



A New Model of Multilateral Development Bank: a Comparative Study of Road Projects by the AIIB and ADB

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Abstract

As one of the hallmarks of China's increasing participation in global economic governance, the establishment of the Asia Infrastructure Investment Bank (AIIB) has been widely studied by scholars and policy circles worldwide. However, most of the existing studies use narrative methods and lack microscopic or macroscopic evidence. By selecting two highly comparable cases, road projects from the AIIB and the traditional multilateral development bank, the Asian Development Bank (ADB), we analyze the management structure, procurement, economy, risk, supervision and safeguard policy framework for both cases. We find that the AIIB mostly aligns with international practices in critical principles but has streamlined project procurement, risk and supervision, which reflects its claim of being "lean" and "clean". We argue that compared with the ADB, the AIIB is probably more efficient and economically sustainable, which is an improvement on the traditional multilateral development banks (MDBs). However, whether the streamlined procedures lead to higher risks will be tested in time as the AIIB conducts more independent projects in the future.

Keywords AIIB · ADB · Governance structure · Case study · Project analysis

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Introduction

Under the post-World War II Bretton Woods system, the World Bank and other regional multilateral development banks (MDBs) have provided important financial support and technical assistance to the economic development and cooperation of developing countries. In recent years, however, these MDBs, which are led by western developed countries, have also been increasingly criticized for their lagging reforms. In Asia, for example, the existing Asian Development Bank (ADB) is a regional multilateral financial institution with a long history, and it has the largest scale in the Asia Pacific region. However, the bank has been challenged by a series of questions that have long been led by Japan and the U.S., such as lending standards that exceed the borrower's capacity to develop and the relatively long project approval time. These questions made the ADB incapable of satisfying the growing demands for infrastructure in Asia. The ADB's own report also points out that the Asia Pacific region needs to invest \$26 tn in infrastructure by 2030 despite the current shortfall of \$800 bn per year [1]. The Asian infrastructure investment bank (AIIB), which is led by the Chinese government, was established in 2015 to improve the backward situation of infrastructure construction in Asian countries. Different from the ADB's business that involves many domains, the new bank will focus on infrastructure construction in the region.

Since proposing the bank, both academic and policy circles have frequently raised questions and doubts, such as thinking whether China is building itself as the center of a global economic governance system, assessing the bank as a direct challenge to the Bretton Woods system, questioning the governance structure of the bank, believing that it is only an institutional restructuring based on an uncertain sets of rules, or even comparing the AIIB to the contemporary Marshall Plan [2, 3]. There are, however, drawbacks in these studies. The conclusions of these studies are merely obtained through the discussion or narratives of concepts and theories, which lacks systematic empirical evidence. Additionally, some scholars have concluded their predictive ideas simply by an inductive summary, which lacks an empirical basis, especially on the micro level.

Accordingly, through the selection of highly comparable road construction projects from the AIIB and ADB as the cases, this paper will review the perspectives above by analyzing the project management structure and the procurement, economic risk, supervision and security policy frameworks in both cases. Specifically, this paper attempts to answer the following research questions: Is the AIIB a traditional MDB or an improvement on existing MDBs such as the ADB? To what degree does the AIIB show a breakthrough in project implementation and management patterns?

The study of these issues will help us to understand the different roles of the two banks in the international development arena. Meanwhile, as an MDB that provides international public goods, project operation is a key indicator of its core competitiveness not only in response to the query to its governance structure and project standards but also for its role in the optimization of China's international development cooperation.

By selecting two highly comparable cases of road projects from the AIIB and the traditional MDB, the ADB, we find that overall, the AIIB aligns with international practices in critical principles similar to the ADB, but it has streamlined project procurement, risk and supervision, which reflects its claim of being "lean" and "clean". We argue that compared with the ADB, the AIIB is probably more efficient and

economically sustainable and an improvement on the traditional MDBs, although whether the efforts will cause higher risk remains to be seen in the future.

This paper is structured as follows. In the second section, we outline the contribution of the paper after a systematic review of the current literature. The third section provides an in-depth comparative analysis on the two cases from the ADB and AIIB and discusses the main findings of the article. The fourth section serves as a conclusion.

Literature Review

An increasingly large body of literature has studied the AIIB since it was established. Existing studies have been conducted primarily in three main strands. The first strand of research focuses on China's motivation to set up the AIIB, and some scholars argue that the motivation was the "thirst for infrastructure funding" in general and in Asia, which suggests that the AIIB was created largely to satisfy the region's demand for significant funding [4, 5]. It has been estimated that the existing development financing architecture lacks the capacity to provide adequate finance in the field of infrastructure, which results in large unmet infrastructure needs in the emerging and developing countries where a deficit of investment of up to around US \$1 trillion annually has been identified [6–9]. Other scholars have noticed that the motivation to fund a new multilateral institution rather than giving more to existing counterparts has reflected China's long-held frustrations with the glacial pace of global economic governance reform [10, 11]. Accordingly, the AIIB was created as a bargaining instrument for China to promote reforms in global financial governance [12].

The second strand of research points to the possible impacts of the AIIB in which several debated approaches exist. Some scholars tend to interpret the AIIB from the perspective of a power transfer and hegemonic politics, which regards the AIIB as a challenge to the international economic order that is led by the U.S. For example, Hamanaka argues that China is attempting to replace Japan by creating a new bank without the U.S. and Japan [13]. Similarly, some scholars believe that the establishment of the bank is a harbinger of the end of the western-oriented development model. China will build an international financial system centered on itself as the countermeasure against the U.S.'s "pivot to Asia" strategy, which will weaken the ADB's dominant presence in the Asia Pacific region [14–19]. There are also concerns about whether the AIIB will adopt the best practices on the transparency, procurement, and environmental and social safeguards of the existing MDBs that have been developed over the past several decades [5, 20, 21].

In contrast, some scholars believe that the China-led AIIB can be viewed as a gradual modification of the Asian financial order, which has the potential to make a major contribution to global economic governance [8, 22–25]. For example, Liquan Jin, President of the AIIB, sees it as a rebalancing measure of global economic governance that gives emerging economies more rights and opportunities and argues that rather than seeking to replace the existing international banking organizations, the AIIB will learn from the best practice of these organizations and promote the sound development of the world economy by providing "global public goods" [26, 27]. Likewise, a growing number of scholars suggest that China followed the existing rules of the game in the institution-building process to mitigate the doubt of the West and boost the legitimacy of the AIIB [20, 28–30].

The third strand of research, relative scarcity, focuses on the comparison between the AIIB and other major MDBs. Some studies are based on the comprehensive comparison of the world's major MDBs, which is characterized by adopting the method of horizontal comparison and comparing macro indicators in a given time span and on a given data scale [31, 32]. Other studies focus on the comparative analysis of one or several dimensions, which are generally organized from their respective legal documents or through the independent construction model and variable method for quantitative research. For example, Humphrey [33] forecasts the developmental prospects for the New Development Bank (NDB) and the AIIB by using four variable-construction models and argues that the AIIB will have greater potential at a later stage, whereas it will be slow in the early stages. When comparing the two banks, Reisen [25] estimates that the NDB and AIIB combined will attract sufficient co-financing to rival the established MDBs in terms of annual lending. Wan [34] argues that the AIIB's governance model is actually embedded in the governance rules of the World Bank and the ADB after analyzing the linguistic composition of the articles of agreement at the three banks. These studies, however, are mainly conducted on the macro level and lack empirical evidence from the micro level, which make them insufficiently convincing. The main reason is that the AIIB is still at its beginning stage compared with other well-established MDBs. The information and data of the new bank are far from sufficient.

As such, this paper contributes to the existing literature by using micro level evidence to conduct a thorough case study between the AIIB and the ADB. As MDBs that provide international public goods mainly through infrastructures, how the AIIB and ADB design, implement, and evaluate projects reflects their core competitiveness, values and principles. Therefore, this paper selects two comparable and representative cases of the AIIB and the ADB, compares the policy framework and operation modes of the two institutions at various stages of the projects, summarizes their coherences and differences, and attempts to answer the research questions raised at the beginning of the paper.

Comparative Case Studies

Since the AIIB is still in its early stage and lacks the systemic data available for quantitative research, this paper selects two highly representative and comparable projects of the AIIB and the ADB for the case study. For the AIIB, this paper selects the "Gujarat Rural Roads Project" (MMGSY). The project focuses on the nonurban road of Gujarat in India, with a scheduled project time from August 2017 to June 2019. For the ADB, the paper chooses the "Madhya Pradesh District Connectivity Sector Project". The project focuses on the nonurban road of Madhya Pradesh in India, with a scheduled project time from November 2014 to April 2018 (Fig. 1).

This paper selects these two projects based on the following considerations. First, infrastructure plays an obvious, significant, and comprehensive role in economic development. It helps drive economic growth and labor productivity, expand employment, increase part of the national income and raise the overall demand of society in the short term, and it expands the supply in the long term. Among infrastructure, road construction is both representative of and important. As one of the main emerging



Fig. 1 The mapping of Gujarat and Madhya Pradesh. (Source: Baidu map (<https://map.baidu.com/>))

economies, India is in urgent need of investments in infrastructure. Despite the increasing efforts that have been put toward improving road construction by the government, India's backward road transportation capacity has constrained its economic growth. Typically, the lack of traffic in rural areas has further widened the gap between urban and rural economic development. In its 12th Five-Year Plan 2012–17, the Indian government [35, 36] has also identified road construction as a vital task and has promised to achieve full coverage of rural roads nationwide by 2020. Therefore, focusing on nonurban road construction projects in India is significant, representative, and practical.

Considering project location, the states of Gujarat and Madhya Pradesh share similar conditions in road construction. As India's second largest state, the economic growth rate of Madhya Pradesh reached 19.7% in 2017 [37]. Meanwhile, as more than 70% of Madhya Pradesh's population are located in rural areas and agriculture is its leading industry, road connections in rural areas are crucial for local economic development and poverty reduction. Similarly, Gujarat is an important industrial city in India, with the economic growth rate maintaining at 10% in the past 3 years [38]. Although industry is increasingly leading the economic growth, nearly 60% of Gujarat's

population is still rural. Relatively backward rural road construction has become a major obstacle to India's economic development.

Second, the two cases selected in this paper are representative and comparable in their project contents and operation modes. Considering the project times, both projects represent the mature project management and operating mode of the two Banks. For example, the Gujarat project by the AIIB, which is relatively more recent in 2017, might indicate that it has accumulated more project management experience than most other projects since its foundation. From the perspective of project domain, both are nonurban road construction projects that were conducted in cooperation with multilateral banks at the provincial level in India. The Madhya Pradesh project is the first regional road project implemented by the ADB in India. In terms of project funding, the two projects are similar in size (\$329 million from the AIIB and \$350 million from the ADB), and both are financed independently by the banks. The Gujarat project is one of the few independent financing projects of the AIIB through which the bank can fully reflect and implement its management philosophy. Finally, both project areas have certain basic road construction. In Gujarat, for example, 98% of the villages and towns with more than 500 people have achieved road coverage through India's prime minister's rural roads program (PMGSY). The ADB has also conducted construction projects on provincial highways in Madhya Pradesh. Therefore, the two projects selected in this paper share similar prerequisites in operation. Table 1 summarizes the basic information of the AIIB and ADB projects.¹

In this section, we conduct a comparative analysis of the two cases in terms of the project management structures, procurement, economy, risks, security and supervision in an attempt to summarize their characteristics and motivated reasoning.² The reasons for selecting each aspect are as follows.

First, as the core item of project governance, the organization's structure in project governance is essentially the "recipe" for the project manager on how to manage a project [39]. The scientific and effective formulation of the project management structure not only directly affects all aspects of the project implementation process but is also reflected in the evaluation of the project's performance.

The second aspect analyzed is the project procurement policy. Many studies have discussed the important influence of the procurement process and the related policies on project performance [40]. Compared with other types of projects, road construction projects are more complex and uncertain, with a large demand for procurement such as civil materials. Therefore, the project procurement policy is the central part of the costs and efficiency of road construction projects. Meanwhile, the procurement policy reflects the openness and standards of MDBs.

¹ To be comparable, we compare the documents of the two banks at the project appraisal stage, i.e., after project/concept review paper (CRP) preparation and before project implementation. This approach is mainly because the AIIB project has yet to be fully implemented, and all the available documents are about the project approval stage.

² Although it is helpful to compare the general policies initially, we think that it might be not necessary since the project-level policies should align with and reflect the general policies of the two banks. Moreover, the main contribution of our paper is to conduct two case studies at the micro level rather than at bank-level policy. To discuss the differentiations between the AIIB and ADB's policies in general will compromise our analysis of the micro evidence since the space is quite limited and since the bank-wide policies for both the AIIB and ADB are extremely comprehensive and cover all projects in various sectors. However, we also think that it is worthwhile to compare the differences in bank-wide policies with a separate paper.

Table 1 Key information of the AIIB and ADB projects

Project name	Gujarat Rural Road (MMGSY) project	Madhya Pradesh District connectivity sector project
Borrower	India	India
Project implementation agency	Government of Gujarat/Roads & Buildings Department	Government of Madhya Pradesh
Project objectives	The objective of the project is to improve road transportation connectivity by providing all-weather rural roads to approximately 4000 villages in all of the 33 districts of the state of Gujarat.	The objective of the project is improved road transportation connectivity in the state of Madhya Pradesh by constructing approximately 1600 km of major district roads.
Project implementation period	2017.8.1 --- 2019.6.30	2014.11 --- 2018.4
Project cost	\$ 658 million	\$ 500 million
Financing plan	AIIB: \$ 329 million Government: \$ 329 million	ADB: \$ 350 million Government: \$ 150 million
Bank loan (size and terms)	Final maturity of 13 years, including a grace period of 5 years, with customized repayments at the bank's standard interest rate for sovereign-backed loans	The loan has a 25-year term, including a grace period of 5 years, an annual interest rate determined according to ADB's London interbank offered rate (LIBOR)-based lending facility, and a commitment charge of 0.15% per year
Co-financing	None	None
Environmental and social category	B	B
Project risk (Low/Medium/High)	Medium	Medium
Project content	1) Construction of non-planned roads 2) Update of planned roads 3) Technical assistance 4) Appliance of innovative technology	1) Reconstructed and rehabilitated major district roads to all-weather standards and designed for road safety 2) Improved road maintenance and asset management

Source: Compiled from the AIIB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 1–5. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>.) and ADB. (Report and recommendation of the president to the board of directors, Madhya Pradesh District Connectivity Sector Project, Republic of India, pp. 1. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

The third aspect is the economic analysis. The project's economic analysis measures the economic sustainability of the project and conducts a systematic evaluation and prediction of the expected project benefits, which serves as an important reference indicator for investment return by the banks. The effective integration of resources provides economically feasible suggestions for project decision-making, which is conducive to improving the project's efficiency and avoiding project uncertainties and risks.³ Therefore, for road construction projects with high uncertainty, it is of great

³ Source from the ADB's official website. Accessed 20 September 2018. Available at: <https://www.adb.org/data/economic-research-initiatives/economic-analysis-projects>.

importance to formulate a set of detailed and appropriate project economic analyses in the preparation of the project.

The fourth aspect is the project risk analysis. The project risk analysis provides a set of systematic evaluation indicators and potential risks for the project's implementation, which is an important means to ensure the orderly implementation of all phrases of the project [41–43]. In addition, the selection of the project's risk and the preferences for the risk types of different banks can reflect their views on internal governance.

The last aspect for analysis is the project safeguards and supervision. Project safeguards evaluate the potential negative impacts of the project on local society and the environment and ensure the project's sustainability by preventing or reducing such negative effects through the institutional design [32]. As a line of defense for quality and efficiency controls, the project supervision system involves project fund supervision, compliance supervision, quality supervision, social and environmental supervision, etc. The project supervision system improves project performance by providing a set of solutions and risk management for the project's implementation [44–46]. For infrastructure projects, a systematic and developed supervision system can integrate resources more effectively and ensure the implementation progress and quality throughout a wide range of contractors and suppliers in the project. Furthermore, since MDBs differ in safeguards and supervision, their analysis can help systematically uncover the banks' underlying value preference.

Project Management Structure

As a framework design, the project management structure is critical to the management and operation of the loan program and can better reflect the corporate governance and project operation modes of MDBs. Therefore, an in-depth study will help us to better understand the concept and style of the banks. In the case of this paper, the AIIB and ADB have arranged the project implementation agency and its responsibility framework as follows (Tables 2 and 3).

Generally, the two projects are similar in terms of their project management structures. The main implementation agency for the AIIB project is the Gujarat Roads & Buildings Department (R&BD), which is managed by a project management consultancy. As one of Gujarat's government agencies, the Gujarat R&BD has experience in working with international financial institutions, including the World Bank, and has adequate staffing and project management capacity. The ADB project is carried out by the state government of Madhya Pradesh, as represented by the Madhya Pradesh Road Development Corporation (MPRDC). As a large state-owned enterprise, the MPRDC has close relations with the local government. The chief minister of Madhya Pradesh is also a board member of the MPRDC. The company has cooperated with the ADB three times and is familiar with the bank's project process and implementation standards, which has become one of the considerations for this project [47]. In addition, both management modes are flat organizational structures and can be divided into several parallel project teams according to the project requirements, which is conducive to improving administrative efficiency and ensuring the project implementation progress.

From the perspective of the banks' responsibilities, the ADB has a clearer and more specific definition of its responsibilities in the project, which covers core areas such as

Table 2 Project implementation agency and accountability framework of the AIIB and ADB

	AIIB	ADB
Project implementation agency	Gujarat Roads & Buildings Department (R&BD)	Madhya Pradesh Road Development Corporation (MPRDC)
Agency type	Government body	State-owned enterprise
Agency's responsibility	Overall planning of project implementation. A project management consultancy will assist in managing the project including planning, implementation supervision, monitoring and reporting on progress to the R&BD and the Bank	Overall coordination of project implementation, including the procurement of works, the selection of subprojects, day-to-day project management, and the implementation of safeguard activities, withdrawal applications and project financial statements
Organization Structure	Flat	Flat
Bank's responsibility	The Bank will make regular field visits to ensure that the implementation is in line with the agreed parameters	Monitor and review overall implementation of the project in consultation with the implementation agency, including environmental impacts, resettlement plans and subproject selection, timeliness of budgetary allocations, counterpart funding, project expenditures and progress with procurement and disbursement

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 10–11. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Project Administration Manual, Madhya Pradesh District Connectivity Sector Project, Republic of India, pp. 4–6. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

the environment and social safeguards, project procurement and disbursement, financial budgeting, and making detailed time schedules at each stage of the project. The AIIB, however, has a broad description of its responsibilities. As written in the project's document, the AIIB will make regular field visits to ensure that the implementation is consistent with the agreed parameters.

Thus, the AIIB's project management structure presents some diversified and open characteristics. In contrast, the ADB's institutional arrangements on project management are more centralized and specific.

Project Procurement

For MDBs, the procurement work affects not only the project's costs but also the project's operations. In the case of the AIIB, the project procurement policy is also closely linked to the goal of being "clean". Therefore, it is of great importance to analyze the projects' procurement policy and relevant systems. The chart below shows the procurement arrangement of the two projects.

The analysis of the project's procurement mainly involves the procurement size, procurement method and purchasing process. In general, the AIIB's procurement

Table 3 Comparison of project procurement between the AIIB and ADB

	AIIB	ADB
Procurement content	Goods, works, consulting services	Goods, works, consulting services
Contract number	1400+	20+
Procurement size	Each procurement contract in goods and works ranges from \$80,000 to \$3 million	\$ 400 million
Procurement method	<ul style="list-style-type: none"> - International Competitive Bidding - National Competitive Bidding - Quality-and Cost-Based Selection - “N-procure” e-tendering platform 	<ul style="list-style-type: none"> - International Competitive Bidding - National Competitive Bidding - Quality-and Cost-Based Selection (80:20)
Procurement process	<ul style="list-style-type: none"> - High-level approval of works and estimated amount by the Ministry of Roads & Buildings - Technical sanction of the works - Draft tender papers prepared for the works - Publish notice inviting bidders to submit their bids in the N-procure platform of the R&BD - Opening of the bids, tender approval, issuance of the acceptance letter 	<ul style="list-style-type: none"> - Preparation of contracts - Prequalification of bidders - Draft bidding documents - Bid opening - Bid evaluation - Award of contract

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 12–13. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Project Administration Manual, Madhya Pradesh District Connectivity Sector Project, Republic of India, pp. 16–17. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

policy follows the institutional traditions of other multilateral financial institutions [48]. Through the comparison, the two projects are generally similar in their project’s procurement. In addition, the ADB has a detailed set of procurement policies and procedures in its official procurement guidelines. By comparison, the institutional design of the AIIB at all stages of the project’s procurement has been streamlined. For example, in the scope of the procurement policy, all goods, works, nonconsulting services and consulting services in the AIIB project are applicable to the same procurement policy, which still conforms to international standards. The ADB treats consulting services separately from other services, such as goods, works and other nonconsulting services, and applies them to two different sets of procurement standards and methods [49].

Specifically, the two banks have certain differences in procurement size, procurement method and procurement process. First, the AIIB project is larger in both procurement contract numbers and capital scale than the ADB project. According to the project report, the AIIB project involves nearly 1400 contracts of works of which a single contract ranges from \$80,000 to \$3 million in size. Second, the two banks share

similarities in the selection criteria of the procurement method. The procurement of goods and works will be conducted through international competitive bidding (ICB) and domestic competitive bidding (NCB), and consulting services will be employed by “Quality-and Cost-Based Selection” that considers both quality and costs. In ICB, the AIIB conducts the global procurement in projects, and it is not limited to members. The difference is that the ADB sets clear standards for quality and costs regarding consulting services (80:20), while the AIIB does not set a specific ratio, which allows for more flexibility. Finally, the AIIB adopts the “N-procure” e-tendering platform in the project to realize the information-based operation in the entire bidding process. This innovation is conducive to significantly improving procurement efficiency, transparency and information supervision. Accordingly, the project procurement policy has reflected the AIIB’s slogans of being “lean” and “clean”.

Project Economic Analysis

The cost-benefit analysis of the project and economic risk assessment determine whether the project is economically feasible and sustainable and is critical for the capacity of MDBs to provide loans. In the long run, well-developed and reasonable project economic indicators and economic risk assessments play important roles in the bank’s adequate and stable financing in the future. Therefore, a project’s economic analysis is of great importance to understand the concept of the governance of MDBs. Below is the economic analysis of the two cases.

In this case, the core of the project economic analysis is the economic benefit and sensitivity analysis. Among these analyses, the introduction of road traffic forecasting helps assess project costs more accurately. In terms of research methods, both projects evaluate the economic benefits and risks by quantifying different scenarios that are created by “with project” and “without project”. Table 4 shows the specific contents that are covered by the two projects.

Traffic Analysis and Forecast

In the traffic assessment of the project, the AIIB shows a detailed classification of transportation and calculates the traffic frequencies of eight types of vehicles in different sections.⁴ The ADB divides transportation into passenger vehicles and goods vehicles, with relatively simple classification standards.

In addition, both projects calculate the future average traffic growth rate, but the calculations are based on different methods. The AIIB estimates the traffic growth rate in the project implementation area to be 8–10% in 2017–2020, 7–8% in 2021–2025 and 5–7% after 2026, with the belief that the traffic growth rate will decline with time. The ADB forecasts a single 6.5% growth in local traffic. However, the AIIB did not specify the calculation method and data source of the growth rate, while the ADB calculates the future traffic growth rate by combining data such as the economic growth rate of the state, the registered vehicle numbers and the

⁴ They are Car/Jeep/Van, Three-Wheeler, Two-Wheeler, Bus, LCV, Truck, Articulated Truck, and Tractor.

Table 4 Comparison of project economic analysis and risks

	AIIB	ADB
Traffic on project roads		
Average traffic growth forecast	√	√
Computing method of the traffic growth rate	×	√
Growth of registered vehicles	×	√
Project costs		
Capital costs	√	√
Maintenance costs	√	√
Project benefits		
Passenger time cost savings	√	√
Vehicle operating cost savings	√	√
Promoted agriculture production	√	×
Project sensitivity analysis		
Economic Internal Return Rate (EIRR)	√	√
Internal return rate by subproject	×	√
Net Present Value (NPV)	√	√
Switching Value	×	√
Government fiscal revenue in the past 5 years	√	×
Project budget allocation	√	×

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 31–33. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Economic and financial analysis, Madhya Pradesh District Connectivity Sector Project, Republic of India. pp. 1–6. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

government's road construction planning data. Therefore, the ADB analysis is more detailed in data sources, although the predicted growth rate is less dynamic than the predicted growth rate of the AIIB.

Project Benefit Analysis

The structures of the project costs are the same, including capital costs and maintenance costs. For the project benefits, the AIIB considers the improved agriculture production and calculates conservative estimated returns according to local prices.

Compared with the ADB, the AIIB is simpler in its calculation of project benefits. By taking traveler time savings as an example, the AIIB concludes that the average traveler time costs are 38.72 rupees per hour by simply calculating the annual per capita GDP in Gujarat. The ADB, by contrast, computes the hourly earnings of travelers on buses (47.67 rupees per hour), cars (70 rupees per hour) and tricycles (40 rupees per hour) and calculates the final project benefits based on the weights used by the three vehicles. Overall, the ADB takes a more detailed approach to calculating passenger time costs.

Project Sensitivity Analysis

Both projects conduct project sensitivity tests based on the economic internal return rate (EIRR) and the net present value (NPV). The ADB also adds a calculation of the switching value (SW) (Tables 5 and 6).

Overall, the EIRR of the AIIB project is 15.8%, and the EIRR of the ADB project is 15.62%, both of which exceed the minimum standards of 12% of the two banks. Both banks conducted sensitivity tests on the four scenarios with more stringent conditions. Therefore, we argue that in terms of economic risk analysis, no significant differences are found between the two MDBs.

Project Risk Analysis

According to the project's characteristics, project risks are divided into three parts: public financial management, project procurement and project safeguards. The table below shows the similarities and differences between the two banks in terms of the project risks and evaluation criteria. "/" indicates that the content is empty.

Both banks score a "medium" in overall project risks and conduct the necessary risk assessment regarding the main domains of the project. Specifically, except for the risk assessment of the project safeguards being the same, there are certain differences between the two banks in the public finance management and project procurement areas. The ADB includes a wider range of risks, particularly in terms of public finance management, with more detailed risk assessments of the local political and business environments and project capital flows. By contrast, the risk assessment of the AIIB is more streamlined based on retaining the main content of the project and mainly

Table 5 Comparison of project economic sensitivity

	AIIB		ADB	
	EIRR	NPV@12%	EIRR	NPV@12%
Base case	15.8%	11,350	15.64%	142.84
Capital costs are 10% higher	14.5%	8135	/	/
Maintenance costs are 10% higher	14.6%	7647	/	/
Increase in costs by 10%	/	/	14.22%	93.83
Reduction in benefits by 10%	13.1%	3297	14.08%	79.54
Increase in costs by 10% and reduction in benefits by 10%	/	/	12.74%	30.53
1-year delay in construction	13.5%	5020	14.09%	87.31

All numbers except percentages are in Indian rupees (Rs)

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 34. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Economic and financial analysis, Madhya Pradesh District Connectivity Sector Project, Republic of India, pp. 7. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

EIRR economic internal rate of return, *NPV* net present value (INR million)

Table 6 The checklist of risk assessment in the ADB and AIIB projects

Risk type	AIIB Risk assessment	ADB Risk assessment
Public financial management		
Public financial management	/	Low
Fund flows	/	Low
Road improvement does not remain a priority for the government of Madhya Pradesh, and funding sources beyond the project are not available	/	Low
Severe economic slump encountered in the state	/	Low
Implementation capacity and staff turnover	Low	Low
Delay in disbursement	Medium	Low
Project procurement		
Initial delays in project implementation	Medium	Medium
Transparency during the procurement process	Medium	Low
Limited interest by the construction industry in works	/	Medium
Project safeguards		
Inadequate quality checking and monitoring	Medium	Medium
Environmental and social impacts	Medium	Medium
Overall	Medium	Medium

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 21–22. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Risk assessment and risk management plan, Madhya Pradesh District Connectivity Sector Project, Republic of India, pp. 1–3. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

involves project safeguards and procurement. This approach may also be linked to the concept of being “lean”, which the AIIB claims.

Project Safeguards and Supervision Analysis

Project safeguards and the corresponding supervision and evaluation schemes are critical to ensure the sound implementation of the project as scheduled, which is also related to the philosophy of MDBs. Therefore, this paper simultaneously compares the project safeguard frameworks and the project supervision frameworks. Table 7 summarizes the safeguard contents and corresponding measures of the ADB and AIIB projects.

The safeguard policies for both projects mainly involve the environmental and social spheres. A closer investigation reveals that the two banks have their own preferences. The ADB is focused more on social safeguards and traditional environmental safeguards. For example, the ADB adopts supervision measures to better monitor the environmental indicators related to public health, such as drinking water, air, noise, and soil, and specifies the responsibilities and relations among the three parties — project implementing agencies, contractors, and environmental expert consultants — in the actual implementation of environmental safeguards. In addition, the ADB establishes 5 social safeguard schemes and adds gender-sensitive and labor standards

Table 7 Checklist of the project safeguards in the ADB and AIIB projects

Safeguards	Bank	Yes/No	Specific measures
Environmental safeguards			
Environmental assessment and management	AIIB	✓	Conduct an environmental and social impact assessment (ESIA) to generate baseline data and information; Develop the environmental and social management framework (ESMF) and specific management programs based on different categories
	ADB	✓	Develop the environmental management plans (EMPs) and environmental assessment and review the framework (EARF) to guide environment safeguards
Environmental supervision	AIIB	×	/
	ADB	✓	Conduct the environmental monitoring plan (EMOP) to monitor various environmental quality parameters and to check the effectiveness of the EMP
Natural resources protection	AIIB	×	/
	ADB	✓	“No Objection” letters from wildlife agencies must be obtained by the MPRDC before the start of construction works
Climate change	AIIB	✓	Take the potential impact brought by climate change as a consideration in the project’s design
	ADB	×	/
Public health and security	AIIB	✓	Be aware of the side effects brought by the dust and noise in construction, and promote negotiations between residents and contractors
	ADB	✓	Perform activities on testing the quality of the air, water, and noise through laboratory tests, and physically monitor the problems of soil erosion, habitat enhancement activities and occupational health and safety issues
Social safeguards			
Involuntary resettlement and compensation	AIIB	×	^a
	ADB	✓	Develop a resettlement framework (RF) to conduct a resettlement policy
Indigenous people	AIIB	✓	Include the assessment and management of indigenous people in the safeguard policy
	ADB	✓	An indigenous peoples planning framework (IPPF) has been prepared to guide the screening and preparation of planning documents
Gender	AIIB	×	/
	ADB	✓	Give preference to employing local women for road maintenance, and provide basic training
Labor standards	AIIB	✓	Environmental code of practice (ECoP) includes stipulations to be followed for the safety and labor conditions during construction activities
	ADB	✓	Ensure that the works contracts under the project follow all applicable labor laws of the Government of India and the State of Madhya Pradesh

Table 7 (continued)

Safeguards	Bank	Yes/No	Specific measures
Grievance redress mechanism	AIIB	√	Set up a project-level and district-level grievance redress mechanism to ensure that local concerns are heard and resolved
	ADB	√	Set up a layered grievance redress mechanism to receive and facilitate the resolution of displaced people’s concerns and complaints and grievances about the social and environmental performance at the project level

Source: Compiled from the AIIB and ADB (Project document of Gujarat Rural Roads (MMGSY) Project, Republic of India, pp. 19–21. Accessed 20 September 2018. Available at: <https://www.aiib.org/en/projects/approved/2017/gujarat-rural-roads-project.html>. Project Administration Manual, Madhya Pradesh District Connectivity Sector Project, Republic of India. pp. 18–21. Accessed 20 September 2018. Available at: <https://www.adb.org/projects/47270-001/main#project-documents>)

^aNote that involuntary resettlement is not applicable, since it is anticipated that there will be no land acquisition and no displacement of people

measures. In contrast, the AIIB focuses more on environmental safeguards, especially the new standards. For instance, it introduces safeguards on climate change, which the ADB fails to include. Additionally, the AIIB streamlines its safeguards for social issues by including a “Grievance redress mechanism” and supervision procedures, which are not as detailed as the safeguards of the ADB. Figure 2 shows the supervision framework of the ADB and AIIB projects.

As shown in Fig. 2, the project supervision measures of the AIIB include five aspects, while the project supervision measures of the ADB are carried out in three aspects. When classified according to their functions, the AIIB’s “results framework” is similar to the ADB’s “project performance monitoring system”, and both are categorized as the first-tier. The ADB’s “project compliance monitor” scheme incorporates

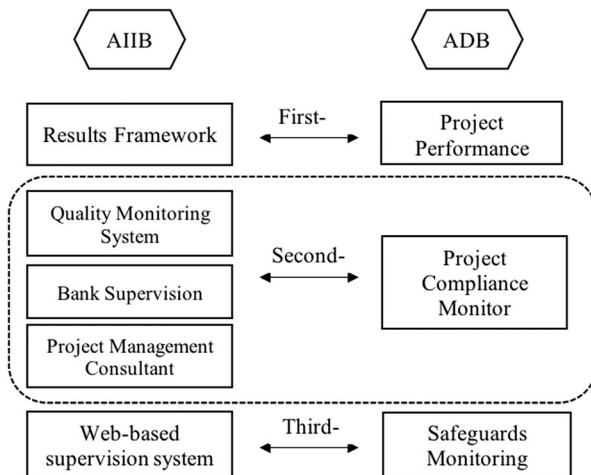


Fig. 2 Comparison of the supervision framework of the ADB and AIIB projects. Source: Author’s own summarization

three AIIB monitoring systems, namely, the “quality monitoring system”, “bank supervision” and “project management consultant”, which are categorized as the second-tier. In addition, the “electronic supervision scheme” of the AIIB and the “safeguards monitoring” scheme of the ADB, which are distinctive in their own ways, are categorized as the third-tier in the framework.

The first-tier monitoring system records the implementation data and performance indicators at each stage of the project. The project implementation agency of the ADB project obtains feedback on the project’s progress through annual assessment questionnaires. The AIIB project has achieved information-based supervision over the implementation of the entire project through the web-based supervision system.

The second-tier monitoring system mainly involves project quality monitoring and financial review. The AIIB emphasizes the project’s quality monitoring, while the ADB focuses more on the proper use of project funds. For example, the AIIB has established an independent quality monitoring system. Moreover, three top-down quality inspection agencies have ensured that the quality of the project meets the standards.

The third-tier monitoring system reflects the different preferences and characteristics of the two banks. The web-based monitoring system developed by the AIIB achieves real-time supervision over project construction and financial conditions. The engineers at each construction site can upload photos of the project’s progress in real time. Road construction departments can understand and adjust specific plans in a timely manner to accelerate the project’s implementation. Unlike the AIIB, the ADB focuses its monitoring efforts on the project safeguards and has formulated detailed and specific policies in the environmental, social and gender spheres.

The comprehensive analysis of the project safeguards and supervision clearly reflects the different preferences and philosophy of the two banks. The AIIB emphasizes the efficiency and quality of the project’s implementation, as well as the critical values and principles for financial management and climate change factors, which are, in turn, related to the project’s implementation. For example, the hierarchical quality inspection system and electronic monitoring system established by the AIIB target both project quality and efficiency. Electronic operations have the obvious advantages of being convenient and transparent while reducing the information costs. In addition, the AIIB reduces its social output by creating a relatively streamlined and centralized project governance system. Therefore, the philosophy of the streamlined operations of the AIIB has helped improve its project efficiency. However, whether this change means a potentially higher social cost remains to be seen in the future since the AIIB project has yet to be fully implemented and evaluated.

Based on the comparative analysis on the management structures, procurement, economy, risks, safeguards and supervision of the AIIB and ADB projects, the characteristics and styles of the two banks in different aspects of the projects are summarized as follows (Table 8).

Conclusion

By selecting two representative projects of the AIIB and the ADB, this paper examines the policy frameworks and the operating models of the two MDBs regarding their project management structures, procurement, economy, risks, safeguards and

Table 8 Comprehensive comparison of the project characteristics by the AIIB and ADB

	AIIB	ADB
Project management structure	Diversified and open	Integrated and specific
Project procurement	Large in the procurement scale, realization of the information platform operation in the entire process of project procurement	Specific and open information of procurement; more stringent screening criteria on the procurement process
Project economic analysis	Covers the main contents and comprehensively analyzes the project sensitivity	Higher information transparency of the project's economic income, stricter criterion of the project sensitivity evaluation, stronger economic stability of the project
Project risks	Relative simplification of the risk assessment	Covers more risk types
Project safeguard and supervision	Focus on the efficiency and quality of the project's implementation	Focus on the use of project funds and safeguards in the social dimensions with a values preference

Source: Author's own summarization

supervision. This paper argues that the institutional design and operation model of the AIIB project mostly resemble the international norms of existing MDBs. The AIIB's policy on project safeguards and supervision is a clear indication of its propensity for project quality and efficiency and minimizing the additional administrative costs associated with value preferences. In addition, compared with the ADB, the AIIB has been "downsized" in the aspects of project procurement and risk analysis but meanwhile covers the most important assessment indicators that are directly related to project quality. Thus, the AIIB enables the safeguarding of the most concerning risks and might enjoy a higher efficiency in project operations, which is likely an improvement on traditional MDBs.

The present study has several caveats, which might inform future research. First, as mentioned earlier, we cherry-picked two cases that are as representative and comparable as possible, whereas there are minor differences such as the ADB project is 4 years earlier than the AIIB project. Although we assume that the ADB, a well-established MDB, is unlikely to change its ways of conducting projects, it is possible that the ADB is forced to make some adjustments because of competition from the AIIB. If so, our analysis might not perfectly represent the full picture and recent updates of the ADB and could thus suffer from bias, which leads to inaccuracy in our empirical conclusions. Second, although our work sheds light on the practices of both banks in the infrastructure sector, the generalizability of our findings to other sectors needs future research to verify. For instance, some aspects of the AIIB project are not mentioned and are thus not comparable, such as land acquisition and resettlement issues.⁵ Third, our study shows that the AIIB is likely enabled to safeguard the most important aspects and risks,

⁵ However, we compared the bank-wide policies of the land acquisition and resettlement issues between the two institutions. Involuntary resettlement is included in the AIIB's three mandatory environmental and social standards (ESSs). We find that the safeguards on gender issues are relatively not as detailed and specific as the ADB. More information on our comparative study on these bank-wide policies are available upon request.

but whether it will be able to prevent criticism and risks remains to be seen in the future. This uncertainty is not only because it takes some time for these problems to arise as projects proceed but also because the AIIB will make more independent projects and increase its cumulative risks. Fourth, the AIIB claims that some safeguards, such as gender and land acquisition issues, are not applied in this project, but it failed to explain further why the project is not involved with these issues. This is particularly important given that the bank-level policy emphasized the importance of gender issues, and it claims that “The primary beneficiaries are villagers, especially women and children, who use the rural roads daily for social and economic activities”.⁶ Finally, most of the AIIB’s projects are co-financed with other MDBs for the first few years. Our project is among the few in which the AIIB started to independently make loans. As such, it is reasonable to assume that the AIIB might imitate and adopt the best practices of well-established MDBs for their early independent projects. Thus, whether the AIIB will continue to uphold the high standards of its practices remains to be seen.

As such, this paper proposes the following suggestions based on the future planning of AIIB project implementation. First, while continuing to carry out the concept of simplification and pragmatism, the AIIB should further enhance the openness and transparency of information on its projects’ implementation. For example, the AIIB currently lacks the disclosure of public information such as the scale and composition of project procurement and tendering, which is likely to be questioned with respect to the transparency and integrity of the project’s implementation. Second, a systematic and institutionalized policy framework and standards should be formed soon. Compared with the mature and integrated system applied by the ADB, there is still space for improvement in the design and evaluation for the AIIB in terms of project procurement and supervision. Finally, the AIIB needs to enhance its efforts to explain more to the stakeholders and the public about how it balances between being “lean” and “clean” and being trustworthy in safeguards. One possible way is to enhance the independent evaluation body such as the Independent Evaluation Group at the World Bank. Currently, the AIIB has already established the Compliance, Effectiveness, and Integrity Unit by a Managing Director. However, few evaluation reports have been released yet. Moreover, the position of the leader should be heightened as high as the leader in the World Bank, which is typically held by a Senior Vice President.

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⁶ Please refer to the second line on the webpage: <https://www.aiib.org/en/projects/approved/2018/india-madhya.html>, accessed on August 10th, 2018.

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