFI allocations per 10,000 region–years, respectively. Using the coefficients from columns (1) and (4), having at least one ODA project in the prior year is associated with a 0.07 percentage point increase in the likelihood of DFI allocation at the ADM1 level and a 0.08

percentage point increase at the ADM2 level. Although these changes are small in absolute terms, they represent an increase of roughly 40% at ADM1 and 700% at ADM2 relative to the baseline probabilities, indicating a substantively meaningful association between prior ODA engagement and subsequent DFI investment. In per-10,000 terms, this corresponds to about 7 additional investments per 10,000 (rising from 17.7 to 24.7) at the ADM1 level and about 8 additional investments (rising from 1.14 to 9.14) at the ADM2 level.

Similarly, the coefficients in columns (2) and (5) suggest that a one-unit increase in logged ODA project counts (i.e., roughly a 2.7-fold increase in raw counts) is associated with a 0.29 percentage point increase in the likelihood of DFI allocation at the ADM1 level and a 0.24 percentage point increase at the ADM2 level. These effect sizes correspond to about 29 additional DFI allocations at the ADM1 level (to 46.7) and about 24 additional DFI allocations at the ADM2 level (to 25.14) per 10,000 region-years.[22]

Finally, based on columns (3) and (6), a one-unit increase in logged ODA commitments is associated with a 0.02 percentage point increase in the likelihood of DFI allocation at both the ADM1 and ADM2 levels. Relative to the baseline probabilities, these changes correspond to increases of roughly 11% at ADM1 and 175% at ADM2, or about 2 additional DFI allocations per 10,000 region–years at the ADM1 level (rising to 19.7 per 10,000) and about 2 at the ADM2 level (rising to 3.14 per 10,000). The seemingly larger effects at the ADM2 level are driven primarily by the much lower baseline probability of DFI investment at finer spatial scales, which mechanically amplifies relative effect sizes even when absolute changes are comparable across levels.

6.2 Mechanism Analyses

To probe the informational mechanism more directly, we test whether the relationship between prior ODA and subsequent DFI investment is stronger where donors have accumulated more experience in a recipient country (Dreher et al. 2017). The logic is straightforward. If aid shapes DFI allocation by generating locally embedded information that is

22. At the ADM1 level, the mean values of logged ODA count and commitment are 0.12 and 0.84, respectively; at the ADM2 level, the corresponding values are 0.0083 and 0.0579.

accessible to DFIs, then the effect of ODA should be larger where donors have had more time and opportunity to build knowledge, local networks, and implementation experience. To test this expectation we interact our ODA measures with a measure of donor experience, measured by time since the donor's very first project in the region. Figure 2 presents the interaction effects.[23]. Our findings are consistent with our expectation. The interaction between prior ODA and donor experience is positive and statistically significant, indicating that the association between ODA and DFI investment is stronger in contexts where the donor has a deeper history of engagement. This evidence provides evidence that is consistent with the informational mechanism that we propose. The pattern is in line with the argument that ODA facilitates DFI investment in part by generating cumulative, location-specific information that becomes more valuable as donor presence deepens over time.

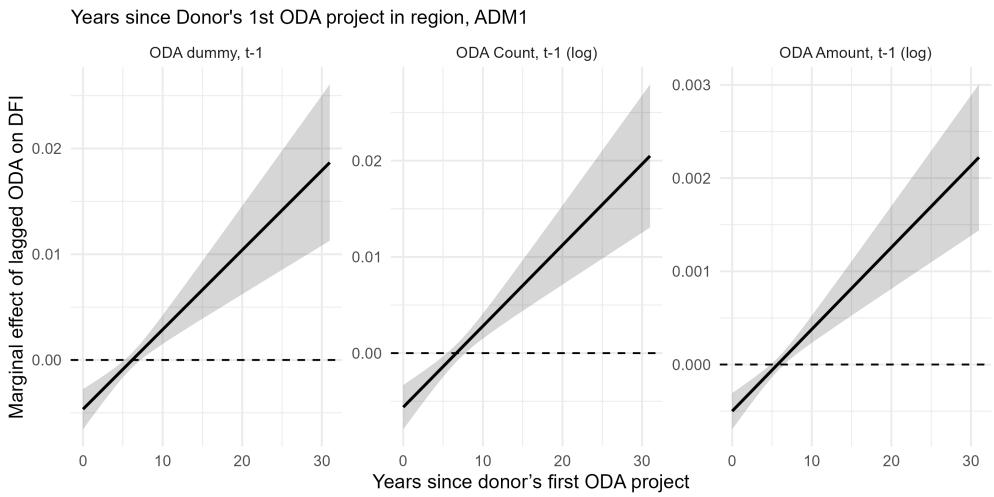
We further probe the relationship between ODA and DFI investments by disaggregating ODA by sector to examine whether the association varies across policy domains. While we do not expect inter-agency coordination itself to differ systematically by sector, DFIs may be more exposed to ODA in "hard" sectors where they are more active, particularly economic infrastructure and production sectors. At the same time, aid agencies also channel ODA toward "softer" sectors such as social infrastructure and services, often through public-private partnership in health, education, water, and sanitation, where they monitor or engage with private actors.[24]

The GODAD data classifies ODA projects into four categories: Economic Infrastructure and Services, Production Sectors, Social Infrastructure and Services, and Other Sectors. We further collapse the first two categories into a "hard" sector and the latter two into a "soft" sector. Re-estimating the main specification by including each sector-specific ODA variable separately, reveal a striking degree of similarity across sectors (Figure 3). ODA in both sectors is positively and significantly associated with DFI investment at both the ADM1 and ADM2 levels, with only modest differences in the magnitude of estimated effects. This suggests that the informational role of ODA operates broadly across sectoral lines, rather

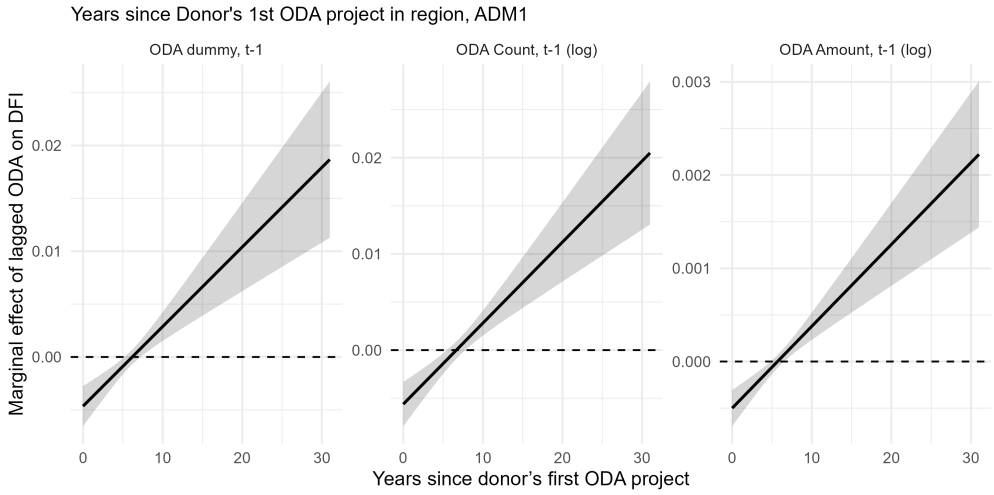
23. The corresponding regression table is included in Section C.1 of the Appendix

24. On the distinction between development finance in "hard"and "soft" sectors, see, e.g., Qian et al. (2023), Qian et al. (2025), and Zeitz (2021)

Figure 2: Marginal effects of ODA by time in region, ADM1.



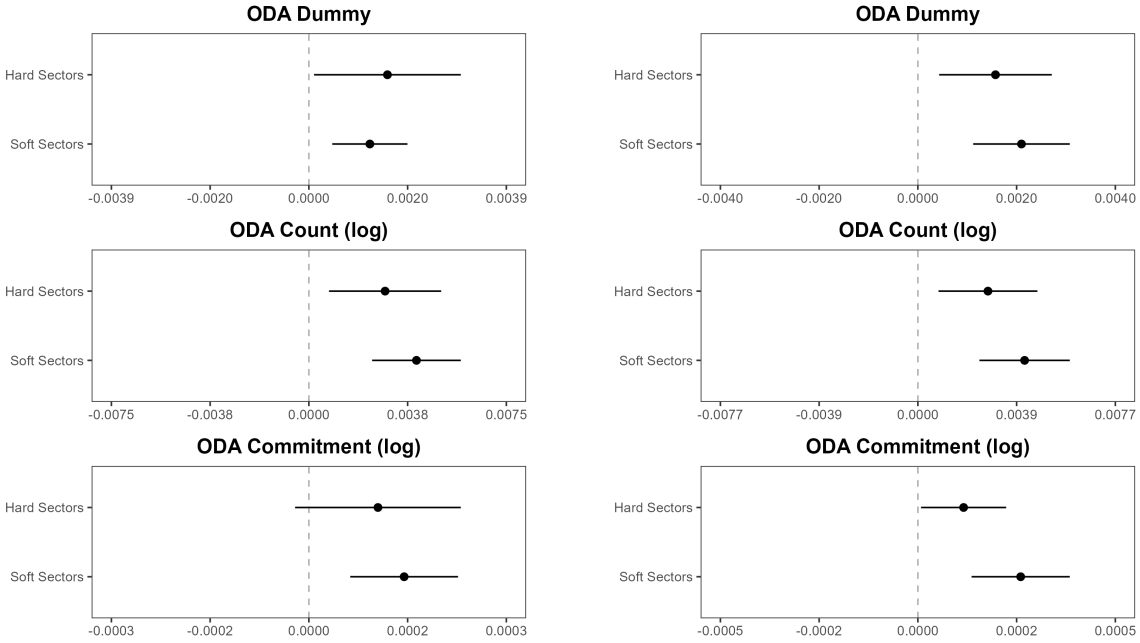
(a) ADM1



(b) ADM2

Note: Full regression results are available in Appendix Table C.1.

Figure 3: Official Development Finance by Sector and DFI Investment



(a) ADM1 (b) ADM2

Note: Coefficient estimates with 95% confidence intervals from regressions of DFI presence on ODA measures at the ADM1 (a) and ADM2 (b) levels, based on individual data subsets separated by time period. All models include donor–year, recipient–year, and donor–region fixed effects and baseline controls; standard errors are clustered at the recipient-country level.

than being confined to commercially oriented or infrastructure-focused domains.[25]

6.3 Robustness

We conduct several robustness checks to assess the stability of our core finding—the positive association between subnational ODA activity and subsequent DFI investment—and to probe remaining causal inference concerns. Across alternative lag structures, fixed-effects specifications, and estimators, the substantive pattern remains stable. These results support a cautious interpretation consistent with the informational mechanism we propose. First, we test whether our results are sensitive to alternative strategies for clustering standard errors. While the baseline specification clusters at the recipient-country level, we re-estimate the models using five alternative clustering schemes: (1) region level; (2) recipient country

25. In Appendix Figure C.1, we show results from models including all four sectoral ODA variables simultaneously, before aggregation.

and year; (3) region and year; (4) region and recipient country-year, and (5) donor-recipient country. As shown in Appendix Section C.3, the results remain robust across most specificationss (Cameron et al. 2011).

Second, we test robustness to alternative fixed-effect specifications. Beyond the baseline, which includes donor-year, recipient-year, and donor-region fixed effects, we estimate models using various combinations of donor, recipient, year, donor-year, recipient-year, donor-recipient, donor-region, and region-year fixed effects to account for alternative forms of unobserved heterogeneity. As shown in Appendix Section C.4, the ODA–DFI association remains positive and statistically significant in nearly all cases, indicating that the results are not driven by persistent regional characteristics or stable donor–region targeting patterns.

Third, we introduce additional covariates to address potential confounding in the ODA–DFI relationship. We sequentially add three sets of controls. The first captures environmental conditions, including average precipitation (log), from the Global Precipitation Climatology Centre (GPCC), and average daily temperature, from the Climate Research Unit (CRU) at the University of East Anglia, as well as exposure to natural disasters measured at the region–year level using the Centre for Research on the Epidemiology of Disasters' EM-DAT International Disaster Database. The second set includes governance and stability indicators, namely subnational corruption from the Global Data Lab's Subnational Corruption Database (SCD), aggregated to ADM1 or ADM2 boundaries using population-weighted averages (Crombach and Smits 2024), the occurrence of coercion or protest events from the GDELT Project, and the incidence of violent conflict at the country–year level from the Armed Conflict Location and Event Data Project (ACLED). The third set captures geographic and economic characteristics, including the presence of capital cities, land borders, ports, road density, and mineral deposits, drawn from the GLocal database (Morales-Arilla and Gadgin Matha 2024). As shown in Tables C.6 and C.7, ODA measures remain positive and statistically significant across all specifications at both the ADM1 and ADM2 levels.

Fourth, we examine the sensitivity of our results to alternative lag structures of the ex-

planatory variables. If the observed results reflected short-lived local changes, anticipatory aid programming, or other transient factors unrelated to the mechanism we theorize, the relationship would be expected to attenuate quickly with longer lags. Instead, replacing one-year lags with two- and three-year lags yields substantively similar estimates. This pattern is consistent with the view that information generated through ODA accumulates and shapes DFI investment decisions over multiple periods rather than occurring instantaneously or within a narrow time window (see Appendix Section C.9).

Fifth, we assess whether our results are driven by spatial spillovers. ODA or DFI activity in one region may affect investment decisions in neighboring regions, for example through information diffusion across administrative boundaries, or through the creation or improvement of infrastructures that span regional borders (e.g., transport corridors, power grids, trade networks, etc.). While such spillovers would not necessarily contradict our theoretical framework, we nonetheless examine their extent and whether they attenuate the estimated local effect of ODA. To do so, we construct two additional measures of spatial ODA exposure: an indicator for whether any contiguous neighboring region received ODA in $t-1$, and the logged count of ODA projects in neighboring regions in $t-1$. We construct analogous measures for neighboring DFI activity to account for potential DFI–DFI spatial externalities. As shown in Appendix Section C.8, we find potential but inconsistent evidence of positive spatial spillovers. Importantly, including these variables does not materially affect the magnitude or statistical significance of the main ODA coefficients.

Sixth, we assess whether our results are driven by any single donor. We conduct two sets of analyses: first, estimating the baseline models separately for each of the 12 donor countries, and second, re-estimating the models while sequentially excluding one donor at a time. In the one-donor subsamples, the estimated effects are similar in magnitude to the baseline but are not statistically significant for some donors due to the sharply reduced sample size (Table C.9). The results are most stable for donors with greater representation in the data, such as the United States, Germany, and the Netherlands (Figure B.5). When donors are excluded one at a time, all but one of the resulting 72 estimates retain both their

sign and statistical significance (Table C.10).

While our main analysis centers on the extensive margin—whether a region receives any DFI investment—we also examine the intensive margin, measured by the number and total value of DFI projects. Table C.8 presents results using these alternative dependent variables alongside our baseline specification. The estimated coefficients are similar in sign and magnitude to the baseline, but when both dependent and independent variables are in logs (project count or amount), the implied effect sizes are small. This suggests that ODA is more strongly associated with the likelihood of any investment than with the scale of investment once it occurs.

To further distinguish between these margins, we estimate two-step hurdle models (Tables C.15–C.16). The first stage ("zero model") uses a binomial specification to estimate the probability of any DFI investment, while the second stage ("positive model") estimates the logged count or amount of investment conditional on at least one project. This approach explicitly separates the decision to enter a region from the decision on how much to invest—processes that may be shaped by different factors. As an additional benefit, it also provides a robustness test of our findings' sensitivity to our data's sparse, zero-heavy structure (King and Zeng 2001; Feng 2021).[26] The models include donor-recipient rather than donor-region fixed effects to absorb time-invariant bilateral propensities that shape whether a donor's DFI operates in a given country in the first place, such as diplomatic relationships, regulatory familiarity, and persistent risk perceptions. This choice matches the hurdle structure: the first-stage "entry" decision is plausibly made at the donor–country level, while donor–year and recipient–year fixed effects already net out donor-wide and country-wide shocks. In a sparse, zero-inflated setting, donor–recipient fixed effects also provide a more stable way to control for unobserved selection than donor–region fixed effects, which can

26. Fixed-effects logit models report a smaller effective sample size because only within–fixed-effect variation identifies the coefficients. This does not weaken the credibility of the baseline linear fixed-effects estimates, which rely on the same identifying variation: observations in fixed-effect cells with no outcome variation contribute no identifying information under the within transformation (Wooldridge 2010; Timoneda 2021). The larger raw sample size in linear models reflects statistical bookkeeping rather than additional information. Accordingly, our original linear fixed-effects estimates already address concerns about sparsity, while the nonlinear and rare-events specifications serve as robustness checks rather than corrective substitutes.

be too granular given the rarity of DFI investments and leave limited within-pair variation for the entry equation. Consistent with the alternative dependent variable results, ODA measures are strongly predictive in the zero model but less robust in the positive model, which indicate that ODA's informational role operates mainly through influencing where DFIs invest rather than how much they commit once active.

To further test our results' robustness to sparsity, we explore another modeling strategy. Specifically, we estimate rare-events logit models following (King and Zeng 2001) for the entry outcome, using the same fixed-effects structure (donor–year, recipient–year, and donor–recipient) and the same clustering scheme for standard errors as the hurdle models. The rare-events procedure applies an analytic correction to the logit coefficient estimates to mitigate small-sample bias; because we estimate on the full universe rather than a case-control sample, we do not require the separate base-rate (prior) correction, and we focus on coefficient inference rather than probability calibration (King and Zeng 2001). The corrected estimates support the main findings (see Table C.17), and provides further evidence that the association we document is not an artifact of the extreme rarity of ODA and DFI projects (King and Zeng 2001).

7 Probing the Mechanism: Coordination for Information Sharing

The quantitative analysis shows a robust association between prior ODA presence and subsequent DFI investment. To probe the plausibility of the proposed mechanism, we examine how information-sharing between aid agencies and DFIs is organized in practice. Our objective is to assess whether donor systems exhibit the institutional arrangements, information flows, and bureaucratic complementarities implied by our argument.

Following Dörfler and Heinzel (2023), we use pathway cases to examine whether aid agencies generate and share investment-relevant information with DFIs through inter-agency coordination. We draw on organizational and policy documents, secondary literature, and

in-depth interviews with aid and DFI officials in Germany and France. For the United States, interviews were not feasible due to the current political climate. We thus rely on documentary evidence. In Section D of the Appendix we further describe our interview materials following the methodology proposed by Bleich and Pekkanen (2014, 2015).

We treat the United States, France, and Germany as pathway cases that help us probe the plausibility of our argument. All three donors have integrated private sector development into their development cooperation strategies. They also have established forms of coordination between aid agencies and DFIs. At the same time, they differ in bureaucratic structure and the institutional architecture of development cooperation. These differences make it possible to probe whether the mechanism we theorize appears across distinct organizational settings rather than in only one national model.

7.1 The United States

The United States is a relevant case because it has long been one of the donor governments most strongly committed to using development cooperation to promote private sector development in the Global South. Over the years, this commitment has been advanced, on the one hand, through its traditional aid agency, USAID, which has implemented numerous grant-based programs to facilitate business-led growth. On the other hand, and increasingly so over time, the U.S. government relies on its national development finance institution, the Development Finance Corporation (DFC), to support private investment in developing countries through equity, guarantees, and political risk insurance. Before the creation of the DFC in 2018, the United States relied on the Overseas Private Investment Corporation (OPIC).[27]

Although OPIC was embedded within the U.S. development cooperation architecture, for much of its history, its coordination with USAID or other government agencies like the

27. Between its founding in 1971 and 2019, OPIC extended nearly USD 200 billion in investments that would incentivize U.S. and international firms to invest and operate across regions of the Global South that exhibited risks such as currency inconvertibility, expropriation, and political violence (Akhtar 2016, 1, 4). Designed to be financially self-sustaining, OPIC operated largely on its own revenue, generated by fees paid by investees and interest on U.S. Treasury securities.

Millennium Challenge Corporation (MCC) remained limited and largely informal. In its Fiscal Year 2007 Congressional Budget Justification, OPIC highlighted the importance of inter-agency coordination for its investment and committed to aligning its investment pipeline more closely with U.S. development cooperation and foreign policy, more broadly (OPIC 2006, 2). It also indicated support for more formalized arrangements that could identify follow-up financing opportunities linked to existing aid projects by USAID and the MCC. In response to growing concerns amid U.S. officials, OPIC officials increasingly collaborated with their aid agencies' counterparts. OPIC staff consulted with USAID or MCC to identify investment opportunities, but collaboration rarely went beyond informal, ad hoc exchanges. In Malawi, for example, a MCC energy compact created potential openings for OPIC investment. However, OPIC was usually consulted in the last stages of a project lifecycle, limiting the possibilities of exhaustive coordination.

These efforts to foster collaboration among agencies lead to changes in OPIC investment behavior. Our results, disaggregated by period, are statistically significant for the 2008–2013 window, while they remain non-significant for the preceding period (Tables 2 and 3). However, by the late 2000s, U.S. officials increasingly viewed this informal coordination as inefficient, and considered OPIC as being still too insulated from the rest of the bureaucracy (CGD 2020, 3).

To help generate coherent investmnent pipelines, the U.S. Government intensified efforts to formalize through the 2013 Power Africa initiative. Although earlier efforts proved effective in coordinating OPIC with U.S. aid agencies, persistent misalignment across agencies remained (12). For example, while the MCC was creating investment opportunities for OPIC, OPIC financing was only considered as the compact neared completion. Power Africa established the first standing inter-agency coordination platform that regularly brought together high-level officials and technical experts across agencie (The White House 2013). These meetings were designed to exchange information, coordinate projects, and identify investment opportunities. USAID and MCC provided OPIC with information on potential investments, investees, and local operating conditions. USAID was also responsible to

take the lead in shaping the list of priority Power Africa transactions supported by OPIC, across all targeted countries (AfDB 2013, 1). The State Department facilitated contacts with local politicians when political obstacles emerged. In this sense, traditional aid agencies contributed not only project pipelines but also investment-relevant knowledge about local conditions and constraints.

The BUILD Act of 2018 further institutionalized these information flows. The Act created the U.S. Development Finance Corporation (DFC) as a merger of OPIC and the Development Credit Authority (DCA). DCA was the private-sector arm of USAID and was using ODA to provide risk-sharing guarantees to private sector clients. Through the DCA, USAID held substantial information about potential clients and local market conditions useful to the DFC (CSIS 2017). The Build Act also doubled the investment cap of the DFC, from USD 29 billion to USD 60 billion, the Act expanded the DFI's development mandate. Finally, it expanded the DFI's development mandate, requiring it to undertake more investments in low- and lower-middle-income countries (LICs and LMICs),[28] while emphasizing the importance of measurable development impact (CGD 2020, 5).

Recognizing the resulting demands on information in this new institutional context, the BUILD Act established the Development Finance Coordination Group (DFCG), co-chaired by the DFC Chief Development Officer and USAID Administrator. The DFCG had been designed as an interagency technical group to foster collaboration among U.S. aid agencies and the DFC. The group is composed of 16 U.S. government departments and agencies with the ultimate goal of helping the DFC to operationalize inter-agency tools designed to increase the volume and quality of investments, and provide input and identify opportunities for collaboration on its Development adn Sectoral Strategy (DFC 2020, 235). The DFCG was asked to convene officials across U.S. agencies to meet at least four times a year (U.S. Senate 2019). This coordination aims to identify investment opportunities for the DFC and to ensure agency coordination throughout the full lifespan of investments. To ensure continued coordination throughout the full lifespan of investments, the BUILD Act also required

28. While the DFC retained the ability to operate in upper-middle-income countries (UMICs), the Act markedly restricted the types of investments that could be made there.

USAID country missions to appoint DFC liaison officers.

This inter-agency coordination matters because traditional aid agencies like USAID and MCC provide DFC with information on potential investments, sectoral constraints, and local operating conditions. This allows the DFC to screen opportunities more effectively. It also reduces the risk of pursuing investment deals that may be commercially viable on paper but that would be difficult to implement in practice.

Beyond the qualitiative evidence we examine these institutional developments by re-estimating our baseline models separately for the three identified periods. The effect of ODA on DFC's subnational targeting between 2015 and 2020 is three times greater than it was between 2008 and 2014, with a significance level of 0.001 compared to 0.05 for the previous period (see Tables 2 and 3).

Table 2: Official Development Finance and DFI Investment from the US, by period - ADM1

				DFI Dummy					
Period	2000-07	2008-13	2014-20	2000-07	2008-13	2014-20	2000-07	2008-13	2014-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0020	0.0039*	0.0092***						
	(0.0015)	(0.0019)	(0.0027)						
ODA Count t-1 (log)				0.0045+	0.0056**	0.0131**			
				(0.0027)	(0.0019)	(0.0040)			
ODA Commitment t-1 (log)							0.0002	0.0006**	0.0010**
							(0.0001)	(0.0002)	(0.0004)
Population t-1 (log)	0.0012**	0.0028***	0.0060**	0.0011**	0.0024**	0.0048**	0.0012**	0.0026***	0.0058**
	(0.0004)	(0.0008)	(0.0021)	(0.0004)	(0.0008)	(0.0018)	(0.0004)	(0.0008)	(0.0020)
Nighttime Light t-1 (log)	0.0010*	0.0064***	0.0107***	0.0010*	0.0062***	0.0105***	0.0010*	0.0063***	0.0106***
	(0.0005)	(0.0015)	(0.0023)	(0.0004)	(0.0015)	(0.0023)	(0.0005)	(0.0015)	(0.0023)
Leader Birthplace	0.0042	0.0182**	0.0379***	0.0042	0.0176**	0.0368***	0.0042	0.0179**	0.0375***
	(0.0027)	(0.0063)	(0.0109)	(0.0027)	(0.0062)	(0.0107)	(0.0027)	(0.0062)	(0.0109)
Fixed-effects									
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Recipient-Year	976	850	990	976	850	990	976	850	990
Observations	18,383	15,881	18,484	18,383	15,881	18,484	18,383	15,881	18,484
R^2	0.06537	0.09459	0.11435	0.06646	0.09574	0.11966	0.06535	0.09549	0.11567
Adjusted R^2	0.01279	0.04320	0.06406	0.01395	0.04441	0.06968	0.01277	0.04415	0.06546

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table 3: Official Development Finance and DFI Investment from the US, by period - ADM2

	DFI Dummy								
Period	2000-07	2008-13	2014-20	2000-07	2008-13	2014-20	2000-07	2008-13	2014-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0028^{+}	0.0058***	0.0085***						
	(0.0017)	(0.0016)	(0.0020)						
ODA Count t-1 (log)				0.0040	0.0068***	0.0108***			
				(0.0026)	(0.0019)	(0.0026)			
ODA Commitment t-1 (log)							0.0003^{+}	0.0007***	0.0010***
							(0.0002)	(0.0002)	(0.0002)
Population t-1 (log)	0.0001*	0.0002**	0.0004**	0.0001*	0.0002**	0.0003**	0.0001*	0.0002**	0.0004**
	(0.0000)	(0.0001)	(0.0001)	(0.0000)	(0.0001)	(0.0001)	(0.0000)	(0.0001)	(0.0001)
Nighttime Light t-1 (log)	0.0001**	0.0004***	0.0008**	0.0001**	0.0003***	0.0007**	0.0001**	0.0004***	0.0008**
	(0.0000)	(0.0001)	(0.0003)	(0.0000)	(0.0001)	(0.0002)	(0.0000)	(0.0001)	(0.0002)
Leader Birthplace	0.0049^{+}	0.0174*	0.0355***	0.0049^{+}	0.0171*	0.0342**	0.0049^{+}	0.0173*	0.0351**
	(0.0028)	(0.0067)	(0.0105)	(0.0028)	(0.0066)	(0.0103)	(0.0028)	(0.0067)	(0.0105)
Fixed-effects									
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Recipient-Year	832	723	844	832	723	844	832	723	844
Observations	248,683	213,525	248,949	248,683	213,525	248,949	248,683	213,525	248,949
R^2	0.01193	0.01903	0.02453	0.01273	0.02049	0.02917	0.01200	0.01968	0.02583
Adjusted R^2	0.00860	0.01568	0.02120	0.00940	0.01714	0.02586	0.00867	0.01634	0.02250

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

7.2 France

Like the United States, French development cooperation policy has also gradually embraced the promotion of private sector development. Starting in the mid-2000s, the French government decided to promote the development of specific business-support policies that would connect regions of the Global South to make countries more attractive to international capital and fostering competitive integration into global trade (Marniesse et al. 2016). Since then, private sector support became a top priority of the French development cooperation. The French government endowed the French Development Agency (AFD), country's leading financing and implementation aid agency, with new private sector development programs. A key program was the ARIZ guarantee instrument, designed to back loans by local banks that would cover credit risk and unlock SME lending. The AFD also began to provide grants to finance technical assistance programs that sought to make business environments more investment-friendly, including support for professional associations, chambers

of commerce, or incubators nurturing early-stage startups from concept to viability.

Alongside the growing importance of ODA support for private sector development, the French government reinforced Proparco's role in its development cooperation policy. While Proparco was originally established in 1977, it is only in the mid-2000s that investment volumes started to grow significantly. To facilitate investment sourcing in these new markets for Proparco, the government strengthened inter-agency coordination with the AFD by setting up in 2009 the Facility for Investment and Support to Firms in Africa (FISEA), a top recipient region (Proparco 2025). FISEA, which was funded by the Ministry of Foreign Affairs with an initial €250 million in ODA, was designed to support firms in markets under-served in capital but which hold strong potential for development outcomes. Under this arrangement, the AFD's considerable field presence and client intelligence enabled it to identify promising clients and share this information to Proparco, which subsequently furnished the necessary financing (Dufief 2022).

However, although FISEA was instrumental in supporting Proparco's expansion, its geographical focus on Africa limited Proparco's expansion into other continents. Yet the intention of French government at that time was to make Proparco the leading French agency for development support in Latin America and Asia, two key regions for the expansion of French development cooperation (interview 5, 7). Our extensive desk research shows that between 2009 and 2016, coordination between AFD and Proparco for these two regions was not ensured through a formal mechanism, as was the case for Africa. Instead, coordination remained largely informal. Our interview work in France indicate, for example, that it is common for officials from the different agencies to discuss ongoing projects in country offices (interview 7). One reason for this is that Proparco's field presence remained limited in these regions for a long time. Until 2018, Proparco had only one regional office in Brazil, before opening another in Colombia. Proparco therefore housed its staff in AFD's country offices, whose network is more extensive, which facilitates informal exchanges.

Before 2016 coordination between Proparco and the AFD was mostly informal despite some institutional efforts to facilitate information exchange. It is only from 2016 onwards

that the French government has further formalized inter-agency coordination for promoting country-sector information-sharing more over time. First, the FISEA grant-based program, which was created to facilitate the identification of development-relevant investments, was updated in 2016, moving to FISEA+. The French government backed the programme, giving it a clear mandate to promote market development in fragile states. This focus was reflected in the additional financing provided by the Ministry of Foreign Affairs, which has a proven track record of supporting operations in generally poorer geographies (OECD 2024). The MFA also increased reporting requirements and information exchange across ministries and agencies, providing Proparco with information on AFD-financed grants that target riskier regional markets and beneficiaries who had previously lacked access to finance. Although financial returns have, at times, been negative, Proparco's strategic emphasis on development impact and policy objectives, reinforced by inter-agency information flows, has allowed it to prioritize longer time horizons even when short-term loss occurs (Dufief 2022).

Second, a major institutional change further formalized coordination between Proparco and the AFD. In 2016, the French development cooperation bureaucracy experienced an important reform, reorganizing the bureaucracy to further increase coordination between the AFD, and Proparco. The government merged these institutions under the umbrella of the AFD Group to ensure that the AFD can exercise not only strategic but also more routine oversight of Proparco's activity (Dufief 2022). The reform entrusted the AFD with the responsibility for producing information and defining policy frameworks in the regions targeted by the Group. The AFD outlines policy priorities in given sectors and geographies that Proparco should follow (Sénat 2012, p. 17). Although these guiding documents are broad and not binding for Proparco's individual investment decisions, they are accompanied by supporting documents with sectoral- and geographic-specific information that facilitate decision-making. The information is generated by the AFD which conducts a number of feasibility studies, as well as environmental and social impact assessments, that is then made available to Proparco (interview 7). These documents are usually produced by AFD officials based in field offices and have proven effective sources of information for facilitating

Proparco's investment decision-making (Dufief 2022).

The 2016 reform has also led the AFD to facilitate Proparco's work through its policy dialogue with recipient governments. Negotiations between the AFD and sovereign partners often create opportunities that allow for the integration of non-sovereign operations. AFD development project contracts include so-called "sub-participation agreements" which allow Proparco to participate in financing. Although the main financing agreement is signed between AFD and the recipient government, a portion is delegated to Proparco to finance non-sovereign activities that contribute to the project's objectives (Sénat 2012, p. 11). These arrangements allow Proparco to access the contextual knowledge, monitoring data, and government relationships cultivated by the AFD. This reduces the information asymmetry that typically constrains private sector operations across markets and regions of developing countries.

The French case illustrates a similar pattern as the one observed for the U.S..Coordination between the donor DFI and other aid agencies moves from rather informal exchanges to increasingly formalized, sustained, and routinized institutional coordination. This coordination has reduced the informational barriers faced by Proparco. We empirically observe patterns of institutional change. Empirically, even prior to 2016, French ODA flows were already positively and significantly associated with the locations of Proparco's investments. Following the major structural reform implemented in 2016, however, the estimated effects of ODA on Proparco's investment decisions increase severalfold, in line with a strengthening of institutionalized coordination mechanisms (see Table 4).

As for the United States, we examine the institutional developments by re-estimating our baseline models separately for the two identified periods. Again, they are reflected in our empirical tests. The association between ODA and DFI investment is positive and statistically significant in both subsamples. For all three ODA measures at both ADM1 and ADM2 levels, the effect of ODA on DFC's subnational targeting between 2015 and 2020 is markedly larger than it was between 2000 and 2014 (see Tables 2 and 3). This is consistent with the claim that formal coordination qualitatively strengthens ODA‘s role for DFI investment.

Table 4: Official Development Finance and DFI Investment from France, by period

	DFI Dummy											
Region	ADM1								ADM2			
Period	2000-15	2016-20	2000-15	2016-20	2000-15	2016-20	2000-15	2016-20	2000-15	2016-20	2000-15	2016-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables												
ODA Dummy t-1	0.0040**	0.0226***					0.0040**	0.0226***				
	(0.0012)	(0.0049)					(0.0012)	(0.0049)				
ODA Count t-1 (log)			0.0043*	0.0379***					0.0043*	0.0379***		
			(0.0019)	(0.0065)					(0.0019)	(0.0065)		
ODA Commitment t-1 (log)					0.0003+	0.0037***					0.0003+	0.0037***
					(0.0002)	(0.0007)					(0.0002)	(0.0007)
Population t-1 (log)	0.0003*	0.0043**	0.0003+	0.0026+	0.0004**	0.0041*	0.0003*	0.0043**	0.0003+	0.0026+	0.0004**	0.0041*
	(0.0001)	(0.0016)	(0.0001)	(0.0015)	(0.0001)	(0.0016)	(0.0001)	(0.0016)	(0.0001)	(0.0015)	(0.0001)	(0.0016)
Nighttime Light t-1 (log)	0.0009**	0.0194***	0.0008**	0.0166***	0.0010**	0.0185***	0.0009**	0.0194***	0.0008**	0.0166***	0.0010**	0.0185***
	(0.0003)	(0.0040)	(0.0003)	(0.0036)	(0.0004)	(0.0038)	(0.0003)	(0.0040)	(0.0003)	(0.0036)	(0.0004)	(0.0038)
Leader Birthplace	0.0024+	0.0528***	0.0023+	0.0490***	0.0025+	0.0508***	0.0024+	0.0528***	0.0023+	0.0490***	0.0025+	0.0508***
	(0.0014)	(0.0137)	(0.0014)	(0.0134)	(0.0014)	(0.0134)	(0.0014)	(0.0137)	(0.0014)	(0.0134)	(0.0014)	(0.0134)
Fixed-effects												
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics												
# Recipient-Year	2,110	706	2,110	706	2,110	706	2,110	706	2,110	706	2,110	706
Observations	39,566	13,182	39,566	13,182	39,566	13,182	39,566	13,182	39,566	13,182	39,566	13,182
R^2	0.08349	0.14045	0.08414	0.15739	0.08281	0.14974	0.08349	0.14045	0.08414	0.15739	0.08281	0.14974
Adjusted R^2	0.03179	0.09159	0.03247	0.10949	0.03106	0.10141	0.03179	0.09159	0.03247	0.10949	0.03106	0.10141

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

7.3 Germany

Germany is a leading European provider of bilateral development finance. In Germany, the development cooperation policy is set by the Federal Ministry of Cooperation and Development (BMZ -'Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung'), and its implementation is ensured by Germany's financial and technical cooperation aid agencies, the KfW Group ('Kreditanstalt für Wiederaufbau Bankengruppe') and the German Agency for International Cooperation (GIZ, 'Gesellschaft für Internationale Zusammenarbeit'). The KfW Group is composed of two development finance agencies : the KfW Development Bank (KfW DB), Germany's national public development bank which also extends ODA to developing countries, and the country's national DFI, the DEG.

The German government maintains a sharp organizational distinction between financial and technical development cooperation with a high degree of autonomy of its aid agencies and limited shared decision-making processes between KfW-DB and GIZ (Erforth and Keijzer 2022, p. 3). In the area of private sector development, however, the German government has insisted on and markedly increased inter-agency coordination between DEG, GIZ and

KfW-DB over the last two decades. The OECD DAC, in its 2021 peer review of Germany, explicitly commended this formal integration of the DEG within the broader German development cooperation bureaucracy as a model of good practice (OECD 2021b, p. 54).

For a long time, inter-agency coordination within the German development finance architecture remained largely informal. DEG scouts for investment opportunities independently, but also draws on market intelligence gathered through monthly inter-agency meetings organized by German embassies — known as *Mittlerrunden* — attended by DEG staff alongside other development actors. These meetings serve as a forum for sharing information about on-the-ground activities, providing feedback on each other's initiatives, and exploring potential synergies (interview 4). They allow DEG to learn about planned or in-progress development projects, recipient governments' policy initiatives, offering an array of potential investment opportunities. These meetings also allow the DEG to benefit from the feedback of other aid agencies regarding the development impact of their investments.

Beyond these informal mechanisms, the German government has progressively formalized inter-agency coordination with the primary objective of facilitating DEG's identification of development-relevant investments. Starting in 2016, a series of institutional reforms deepened coordination between DEG and the GIZ. That year, the BMZ established the Agency for Business and Economic Development, jointly implemented by DEG and GIZ (GIZ 2023). This agency leverages the GIZ's extensive country presence and advisory capacities for DEG financing—by enabling the identification of viable private sector investment opportunities in contexts where reliable market information is scarce (interview 2). The following year, in 2017, DEG launched its German Desk program, placing ODA-funded, DEG-seconded staff directly within local financial partners across the Global South. Hosted by partner banks — Access Bank in Ghana and Nigeria, and Equity Group Holdings in Kenya — these desk officers build a portfolio of potential DEG clients through direct engagement with banks' customers, active participation in business events.

More recently, inter-agency coordination has evolved beyond information-sharing toward joint programming, with new instruments designed to channel DEG financing toward

high-development-impact initiatives in risky markets. In 2020, the BMZ established DEG Impact as a DEG subsidiary mandated to identify and advise local firms on how to meet DEG's investment standards. DEG Impact draws heavily on exchanges with GIZ, whose field operations generate knowledge on the extent to which local firms may — or may not yet — satisfy those standards (interviews 1, 2). Two years later, in 2022, DEG launched DEG Impulse, a consulting arm providing targeted technical assistance and early-stage financing to help firms improve their environmental, social, and governance (ESG) practices. Regular coordination meetings between DEG Impulse leadership and GIZ's Private Sector Development division ensure that advisory support and financing instruments remain well aligned (interview 2).

This mechanism not only fosters inter-agency collaboration but also makes it possible that businesses initially supported with ODA-based instruments will later transition to DEG's mainstream portfolio. Eligible identified firms can benefit from the DEG Impulse-sponsored develoPPP program, which provides modest financing instruments, ranging between €100,000 and €2 million, to local firms in developing markets[29]. While relatively small by national DFI standards, these projects help companies establish a track record that may later qualify them for DEG financing (interview 6). The GIZ often supports these firms in the early stages through technical assistance and advisory services to ensure that they can be considered for development impact. The DEG steps in somewhat later in the process to scale up successful ventures (DEG Impulse 2025, 4). The develoPPP program illustrates how technical cooperation and financial instruments can be sequentially linked to build a coherent investment pipeline that advances both commercial viability and development impact.

Germany illustrates a case in which the DFI long remained insulated from the broader aid bureaucracy. For much of its history, DEG sourced information about potential investments through informal exchanges held within German embassies, with little systematic coordination with other development actors. Starting in 2016, however, the German government implemented a series of institutional reforms aimed at formalizing coordination between DEG and GIZ — breaking down informational barriers and, increasingly, promot-

29. https://www.developpp.de/en/

ing joint programming designed to transition ODA-funded initiatives into DEG-financed investments. Our empirical results confirm this pattern: German ODA exerts a positive and significant effect on subnational DEG investment locations.

Taken together, the cases provide qualitative evidence consistent with the proposed mechanism. They show that aid agencies and DFIs are linked through formal and informal coordination arrangements. The coordination allows investment-relevant information to reach US, French, and German DFIs, although the depth and type of evidence vary across cases. Our empirical results confirm this pattern: German ODA exerts a positive and significant effect on subnational DEG investment locations (see Appendix Table C.9).[30]

8 Conclusion

As traditional aid faces increasing fiscal and political pressures, national DFIs have assumed a more prominent role in the architecture of development cooperation, especially in recipient contexts characterized by limited private investment. DFIs are expected to help bridge the development financing gap. Yet, they frequently encounter significant informational barriers, including uncertainty about market conditions, investment opportunities, and firm credibility.

In this paper, we examined whether the information generated through ODA-funded activities facilitates DFI investment. We argued that traditional aid can shape DFI investment through inter-agency coordination. Traditional aid agencies produce information through their ODA-financed projects and activities, building up information about regional markets in developing countries. DFIs use this information to identify investment opportunities across regions of the Global South that are commercially viable and that can generate positive development outcomes. We hypothesized that national DFIs are more likely to invest in regions where there is more ODA.

Using an original geocoded dataset of DFI investments around the world, we find strong empirical support for our hypothesis. Across a range of specifications, we show that regions

30. We are grateful to the anonymous reviewers for their valuable feedback on our country-case analysis.

with higher levels of ODA activity—measured using the GODAD dataset—are significantly more likely to receive DFI investments. This positive association holds across a wide range of robustness checks and is evident for ODA in different sectors. The pattern also becomes noticeably stronger in more recent years, coinciding with the increasing institutionalization of coordination between traditional aid agencies and DFIs. Together, these findings offer compelling evidence that traditional ODA plays a catalytic role in guiding DFI engagement by reducing information barriers.

While our design cannot fully eliminate all sources of endogeneity, the direction of any remaining bias is likely conservative. Development finance institutions face substantial constraints in politically risky and institutionally weak environments, and investment decisions systematically respond to assessments of bankability and implementation risk (Dreher et al. 2019b). By contrast, ODA often operates upstream of private and public investment decisions to address precisely these constraints, through capacity building, project preparation, and risk-mitigating interventions (Dietrich 2016). To the extent that remaining unobserved, time-varying factors capture environments where aid is active, they would likely reduce the likelihood of DFI investment and bias our estimates toward zero. We therefore interpret our results as conservative evidence consistent with an informational and coordination-based mechanism.

To further probe our proposed inter-agency coordination mechanism, we conducted extensive qualitative research on three donor countries: the United States, France, and Germany. Drawing on in-depth author interviews with aid and DFI officials in Germany and France, as well as an analysis of organizational and policy documents alongside secondary literature, we find evidence in support for our mechanism. In all three cases, coordination arrangements that facilitate information exchange from donor agencies to DFIs. Moreover, we observe an increasing formalization of inter-agency coordination over time.

Our theory operates under specific scope conditions. These conditions are relevant in light of recent changes in the aid regime that include marked reductions in ODA budgets and the growing role of actors beyond traditional aid agencies. For our argument to hold,

some mechanism of coordination between ODA actors and DFIs must exist. They can be informal or informal but they must be in place for information exchange to be plausible. The argument also assumes a baseline level of ODA activity in a given region. A decline in ODA does not necessarily undermine the mechanism, but a substantial reduction or full withdrawal of traditional ODA efforts likely would. In such contexts, DFIs would be more likely to rely on existing information and concentrate investments in familiar markets, rather than extend activities into less-known regions. The argument is therefore most applicable where ODA remains present, even if at lower levels than before.

Our study makes several empirical contributions. First, we extend the literature on foreign aid by studying national DFIs. We shed light on DFIs as an important but understudied bilateral development cooperation instrument. Previous research has explored how national DFIs have emerged within the European Financial Architecture for Development (Bau and Dietrich 2025) and the impact of DFIs on the on-lending of financial institutions in recipient countries (Léon 2025). However, little systematic evidence exists on what shapes DFI investment across donor countries. We leveraged an original, geocoded database of global bilateral DFI investments across 12 countries to help fill this gap.

Second, we broaden our understanding of bilateral development finance by examining how DFIs relate to, and differ from, ODA. We also contribute to a growing literature that studies aid allocation at the subnational level, which has largely examined multilateral flows (**jablonski˙how˙2014**; Briggs 2017, 2018, 2021), by extending the focus on bilateral providers (Dreher et al. 2019a; Bomprezzi et al. 2025a; Bomprezzi et al. 2025b; Eichenauer et al. 2020; Bommer et al. 2022; Asmus-Bluhm et al. 2025; Dreher et al. 2025).

Our work also provides theoretical contributions. We add to existing debates on aid coordination. In contrast to existing research that focuses on coordination among donors, we propose another understanding of the concept as we study the interactions between agencies within donors. We thus speak to the literature on donor bureaucracy (Carcelli 2023, 2024), suggesting that while DFIs and traditional aid organizations may have different mandates and preferences, they still coordinate to enable information exchange. Finally, we

shed light on inter-agency coordination as one mechanism through which ODA generates informational spillover effects on bilateral DFIs. The Existence of inter-agency coordination mechanisms between aid agencies and DFIs invite for further research on the development impact and effectiveness of the latter. Further research could investigate whether DFI investments in ODA-funded regions prove to be more effective and developmental than investments made in regions without ODA presence.

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A Descriptive statistics

Table A.1: Summary statistics of ADM1-level data

Variable	N	Mean	Median	SD	Min	Max
Area (km2)	770112	33612	927	113321	0.3	3060784
Population (thousands)	792288	1875	74	8223	0	233044
DFI dummy	792288	0.0015	0	0.039	0	1
DFI count	792288	0.0024	0	0.078	0	15
DFI amount (thousand USD)	792288	64	0	3882	0	992129
ODA dummy	792288	0.093	0	0.29	0	1
ODA count	792288	0.26	0	2	0	1124
ODA commitment amount (thousand USD)	792288	135	0	3351	0	767324

Table A.2: Summary statistics of ADM2-level data

Variable	N	Mean	Median	SD	Min	Max
Area (km2)	9072000	2665	116	11069	0.0015	504845
Population (thousands)	9074016	161	7.2	672	0	31246
DFI dummy	9074016	0.00011	0	0.011	0	1
DFI count	9074016	0.00017	0	0.02	0	15
DFI amount (thousand USD)	9074016	4.4	0	1014	0	992129
ODA dummy	9074016	0.0089	0	0.094	0	1
ODA count	9074016	0.017	0	0.49	0	1124
ODA commitment amount (thousand USD)	9074016	8.2	0	848	0	767143

B Orbis Matched Firms

Figure B.1: Distribution of DFI firms matched to Orbis by the number of investments received.

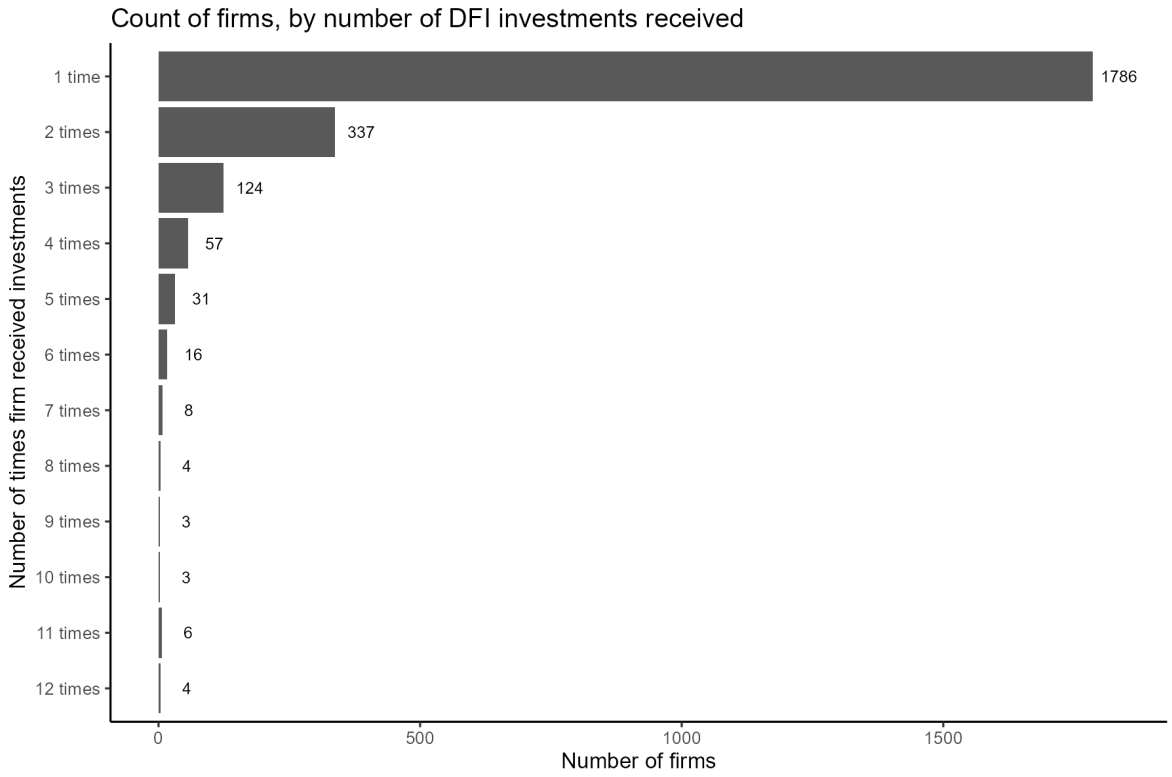


Figure B.2: Number of DFI projects in the dataset by donor country and commitment year.

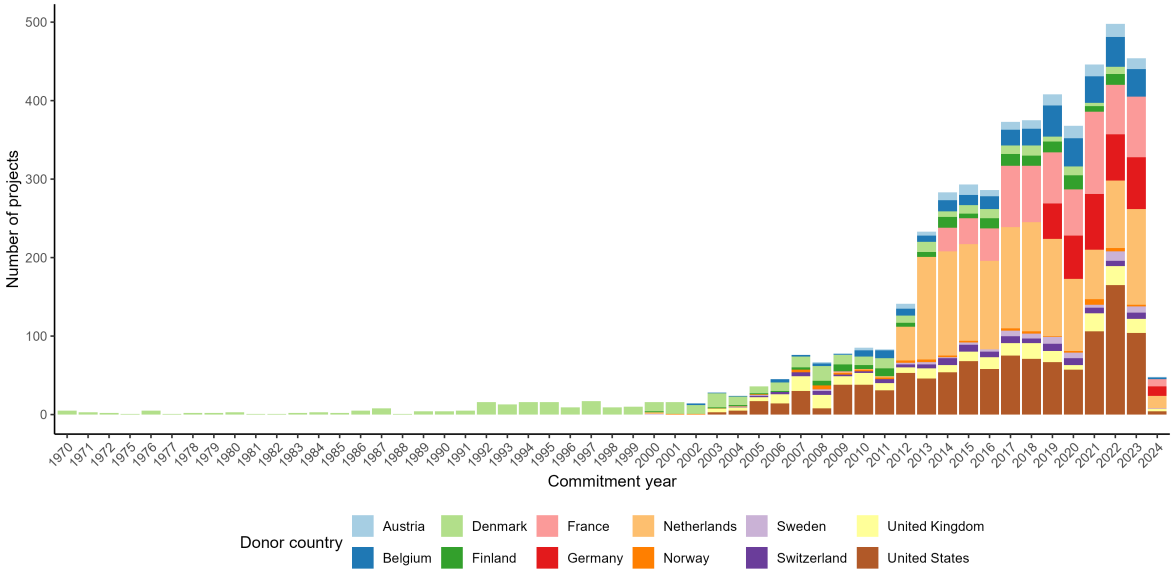


Figure B.3: Distribution of DFI projects that are matched in the Orbis database by industry sector. Sectoral information is sourced from national business registers and harmonized by Orbis.

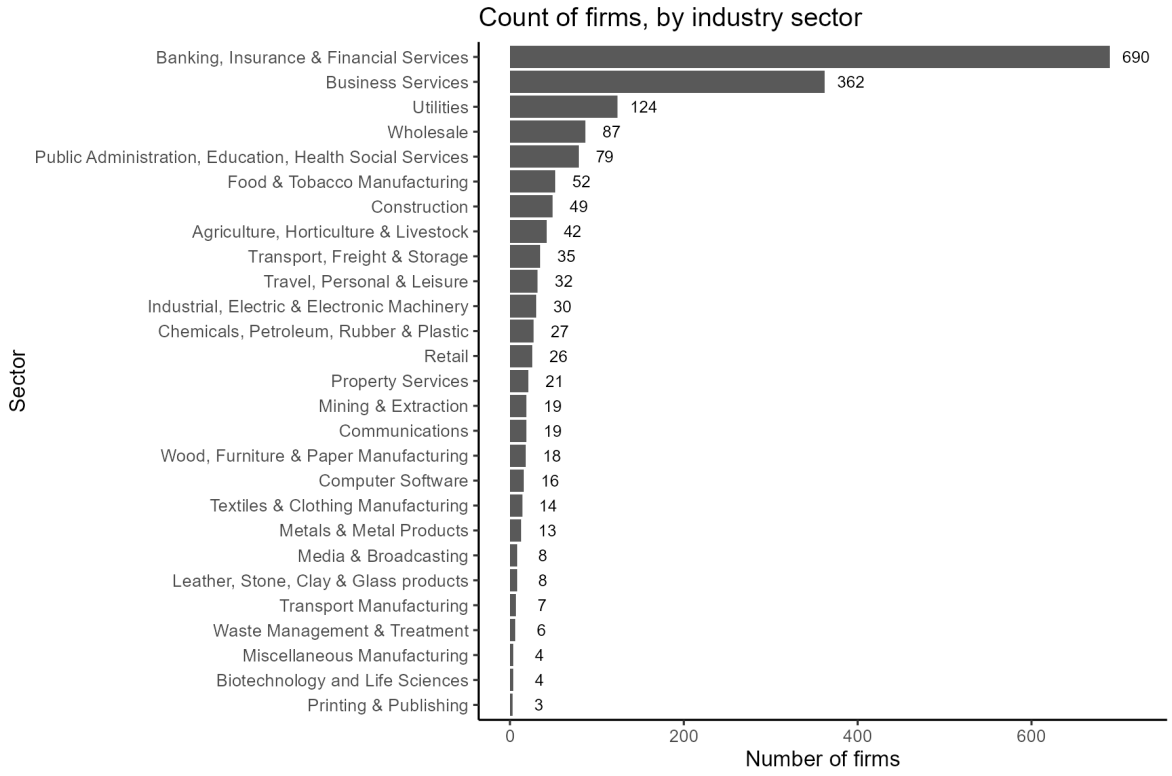


Figure B.4: Distribution of DFI projects by year and matching status in the Orbis database.

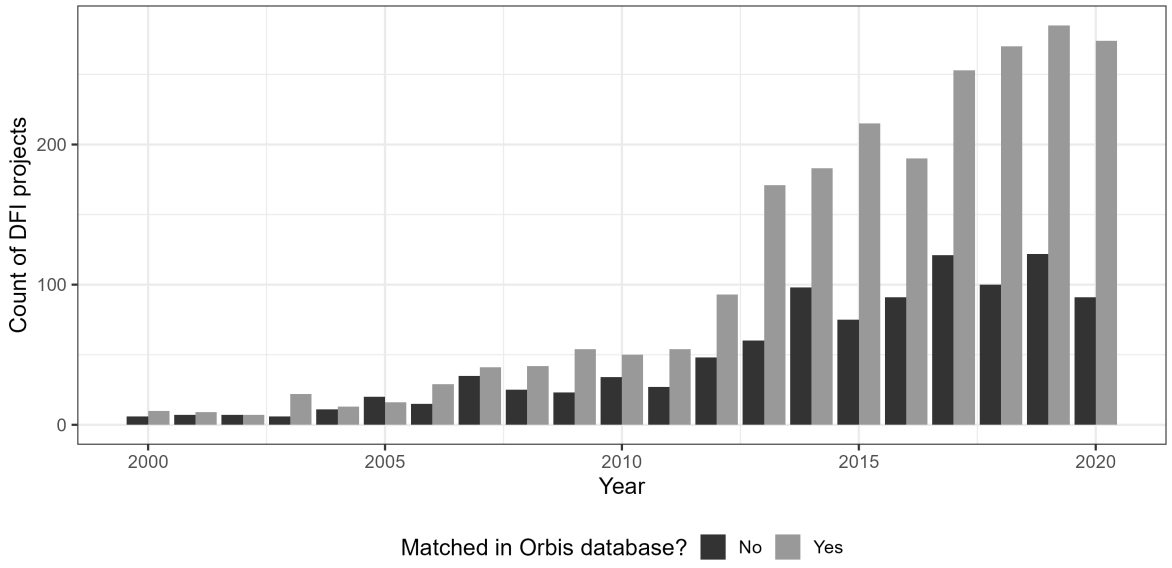


Figure B.5: Distribution of DFI projects by donor country and matching status in the Orbis database.

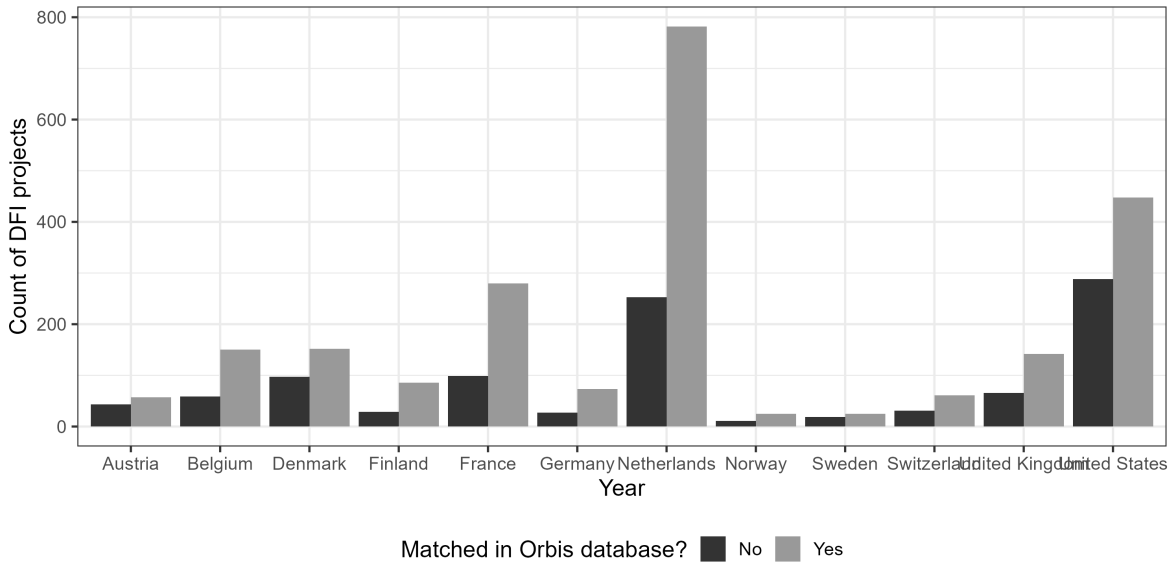


Figure B.6: Geographic distribution of recipient countries for matched versus unmatched DFI projects.

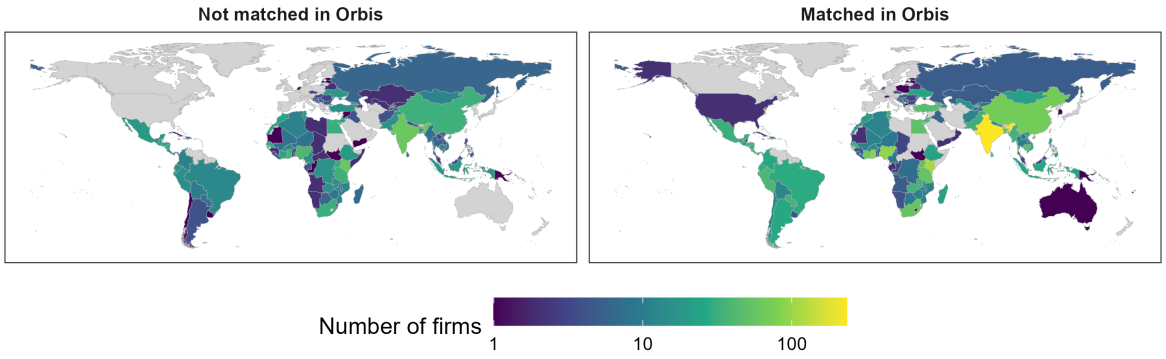
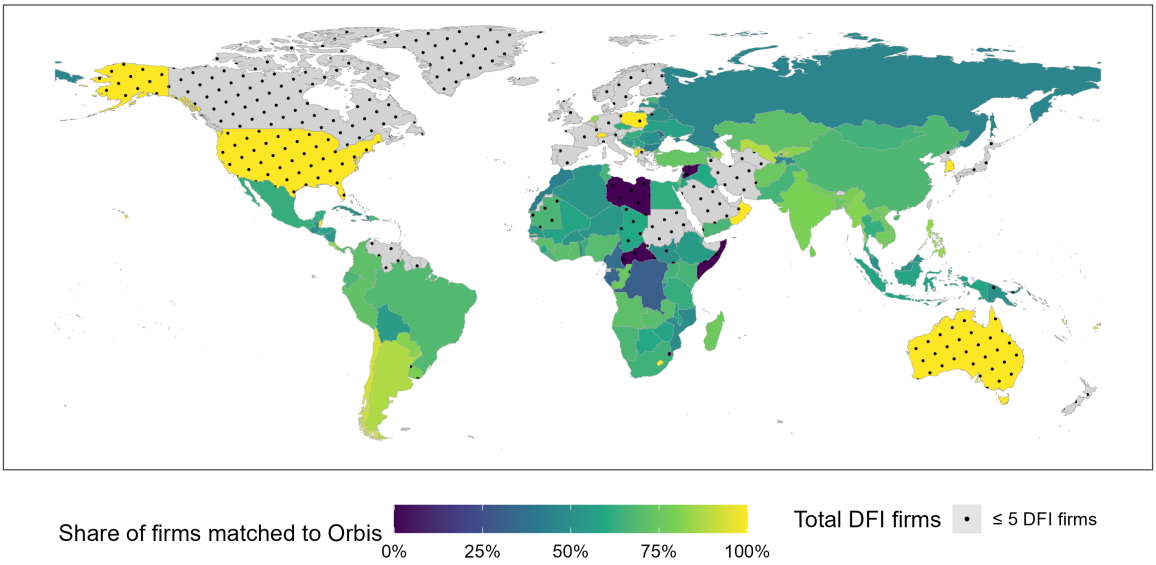


Figure B.7: DFI project matching rates in the Orbis database by recipient country. Countries with five or fewer total DFI projects are indicated with dotted patterns.



C Robustness Checks

C.1 Donor Experience

Table C.1: Official Development Finance and DFI Investment, interacting with donor experience

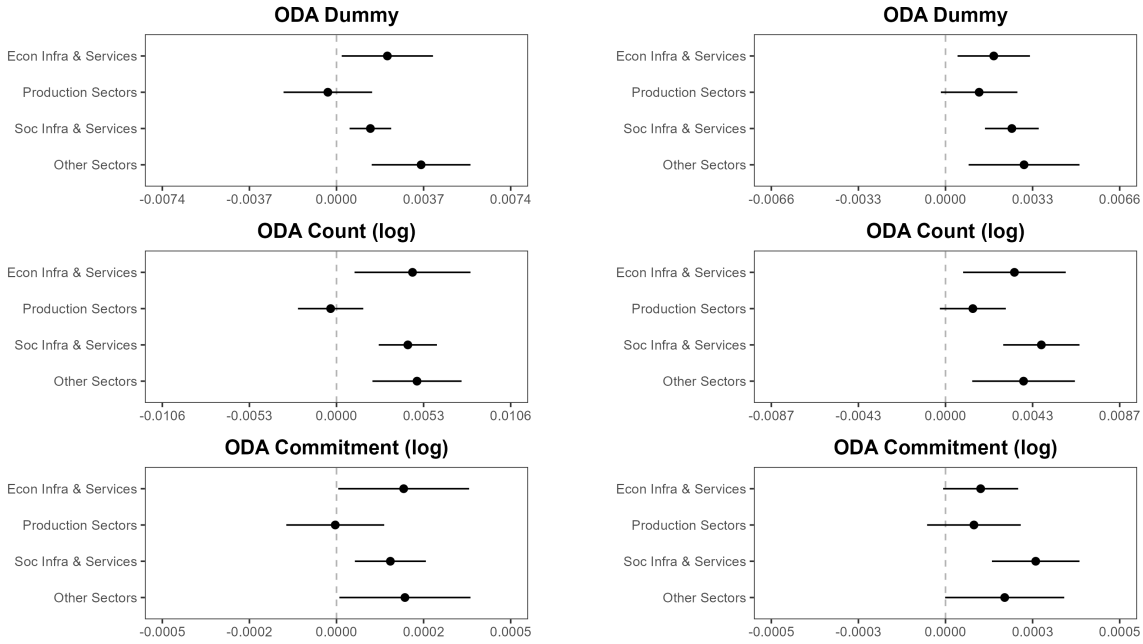
	DFI Dummy					
Region		ADM1			ADM2	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	-0.0054***			-0.0029***		
	(0.0012)			(0.0006)		
ODA Dummy t-1 × Years since 1st ODA	0.0007***			0.0007***		
	(0.0002)			(0.0001)		
ODA Count t-1 (log)		-0.0075***			-0.0040***	
		(0.0015)			(0.0010)	
ODA Count t-1 (log) × Years since 1st ODA		0.0009***			0.0009***	
		(0.0002)			(0.0002)	
ODA Commitment t-1 (log)			-0.0006***			-0.0004***
			(0.0001)			(0.0001)
ODA Commitment t-1 (log) × Years since 1st ODA			0.0001***			0.0001***
			(0.0000)			(0.0000)
Population t-1 (log)	0.0161*	0.0160*	0.0159*	0.0032+	0.0030+	0.0031+
	(0.0077)	(0.0075)	(0.0077)	(0.0018)	(0.0018)	(0.0018)
Nighttime Light t-1 (log)	0.0089	0.0084	0.0087	-0.0021+	-0.0021+	-0.0021+
	(0.0079)	(0.0078)	(0.0079)	(0.0012)	(0.0012)	(0.0012)
Leader Birthplace	0.0075	0.0071	0.0073	0.0069	0.0067	0.0068
	(0.0055)	(0.0054)	(0.0055)	(0.0062)	(0.0060)	(0.0061)
Total ODA t-1 (log)	0.0004	-0.0001	0.0002	-0.0004*	-0.0003*	-0.0003*
	(0.0004)	(0.0004)	(0.0004)	(0.0001)	(0.0001)	(0.0001)
Total DFI t-1 (log)	0.0113**	0.0111*	0.0110*	-0.0040***	-0.0041***	-0.0040***
	(0.0043)	(0.0043)	(0.0042)	(0.0008)	(0.0008)	(0.0008)
Years since 1st ODA				0.0002***	0.0001*	0.0002***
				(0.0000)	(0.0001)	(0.0000)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	240	240	240	240	240	240
# Recipient-Year	2,439	2,439	2,439	2,186	2,186	2,186
# Donor-Region	11,366	11,366	11,366	20,119	20,119	20,119
Observations	149,882	149,882	149,882	400,446	400,446	400,446
R^2	0.23671	0.23805	0.23770	0.18342	0.18494	0.18501
Adjusted R^2	0.15776	0.15925	0.15886	0.13469	0.13631	0.13638

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.2 Sectoral Effects (Four-sector classification)

Figure C.1: Official Development Finance by Sector and DFI Investment (Four-sector classification)



(a) ADM1 (b) ADM2

Note: Coefficient estimates with 95% confidence intervals from regressions of DFI presence on sector-specific ODA measures at the ADM1 (a) and ADM2 (b) levels, using GODAD's original classification of ODA projects. All models include donor–year, recipient–year, and donor–region fixed effects and baseline controls; standard errors are clustered at the recipient-country level.

C.3 Alternative Clustering of Standard Errors

Table C.2: Alternative clustering (ADM1): Official Development Finance and DFI Investment

	DFI Dummy																	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Variables																		
ODA Dummy t-1	0.0007^{+}			0.0007^{+}			0.0007			0.0007			0.0007^{+}			0.0007^{+}		
	(0.0004)			(0.0004)			(0.0006)			(0.0006)			(0.0004)			(0.0003)		
ODA Count t-1 (log)		0.0029***			0.0029***			0.0029*			0.0029*			0.0029***			0.0029***	
		(0.0006)			(0.0007)			(0.0011)			(0.0011)			(0.0007)			(0.0005)	
ODA Commitment t-1 (log)			0.0002***			0.0002***			0.0002**			0.0002**			0.0002***			0.0002***
			(0.0001)			(0.0000)			(0.0001)			(0.0001)			(0.0000)			(0.0000)
Population t-1 (log)	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025	0.0026**	0.0025**	0.0025**
	(0.0017)	(0.0017)	(0.0017)	(0.0016)	(0.0016)	(0.0016)	(0.0017)	(0.0016)	(0.0017)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0008)	(0.0008)	(0.0008)
Nighttime Light t-1 (log)	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028***	0.0028***	0.0028***
	(0.0016)	(0.0016)	(0.0016)	(0.0015)	(0.0015)	(0.0015)	(0.0016)	(0.0016)	(0.0016)	(0.0014)	(0.0014)	(0.0014)	(0.0015)	(0.0015)	(0.0015)	(0.0008)	(0.0008)	(0.0008)
Leader Birthplace	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033***	0.0033**	0.0033***
	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)	(0.0020)	(0.0020)	(0.0020)	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)	(0.0010)	(0.0010)	(0.0010)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Total DFI t-1 (log)	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***
	(0.0007)	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0008)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0007)	(0.0007)	(0.0007)	(0.0009)	(0.0009)	(0.0009)
Fixed-effects																		
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered SE	Rc	Rc	Rc	Rg	Rg	Rg	Rc + Y	Rc + Y	Rc + Y	Rg + Y	Rg + Y	Rg + Y	Rg + Rc-Y	Rg + Rc-Y	Rg + Rc-Y	D-Rc	D-Rc	D-Rc
Fit statistics																		
# Donor-Year	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816
# Donor-Region	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256
Observations	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976
R^2	0.20938	0.20963	0.20955	0.20938	0.20963	0.20955	0.20938	0.20963	0.20955	0.20938	0.20963	0.20955	0.20938	0.20963	0.20955	0.20938	0.20963	0.20955
Adjusted R^2	0.16266	0.16293	0.16284	0.16266	0.16293	0.16284	0.16266	0.16293	0.16284	0.16266	0.16293	0.16284	0.16266	0.16293	0.16284	0.16266	0.16293	0.16284

*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. D: Donor, Rg: Region, Rc: Recipient, Y: Year. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.3: Alternative clustering (ADM2): Official Development Finance and DFI Investment

	DFI Dummy																	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Variables																		
ODA Dummy t-1	0.0008***			0.0008***			0.0008			0.0008			0.0008**			0.0008***		
	(0.0002)			(0.0003)			(0.0005)			(0.0005)			(0.0003)			(0.0002)		
ODA Count t-1 (log)		0.0024***			0.0024***			0.0024*			0.0024*			0.0024***			0.0024***	
		(0.0005)			(0.0005)			(0.0009)			(0.0010)			(0.0005)			(0.0004)	
ODA Commitment t-1 (log)			0.0002***			0.0002***			0.0002*			0.0002*			0.0002***			0.0002***
			(0.0000)			(0.0000)			(0.0001)			(0.0001)			(0.0000)			(0.0000)
Population t-1 (log)	0.0002	0.0002	0.0002	0.0002**	0.0002**	0.0002**	0.0002	0.0002	0.0002	0.0002*	0.0002*	0.0002*	0.0002*	0.0002*	0.0002*	0.0002***	0.0002***	0.0002***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Nighttime Light t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Leader Birthplace	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022*	0.0022*	0.0022*
	(0.0018)	(0.0018)	(0.0018)	(0.0017)	(0.0017)	(0.0017)	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)	(0.0017)	(0.0017)	(0.0017)	(0.0009)	(0.0009)	(0.0009)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Fixed-effects																		
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered SE	Rc	Rc	Rc	Rg	Rg	Rg	Rc + Y	Rc + Y	Rc + Y	Rg + Y	Rg + Y	Rg + Y	Rg + Rc-Y	Rg + Rc-Y	Rg + Rc-Y	D-Rc	D-Rc	D-Rc
Fit statistics																		
# Donor-Year	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399
# Donor-Region	427,320	427,320	427,320	427,260	427,260	427,260	427,320	427,320	427,320	427,260	427,260	427,260	427,260	427,260	427,260	427,320	427,320	427,320
Observations	8,533,884	8,533,884	8,533,884	8,532,684	8,532,684	8,532,684	8,533,884	8,533,884	8,533,884	8,532,684	8,532,684	8,532,684	8,532,684	8,532,684	8,532,684	8,533,884	8,533,884	8,533,884
R^2	0.15712	0.15732	0.15727	0.15712	0.15732	0.15727	0.15712	0.15732	0.15727	0.15712	0.15732	0.15727	0.15712	0.15732	0.15727	0.15712	0.15732	0.15727
Adjusted R^2	0.11240	0.11261	0.11256	0.11240	0.11261	0.11256	0.11240	0.11261	0.11256	0.11240	0.11261	0.11256	0.11240	0.11261	0.11256	0.11240	0.11261	0.11256

*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. D: Donor, Rg: Region, Rc: Recipient, Y: Year. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.4 Alternative Fixed Effects Specifications

Table C.4: Alternative FEs (ADM1): Official Development Finance and DFI Investment

	DFI Dummy											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables												
ODA Dummy t-1	0.0043***			0.0042***			0.0001			0.0001		
	(0.0008)			(0.0008)			(0.0004)			(0.0004)		
ODA Count t-1 (log)		0.0054***			0.0059***			0.0010*			0.0010*	
		(0.0010)			(0.0011)			(0.0005)			(0.0005)	
ODA Commitment t-1 (log)			0.0005***			0.0005***			0.0001**			0.0002***
			(0.0001)			(0.0001)			(0.0000)			(0.0000)
Population t-1 (log)	0.0013***	0.0011**	0.0012***	0.0012**	0.0011**	0.0012**						
	(0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0004)	(0.0004)						
Nighttime Light t-1 (log)	0.0032***	0.0032***	0.0032***	0.0033***	0.0032***	0.0033***						
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)						
Leader Birthplace	0.0075***	0.0074***	0.0075***	0.0077***	0.0075***	0.0076***						
	(0.0021)	(0.0020)	(0.0020)	(0.0021)	(0.0021)	(0.0021)						
Total ODA t-1 (log)	0.0004**	0.0004**	0.0004**	0.0000	0.0000	0.0000	-0.0001	0.0000	0.0000	0.0004**	0.0004**	0.0004**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Total DFI t-1 (log)	0.0012*	0.0011*	0.0012*	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0050***	-0.0050***	-0.0050***
	(0.0006)	(0.0005)	(0.0005)	(0.0007)	(0.0008)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Fixed-effects												
Donor	Yes	Yes	Yes									
Recipient	Yes	Yes	Yes									
Year	Yes	Yes	Yes									
Donor-Year				Yes	Yes	Yes	Yes	Yes	Yes			
Recipient-Year				Yes	Yes	Yes				Yes	Yes	Yes
Donor-Recipient				Yes	Yes	Yes						
Donor-Region							Yes	Yes	Yes	Yes	Yes	Yes
Region-Year							Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics												
# Donor	12	12	12	–	–	–	–	–	–	–	–	–
# Recipient	145	145	145	–	–	–	–	–	–	–	–	–
# Year	20	20	20	–	–	–	–	–	–	–	–	–
# Donor-Year	–	–	–	240	240	240	240	240	240	–	–	–
# Recipient-Year	–	–	–	2,816	2,816	2,816	–	–	–	2,816	2,816	2,816
# Donor-Recipient	–	–	–	1,740	1,740	1,740	–	–	–	–	–	–
# Donor-Region	–	–	–	–	–	–	32,256	32,256	32,256	32,256	32,256	32,256
# Region-Year	–	–	–	–	–	–	52,748	52,748	52,748	52,748	52,748	52,748
Observations	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976
R^2	0.02101	0.02218	0.02157	0.04670	0.04789	0.04718	0.32129	0.32132	0.32135	0.31811	0.31814	0.31818
Adjusted R^2	0.02074	0.02190	0.02129	0.03941	0.04062	0.03990	0.21566	0.21569	0.21573	0.20827	0.20830	0.20834

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. D: Donor, Rg: Region, Rc: Recipient, Y: Year. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.5: Alternative FEs (ADM2): Official Development Finance and DFI Investment

	DFI Dummy											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables												
ODA Dummy t-1	0.0038***			0.0039***			-0.0001			-0.0001		
	(0.0007)			(0.0007)			(0.0002)			(0.0002)		
ODA Count t-1 (log)		0.0055***			0.0056***			0.0006+			0.0006+	
		(0.0010)			(0.0010)			(0.0003)			(0.0003)	
ODA Commitment t-1 (log)			0.0005***			0.0005***			0.0001***			0.0001***
			(0.0001)			(0.0001)			(0.0000)			(0.0000)
Population t-1 (log)	0.0001***	0.0001***	0.0001***	0.0001***	0.0001**	0.0001***						
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)						
Nighttime Light t-1 (log)	0.0002***	0.0002***	0.0002***	0.0002***	0.0002***	0.0002***						
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)						
Leader Birthplace	0.0060***	0.0059***	0.0060***	0.0060***	0.0059***	0.0060***						
	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)						
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000**	0.0000**	0.0000**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	0.0000	0.0000	0.0000	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003**	-0.0003**	-0.0003**
	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Fixed-effects												
Donor	Yes	Yes	Yes									
Recipient	Yes	Yes	Yes									
Year	Yes	Yes	Yes									
Donor-Year				Yes	Yes	Yes	Yes	Yes	Yes			
Recipient-Year				Yes	Yes	Yes				Yes	Yes	Yes
Donor-Recipient				Yes	Yes	Yes						
Donor-Region							Yes	Yes	Yes	Yes	Yes	Yes
Region-Year							Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics												
# Donor	12	12	12	–	–	–	–	–	–	–	–	–
# Recipient	121	121	121	–	–	–	–	–	–	–	–	–
# Year	20	20	20	–	–	–	–	–	–	–	–	–
# Donor-Year	–	–	–	240	240	240	240	240	240	–	–	–
# Recipient-Year	–	–	–	2,399	2,399	2,399	–	–	–	2,399	2,399	2,399
# Donor-Recipient	–	–	–	1,452	1,452	1,452	–	–	–	–	–	–
# Donor-Region	–	–	–	–	–	–	427,320	427,320	427,320	427,320	427,320	427,320
# Region-Year	–	–	–	–	–	–	711,157	711,157	711,157	711,157	711,157	711,157
Observations	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884
R^2	0.00385	0.00501	0.00443	0.00682	0.00800	0.00737	0.27589	0.27590	0.27593	0.27563	0.27564	0.27567
Adjusted R^2	0.00383	0.00500	0.00441	0.00634	0.00753	0.00690	0.16439	0.16440	0.16444	0.16384	0.16386	0.16389

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.5 Additional Control Variables

Table C.6: Additional Covariates (ADM1): Official Development Finance and DFI Investment

	DFI Dummy								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0007^{+}			0.0005			0.0007^{+}		
	(0.0004)			(0.0004)			(0.0004)		
ODA Count t-1 (log)		0.0029***			0.0029***			0.0029***	
		(0.0006)			(0.0007)			(0.0006)	
ODA Commitment t-1 (log)			0.0002***			0.0002***			0.0002***
			(0.0001)			(0.0001)			(0.0001)
Population t-1 (log)	0.0026	0.0025	0.0025	0.0036^{+}	0.0036^{+}	0.0036^{+}	0.0026	0.0025	0.0025
	(0.0017)	(0.0017)	(0.0017)	(0.0019)	(0.0019)	(0.0019)	(0.0017)	(0.0017)	(0.0017)
Nighttime Light t-1 (log)	0.0029^{+}	0.0029^{+}	0.0029^{+}	0.0040^{+}	0.0040^{+}	0.0040^{+}	0.0031^{+}	0.0032^{+}	0.0032^{+}
	(0.0016)	(0.0016)	(0.0016)	(0.0023)	(0.0023)	(0.0023)	(0.0018)	(0.0018)	(0.0018)
Leader Birthplace	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033	0.0033	0.0033	0.0034^{+}	0.0033^{+}	0.0034^{+}
	(0.0019)	(0.0019)	(0.0019)	(0.0024)	(0.0024)	(0.0024)	(0.0019)	(0.0019)	(0.0019)
Total ODA t-1 (log)	-0.0001	0.0000	0.0000	-0.0001	-0.0001	-0.0001	-0.0001	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Total DFI t-1 (log)	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0048***	-0.0048***	-0.0048***
	(0.0007)	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Precipitation t-1 (log)	0.0002	0.0002	0.0002						
	(0.0003)	(0.0003)	(0.0003)						
Temperature t-1 (log)	0.0012	0.0012	0.0012						
	(0.0008)	(0.0008)	(0.0008)						
EM-DAT disaster t-1 (log)	0.0000	0.0000	0.0000						
	(0.0006)	(0.0006)	(0.0006)						
SCI corruption t-1				-0.0001	-0.0001	-0.0001			
				(0.0001)	(0.0001)	(0.0001)			
GDELT coerction t-1 (log)				0.0014***	0.0013***	0.0013***			
				(0.0003)	(0.0003)	(0.0003)			
GDELT protest t-1 (log)				0.0026***	0.0025***	0.0026***			
				(0.0006)	(0.0006)	(0.0006)			
ACLED conflict t-1 (log)				-0.0003^{+}	-0.0003^{+}	-0.0003^{+}			
				(0.0002)	(0.0002)	(0.0002)			
Fixed-effects									
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Donor-Year	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,490	2,490	2,490	2,796	2,796	2,796
# Donor-Region	32,196	32,196	32,196	28,248	28,248	28,248	30,576	30,576	30,576
Observations	631,776	631,776	631,776	479,016	479,016	479,016	599,424	599,424	599,424
R^2	0.20951	0.20976	0.20968	0.21136	0.21161	0.21154	0.21050	0.21075	0.21067
Adjusted R^2	0.16279	0.16306	0.16297	0.15682	0.15709	0.15701	0.16359	0.16386	0.16377

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.7: Additional Covariates (ADM2): Official Development Finance and DFI Investment

	DFI Dummy								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0008***			0.0010**			0.0009***		
	(0.0002)			(0.0003)			(0.0002)		
ODA Count t-1 (log)		0.0024***			0.0032***			0.0025***	
		(0.0005)			(0.0007)			(0.0005)	
ODA Commitment t-1 (log)			0.0002***			0.0003***			0.0002***
			(0.0000)			(0.0001)			(0.0000)
Population t-1 (log)	0.0002	0.0002	0.0002	0.0014*	0.0013*	0.0014*	0.0003+	0.0003	0.0003+
	(0.0001)	(0.0001)	(0.0001)	(0.0007)	(0.0007)	(0.0007)	(0.0002)	(0.0002)	(0.0002)
Nighttime Light t-1 (log)	0.0000	0.0000	0.0000	-0.0002	-0.0002	-0.0002	-0.0001	-0.0001	-0.0001
	(0.0000)	(0.0000)	(0.0000)	(0.0003)	(0.0003)	(0.0003)	(0.0001)	(0.0001)	(0.0001)
Leader Birthplace	0.0022	0.0022	0.0022	0.0036	0.0036	0.0036	0.0024	0.0024	0.0024
	(0.0018)	(0.0018)	(0.0018)	(0.0030)	(0.0030)	(0.0030)	(0.0020)	(0.0020)	(0.0020)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	-0.0001	0.0000	-0.0001	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0003***	-0.0003***	-0.0003***	-0.0007***	-0.0007***	-0.0007***	-0.0004***	-0.0004***	-0.0004***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Precipitation t-1 (log)	0.0000	0.0000	0.0000						
	(0.0000)	(0.0000)	(0.0000)						
Temperature t-1 (log)	0.0001	0.0001	0.0001						
	(0.0001)	(0.0001)	(0.0001)						
EM-DAT disaster t-1 (log)	0.0001	0.0001	0.0001						
	(0.0002)	(0.0002)	(0.0002)						
SCI corruption t-1				0.0000	0.0000	0.0000			
				(0.0000)	(0.0000)	(0.0000)			
GDELT coercion t-1 (log)				0.0007**	0.0007**	0.0007**			
				(0.0002)	(0.0002)	(0.0002)			
GDELT protest t-1 (log)				0.0011**	0.0011**	0.0011**			
				(0.0003)	(0.0003)	(0.0003)			
ACLED conflict t-1 (log)				-0.0001	-0.0001	-0.0001			
				(0.0001)	(0.0001)	(0.0001)			
Fixed-effects									
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Donor-Year	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,399	2,399	2,399	2,274	2,274	2,274	2,399	2,399	2,399
# Donor-Region	426,492	426,492	426,492	259,200	259,200	259,200	330,600	330,600	330,600
Observations	8,517,648	8,517,648	8,517,648	1,980,972	1,980,972	1,980,972	6,604,020	6,604,020	6,604,020
R^2	0.15712	0.15732	0.15728	0.17644	0.17671	0.17667	0.15760	0.15780	0.15776
Adjusted R^2	0.11240	0.11261	0.11256	0.05107	0.05138	0.05134	0.11283	0.11305	0.11300

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.6 Alternative Dependent Variables

Table C.8: Alternative Dependent Variables: Official Development Finance and DFI Investment

Region	ADM1			ADM2		
	DFI Dummy	DFI Count (log)	DFI Amount (log)	DFI Dummy	DFI Count (log)	DFI Amount (log)
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	0.0007^{+}			0.0008***		
	(0.0004)			(0.0002)		
ODA Count t-1 (log)		0.0029***			0.0024***	
		(0.0006)			(0.0005)	
ODA Commitment t-1 (log)			0.0040***			0.0035***
			(0.0009)			(0.0007)
Population t-1 (log)	0.0026	0.0024	0.0418	0.0002	0.0002	0.0032
	(0.0017)	(0.0016)	(0.0267)	(0.0001)	(0.0001)	(0.0020)
Nighttime Light t-1 (log)	0.0028^{+}	0.0026^{+}	0.0431	0.0000	0.0000	-0.0006
	(0.0016)	(0.0015)	(0.0262)	(0.0000)	(0.0000)	(0.0008)
Leader Birthplace	0.0033^{+}	0.0035*	0.0587^{+}	0.0022	0.0023	0.0368
	(0.0019)	(0.0018)	(0.0304)	(0.0018)	(0.0016)	(0.0284)
Total ODA t-1 (log)	0.0000	0.0000	-0.0010	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0016)	(0.0000)	(0.0000)	(0.0002)
Total DFI t-1 (log)	-0.0047***	-0.0048***	-0.0743***	-0.0003***	-0.0003***	-0.0049***
	(0.0007)	(0.0007)	(0.0121)	(0.0001)	(0.0001)	(0.0012)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,399	2,399	2,399
# Donor-Region	32,256	32,256	32,256	427,320	427,320	427,320
Observations	632,976	632,976	632,976	8,533,884	8,533,884	8,533,884
R^2	0.20938	0.23231	0.21314	0.15712	0.17037	0.15810
Adjusted R^2	0.16266	0.18695	0.16664	0.11240	0.12636	0.11343

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.7 Sensitivity to Individual Donors

Table C.9: Coefficient estimates for relationship between Official Development Finance and DFI Investment, with one single donor in the sample at a time.

	DV: DFI Dummy					
	Region: ADM1			Region: ADM2		
Donor included	ODA Dummy t-1	ODA Ct t-1 (log)	ODA Amt t-1 (log)	ODA Dummy t-1	ODA Ct t-1 (log)	ODA Amt t-1 (log)
Austria	0.0034 (0.0016)*	0.0031 (0.0014)*	0.0003 (0.0002)+	0.0020 (0.0012)+	0.0027 (0.0015)+	0.0003 (0.0001)+
Belgium	0.0030 (0.0013)*	0.0050 (0.0016)**	0.0002 (0.0001)+	0.0038 (0.0011)***	0.0057 (0.0014)***	0.0004 (0.0001)***
Switzerland	0.0020 (0.0012)+	0.0022 (0.0012)+	0.0002 (0.0001)+	0.0014 (0.0007)*	0.0018 (0.0009)+	0.0002 (0.0001)+
Denmark	0.0023 (0.0017)	0.0022 (0.0018)	0.0003 (0.0002)	0.0030 (0.0017)+	0.0034 (0.0019)+	0.0005 (0.0002)*
Finland	0.0008 (0.0006)	0.0008 (0.0007)	0.0001 (0.0001)	0.0006 (0.0004)+	0.0010 (0.0006)	0.0001 (0.0000)
France	0.0118 (0.0023)***	0.0201 (0.0036)***	0.0021 (0.0004)***	0.0091 (0.0022)***	0.0156 (0.0036)***	0.0018 (0.0004)***
United Kingdom	0.0055 (0.0030)+	0.0067 (0.0028)*	0.0006 (0.0003)*	0.0068 (0.0029)*	0.0073 (0.0030)*	0.0009 (0.0004)*
Germany	0.0009 (0.0003)**	0.0019 (0.0005)***	0.0001 (0.0000)**	0.0010 (0.0002)***	0.0020 (0.0005)***	0.0002 (0.0000)***
Netherlands	0.0177 (0.0056)**	0.0196 (0.0062)**	0.0020 (0.0006)***	0.0157 (0.0047)**	0.0172 (0.0064)**	0.0018 (0.0006)**
Norway	0.0010 (0.0006)+	0.0008 (0.0007)	0.0001 (0.0001)+	0.0006 (0.0004)	0.0007 (0.0006)	0.0001 (0.0001)
Sweden	0.0018 (0.0011)	0.0041 (0.0028)	0.0003 (0.0002)	0.0014 (0.0011)	0.0024 (0.0021)	0.0003 (0.0002)
United States	0.0062 (0.0017)***	0.0104 (0.0027)***	0.0008 (0.0002)***	0.0071 (0.0015)***	0.0092 (0.0021)***	0.0008 (0.0002)***

All models include all baseline regression covariates; donor-year, recipient-year and donor-region FEs; and recipient-clustered SEs. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.10: Coefficient estimates for relationship between Official Development Finance and DFI Investment, with one donor excluded at a time.

	DV: DFI Dummy					
	Region: ADM1			Region: ADM2		
Donor excluded	ODA Dummy t-1	ODA Ct t-1 (log)	ODA Amt t-1 (log)	ODA Dummy t-1	ODA Ct t-1 (log)	ODA Amt t-1 (log)
Austria	0.0006 (0.0004)+	0.0029 (0.0007)***	0.0002 (0.0001)***	0.0008 (0.0002)***	0.0024 (0.0005)***	0.0002 (0.0000)***
Belgium	0.0007 (0.0004)+	0.0030 (0.0007)***	0.0003 (0.0001)***	0.0008 (0.0002)**	0.0024 (0.0005)***	0.0002 (0.0000)***
Switzerland	0.0007 (0.0004)+	0.0030 (0.0007)***	0.0002 (0.0001)***	0.0009 (0.0002)***	0.0025 (0.0005)***	0.0002 (0.0000)***
Denmark	0.0008 (0.0004)*	0.0030 (0.0006)***	0.0002 (0.0001)***	0.0009 (0.0002)***	0.0025 (0.0005)***	0.0002 (0.0000)***
Finland	0.0007 (0.0004)+	0.0030 (0.0007)***	0.0003 (0.0001)***	0.0009 (0.0003)**	0.0025 (0.0005)***	0.0002 (0.0000)***
France	0.0004 (0.0003)	0.0018 (0.0006)**	0.0001 (0.0001)**	0.0006 (0.0002)*	0.0015 (0.0004)***	0.0001 (0.0000)***
United Kingdom	0.0006 (0.0004)+	0.0029 (0.0006)***	0.0002 (0.0000)***	0.0008 (0.0002)***	0.0025 (0.0005)***	0.0002 (0.0000)***
Germany	0.0008 (0.0004)*	0.0034 (0.0008)***	0.0003 (0.0001)***	0.0010 (0.0003)**	0.0027 (0.0006)***	0.0002 (0.0000)***
Netherlands	0.0008 (0.0003)**	0.0031 (0.0006)***	0.0002 (0.0000)***	0.0011 (0.0002)***	0.0026 (0.0005)***	0.0002 (0.0000)***
Norway	0.0007 (0.0004)+	0.0031 (0.0007)***	0.0003 (0.0001)***	0.0009 (0.0003)***	0.0026 (0.0005)***	0.0002 (0.0000)***
Sweden	0.0007 (0.0004)+	0.0029 (0.0006)***	0.0002 (0.0001)***	0.0009 (0.0002)***	0.0024 (0.0005)***	0.0002 (0.0000)***
United States	0.0007 (0.0004)+	0.0025 (0.0006)***	0.0002 (0.0001)***	0.0005 (0.0002)*	0.0019 (0.0005)***	0.0002 (0.0000)***

All models include all baseline regression covariates; donor-year, recipient-year and donor-region FEs; and recipient-clustered SEs. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.8 Spatial Spillover

Table C.11: Spatial spillover (ODA): Official Development Finance and DFI Investment, 2000-2020

	DFI Dummy					
Region		ADM1			ADM2	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	0.0007^{+}			0.0008***		
	(0.0004)			(0.0002)		
ODA Count t-1 (log)		0.0029***			0.0024***	
		(0.0006)			(0.0005)	
ODA Commitment t-1 (log)			0.0002***			0.0002***
			(0.0001)			(0.0000)
Population t-1 (log)	0.0026	0.0025	0.0026	0.0002	0.0002	0.0002
	(0.0017)	(0.0017)	(0.0017)	(0.0001)	(0.0001)	(0.0001)
Nighttime Light t-1 (log)	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0000	0.0000	0.0000
	(0.0016)	(0.0016)	(0.0016)	(0.0001)	(0.0000)	(0.0000)
Leader Birthplace	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0022	0.0022	0.0022
	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)
Total ODA t-1 (log)	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0047***	-0.0047***	-0.0047***	-0.0003***	-0.0003***	-0.0003***
	(0.0007)	(0.0007)	(0.0007)	(0.0001)	(0.0001)	(0.0001)
Neighbor ODA Dummy t-1	-0.0002	-0.0003	-0.0002	-0.0001	-0.0001	-0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0001)	(0.0001)	(0.0001)
Neighbor ODA Count t-1 (log)	0.0000	0.0000	0.0000	0.0000**	0.0000*	0.0000**
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,399	2,399	2,399
# Donor-Region	32,256	32,256	32,256	427,320	427,320	427,320
Observations	632,976	632,976	632,976	8,533,884	8,533,884	8,533,884
R^2	0.20938	0.20964	0.20955	0.15713	0.15732	0.15728
Adjusted R^2	0.16266	0.16293	0.16284	0.11241	0.11261	0.11257

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.12: Spatial spillover (DFI): Official Development Finance and DFI Investment, 2000-2020

	DFI Dummy					
Region		ADM1			ADM2	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	0.0007^{+}			0.0008***		
	(0.0004)			(0.0002)		
ODA Count t-1 (log)		0.0029***			0.0024***	
		(0.0006)			(0.0005)	
ODA Commitment t-1 (log)			0.0002***			0.0002***
			(0.0001)			(0.0000)
Population t-1 (log)	0.0026	0.0025	0.0026	0.0002	0.0002	0.0002
	(0.0017)	(0.0017)	(0.0017)	(0.0001)	(0.0001)	(0.0001)
Nighttime Light t-1 (log)	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0000	0.0000	0.0000
	(0.0016)	(0.0016)	(0.0016)	(0.0000)	(0.0000)	(0.0000)
Leader Birthplace	0.0034^{+}	0.0033^{+}	0.0033^{+}	0.0022	0.0022	0.0022
	(0.0019)	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)
Total ODA t-1 (log)	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0046***	-0.0046***	-0.0046***	-0.0003***	-0.0003***	-0.0003***
	(0.0007)	(0.0007)	(0.0007)	(0.0001)	(0.0001)	(0.0001)
Neighbor DFI Dummy t-1	-0.0017	-0.0017	-0.0017	0.0007	0.0007	0.0007
	(0.0026)	(0.0026)	(0.0026)	(0.0020)	(0.0020)	(0.0020)
Neighbor DFI Count t-1 (log)	0.0012	0.0012	0.0012	0.0016***	0.0016***	0.0016***
	(0.0010)	(0.0010)	(0.0010)	(0.0004)	(0.0004)	(0.0004)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,399	2,399	2,399
# Donor-Region	32,256	32,256	32,256	427,320	427,320	427,320
Observations	632,976	632,976	632,976	8,533,884	8,533,884	8,533,884
R^2	0.20951	0.20976	0.20968	0.15772	0.15792	0.15788
Adjusted R^2	0.16280	0.16306	0.16297	0.11304	0.11324	0.11320

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.9 Lag Analysis

Table C.13: Alternative lags (ADM1): Official Development Finance and DFI Investment

	DFI Dummy								
Lag		t-1			t-2			t-3	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0007^{+}								
	(0.0004)								
ODA Count t-1 (log)		0.0029***							
		(0.0006)							
ODA Commitment t-1 (log)			0.0002***						
			(0.0001)						
ODA Dummy t-2				0.0008*					
				(0.0004)					
ODA Count t-2 (log)					0.0026***				
					(0.0006)				
ODA Commitment t-2 (log)						0.0002***			
						(0.0000)			
ODA Dummy t-3							0.0006		
							(0.0004)		
ODA Count t-3 (log)								0.0029***	
								(0.0006)	
ODA Commitment t-3 (log)									0.0002***
									(0.0000)
Population t-1 (log)	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025	0.0026	0.0025	0.0025
	(0.0017)	(0.0017)	(0.0017)	(0.0017)	(0.0017)	(0.0017)	(0.0017)	(0.0017)	(0.0017)
Nighttime Light t-1 (log)	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}	0.0028^{+}
	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)
Leader Birthplace	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}	0.0033^{+}
	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)	(0.0019)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0001	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Total DFI t-1 (log)	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***	-0.0047***
	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Fixed-effects									
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Donor-Year	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816
# Donor-Region	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256	32,256
Observations	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976	632,976
R^2	0.20938	0.20963	0.20955	0.20938	0.20958	0.20950	0.20938	0.20961	0.20946
Adjusted R^2	0.16266	0.16293	0.16284	0.16267	0.16287	0.16279	0.16266	0.16290	0.16275

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. D: Donor, Rg: Region, Rc: Recipient, Y: Year. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.14: Alternative lags (ADM2): Official Development Finance and DFI Investment

	DFI Dummy								
Lag		t-1			t-2			t-3	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
ODA Dummy t-1	0.0008***								
	(0.0002)								
ODA Count t-1 (log)		0.0024***							
		(0.0005)							
ODA Commitment t-1 (log)			0.0002***						
			(0.0000)						
ODA Dummy t-2				0.0010**					
				(0.0003)					
ODA Count t-2 (log)					0.0025***				
					(0.0005)				
ODA Commitment t-2 (log)						0.0002***			
						(0.0001)			
ODA Dummy t-3							0.0010**		
							(0.0003)		
ODA Count t-3 (log)								0.0026***	
								(0.0006)	
ODA Commitment t-3 (log)									0.0002***
									(0.0000)
Population t-1 (log)	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Nighttime Light t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Leader Birthplace	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022
	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)	(0.0018)
Total ODA t-1 (log)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Total DFI t-1 (log)	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Fixed-effects									
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics									
# Donor-Year	240	240	240	240	240	240	240	240	240
# Recipient-Year	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399	2,399
# Donor-Region	427,320	427,320	427,320	427,320	427,320	427,320	427,320	427,320	427,320
Observations	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884	8,533,884
R^2	0.15712	0.15732	0.15727	0.15713	0.15733	0.15723	0.15713	0.15734	0.15719
Adjusted R^2	0.11240	0.11261	0.11256	0.11241	0.11262	0.11251	0.11241	0.11263	0.11248

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. D: Donor, Rg: Region, Rc: Recipient, Y: Year. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.10 Two-Step Hurdle Models

Table C.15: Two-Step Hurdle Model - Zero Model

	DFI Dummy					
Region		ADM1			ADM2	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy	0.5960***			1.0114***		
	(0.1710)			(0.2530)		
ODA Count (log)		0.5644***			0.7817***	
		(0.1141)			(0.1804)	
ODA Commitment (log)			0.0667***			0.1053***
			(0.0144)			(0.0198)
Population t-1 (log)	1.4200***	1.3689***	1.3961***	1.2926***	1.2780***	1.2815***
	(0.1425)	(0.1388)	(0.1422)	(0.1598)	(0.1576)	(0.1557)
Nighttime Light t-1 (log)	1.8768***	1.8443***	1.8658***	1.4995***	1.4929***	1.4994***
	(0.1572)	(0.1518)	(0.1546)	(0.1662)	(0.1681)	(0.1646)
Leader Birthplace	0.8936*	0.8891*	0.8800*	1.8282***	1.7955***	1.8321***
	(0.4035)	(0.4036)	(0.4058)	(0.3904)	(0.3711)	(0.3852)
Total ODA t-1 (log)	-0.1047	-0.1124	-0.0920	-0.1356	-0.1568	-0.1441
	(0.1138)	(0.1168)	(0.1181)	(0.1217)	(0.1255)	(0.1252)
Total DFI t-1 (log)	-0.1863	-0.1985	-0.1944	0.0146	-0.0144	-0.0168
	(0.1519)	(0.1537)	(0.1457)	(0.1867)	(0.1882)	(0.1812)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Recipient	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	140	140	140	122	122	122
# Recipient-Year	548	548	548	483	483	483
# Donor-Recipient	371	371	371	325	325	325
Observations	48,867	48,867	48,867	735,970	735,970	735,970

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from binomial regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

Table C.16: Two-Step Hurdle Model - Positive Model

Region	DFI Count (log)	DFI Amount (log)	DFI Count (log)	DFI Amount (log)
	ADM1		ADM2	
	(1)	(2)	(3)	(4)
Variables				
ODA Count (log)	-0.0028		-0.0271	
	(0.0341)		(0.0658)	
ODA Commitment (log)		0.0830^{+}		0.1056**
		(0.0431)		(0.0360)
Population t-1 (log)	3.0567	18.5909	1.2409*	-3.2559
	(2.5540)	(16.1974)	(0.4809)	(3.8935)
Nighttime Light t-1 (log)	-0.6933	-1.6628	0.7983	0.9887
	(0.5061)	(4.7581)	(1.0601)	(3.7222)
Leader Birthplace	0.1066	-0.1764	0.0954	1.0867
	(0.0957)	(0.4586)	(0.1528)	(1.3643)
Total ODA t-1 (log)	0.0915	0.7016^{+}	0.1845^{+}	1.8805*
	(0.0744)	(0.3809)	(0.1036)	(0.8350)
Total DFI t-1 (log)	0.0372	0.4391	0.0172	0.4278
	(0.0766)	(0.3864)	(0.0991)	(0.7718)
Fixed-effects				
Donor-Year	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes
Donor-Region	Yes	Yes	Yes	Yes
Fit statistics				
# Donor-Year	140	140	122	122
# Recipient-Year	548	548	483	483
# Donor-Region	535	535	532	532
Observations	1,168	1,168	1,018	1,018
R^2	0.83692	0.92853	0.86957	0.92045
Adjusted R^2	4.2256	2.4136	2.0784	1.6577

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from ordinary least squares regression. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2- level regressions, respectively.

C.11 Rare events Logit Models

Table C.17: Rare events logit: Official Development Finance and DFI Investment, 2000-2020

	DFI Dummy					
Region		ADM1			ADM2	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
ODA Dummy t-1	0.7106***			1.1153***		
	(0.1533)			(0.2609)		
ODA Count t-1 (log)		0.5206***			0.8345***	
		(0.1148)			(0.2147)	
ODA Commitment t-1 (log)			0.0545***			0.1004***
			(0.0114)			(0.0233)
Population t-1 (log)	1.4114***	1.3794***	1.4098***	1.2874***	1.2798***	1.2861***
	(0.1408)	(0.1399)	(0.1450)	(0.1599)	(0.1609)	(0.1597)
Nighttime Light t-1 (log)	1.8715***	1.8557***	1.8733***	1.5003***	1.4972***	1.5047***
	(0.1559)	(0.1530)	(0.1560)	(0.1664)	(0.1714)	(0.1681)
Leader Birthplace	0.8906*	0.8905*	0.8926*	1.8312***	1.7922***	1.8505***
	(0.4029)	(0.4036)	(0.4050)	(0.3890)	(0.3704)	(0.3857)
Total ODA t-1 (log)	-0.1064	-0.1124	-0.1179	-0.1318	-0.1683	-0.1650
	(0.1126)	(0.1146)	(0.1155)	(0.1188)	(0.1195)	(0.1151)
Total DFI t-1 (log)	-0.1916	-0.1943	-0.2104	0.0063	-0.0157	-0.0278
	(0.1514)	(0.1502)	(0.1469)	(0.1773)	(0.1803)	(0.1811)
Fixed-effects						
Donor-Year	Yes	Yes	Yes	Yes	Yes	Yes
Recipient-Year	Yes	Yes	Yes	Yes	Yes	Yes
Donor-Recipient	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics						
# Donor-Year	140	140	140	122	122	122
# Recipient-Year	548	548	548	483	483	483
# Donor-Recipient	371	371	371	325	325	325
Observations	48,867	48,867	48,867	735,970	735,970	735,970

Clustered (Recipient) standard-errors in parentheses
*Signif. Codes: ***: 0.001, **: 0.01, *: 0.05, +: 0.1*

Notes: Results from bias-corrected rare-events logit model (King and Zeng, 2001). The reported number of observations excludes cells defined by fixed effects with no within-cell outcome variation. OECD-DAC recipients excluded. Region refers to ADM1 and ADM2 in ADM1- and ADM2-level regressions, respectively.

D Interview Materials

Our research paper is based on a number of qualitative sources including seven semi-structured interviews conducted with high-level officials from aid agencies and DFIs in Germany and France. In this Appendix section, we provide information on the interview sampling process. We summarize the information on our interviews in Table D.1 following the method introduced by Bleich and Pekkanen (2014, 2015).

We adopted a targeted sampling strategy, focusing on individuals with extensive experience in private sector development cooperation and, where possible, long careers within a single agency or across multiple institutions within the same donor. We considered these criteria as being important for accessing information on how coordination and information-exchange is orgnanized, and institutional memory that is not always captured in policy documents.

For France, we contacted five individuals matching this profile across the Paris headquarters and regional directorates. Two were identified through our personal network and agreed to participate. The first held successive positions across several French development cooperation agencies, providing information on how coordination mechanisms evolved over time. The second served as a country director at Proparco, offering granular insight into the informational barriers the DFI face and the strategies developed to address them.

For Germany, we contacted five individuals who all responded favourably to our interview request. Two of them were staff at GIZ and KfW Development Bank, two others were at the DEG, and one was a DEG-seconded official operating in a German desk. The GIZ respondent held a leadership role in the private sector development unit. Three contacts were identified through LinkedIn; two of them each referred us to an additional interviewee, both of whom agreed to participate.

Regarding the United States, we have not been able to identify relevant interviewee contacts. One reason is the current political context in the country, which makes it difficult to set up interviews and obtain reliable information in a rapidly evolving institutional setting. However, we have been able to analyze a wide range of policy documents which had made

it possible to trace coordination between US aid agencies and the DFC over time. For the two other donors, interviews were deemed useful as such detailed policy documentation proved more difficult to collect.

Interviews were conducted using a semi-structured questionnaire that we adapted by country and updated iteratively as new information emerged. We did not record interviews in order to minimize self-censorship and encourage candor. After seven interviews, we determined that saturation had been reached: respondents were converging on the same informational barriers, coordination challenges, and institutional mechanisms, with few new themes emerging. The interview findings also corroborated and enriched the policy documents analyzed in the prior stage of our research. We also note that recruiting senior practitioners is inherently constrained by their availability, which further informed our decision to prioritize depth of engagement over sample size.

D.1 Interview Methods Table

Table D.1: Interview Methods Table

No.	Interview	Status	Source	Format	Length	Recording	Transcript
1	DEG Senior Official	Conducted virtually 04/17/2025	Sample frame	Semi-structured	45 min	Concurrent notes by two authors	Confidentiality required
2	GIZ Senior Official	Conducted virtually 04/11/2025	Sample frame	Semi-structured	45 min	Concurrent notes by two authors	Confidentiality required
3	KfW-DB Senior Official	Conducted virtually 04/22/2025	Referred by Interviewee 2	Semi-structured	45 min	Concurrent notes by two authors	Confidentiality required
4	German Desk Official (Ghana)	Conducted virtually 05/06/2025	Sample frame	Semi-structured	35 min	Concurrent notes by two authors	Confidentiality required
5	AFD Senior Official	In person, AFD HQ Paris 05/06/2025	Sample frame	Semi-structured	1 hr 15 min	Concurrent notes	Confidentiality required
6	DEG Senior Evaluator	Conducted virtually 05/08/2025	Referred by Interviewee 1	Semi-structured	50 min	Concurrent notes by two authors	Confidentiality required
7	Proparco Senior Official	Conducted virtually 05/15/2025	Sample frame	Semi-structured	1 hr 05 min	Concurrent notes	Confidentiality required

D.2 Interview Questionnaire

The semi-structured interview guide below was developed to explore how aid agencies and development finance institutions (DFIs) coordinate within the donor bureaucracy. Questions are organized around three themes – institutional roles and mandates, project sourcing and identification, and coordination mechanisms. We allowed some flexibility depending on the conversational flow. Interviewers adapted the order when it was necessary and we sometimes asked follow-up questions that are not included in the questionnaire. Placeholder text in brackets indicates elements that were tailored to the specific donor prior to the interview.

1. **Institutional roles and mandates**

   (a) Can you briefly describe your role and responsibilities at [AID AGENCY NAME / DFI NAME], particularly regarding coordination with [DFI NAME / AID AGENCY NAME]?

   (b) How does [DFI NAME] complement [AID AGENCY NAME]? [AID AGENCY NAME] has its own (non-ODA) private sector development unit [INSERT NAME]. How does it differ from [DFI NAME]? Is there complementarity with [DFI NAME] activities?

   (c) Is it [AID AGENCY NAME] that finances projects and then helps [DFI NAME] identify investments?

   (d) What does [AID AGENCY NAME] know that [DFI NAME] needs for its financing decisions — for instance, does [AID AGENCY NAME] provide networks or technical support?

   (e) At a broad level, what does coordination with [DFI NAME] look like, and at what stage does it typically begin? *(Coordination mechanisms are explored in detail in Section 3.)*

   (f) Are there clear criteria for when a project becomes a joint [AID AGENCY NAME + DFI NAME] effort versus when it remains within one institution's remit?

(g) Can we think of [AID AGENCY NAME / DFI NAME from interviewed donor] as similar to [AID AGENCY NAME / DFI NAME from a similar donor]? In what ways are they similar or different?

2. **Project sourcing and identification**

   (a) Could you describe how the sourcing of projects works?

      - Who typically identifies opportunities — [NAME AID AGENCY] or [DFI NAME], or both?

   (b) Who is responsible for designing private sector development projects?

   (c) Do companies (from the Global North or South) proactively approach [AID AGENCY NAME] or [DFI NAME] first?

   (d) How does [AID AGENCY NAME] inform [DFI NAME] in developing pipelines of projects?

   (e) When [AID AGENCY NAME] approves a government financing project, does it bring [DFI NAME] into the loop?

   (f) How is the division of labour managed when both institutions engage with the same clients?

3. **Coordination: where and how does it happen?**

   (a) Where does coordination between [AID AGENCY NAME] and [DFI NAME] take place?

      - Is it [COORDINATING MINISTRY] that coordinates their activities?
      - What is the role of [COORDINATING MINISTRY] in [DFI NAME] investment decisions?
      - Is coordination primarily at headquarters level, or does it also occur in field offices?

   (b) What kind of coordination happens at each level — for example, strategic planning at headquarters versus operational alignment in the field?

- *[Interviewer: introduce a specific initiative as a concrete example here.]*

(c) What is being coordinated? Is it primarily information, and if so, on what topics?

- Investment opportunities
- Political context and operating environment
- Other topics?

(d) How is this information exchanged — through formal mechanisms such as committees, working groups or more informally between officials? How has this changed over time?

(e) What has been the experience of joint field representations, such as the Nairobi development office opened in July 2022 by GIZ, KfW, and DEG?

(f) *Follow-up questions (if needed):*

- How is information shared across levels?
- Are there formal coordination protocols, steering committees, or shared databases?