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Economic and diplomatic impacts of the Belt and Road Initiative on Western nations in infrastructure investment competition: Evidence from Japan

Shuhei Nishitateno*

Kwansei Gakuin University and
Research Institute of Economy, Trade and Industry
shuhei0828@kwansei.ac.jp

and

Yasuyuki Todo
Waseda University and
Research Institute of Economy, Trade and Industry
yastodo@waseda.jp

* Corresponding author

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Economic and diplomatic impacts of the Belt and Road Initiative on Western nations in infrastructure investment competition: Evidence from Japan^{*}

Shuhei Nishitateno and Yasuyuki Todo

Abstract

China's Belt and Road Initiative (BRI) has driven a global surge in large-scale infrastructure projects. While existing research has focused primarily on the BRI's effects on economic outcomes in participating countries, such as investment, trade, and debt dynamics, its economic and diplomatic implications for Western nations that do not participate in the BRI yet compete with China in global infrastructure development remain underexplored. This study addresses this gap by examining how the BRI has affected Japanese overseas infrastructure projects and Japan's diplomatic engagement with BRI countries. Using an event-study framework within a staggered difference-in-differences design and a panel of 123 low- and middle-income countries from 2007 to 2020, we find that the BRI significantly crowded out Japanese infrastructure projects and reduced visits to Japan by political leaders from BRI countries. These effects are especially pronounced among countries geographically proximate to Japan and China, where competitive pressures are most intense.

Keywords: China, Japan, Belt and Road Initiative, overseas infrastructure investment, Diplomatic relations

JEL codes: F21; O19, 053, P00

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1. Introduction

In 2013, Chinese President Xi Jinping launched the Belt and Road Initiative (BRI), a global development strategy aimed at enhancing connectivity and cooperation through large-scale infrastructure investments.¹ As of December 2024, 149 countries had joined the initiative (Nedopil, 2025). Between 2013 and 2024, BRI-related investments and construction projects totaled approximately US\$1 trillion, with energy, transport, and metals accounting for 72% of expenditures (American Enterprise Institute & Heritage Foundation, 2025). Although these projects are expected to yield economic benefits—such as increased trade, investment, and growth—they have also caused concerns regarding unsustainable debt, inflated costs, corruption, and environmental degradation (Kumar, 2023; World Bank, 2019).

Western nations have expressed apprehension about the BRI's implications for their economic, diplomatic, and security interests (Banerjee & Dutta, 2023; Schüller, 2023). The initiative may distort competition in host countries by subsidizing Chinese firms, offering favorable lending terms, and promoting Chinese technical standards in the industrial and telecommunications sectors (United States Government Accountability Office, 2024). Moreover, the reliance on Chinese financing may deepen diplomatic ties with China and potentially influence debt negotiations and future funding.

Despite the BRI's far-reaching policy implications, its economic and diplomatic effects on Western nations, particularly in the context of global infrastructure competition, remain underexplored. The existing literature has focused primarily on the BRI's impact on recipient countries, examining outcomes such as foreign direct investment (FDI) (Chen & Lin, 2020; Du & Zhang, 2018; Kang et al., 2018; Nugent & Lu, 2021; Todo et al., 2025), international trade (Baniya et al., 2020; Bastos, 2020; de Soyres et al., 2019; Foo et al., 2020), and economic growth (Bird et al., 2020; Dreher et al., 2021; Jiang et al., 2021). One exception is Vadlamannati et al (2023), who analyze how the United States (US) responded to the BRI through multilateral development banks. The present study addresses the gap in the literature by analyzing Japanese data on overseas infrastructure projects and diplomatic

¹ For a comprehensive overview of the BRI, see Huang (2016) and Sjöholm (2023).

engagements.

We investigate three questions: (i) Has the BRI reduced overseas infrastructure projects undertaken by Japanese firms? (ii) Has the BRI weakened Japan's diplomatic relations with BRI-participating countries? (iii) Are these effects stronger in countries geographically proximate to Japan and China?

The expected influence of the BRI on Japanese infrastructure engagement and diplomacy is theoretically ambiguous. Chinese projects—often implemented rapidly and at scale—may crowd out Japanese firms by offering more attractive financing or political benefits (Watkins, 2022). Conversely, the BRI may induce Japan to expand its overseas activities through competitive pressure or selective cooperation, as illustrated by the 2018 memorandum on third-party market collaboration between Japan and China (Zhang, 2019; Zhang, 2024). The diplomatic implications are similarly uncertain: the BRI may either draw participating countries closer to China or prompt them to hedge by maintaining strong ties with Japan. These competing mechanisms underscore the need for empirical analysis.

To evaluate these effects, we employ an event-study framework using a staggered difference-in-differences (DD) design that exploits cross-country variation in the timing of BRI participation. We implement the estimator developed by Callaway and Sant'Anna (2021) to account for heterogeneous treatment effects and analyze a panel dataset covering 123 low- and middle-income countries from 2007 to 2020. Owing to data constraints, our analysis relies on project counts rather than monetary values to measure the scale of Japanese overseas infrastructure projects. Our findings indicate that the BRI substantially reduced Japanese overseas infrastructure activity and weakened Japan's diplomatic engagement with BRI-participating countries, particularly those geographically proximate to Japan and China, where competitive pressures are strongest.

This study contributes to the growing literature on the BRI's global implications in three key ways.

First, unlike previous studies that focused on recipient countries, we examine the impact of the initiative on Western nations. Second, we provide the first empirical evidence on how the BRI affects overseas infrastructure investments by Western firms and diplomatic relations with BRI countries.

Third, we utilize a staggered DD design that considers variations in treatment timing and incorporates

recent methodological advances (Callaway & Sant'Anna, 2021; de Chaisemartin & D'Haultfoeuille, 2020; Goodman-Bacon, 2021). Most prior studies rely on a conventional 2×2 DD framework, which may yield biased estimates when the treatment timing varies.

Japan's experience offers valuable lessons for Western policymakers. Despite launching the Partnership for Quality Infrastructure in 2015 and pledging over US\$200 billion in financing (Katada, 2020), Japan was unable to prevent substantial displacement in key markets. This suggests that alternative initiatives such as the US's Build Back Better World (Savoy & McKeown, 2022) and the European Union's (EU's) Global Gateway (Tagliapietra, 2024) may face similar challenges unless they are backed by coordinated strategies, rapid deployment mechanisms, and sustained diplomatic engagement. Moreover, the decline in diplomatic engagement suggests that infrastructure competition may extend beyond economic aspects, underscoring the need for integrated approaches that align development financing with foreign policy objectives.

2. Data

The scale of Japanese overseas infrastructure investments was measured as a host country's total number of infrastructure projects contracted to Japanese firms in each contractual year. Data on these projects were sourced from the Annual Report on Plant Exports, compiled by the Heavy & Chemical Industries News Agency Co., Ltd. (HCINA), in Japan. The HCINA dataset provides details on project plans (e.g., hydrogen power plant construction), contract year and duration, project site (country), contractee, contractor, services provided, and project value for 5,038 projects across 181 countries between 2007 and 2020. Typically, contractees are public entities, whereas contractors are private firms offering diverse services such as equipment procurement, engineering, construction, operation, technical support, and design.

The HCINA data have notable limitations. Aggregating individual project values would ideally offer a more precise measure of investment scale; however, approximately one-third of the project values are missing. Additionally, the dataset lacks a consistent classification scheme, hindering efforts to disaggregate the data by sector and services provided. Despite these limitations, we opted to use the

HCINA dataset for three reasons. First, it is the most comprehensive source available for both aid- and non-aid-related infrastructure projects. For instance, although the Japan International Cooperation Agency provides detailed information on yen loan-procurement auctions, including contract value, with minimal missing data, its scope is too limited to capture the full breadth of Japanese overseas infrastructure projects (Nishitatenno, 2024b). Second, even with missing observations, the total project value aligns with the overall trends in the total number of infrastructure projects. Third, the HCINA dataset has been widely used in recent academic research (e.g., Nishitatenno & Umetani, 2023; Nishitatenno, 2024a), reinforcing its credibility and comparability.

To complement the HCINA data, we used the Annual Survey on Plant and Engineering Exports, compiled by the Japan Machinery Center for Trade and Investment (JMC), to analyze the characteristics of Japanese overseas infrastructure projects. However, the JMC data are available only at aggregated levels, and the time coverage varies across the surveyed categories. Appendix A summarizes the findings based on contract values, revealing that (i) power and energy dominate the key sectors, followed by transport and chemicals; (ii) Japanese infrastructure projects are concentrated in Asia and the Middle East; (iii) negotiated contracts are more common than competitive or limited biddings; and (iv) Japanese projects typically involve exporting machinery alongside services.

Japanese overseas infrastructure projects resemble Chinese projects in terms of key sectors, contracting methods, and forms. Between 2005 and 2022, the energy and transport sectors represented 41% and 21% of Chinese construction and investment abroad, respectively (American Enterprise Institute & Heritage Foundation, 2025). The BRI prioritizes negotiated contracts, enabling China to position state-owned enterprises as project leaders. This ensures control while accelerating timelines (Ghossein et al., 2021). In addition to machinery exports, Chinese firms bundle services within projects by leveraging their extensive network of state-owned enterprises, integrating construction, equipment provision, and operational and financial services to meet expansive demands (Lu et al., 2018).

The frequency of visits to Japan by foreign political leaders was measured by adding the lengths of

stays in days of the trips made by foreign prime ministers, presidents, and ministers. The data were sourced from the Diplomatic Bluebook, compiled by the Ministry of Foreign Affairs of Japan (MOFA). The MOFA dataset includes information on the destination and origin, visitor identities and positions (e.g., prime minister, president, minister), length of stay, and purpose of each visit for all Japanese and foreign dignitaries.

Using Nedopil (2025), we constructed a time-space-varying BRI participation variable, which takes a value of one for periods after a country signed a memorandum of understanding (MoU) with China. By December 2021, 146 countries had signed an MoU. As no country withdrew from the BRI during the sample period, the variable remains consistent once assigned. Figure 1 shows the geographic distribution of BRI countries by the year in which they signed a BRI-MoU with China, indicating that Western nations generally did not participate in the BRI, except for Greece, Hungary, Italy, and South Korea. Notably, participation has expanded to Latin America and the Caribbean region, which were not part of the original BRI.

We obtained data on GDP per capita, measured in constant US\$ (2020 prices), from the World Development Indicators compiled by the World Bank. Data on bilateral and multilateral ODA values from official donors, measured in constant US\$ (2020 prices) and commitments, were sourced from the Creditor Reporting System of the OECD. We extracted democracy-level data, measured by the electoral democracy index (ranging from 0 to 1, with 1 being the most democratic), from V-Dem (2024), as provided by Our World in Data.

Using the information above, we constructed a two-dimensional panel dataset covering 123 low- and middle-income countries from 2007 to 2020, resulting in 1,721 observations. Appendix B provides a list of the countries included in the sample. High-income countries were excluded because developed nations (e.g., the US, European countries, and Japan) that did not participate in the BRI during the sample period are not suitable as a control group. The treatment group comprises 96 countries that signed an MoU to join the BRI with China between 2013 and 2020, whereas the control group includes 27 countries that had not signed within the same period.

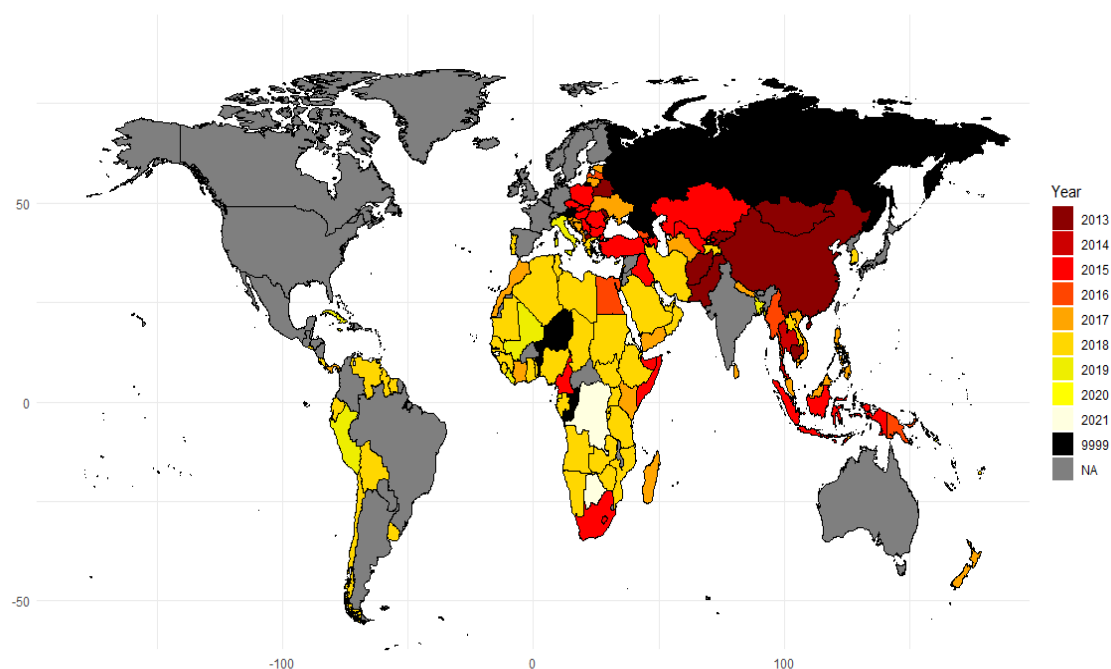


Figure 1. Map of the year in which a BRI-MoU was signed by country

Notes: 9999 indicates that the year in which a BRI-MoU was signed is unavailable for the country. Countries in gray have not yet signed a BRI-MoU.

Source: Created by the authors using Nedopil (2024).

Table 1 summarizes the sample averages for all the variables included in the estimations. On average, the number of Japanese overseas infrastructure projects is 1.6 per country per year, while the mean length of inbound visits by foreign political leaders is approximately 3.1 days. Covariates such as GDP per capita, official donor ODA commitments, and democracy scores exhibit similar averages between the BRI and non-BRI country groups, suggesting a reasonable degree of comparability across these samples.

Table 1
Descriptive statistics

	All	BRI countries	Non-BRI countries
<i>Outcome variables</i>			
Japanese overseas infrastructure projects, counts	1.59	1.65	1.40
Foreign political leaders' visits to Japan, days	3.11	3.17	2.91
<i>Covariates</i>			
GDP per capita, US\$	3,863	3,876	3,820
Official donors' ODA commitments, million US\$	1,059	1,020	1,194
Democracy levels (0–1)	0.44	0.44	0.47

Notes: This table presents the sample averages for all variables used for estimations based on a two-dimensional panel dataset covering 123 countries from 2007 to 2020. The treatment group comprises 96 low- and middle-income countries that signed an MoU to participate in the BRI, and the control group comprises 27 countries that did not sign.

Figure 2 illustrates annual trends in the outcome variables for BRI and non-BRI country groups. Panel (a) shows that prior to 2013, Japanese infrastructure project trends were broadly comparable across the two groups. After 2013, however, the trends diverge, with a relative decline in Japanese infrastructure projects in BRI countries, consistent with potential crowding-out effects. In contrast, no analogous divergence is observed for inbound visits by foreign leaders from BRI countries (Panel (b)). These descriptive patterns should be interpreted cautiously, as the timing of BRI participation varies substantially across countries—from 2013 to 2020 (Figure 1)—making a simple 2×2 DD comparison inappropriate. Moreover, Figure 2 masks cross-country heterogeneity and the dynamic nature of BRI effects. To address these complexities, the subsequent analysis adopts a more flexible empirical strategy to estimate the BRI’s impact on the outcome variables.

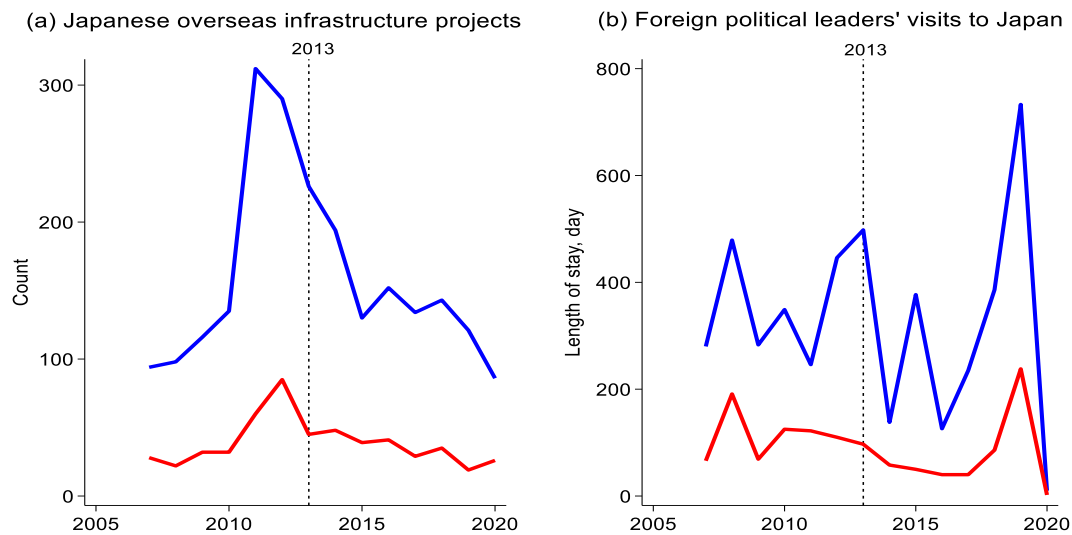


Figure 2. Temporal trends of the outcome variables

Notes: The figures display the annual trends of (a) Japanese overseas infrastructure projects and (b) foreign political leaders' visits to Japan for BRI and non-BRI country groups from 2007 to 2020. The vertical dotted lines mark 2013, when the BRI was announced.

3. Empirical strategy

Our analysis used an event-study framework based on a staggered DD design that exploits variations in the timing of BRI participation across countries. The standard approach for estimating an event-study model in a staggered DD setup is to adopt two-way fixed effects (TWFE) regression specifications as follows:

$$Outcome_{c,y} = \alpha_c + \omega_y + \mathbf{X}_{c,y} + \sum_{r \neq -1} 1[t - G_c = r] \beta_r + \varepsilon_{c,y} \quad (1)$$

where c is the country and y is the year. As previously mentioned, this study examines two outcome variables: Japanese overseas infrastructure projects and foreign political leaders' visits to Japan. α and ω represent country- and year-fixed effects, respectively. $\mathbf{X}$ is a vector of covariates, including GDP per capita, ODA commitments from official donors, and democracy scores. G_c is the year when country c participated in the BRI for the first time, and r indicates the year relative to the first BRI participation. The summation runs over all possible values of r except $r = -1$, as the first pre-BRI participation year is set as the reference period.

A key estimation issue is that the TWFE regression coefficients in a staggered DD setup may reflect comparisons between treated and not-yet or never-treated groups and those between already treated groups (de Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon, 2021). The latter can lead to notable drawbacks, such as coefficients having incorrect signs because of negative weighting problems, particularly when treatment effects are heterogeneous across cohorts. To address this identification concern, we employ Callaway and Sant'Anna's (2021) approach. First, we estimate the average treatment effects for all group years ($ATT(g, y)$) conditional on $\mathbf{X}$, implementing a 2×2 doubly robust DD estimation that combines inverse probability weighting and ordinary least squares (OLS). This compares the expected change in each outcome variable for the cohort treated in year g between years $g - 1$ and y to that for the never-treated cohort in year y

$$ATT(g, y) = E[Outcome_{c,y} - Outcome_{c,g-1} | \mathbf{X}_{c,y}, G_c = g] \\ - E[Outcome_{c,y} - Outcome_{c,g-1} | \mathbf{X}_{c,y}, G_c = g'], \text{ for any } g' > y \quad (2)$$

The reference period is the year before BRI participation. With seven treated cohorts in our sample, we obtain 91 2×2 DD estimates. Finally, we aggregate these into event-study estimates by the year of BRI participation, placing greater weight on estimates with larger observation sizes, and calculate their averages for the pre- and post-treatment periods. The event-study plots are presented for visual

inspection.

The validity of our staggered DD approach depends on two key identifying assumptions. First, the parallel trends assumption posits that, in the absence of BRI participation, the average outcomes for treated units and those not yet or never treated would have evolved along comparable trajectories over time (Callaway & Sant'Anna, 2021). Second, we assume the absence of anticipatory behavior; Japanese firms and political actors did not adjust their conduct in anticipation of future BRI engagement prior to formal participation. To evaluate these assumptions, we implement pre-trend diagnostics.

We acknowledge that countries do not join the BRI at random and that participation decisions may coincide with broader political or institutional shifts that independently shape Japanese engagement. Such contemporaneous changes could generate post-treatment declines even in the absence of detectable pre-trends. Moreover, our subsequent subsample analyses focusing on geographically proximate BRI countries may be subject to composition effects. Although conditioning on a set of time-varying covariates helps mitigate these concerns, it cannot fully eliminate them. Finally, our analysis does not incorporate information on the contractual structures of infrastructure projects—such as build-operate-transfer or engineering-procurement-construction—which limits our ability to identify which segments of the value chain are most affected by the BRI.

4. Results

Figure 3 and Table 2 present the event-study estimates and reveal several important patterns. First, the BRI shows no discernible effects during the pre-treatment period, lending support to the parallel-trends and no-anticipation assumptions. For Japanese overseas infrastructure projects, all pre-treatment coefficients are statistically indistinguishable from zero. For foreign political leaders' visits to Japan, a few individual pre-treatment estimates reach statistical significance, but the average pre-event coefficients are not statistically different from zero, indicating the absence of a systematic pre-trend.

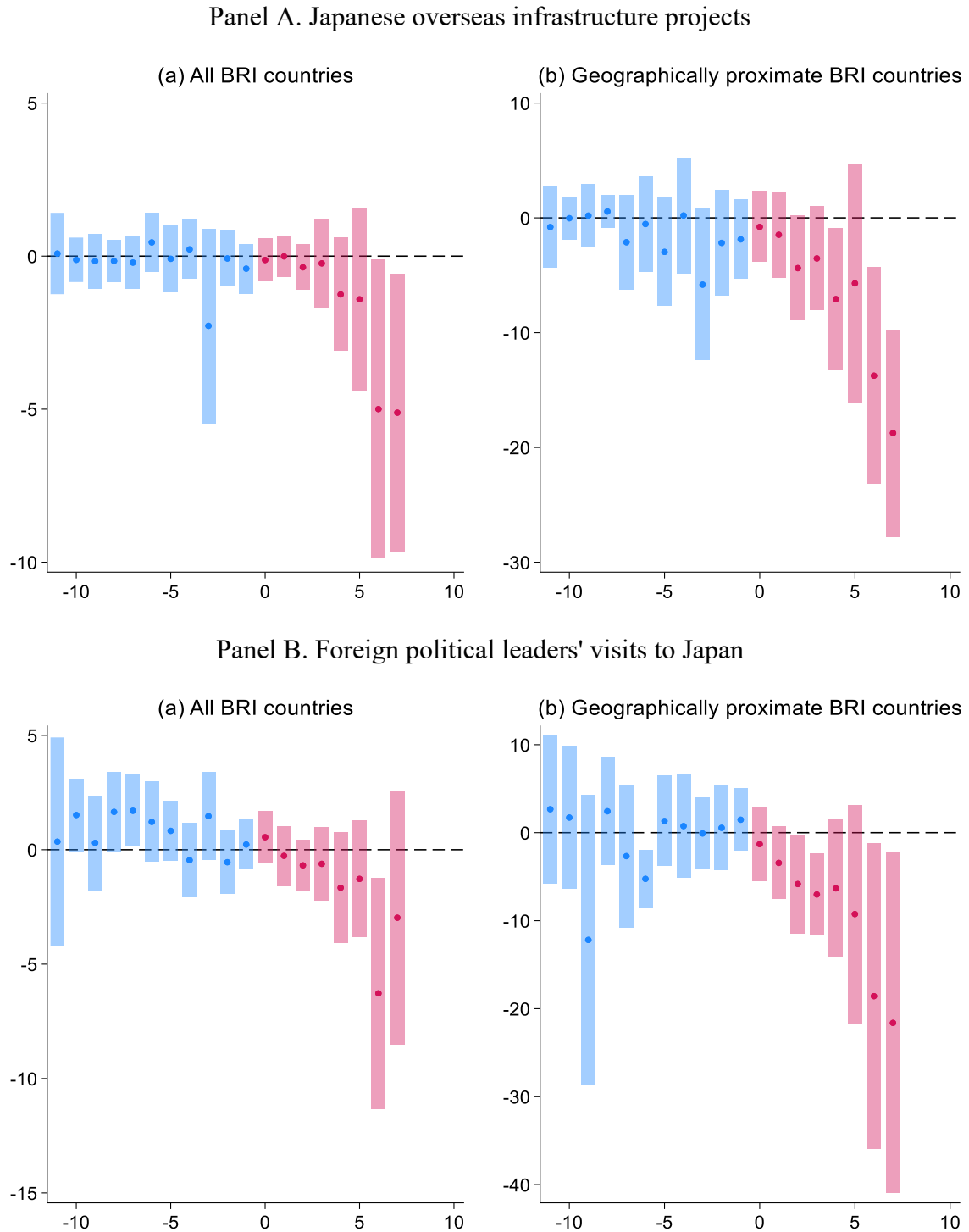


Figure 3. Effects of the BRI on outcome variables

Notes: The figures show the event-study results conditional on GDP per capita, official donor ODA commitments, democracy levels, year fixed effects, and country fixed effects, using the two-dimensional panel dataset covering 123 countries from 2007 to 2020 and Callaway and Sant’Anna’s (2021) approach.

“Geographically proximate BRI country” refers to the top 20th percentile of BRI participants on the basis of their combined geographical distance to Japan and China (See Footnote 2 for the country list). The vertical and horizontal axes in all figures show the average treatment effects and years of BRI participation, respectively.

The blue and red sections represent the pre- and post-treatment periods, respectively. The circles show the event-study estimates, and the vertical bands represent the 95% confidence intervals. Standard errors are robust to heteroscedasticity and clustered at the country level.

Table 2
Estimation results of BRI effects

Samples:	All BRI countries	Geographically proximate BRI countries
<i>A. Japanese overseas infrastructure projects, counts</i>		
Average pre-event-study estimates	−0.250	−1.397
Average post-event-study estimates	−1.689**	−6.929***
Pre-treatment mean	1.64	6.13
<i>B. Foreign political leaders' visits to Japan, days</i>		
Average pre-event-study estimates	0.752	−0.840
Average post-event-study estimates	−1.649*	−9.169**
Pre-treatment mean	3.02	7.28
Countries	123	46
Years	2007–2020	2007–2020
Observations	1,721	644

Notes: This table presents the results of calculating averages for event-study estimates of the BRI effects on Japanese overseas infrastructure projects and foreign political leaders' visits to Japan during pre- and post-treatment periods, using a two-dimensional panel dataset and the Callaway and Sant'Anna (2021) approach. Column 1 includes all BRI countries, whereas Column 2 restricts treatment group to geographically proximate BRI countries (see notes to Figure 3 for the definition). All specifications control for GDP per capita, official donors' ODA commitments, democracy levels, year fixed effects, and country fixed effects. Standard errors are robust to heteroscedasticity and clustered at the country level.

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Second, following BRI participation, the event-study estimates reveal widening divergences between BRI and non-BRI countries, particularly in the later post-treatment periods. In our baseline specification, the number of infrastructure projects awarded to Japanese firms declines by approximately five projects six to seven years after a country joins the BRI (Panel A (a), Figure 3). The average post-event coefficient is −1.7 (Column 1, Table 2), suggesting more modest effects in the early post-treatment years. Given that the pre-treatment mean number of Japanese overseas infrastructure projects in BRI countries is only 1.6, these magnitudes underscore the substantive importance of the BRI's impact. In contrast, the effects of the BRI on foreign political leaders' visits to Japan are detectable but relatively weak, with smaller and less precisely estimated post-treatment coefficients.

Third, the effects of the BRI are substantially more pronounced in countries geographically

proximate to Japan and China.² For Japanese overseas infrastructure projects, the negative post-treatment effects intensify over time, reaching a decline of approximately 20 projects seven years after BRI participation (Panel A (b), Figure 3), with an average post-event coefficient of –6.9 (Column 2, Table 2). The BRI’s impact on foreign political leaders’ visits to Japan is similarly meaningful: the post-treatment coefficients are both economically sizable and statistically significant (Panel B (b), Figure 3; Column 2, Table 2).

To quantify these effects, we conduct a back-of-the-envelope calculation using Indonesia as an illustrative example. Following its participation in the BRI, the actual number of Japanese overseas infrastructure projects in Indonesia was 69, compared with a counterfactual prediction of 111 based on our estimates in Table 2—an implied decline of 42 projects. Using JMC data, the average contract value for projects awarded to Japanese firms between 2007 and 2020 was approximately US\$33 million (in 2020 prices), corresponding to an estimated aggregate loss of roughly US\$1.4 billion for Japan due to Indonesia’s participation in the BRI. The total duration of visits to Japan by Indonesian political leaders was 38 days after BRI participation, relative to a counterfactual estimate of 93 days, representing a reduction of 55 days.

Anecdotal evidence from Indonesia reinforces these quantitative patterns. The Jakarta–Bandung high-speed rail project, for example, was widely expected to be led by Japanese firms in the early 2010s when feasibility studies were conducted, yet the contract was ultimately awarded to a Chinese consortium offering BRI-aligned financing and construction terms in 2015, two years after Indonesia participated in the BRI in 2013. Similar shifts occurred in Indonesia’s power and port sectors, where Chinese state-backed contractors and development banks increasingly

² Geographically proximate BRI countries include Bangladesh, China, Micronesia, Indonesia, Kazakhstan, the Kyrgyz Republic, Cambodia, Kiribati, Lao PDR, Myanmar, Mongolia, Malaysia, Nepal, the Philippines, Papua New Guinea, the Solomon Islands, Thailand, Tajikistan, Timor-Leste, Uzbekistan, and Vietnam.

displaced Japanese firms in major hydropower and logistics projects.

We interpret the decline in Japanese infrastructure projects following BRI participation as evidence of crowding-out. This interpretation requires caution, however, not only because our analysis does not establish that Japanese projects were displaced through direct, head-to-head competition but also because the decline could reflect a strategic reallocation of Japanese firms toward non-BRI markets. To assess this alternative mechanism, we test whether the number of Japanese infrastructure projects increased in non-BRI countries after 2013, when the BRI was announced. The evidence does not support this hypothesis: the mean number of Japanese overseas infrastructure projects in non-BRI countries is lower in the post-2013 period than in the pre-BRI period (Table 3). The same pattern holds for political leaders' visits to Japan, for which we also find no compensatory increase among non-BRI countries.

Table 3

BRI effects on outcome variables in non-BRI countries

Dependent variables:	Japanese overseas infrastructure projects in non-BRI countries, counts	Non-BRI countries' political leaders' visits to Japan, days
Post-2013 dummy	−0.303** (0.140)	−1.233** (0.503)
Within R^2	0.03	0.03
Covariates	Yes	
Country fixed effects	Yes	
Countries	27	
Years	2007–2020	
Observations	378	

Notes: This table reports OLS estimates of the BRI's effects on (i) the number of Japanese overseas infrastructure projects in non-BRI countries and (ii) the duration of non-BRI countries' political leaders' visits to Japan. All specifications are conditioned on GDP per capita, official donors' ODA commitments, democracy levels, and country fixed effects. The Post-2013 dummy equals one for years after 2013, when the BRI was announced. Standard errors are heteroscedasticity-robust and clustered at the country level.

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

5. Conclusion

This study examined the impact of the BRI on Japanese overseas infrastructure projects and diplomatic relations with BRI countries. Using a staggered DD research design and a panel

dataset covering 123 low- and middle-income countries from 2007 to 2020, we found that the BRI displaced Japanese overseas infrastructure projects and reduced visits by political leaders from BRI countries to Japan. These effects were most pronounced in countries geographically proximate to Japan and China, where the competition for infrastructure investment is particularly intense.

Caution is warranted when generalizing these findings. Owing to data constraints, our analysis relies on project counts rather than monetary values to assess the scale of Japanese overseas infrastructure projects, and it remains unclear whether value-based measures would yield consistent results. Moreover, the extent to which Japan's experience reflects broader patterns among Western nations is uncertain, given substantial differences in economic strategies and foreign policy orientations. For example, Japan adopts a more balanced approach toward China, whereas the United States pursues a more adversarial stance centered on strategic competition and deterrence. These limitations underscore the need for future research incorporating value-based data and cross-national comparisons to more fully understand the global implications of the BRI.

References

- American Enterprise Institute, & Heritage Foundation. (2025). China global investment tracker. Retrieved from <https://www.aei.org/china-global-investment-tracker/>. Accessed July 1, 2025.
- Banerjee, S., & Dutta, A. (2023). The United States and China: The strategic competition and response. In S. Kumar (Ed.), *China's BRI in different regions of the world: Cooperation, contradictions and concerns* (pp. 46–62). Routledge. <https://doi.org/10.4324/9781003399865-5>.
- Baniya, S., Rocha, N., & Ruta, M. (2020). Trade effects of the new silk road: A gravity analysis. *Journal of Development Economics*, 146, 102467. <https://doi.org/10.1016/j.jdeveco.2020.102467>.
- Bastos, P. (2020). Exposure of belt and road economies to China trade shocks. *Journal of*

Development Economics, 145, 102474. <https://doi.org/10.1016/j.jdeveco.2020.102474>.

Bird, J., Lebrand, M., & Venables, A. J. (2020). The belt and road initiative: Reshaping economic geography in Central Asia? *Journal of Development Economics*, 144, 102441. <https://doi.org/10.1016/j.jdeveco.2020.102441>.

Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics*, 225(2), 200–230. <https://doi.org/10.1016/j.jeconom.2020.12.001>.

Chen, M. X., & Lin, C. (2020). Geographic connectivity and cross-border investment: The belts, roads and skies. *Journal of Development Economics*, 146, 102469. <https://doi.org/10.1016/j.jdeveco.2020.102469>.

de Chaisemartin, C., & D'Haultfœuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110(9), 2964–2996. <https://doi.org/10.1257/aer.20181169>.

de Soyres, F., Mulabdic, A., Murray, S., Rocha, N., & Ruta, M. (2019). How much will the belt and road initiative reduce trade costs? *International Economics*, 159, 151–164. <https://doi.org/10.1016/j.inteco.2019.07.003>.

Dreher, A., Fuchs, A., Parks, B., Strange, A., & Tierney, M. J. (2021). Aid, China, and growth: Evidence from a new global development finance dataset. *American Economic Journal: Economic Policy*, 13(2), 135–174. <https://doi.org/10.1257/pol.20180631>.

Du, J., & Zhang, Y. (2018). Does one belt one road initiative promote Chinese overseas direct investment? *China Economic Review*, 47, 189–205. <https://doi.org/10.1016/j.chieco.2017.05.010>.

Foo, N., Lean, H. H., & Salim, R. (2020). The impact of China's one belt one road initiative on international trade in the ASEAN region. *North American Journal of Economics and Finance*, 54, 101089. <https://doi.org/10.1016/j.najef.2019.101089>.

Ghossein, T., Hoekman, B., & Shingal, A. (2021). Public procurement, regional integration, and the belt and road initiative. *World Bank Research Observer*, 36(2), 131–163.

<https://doi.org/10.1093/wbro/lkab004>.

Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, 225(2), 254–277. <https://doi.org/10.1016/j.jeconom.2021.03.014>.

Huang, Y. (2016). Understanding China's belt & road initiative: Motivation, framework and assessment. *China Economic Review*, 40, 314–321. <https://doi.org/10.1016/j.chieco.2016.07.007>.

Jiang, Q., Ma, X., & Wang, Y. (2021). How does the one belt one road initiative affect the green economic growth? *Energy Economics*, 101, 105429. <https://doi.org/10.1016/j.eneco.2021.105429>.

Kang, L., Peng, F., Zhu, Y., & Pan, A. (2018). Harmony in diversity: Can the One Belt One Road Initiative promote China's outward foreign direct investment? *Sustainability*, 10(9), 3264. <https://doi.org/10.3390/su10093264>

Katada, S. (2020). *Partnership for quality infrastructure: Developmentalism or new liberal order?* Mimeo. https://sppga.ubc.ca/wp-content/uploads/sites/5/2020/07/Katada_revised-UBC-Partnership-for-Quality-Infrastructure.pdf.

Kumar, S. (2023). *China's BRI in different regions of the world: Cooperation, contradictions, and concerns*. Routledge. <https://doi.org/10.4324/9781003399865>.

Lu, H., Rohr, C., Hafner, M., & Knack, A. (2018). China belt and road initiative: Measuring the impact of improving transportation connectivity on trade in the region. Rand Corporation. https://www.rand.org/pubs/research_reports/RR2625.html.

Nedopil, C. (2025). China Belt and Road Initiative (BRI) investment report 2024. *Griffith Asia institute, Griffith University (Brisbane) and green finance & development center, FISF Fudan University (Shanghai)*. <https://doi.org/10.25904/1912/5784>.

Nishitaten, S. (2024a). Does official development assistance benefit the donor economy? New evidence from Japanese overseas infrastructure projects. *International Tax and Public Finance*, 31(4), 1037–1065. <https://doi.org/10.1007/s10797-023-09788-8>.

Nishitateno, S. (2024b). *The return to overseas visits by political leaders: Evidence from Japanese yen loan procurement auctions*. Research Institute of Economy, Trade and Industry (RIETI) Discussion papers 24-E-057. <https://www.rieti.go.jp/jp/publications/dp/24e057.pdf>.

Nishitateno, S., & Umetani, H. (2023). Heterogeneous effects of aid-for-trade on donor exports: Why is Japan different? *Review of International Economics*, 31(3), 1117–1145. <https://doi.org/10.1111/roie.12656>.

Nugent, J. B., & Lu, J. (2021). China's outward foreign direct investment in the belt and road initiative: What are the motives for Chinese firms to invest? *China Economic Review*, 68, 101628. <https://doi.org/10.1016/j.chieco.2021.101628>.

Savoy, C. M., & McKeown, S. (2022). *Opportunities for increased multilateral engagement with B3W*. Center for Strategic and International Studies (CSIS). Retrieved <https://www.csis.org/analysis/opportunities-increased-multilateral-engagement-b3w>. Accessed January 6, 2022.

Schüller, M. (2023). The European Union's response to the belt and road initiative. In D. Arase, & P. A. Raposo (Eds.), *The belt and road initiative in Asia, Africa, and Europe* (pp. 142–155). Routledge.

Sjöholm, F. (2023). The belt and road initiative: Economic causes and effects. *Asian Economic Papers*, 22(1), 62–81. https://doi.org/10.1162/asep_a_00861.

Tagliapietra, S. (2024). The European Union's global Gateway: An institutional and economic overview. *World Economy*, 47(4), 1326–1335. <https://doi.org/10.1111/twec.13551>.

Todo, Y., Nishitateno, S., & Brown, S. (2025). The impact of the belt and road initiative on foreign direct investment from China, the United States, and major investor countries. *Journal of the Japanese and International Economies*, 77, 101365. <https://doi.org/10.1016/j.jjie.2025.101365>.

United States Government Accountability Office. (2024). *International infrastructure projects: China's investments significantly outpace the U.S., and experts suggest potential improvements to the U.S. approach*. Retrieved May 1, 2025.

Vadlamannati, K.C., Brazys, S., Dukalskis, A., & Li, Y. (2023). Building Bridges or Breaking Bonds? The Belt and Road Initiative and Foreign Aid Competition. *Foreign Policy Analysis* 19 (3): orad015.

<https://doi.org/10.1093/fpa/orad015>

Watkins, M. (2022). Undermining conditionality? The effect of Chinese development assistance on compliance with World Bank project agreements. *Review of International Organizations*, 17(4), 667–690. <https://doi.org/10.1007/s11558-021-09443-z>.

World Bank. (2019). *Belt and road economics: Opportunities and risks of transport corridors*. Washington, DC.

<https://openknowledge.worldbank.org/bitstream/handle/10986/31878/9781464813924.pdf>.

Zhang, M. (2024). Sino–Japanese third-party market cooperation: Asymmetries of economic diplomacy and politico-economic gaps. *Japanese Journal of Political Science*, 25(1), 1–20.

<https://doi.org/10.1017/S1468109923000269>.

Zhang, Y. (2019). Third-party market cooperation under the belt and road initiative: Progress, challenges, and recommendations. *China International Strategy Review*, 1(2), 310–329.

<https://doi.org/10.1007/s42533-019-00026-7>.

Appendix A. Characteristics of Japanese overseas infrastructure projects

Sector (2003-2022)	Share, %
Life/environment	4
Information/communication	3
Transport	15
Energy	30
Power	30
Chemical	11
Metal	4
General	3
Region (2004-2022)	Share, %
Asia	45
Middle East	19
Africa	8
South America	3
Oceania	4
North America	7
Europe	6
Others	7

Contract (2011–18)	Share, %
Competitive bidding	24
Limited bidding	13
Negotiated contract	57
Others	7
Form (2011–20)	Share, %
Machinery exports only	39
Machinery exports & services	52
Services only	9

Notes: Each share is calculated based on the contract value. The time coverage varies among categories surveyed due to data limitations.

Source: Annual Survey on Plant and Engineering Exports, compiled by the Japan Machinery Center for Trade and Investment.

Appendix B. List of countries in our sample

	Country	Region	Income group	Year of participating BRI
1	Belarus	Europe & Central Asia	Upper middle	2013
2	Cambodia	East Asia & Pacific	Lower middle	2013
3	China	East Asia & Pacific	Upper middle	2013
4	Kyrgyz Republic	Europe & Central Asia	Lower middle	2013
5	Moldova	Europe & Central Asia	Upper middle	2013
6	Mongolia	East Asia & Pacific	Lower middle	2013
7	North Macedonia	Europe & Central Asia	Upper middle	2013
8	Pakistan	South Asia	Lower middle	2013
9	Thailand	East Asia & Pacific	Upper middle	2014
10	Armenia	Europe & Central Asia	Upper middle	2015
11	Azerbaijan	Europe & Central Asia	Upper middle	2015
12	Bulgaria	Europe & Central Asia	Upper middle	2015
13	Cameroon	Sub-Saharan Africa	Lower middle	2015
14	Comoros	Sub-Saharan Africa	Lower middle	2015
15	Indonesia	East Asia & Pacific	Lower middle	2015
16	Iraq	Middle East & North Africa	Upper middle	2015
17	Kazakhstan	Europe & Central Asia	Upper middle	2015
18	Romania	Europe & Central Asia	Upper middle	2015
19	Serbia	Europe & Central Asia	Upper middle	2015
20	Somalia	Sub-Saharan Africa	Low	2015
21	South Africa	Sub-Saharan Africa	Upper middle	2015
22	Turkey	Europe & Central Asia	Upper middle	2015
23	Uzbekistan	Europe & Central Asia	Lower middle	2015
24	Egypt	Middle East & North Africa	Lower middle	2016
25	Georgia	Europe & Central Asia	Upper middle	2016
26	Myanmar	East Asia & Pacific	Lower middle	2016
27	Papua New Guinea	East Asia & Pacific	Lower middle	2016
28	Albania	Europe & Central Asia	Upper middle	2017
29	Bosnia and Herzegovina	Europe & Central Asia	Upper middle	2017
30	Côte d'Ivoire	Sub-Saharan Africa	Lower middle	2017
31	Kenya	Sub-Saharan Africa	Lower middle	2017
32	Lebanon	Middle East & North Africa	Upper middle	2017
33	Madagascar	Sub-Saharan Africa	Low	2017
34	Malaysia	East Asia & Pacific	Upper middle	2017
35	Maldives	South Asia	Upper middle	2017
36	Montenegro	Europe & Central Asia	Upper middle	2017
37	Morocco	Middle East & North Africa	Lower middle	2017
38	Nepal	South Asia	Lower middle	2017
39	Panama	Latin America & Caribbean	Upper middle	2017
40	Philippines	East Asia & Pacific	Lower middle	2017
41	Sri Lanka	South Asia	Lower middle	2017
42	Timor-Leste	East Asia & Pacific	Lower middle	2017
43	Turkmenistan	Europe & Central Asia	Upper middle	2017
44	Ukraine	Europe & Central Asia	Lower middle	2017
45	Vietnam	East Asia & Pacific	Lower middle	2017
46	Yemen	Middle East & North Africa	Low	2017
47	Algeria	Middle East & North Africa	Lower middle	2018
48	Angola	Sub-Saharan Africa	Lower middle	2018
49	Benin	Sub-Saharan Africa	Lower middle	2018

50	Bolivia	Latin America & Caribbean	Lower middle	2018
51	Burundi	Sub-Saharan Africa	Low	2018
52	Cabo Verde	Sub-Saharan Africa	Lower middle	2018
53	Chad	Sub-Saharan Africa	Low	2018
54	Costa Rica	Latin America & Caribbean	Upper middle	2018
55	Djibouti	Middle East & North Africa	Lower middle	2018
56	Ecuador	Latin America & Caribbean	Upper middle	2018
57	El Salvador	Latin America & Caribbean	Lower middle	2018
58	Ethiopia	Sub-Saharan Africa	Low	2018
59	Fiji	East Asia & Pacific	Upper middle	2018
60	Gabon	Sub-Saharan Africa	Upper middle	2018
61	Ghana	Sub-Saharan Africa	Lower middle	2018
62	Guinea	Sub-Saharan Africa	Low	2018
63	Guyana	Latin America & Caribbean	Upper middle	2018
64	Iran	Middle East & North Africa	Lower middle	2018
65	Lao PDR	East Asia & Pacific	Lower middle	2018
66	Libya	Middle East & North Africa	Upper middle	2018
67	Mauritania	Sub-Saharan Africa	Lower middle	2018
68	Mozambique	Sub-Saharan Africa	Low	2018
69	Namibia	Sub-Saharan Africa	Upper middle	2018
70	Nigeria	Sub-Saharan Africa	Lower middle	2018
71	Rwanda	Sub-Saharan Africa	Low	2018
72	Senegal	Sub-Saharan Africa	Lower middle	2018
73	Sierra Leone	Sub-Saharan Africa	Low	2018
74	South Sudan	Sub-Saharan Africa	Low	2018
75	Sudan	Sub-Saharan Africa	Low	2018
76	Suriname	Latin America & Caribbean	Upper middle	2018
77	Tajikistan	Europe & Central Asia	Lower middle	2018
78	Tanzania	Sub-Saharan Africa	Lower middle	2018
79	The Gambia	Sub-Saharan Africa	Low	2018
80	Togo	Sub-Saharan Africa	Low	2018
81	Tunisia	Middle East & North Africa	Lower middle	2018
82	Uganda	Sub-Saharan Africa	Low	2018
83	Vanuatu	East Asia & Pacific	Lower middle	2018
84	Venezuela	Latin America & Caribbean	Upper middle	2018
85	Zambia	Sub-Saharan Africa	Lower middle	2018
86	Zimbabwe	Sub-Saharan Africa	Lower middle	2018
87	Bangladesh	South Asia	Lower middle	2019
88	Cuba	Latin America & Caribbean	Upper middle	2019
89	Dominican Republic	Latin America & Caribbean	Upper middle	2019
90	Equatorial Guinea	Sub-Saharan Africa	Upper middle	2019
91	Jamaica	Latin America & Caribbean	Upper middle	2019
92	Lesotho	Sub-Saharan Africa	Lower middle	2019
93	Liberia	Sub-Saharan Africa	Low	2019
94	Mali	Sub-Saharan Africa	Low	2019
95	Peru	Latin America & Caribbean	Upper middle	2019
96	Solomon Islands	East Asia & Pacific	Lower middle	2019