SciencesPo
SCHOOL OF PUBLIC AFFAIRS

PUBLIC POLICY MASTER THESIS

April 2025

# Unveiling Implicit Home Bias in ODA Procurement: Evidence and Extent of De Facto Tied Aid

Sakiko HIRANO

Master's Thesis supervised by Clement IMBERT

Second member of the Jury: Enrico CANZIO

Master in Public Policy
Economics and Public Policy Stream

Abstract

This study examines the extent of de facto tied aid in Official Development Assistance (ODA) procurement. While de jure tied aid has been widely condemned and subjected to international efforts for reduction, concerns remain that informal practices continue to favour domestic firms. Drawing on bidding data from Japan International Cooperation Agency (JICA)-funded ODA loan projects between 2001 and 2023, this analysis explores implicit home bias in procurement across two stages: the likelihood of firms participating in bids (intensive margin) and the likelihood of winning contracts among participants (extensive margin), measured in both share of wins and contract value. Using Poisson Pseudo-Maximum Likelihood (PPML) regression models, the study compares the procurement outcomes of Japanese and non-Japanese firms in each stage, controlling for tied aid status, project characteristics, country-level factors, and bilateral relationships. The findings show that Japanese firms significantly outperform others, with their advantage stemming from both the participation and selection phases, suggesting the persistence of de facto tying. The paper calls on the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD DAC) and its Secretariat to adopt measures such as strengthening data reporting and monitoring systems to more effectively detect and address informal tying practices, expanding access to procurement opportunities, such as through the development of a transparent and timely digital platform, and enhancing oversight mechanisms to promote fairness and improve aid effectiveness.

Key words

Official Development Assistance, De facto and de jure tied aid, Government Procurement, Home Bias

# Contents

**List of Abbreviations** **6**

**1 Why should you read this research?** **7**

**2 Introduction** **8**

**3 Interdisciplinary State of Knowledge** **12**
3.1 On Tied Aid . . . 12
3.1.1 Definition of tied aid . . . 12
3.1.2 History of tied aid . . . 13
3.1.3 Recent trends in tied aid . . . 14
3.1.4 Mechanisms of *de jure* and *de facto* tied aid . . . 14
3.1.5 Donor's rationales behind tied aid . . . 17
3.1.6 Impact on recipients . . . 18
3.1.7 On existence of *de facto* tied aid . . . 19
3.2 On domestic preference in public procurement . . . 20
3.2.1 Import Elasticity Approach . . . 21
3.2.2 Probability Approach . . . 21

**4 Background of Japan's ODA and *de jure* tying policy, *de facto* tied aid practices and ODA procurement procedures** **23**
4.1 Japan's ODA and *de jure* tying policy . . . 23
4.2 Japan's *de facto* tied aid practices . . . 25
4.3 Japan's ODA procurement procedures . . . 26
4.3.1 Key Principles . . . 26
4.3.2 Types of procurement . . . 27
4.3.3 Standard procedures . . . 28
4.3.4 Efforts to ensure transparency and fairness in ODA procurement . . . 29

**5 Hypotheses, Data, Descriptive Analysis, and Methodologies** **29**
5.1 Hypotheses . . . 29
5.2 Data . . . 30
5.3 Descriptive Analysis . . . 32
5.4 Methodologies . . . 34
5.4.1 Overview . . . 34
5.4.2 Models . . . 35
5.4.3 Sectoral Analysis . . . 39

**6 Results** **39**
6.1 Overall Results . . . 39
6.1.1 Analysis 1: Overall likelihood of securing contracts . . . 39
6.1.2 Analysis 2: Likelihood of participating in auctions . . . 44

6.1.3 Analysis 3: Likelihood of winning a contract among bid participants . . 47
6.2 Sectoral Analysis . . . . . 52
6.2.1 Analysis 1: Overall likelihood of securing contracts . . . . . 52
6.2.2 Analysis 2: Likelihood of participating in auctions . . . . . 52
6.2.3 Analysis 3: Likelihood of winning a contract among bid participants . . 52

**7 Conclusion** **56**

**8 Limitation** **57**

**9 Policy Recommendations** **58**
9.1 Enhancing the Current Monitoring Methodology and the System of *De Facto* Tied Aid Through Asking for Bidder-Level Reporting and Enhanced Data Analysis . . . . . 58
9.2 Improving Access to Procurement Opportunities through Establishing a Timely Digital Platform . . . . . 59
9.3 Assessing Donor-Specific Procurement Practices and Fairness . . . . . 59

**10 Appendix** **60**

# List of Tables


1 Regression Results for Analysis 1: Overall likelihood of securing contracts (Share of win) . . . 42
2 Regression Results for Analysis 1: Overall likelihood of securing contracts (Contract value) . . . 43
3 Regression Results for Analysis 2: Likelihood of participating in auctions . . . 46
4 Regression Results for Analysis 3: Likelihood of winning a contract among bid participants (Share of win) . . . 49
5 Regression Results for Analysis 3: Likelihood of winning a contract among bid participants (Contract value) . . . 50
6 Difference in Coefficients: $\text{IsJPN}_c - \text{IsIND}_c$ (Analysis 3 – Contract Value) . . . 51
7 Sector-wise Regression Results for Analysis 1: Overall likelihood of securing contracts (Share of win) . . . 60
8 Sector-wise Regression Results for Analysis 1: Overall likelihood of securing contracts (Contract value) . . . 61
9 Sector-wise Regression Results for Analysis 2: Likelihood of participating in auctions . . . 62
10 Sector-wise Regression Results for Analysis 3: Likelihood of winning a contract among participants (Share of win) . . . 63
11 Sector-wise Regression Results for Analysis 3: Likelihood of winning a contract among participants (Contract value) . . . 64

# List of Figures


1 Tying Ratio of ODA Commitments by OECD DAC Members Over Time . . . . 10
2 Tying Ratio of ODA Commitments by OECD DAC Members Over Time (100% Stacked) . . . . 11
3 Contract Count Share of Domestic Firms In Untied Aid Projects by DAC Members . . . . 11
4 Contract Count Value of Domestic Firms In Untied Aid Projects by DAC Members . . . . 11
5 Tying Ratio of ODA Commitments by Japan . . . . 24
6 Tying Ratio of ODA Commitments by Japan (100% Stacked) . . . . 25
7 Share of Japan vs. Non-Japan Contract Count in Japan's ODA Untied Projects (by year) . . . . 25
8 Share of Japan vs. Non-Japan Contract Value in Japan's ODA Untied Projects (by year) . . . . 26
9 Procurement Process for Japanese ODA Project Main Contracts . . . . 28
10 Top 15 Bidder Nationalities by Number of Bid Participation . . . . 32
11 Top 15 Contractor Nationalities by Number of Contracts . . . . 33
12 Top 15 Contractor Nationalities by Contract Value (In Billion Japanese Yen (JPY)) . . . . 33
13 Distribution of Number of Bids by Project Tied Status and Company Origin (100% Stacked) . . . . 33
14 Distribution of Number of Contracts by Project Tied Status and Company Origin (100% Stacked) . . . . 34
15 Distribution of Contracting Value by Project Tied Status and Company Origin (100% Stacked) . . . . 34
16 Procurement Workflow and Coverage of Analyses 1–3 . . . . 34
17 Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 1 (Share of win) . . . . 53
18 Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 1 (Contract value) . . . . 53
19 Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 2 (Share of participation) . . . . 54
20 Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 3 (Share of win) . . . . 55
21 Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 3 (Contract value) . . . . 55

# List of Abbreviations

**AFD** French Development Agency. 16

**BOP** Balance of Payments. 18

**DAC** Development Assistance Committee. 7–10, 13, 14, 17, 20, 23, 58, 59

**ECFA** Engineering and Consulting Firms Association, Japan. 16

**HIPCs** Heavily Indebted Poor Countries. 8, 13

**ICB** International Competitive Bidding. 27

**JICA** Japan International Cooperation Agency. 1, 7, 9, 15, 16, 24, 26–32, 34, 35, 39

**JPY** Japanese Yen. 5, 28, 30, 31, 35, 37, 57

**LDCs** Least Developed Countries. 8, 12, 13, 15, 17

**OCAJ** Overseas Construction Association of Japan. 16

**ODA** Official Development Assistance. 1, 2, 7–10, 14, 15, 17, 19, 20, 23–26, 29, 30, 32, 56, 58, 59

**OECD** Organisation for Economic Co-operation and Development. 7–10, 12–14, 19, 23, 30, 58, 59

**OLICs** Other Low-Income Countries. 8, 13

**PPML** Poisson-Pseudo Maximum Likelihood estimator. 22, 35

# 1 Why should you read this research?

This thesis investigates the under-explored phenomenon of *de facto* tied aid—an informal yet pervasive practice in which aid donors channel procurement contracts to their domestic firms under the guise of untied ODA.

Tied aid has been the subject of significant international reform efforts because it is geared to undermine development effectiveness by increasing project costs, thus burdening recipients, hindering the promotion of local business development, and diluting focus and effectiveness. These concerns led to repeated international commitments through the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) and global aid effectiveness agendas such as the Paris Declaration and the Busan Partnership.

While the ratio of *de jure* tied aid has declined over the years, *de facto* tied aid remains a persistent challenge. Although official statistics report a decrease in *de jure* tied aid among members of DAC, procurement outcomes often tell a different story. Many donor countries continue to award a disproportionately large share of contracts to their domestic firms, even in projects officially classified as untied. However, empirical research on this issue remains limited. Most existing studies rely on simple descriptive comparisons between donor and foreign firms' procurement outcomes, without rigorous statistical analysis or distinguishing between the stages at which de facto tying may occur.

To address this gap, this study develops a novel empirical strategy that identifies *de facto* tying using procurement data from the Japan International Cooperation Agency (JICA), covering their ODA loan projects from 2001 to 2023. Through three distinct analyses, it disaggregates procurement outcomes into participation and awarding stages to better understand the mechanisms of the home bias. The study employs Poisson Pseudo-maximum likelihood (PPML) regression models to evaluate and compare the procurement performance of Japanese and non-Japanese firms at each stage, while accounting for tied aid status, project-specific attributes, country-level variables, and bilateral ties.

This study reveals that Japanese firms hold a substantial advantage in Japan's ODA procurement, consistently securing a higher share of contract wins and greater contract values than firms from other top-performing countries. This advantage is evident in both the participation and selection phases of the procurement process.

The paper calls on the OECD DAC and its Secretariat to implement measures aimed at improving transparency and fairness in procurement. These include enhancing data reporting and monitoring systems to better identify informal tied aid practices, broadening access to procurement through tools like a timely and transparent digital platform, and reinforcing oversight mechanisms to support equitable competition and increase the effectiveness of aid.

This research offers new insights for policymakers, development practitioners, and scholars focused on aid effectiveness, donor behaviour, and equitable procurement practices.

# 2 Introduction

Tied aid refers to foreign aid, such as grants or loans, that restricts procurement to companies from the donor country or a limited group of countries (OECD 2023; OECD 2025d; Simonds 2024). Tied aid can be classified as either *de jure* (or formal) or *de facto* (or informal). While *de jure* tying involves explicit legal conditions that require recipients to use donor-specified goods, services, or contractors, *de facto* tying refers to setting unofficial measures to favour a donor's domestic suppliers, despite claims that the aid is untied (Simonds 2024).

The use of tied aid, both *de jure* and *de facto*, has been harshly criticised for "putting the commercial priorities of firms based in rich countries before development impact" (Meeks 2018, p.3), that it compromises developmental effectiveness by diverting resources from local economies and increasing project costs.

Efforts to reduce tied aid have been driven by international commitments, particularly through the Organisation for Economic Co-operation and Development (OECD)'s Development Assistance Committee (DAC). OECD DAC is a forum within the OECD, consisted of 33 aid providers, including the United States, Germany, Japan, United Kingdom, and France (Organisation for Economic Co-operation and Development 2024). They established "DAC Recommendation on Untying Official Development Assistance", which was amended in 2006, 2008, 2014 and in 2018 (OECD 2018b), which aims to untie certain categories of ODA, such as aid to the Least Developed Countries (LDCs), Heavily Indebted Poor Countries (HIPCs), and Other Low-Income Countries (OLICs), and urge countries to explore opportunities for further untying aid beyond the current scope (ibid.). This recommendation is repeatedly endorsed through international frameworks, such as the 2005 Paris Declaration on Aid Effectiveness (OECD 2005b), the 2008 Accra Agenda for Action (OECD 2008), and the Busan Partnership Agreement (OECD 2011).

Thanks to international cooperation, the *de jure* tied aid ratio among DAC members has declined (Figure 1 and Figure 2). However, the actual procurement outcomes suggest a different reality. Figure 3 and Figure 4 indicate that many countries allocate a higher percentage of contracts to their national firms, both in value and count, irrespective of their untied status. Indeed, in 2019 and 2020, domestic suppliers secured 54% (within the scope) and 52% (beyond the scope) of the total contract value for DAC members' untied projects (OECD 2022). Moreover, even within the Recommendation's coverage, countries such as the U.S., Canada, Japan, Australia, Hungary, and Poland, awarded over 75% of their contract value to domestic firms in untied projects during the same years (ibid., pp.11-12). These findings all imply the persistence of *de facto* tying practices.

Nevertheless, there is a lack of empirical research on *de facto* tied aid. While studies such as OECD (ibid.), Clay, Geddes, and Natali (2009), and Meeks and Craviotto (2021) have explored this issue in depth, they primarily focus on the gap between declared untied aid and the actual outcomes of awards, without providing a statistically robust analysis. Additionally, the existing literature does not clearly identify whether *de facto* tying occurs at the bidding stage or during the awarding of contracts.

In this context, this research aims to address the following research questions:

- Does *de facto* tied aid exist?
- If so, at which stage—participating or awarding—and to what extent?

The analysis focuses on Japan, using procurement data from the Japan International Cooperation Agency (JICA) for ODA projects, from 2001 to 2023. Japan was chosen due to both its significance in global aid and the feasibility of data access. As the third-largest bilateral donor among OECD DAC countries in 2023, after the United States and Germany (OECD 2025c), Japan plays a crucial role in international development, making it relevant to examine procurement patterns in ODA projects. Moreover, its transparency in bidding results—with publicly available award data that includes bidder information since 2001, which is not found in other donors, further supports its suitability for this analysis.

This study employs regression models, both in terms of contract value and the likelihood of winning, while controlling for tied aid status and other relevant factors, including country characteristics and bilateral relations. This analysis investigates implicit home bias in procurement both overall and by stage—specifically examining the likelihood of firms participating in bids (intensive margin) and the likelihood of winning contracts among participants, measured in terms of both share of wins and contract value (extensive margin).

The initial hypothesis posits the existence of *de facto* tied aid; however, it assumes that the advantage primarily originates during the participation phase, where preferential treatment can be more easily exercised by the donor. In contrast, the awarding phase is expected to operate more equitably, given the institutional arrangement in which procurement is managed by the borrowing country rather than JICA, alongside the enforcement of international procurement standards and the presence of external oversight mechanisms.

The key findings highlight several critical dynamics in ODA procurement:

- Structural and geographic factors—such as a firm's home country export capacity, geographic proximity to the recipient, and shared language—play a significant role in participation and success. Moreover, local firms also benefit from considerable advantages across all phases of the procurement process.
- Japanese firms hold a substantial advantage in Japan's ODA procurement. Contrary to the hypothesis that this advantage arises solely during the participation phase, it is also clearly evident at the selection stage.
- Joint ventures with Japanese firms provide a notable edge, revealing another dimension of their competitive strength.

Given the findings, this paper proposes the following policy recommendations to the OECD DAC, which is best positioned to address the issue of *de facto* tied aid in ODA procurement:

- Enhancing the current monitoring methodology and system: Strengthen the collection and analysis of disaggregated procurement data to identify implicit biases and trace procurement outcomes more effectively.

- Improving access to procurement opportunities: Establish a timely and centralised digital platform to increase transparency, reduce information asymmetries, and facilitate fair access to bidding opportunities for a broader pool of international firms.
- Assessing donor-specific procurement practices and fairness: Strengthening the monitoring of procurement processes across donors to detect potential *de facto* tied aid practices, by going beyond the current focus on aggregate quantitative indicators and instead examining the specific practices of each donor.

This paper contributes to the following areas:

- Supporting the implementation of the international commitment: allowing an understanding of the real extent of implementing the OECD DAC recommendation of untying aid to further promote the international initiative.
- Promoting aid effectiveness: Tackling tying aid can improve development effectiveness by decreasing the project cost, stimulate local economies, foster entrepreneurship in developing countries.
- Contributing to the literature on home bias in public procurement: The paper advances the literature on home bias in public procurement by being the first to empirically investigate home bias in the context of development project procurement.

The paper is structured as follows: **Section 3** reviews the literature on tied aid and domestic preferences in public procurement. It examines key definitions, classifications, the historical evolution, and recent trends in tied aid, distinguishing between *de jure* and *de facto* mechanisms. The section also discusses donor motivations, the implications for recipient countries, and empirical evidence on the persistence of *de facto* tying. Finally, it introduces two main analytical approaches used to detect domestic preferences in procurement: the import elasticity approach and the probability-based approach. **Section 4** provides background on Japan's ODA and *de jure* tying policy, *de facto* tied aid practices and ODA procurement procedures. **Section 5** describes the hypotheses of the study, the data, followed by descriptive analysis, and the methodologies used. **Section 6** presents the results, followed by the conclusion in **Section 7** and the limitations of the research in **Section 8**. Finally, **Section 9** offers policy recommendations.

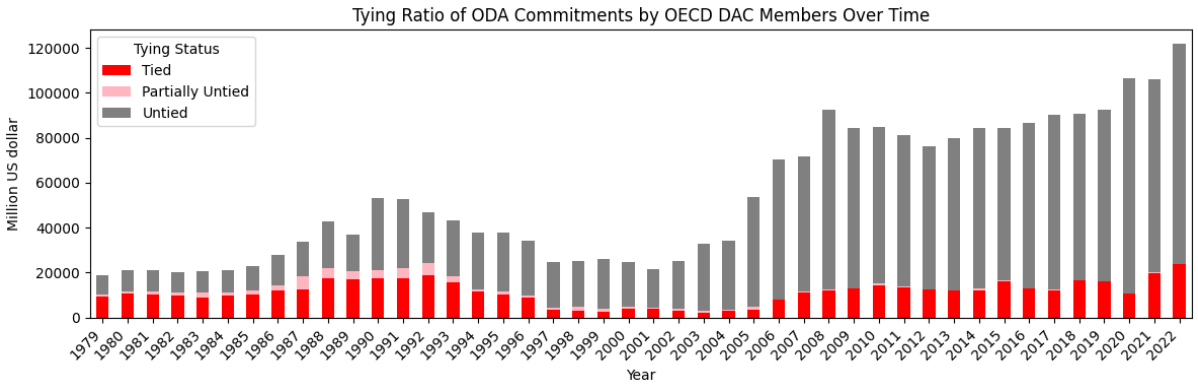


Figure 1

Source: (OECD 2025a)

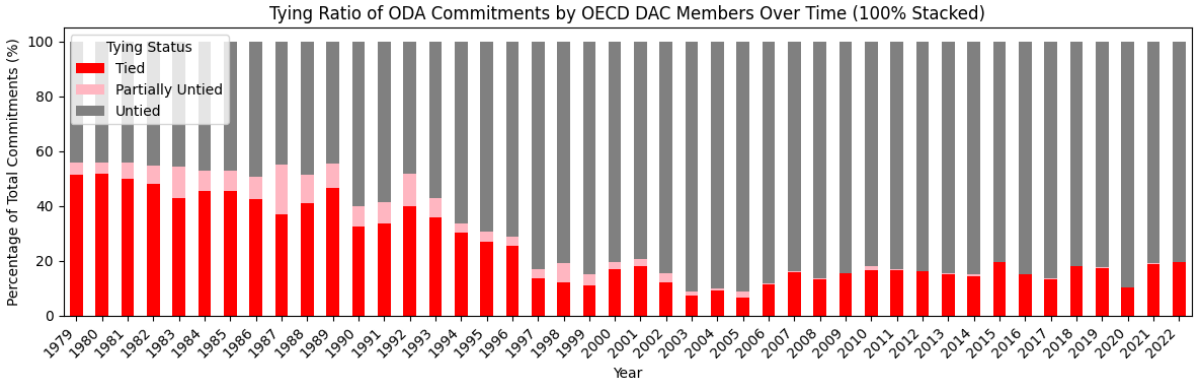


Figure 2

Source: OECD (2018a), OECD (2021), and OECD (2022). Note: the figures include both within and beyond the scope of the Recommendation.

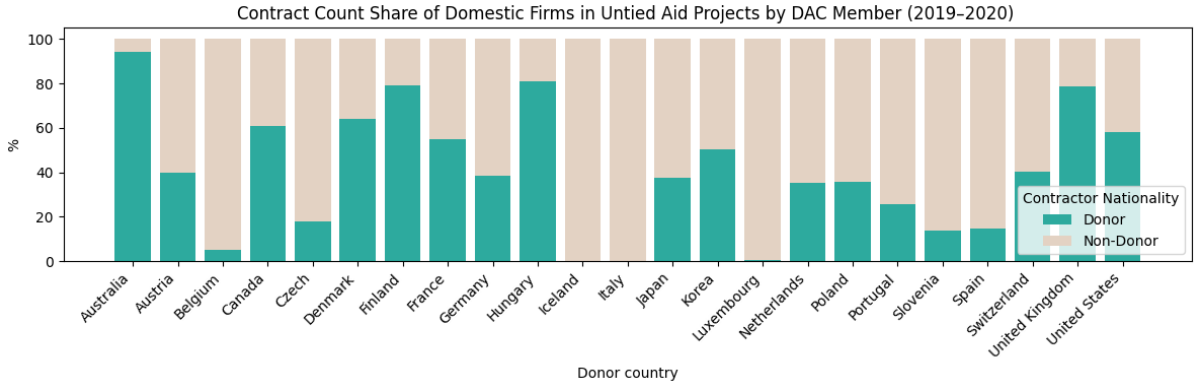


Figure 3

Source: OECD (2018a), OECD (2021), and OECD (2022). Note: the figures include both within and beyond the scope of the Recommendation.

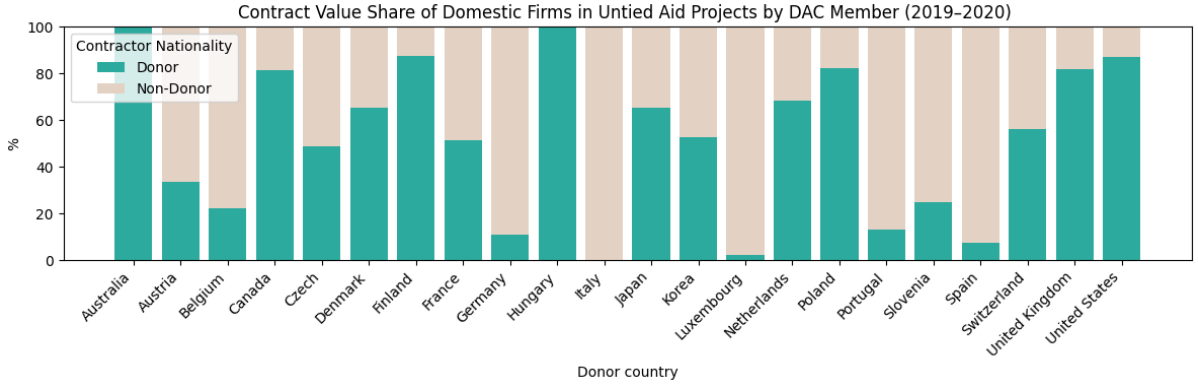


Figure 4

Source: OECD (2018a), OECD (2021), and OECD (2022). Note: the figures include both within and beyond the scope of the Recommendation.

# 3 Interdisciplinary State of Knowledge

## 3.1 On Tied Aid

### 3.1.1 Definition of tied aid

As previously mentioned, tied aid refers to foreign aid, such as grants or loans, that restricts procurement to companies from the donor country or a limited group of countries (OECD 2023; OECD 2025d; Simonds 2024). Tied aid can be classified as either *de jure* (or formal) or *de facto* (or informal). While *de jure* tying involves explicit legal conditions that require recipients to use donor-specified goods, services, or contractors, *de facto* tying refers to setting unofficial measures to favour a donor's domestic suppliers, despite claims that the aid is untied (Simonds 2024).

While tied aid generally restricts procurement from a donor country or a limited group of countries, a less restrictive form exists known as partially untied aid. It refers to aid that is restricted to procurement of goods and services from a limited group of countries, which include all developing countries and may also encompass the donor country (OECD 2022, p.7).

The tied aid disciplines established by the OECD in 1991 offer detailed criteria for classifying a financial flow as tied aid, including partially untied aid, aiming to restrict the use of concessional financing for projects that could otherwise be funded through commercial means: development stages of recipient countries, minimum concessionality requirements, and project qualification criteria (OECD 2025d). Tied aid is not permitted for countries where the per capita Gross National Income, as determined by the World Bank, exceeds the upper threshold for lower-middle-income countries for two consecutive years, unless the concessionality level is at least 80% (ibid.).

Moreover, tied aid is subject to higher concessionality requirements than untied aid. For instance, untied aid must meet the minimum grant element for lower middle-income countries (LMICs) of 15% (calculated using a 7% discount rate) and 10% for Upper Middle-Income Countries (using a 6% discount rate) (OECD n.d.[b]). In contrast, tied aid requires 35% of concessionality for non - LDCs countries, calculated using Differentiated Discount Rates (OECD 2025d), which is 5.8 - 6.3% for USD as of January 2025 (OECD 2025b).

Finally, the OECD disciplines stipulate that tied aid must not be provided for commercially viable projects (OECD 2025d). The aid should be provided to commercially non-viable projects, that are unlikely to generate enough revenue to cover operating expenses and repay the investment under typical export credit conditions (OECD 2005a). Examples of such projects include those producing public goods, requiring capital investment with high per-unit production costs and slow adoption rates, or serving groups who are unable to afford the output at a market price (ibid.). The commercial viability of a project should be determined individually

(OECD 2005a, p.5).

It should be noted that this discipline can only capture *de jure* tied aid; it does not capture *de facto* tied aid, which is an unofficial measure that consists of *de facto* tied aid.

### 3.1.2 History of tied aid

Tied aid has been a widespread practice, especially during the mid-20th century. In the 1980s, approximately 60 % of bilateral development assistance from all donors was tied or partially tied (Figure 1 and Figure 2).

Untying is the so-called "prisoner's dilemma", a challenge that can only be addressed if all countries simultaneously untie (Chimia 2004, p.5), because even if untying aid improves overall aid effectiveness, no single donor wants to do it alone, for fear of hurting its own interests. For this reason, tying has become an issue of international cooperation.

Sweden initiated the first attempt to untie bilateral aid in 1969, aiming for a multilateral agreement on gradual untying (Lammersen and Owen 2001, p.70). In 1970, DAC members discussed the issue at a High-Level Meeting in Japan, where most donors expressed willingness to untie financial development loans; however, negotiations failed due to some members' unwillingness to commit (ibid., p.70). A second attempt followed in 1974, resulting in a Memorandum of Understanding signed by 10 donor countries to allow procurement in developing countries (ibid., p.70). Lammersen and Owen (ibid., p.70) notes that nevertheless, it was never put into effect due to the oil price shock, which strained aid budgets.

However, particularly following the 1980s third-world debt crisis, tied aid became a major point of dispute among OECD countries (ibid., p.70). This is also due to a surge in tied aid, as the OECD members agreed to impose strict restrictions on subsidised commercial credits, making tied aid the sole remaining tool for promoting capital goods exports (ibid., p.70). They were actively used for commercial advantages, and more toward richer credit-worthy developing countries than for the poorest (ibid., p.70)

This situation led to the creation of the 1992 Helsinki Arrangements, which aimed to prevent market distortions by prohibiting the use of concessional loans, and consequently tied aid, for commercially viable projects, while restricting eligibility for concessional loans to middle-income and lower-income least developed countries (ibid., p.70).

Additionally, in the 1990s, several OECD countries began partially untying their bilateral aid, following economic assessments suggesting that it could lead to substantial procurement cost reductions (Petermann 2012, p.38).

The momentum toward untying culminated in the 1998 DAC High-Level Meeting, which committed to enhancing aid effectiveness by untying aid, which was further formalised as the 2001 DAC Recommendation. The recommendation advocated untying most DAC Recommendation categories to exclude technical cooperation and food aid (OECD 2018b). The geographical scope continued to widen in the following amendments in 2006, 2008, 2014, and 2018, extending the scope to include non-LDCs such as HIPCs, OLICs, and the International Development Association only eligible countries (ibid.).

The Recommendation has been consistently endorsed in international agreements, such as

the 2005 Paris Declaration on Aid Effectiveness (OECD 2005b), the 2008 Accra Agenda for Action (OECD 2008), and the Busan Partnership Agreement (OECD 2011).

The Recommendation urges both *de jure* and *de facto* untying. Indeed, it urges DAC Members with rules of origin, or minimum national content rules, to "take any steps necessary" to guarantee that untied ODA carried out in line with the Recommendation to be both *de jure* and *de facto* untied (OECD 2018b). To ensure that ODA is genuinely untied, the Recommendation incorporates transparency provisions that demand DAC member countries to post ex-ante notification of untied aid offers on the OECD's Untied Aid Public Bulletin Board, and ex-post reporting on awarded contracts (ibid.).

Thanks to these initiatives, the *de jure* tying ratio declined through the early 2000s, but has since gradually recovered to a level of approximately 20 % (Figure 1 and Figure 2).

Since 2023, the OECD DAC is undertaking a review of the DAC Recommendation on Untying ODA to reflect the evolving development landscape, including the Sustainable Development Goals (SDGs), changes in development co-operation and procurement practices, and the emergence of new donors who may not prioritise aid untying (OECD 2023).

### 3.1.3 Recent trends in tied aid

Despite the progress in the past few decades, key developments in the development industry suggest a growing shift toward the further promotion of tied aid. The first driver is the rise of emerging donors, especially China. The emerging donor provides grants and concessional loans that are often tied to the use of Chinese firms and resources, and it is often argued that the funds do not flow out of China, as they are allocated to projects implemented by Chinese companies (Grimm et al. 2011, p.11).

The second driving force is the "America First" policy. The Trump Administration sought to modify foreign aid funding and policies in line with its "America First" approach (Morgenstern and Brown 2022), throughout both terms. During the second term, following President Trump's Executive Order on Reevaluating and Realigning United States Foreign Aid, Secretary Rubio suspended all U.S. foreign aid programmes managed by the State Department and U.S. Agency for International Development, aiming to assess all programmes to check their efficiency and alignment with their America First agenda (Bruce 2025), resulting in reducing 83% of its existing programmes (Knickmeyer 2025).

While the direct effects of these trends remain unclear, they raise broader concerns. As Petermann (2012, p. 65) warns of the risk of "tied aid fueling a prisoner's dilemma". Indeed, there is some indication that these actions are leading to a growing trend of protectionism in foreign aid. Hancock and Bounds (2025) observe that, mirroring the "America First" approach, the European Commission is advocating for "Buy European" procurement strategy, aiming to introduce the "European preference in public procurement for critical sectors and technologies" to counter cost-competitive competitors from China and other nations.

### 3.1.4 Mechanisms of *de jure* and *de facto* tied aid

#### *De jure* tied aid

The most explicit way of tying is by stipulating in legal documents, such as loan agreements, that aid funds be used to procure goods, services, or contractors exclusively from the donor country. These are often facilitated through concessional loan packages.

For example, Japan offers Special Terms for Economic Partnership (STEP) loans, the conditions applied to projects that necessitate Japanese company's specific technology or goods and where it can be substantially utilised, excluding loans provided for LDCs (JICA 2018). This programme is facilitated through concessional loan packages that provide more favourable financial terms than standard concessional rates. As of April 2025, Japan's STEP loans offer significantly concessional terms, including an annual interest rate of 0.65% and a repayment period of 40 years, regardless of the recipient country's income level (Japan International Cooperation Agency 2024). These are in contrast with Japan's general ODA loan conditions, which, depending on the recipient country's economic status, wih a maximum repayment period of 30 years for richer countries, with fixed rates varying from 2.45% for Lower-Middle-Income Countries to 2.65% for those above Upper-Middle-Income threshold (ibid.).

The U.S. Food for Peace programme is another example. Established in 1954, the programme was designed to distribute surplus American agricultural products to developing countries. Legislation explicitly mandates that all food aid under this programme should be provided from the U.S. commodities (USGPO 2025). Additionally, at minimum 50% of the aid must be transported with the U.S. vessels (U.S. Department of Transportation 2023).

### *De facto* tied aid

Beyond explicit mechanisms, donors also employ informal strategies that could favour their national companies, increasing their chances of securing aid-funded projects. These include setting clear requirements in tender documents that indirectly favour their own countries, providing information primarily to local companies, using limited language for procurement processes, and offering incentives to recipients for choosing domestic firms.

**Setting clear requirements in tender documents that indirectly favour their own countries.** A frequent informal tying strategy includes integrating donor-country-specific or friendly standards or technical specifications into projects without directly mentioning a specific country. Such practice is commonly referred to as "spec-in" in Japan. According to Araki (2017), this term has become a buzzword among individuals involved in ODA projects, such as those from JICA. It refers to the practice of incorporating Japan's unique systems, or technologies, into Japan's development projects, aimed at giving Japan an advantage in international bidding for Japanese yen-loan projects and similar initiatives (Araki 2017).

Examining Japanese high-speed rail (HSR) projects in India and Vietnam, Kaizuka (2023) points out that such practice is creating a "de-facto tying effect". Both projects adopted JIS-60kg/m rail standard, recommended by the JICA feasibility studies, and the same as those used in Japan's Shinkansen (bullet train)(ibid.). Although India's feasibility study explored using a different UIC-60kg/m rail standard, they ultimately decided to adopt the Japanese standard (ibid.). This gave Japanese manufacturers a significant edge, given their production capacity meeting these specifications (ibid.). Kaizuka (ibid.) further argues that this is often triggered by

the domestic consulting firms responsible for conducting feasibility studies. In the two projects he investigated, the majority of these firms were Japanese (Kaizuka 2023). Their involvement inherently restricts the expertise available to those familiar with Japanese standards and engineering practices, making it unlikely that they would propose alternatives (ibid.). He further argues that this practice is common accross JICA-administered feasibility studies and projects, significantly constraining the range of perspectives and expertise incorporated into these studies (ibid.).

Moreover, company standards requirements can serve as an indirect mechanism for favouring domestic firms. For instance, CICID (2023, p. 4) has explicitly framed the reinforcement of requirements to prioritise sustainability and inclusiveness in tender documents as one of the measures to promote France's economic interests in the service of development. In practice, emphasising high sustainability standards can provide a competitive advantage for French companies that are more accustomed to meeting such criteria. For instance, when questioned about a study revealing that the vast majority of public procurement contracts under French Development Agency (AFD) projects between 2015 and 2019 were awarded to French companies (320 out of 495 contracts), AFD's deputy head attributed this dominance to the agency's stringent sustainability and social responsibility criteria, while claiming that it is "not conditioned by the selection of French companies" (Brabant et al. 2021).

**Providing information primarily to domestic companies.** Prioritising domestic firms in the provision of procurement-related information can create an uneven playing field. For example, since 2018, JICA has regularly co-hosted a seminar series titled "Introduction to Yen Loan Procurement" with the Overseas Construction Association of Japan (OCAJ) —a business group composed of Japanese construction firms supporting their overseas expansion (OCAJI 2025). This series has provided knowledge on procurement guidelines, standard bidding documents, and contract conditions from a contractor's perspective, aiming to enhance participants' understanding of how to interpret JICA's standard bidding documents, identify key challenges, and navigate contract clauses (ibid.). However, these sessions are conducted in Japanese and are limited to OCAJ member firms—exclusively Japanese companies (ibid.). Similarly, JICA co-hosts an annual two-day procurement seminar with the Engineering and Consulting Firms Association, Japan (ECFA), a business association comprising Japanese consulting firms. This seminar is also held in Japanese and is restricted to member companies (ECFA 2025). While JICA did organise an English-language seminar a few years ago in collaboration with DevelopmentAid—an information platform for development cooperation—to explain its procurement guidelines and related information for JICA projects (Ursu 2022), the predominance of Japanese-company only informational opportunities could create an uneven playing field between Japanese and non-Japanese firms.

**Using limited language for procurement processes.** Languages used for procurement processes could also play a key role in creating barriers to competition. Meeks (2018, p.17) surveyed donors on languages they used to advertise tenders in the preceding year. Among 16 donors, 4 donors used their own country's official language for major procurement processes

— for instance, Portugal in Portuguese. Eight donors used 2-4 different languages, all within DAC member countries. Only Enabel (Belgium) and KfW (Germany) made advertisements in languages other than DAC and non-European countries (Meeks 2018, p.17) . In an interview with the Afghan Women's Business Federation, Meeks (ibid., p.18) highlights this issue as a barrier for local firms. The additional costs of hiring staff for language support can hinder their ability to compete with firms from developed countries, thus excluding smaller businesses from the bidding process (ibid., p.18).

**Offering direct incentives to recipients for using domestic firms.** South Korea's Economic Development Cooperation Fund, a governmental fund providing concessional loans to developing countries, offers explicit incentives to encourage the involvement of Korean consulting firms in their financial projects (KDI School 2025; ADB 2016). While the Fund provides loans with annual rates ranging from 0.01% to 2.5%, consulting services provided by Korean firms are exempt from interest charges (KDI School 2025; ADB 2016). Moreover, whereas the Fund typically finances up to 85% of the total project cost through untied loans to countries other than LDCs, they projects that involve Korean consulting firms may qualify for a higher financing ceiling (KDI School 2025). While these measures do not *de jure* mandate the use of Korean firms, they provide significant incentives for recipients to choose Korean consulting firms, effectively resulting in *de facto* tied aid.

### 3.1.5 Donor's rationales behind tied aid

**Pursuing commercial interests** Foreign aid, especially bilateral assistance, serves dual purposes that can be complementary or conflicting: promoting the development of recipient countries and advancing donors' own interests. By definition, foreign aid is intended to promote the economic and social development of recipient countries; OECD (n.d.[b]) defines ODA as government-funded aid designed to foster growth and well-being in developing nations.

At the same time, foreign aid serve donor self-interests, such as enhancing national security and promoting commercial interests. For example, Morgenstern and Brown (2022) argues that the main focus of U.S. aid in the past 70 years has been promoting national security, often through increasing geopolitical influence. Throughout the Cold War era, it was used to prevent communist influence, and after the 9/11 Terrorist Attack, they were often regarded as tools for counterterrorism (ibid., p.4).

Aid can be also used to advance commercial interests. Morgenstern and Brown (ibid., p.4) argue that, in the U.S., foreign aid has been justified as a means to boost U.S. exports by creating clients or by improving the global business conditions. Similarly, China explicitly utilises foreign aid to advance its commercial interests, notably through the Belt and Road Initiative. The initiative is expected to open new markets for Chinese companies due to reduced transportation costs (Schrag 2017) and create business prospects for China's construction sectors (Eder 2019).

Tied aid exemplifies this dimension of foreign aid—its role in advancing the donor's self-interests, particularly commercial ones. When a donor country faces underutilised resources,

tied aid can be especially beneficial to its domestic economy by directly stimulating demand for domestic firms through increased exports and employment (Jalan 1969). In addition, the rise in exports is expected to improve the donor's Balance of Payments (BOP). Jalan (ibid., p.4) estimates that, when including indirect effects, the BOP gains from tied aid could reach up to one-third of the total aid value. Accordingly, he argues that tied aid is most advantageous for donor countries grappling with BOP deficits and high unemployment.

In empirical research, the economic benefits of foreign aid are often assessed through its impact on donor exports to recipient countries. A substantial body of literature has examined the general relationship between aid and trade. While some studies find no significant effect (Lloyd et al. 1998; Nowak-Lehmann et al. 2013; Liu and Tang 2018, in the context of U.S. aid)—other research highlights a positive association (Wagner 2003; Pettersson and Johansson 2013; Silva and Nelson 2012; Martinez-Zarzoso 2019; Savin, Marson, and Sutormina 2020; Liu and Tang 2018, in the context of Chinese aid).

However, evidence that focusing on tied aid is limited, and its impact on trade is unclear. R. Osei, Morrissey, and Lloyd (2004), analysing data from four donors from Europe and 26 African recipient countries between 1969 and 1995, find no clear evidence that tied aid boosts trade, while donors that provide a larger share of aid tend to engage in greater trade with recipient countries. Likewise, Tajoli (1999), investigating Italian foreign aid to 34 developing countries from 1982 to 1991, reaches a similar conclusion, showing that they do not always generate trade flows.

**Winning public support for foreign aid** On the other hand, tied aid is often defended as a means to win public support for foreign aid. Clay, Geddes, and Natali (2009, p.16) point out that supporters of tied aid often argue that untying could lead to declined domestic support for aid. Chimia (2004, p.5) also contends that favouring domestic firms through public procurement could serve as a means to "buy political support" domestically for development policies, by providing a rationale for using taxpayers' money. However, there is no empirical evidence specifically about tied aid on winning public support.

### 3.1.6 Impact on recipients

From the recipients' perspective, the literature broadly agree on the negative effects of tied aid on development effectiveness. These include inflated costs due to higher mark-ups, obstacles to the growth of local businesses, and a dilution of aid focus and overall impact.

**Decreased efficiency by increased mark-ups** Studies consistently indicate that tied aid leads to increased costs for recipient countries. According to OECD (2023), tied aid is associated with cost increases of 15% to 30 % in development projects. Moreover, Yassin (1991), focusing on eight donor-funded projects from 1969 to 1977 in Sudan, found that tied aid led to an average cost increase of 74% compared to international market prices. B. Osei (2004) examines the price differentials between foreign tied aid imports and non-aid imports in Ghana from 1990 to 1997, and reveals that tied aid imports were substantially more expensive, with an average

price ratio of 3:1.

The primary reason for the increase in costs can be explained by the decreased levels of competition. Auction theory suggests that as the number of participants in an auction increases, the winning bid approaches the lowest possible procurement price. This is also evident in ODA auctions. Iimi (2006), analysing large-scale Japanese ODA projects in 23 developing countries for the period from 1999 to 2005, shows that each 1% rise in the number of bidders leads to approximately 0.2% decrease in the equilibrium bidding price, suggesting that competition is crucial in lowering contract prices. Drawing on data from Japanese ODA projects and World Bank projects, Estache and Iimi (2008) also find that greater competition in procurement processes results in lower bid prices, with the minimum optimal number of participants varying by sector: at least seven bidders for the road and water sectors and three for the electricity sector.

Araki (2019) details the mechanisms behind Japan's tied aid that leading to increased contract costs. He argues that single-bid tenders have become increasingly common among tied projects, and identifies three main factors that work to increase contract costs: corporate attitude, rising transportation costs, and limited supply capacity. Some companies started to adopt an approach of bidding only if excessive profits could be secured, leading to inflated cost estimates and subcontractors' cost perceptions (ibid.). Additionally, rising transportation costs have made it challenging to meet the requirement of sourcing at least 30% of materials in Japan, especially in regions beyond Asia (ibid.). Moreover, Japan's supply capacity constraints further exacerbated the situation. For instance, while Japan's annual railway vehicle production was estimated to be around 2,000 units and only 100-200 units were allocated for export, the demand for ODA-financed projects was estimated at 500 units (ibid.).

**Hindering fostering of local business development** There have been widely discussed concerns that tied aid restricts the ability to support local companies, thereby missing an opportunity to achieve a "double dividend"— simultaneously delivering project outcomes and strengthening the local economy for long-term growth (Meeks 2018). OECD's peer review on Japan performed in 2020 also highlights the risks that tied aid poses to the development efforts of the private sector in recipient countries and regions (OECD 2020, p.5)

**Diluted focus and effectiveness** Critics also argue that, generally, setting multiple objectives to aid would dilute the focus and thus the effectiveness. For example, ICAI (2019) argues that the UK's mutual prosperity agenda, aiming to achieve benefits for both recipients and the UK, was criticised as a potential source for such dilution in their focus group consisting of civil organisations, universities, and businesses. Moreover, they identify that such an approach may create pressures to allocate more to those who are likely to evolve into key trade partners, potentially diverting funds from the countries in need (ibid.).

### 3.1.7 On existence of *de facto* tied aid

The literature on *de facto* tied aid is limited, with key contributions from Clay, Geddes, and Natali (2009) and Meeks and Craviotto (2021). These studies infer its existence by highlighting

discrepancies between declared untied aid and actual contract awards.

Clay, Geddes, and Natali (2009, p.17), interpret the gap between the declared untied aid and the actual results of awards as implying "a considerable element of intended or unintended *de facto* tying". They conducted a case-by-case analysis, sampling 21 bilateral projects from 6 recipient countries, that were reported as either untied or partially untied (ibid.). Their research found that only eight projects awarded contracts to companies from non-donor countries, interpreting it as evidence of *de facto* tying (ibid.). The study also compares with World Bank contracts to check counterfactuals. In contrast, an analysis of World Bank projects in the Water and Sanitation sector across selected case study countries from 2003 to 2008 revealed that only 23% of similar contracts were awarded to firms from DAC member countries, interpreting this gap as an evidence that bilateral institutions may engage in practices that favour domestic firms, leading to *de facto* tied aid.

Likewise, Meeks and Craviotto (2021, p.3) highlight that a key method for identifying informal tied ODA is to track the actual allocation of contracts. They point out that in 2017-18, 16 DAC members awarded more than 50% of all formally untied contracts of the total value to their national suppliers in 2017-18, and for 9 DAC members, the ratio was over 80%. Meeks and Craviotto (ibid., p.6-18) further estimate the value of actual *de facto* tied aid using the formula: (A) Share of *de facto* tied aid × (B) Total ODA contract spending subject to tying. Based on 2017-18 contract award data, they set a 50% threshold to identify likely *de facto* tying - countries exceeding this share were deemed to be influenced by *de facto* tying. For, (B) total ODA contract spending subject to tying, they calculated a minimum estimate using formal untied contract values and an illustrative estimate using donor 2018 spending while excluding ODA not relevant for *de facto* tying (e.g., debt relief and budget support). Through this method, the total value of formal and *de facto* tied aid in 2018 was estimated at USD 32.3 billion to USD 37.9 billion .

While these studies provide valuable insights into *de facto* tying practices, they also have important limitations. Specifically, they rely on descriptive comparisons without fully controlling for other factors that may influence contract allocation—such as geographical proximity, historical or linguistic ties, or the exporting capacity of donor-country firms. As a result, their findings may not definitively prove the existence of *de facto* tying, and should be interpreted with caution.

## 3.2 On domestic preference in public procurement

Given the limited empirical analysis of *de facto* tying in ODA procurement, this section will explore the literature on domestic preference in a wider context, public procurement, to analyse key methods applied in research.

The analysis of procurement barriers in global trade has become an important topic for researchers and policymakers in the past decades (Carboni, Iossa, and Mattera 2018, p.93), including determining the existence and factors of home bias. Numerous empirical studies, including Trionfetti (2000), Sylvest et al. (2011), Rickard and Kono (2014), Shingal (2015), and García-Santana and Santamaría (2023), provide strong evidence confirming the presence

of home bias in government procurement.

According to Carboni, Iossa, and Mattera (2018), empirical approaches to studying home bias in procurement can be classified into two main categories: the Import Elasticity Approach and the Probability Approach.

### 3.2.1 Import Elasticity Approach

This method examines the import propensities of the public and private sectors to identify potentially discriminatory practices, based on the premise that a disparity between public and private import propensities indicates possible discrimination in the public sector (ibid., p.93).

For example, Trionfetti (2000) examines the import share of governments in the nine advanced economies (Austria, France, Germany, Italy, Norway, Sweden, Japan, Korea, the U.S, and Canada) from 1983 to 1990 and compares them to those of private firms across 13 commodities. They found that the shares of government imports are consistently lower than those of the private sector, suggesting evidence for the presence of home bias.

Rickard and Kono (2014) estimate the elasticity of imports to procurement spending, controlling for import determinants, across 12 countries from 1990 to 2007. The authors reveal that government procurement spending is significantly and negatively related to bilateral imports, suggesting governments' preference toward domestic suppliers. Moreover, they find that international procurement agreements, such as the World Trade Organisation's Agreement on Government Procurement and Preferential Procurement Agreements, do not have a significant impact in addressing this discrimination.

### 3.2.2 Probability Approach

This method utilises contract-level data to estimate the disparity in the probability of foreign and domestic firms securing a tender, providing a measure of discrimination in procurement (Carboni, Iossa, and Mattera 2018, p.98). According to Carboni, Iossa, and Mattera (ibid., p.107), Sylvest et al. (2011) was "the first study" that sought to examine such likelihood. They examined the likelihood of cross-border contract awards and the influencing factors, such as the number of bids and the presence of a subcontracting relationship between the awarded supplier and a subcontractor, using contract information from the European Tenders Electronic Daily database from 2007 to 2009 (ibid.). They found that government agencies tend to award procurement contracts to domestic suppliers at a higher rate, suggesting a significant bias against foreign firms in the purchasing process. Only 1.6% of all contract awards were awarded to foreign suppliers, accounting for 3.5% of the contract value, suggesting that the majority of contracts are kept within national borders (ibid.). Using a logit model, Sylvest et al. (ibid.) further explore factors that influence the probability of a contract being awarded to foreign companies, including contract specifics, country characteristics, and buyer and seller-side factors. They found that local government procurement and a high number of bids negatively affect cross-border contract awards, while euro-area membership —particularly for older member states—and shared language have a positive impact on cross-border procurement.

Shingal (2015) used this approach to identify determinants of home bias, using sector-level datasets on the Japanese and Swiss governments' purchases from 1990 to 2003 derived from WTO notifications. Analysing the share of foreign procurement in total procurement as the dependent variable, the study finds strong evidence of home bias. The results indicate that productivity differences between domestic and foreign firms play a key role, with governments more likely to favour domestic firms during election periods. Additionally, he found that the WTO's Agreement on GPA has no significant impact on reducing home bias in procurement.

More recently, García-Santana and Santamaría (2023) analysed 1.2 million procurement contracts from 2009 to 2019 in France and Spain, using regression analyses, including Ordinary Least Squares (OLS) and Poisson-Pseudo Maximum Likelihood estimator (PPML) to estimate home bias at not only the national level but also at the sub-national levels. They assess both the extensive margin, such as higher entry barriers faced by non-local firms, and the intensive margin, where governments favouring products supplied by local or national companies (ibid.). The research found stronger home bias in subnational governments in both margins (ibid.). Compared to the national governments, subnational governments are 37% less likely to procure from non-local domestic firms, and 68% less likely to procure from foreign firms compared to the national governments (ibid.) . Moreover, subnational governments purchase 23% less from non-local domestic firms (ibid.).

# 4 Background of Japan's ODA and *de jure* tying policy, *de facto* tied aid practices and ODA procurement procedures

## 4.1 Japan's ODA and *de jure* tying policy

Japan has reportedly maintained a longstanding and explicit strategy of leveraging foreign aid to advance its economic and strategic objectives (ICAI 2019). Its foreign assistance began in the 1950s, primarily as war reparations (Overseas Development Institute 1990; Takagi 1995, p.1). Japan steadily expanded its ODA, establishing itself as a key player in international aid. The country joined the Development Assistance Group (DAG)—the predecessor to the OECD DAC —in 1960 and, by the 1970s, had become the fifth-largest bilateral donor (Takagi, 1995, pp.17-18). However, its policy faced criticism for "neo-colonialism" due to the lower grant element and its focus on promoting national exports and securing raw materials (Sinha 1974, p.15), heavily characterised by tied aid (Brooks and Orr 1985, p.323). Indeed, Figure 5 and Figure 6 show that more than 70% of Japan's ODA commitments were either tied or partially tied in the late 1970s.

In response to growing international pressure, Japan pledged to untie its multilateral contributions in 1972 and began untying its bilateral aid loans in 1975 (ibid., p.325). The proportion of *de jure* tied aid continued to decline until around the end of the 1990s (Figure 5 and Figure 6).

However, while the commercial objectives of Japan's bilateral aid receded, they were not entirely discarded (Jain 2014, p.5). Indeed, it has seen a revival in tied aid since the end of the 1990s (Figure 5 and Figure 6). In 1998, in response to the Asian financial crisis, Japan introduced a "Special Yen Loan" tied aid scheme, offering a maximum of 600 billion JPY over three years to support economic structural reforms for the early recovery of Asian economies. These loans were offered under concessional conditions, including low interest rates and extended repayment periods, while restricting procurement to Japanese companies (JICA and NRI 2011, p.5)

In 2002, upon the expiration of the above scheme, Japan introduced a new tied aid framework named the "Special Terms for Economic Partnership" (STEP) for ODA loan projects (ibid.), which was designed to explicitly promote Japanese economic interests by limiting contracts to Japanese firms. Under STEP, the main contractor must be a Japanese company, a joint venture between a Japanese and local firm (with the Japanese firm holding a majority of shares), or a foreign subsidiary of a Japanese company. In the absence of bids, or in cases where there is a concern that no bids will be submitted, joint ventures between Japanese companies and their overseas affiliates may also be permitted. For consulting services, only Japanese firms or joint ventures between Japanese and local firms are eligible (JICA 2018).

In addition, at least 30% of the total value of materials and services used in the contract must be of Japanese origin (ibid.). Depending on the nature of the project, eligible items include only equipment and materials, that are sourced or assembled in Japan, but also Japanese firms' or their foreign subsidiaries' services. Projects expected to utilise Japanese technologies, such as ports, concrete bridges, information systems, and hydro or geothermal power, can count relevant goods and services toward this requirement. Alternatively, in projects that are

expected to utilise Japanese goods, such as telecommunications, renewable and thermal power, or waste management, materials showcasing Japanese technological input may also qualify (JICA 2018).

In recent years, in response to Japan's prolonged economic downturn, commercial objectives are said to have regained prominence in their aid policy (Jain 2014). In addition, there has been significant concern about the decline in the success of Japanese companies in securing ODA contracts, given the emergence of Chinese and South Korean firms that leverage lower costs (Nikkei 2013). In this context, the government established the "Infrastructure System Export Strategy" in 2013, which emphasised the importance of maximising the use of ODA and public financial institutions to achieve a win-win outcome for the recipient countries and Japanese companies (Prime Minister's Office of Japan 2013). This principle remains central in its current successor, the "Overseas Deployment Strategy for Infrastructure Systems 2025", which explicitly states that Japan will strategically utilise ODA loans and JICA's overseas investment and lending operations to disseminate its advanced technologies and know-how to emerging and developing countries, not only to support the growth of partner countries but also to stimulate its economy (Prime Minister's Office of Japan 2023). Moreover, in 2022, the ratio of formal tied aid reached above 20% (Figure 5 and Figure 6). These suggest the sustained centrality—and a recent resurgence—of commercial objectives in the country's development cooperation policy.

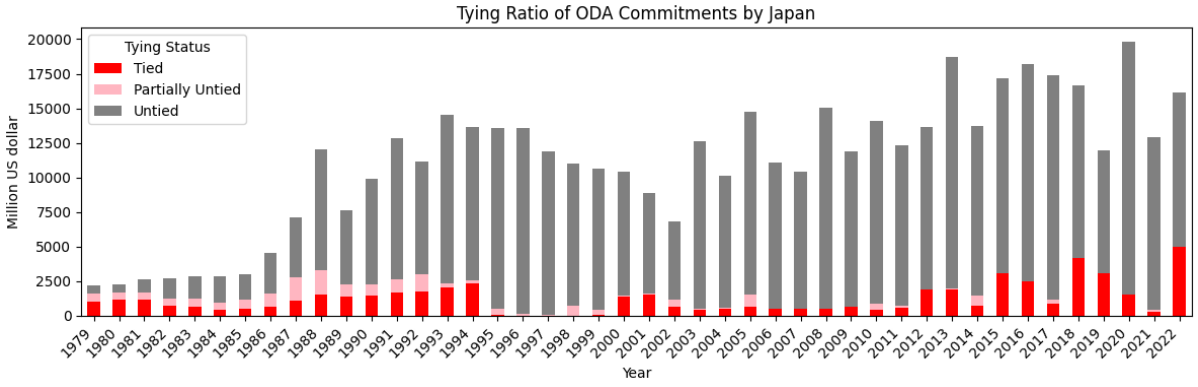


Figure 5

Source: (OECD 2025a)

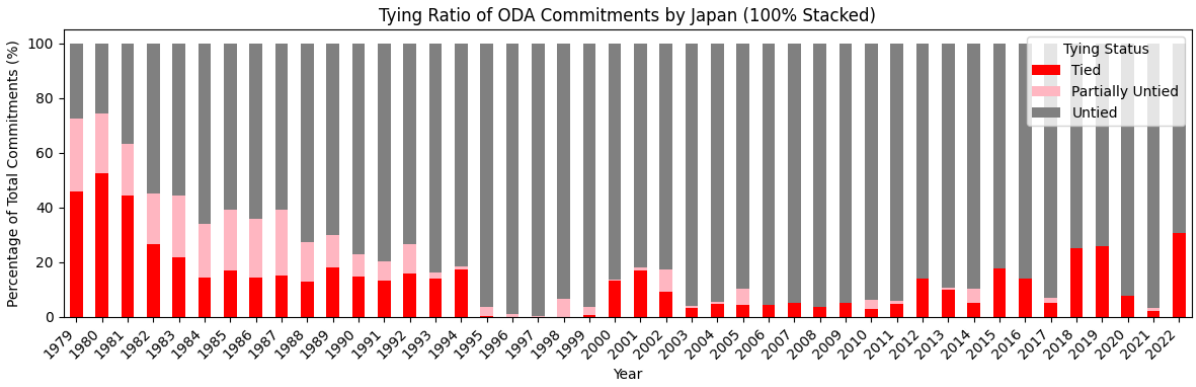


Figure 6

Source: (OECD 2025a)

## 4.2 Japan's *de facto* tied aid practices

In the context of *de facto* tied aid, the award outcomes indicate that such practices may be present, favouring domestic firms not through formal restrictions, but through implicit advantages. The past chapter (**3.1.4 Mechanisms of *de jure* and *de facto* tied aid**) identified several informal methods also used in Japan's ODA procurement, such as setting specific requirements in tender documents that indirectly favour Japanese firms and providing information primarily to domestic companies. Figure 7 and Figure 8 provide supporting evidence: Japanese firms maintain a dominant position in Japan's untied ODA procurement, particularly in terms of contract value. The number of contracts awarded to Japanese firms is around 24% and 43% across all three periods, their share of total contract value far exceeds that, reaching 67% and 65% in both 2017/18 and 2019/20. These suggest that Japanese firms perform strongly and tend to secure larger, higher-value contracts, even in formally untied projects.

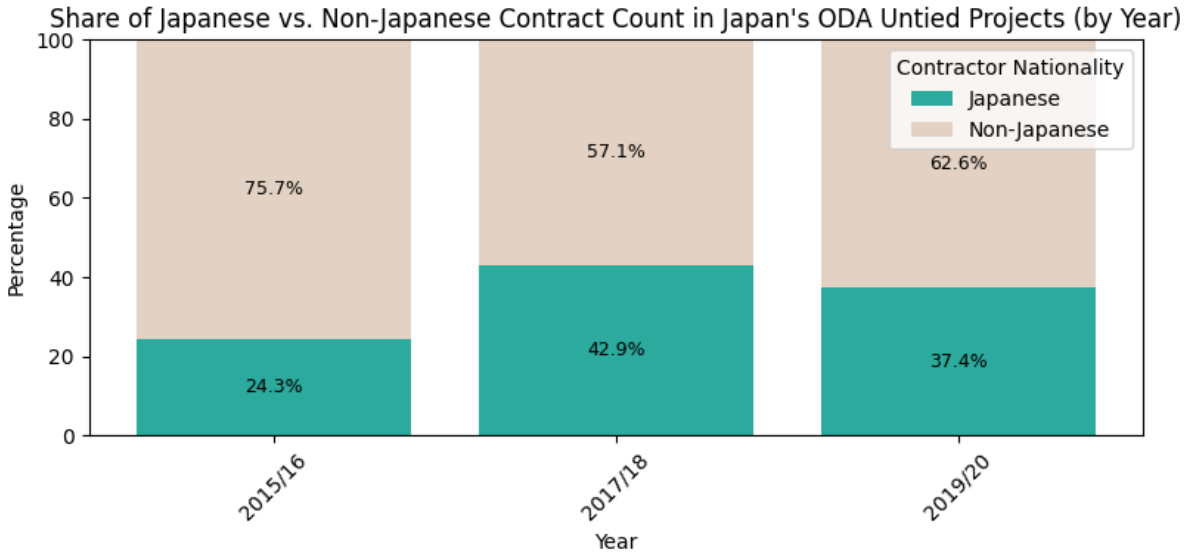


Figure 7

Source: (OECD 2025a)

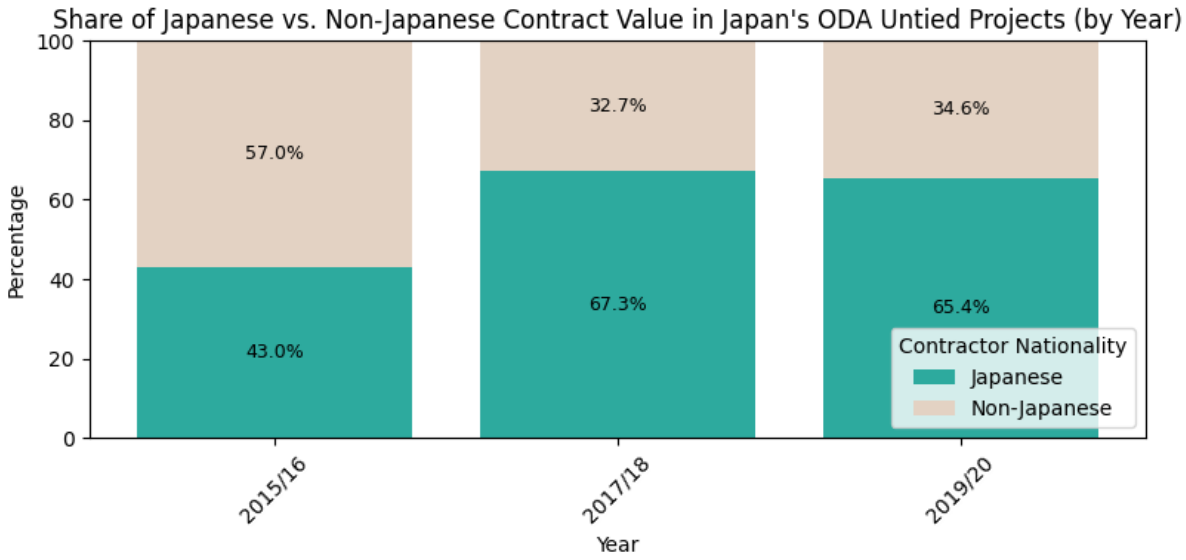


Figure 8

Source: (ibid.)

## 4.3 Japan's ODA procurement procedures

Japan's ODA loan project procurement is classified into two types of contracts: main contracts, which cover the procurement of goods and services, and consulting contracts . While the procurement contracts are signed directly between the borrower and the contractors, JICA maintains oversight through loan agreements with their borrowers, which sets procurement-related conditions (JICA 2023, p.60)

A key regulatory framework governing procurement is the Guidelines for Procurement under Japanese ODA loans, which is applied through loan agreements between JICA and the borrower (ibid., p.60). The guideline which sets general principles and ensures alignment with the global anti-corruption consensus (ibid., p.69). The Japanese side also exercises the authority to review procurement procedures, documents, and decisions, with the right to withhold or cancel financing, or take remedial action for any procurement deemed inappropriate or non-compliant with JICA (ibid., p.67).

### 4.3.1 Key Principles

The Guidelines stipulate that all procurement processes financed by Japan must adhere to four fundamental principles: economy, efficiency, non-discrimination, and transparency (ibid., p.60).

To follow these principles, the following key measures are recommended:

- **Prohibiting preferential treatment for domestic firms**: The guideline prohibit preferential treatment for domestic firms during pre-qualification and bid evaluation. This

includes mandatory partnerships (Joint ventures or associations) with domestic firms, bid evaluation criteria favouring domestic firms, and mandatory use of locally produced goods (JICA 2023, p.61-62).

- **Set International Competitive Bidding International Competitive Bidding (ICB) as the Preferred Method**: The ICB is positioned as the optimal procurement method (ibid., p.63). In case ICB is inappropriate, such as in emergency situations where maintaining compatibility with existing equipment is deemed necessary, or when the procurement amount is too small to attract foreign bidders— alternative procurement methods such as Limited International Bidding, International Shopping, or Direct Contracting may be allowed. However, the Guideline still urges to maintain the spirit of ICB as much as possible (ibid., p.64).

- **Banning the use of local languages**: All procurement documents must be prepared either in Japanese, English, French, or Spanish, chosen by the borrower. Although the borrower may translate the documents into the local language, the versions in the four official languages shall prevail in case of discrepancies. (ibid., p, 75).

- **Setting appropriate bid package size**: Bid packages are recommended to be large enough to attract a broad range of potential bidders (ibid., p.78).

### 4.3.2 Types of procurement

There are two types of bidding methods for standard materials, equipment, and services: the one-stage two-envelope bid and the two-stage bid (ibid., pp.79-80):

**The one-stage, two-envelope bid** is applied to contracts for construction, equipment, and machinery procurement where complete technical specifications can be prepared in advance (ibid., p.79). Under this method, the technical bid and the price bid are submitted simultaneously in separate envelopes. The technical bid is first opened to verify whether they meet the requirements. When the technical bid meets the necessary criteria, the price bid is opened (ibid., p.79).

**The two-stage bid** is used when preparing a complete technical specification that is not suitable or impractical, such as turnkey contracts, large and complex plants, or procurements in rapidly changing technological fields (ibid., p.79). In the first stage, a technical proposal without a price component, is submitted based on minimal operational and performance requirements, and after reviewing and clarifying technical and commercial aspects, the bid documents can be revised (ibid., p.79). In the second stage, bidders are required to submit both the final technical bid and price bid (ibid., p.79).

JICA forbids the Merit Point System, where relative evaluation scores are assigned to price and technical elements, and the bidder with the highest total score is selected, claiming that there is no established, objective, or neutral method for allocating weights between the price and technical elements, making subjective evaluation unavoidable (ibid., pp.112-113).

### 4.3.3 Standard procedures

The Guideline stipulates that the procurement procedure should include several key stages (JICA 2023):


Figure 9: Procurement Process for Japanese ODA Project Main Contracts

Source: (ibid.)

1. **Announcement of Procurement Opportunities**: An executing agency publishes procurement opportunities through at least one newspaper in the borrower country, ensuring broad visibility for potential bidders (ibid., p.81).

2. **Pre-Qualification**: For complex or large-scale contracts exceeding 1 billion JPY as well as design-build contracts requiring significant bid preparation costs, JICA requires a prequalification process to assess the eligibility of bidders in advance. This process ensures that only technically and financially capable bidders participate in the procurement to enhance efficiency and competition (ibid., p.82).

3. **Preparation and Submission of Bidding Documents**: An executing agency provides bidding documents that specify the project requirements, technical specifications, and procurement terms. Bidders must submit sealed proposals within the deadline, with the bidding period determined by the project's complexity. While standard international competitive bidding requires a minimum of 45 days for preparation, bidders are allowed to prepare longer for large-scale civil works or complex equipment - a minimum of 90 days (ibid., p.106).

4. **Bid Examination and Opening**: Those that comply with procedural requirements—such as correct signatures, bid security, and guarantee periods—are considered for further evaluation, and any bid failing to meet these fundamental requirements is disqualified from proceeding to the next stage (ibid., p.110). All sealed bids are opened publicly (ibid., p.107).

5. **Bid Evaluation**: The first stage of evaluation involves assessing technical aspects to see if proposals must meet the specifications outlined in the bid documents (ibid., pp.111-113), and the second stage is the financial evaluation, where the Lowest Evaluated Bid (LEB) method is applied to select the most cost-effective proposal, considering both financial and non-financial factors. Non-price factors are evaluated by assigning monetary values to various qualitative aspects, such as the payment schedule, construction or delivery completion timeframe, operating costs, energy efficiency, equipment adaptability, availability of service and spare parts, quality control measures, safety standards, and environmental benefits (ibid., pp.111-113).

6. **Post-Qualification**: This assessment is carried out for small-scale procurement of goods or civil works, which did not perform the pre-qualification process (JICA 2023, p.114).

7. **Contract Award**: The contract is awarded to the bidder who: Offers the Lowest Evaluated Bid (LEB) and Meets all technical and financial qualifications (ibid., p.114).

### 4.3.4 Efforts to ensure transparency and fairness in ODA procurement

To ensure fairness in the contracting processes of ODA loan projects, a range of mechanisms have been put in place.

JICA outlines several key measures to promote transparency in ODA loan contracting (JICA n.d.[c]). These include the establishment of Procurement Guidelines, which borrowing governments are required to follow, and the mandatory use of JICA's Standard Bidding Documents(ibid.). These documents are based on internationally recognised contract conditions developed by FIDIC (the International Federation of Consulting Engineers), helping to prevent one-sided contractual terms and ensure fair competition (ibid.). Moreover, at each stage of the contractor selection process, JICA conducts systematic reviews and monitoring of bidding documents, contracts, and other related materials to ensure compliance with its guidelines and procedures (ibid.).

In addition, JICA has developed an internal control system and established a compliance policy aimed at strengthening operational transparency and fairness, while maintaining public trust, to promote a culture of integrity and accountability within the organisation (JICA n.d.[b]).

JICA also operates a dedicated channel for receiving reports and consultations related to fraud and corruption in Japan's ODA projects (ibid.). Furthermore, it has introduced a manual for responding to bid-rigging information, which outlines procedures for handling cases in which JICA staff involved in procurement become aware of facts suggesting collusion. The manual includes provisions for reporting or voluntarily notifying the Japan Fair Trade Commission (ibid.).

Finally, the Board of Audit of Japan—an independent oversight institution—conducts regular audits of ODA loan projects, including procurement and contracting processes (Board of Audit of Japan 2006). JICA also promotes transparency by publicly disclosing procurement results, thereby enabling oversight by civil society (JICA n.d.[a]).

# 5 Hypotheses, Data, Descriptive Analysis, and Methodologies

## 5.1 Hypotheses

This paper seeks to answer the following two research questions:

- Does *de facto* tied aid exist in Japan's ODA procurement?

- If so, at which stage of the procurement process—participation or awarding—does it primarily occur, and to what extent?

This paper first hypothesises that *de facto* tied aid persists within Japan's ODA practices, drawing on several strands of evidence. Japanese firms consistently receive a disproportionately high share of both the number and value of contracts—approximately 20% to 40% in contract count and 40% to 60% in contract value—even in Japan-funded projects classified as untied, as seen in the previous chapter (**4.2 Japan's *de facto* tied aid practices**). In addition, documented evidence points to informal mechanisms embedded within the procurement process that appear to favour domestic firms, as seen in the previous chapter (**3.1.4 Mechanisms of *de jure* and *de facto* tied aid**). This pattern is further reinforced by the explicit emphasis on commercial objectives in Japan's development cooperation policy, signaling a strategic intent to promote national economic interests. Taken together, these observations suggest the continued presence of *de facto* tied aid, despite Japan's formal commitment to untie its ODA.

The paper further posits that such practices primarily emerge during the *participation phase* of procurement, where entry barriers and information asymmetries may allow preferential treatment to be exercised more subtly. In contrast, the *awarding phase*—once firms have entered the bidding pool—is expected to function under more equitable conditions. This expectation stems from JICA's procurement guidelines, which emphasise economy, efficiency, non-discrimination, and transparency, along with a series of internal and external mechanisms aimed at safeguarding fairness. Notably, procurement decisions are formally made by the borrower's executing agency, not JICA itself. Given that the bidding process is conducted by the borrowing country, Japan's direct influence at the awarding stage is limited. These institutional features likely constrain overt favouritism in the final contractor selection.

## 5.2 Data

This thesis uses four main datasets: a) JICA's procurement data from 2001 to 2023 for loan construction projects (JICA n.d.[a]), b) JICA's loan project database (JICA 2024), c) the Geodist dataset on bilateral relationships (CEPII 2024), and d) the World Development Indicators (WDI) dataset on country characteristics (World Bank 2024).

The primary dataset for this study is a) JICA's procurement data for construction projects from 2001 to 2023 (JICA n.d.[a]). While the OECD also publishes ODA procurement results for untied projects, it has a major limitation: it only provides information on awarded contractors, without bidder details, which are crucial for analysing the extensive and intensive margins. Consequently, this study focuses on Japan's procurement data from JICA.

JICA annually publishes procurement details for contracts exceeding 1 billion JPY (approximately EUR 62.5 million, using an exchange rate of 160 JPY = 1 EUR) for major construction projects and 0.1 billion JPY (approximately €6.25 million) for consultancy contracts, with this analysis focusing on major construction projects. The dataset includes detailed information on each project, such as the project name, recipient country, and loan agreement signing date, as well as procurement-specific details, including names of all participating bidders, their nation-

alities, bidding prices, and information on the final contract, such as the selected contractor and contract price.

After data cleaning, the final dataset comprises 9,266 samples that span 23 years. It includes 1,627 bidding opportunities, firms from 99 countries, and projects in 64 recipient countries in 7 sectors.

In addition to procurement data, the study utilises b) JICA's loan project database, which provides information on all loan-financed projects (JICA 2024). This dataset complements information on as sector and the tying status of each project component.

To account for factors beyond project awards, the study incorporates the c) Geodist dataset, developed by the Centre d'Études Prospectives et d'Informations Internationales (CEPII), which provides geographic and historical relationship data between countries (CEPII 2024). This dataset includes variables such as capital-to-capital distance, colonial ties, and shared official languages, which help control for bilateral characteristics.

Finally, the study incorporates (d) the World Development Indicators published by the World Bank to capture country-level characteristics of both firm-origin and recipient countries. For firm-origin countries, export values are used as a proxy for export capacity, while for recipient countries, GDP per capita and population are employed to indicate their level of economic development (World Bank 2024).

The final dataset has the following limitations:

- **Over-representation of large loan projects**: Only procurement contracts exceeding 1 billion JPY for main projects and 0.1 billion JPY for consultancy contracts are published online, which could lead to a bias toward larger loan projects.

- **Absence of contract-level tying status data**: Tying status can vary across contracts within the same project—for instance, a project may include both untied and tied components. However, due to data limitations, the final dataset captures only project-level tying status, thereby overlooking these intra-project variations. To ensure a conservative estimation of the impact of donor nationality—particularly Japanese firms—on procurement outcomes under untied conditions, this study classifies all such cases as tied aid. Furthermore, if a project includes both bilaterally tied (or partially tied) and Japan-only tied components, it is coded as bilateral tied aid.

- **Lack of firm-level data**: As the dataset only includes country names and origins to identify companies, often with inconsistencies and typos, it lacks the necessary detail for a comprehensive analysis of company characteristics to account for company variation. Consequently, the research relies on country-level aggregated data.

- **Absence of joint-venture contract value allocation data**: JICA does not disclose information on ownership structures within joint ventures. In this analysis, the contract value for each joint venture member is assumed to be evenly distributed among all participating firms. However, this may not reflect the actual allocation.

## 5.3 Descriptive Analysis

Japanese firms dominate JICA-funded ODA procurement, both in bid participation and contract awards. Figure 10 illustrates the distribution of bid participation by nationality, showing that Japanese companies submitted the second-highest number of bids after Indian firms, followed by Chinese peers. Indian companies primarily participate in local bids, while half of the Chinese companies' bids also fall into the local category. Other firms from recipient countries, such as Indonesian and Vietnamese firms, actively participate in bids.

Figure 11 and Figure 12 present the distribution of contract awards by nationality of the originating companies. Japan remains the dominant player in JICA-funded contracts, especially in total contract value. India and China are the second and third most significant recipients in terms of contract number, and India and Korea in value terms. Japan's dominance is particularly pronounced in contract value, holding more than twice the total value of India, the second-ranked country. Firms from emerging markets—such as India, Indonesia, and Vietnam—primarily secure contracts for projects within their own countries, a trend likely driven by the high number and value of domestically executed projects.

These findings indicate that Japan maintains its dominance even in *de jure* untied projects. Figure 13, Figure 14, and Figure 15 analyse the distribution of bids and contracts by tied aid status, across Japanese, recipient-country, and other foreign national firms. While Japanese firms account for the majority of bids and contracts in tied aid projects, they also maintain a strong presence in *de jure* untied projects. Specifically, Japanese firms represent 11.6% of bid participation, 17.8% of contract count, and 34.6% of total contract value, underscoring their ability to secure contracts even in untied settings.

The data also highlight the competitiveness of local firms—they account for 55.2% of bid participation, 54.6% of contracts awarded, and 35.6% of total contract value in formally untied projects, demonstrating their strong presence in ODA procurement when formal restrictions are absent.

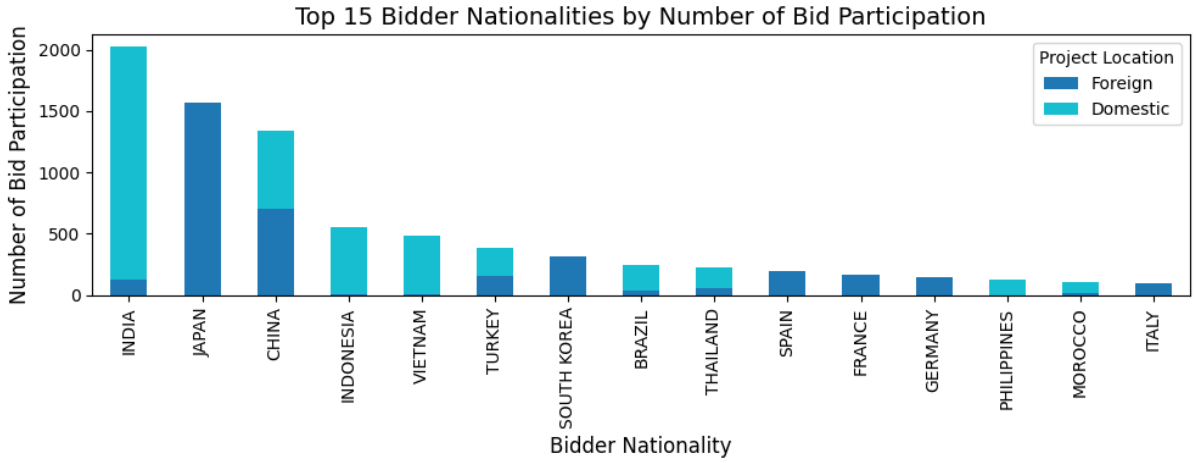


Figure 10

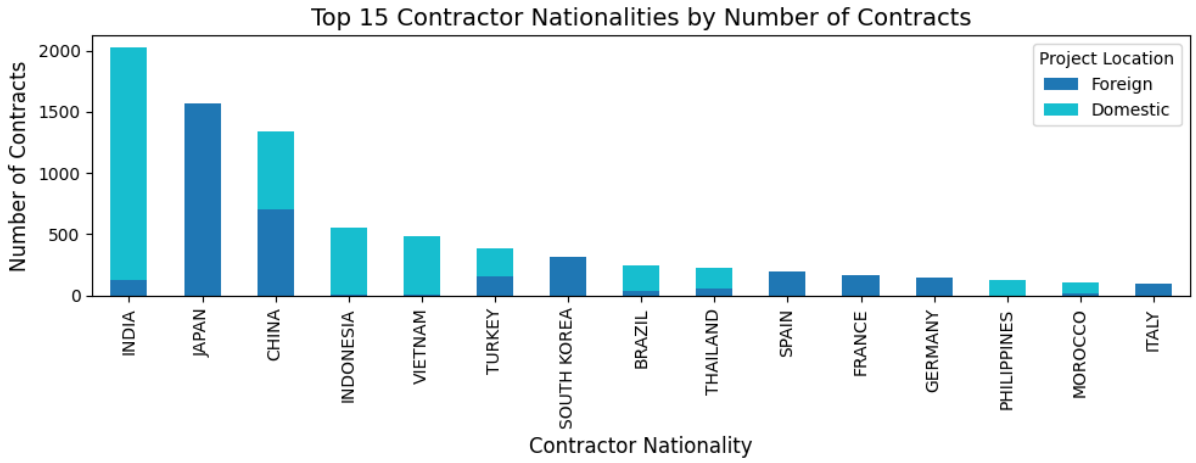


Figure 11


Figure 12

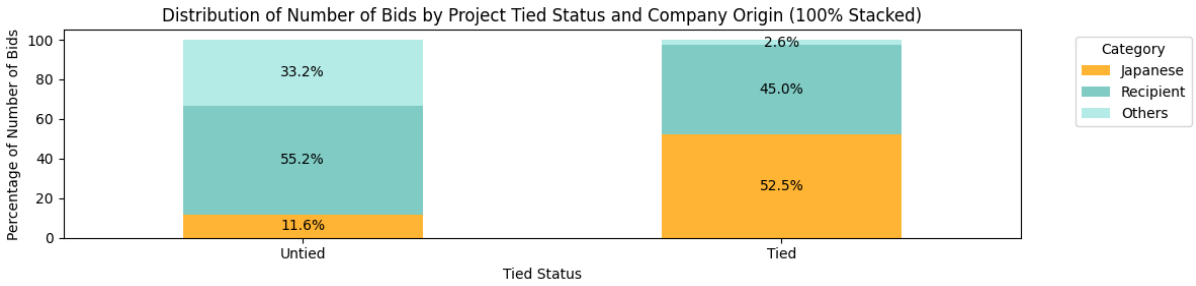


Figure 13

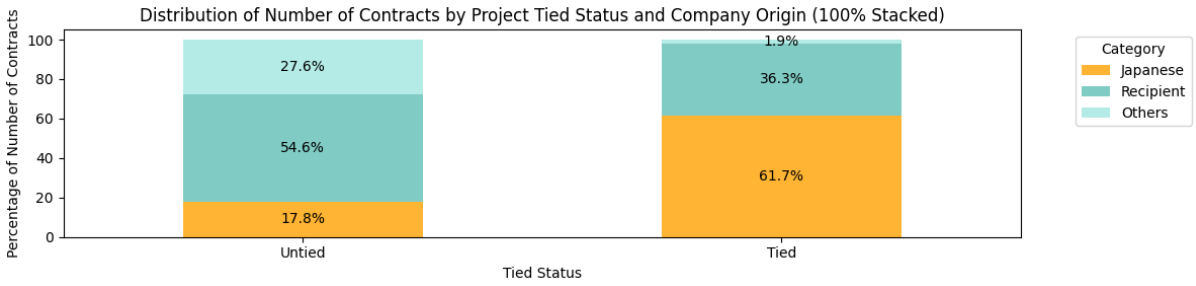


Figure 14

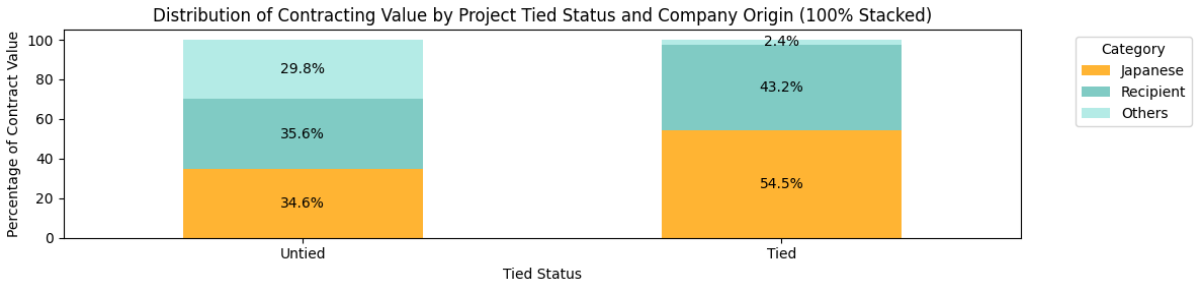


Figure 15

## 5.4 Methodologies

### 5.4.1 Overview

This research uses the probability approach to examine the presence of *de facto* tied aid in JICA-funded procurement and three distinct analyses to capture the phenomenon across different dimensions: the overall effect, the intensive margin, and the extensive margin.


Figure 16: Procurement Workflow and Coverage of Analyses 1–3

**Analysis 1: Overall likelihood of securing contracts** The first analysis assesses whether firms of a particular nationality, notably Japanese firms, have a systematically higher probability of winning contracts, ***capturing both participation and selection dynamics.***

This analysis uses two dependent variables:

- **Share of Win** – the share of wins by firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$, among all ***potential bidding opportunities***. This includes cases where no actual bid is observed from firm-origin countries

that have previously participated in JICA's bids, with non-participation recorded as zero. For example, if no French company has ever participated in JICA's untied projects in Cambodia's agricultural sector, this case is included in the sample with the dependent variable set to zero.

- **Aggregated contract value** – The total value of contracts awarded to firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$, again among all ***potential bidding opportunities***. Values are reported in million JPY.

**Analysis 2: Likelihood of participating in auctions** The second analysis explores whether firms from different origins vary in their propensity to enter the bidding process, aiming to identify potential barriers that may discourage non-Japanese firms from taking part in JICA-financed projects. This outcome focuses solely on the frequency with which firms from a given country participate in the bidding process, regardless of whether they ultimately secure a contract.

This analysis examines a single dependent variable:

- **Share of Participation**– The share of participation of firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$ and bilateral tying status $m$, again among all ***potential bidding opportunities***, again including cases where no actual bid is observed from firm-origin countries that have previously participated in JICA's bids, with non-participation recorded as zero.

**Analysis 3: Likelihood of winning a contract among bid participants** The final analysis examines whether Japanese firms have a statistically higher probability of securing contracts compared to their competitors, ***conditional on participating in an auction.***

This analysis has two dependent variables:

- **Share of Win** – The share of wins submitted by firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$ , and bilateral tying status $m$, based on all ***observed bidding records***. This means that if a country has never participated in a particular sector, project type, or tying status, its share is not included in the analysis.

- **Aggregated contract value** – The total value of contracts awarded to firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$ , and bilateral tying status $m$, based on all, again based on ***observed bidding records***. Values are reported in million JPY.

### 5.4.2 Models

Following García-Santana & Santamaría (2023), this paper estimates the dependent variables using a series of PPML models to account for the large number of zeros in Analyses 1 and 3 due to counting non-participations as zeros.

To investigate the presence of *de facto* tied aid, this study employs four distinct models, each controlling for different factors. The four core models (**Models A, B, C, and D**) are outlined below.

**Model A** This is the **baseline model**, which captures the effects of tying status, joint ventures, joint ventures involving Japanese firms, Japanese firm participation, and the firms from other top-performing countries.

The model is expressed as follows:

$$\begin{aligned} Y_{c,r,n,m,s} = \exp\Big(&\beta_0 + \beta_1 \text{Tied}_n + \beta_2 \text{JV} + \beta_3 \text{JVwithJPN} + \beta_4 \text{Tied}_n \cdot \text{IsJPN}_c \\ &+ \beta_5 \text{Tied}_n \cdot \text{JV} + \beta_6 \text{Tied}_n \cdot \text{JVwithJPN} \\ &+ \beta_7 \text{Local}_{c,r} + \beta_8 \text{Local}_{c,r} \cdot \text{BiTied}_m \\ &+ \beta_9 \text{IsJPN}_c + \beta_{10} \text{IsCHN}_c + \beta_{11} \text{IsIND}_c + \beta_{12} \text{IsIDN}_c + \beta_{13} \text{IsKOR}_c + \beta_{14} \text{IsVNM}_c\Big) \end{aligned} \tag{1}$$

Where $Y_{c,r,n,m,s}$ represents the dependent variable, which changes depending on the analysis, as discussed earlier.

The explanatory variables are defined as follows:

- $\text{Tied}_n$: A binary variable indicating the tying status of the project, covering both bilaterally tied and Japan-only tied aid. While tying status may vary across individual contracts within a project, this variable reflects project-level tying due to data limitations. If a project includes both untied and tied components, it is coded as bilateral tied aid.
- JV: The share of firms in joint ventures among firms from the country $c$, recipient $r$, sector $s$, overall tying status $n$ , and bilateral tying status $m$. For unobserved combinations of country $c$, recipient $r$, sector $s$, overall tying status $n$ , and bilateral tying status $m$ , missing values are imputed using the average from the country $c$.
- JVwithJPN: The share of companies in joint ventures that include at least one Japanese firm (or, in the case of a Japanese firm, another Japanese firm) among firms in the country $c$, recipient $r$, sector $s$, overall tying status $n$ , and bilateral tying status $m$. This represents the share of joint ventures that include at least one Japanese firm other than the main firm. This variable is also of particular interest, as it reflects the potential indirect preferences of Japanese companies. For unobserved combinations of country $c$, recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$, missing values are imputed using the average from the country $c$.
- $\text{IsJPN}_c$: A dummy indicating whether the bidder is Japanese. This is the main variable of interest, as this reflects the potential advantages of Japanese companies.
- $\text{Tied}_n \cdot \text{IsJPN}_c$: An interaction term between tying status and a dummy indicating whether the firm is Japanese.
- $\text{Tied}_n \cdot \text{JV}$: An interaction term between tying status and the share of firms in joint ventures, as explained above.
- $\text{Tied}_n \cdot \text{JVwithJPN}$: An interaction term between tying status and the share of joint ventures that include at least one Japanese firm.

- $\text{Local}_{c,r}$: A dummy variable indicating whether the contractor firm is locally based in the recipient country.

- $\text{Local}_{c,r} \cdot \text{BiTied}_m$: An interaction term capturing whether a contractor is from the recipient country ($c = r$) and whether the project is classified as bilateral tied aid—i.e., procurement is restricted to firms from both Japan and the recipient country. As with the $\text{Tied}_n$ variable, this reflects project-level tying rather than contract-level status, due to data limitations. If a project includes both Japan-only tied and bilateral tied components, it is coded as bilateral tied aid.

- $\text{IsCHN}_c$, $\text{IsIND}_c$, $\text{IsIDN}_c$, $\text{IsKOR}_c$, $\text{IsVNM}_c$: Dummy variables indicate whether the bidder is from countries such as China, India, Indonesia, Korea, or Vietnam, which are the top countries with the highest number of biddings or awards, as found in the descriptive analysis. These variables allow for comparing Japan's advantage ($\text{IsJPN}_c$) relative to other top-performing countries.

**Model B** This model extends Model A by adding **project, bidding, recipient country, and firm nationality controls**. It is expressed as follows:

$$
\begin{aligned}
Y_{c,r,n,m,s} = \exp\Big(&\beta_0 + \beta_1 \text{Tied}_n + \beta_2 \text{JV} + \beta_3 \text{JVwithJPN} + \beta_4 \text{Tied}_n \cdot \text{IsJPN}_c \\
&+ \beta_5 \text{Tied}_n \cdot \text{JV} + \beta_6 \text{Tied}_n \cdot \text{JVwithJPN} \\
&+ \beta_7 \text{Local}_{c,r} + \beta_8 \text{Local}_{c,r} \cdot \text{BiTied}_m \\
&+ \beta_9 \text{IsJPN}_c + \beta_{10} \text{IsCHN}_c + \beta_{11} \text{IsIND}_c + \beta_{12} \text{IsIDN}_c + \beta_{13} \text{IsKOR}_c + \beta_{14} \text{IsVNM}_c \\
&+ \beta_{15} \text{ProjectSize} + \beta_{16} \text{NoBidders} \\
&+ \beta_{17} \text{ComLangOff}_{c,r} + \beta_{18} \text{Dist}_{c,r} + \beta_{19} \text{Local}_{c,r} + \beta_{20} \text{Smctry}_{c,r} \\
&+ \beta_{21} \text{Exports}_c + \beta_{22} \text{GDPcap}_r + \beta_{23} \text{Pop}_r + \text{FE}_s\Big)
\end{aligned} \tag{2}
$$

The project and bidding characteristic variables are defined as follows:

- ProjectSize: The average size of loan amount signed between Japan and recipient countries, grouped by firm nationality $n$, recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$. In Analysis 1, which includes unobserved values, the average values of the recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$ replace the unobserved values. Values are reported in billion JPY.

- NoBidders: The average number of bidders in bids, grouped by firm nationality $n$, recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$. In Analysis 1, which includes unobserved values, the average values of the recipient $r$, sector $s$, overall tying status $n$, and bilateral tying status $m$ are used to replace the unobserved values.

- $\text{FE}_s$: Fixed effects of project sectors.

The recipient country and firm nationality characteristic variables are defined as follows:

- $\text{Exports}_c$: Average exports from the contractor's country of origin $c$ between 2001 and 2023, measured in trillions of constant 2015 USD.
- $\text{GDPcap}_r$: Average GDP per capita of the recipient country $r$ between 2001 and 2023, in millions of constant 2015 USD.
- $\text{Pop}_r$: Average population of the recipient country $r$ between 2001 and 2023, measured in billions.

The bilateral characteristics between a recipient country and a firm nationality are defined as follows:

- $\text{ComLangOff}_{c,r}$: A dummy for whether the contractor and the recipient countries share an official language.
- $\text{Dist}_{c,r}$: Distance (in thousand kilometers) between the capital cities of the contractor's and the recipient's countries.
- $\text{Smctry}_{c,r}$: A dummy variable indicating whether the firm's origin country and the recipient country were, or, are, the same.

**Model C** This model extends **Model B** by incorporating **recipient country fixed effects** instead of the recipient country characteristics.

The model is expressed as follows:

$$
\begin{aligned}
Y_{c,r,n,m,s} = \exp\Big(&\beta_0 + \beta_1 \text{Tied}_n + \beta_2 \text{JV} + \beta_3 \text{JVwithJPN} + \beta_4 \text{Tied}_n \cdot \text{IsJPN}_c \\
&+ \beta_5 \text{Tied}_n \cdot \text{JV} + \beta_6 \text{Tied}_n \cdot \text{JVwithJPN} \\
&+ \beta_7 \text{Local}_{c,r} + \beta_8 \text{Local}_{c,r} \cdot \text{BiTied}_m \\
&+ \beta_9 \text{IsJPN}_c + \beta_{10} \text{IsCHN}_c + \beta_{11} \text{IsIND}_c + \beta_{12} \text{IsIDN}_c + \beta_{13} \text{IsKOR}_c + \beta_{14} \text{IsVNM}_c \\
&+ \beta_{15} \text{ProjectSize} + \beta_{16} \text{NoBidders} \\
&+ \beta_{17} \text{ComLangOff}_{c,r} + \beta_{18} \text{Dist}_{c,r} + \beta_{19} \text{Local}_{c,r} + \beta_{20} \text{Smctry}_{c,r} \\
&+ \beta_{21} \text{Exports}_c + \text{FE}_s + \text{FE}_r\Big)
\end{aligned} \tag{3}
$$

Here, $\text{FE}_r$ represents the fixed effects of the interaction for the recipient country.

As the number of samples is limited for Analysis 3, fixed effect categories with few observations ($n \leq 3$) are dropped to ensure the stability of the model.

**Model D** The final model extends **Model C** by including fixed effects to **account for the interaction between the recipient country and project sector**, capturing unobserved factors

that may influence procurement outcomes.

$$
\begin{aligned}
Y_{c,r,n,m,s} = \exp\Big(&\beta_0 + \beta_1 \text{Tied}_n + \beta_2 \text{JV} + \beta_3 \text{JVwithJPN} + \beta_4 \text{Tied}_n \cdot \text{IsJPN}_c \\
&+ \beta_5 \text{Tied}_n \cdot \text{JV} + \beta_6 \text{Tied}_n \cdot \text{JVwithJPN} \\
&+ \beta_7 \text{Local}_{c,r} + \beta_8 \text{Local}_{c,r} \cdot \text{BiTied}_m \\
&+ \beta_9 \text{IsJPN}_c + \beta_{10} \text{IsCHN}_c + \beta_{11} \text{IsIND}_c + \beta_{12} \text{IsIDN}_c + \beta_{13} \text{IsKOR}_c + \beta_{14} \text{IsVNM}_c \\
&+ \beta_{15} \text{ProjectSize} + \beta_{16} \text{NoBidders} \\
&+ \beta_{17} \text{ComLangOff}_{c,r} + \beta_{18} \text{Dist}_{c,r} + \beta_{19} \text{Local}_{c,r} + \beta_{20} \text{Smctry}_{c,r} \\
&+ \beta_{21} \text{Exports}_c + \text{FE}_s + \text{FE}_r + \text{FE}_{s,r}\Big)
\end{aligned} \tag{4}
$$

Here, $\text{FE}_{s,r}$ represents the fixed effects of the interaction for the project sector and the recipient country.

Like Model C, as the number of samples is limited for Analysis 3, fixed effect categories with few observations (n$\leq$3) are dropped to ensure the stability of the model.

#### 5.4.3 Sectoral Analysis

In addition, this paper conducts a sectoral analysis using the methodology employed in Analyses 1–3 to examine how the effect of IsJPN varies across different sectors. The analysis focuses on Model B, as it incorporates a comprehensive set of control variables without fixed effects, making it more appropriate for smaller sample sizes and better suited to isolating the impact of IsJPN.

# 6 Results

## 6.1 Overall Results

### 6.1.1 Analysis 1: Overall likelihood of securing contracts

The first result for Analysis 1 (**Table 1 and Table 2**) assesses whether firms of a particular nationality, notably Japanese firms, have a systematic advantage in winning contracts when capturing both participation and selection dynamics.

**Effect of Japanese Nationality** The regression results confirm a strong and statistically significant advantage for Japanese firms in securing JICA-funded contracts, both in terms of the share of wins and total contract value, even after controlling for tying status. The coefficient on $\text{IsJPN}_c$ remains positive and highly significant ($p < 0.01$) across all model specifications—ranging from $2.858^{***}$ to $3.456^{***}$ for the share of wins, and from $4.583^{***}$ to $5.452^{***}$ for contract value. These coefficients are consistently higher than those of the other top five performers (China, India, Indonesia, Korea, and Vietnam), indicating that Japanese firms secure approximately 17 to 32 times greater contract shares and 98 to 233 times larger contract values than non-Japanese firms outside the top five.

**Effect of Tying** Overall, tying works to diminish participation of non-Japanese companies, while benefiting Japanese firms by enabling them to win larger-value contracts, rather than by significantly improving their chances of winning compared to untying projects.

Consistent with theoretical expectations, tied aid diminishes procurement opportunities for non-Japanese firms. Across all models for the share of wins, the coefficient on Tied is consistently negative and statistically significant (ranging from $-1.751^{***}$ to $-2.360^{***}$). Exponentiating these values suggests that, under tied aid, non-Japanese firms have 83% to 91% fewer shares of wins compared to when assistance is untied, holding other factors constant. However, the negative effect of tied aid on contract value is less pronounced, with no statistically significant results. This divergence may indicate that tied aid primarily influences eligibility and the likelihood of winning a contract, rather than directly determining the size or value of the awarded contracts.

However, interestingly, the advantage for Japanese firms in tied aid settings seems to be more pronounced in terms of contract size rather than win share. While the positive interaction term (Tied$*$IsJPN$_c$), ranging from $1.946^{***}$ to $2.075^{***}$, slightly exceeds the negative coefficient on Tied in Models A to B, it does not fully offset it in Model C and D specifications—for example, in Model D, Tied $= -2.360^{***}$ and Tied $*$ IsJPN $= 2.043^{***}$. This suggests that tied aid does not significantly enhance Japanese firms' likelihood of winning contracts, compared to untied settings, possibly because they already perform strongly in untied environments.

By contrast, for contract value, this coefficient (Tied $*$ IsJPN$_c$) is positive and statistically significant from $1.264^{***}$ to $1.331^{***}$ across Models B to D, and its magnitude exceeds the insignificant Tied effect.

Bilateral tied aid appears to positively influence the win share of local firms. The interaction term Local$_{c,r}$ $*$ BiTied yields statistically significant coefficients ranging from $0.962^{*}$ to $1.617^{***}$, indicating that bilateral tied arrangements are associated with a 2.6 to 5.0 times greater share of wins for local firms.

**Effect of Joint Ventures** Joint ventures with Japanese firms (JVwithJPN) reveal an indirect advantage for Japanese companies in JICA-funded procurement. The consistently negative and statistically significant coefficients across models for joint ventures with non-Japanese firms (JV), ranging from $-0.645^{**}$ to $-0.952^{***}$ for the share of wins indicate that forming joint ventures generally reduces a firm's likelihood of securing more share of win. This could be attributed to the tendency of smaller or less competitive firms to form joint ventures as a strategy to overcome entry barriers, which may not be sufficient to offset inherent disadvantages.

However, the effect is reversed when the joint venture includes a Japanese firm. The coefficients JVwithJPN are positive and statistically significant across all models for the share of wins, ranging from $1.069^{***}$ to $1.445^{***}$—consistently large enough to offset and exceed the negative effect of JV. A simple summation of the two coefficients suggests that joint ventures involving Japanese firms have a 0.37 to 0.59 point advantage in log-odds compared to solo bidders. Exponentiating these combined values implies that such joint ventures would secure 1.4 to 1.8 times more share of wins than solo bidders.

With respect to contract value, the effect of forming a joint venture—whether with Japanese

firms or others—is generally limited. This suggests that while joint ventures may increase the likelihood of winning a contract, the total contract value is shared among all participating firms, thereby reducing the portion attributable to each partner.

**Effect of Local Firm Status** Local firms demonstrate a consistently strong and statistically significant positive effect across models, with coefficients ranging from $1.532^{***}$ to $3.162^{***}$ for win share and from $3.793^{***}$ to $4.986^{***}$ for contract value. These results highlight the competitive advantage and preferential treatment often enjoyed by local firms in aid-funded procurement.

**Effect of Other Control Variables** Other control variables largely align with expectations. Larger overall loan amounts (ProjectSize) are overall associated with higher contract values, reflecting the intuitive relationship between project scale and awarded funding. Exports from the contractor country ($\text{Exports}_c$) are positive and significant, both in share of win and contract value, suggesting that firms from countries with strong trade track records are more likely to participate. Common official language ($\text{ComlangOff}_{c,r}$) is positive and significant across models on the share of win, indicating that firms sharing the same language as the recipient country are more likely to secure contracts. Distance ($\text{Dist}_{c,r}$) is negative and highly significant, both in share of win and contract value, suggesting that proximity offers firms a competitive advantage in securing contracts.

Table 1: Regression Results for Analysis 1: Overall likelihood of securing contracts (Share of win)

| Variable | Model A | Model B | Model C | Model D |
|---|---|---|---|---|
| | Dependent Variable: Share of win | | | |
| $\text{Tied}_n$ | -1.751*** | -1.944*** | -2.037*** | -2.360*** |
| | 0.447 | 0.458 | 0.495 | 0.538 |
| JV | -0.645** | -0.703** | -0.793** | -0.952*** |
| | 0.294 | 0.314 | 0.316 | 0.311 |
| JVwithJPN | 1.233*** | 1.069*** | 1.350*** | 1.445*** |
| | 0.297 | 0.335 | 0.327 | 0.313 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 2.075*** | 2.034*** | 1.946*** | 2.043*** |
| | 0.381 | 0.386 | 0.434 | 0.468 |
| $\text{Tied}_n * \text{JV}$ | 0.597 | 0.524 | 0.475 | 0.498 |
| | 0.763 | 0.898 | 1.012 | 1.132 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -0.784 | -0.933 | -0.948 | -1.073 |
| | 0.731 | 0.871 | 0.932 | 0.964 |
| $\text{Local}_{c,r}$ | 3.162*** | 1.532*** | 1.597*** | 1.617*** |
| | 0.154 | 0.450 | 0.428 | 0.433 |
| $\text{Local}_{c,r} * \text{BiTied}_m$ | 0.962* | 1.213** | 1.352*** | 1.514*** |
| | 0.542 | 0.520 | 0.441 | 0.511 |
| $\text{IsJPN}_c$ | 3.456*** | 2.858*** | 2.948*** | 2.862*** |
| | 0.152 | 0.172 | 0.183 | 0.181 |
| $\text{IsCHN}_c$ | 1.822*** | -1.137*** | -0.814** | -0.788** |
| | 0.270 | 0.385 | 0.357 | 0.347 |
| $\text{IsIND}_c$ | 1.328*** | 0.837** | 0.637 | 0.692* |
| | 0.323 | 0.335 | 0.399 | 0.388 |
| $\text{IsIDN}_c$ | 0.152 | 0.206 | 0.253 | 0.198 |
| | 0.276 | 0.258 | 0.235 | 0.242 |
| $\text{IsKOR}_c$ | 2.358*** | 1.922*** | 2.017*** | 1.898*** |
| | 0.209 | 0.230 | 0.219 | 0.219 |
| $\text{IsVNM}_c$ | 0.440 | 0.399 | 0.536* | 0.589* |
| | 0.294 | 0.304 | 0.322 | 0.334 |
| ProjectSize | | 0.009** | 0.002 | -0.009 |
| | | 0.004 | 0.008 | 0.017 |
| NoBidders | | -0.146*** | -0.218*** | -0.400*** |
| | | 0.029 | 0.050 | 0.092 |
| $\text{Exports}_c$ | | 1.493*** | 1.534*** | 1.532*** |
| | | 0.116 | 0.114 | 0.115 |
| $\text{GDPcap}_r$ | | -37.643* | | |
| | | 21.705 | | |
| $\text{Pop}_r$ | | -0.234 | | |
| | | 0.193 | | |
| $\text{ComlangOff}_{c,r}$ | | 0.781*** | 0.627*** | 0.596*** |
| | | 0.210 | 0.222 | 0.224 |
| $\text{Dist}_{c,r}$ | | -0.114*** | -0.137*** | -0.138*** |
| | | 0.017 | 0.018 | 0.017 |
| $\text{Smctry}_{c,r}$ | | 0.432 | 0.426 | 0.447 |
| | | 0.460 | 0.438 | 0.438 |
| Sector FE | No | Yes | Yes | Yes |
| Recipient FE | No | No | Yes | Yes |
| Sector* Recipient FE | No | No | No | Yes |
| Constant | -4.568*** | -4.427*** | -2.417** | -0.020 |
| | 0.190 | 0.576 | 0.997 | 1.279 |
| Pseudo R-squared | 0.263 | 0.316 | 0.379 | 0.401 |
| N | 17325.000 | 15480.000 | 12425.000 | 12425.000 |

Note: $^{*}: p < 0.10$, $^{**}: p < 0.05$, $^{***}: p < 0.01$.

Table 2: Regression Results for Analysis 1: Overall likelihood of securing contracts (Contract value)

| Variable | Model A | Model B | Model C | Model D |
|---|---|---|---|---|
| | Dependent Variable: Contract value | | | |
| $\text{Tied}_n$ | -0.010 | -0.703 | -0.481 | -0.509 |
| | 0.643 | 0.450 | 0.504 | 0.496 |
| JV | 0.633 | 0.437 | 0.069 | -0.507 |
| | 0.482 | 0.391 | 0.518 | 0.560 |
| JVwithJPN | 0.790* | -0.120 | 0.626 | 0.856 |
| | 0.417 | 0.542 | 0.538 | 0.565 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 0.926 | 1.331*** | 1.350*** | 1.264*** |
| | 0.564 | 0.466 | 0.408 | 0.366 |
| $\text{Tied}_n * \text{JV}$ | 0.321 | -1.370 | -1.336 | -1.160 |
| | 0.964 | 1.126 | 1.189 | 1.181 |
| $\text{Tied}_n * \text{JVwithJPN}$ | 0.031 | 1.219 | 0.733 | 0.719 |
| | 0.746 | 1.166 | 0.986 | 1.023 |
| $\text{Local}_{c,r}$ | 4.986*** | 3.933*** | 3.793*** | 3.845*** |
| | 0.252 | 0.552 | 0.507 | 0.418 |
| $\text{Local}_{c,r} * \text{BiTied}_m$ | -1.729*** | -0.107 | -0.024 | -0.301 |
| | 0.518 | 0.636 | 0.643 | 0.604 |
| $\text{IsJPN}_c$ | 5.452*** | 4.762*** | 4.689*** | 4.583*** |
| | 0.328 | 0.323 | 0.297 | 0.266 |
| $\text{IsCHN}_c$ | 2.255*** | -1.310** | -0.522 | -0.679 |
| | 0.465 | 0.537 | 0.618 | 0.645 |
| $\text{IsIND}_c$ | 3.896*** | 2.633*** | 2.198*** | 2.060*** |
| | 0.364 | 0.350 | 0.411 | 0.361 |
| $\text{IsIDN}_c$ | 0.948** | 1.205*** | 1.034** | 0.990* |
| | 0.410 | 0.441 | 0.523 | 0.514 |
| $\text{IsKOR}_c$ | 3.881*** | 2.648*** | 2.978*** | 2.940*** |
| | 0.528 | 0.765 | 0.678 | 0.649 |
| $\text{IsVNM}_c$ | 0.968** | 1.381*** | 1.069** | 1.069*** |
| | 0.461 | 0.426 | 0.481 | 0.396 |
| ProjectSize | | 0.028*** | 0.021*** | 0.013* |
| | | 0.004 | 0.006 | 0.007 |
| NoBidders | | -0.021 | -0.001 | -0.071 |
| | | 0.037 | 0.045 | 0.051 |
| $\text{Exports}_c$ | | 1.938*** | 1.862*** | 1.887*** |
| | | 0.205 | 0.231 | 0.244 |
| $\text{GDPcap}_r$ | | -101.112 | | |
| | | 72.239 | | |
| $\text{Pop}_r$ | | -0.272 | | |
| | | 0.258 | | |
| $\text{ComlangOff}_{c,r}$ | | 0.014 | 0.253 | 0.218 |
| | | 0.275 | 0.290 | 0.286 |
| $\text{Dist}_{c,r}$ | | -0.191*** | -0.201*** | -0.197*** |
| | | 0.057 | 0.047 | 0.045 |
| $\text{Smctry}_{c,r}$ | | -0.118 | -0.101 | -0.045 |
| | | 0.580 | 0.491 | 0.367 |
| Sector FE | No | Yes | Yes | Yes |
| Recipient FE | No | No | Yes | Yes |
| Sector* Recipient FE | No | No | No | Yes |
| Constant | 3.999*** | 1.952** | 1.954* | 5.356*** |
| | 0.374 | 0.841 | 1.071 | 1.263 |
| Pseudo R-squared | 0.660 | 0.780 | 0.855 | 0.884 |
| N | 17325.000 | 15480.000 | 12425.000 | 12425.000 |

Note: $^{*}: p < 0.10$, $^{**}: p < 0.05$, $^{***}: p < 0.01$.

### 6.1.2 Analysis 2: Likelihood of participating in auctions

The results for Analysis 2 (**Table 3**) evaluate the probability of firms from different nationalities participating in the bidding process.

**Effect of Japanese Nationality** In the participation phase, Japanese firms demonstrate a markedly higher likelihood of bidding on JICA-funded contracts, suggesting a structural edge in accessing aid-funded bidding opportunities. Even after accounting for the tying status, the coefficient on $\text{IsJPN}_c$ remains positive and highly significant ($p < 0.01$), with estimates from $3.775^{***}$ to $4.085^{***}$. When exponentiated, these coefficients suggest that Japanese firms have approximately 44 to 59 times greater participation shares than non-Japanese firms, excluding other top-performing countries, highlighting their dominant presence in the procurement process. This magnitude surpasses that of other top-performing countries, including Korea ($2.318^{***}$ to $2.571^{***}$).

**Effect of Tying** The impact of tied aid on the entry phase aligns with theoretical expectations that tying poses a barrier to non-donor country firms, while facilitating the entry of donor country firms. The coefficient on Tied ranges from $-1.719^{***}$ to $-1.965^{***}$, indicating that tying decreases the share of participation for non-Japanese firms by approximately 82% to 86% compared to untied aid, holding other factors constant. The interaction terms $\text{Tied} * \text{IsJPN}_c$ are positive and statistically significant across all models, with coefficients ranging from $2.707^{***}$ to $2.784^{***}$, effectively outweighing the negative effect of Tied. A simple summation of Tied and Tied*IsJPN yields net effects ranging from 0.74 to 1.03, which translates into a 2.1 to 2.8 times higher share of participation in tied aid auctions for Japanese firms, compared to non-Japanese firms in untied settings.

Bilateral tied aid also encourages the involvement of local firms. The interaction term $\text{Local}_{c,r} \cdot \text{BiTied}$ is statistically significant, with coefficients ranging from $1.208^{***}$ to $1.592^{***}$, suggesting that such arrangements increase the likelihood of contract awards to local firms by approximately 3.3 to 4.9 times, compared to without such tying status.

**Effect of Joint Ventures** The results indicate that participation shares tend to decline when firms form joint ventures. The negative and statistically significant coefficients for JV (ranging from $-0.779^{***}$ to $-1.095^{***}$) suggest that partnering with non-Japanese firms does not improve—and even reduce—a firm's likelihood of participating in auctions. In contrast, the coefficients for JVwithJPN remain consistently positive and statistically significant across all models ($0.552^{**}$to $0.754^{***}$), indicating that collaborations with Japanese firms can partially mitigate the disadvantages associated with joint ventures. However, these positive effects are not large enough to fully offset the overall negative impact of the joint venture formation.

**Effect of Local Firm Status** Local firms consistently exhibit a strong and statistically significant positive association across models, with coefficients ranging from $3.032^{***}$ to $3.804^{***}$, underscoring their advantage in bidding participation.

**Effect of Other Control Variables** Other control variables align with theoretical expectations and reinforce the findings from **Analysis 1**. The export volume from the contractor's country ($\text{Exports}_c$) shows a strong positive and statistically significant effect, suggesting that firms from countries with robust trade capacities are more likely to participate. A shared official language between the contractor and recipient country ($\text{ComlangOff}_{c,r}$) also has a positive and significant effect, highlighting the role of linguistic proximity in facilitating participation. Geographic distance ($\text{Dist}_{c,r}$) is negatively and highly significantly associated with participation, indicating that proximity increases the likelihood of engagement.

Table 3: Regression Results for Analysis 2: Likelihood of participating in auctions

| Variable | Model A | Model B | Model C | Model D |
|---|---|---|---|---|
| | Dependent Variable: Share of participation | | | |
| $\text{Tied}_n$ | -1.965*** | -1.871*** | -1.719*** | -1.816*** |
| | 0.345 | 0.330 | 0.342 | 0.392 |
| JV | -0.883*** | -0.779*** | -1.009*** | -1.095*** |
| | 0.209 | 0.197 | 0.202 | 0.222 |
| JVwithJPN | 0.552** | 0.372 | 0.760*** | 0.754*** |
| | 0.247 | 0.244 | 0.249 | 0.267 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 2.707*** | 2.784*** | 2.748*** | 2.783*** |
| | 0.342 | 0.336 | 0.321 | 0.324 |
| $\text{Tied}_n * \text{JV}$ | -0.128 | 0.077 | 0.087 | 0.045 |
| | 0.466 | 0.438 | 0.489 | 0.581 |
| $\text{Tied}_n * \text{JVwithJPN}$ | 0.767 | 0.031 | -0.013 | 0.250 |
| | 0.484 | 0.465 | 0.511 | 0.551 |
| $\text{Local}_{c,r}$ | 3.804*** | 3.032*** | 3.060*** | 3.098*** |
| | 0.156 | 0.341 | 0.312 | 0.312 |
| $\text{Local}_{c,r} * \text{BiTied}_m$ | 1.208*** | 1.486*** | 1.492*** | 1.592*** |
| | 0.405 | 0.364 | 0.377 | 0.393 |
| $\text{IsJPN}_c$ | 4.071*** | 3.775*** | 4.077*** | 4.085*** |
| | 0.126 | 0.134 | 0.153 | 0.152 |
| $\text{IsCHN}_c$ | 2.458*** | -0.115 | 0.042 | 0.001 |
| | 0.242 | 0.274 | 0.275 | 0.279 |
| $\text{IsIND}_c$ | 1.764*** | 1.972*** | 1.760*** | 1.746*** |
| | 0.193 | 0.205 | 0.215 | 0.221 |
| $\text{IsIDN}_c$ | 0.917*** | 0.920*** | 1.068*** | 1.046*** |
| | 0.225 | 0.191 | 0.228 | 0.231 |
| $\text{IsKOR}_c$ | 2.439*** | 2.318*** | 2.571*** | 2.563*** |
| | 0.220 | 0.221 | 0.231 | 0.231 |
| $\text{IsVNM}_c$ | 0.855*** | 0.522** | 1.266*** | 1.268*** |
| | 0.271 | 0.254 | 0.283 | 0.284 |
| ProjectSize | | 0.002 | 0.003 | 0.003 |
| | | 0.003 | 0.003 | 0.004 |
| NoBidders | | 0.003 | 0.019 | 0.037 |
| | | 0.016 | 0.020 | 0.032 |
| $\text{Exports}_c$ | | 1.629*** | 1.745*** | 1.760*** |
| | | 0.090 | 0.101 | 0.101 |
| $\text{GDPcap}_r$ | | 7.980 | | |
| | | 21.520 | | |
| $\text{Pop}_r$ | | -1.658*** | | |
| | | 0.186 | | |
| $\text{ComlangOff}_{c,r}$ | | 0.652*** | 0.419** | 0.419** |
| | | 0.157 | 0.174 | 0.174 |
| $\text{Dist}_{c,r}$ | | -0.142*** | -0.230*** | -0.231*** |
| | | 0.017 | 0.019 | 0.019 |
| $\text{Smctry}_{c,r}$ | | 0.137 | -0.042 | -0.056 |
| | | 0.324 | 0.317 | 0.315 |
| . | | | | |
| Sector FE | No | Yes | Yes | Yes |
| Recipient FE | No | No | Yes | Yes |
| Sector* Recipient FE | No | No | No | Yes |
| Constant | -5.124*** | -5.000*** | -3.816*** | -2.902*** |
| | 0.135 | 0.378 | 0.651 | 0.763 |
| Pseudo R-squared | 0.420 | 0.466 | 0.524 | 0.526 |
| N | 17325.000 | 15480.000 | 17150.000 | 17150.000 |

Note: $^{*}: p < 0.10$, $^{**}: p < 0.05$, $^{***}: p < 0.01$.

### 6.1.3 Analysis 3: Likelihood of winning a contract among bid participants

The results for Analysis 3 (**Table 4 and Table 5**) assess whether Japanese firms have a higher probability of securing contracts, conditional on participation in the bidding process.

**Effect of Japanese Nationality** The results indicate a statistically significant advantage for Japanese firms in securing contracts, both in terms of the share of wins and total contract value, even in untied projects. The coefficient on $\text{IsJPN}_c$ remains positive and highly significant ($p < 0.01$) across all models for the share of wins, ranging from $0.391^{***}$ to $0.705^{***}$. These values suggest that Japanese firms secure approximately 1.5 to 2.0 times larger contract shares than firms from countries outside the other top five performers (China, India, Indonesia, Korea, and Vietnam), whose coefficients become statistically insignificant at this stage.

For the contract value, the coefficients on $\text{IsJPN}_c$ also remains positive and highly significant ($p < 0.01$) across all models, from $2.630^{***}$ and $2.731^{***}$, suggesting that Japanese firms secure 13.9 to 15.3 times larger contract value than firms from countries other than the top five performers.

The t-test between IsJPN and IsIND suggests that Japanese firms gradually exhibit a statistically significant advantage over Indian firms in terms of contract value as more model controls are introduced (**Table 6**). In Models A and B, the differences between the coefficients are small and not statistically significant, indicating comparable performance between the two countries. However, once the recipient country fixed effects are included in Model C, the coefficient difference becomes marginally significant at the 10% level ($p = 0.060$). In Model D, which additionally includes sector-recipient fixed effects, the advantage of Japanese firms over Indian firms becomes statistically significant at the 5% level ($p = 0.025$). This pattern implies that India's strong performance in contract value is largely driven by domestic contracts, which are absorbed by the recipient fixed effects in the more comprehensive models. In contrast, Japanese firms maintain a consistently high performance across a broader set of recipient countries, highlighting their comparative strength in international procurement even after accounting for location-specific factors.

It is also noteworthy that the magnitude of Japan's advantage is smaller in this stage compared to the results from **Analysis 1**, suggesting the significance of the participation phase. In that analysis, the coefficients for Japanese firms were $2.858^{***}$ to $3.456^{***}$ for share of wins , and $4.583^{***}$ to $5.452^{***}$ for contract value. In contrast, in Analysis 3, the corresponding coefficients fall to $0.391^{***}$ to $0.705^{***}$ for share of wins, and $2.630^{***}$ and $2.731^{***}$ for contract value. This difference reflects the fact that **Analysis 3** includes only firms that have already participated in the bidding process, thereby excluding the impact of participation barriers discussed in **Analysis 2**. These findings support that a significant portion of Japan's overall advantage in securing a larger share of wins lies in the earlier stage of gaining access to the bidding process.

**Effect of Tying** The effects of tied aid appear to weaken at this stage of the procurement process. The impact on non-Japanese firms, captured by the coefficient on Tied, is largely insignificant across models. Similarly, the marginal effect for Japanese firms—represented by the interaction term $\text{Tied} * \text{IsJPN}_c$—is statistically significant only in Model C of the contract value analysis. These patterns reinforce the interpretation that tied aid primarily functions as a

participation barrier for non-Japanese firms, rather than as a direct mechanism of advantage for Japanese firms during the bidding or awarding stage.

**Effect of Joint Ventures** The effects of joint ventures with Japanese firms are more pronounced in this stage than in the participation stage. While joint ventures with non-Japanese firms have no significant impact on the win share compared to solo bidders (JV), joint ventures with Japanese firms (JVwithJPN) consistently exhibit a positive impact on the share of wins in untied aid settings ($0.420^{***}$ to $0.584^{***}$) of Model A, B and D, conditional on participation. Moreover, joint ventures with Japanese firms (JVwithJPN) have significant positive effects on contract value in Models C and D.

However, this positive effect reverses in the context of tied aid. In tied aid projects, the interaction term between tied aid and joint ventures with Japanese firms (Tied*IsJVwithJPN) turns significantly negative, with coefficients ranging from $-0.772^{**}$ to $-1.072^{***}$ across all models, surpassing the positive coefficients on JVwithJPN, ranging from $0.420^{***}$ to $0.584^{***}$ in Models A, B, and D. This suggests that the benefits of partnering with Japanese firms are not only nullified but are penalized under tied conditions. One interpretation is that in tied aid contexts, where Japanese firms are already favoured directly, forming a joint venture may dilute their competitiveness or eligibility, or be viewed less favourably within the competition.

**Effect of Local Firm Status** Local firms exhibit a significant advantage in securing higher contract values at this stage. While their advantage is statistically significant only in Model A for the share of wins—the specification with the fewest controls—the effect on contract value remains consistently strong and significant across all models, with coefficients ranging from $2.324^{***}$ to $3.765^{***}$.

**Effect of other control variables** At this stage, ComLangOff does not significantly influence the results, suggesting that they only serve as facilitating participation. Exports from the contractor country ($\text{Exports}_c$) continue to play a crucial role in determining contract value, suggesting their roles in forming advantages after participation. Moreover, a higher number of bidders—reflecting increased market competition—significantly reduces the share of wins, reinforcing the idea that greater competition is a key determinant of procurement outcomes.

Interestingly, longer distances between recipient countries and firms are associated with lower contract values but higher shares of wins. This may suggest that companies from developed regions—such as East Asia and Europe—are more likely to win bids compared to neighboring firms from developing regions like Africa or Southeast Asia. However, local or regional firms may be better positioned—logistically and operationally—to implement larger, labour-intensive infrastructure projects, which leads to higher contract values.

Table 4: Regression Results for Analysis 3: Likelihood of winning a contract among bid participants (Share of win)

| Variable | Model A | Model B | Model C | Model D |
|---|---|---|---|---|
| | Dependent Variable: Share of win | | | |
| Tied | 0.281 | -0.104 | -0.268 | -0.157 |
| | 0.293 | 0.265 | 0.274 | 0.294 |
| JV | 0.007 | 0.003 | -0.062 | -0.105 |
| | 0.140 | 0.131 | 0.146 | 0.164 |
| JVwithJPN | 0.584*** | 0.246 | 0.420*** | 0.441** |
| | 0.156 | 0.153 | 0.160 | 0.172 |
| $\text{Tied}_n * \text{IsJPN}_c$ | -0.035 | 0.066 | 0.064 | -0.064 |
| | 0.253 | 0.229 | 0.235 | 0.239 |
| $\text{Tied}_n * \text{JV}$ | 0.364 | 0.488 | 0.645* | 0.685* |
| | 0.389 | 0.346 | 0.363 | 0.376 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -0.965*** | -0.772** | -0.813** | -1.072*** |
| | 0.363 | 0.330 | 0.328 | 0.324 |
| $\text{Local}_{c,r}$ | 0.458*** | 0.148 | 0.354 | 0.322 |
| | 0.107 | 0.367 | 0.354 | 0.359 |
| $\text{Local}_{c,r} * \text{BiTied}$ | -0.241 | -0.137 | -0.180 | -0.249 |
| | 0.334 | 0.293 | 0.276 | 0.274 |
| $\text{IsJPN}_c$ | 0.705*** | 0.391*** | 0.451*** | 0.493*** |
| | 0.105 | 0.114 | 0.113 | 0.113 |
| $\text{IsCHN}_c$ | 0.001 | 0.184 | 0.072 | 0.173 |
| | 0.148 | 0.344 | 0.341 | 0.355 |
| $\text{IsIND}_c$ | 0.031 | 0.060 | 0.159 | 0.193 |
| | 0.245 | 0.229 | 0.230 | 0.238 |
| $\text{IsIDN}_c$ | -0.116 | -0.192 | -0.165 | -0.229 |
| | 0.257 | 0.248 | 0.261 | 0.257 |
| $\text{IsKOR}_c$ | 0.218 | 0.093 | 0.158 | 0.145 |
| | 0.168 | 0.165 | 0.160 | 0.164 |
| $\text{IsVNM}_c$ | 0.120 | 0.078 | 0.171 | 0.254 |
| | 0.210 | 0.223 | 0.268 | 0.295 |
| ProjectSize | | -0.001 | -0.002 | -0.003 |
| | | 0.002 | 0.003 | 0.003 |
| NoBidders | | -0.226*** | -0.216*** | -0.226*** |
| | | 0.026 | 0.029 | 0.031 |
| $\text{Exports}_c$ | | -0.091 | -0.066 | -0.107 |
| | | 0.162 | 0.162 | 0.169 |
| $\text{GDPcap}_r$ | | 1.516 | | |
| | | 16.248 | | |
| $\text{Pop}_r$ | | -0.003 | | |
| | | 0.097 | | |
| $\text{ComlangOff}_{c,r}$ | | 0.028 | 0.029 | 0.068 |
| | | 0.159 | 0.163 | 0.168 |
| $\text{Dist}_{c,r}$ | | 0.025** | 0.037** | 0.043*** |
| | | 0.012 | 0.014 | 0.015 |
| $\text{Smctry}_{c,r}$ | | 0.289 | 0.230 | 0.277 |
| | | 0.355 | 0.343 | 0.340 |
| Sector FE | No | Yes | Yes | Yes |
| Recipient FE | No | No | Yes | Yes |
| Sector* Recipient FE | No | No | No | Yes |
| Constant | -1.596*** | -0.526** | 0.422 | 0.821 |
| | 0.105 | 0.252 | 0.729 | 0.889 |
| Pseudo R-squared | 0.038 | 0.094 | 0.119 | 0.139 |
| N | 829.000 | 801.000 | 677.000 | 677.000 |

Note: $^{*}: p < 0.10$, $^{**}: p < 0.05$, $^{***}: p < 0.01$.

Table 5: Regression Results for Analysis 3: Likelihood of winning a contract among bid participants (Contract value)

| Variable | Model A | Model B | Model C | Model D |
|---|---|---|---|---|
| | Dependent Variable: Contract value | | | |
| $\text{Tied}_n$ | 0.903 | -0.315 | -0.075 | 0.036 |
| | 0.591 | 0.453 | 0.458 | 0.457 |
| JV | 0.532** | 0.390 | -0.055 | -0.575* |
| | 0.260 | 0.264 | 0.308 | 0.319 |
| JVwithJPN | 0.368 | 0.005 | 0.890*** | 1.009*** |
| | 0.343 | 0.419 | 0.328 | 0.377 |
| $\text{Tied}_n * \text{IsJPN}_c$ | -0.304 | 0.686 | 0.744* | 0.585 |
| | 0.549 | 0.514 | 0.444 | 0.395 |
| $\text{Tied}_n * \text{JV}$ | 0.845 | -0.322 | -0.152 | -0.047 |
| | 0.765 | 0.898 | 0.927 | 0.901 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -0.635 | 0.299 | -0.636 | -0.568 |
| | 0.709 | 0.989 | 0.806 | 0.824 |
| $\text{Local}_{c,r}$ | 2.324*** | 2.918*** | 3.592*** | 3.765*** |
| | 0.269 | 0.484 | 0.626 | 0.537 |
| $\text{Local}_{c,r} * \text{BiTied}_m$ | -2.413*** | -0.735 | -0.586 | -0.832 |
| | 0.456 | 0.676 | 0.591 | 0.574 |
| $\text{IsJPN}_c$ | 2.731*** | 2.630*** | 2.680*** | 2.692*** |
| | 0.320 | 0.352 | 0.281 | 0.274 |
| $\text{IsCHN}_c$ | 1.173*** | -0.818 | -0.812 | -1.059* |
| | 0.281 | 0.623 | 0.536 | 0.578 |
| $\text{IsIND}_c$ | 2.815*** | 2.281*** | 1.973*** | 1.859*** |
| | 0.371 | 0.352 | 0.343 | 0.315 |
| $\text{IsIDN}_c$ | 0.508* | 0.813** | 0.881* | 0.866* |
| | 0.304 | 0.399 | 0.529 | 0.496 |
| $\text{IsKOR}_c$ | 1.908*** | 1.337** | 1.336*** | 1.442*** |
| | 0.501 | 0.637 | 0.407 | 0.388 |
| $\text{IsVNM}_c$ | 0.510 | 1.035*** | 0.930* | 0.948** |
| | 0.451 | 0.399 | 0.513 | 0.458 |
| ProjectSize | | 0.019*** | 0.013*** | 0.006 |
| | | 0.004 | 0.004 | 0.005 |
| NoBidders | | -0.031 | 0.007 | -0.042 |
| | | 0.034 | 0.035 | 0.035 |
| $\text{Exports}_c$ | | 1.040*** | 1.167*** | 1.263*** |
| | | 0.333 | 0.257 | 0.272 |
| $\text{GDPcap}_r$ | | -38.467 | | |
| | | 74.993 | | |
| $\text{Pop}_r$ | | 0.033 | | |
| | | 0.234 | | |
| $\text{ComlangOff}_{c,r}$ | | -0.346 | -0.428 | -0.552 |
| | | 0.283 | 0.407 | 0.428 |
| $\text{Dist}_{c,r}$ | | -0.129** | -0.135*** | -0.152*** |
| | | 0.066 | 0.039 | 0.038 |
| $\text{Smctry}_{c,r}$ | | -0.736* | -1.123** | -1.142*** |
| | | 0.444 | 0.530 | 0.397 |
| Sector FE | No | Yes | Yes | Yes |
| Recipient FE | No | No | Yes | Yes |
| Sector* Recipient FE | No | No | No | Yes |
| Constant | 7.370*** | 4.781*** | 3.123*** | 6.804*** |
| | 0.236 | 0.735 | 1.145 | 1.216 |
| Pseudo R-squared | 0.508 | 0.664 | 0.800 | 0.863 |
| N | 829.000 | 801.000 | 677.000 | 677.000 |

Note: $^{*}: p < 0.10$, $^{**}: p < 0.05$, $^{***}: p < 0.01$.

Table 6: Difference in Coefficients: $\text{IsJPN}_c - \text{IsIND}_c$ (Analysis 3 – Contract Value)

| Model | Coefficient | Std. Error | $z$ | $p$-value |
|---|---|---|---|---|
| Model A | $-0.084$ | $0.385$ | $-0.22$ | $0.828$ |
| Model B | $0.350$ | $0.469$ | $0.75$ | $0.456$ |
| Model C | $0.707*$ | $0.376$ | $1.88$ | $0.060$ |
| Model D | $0.832**$ | $0.372$ | $2.24$ | $0.025$ |

Note: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

## 6.2 Sectoral Analysis

This section explores the result of sectoral analysis using the methodology applied in Analyses 1–3 to explore how the effect of $\text{IsJPN}_c$ varies across different sectors, focusing on the results on Model B. Overall, the findings suggest that Japan's advantage is not confined to particular sectors, but is instead broadly distributed across a wide range of sectors.

### 6.2.1 Analysis 1: Overall likelihood of securing contracts

The results from Analysis 1 (**Figure 17, Figure 18, and Table 7, and Table 8 in the Appendix**) indicate that Japanese firms (*IsJPN*) consistently exhibit positive and statistically significant coefficients across most sectors, both in terms of win share and contract value. Their competitive edge in win share appears relatively uniform across sectors, with a slight lead in the telecommunications sector. In contrast, the variation in contract value is more pronounced—higher coefficients are observed in sectors such as electricity and gas and transportation, while social services and telecommunications show relatively lower values. These differences likely reflect sectoral characteristics, where projects in electricity, gas, and transport are typically larger in scale and thus associated with higher contract values.

### 6.2.2 Analysis 2: Likelihood of participating in auctions

In Analysis 2, which focuses on participation share, coefficients for Japanese firms are again consistently positive, and relatively uniform across sectors (**Figure 19 and Table 9** in the Appendix). The highest advantage is observed in the telecommunication sector, followed by the electricity and gas, indicating a strong presence or preference of Japanese firms in the bidding process in these areas.

### 6.2.3 Analysis 3: Likelihood of winning a contract among bid participants

Analysis 3 (**Figure 20 and Figure 21, and Table 8, and Table 9 in the Appendix**) offers a more nuanced view of the performance of Japanese firms. The coefficients for the share of wins are not statistically significant across sectors. This may suggest that Japan's advantage is not concentrated in specific sectors, but rather spread across sectors in a more diffuse way, which becomes visible only when pooling the data. Alternatively, it could be due to smaller sample sizes in sector-specific models.

The coefficients for contract value remain positive and statistically significant in several sectors, particularly in electricity & gas followed by transport, social services, and others, highlighting Japan's edge in securing higher value contracts in these areas.

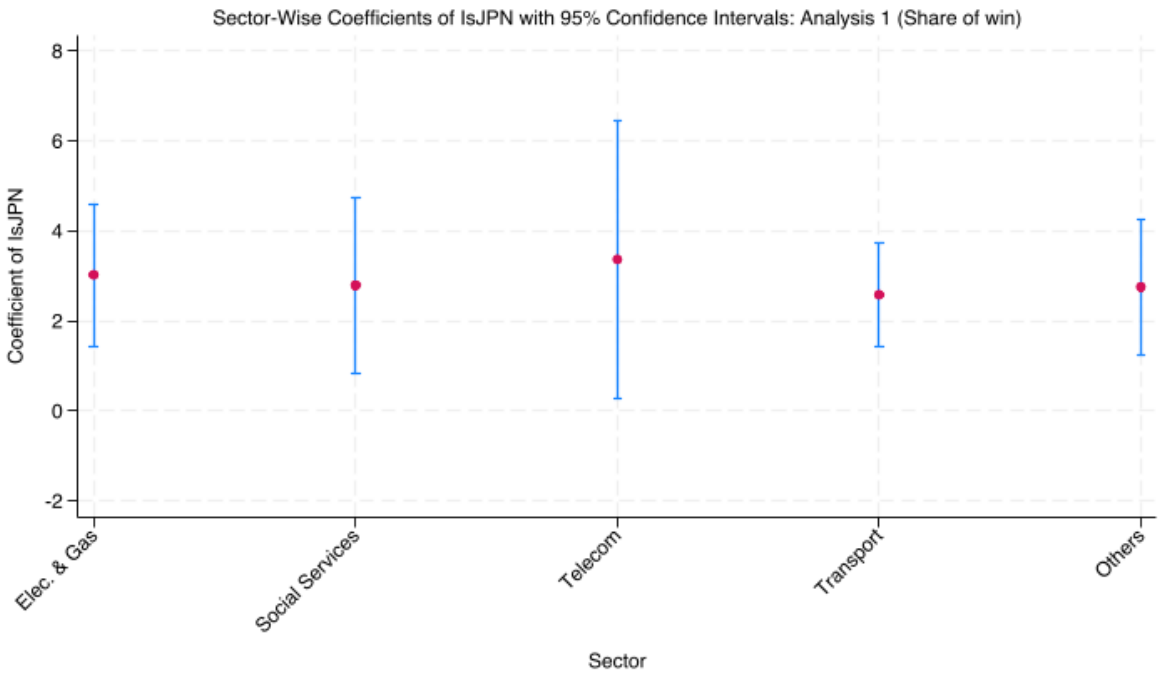


Figure 17

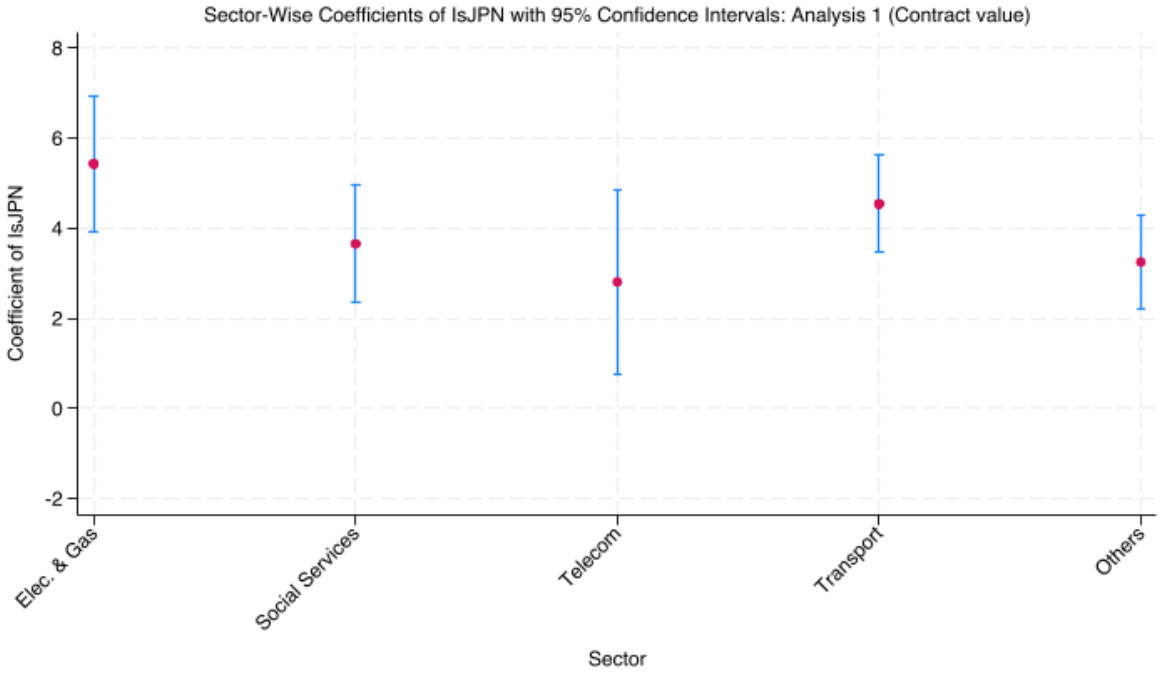


Figure 18

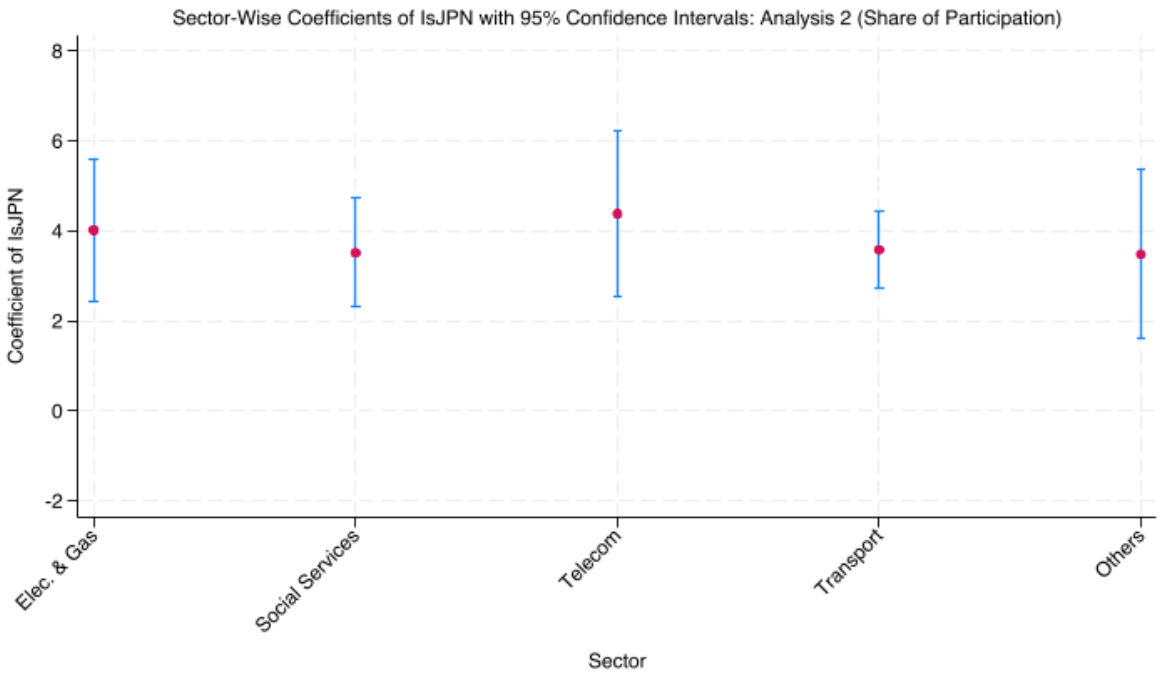
Sector-Wise Coefficients of IsJPN with 95% Confidence Intervals: Analysis 2 (Share of Participation)
Coefficient of IsJPN
8
6
4
2
0
-2
Elec. & Gas
Social Services
Telecom
Transport
Others
Sector

Figure 19

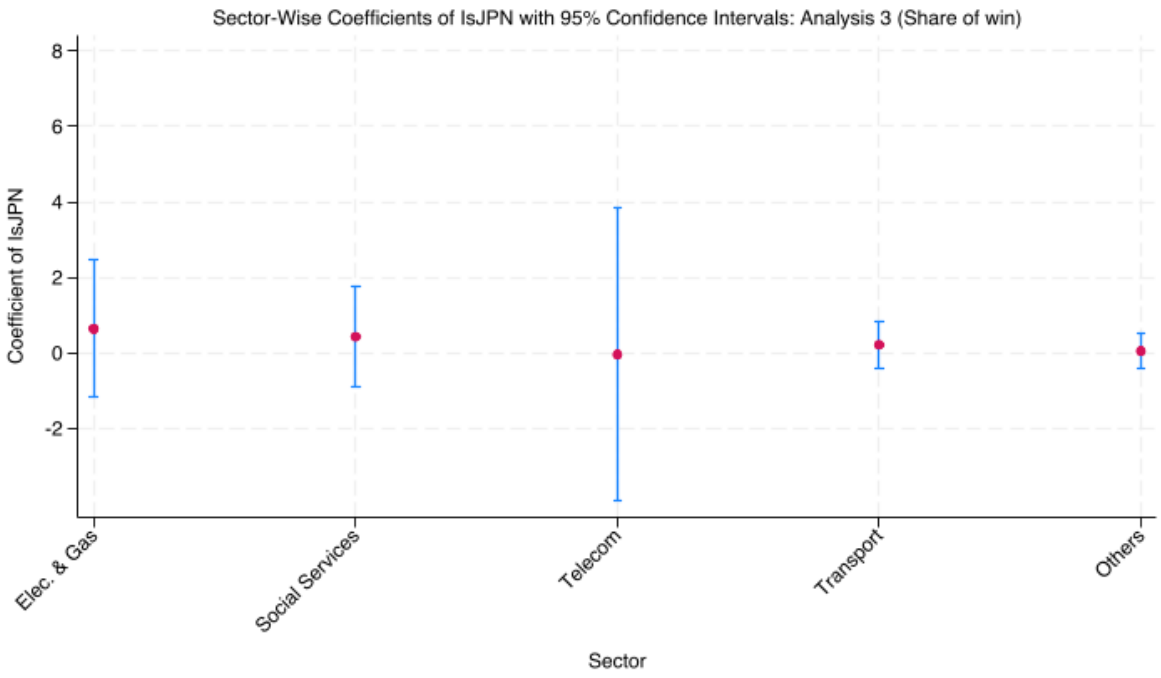


Figure 20

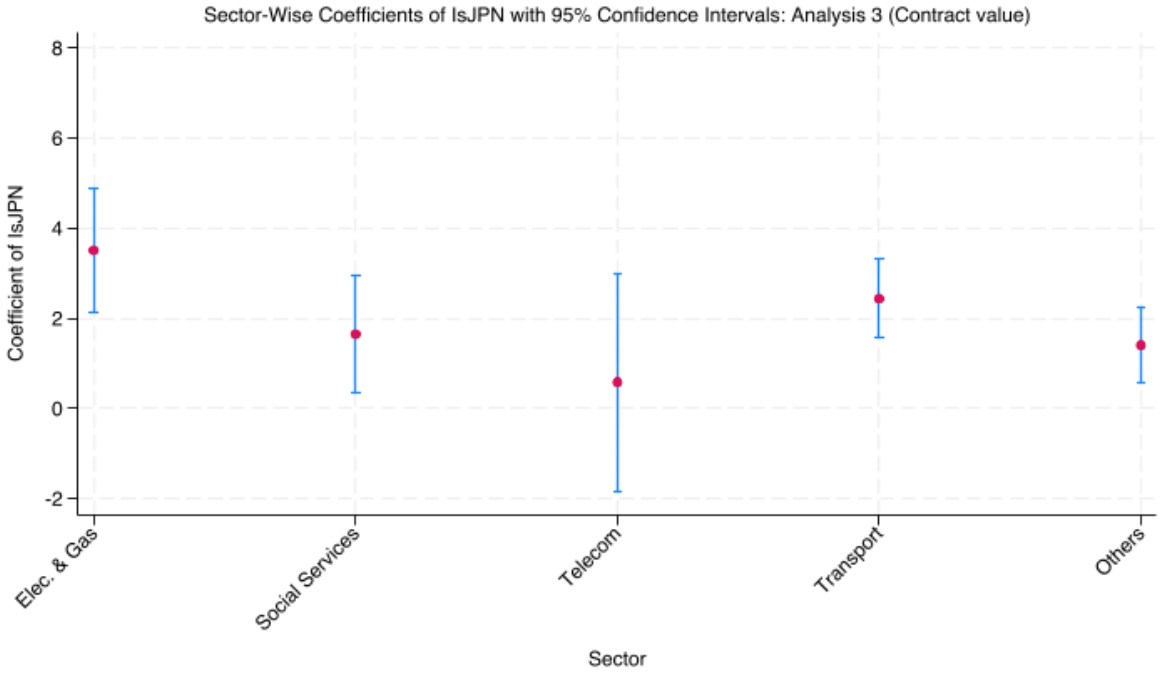


Figure 21

# 7 Conclusion

This paper investigated the presence and mechanisms of home bias in JICA-funded procurement by examining how Japanese firms perform relative to other firms through three analyses. The key findings are as follows:

**First, the results indicate that Japanese firms enjoy a substantial advantage in Japan's ODA procurement**. Without conditioning on participation (**Analysis 1**), Japanese firms secure a significantly greater share of wins and contract value compared to other top-performing countries, including China, India, Indonesia, Korea, Vietnam, as well as local firms. Specifically, Japanese firms receive approximately 17 to 32 times more contract shares and 98 to 233 times larger contract values than non-Japanese firms, excluding the top five performers. These figures highlight the dominant competitive position of Japanese firms in the ODA procurement landscape.

**Second, this advantage derives from both the participation and the selection phase**. Japanese firms are significantly more likely to participate in auctions than the other top five performers, and 44 to 59 times more likely than non-Japanese firms outside this group, even after controlling for tying status (**Analysis 2**). This reflects a substantial participation effect, whereby Japanese firms are more consistently present in the bidding pool.

Moreover, contrary to the initial hypothesis that Japanese firms' advantage arises solely during the participation phase, the results reveal that their dominance extends into the selection phase as well. When the analysis is restricted to firms that have already participated in auctions, Japanese firms continue to outperform (**Analysis 3**). They secure contract shares that are 1.5 to 2.0 times larger than those of firms from countries outside the top five performers, whose coefficients become statistically insignificant at this stage. In terms of contract value, the coefficient on $\text{IsJPN}_c$ remains positive and highly significant ($p < 0.01$) across all models, indicating that Japanese firms secure contracts valued approximately 13.9 to 15.3 times higher than those awarded to firms outside the top five participants.

These magnitudes are notably lower than those reported in **Analysis 1**—which does not condition on participation, which underscores the pivotal role of participation in explaining Japan's overall dominance. At the same time, the persistence of statistically significant differences even after conditioning on participation suggests that Japanese firms not only enter the bidding process more frequently but also perform better once involved. This highlights their competitive advantage in both the participation and selection phases of procurement, potentially due to Japan's observed *de facto* tied practices such as setting specific requirements in tender documents that indirectly favour Japanese firms and providing information primarily to domestic companies, or other mechanisms.

**Third, joint ventures with Japanese firms offer a clear edge, highlighting another facet of their advantage**. Joint ventures without Japanese partners are consistently associated with lower participation and win rates in JICA-funded procurement, likely due to structural disadvantages faced by weaker or less competitive firms. In contrast, joint ventures with Japanese firms confer a notable advantage: they significantly increase the share of wins, with firms in such partnerships winning approximately 1.4 to 1.8 times more share of wins than solo bidders, not conditioned on participation. While the positive effect of partnering with Japanese firms is

more evident at the awarding stage (**Analysis 3**) than the participation phase (**Analysis 2**), this benefit disappears—and may even become a liability—under tied aid conditions. This suggests that while collaboration with Japanese firms offers indirect advantages in untied settings, it may dilute competitiveness under tied aid.

**Fourth, local firms face substantial advantages in all phases**. The results from **Analyses 1 to 3** highlight that local firms consistently outperform their foreign counterparts, especially in terms of participation and contract value. In the participation phase (**Analysis 2**), they are among the most active bidders. In both **Analyses 1 and 3**, they achieve higher contract performance.

**Finally, the analysis confirms the importance of structural and geographic factors, such as the home country's export capacity, geographic proximity, and shared language.** Firms from countries with strong export performance and close geographic proximity to the recipient are more likely to participate and succeed. In addition, a shared official language facilitates firm participation. These findings align with intuitive expectations and support the view that both economic ties and ease of communication shape procurement outcomes.

# 8 Limitation

Despite providing valuable insights, this research faces several important limitations, primarily driven by data constraints.

First, the analysis does not account for firm-level variations in capabilities or competitiveness—factors that are crucial for a more accurate identification of home bias in contract awards. While the models control for country-level competitiveness through export capacity and bilateral characteristics, the research cannot reject the possibility that Japanese firms are inherently more competitive than others, even beyond what would be expected based on national export performance or relationships with recipient countries. In other words, there is still a possibility that their superiority can be explained by firm-specific advantages that are not fully captured in the available data, which could independently drive their higher participation and success rates, irrespective of any procurement bias.

Second, the dataset is skewed toward large-scale loan projects, as only procurement contracts exceeding 1 billion JPY (approximately €62.5 million, using an exchange rate of ¥160 = €1) for main works and 0.1 billion JPY (approximately €6.25 million) for consultancy services are publicly disclosed. This introduces a potential sampling bias that may under-represent smaller contracts, which, according to existing literature, are often more accessible to local firms or new market entrants (Meeks 2018). Consequently, the extent of local firm participation and competitiveness could be understated in this study.

Third, the analysis is limited by the granularity of data on tying status and joint ventures. Tied aid is coded at the project level, even though the actual tying status may vary across contracts within the same project. This could mask important intra-project variation. Similarly, the dataset lacks information on the ownership structure of joint ventures. The analysis assumes an equal division of contract value among joint venture partners, which may not accurately reflect the distribution of roles, responsibilities, or financial benefits within each partnership. These limitations constrain the precision with which the effects of tied aid and joint ventures

can be estimated.

Addressing these data gaps, particularly through improved disclosure at the contract level and more detailed information on firm characteristics and joint venture structures, would enable a more nuanced and accurate assessment of procurement dynamics in aid-funded projects.

# 9 Policy Recommendations

As seen in the previous chapters, tied aid diminishes overall development effectiveness by weakening competitive procurement processes, leading to increased costs, restricted opportunities for local business development, and diluted focus due to competing priorities.

In this context, eliminating *de facto* tied aid is essential for improving aid effectiveness. While *de jure* tied aid is sometimes defended as a means of securing domestic support for ODA and may be offset by higher concessionality, *de facto* tied aid lacks such legitimate justification and serves only to reinforce donor country commercial interests.

Addressing this challenge requires collective international action, as the persistence of tied aid resembles a classic prisoner's dilemma, whereby no single donor country can resolve the issue unilaterally (Chimia 2004, p.5). Therefore, these recommendations are directed not at individual donors, but at the OECD DAC and its Secretariat.

The OECD DAC and its Secretariat are best and most realistically positioned to lead such efforts given its long-standing role in monitoring and advancing aid untying, and the track record in untying practices. It is worth noting that its role as a central donor platform has come under growing pressure with the rise of new aid providers such as China. While it once represented the leading global donors, its influence has diminished, as several emerging donors openly distance themselves from the DAC norms—raising fundamental questions about the definitions of ODA, untied aid, and other core principles (Verschaeve and Orbie 2016). However, this situation also presents an opportunity for the DAC to reaffirm its leadership in transparency, fairness, and development effectiveness. By championing practices that would be valued by recipient countries, the DAC can help to strengthen the legitimacy of its norms and encourage broader global adherence.

To this end, OECD DAC members and its Secretariat should strengthen collaboration to promote transparency and enhance competition, particularly by increasing the participation of recipient country firms in aid-funded procurement.

## 9.1 Enhancing the Current Monitoring Methodology and the System of *De Facto* Tied Aid Through Asking for Bidder-Level Reporting and Enhanced Data Analysis

The OECD has been playing a vital role in monitoring *de facto* tied aid. The organisation collects ex-ante and ex-post contract results for untied ODA projects from DAC member countries, and it publishes biannual benchmarking reports comparing procurement outcomes across donors in its report on the DAC Recommendation on Untying ODA. However, the current reporting framework has limitations. First, it only includes awarded contracts, lacking crucial

information on unsuccessful participants. Additionally, the biannual reports only include basic figures on the actual award outcomes to identify *de facto* tied aid, lacking in-depth analysis and statistical assessments to capture the underlying dynamics of procurement biases fully. To address these gaps, the OECD should perform a more comprehensive and detailed analysis capturing both participation barriers and contract award biases. This requires mandating the DAC member countries to perform bidder-level reporting to identify participation barriers and award biases. Additionally, the OECD should incorporate econometric approaches such as those presented in this paper to more accurately identify and quantify implicit biases in contract awards.

## 9.2 Improving Access to Procurement Opportunities through Establishing a Timely Digital Platform

This analysis highlights that participation advantages vary significantly between donor and non-donor countries, potentially undermining the competitiveness of bidding processes. This is an area where the OECD can add substantial value. Currently, JICA's procurement guidelines require borrowers to publish bid invitations in at least one widely circulated local newspaper and to submit copies to JICA (JICA 2023). However, to enhance accessibility and attract a broader pool of bidders, procurement information should be consolidated and made available online in a timely and transparent manner. While the OECD collects and publishes data on untied ODA project notifications, these updates are infrequent—the latest available data, as confirmed in March 22, 2025, dated back to October 25, 2024 (OECD 2025d). Establishing a centralised platform where donors are required to post up-to-date bidding information for loan-funded projects would help bridge this information gap, increase transparency, and encourage wider participation in ODA procurement.

## 9.3 Assessing Donor-Specific Procurement Practices and Fairness

This analysis underscores that firms from donor countries may enjoy advantages not only in the participation phase but also during the selection stage of procurement. To address this issue, the OECD could take a more active role in monitoring procurement processes across DAC donors to identify potential mechanisms of de facto tied aid. This would require going beyond the current focus on aggregate quantitative indicators and instead examining the specific practices of each donor. One possible approach would be to develop a "procurement fairness scorecard" to measure the extent to which procurement processes are conducted fairly. Such a tool could be implemented as a stand-alone, cross-institutional initiative or integrated into the OECD's existing DAC peer review mechanism, which regularly evaluates the strengths and challenges of donor countries (OECD n.d.[a]), while also promoting transparency, accountability, and fair competition.

# 10 Appendix

Table 7: Sector-wise Regression Results for Analysis 1: Overall likelihood of securing contracts (Share of win)

| | (1) Elec. & Gas | (2) Social Services | (3) Telecom | (4) Transport | (5) Others |
|---|---|---|---|---|---|
| Tied | -0.975 | -2.262** | -0.083 | -1.429** | -0.064 |
| | 0.806 | 0.999 | 1.570 | 0.584 | 0.772 |
| JV | -0.593 | -0.162 | -3.021 | -0.463 | -2.171 |
| | 0.609 | 0.551 | 2.910 | 0.585 | 1.362 |
| JVwithJPN | 1.042** | 0.476 | 4.251 | 1.056 | -0.121 |
| | 0.485 | 0.788 | 2.704 | 0.672 | 1.506 |
| $\text{Tied}_n * \text{JPN}_c$ | 0.487 | 2.151*** | 0.000 | 1.638*** | -0.041 |
| | 0.749 | 0.660 | . | 0.404 | 1.217 |
| $\text{Tied}_n * \text{IsJPN}_c$ | -1.603 | 2.194* | 0.000 | -1.600 | 1.806 |
| | 3.439 | 1.331 | . | 1.466 | 1.789 |
| $\text{Tied}_n * \text{JVwithJPN}$ | 1.149 | -2.469** | 0.000 | 1.399 | -1.221 |
| | 3.671 | 1.128 | . | 1.281 | 2.309 |
| $\text{Local}_{c,r}$ | 1.948** | 1.594 | 3.122* | 0.921 | 1.910*** |
| | 0.815 | 1.039 | 1.758 | 0.631 | 0.629 |
| $\text{Local}_{c,r} * \text{BiTied}$ | 0.000 | 1.309* | 0.000 | 1.154* | 0.000 |
| | . | 0.747 | . | 0.636 | . |
| $\text{IsJPN}_c$ | 3.026*** | 2.793*** | 3.370*** | 2.584*** | 2.758*** |
| | 0.288 | 0.349 | 1.212 | 0.340 | 0.898 |
| IsCHN | -1.902** | -0.669 | -2.244** | -0.619 | -2.478* |
| | 0.828 | 0.777 | 1.138 | 0.633 | 1.342 |
| $\text{IsIND}_c$ | 1.228** | 1.441** | 0.000 | -0.576 | 0.840 |
| | 0.564 | 0.611 | . | 0.459 | 1.043 |
| $\text{IsIDN}_c$ | -0.475 | -0.323 | 0.000 | 0.158 | 1.890*** |
| | 0.484 | 0.627 | . | 0.260 | 0.524 |
| IsKOR | 2.105*** | 1.814*** | 1.485 | 1.911*** | 1.454* |
| | 0.344 | 0.420 | 0.993 | 0.478 | 0.818 |
| IsVNM | -0.003 | -0.890 | 0.000 | 0.792* | 2.207*** |
| | 0.321 | 0.996 | . | 0.404 | 0.675 |
| ProjectSize | 0.005 | 0.009 | -0.022 | 0.011* | -0.018 |
| | 0.006 | 0.007 | 0.145 | 0.006 | 0.020 |
| NoBidders | -0.070 | -0.193*** | 0.036 | -0.181*** | -0.538** |
| | 0.060 | 0.072 | 0.519 | 0.050 | 0.233 |
| $\text{Exports}_c$ | 1.573*** | 1.400*** | 2.205*** | 1.369*** | 2.302*** |
| | 0.221 | 0.182 | 0.500 | 0.218 | 0.425 |
| $\text{GDPcap}_r$ | -17.287 | -39.659 | -134.888 | -53.381 | 555.743** |
| | 53.208 | 39.640 | 502.332 | 35.716 | 234.725 |
| $\text{Pop}_r$ | -0.071 | -0.242 | 0.337 | 0.089 | -3.523*** |
| | 0.427 | 0.352 | 2.043 | 0.327 | 0.956 |
| $\text{ComlangOff}_{c,r}$ | 0.595 | 1.356*** | 0.000 | 0.296 | 0.674 |
| | 0.444 | 0.359 | . | 0.373 | 0.669 |
| $\text{Dist}_{c,r}$ | -0.102*** | -0.151*** | -0.095 | -0.088*** | -0.220*** |
| | 0.027 | 0.045 | 0.133 | 0.026 | 0.071 |
| $\text{Smctry}_{c,r}$ | 0.391 | -0.604 | 0.000 | 1.613*** | 0.000 |
| | 0.897 | 1.037 | . | 0.605 | . |
| Constant | -3.861*** | -3.393*** | -4.100* | -3.522*** | -2.954** |
| | 0.430 | 0.488 | 2.243 | 0.516 | 1.160 |
| r2_p | 0.313 | 0.283 | 0.496 | 0.319 | 0.466 |
| N | 2888.000 | 3600.000 | 577.000 | 5580.000 | 1701.000 |

Table 8: Sector-wise Regression Results for Analysis 1: Overall likelihood of securing contracts (Contract value)

| | (1) Elec. & Gas | (2) Social Services | (3) Telecom | (4) Transport | (5) Others |
|---|---|---|---|---|---|
| Tied | -1.837** | -2.649*** | 0.854 | -0.727 | 1.124** |
| | 0.773 | 0.668 | 1.043 | 0.549 | 0.535 |
| JV | -0.342 | 0.472 | -6.500** | 0.964 | -2.860* |
| | 0.559 | 0.454 | 3.242 | 0.793 | 1.549 |
| JVwithJPN | 0.398 | -0.038 | 6.534** | -0.446 | 0.715 |
| | 0.658 | 0.601 | 3.003 | 1.034 | 1.375 |
| $\text{Tied}_n * \text{JPN}_c$ | 0.793 | 2.376*** | 0.000 | 1.291** | 0.385 |
| | 0.820 | 0.645 | . | 0.515 | 1.229 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 2.840 | -0.638 | 0.000 | -1.105 | 1.682 |
| | 2.140 | 0.838 | . | 1.617 | 2.784 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -2.908 | 1.004 | 0.000 | 1.660 | -0.200 |
| | 2.373 | 0.899 | . | 1.805 | 2.970 |
| $\text{Local}_{c,r}$ | 2.053*** | 4.857*** | 1.995 | 4.927*** | 3.860*** |
| | 0.711 | 1.073 | 1.888 | 0.608 | 1.025 |
| $\text{Local}_{c,r} * \text{BiTied}$ | 0.000 | 1.259* | 0.000 | -0.617 | 0.000 |
| | . | 0.683 | . | 1.206 | . |
| $\text{IsJPN}_c$ | 5.427*** | 3.654*** | 2.812*** | 4.542*** | 3.253*** |
| | 0.546 | 0.377 | 0.970 | 0.462 | 0.796 |
| IsCHN | -1.592** | -1.838** | -3.793** | -1.292 | -2.415** |
| | 0.715 | 0.805 | 1.700 | 0.917 | 1.214 |
| $\text{IsIND}_c$ | 2.152*** | 2.317*** | 0.000 | 2.730*** | 1.508** |
| | 0.371 | 0.389 | . | 0.567 | 0.737 |
| $\text{IsIDN}_c$ | 2.224*** | 0.928*** | 0.000 | 0.805 | 2.615*** |
| | 0.494 | 0.269 | . | 0.585 | 0.607 |
| IsKOR | 2.475*** | 2.668*** | 1.308 | 3.105*** | 1.488 |
| | 0.438 | 0.587 | 1.009 | 0.932 | 0.955 |
| IsVNM | 0.722* | 0.835** | 0.000 | 1.772*** | 1.515 |
| | 0.393 | 0.339 | . | 0.462 | 1.017 |
| ProjectSize | 0.049*** | 0.025*** | 0.193 | 0.023*** | 0.094*** |
| | 0.013 | 0.009 | 0.121 | 0.006 | 0.029 |
| NoBidders | 0.086 | 0.002 | -0.707 | -0.023 | 0.061 |
| | 0.075 | 0.060 | 0.657 | 0.057 | 0.099 |
| $\text{Exports}_c$ | 2.194*** | 1.755*** | 2.177*** | 1.966*** | 2.536*** |
| | 0.300 | 0.175 | 0.703 | 0.321 | 0.450 |
| $\text{GDPcap}_r$ | -284.364*** | -39.259 | 326.502 | -95.167 | -42.705 |
| | 87.674 | 53.284 | 545.449 | 126.002 | 142.364 |
| $\text{Pop}_r$ | -0.558 | 0.220 | -3.097 | -0.114 | -3.185*** |
| | 0.340 | 0.326 | 2.339 | 0.361 | 0.516 |
| $\text{ComlangOff}_{c,r}$ | 0.176 | 1.383*** | 0.000 | -1.161*** | 0.193 |
| | 0.519 | 0.471 | . | 0.411 | 0.804 |
| $\text{Dist}_{c,r}$ | -0.294*** | -0.207*** | -0.215 | -0.177** | -0.176 |
| | 0.063 | 0.049 | 0.149 | 0.088 | 0.136 |
| $\text{Smctry}_{c,r}$ | 0.388 | -2.195** | 0.000 | 0.089 | 0.000 |
| | 0.858 | 1.075 | . | 0.648 | . |
| Constant | 5.451*** | 4.819*** | 4.710** | 5.273*** | 4.074*** |
| | 0.700 | 0.544 | 2.020 | 1.015 | 0.823 |
| r2_p | 0.782 | 0.744 | 0.740 | 0.815 | 0.899 |
| N | 2888.000 | 3600.000 | 577.000 | 5580.000 | 1701.000 |

Table 9: Sector-wise Regression Results for Analysis 2: Likelihood of participating in auctions

| | (1) Elec. & Gas | (2) Social Services | (3) Telecom | (4) Transport | (5) Others |
|---|---|---|---|---|---|
| Tied | -0.943 | -2.379*** | 1.105 | -1.506*** | -2.474*** |
| | 0.803 | 0.617 | 0.938 | 0.442 | 0.957 |
| JV | -1.025** | 0.201 | -1.518 | -0.908*** | -2.226*** |
| | 0.437 | 0.343 | 0.962 | 0.335 | 0.770 |
| JVwithJPN | 1.221*** | -1.426* | 1.258 | 0.321 | -0.281 |
| | 0.389 | 0.812 | 0.904 | 0.474 | 1.385 |
| $\text{Tied}_n * \text{JPN}_c$ | 2.022** | 3.386*** | 0.000 | 2.524*** | 3.226*** |
| | 0.794 | 0.586 | . | 0.407 | 1.122 |
| $\text{Tied}_n * \text{IsJPN}_c$ | -0.910 | -0.086 | 0.000 | -0.193 | 0.690 |
| | 1.686 | 0.697 | . | 0.840 | 1.704 |
| $\text{Tied}_n * \text{JVwithJPN}$ | 0.223 | 1.608* | 0.000 | 0.423 | 1.680 |
| | 1.919 | 0.950 | . | 0.763 | 3.464 |
| $\text{Local}_{c,r}$ | 2.528*** | 3.213*** | 0.609 | 2.942*** | 3.161*** |
| | 0.639 | 0.617 | 1.140 | 0.462 | 0.572 |
| $\text{Local}_{c,r} * \text{BiTied}$ | 0.000 | 2.110*** | 0.000 | 1.197** | 2.013** |
| | . | 0.652 | . | 0.511 | 0.957 |
| $\text{IsJPN}_c$ | 4.015*** | 3.517*** | 4.383*** | 3.579*** | 3.484*** |
| | 0.224 | 0.259 | 0.486 | 0.251 | 0.681 |
| IsCHN | -0.559 | -0.718 | -1.077 | 0.933** | -1.736 |
| | 0.557 | 0.553 | 0.663 | 0.416 | 1.116 |
| $\text{IsIND}_c$ | 2.457*** | 2.056*** | 0.000 | 1.541*** | 1.972*** |
| | 0.251 | 0.390 | . | 0.418 | 0.498 |
| $\text{IsIDN}_c$ | 1.259*** | 0.901** | 0.000 | 0.805** | 1.371*** |
| | 0.345 | 0.414 | . | 0.346 | 0.269 |
| IsKOR | 2.079*** | 2.891*** | 2.862*** | 2.022*** | 1.665*** |
| | 0.425 | 0.396 | 0.761 | 0.361 | 0.619 |
| IsVNM | 0.900* | -0.233 | 0.000 | 0.619*** | 1.511*** |
| | 0.498 | 0.696 | . | 0.220 | 0.390 |
| ProjectSize | -0.004 | -0.001 | -0.055 | 0.005 | -0.001 |
| | 0.005 | 0.006 | 0.035 | 0.004 | 0.014 |
| NoBidders | 0.022 | -0.020 | -0.068 | -0.003 | 0.038 |
| | 0.036 | 0.036 | 0.293 | 0.024 | 0.088 |
| $\text{Exports}_c$ | 1.792*** | 1.725*** | 2.215*** | 1.299*** | 2.158*** |
| | 0.203 | 0.168 | 0.398 | 0.141 | 0.346 |
| $\text{GDPcap}_r$ | 5.186 | 37.055 | 186.126 | 0.292 | -82.228 |
| | 35.348 | 35.573 | 319.648 | 36.952 | 107.861 |
| $\text{Pop}_r$ | -1.582*** | -1.628*** | -2.624** | -1.790*** | -1.598*** |
| | 0.289 | 0.255 | 1.136 | 0.401 | 0.493 |
| $\text{ComlangOff}_{c,r}$ | 0.688** | 0.575 | -0.176 | 0.535** | 1.112** |
| | 0.284 | 0.354 | 1.048 | 0.257 | 0.549 |
| $\text{Dist}_{c,r}$ | -0.095*** | -0.223*** | -0.345*** | -0.126*** | -0.112* |
| | 0.029 | 0.035 | 0.066 | 0.027 | 0.060 |
| $\text{Smctry}_{c,r}$ | 0.681 | -0.221 | 0.000 | 0.445 | 0.000 |
| | 0.599 | 0.646 | . | 0.435 | . |
| Constant | -5.284*** | -4.739*** | -3.768*** | -4.621*** | -4.570*** |
| | 0.311 | 0.365 | 1.316 | 0.361 | 0.935 |
| r2_p | 0.457 | 0.476 | 0.550 | 0.451 | 0.572 |
| N | 2888.000 | 3600.000 | 607.000 | 5580.000 | 2144.000 |

Table 10: Sector-wise Regression Results for Analysis 3: Likelihood of winning a contract among participants (Share of win)

| | (1) Elec. & Gas | (2) Social Services | (3) Telecom | (4) Transport | (5) Others |
|---|---|---|---|---|---|
| Tied | -0.340 | -0.458 | -1.212 | 0.058 | 0.222 |
| | 0.927 | 0.679 | 1.979 | 0.320 | 0.231 |
| JV | 0.266 | -0.281 | -1.522*** | 0.060 | 0.413 |
| | 0.227 | 0.299 | 0.456 | 0.255 | 0.376 |
| JVwithJPN | -0.137 | 0.516 | 1.928*** | 0.441 | -0.286 |
| | 0.258 | 0.339 | 0.660 | 0.273 | 0.515 |
| $\text{Tied}_n * \text{JPN}_c$ | 0.058 | 0.005 | 0.000 | 0.075 | 0.263 |
| | 0.921 | 0.607 | . | 0.293 | 0.364 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 0.813 | 1.273* | 0.000 | -0.228 | -1.032* |
| | 0.869 | 0.687 | . | 0.534 | 0.581 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -1.242 | -1.502** | 0.000 | -0.051 | 0.816 |
| | 1.042 | 0.661 | . | 0.498 | 0.802 |
| $\text{Local}_{c,r}$ | 0.228 | 0.899 | 4.112*** | -0.186 | 0.767* |
| | 0.740 | 0.916 | 1.574 | 0.519 | 0.458 |
| $\text{Local}_{c,r} * \text{BiTied}$ | 0.000 | -0.361 | 0.000 | -0.009 | 0.000 |
| | . | 0.474 | . | 0.409 | . |
| $\text{IsJPN}_c$ | 0.637*** | 0.428 | -0.045 | 0.219 | 0.051 |
| | 0.184 | 0.277 | 1.250 | 0.223 | 0.261 |
| IsCHN | -0.473 | 1.108 | -3.168 | 0.131 | -0.331 |
| | 0.643 | 0.720 | 2.940 | 0.674 | 0.820 |
| $\text{IsIND}_c$ | 0.158 | 0.375 | 0.000 | -0.729* | 1.410* |
| | 0.339 | 0.351 | . | 0.403 | 0.805 |
| $\text{IsIDN}_c$ | -1.137* | -0.003 | 0.000 | -0.143 | 0.603** |
| | 0.686 | 0.175 | . | 0.295 | 0.273 |
| IsKOR | 0.424 | -0.267 | -0.718 | 0.177 | -0.043 |
| | 0.268 | 0.358 | 1.306 | 0.243 | 0.517 |
| IsVNM | -0.467 | 0.366*** | 0.000 | 0.136 | 0.327 |
| | 0.501 | 0.140 | . | 0.296 | 0.392 |
| ProjectSize | 0.003 | -0.009 | -0.031 | -0.001 | -0.003 |
| | 0.004 | 0.008 | 0.083 | 0.003 | 0.011 |
| NoBidders | -0.177*** | -0.245*** | -1.118* | -0.214*** | -0.401*** |
| | 0.046 | 0.059 | 0.610 | 0.042 | 0.078 |
| $\text{Exports}_c$ | 0.029 | -0.376 | 0.798 | -0.073 | 0.631 |
| | 0.245 | 0.371 | 0.976 | 0.312 | 0.422 |
| $\text{GDPcap}_r$ | -2.791 | 2.872 | -27.597 | 5.433 | 17.180 |
| | 35.907 | 28.894 | 329.205 | 28.230 | 144.233 |
| $\text{Pop}_r$ | 0.083 | -0.088 | 0.111 | 0.134 | -0.864** |
| | 0.188 | 0.173 | 0.838 | 0.182 | 0.391 |
| $\text{ComlangOff}_{c,r}$ | 0.216 | 0.079 | 0.000 | -0.250 | -0.479 |
| | 0.343 | 0.299 | . | 0.286 | 0.615 |
| $\text{Dist}_{c,r}$ | 0.011 | 0.013 | 0.058 | 0.040** | -0.047 |
| | 0.022 | 0.028 | 0.148 | 0.019 | 0.040 |
| $\text{Smctry}_{c,r}$ | 0.266 | -0.671 | 0.000 | 0.811 | 0.000 |
| | 0.686 | 0.906 | . | 0.521 | . |
| Constant | -0.946*** | -0.067 | 1.837 | -0.719** | -0.066 |
| | 0.357 | 0.457 | 2.262 | 0.342 | 0.520 |
| r2_p | 0.096 | 0.093 | 0.221 | 0.116 | 0.140 |
| N | 214.000 | 193.000 | 25.000 | 302.000 | 65.000 |

Table 11: Sector-wise Regression Results for Analysis 3: Likelihood of winning a contract among participants (Contract value)

| | (1) Elec. & Gas | (2) Social Services | (3) Telecom | (4) Transport | (5) Others |
|---|---|---|---|---|---|
| Tied | -1.446** | -0.338 | 0.737 | -0.512 | 2.827*** |
| | 0.697 | 0.666 | 1.231 | 0.443 | 0.420 |
| JV | 0.074 | -0.069 | -1.827*** | 0.660 | -0.035 |
| | 0.419 | 0.347 | 0.362 | 0.476 | 0.483 |
| JVwithJPN | 0.096 | 0.016 | 2.006*** | -0.078 | -1.096 |
| | 0.522 | 0.524 | 0.754 | 0.726 | 0.904 |
| $\text{Tied}_n * \text{JPN}_c$ | 0.505 | -0.346 | 0.000 | 0.666 | -1.491* |
| | 0.775 | 0.673 | . | 0.544 | 0.764 |
| $\text{Tied}_n * \text{IsJPN}_c$ | 2.492 | -0.379 | 0.000 | 0.136 | -1.071 |
| | 2.117 | 0.627 | . | 1.200 | 1.168 |
| $\text{Tied}_n * \text{JVwithJPN}$ | -2.658 | 0.923 | 0.000 | 0.551 | 3.854* |
| | 2.276 | 0.771 | . | 1.349 | 2.055 |
| $\text{Local}_{c,r}$ | 0.260 | 4.556*** | 2.616* | 4.137*** | 2.216*** |
| | 0.614 | 1.284 | 1.492 | 0.463 | 0.673 |
| $\text{Local}_{c,r} * \text{BiTied}$ | 0.000 | -0.935 | 0.000 | -1.167 | 0.000 |
| | . | 0.636 | . | 1.130 | . |
| $\text{IsJPN}_c$ | 3.511*** | 1.650*** | 0.584 | 2.442*** | 1.406*** |
| | 0.643 | 0.378 | 0.818 | 0.442 | 0.495 |
| IsCHN | -1.191 | -0.215 | -0.894 | -0.794 | 2.275 |
| | 0.889 | 0.866 | 3.179 | 0.988 | 1.887 |
| $\text{IsIND}_c$ | 1.423*** | 2.198*** | 0.000 | 2.556*** | 1.580 |
| | 0.399 | 0.305 | . | 0.551 | 1.134 |
| $\text{IsIDN}_c$ | 1.600*** | 0.844*** | 0.000 | 0.381 | 1.840*** |
| | 0.543 | 0.263 | . | 0.511 | 0.497 |
| IsKOR | 0.943** | 1.063* | -0.948 | 1.713** | 0.873 |
| | 0.460 | 0.569 | 0.760 | 0.715 | 0.928 |
| IsVNM | 0.241 | 1.131*** | 0.000 | 1.345** | -0.623 |
| | 0.465 | 0.241 | . | 0.550 | 1.071 |
| ProjectSize | 0.044*** | 0.015* | 0.165*** | 0.014*** | 0.089*** |
| | 0.012 | 0.009 | 0.060 | 0.005 | 0.017 |
| NoBidders | 0.022 | -0.056 | -1.274** | -0.019 | -0.292** |
| | 0.076 | 0.052 | 0.510 | 0.051 | 0.139 |
| $\text{Exports}_c$ | 1.136** | 0.423 | -0.650 | 1.023** | 0.207 |
| | 0.469 | 0.387 | 1.462 | 0.481 | 0.888 |
| $\text{GDPcap}_r$ | -272.545*** | 56.640 | -1.415 | -31.481 | -237.342 |
| | 102.965 | 48.182 | 199.379 | 121.272 | 218.871 |
| $\text{Pop}_r$ | -0.271 | 0.521** | -2.125*** | 0.154 | -3.317*** |
| | 0.401 | 0.221 | 0.810 | 0.335 | 0.708 |
| $\text{ComlangOff}_{c,r}$ | 0.268 | 0.589 | 0.000 | -1.331*** | 0.112 |
| | 0.447 | 0.485 | . | 0.426 | 0.786 |
| $\text{Dist}_{c,r}$ | -0.228*** | -0.056 | -0.078 | -0.133 | -0.080 |
| | 0.070 | 0.052 | 0.111 | 0.093 | 0.094 |
| $\text{Smctry}_{c,r}$ | 0.453 | -2.903** | 0.000 | -1.182** | 0.000 |
| | 0.410 | 1.228 | . | 0.482 | . |
| Constant | 7.881*** | 7.437*** | 10.134*** | 8.106*** | 8.268*** |
| | 0.787 | 0.594 | 1.367 | 0.691 | 0.709 |
| r2_p | 0.657 | 0.666 | 0.842 | 0.730 | 0.894 |
| N | 214.000 | 193.000 | 25.000 | 302.000 | 65.000 |

# References


ADB (Dec. 2016). *ASIAN DEVELOPMENT BANK - ECONOMIC DEVELOPMENT COOPERATION FUND COFINANCING GUIDE*. URL: https://www.adb.org/sites/default/files/institutional-document/227981/adb-ecdf-cofinancing-guide.pdf (visited on 03/10/2025).

Araki, Mitsuya (2017). *Infrastructure Export and Yen Loan Cooperation: Issues Surrounding "Spec-In" (Infura yushutsu to enshakkan kyōryoku: "Supekku-in" o meguru ronten) (in Japanese)*. ja. Section: URL: https://idj.co.jp/online/archives/758 (visited on 03/23/2025).

— (June 2019). *Reform or Abolition? The Tied Yen Loans That Have Begun to Go Awry (Kaikaku ka haishi ka: kurui hajimeta himotsuki en shakkan) (in Japanese)*. ja. Section: URL: https://idj.co.jp/online/archives/682 (visited on 02/02/2025).

Board of Audit of Japan (2006). *Oda no un'ei ni okeru yūsei ni tsuite (Heisei 18 nen) / On the Appropriateness of ODA Operations (FY2006)*. ja. Accessed March 26, 2025. URL: https://report.jbaudit.go.jp/org/h18/YOUSEI4/2006-h18-7596-0.htm.

Brabant, Justine et al. (Oct. 2021). *The dark side of French development aid*. en-EN. URL: https://disclose.ngo/en/article/the-dark-side-of-french-development-aid (visited on 03/12/2025).

Brooks, William L. and Robert M. Orr (1985). "Japan's Foreign Economic Assistance". In: *Asian Survey* 25.3. Accessed 2025-02-02, pp. 322–340. ISSN: 0004-4687. DOI: 10.2307/2644122. URL: https://www.jstor.org/stable/2644122.

Bruce, Tammy (Jan. 2025). *Implementing the President's Executive Order on Reevaluating and Realigning United States Foreign Aid*. en. URL: https://www.state.gov/implementing-the-presidents-executive-order-on-reevaluating-and-realigning-united-states-foreign-aid/ (visited on 03/22/2025).

Carboni, Chiara, Elisabetta Iossa, and Gianpiero Mattera (Mar. 2018). "Barriers towards foreign firms in international public procurement markets: a review". en. In: *Economia e Politica Industriale* 45.1, pp. 85–107. ISSN: 0391-2078, 1972-4977. DOI: 10.1007/s40812-017-0089-2. URL: http://link.springer.com/10.1007/s40812-017-0089-2 (visited on 12/01/2024).

CEPII (2024). *Gravity Database - CEPII*. Accessed: 2024-03-27. Centre d'Études Prospectives et d'Informations Internationales. URL: https://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele_item.asp?id=6.

Chimia, Annamaria La (2004). *International steps to untie aid The DAC/OECD Recommendation on Untying Official Development Assistance to the Least Developed Countries*. Tech. rep. URL: https://www.nottingham.ac.uk/pprg/documentsarchive/fulltextarticles/la_chimiadoc.pdf (visited on 02/15/2025).

CICID (2023). *Orientations de la politique de coopération internationale et de l'aide publique au développement [Orientations of the Policy for International Cooperation and Official*

*Development Assistance]*. URL: https://www.diplomatie.gouv.fr/IMG/pdf/orientations_cle017322.pdf (visited on 03/23/2025).

Clay, Edward J, Matthew Geddes, and Luisa Natali (Dec. 2009). *Aid: Is it working?An Evaluation of the Implementation of the Paris Declaration and of the 2001 DAC Recommendation of Untying ODA to the LDCs*. Tech. rep. URL: https://web-archive.oecd.org/2012-06-14/110487-44375975.pdf (visited on 01/21/2025).

Eder, Thomas S. (Apr. 2019). *Belt and Road Forum: "Chinese companies are clearly the main beneficiaries of BRI projects" — Merics*. URL: https://merics.org/en/press-release/belt-and-road-forum-chinese-companies-are-clearly-main-beneficiaries-bri-projects (visited on 03/26/2025).

Engineering and Consulting Firms Association (ECFA) (2025). *Training and Seminar Schedule for Fiscal Year 2024*. URL: http://www.ecfa.or.jp/japanese/hrd/data/ks.pdf (visited on 03/22/2025).

Estache, Antonio and Atsushi Iimi (July 2008). *Procurement Efficiency For Infrastructure Development And Financial Needs Reassessed*. en. Policy Research Working Papers. The World Bank. DOI: 10.1596/1813-9450-4662. URL: https://hdl.handle.net/10986/6854 (visited on 03/26/2025).

García-Santana, Manuel and Marta Santamaría (Feb. 2023). *Understanding Home Bias in Procurement: Evidence from National and Subnational Governments*. en. Policy Research Working Papers. The World Bank. DOI: 10.1596/1813-9450-10311. URL: https://hdl.handle.net/10986/39469 (visited on 03/21/2025).

Grimm, Sven et al. (Aug. 2011). "Transparency of Chinese Aid". In.

Hancock, Alice and Andy Bounds (Jan. 2025). "Brussels pushes 'buy European' procurement plan". In: *Financial Times*. URL: https://www.ft.com/content/68070835-6519-4040-a48e-e320b53cdffe (visited on 02/13/2025).

ICAI (Oct. 2019). *The use of UK aid to enhance mutual prosperity*. en-US. Tech. rep. Independent Commission for Aid Impact. URL: https://icai.independent.gov.uk/html-version/mutual-prosperity/ (visited on 01/21/2025).

Iimi, Atsushi (Mar. 2006). "Auction Reforms for Effective Official Development Assistance". en. In: *Review of Industrial Organization* 28.2, pp. 109–128. ISSN: 0889-938X, 1573-7160. DOI: 10.1007/s11151-006-0012-x. URL: http://link.springer.com/10.1007/s11151-006-0012-x (visited on 03/26/2025).

Jain, Purnendra (2014). "National Interest and Japan's Foreign Aid Policy". en. In: *Kokusai Mondai (International Affairs)* 637.

Jalan, Bimal (Sept. 1969). "Gains to Donor Countries from Tied Aid". en. In: *Finance & Development* 6.003. ISBN: 9781616352950 Publisher: International Monetary Fund Section: Finance & Development. DOI: 10.5089/9781616352950.022.A003. URL: https://www.elibrary.imf.org/view/journals/022/0006/003/article-A003-en.xml (visited on 03/26/2025).

Japan International Cooperation Agency (2018). *Operational Rules for ODA Loans under the Special Terms for Economic Partnership (STEP) (Enshakkan / Honpō Gijutsu Katsuyō Jōken (STEP) ni kakaru Un'yō Rūru) (in Japanese)*. Accessed: 2025-03-30. URL: https:

//www.jica.go.jp/Resource/activities/schemes/finance_co/about/ku57pq00001bs41s-att/rule.pdf.

Japan International Cooperation Agency (2023). *Chapter 2: Guidelines for Procurement under Japanese ODA Loans*. Accessed: 2025-04-10. URL: https://www.jica.go.jp/activities/schemes/finance_co/procedure/guideline/__icsFiles/afieldfile/2025/01/29/chapter2_202310_e.pdf.

— (2024). *Terms and Conditions of ODA Loans What We Do - JICA*. en. URL: https://www.jica.go.jp/english/activities/schemes/finance_co/standard/index.html (visited on 03/23/2025).

— (2024). — *- Yen Loan Project Database*. Japanese. Accessed: 2024-03-27. JICA. URL: https://www2.jica.go.jp/jp/yen_loan/index.php.

— (n.d.[a]). *En shakkin jisshi kekka / Results of ODA Loan Operations*. ja. Accessed March 26, 2025. URL: https://www.jica.go.jp/activities/schemes/finance_co/about/result.html.

— (n.d.[b]). *JICA no konpuraiansu / JICA's Compliance Policy*. ja. Accessed March 26, 2025. URL: https://www.jica.go.jp/about/organization/corp_gov/compliance.html.

— (n.d.[c]). *Yen shakkin no gaiyō / Overview of JICA Yen Bonds*. ja. Accessed March 26, 2025. URL: https://www.jica.go.jp/Resource/investor/bond/ku57pq00001qs7yu-att/bond_outline_02.pdf.

Japan International Cooperation Agency and Nomura Research Institute (NRI) (2011). *Impact Assessment Report on Special Yen Loans and STEP Projects in the Asia Region (Ajia Chiiki Tokubetsu En Shakkan Oyobi STEP Anken ni Tomonau Eikyō Chōsa Hōkokusho) (in Japanese)*. Accessed: 2025-03-30. URL: https://openjicareport.jica.go.jp/pdf/12025508.pdf.

Kaizuka, James (July 2023). "Sinking in the Hooks: Technical Standards and De Facto Aid Tying in ODA Infrastructure Projects". en. In: pp. 17–30. DOI: 10.22492/issn.2186-2303.2023.3. URL: https://papers.iafor.org/submission68212 (visited on 01/03/2025).

KDI School (2025). *Outline of EDCF loans*. URL: https://www.kdevelopedia.org/Development-Overview/official-aid/outline-edcf-loans--201412110000408.do (visited on 03/23/2025).

Knickmeyer, Ellen (Mar. 2025). *Secretary of State Rubio says purge of USAID programs complete, with 83% of agency's programs gone*. en. Section: Politics. URL: https://apnews.com/article/trump-musk-rubio-usaid-foreign-aid-bf442d62af67918a6fc5eee839074601 (visited on 03/23/2025).

Lammersen, F. and A.D. Owen (Jan. 2001). "The Helsinki Arrangement: its impact on the provision of tied aid". en. In: *International Journal of Finance & Economics* 6.1, pp. 69–79. ISSN: 1076-9307, 1099-1158. DOI: 10.1002/ijfe.144. URL: https://onlinelibrary.wiley.com/doi/10.1002/ijfe.144 (visited on 02/15/2025).

Liu, Ailan and Bo Tang (2018). "The impact of the US and China's foreign aids to Africa on trade flows". In: *China Economic Review*. Accessed: 2025-04-10, pp. 46–65.

Lloyd, Tim et al. (1998). "Aid and Trade: A Donor Panel Analysis". In: *CREDIT Research Paper*. Accessed: 2025-04-10. URL: https://www.nottingham.ac.uk/credit/documents/papers/98-10.pdf.

Martinez-Zarzoso, Inmaculada (2019). "Effects of Foreign Aid on Income through International Trade". In: *Politics and Governance* 7.2. Accessed: 2024-10-16, pp. 29–52. ISSN: 2183-2463. DOI: 10.17645/pag.v7i2.1830. URL: https://www.cogitatiopress.com/politicsandgovernance/article/view/1830.

Meeks, Polly (Sept. 2018). *Development, untied Unleashing the catalytic power of Official Development Assistance through renewed action on untying*. Tech. rep. URL: https://d3n8a8pro7vhmx.cloudfront.net/eurodad/pages/505/attachments/original/1590678519/Unleashing_the_catalytic_power_of_Official_Development_Assistance_through_renewed_action_on_untying.pdf?1590678519 (visited on 03/12/2025).

Meeks, Polly and Nerea Craviotto (Nov. 2021). *Strings still attached: Unmet commitments on tied aid*. Tech. rep. Eurodad. URL: https://d3n8a8pro7vhmx.cloudfront.net/eurodad/pages/2670/attachments/original/1637232136/tied-aid-report-nov18.pdf?1637232136 (visited on 01/22/2025).

Morgenstern, Emily M and Nick M. Brown (Jan. 2022). *Foreign Assistance: An Introduction to U.S. Programs and Policy*. URL: https://www.congress.gov/crs-product/R40213.

Nikkei Shinbun (Aug. 2013). *Prioritizing Yen Loans to Compete with the Aggressive Expansion of China and South Korea (Kōsei tsuyomeru Chūkan ni taikō – Enshakkan, juchū o yūsen) (In Japanese)*. Accessed: 2025-03-30. URL: https://www.nikkei.com/article/DGXNASGC21014_R20C13A8EA2000/.

Nowak-Lehmann, Felicitas et al. (Sept. 2013). "Does foreign aid promote recipient exports to donor countries?" In: *Review of World Economics* 149.3. Accessed: 2025-04-10, pp. 505–535. ISSN: 1610-2878, 1610-2886. DOI: 10.1007/s10290-013-0155-4. URL: http://link.springer.com/10.1007/s10290-013-0155-4.

Office, U.S. Government Publishing (2025). *48 CFR Part 470 – Special Procurement Controls. Electronic Code of Federal Regulations.* en. URL: https://www.ecfr.gov/current/title-48/part-470 (visited on 03/23/2025).

Organisation for Economic Co-operation and Development (2005a). *Arrangement on Officially Supported Export Credits*. en. DOI: 10.5040/9798400649172. (Visited on 03/19/2025).

— (Mar. 2005b). *Paris Declaration on Aid Effectiveness*. en. Organisation for Economic Co-operation and Development. ISBN: 978-92-64-09808-4. DOI: 10.1787/9789264098084-en. URL: https://www.oecd.org/en/publications/paris-declaration-on-aid-effectiveness_9789264098084-en.html (visited on 01/21/2025).

— (Sept. 2008). *Accra Agenda for Action*. en. Organisation for Economic Co-operation and Development. ISBN: 978-92-64-09810-7. DOI: 10.1787/9789264098107-en. URL:

https://www.oecd.org/en/publications/accra-agenda-for-action_9789264098107-en.html (visited on 03/16/2025).

Organisation for Economic Co-operation and Development (Dec. 2011). *Busan Partnership for Effective Development Co-operation*. URL: https://www.oecd.org/en/publications/busan-partnership-for-effective-development-co-operation_54de7baa-en.html.

— (2018a). *2018 Report on the DAC Recommendation on Untying ODA*. Tech. rep. DCD/DAC(2018)12/REV2. OECD Development Assistance Committee (DAC). URL: https://one.oecd.org/document/DCD/DAC(2018)12/REV2/en/pdf (visited on 03/26/2025).

— (2018b). *DAC Recommendation on Untying Official Development Assistance*. URL: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-5015 (visited on 03/22/2025).

— (Oct. 2020). *OECD Development Co-operation Peer Reviews: Japan 2020*. en. OECD Development Co-operation Peer Reviews. Organisation for Economic Co-operation and Development. ISBN: 978-92-64-73252-0 978-92-64-29273-4 978-92-64-33128-0. DOI: 10.1787/b2229106-en. URL: https://www.oecd.org/en/publications/oecd-development-co-operation-peer-reviews-japan-2020_b2229106-en.html (visited on 03/27/2025).

— (Mar. 2021). *2020 Report on the DAC Recommendation on Untying ODA*. Tech. rep. DCD/DAC(2020)54/FINAL. OECD Development Co-operation Directorate. URL: https://one.oecd.org/document/DCD/DAC(2020)54/FINAL/en/pdf (visited on 03/26/2025).

— (2022). *2022 Report on the DAC Recommendation on Untying ODA*. Tech. rep. DCD/DAC(2022)34/FINAL. OECD Development Assistance Committee (DAC). URL: https://one.oecd.org/document/DCD/DAC(2022)34/FINAL/en/pdf (visited on 03/26/2025).

— (Feb. 2023). *Untied aid (Temporary Archive)*. URL: https://web-archive.oecd.org/temp/2023-02-06/468453-untied-aid.htm (visited on 03/22/2025).

— (2024). *Development Assistance Committee (DAC)*. Accessed on 21 April 2025. URL: https://www.oecd.org/en/about/committees/development-assistance-committee.html (visited on 04/21/2025).

— (2025a). *Creditor Reporting System (CRS) Aid Activities - OECD Data Explorer*. Accessed: 2025-04-09. URL: https://data-explorer.oecd.org/vis?fs%5B0%5D=Topic%2C0%7CDevelopment%23DEV%23&pg=0&fc=Topic&bp=true&snb=86&df%5Bds%5D=dsDisseminateFinalCloud&df%5Bid%5D=DSD_CRS%40DF_CRS&df%5Bag%5D=OECD.DCD.FSD&df%5Bvs%5D=1.3&dq=DAC..1000.100._T._T.D.Q._T..&lom=LASTNPERIODS&lo=5&to%5BTIME_PERIOD%5D=false.

— (Jan. 2025b). *Differentiated Discount Rates (DDR) - Taux d'actualisation différencié (TAD)*. URL: https://www.oecd.org/content/dam/oecd/en/topics/

policy-sub-issues/financing-terms-and-conditions/ddr-tad.pdf (visited on 03/17/2025).

Organisation for Economic Co-operation and Development (Feb. 2025c). *OECD Data Explorer • DAC1: Flows by provider (ODA+OOF+Private)*. URL: https://data-explorer.oecd.org/vis?fs%5B0%5D=Topic%2C1%7CDevelopment%23DEV%23%7COfficial%20Development%20Assistance%20%28ODA%29%23DEV_ODA%23&pg=0&fc=Topic&bp=true&snb=19&df%5Bds%5D=dsDisseminateFinalDMZ&df%5Bid%5D=DSD_DAC1%40DF_DAC1&df%5Bag%5D=OECD.DCD.FSD&dq=DAC...1140%2B1160..Q.&lom=LASTNPERIODS&lo=10&to%5BTIME_PERIOD%5D=false (visited on 03/17/2025).

— (2025d). *Aid and export credits*. en. URL: https://www.oecd.org/en/topics/aid-and-export-credits.html (visited on 03/22/2025).

— (n.d.[a]). *Development co-operation peer reviews and learning*. Accessed: 21 April 2025. URL: https://www.oecd.org/en/topics/sub-issues/development-co-operation-peer-reviews-and-learning.html.

— (n.d.[b]). *Official development assistance – definition and coverage*. Accessed March 5, 2025. URL: https://www.oecd.org/en/topics/sub-issues/oda-eligibility-and-conditions/official-development-assistance--definition-and-coverage.html (visited on 03/05/2025).

Osei, Barfour (2004). *The cost of aid tying to Ghana*. en. AERC research paper 144. Nairobi: African Economic Research Consortium. ISBN: 978-9966-944-54-2.

Osei, Robert, Oliver Morrissey, and Tim Lloyd (2004). "The Nature of Aid and Trade Relationships". In: *The European Journal of Development Research* 16.2. Accessed: 2025-04-10, pp. 354–374. ISSN: 0957-8811, 1743-9728. DOI: 10.1080/09578810420002208 59. URL: http://link.springer.com/10.1080/09578810420002208 59.

Overseas Construction Association of Japan (OCAJI) (2025). *Enshakkan nyūmon kōza [Introduction to Yen Loan Procurement]*. URL: https://www.ocaji.or.jp/seminar/list/detail.html?pdid=195 (visited on 03/22/2025).

Overseas Development Institute (Mar. 1990). *Briefing Paper: Japanese Aid*. Accessed: 2025-03-30. URL: https://media.odi.org/documents/6758.pdf.

Petermann, Jan-Henrik (Dec. 2012). *Between Export Promotion and Poverty Reduction : The Foreign Economic Policy of Untying Official Development Assistance*. Springer Vieweg. in Springer Fachmedien Wiesbaden GmbH. ISBN: 978-3-658-00047-9.

Pettersson, Jan and Lars Johansson (2013). "Aid, Aid for Trade, and bilateral trade: An empirical study". In: *The Journal of International Trade & Economic Development* 22.6. Accessed: 2025-04-10, pp. 866–894. ISSN: 0963-8199, 1469-9559. DOI: 10.1080/09638199.2011.613998. URL: http://www.tandfonline.com/doi/abs/10.1080/09638199.2011.613998.

Prime Minister's Office of Japan (May 2013). *Infrastructure System Export Strategy (Infura Shisutemu Yushutsu Senryaku) (In Japanese)*. Accessed: 2025-03-30. URL: https://www.kantei.go.jp/jp/singi/keikyou/dai4/kettei.pdf.

Prime Minister's Office of Japan (2023). *Infrastructure Systems Overseas Deployment Strategy (Infura Shisutemu Kaigai Tenkai Senryaku) (In Japanese)*. Accessed: 2025-03-30. URL: https://www.kantei.go.jp/jp/singi/keikyou/dai56/kettei1.pdf.

Rickard, Stephanie J. and Daniel Y. Kono (Sept. 2014). "Think globally, buy locally: International agreements and government procurement". en. In: *The Review of International Organizations* 9.3, pp. 333–352. ISSN: 1559-7431, 1559-744X. DOI: 10.1007/s11558-013-9177-x. URL: http://link.springer.com/10.1007/s11558-013-9177-x (visited on 12/01/2024).

Savin, Ivan, Marta Marson, and Marina Sutormina (2020). "How different aid flows affect different trade flows: Evidence from Africa and its largest donors". In: *Structural Change and Economic Dynamics* 55. Accessed: 2024-10-16, pp. 119–136. ISSN: 0954-349X. DOI: 10.1016/j.strueco.2020.08.004. URL: https://linkinghub.elsevier.com/retrieve/pii/S0954349X20303805.

Schrag, Jacque (May 2017). *How will the Belt and Road Initiative advance China's interests?* en-US. URL: https://chinapower.csis.org/china-belt-and-road-initiative/ (visited on 03/26/2025).

Shingal, Anirudh (Feb. 2015). "Econometric Analyses of Home Bias in Government Procurement". en. In: *Review of International Economics* 23.1, pp. 188–219. ISSN: 0965-7576, 1467-9396. DOI: 10.1111/roie.12164. URL: https://onlinelibrary.wiley.com/doi/10.1111/roie.12164 (visited on 11/17/2024).

Silva, Simone Juhasz and Douglas Nelson (2012). "Does Aid Cause Trade? Evidence from an Asymmetric Gravity Model". In: *The World Economy* 35.5. Accessed: 2024-10-16, pp. 545–577. ISSN: 0378-5920, 1467-9701. DOI: 10.1111/j.1467-9701.2011.01431.x. URL: https://onlinelibrary.wiley.com/doi/10.1111/j.1467-9701.2011.01431.x.

Simonds, Matthew (Apr. 2024). *Exposing Tied Aid: Preventing donor countries from getting rich on their own aid*. en. URL: https://www.eurodad.org/exposing_tied_aid_2024 (visited on 03/16/2025).

Sinha, Radha P. (1974). "Japan's 'Aid' to Developing Countries". In: *World Development* 2.8. Accessed 2025-02-02, pp. 15–20. ISSN: 0305-750X. DOI: 10.1016/0305-750X(74)90002-3. URL: https://linkinghub.elsevier.com/retrieve/pii/0305750X74900023.

Sylvest, Janne et al. (Mar. 2011). *FINAL REPORT CROSS-BORDER PROCUREMENT ABOVE EU THRESHOLDS*. en. Tech. rep.

Tajoli, Lucia (1999). "The impact of tied aid on trade flows: a theoretical and empirical analysis". In: *The Journal of International Trade & Economic Development* 8.4. Publisher: Routledge, pp. 373–388. DOI: 10.1080/09638199900000023. URL: https://doi.org/10.1080/09638199900000023.

Takagi, Shinji (1995). *From Recipient to Donor*. Essays in International Finance 196. Contributor: Princeton University. Princeton, NJ: International Finance Section, Department of Economics, Princeton University, p. 40. ISBN: 978-0-88165-103-4.

Trionfetti, Federico (Jan. 2000). "Discriminatory Public Procurement and International Trade". en. In: *The World Economy* 23.1, pp. 57–76. ISSN: 0378-5920, 1467-9701. DOI: 10.1111/1467-9701.00262. URL: https://onlinelibrary.wiley.com/doi/10.1111/1467-9701.00262 (visited on 12/03/2024).

U.S. Department of Transportation (Mar. 2023). *Request for Information: Administration of the Cargo Preference Act of 1954*. en. URL: https://www.federalregister.gov/documents/2023/03/01/2023-04201/request-for-information-administration-of-the-cargo-preference-act-of-1954 (visited on 03/23/2025).

Ursu, Sam (2022). *Doing Business with JICA: Procurement Framework and Best Practices — Post Webinar Release*. en. URL: https://www.developmentaid.org/news-stream/post/152371/doing-business-with-jica-post-webinar-release (visited on 03/22/2025).

Verschaeve, Joren and Jan Orbie (2016). "The DAC is Dead, Long Live the DCF? A Comparative Analysis of the OECD Development Assistance Committee and the UN Development Cooperation Forum". In: *The European Journal of Development Research* 28.4. Accessed: 2025-03-30, pp. 571–587. DOI: 10.1057/ejdr.2015.27. URL: https://doi.org/10.1057/ejdr.2015.27.

Wagner, Don (June 2003). "Aid and trade—an empirical study". In: *Journal of the Japanese and International Economies* 17.2. Accessed: 2025-04-10, pp. 153–173. ISSN: 0889-1583. DOI: 10.1016/S0889-1583(03)00010-8. URL: https://linkinghub.elsevier.com/retrieve/pii/S0889158303000108.

World Bank (2024). *World Development Indicators*. Accessed: 2024-03-27. World Bank. URL: https://databank.worldbank.org/source/world-development-indicators.

Yassin, Ibrahim (1991). "Aid-tying and the Real Value of Foreign Assistance". In: *The Pakistan Development Review*, pp. 189–206. URL: https://file.pide.org.pk/pdf/PDR/1991/Volume2/189-206.pdf (visited on 03/26/2025).