Journal of the Eastern Asia Society for Transportation Studies, Vol.8, 2010

Institutional Spillover Effects of Infrastructure Investment Funded by Foreign Aid: Evidence from a Road Construction Project in Manila

Hironori Kato
Associate Professor
Department of Civil Engineering
Graduate School of Engineering
University of Tokyo
7-3-1, Hongo, Bunkyo-ku, Tokyo
113-8656 Japan
Fax: +81-3-5841-7451
E-mail: kato@civil.t.u-tokyo.ac.jp

Crispin Emmanuel D. Diaz
Associate Professor
School of Urban and Regional Planning
University of the Philippines
Diliman, Quezon City
1101, Philippines
Telefax: +63-2-9206854
E-mail: cddiaz@up.edu.ph

Marie ONGA
Master's Student
Department of Civil Engineering
Graduate School of Engineering
University of Tokyo
7-3-1, Hongo, Bunkyo-ku, Tokyo
113-8656 Japan
Fax: +81-3-5841-8506
E-mail: onga-m@ip.civil.t.u-tokyo.ac.jp

Abstract: This paper empirically identifies institutional spillover effects, i.e. the influence of one institution's actions, indirectly or unintentionally, on the actions of another institution, that resulted during the implementation of the Circumferential Road No. 3 construction project in Manila, Philippines which was funded by foreign aid. The paper shows an analysis of the mechanism of the effects, based on an examination of the behavioral process of the main actors - the donor, the recipient, the consulting company, and local organizations. First, the paper looked at the project purposes, processes, and outcomes based on relevant literature and interviews with local stakeholders. Then, focusing on a key event, institutional spillovers effects were identified. These spillover effects were examined through a process that identified the major actors, their motivations, available actions and strategies. Using a game-theoretic approach, the interactions that finally led to the amendment of policies for setting project bid-price were analyzed.

Key Words: *infrastructure project, institutional spillover effect, official development assistance, road construction, Manila*

1. INTRODUCTION

A number of empirical literatures have recently shown that infrastructure contributes to economic growth and poverty reduction in developing countries (Esfahani and Ramirez, 2003; Calderon and Serven, 2004; Datt and Ravaillon, 1998). However, most studies on aid effectiveness have focused on the beginning and end of this causality chain (Jerve and Nissannke, 2008). The intermediate processes have been referred to by some as a kind of "black box" (Bourguignon and Sundberg 2006), and it has been argued that further progress in aid effectiveness requires opening that box. The mechanisms and processes by which aid-funded infrastructure projects produce successful development outcomes have not been examined so far. Jerve and Nissannke (2008) hypothesized that the success or sustainability of such investments depends to a large measure on institutional spillover effects. This depends upon intermediary and institutional outcomes of the project—e.g. impacts in terms of human

resource development, capacity building, and institutional and policy reform. These depend on what takes place within the "black box." In response to these concerns, this paper aims to empirically analyze the indirect effects of infrastructure projects by focusing on the institutional spillover effect. The research involved observing the institutional spillover effects and their processes during the implementation of infrastructure projects funded by foreign aid. The Circumferential Road No. 3 construction project in Manila, Philippines was used as a case study for this paper.

The paper is organized as follows. The next section presents the project overview. Section 3 reviews the project implementation process and the project results by reviewing pertinent literature and interviewing local stakeholders. The focus is on the single key event for the case study. Section 4 examines the spillover effects by identifying the major actors, mapping the institutional mechanisms/organizations involved, and relating these with the key event. Finally, Section 5 summarizes our analysis findings and makes recommendations for future projects.

2. OVERVIEW OF THE CASE

2.1 The Substance of the Project

The Circumferential Road No. 3 (C-3) construction project was designed to not only rehabilitate existing parts but also construct new sections in the northern segment of C-3, which is located in Caloocan and Quezon Cities. Moreover, the C-3 project was also intended to improve and construct the Makati-Mandaluyong Road connecting Makati and Mandaluyong Cities as a substitute road for the southern segment of C-3. The location of Circumferential Road No. 3 is shown in Figure 1. The project aimed to mitigate urban transport problems, especially the heavy congestion in Metro Manila. The road shares a major role with the formulated Conceptual Highway Network in the Metropolitan Manila area. The original part of the C-3 road in the project is the northern package (Packages A-1 and A-2), which starts from Aurora Avenue and ends at the Rizal Avenue extension with a length of 7.1 km. This semi-circular road is located about 9 km apart from the central business district of

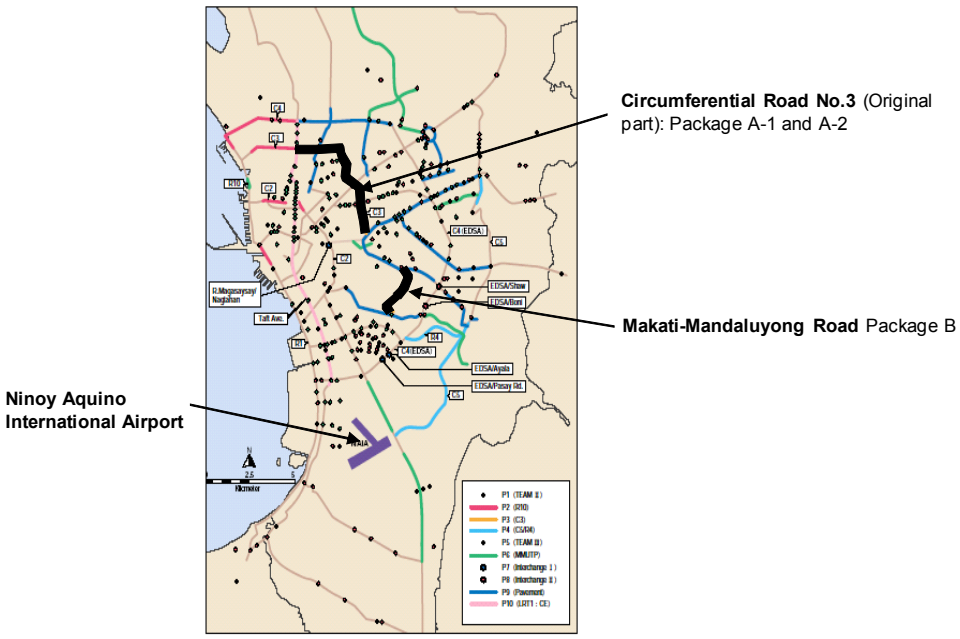

Figure 1: The location of Circumferential Road No.3.

Manila. The alignment of the Makati-Mandaluyong road (Package B in the project) is different from the originally planned C-3 road section and is about 2.7 km long; the road starts from the intersection of Makati Avenue and J. P. Rizal Street and terminates at the intersection of Shaw Boulevard and Nueve de Febrero Street. Note that the Makati-Mandaluyong road (Package B) was added to the original part (Package A-1 and A-2) during the planning process.

2.2 Process of the Project

In 1973, OCTA—the former name of the present Japan International Cooperation Agency (JICA)—completed the Urban Transport Study in the Metro Manila Area (UTSMMA).[1] This study recommended three plans: (1) an arterial road network consisting of six circumferential and ten radial roads; (2) an urban high-speed mass transport system consisting of the

Table 1: History of the Metro Manila Circumferential Road No.3 Construction

Year	Month	Metro Manila Circumferential Road No.3 Construction Project
1973	9	OTCA (present JICA) recommended basic urban transport plan in UTSMMA
1977		F/S by JICA: "Metro Manila Roads Project C-3, C-4 Roads Construction Project" was implemented.
	7	MMETRO Plan: Metro Manila Transport, Land Use & Development Plan was implemented by UK Freeman Fox Inc. with the Philippine Government budget (World Bank funding): recommendation on construction of circumferential and radial roads, division of roles of buses and jeepneys, and introduction of light rail trains (LRT) etc.
1978	3	F/S by JICA: Completion of "Metro Manila Roads Project C-3, C-4 Roads Construction project"
	11	Provision of E/S budget for "C-3/R-10 Roads Construction Project", Phase 2 of R-10: In the implementation stage, E/S for Makati-Mandaluyong road included, service completion in September 1982 (for 7th ODA Loan).
1983	8	As a project under the 12th ODA Loan, Government of the Philippines requested construction of No. 10 and No. 11sections of of No. 10 and No. 11 sections of Circumferential Road No. 3, and construction of overpasses at Roosevelt. South and East Kamias and Ortigas intersections along Circumferential No.4 Road.
	11	Government of the Philippines requested to redirect the entire 12th ODA Loan to a commodity loan due to the economic crisis (US$230 million).
	12	Government of the Philippines changed their request for a commodity loan under the 12th ODA Loan (US$150 million).
1984	2	Government of the Philippines requested three project loan as candidate for the 12th ODA Loan. But this project involves a heavy local currency budget burden and did not fall within the allowable scope for 12th ODA loan.
	3	JICA prepared Metro Manila Urban Transport Study. Results of Persontrip Survey made under "Metro Manila Urban Traffic Improvement Project" (L/A in June 1980, ¥5,410 million) were utilized.
	5	Signing of 12th ODA Loan Agreement
1985	2	Request for 13th ODA Loan: This project was requested to have its contents changed to sections 8, 9, 10, and 11 of Circumferential Road No. 3.
	5	Government of the Philippines made an additional request for the 13th ODA Loan.
	6	The Japanese Government Mission and JBIC Appraisal Mission visited the Philippines.
	7	Metro Manila Urban Transportation Strategy Planning Project Part B2 was prepared by Renardet Inc., Italy with World Bank's fund. Part A is a master plan of whole Metro Manila transport sector, Part B for F/S of traffic control etc., and Part B2 for F/S of roads network improvement.
	10	The Japanese Government pledged the 13th ODA Loan (this project is included in the project loan).
	12	Signing of E/N
1986	5	Signing of L/A (13th ODA Loan)
1995	1	Completion of project

construction of five express railway lines and improvements for the Philippine National Railway (PNR); and (3) an urban expressway network. This was the first comprehensive basic urban transport plan for Metro Manila. C-3 was also included in the proposed road network plan. In 1977, JICA completed the feasibility study for the "Metro Manila Roads Project C-3, C-4 Roads Construction Project."[2] At the same time, the Metro Manila Transport, Land Use, & Development Plan (MMETRO Plan), funded by the World Bank, was prepared. This plan recommended the construction of circumferential and radial roads as well as other facilities in Metro Manila. JICA completed the feasibility study for the C-3 project in March 1978 and urgently recommended its implementation.

The provision for the engineering service budget of the "C-3 Roads Construction Project" began in November 1978. At the same time, the Makati-Mandaluyong (MM) road was incorporated into the project. The MM road construction aimed to ease the traffic congestion between J. P. Rizal Road and Show Boulevard. Although the original plan included another road to run parallel to the MM road, this was given up due to consensus-building problems related to the acquisition of right-of-way (ROW). As the original road had been occupied by the squatters around the construction area, the then-mayor stated in 1981 that he would not relocate the squatters. Thus, the "C-3 Roads Construction Project" covered two project components for construction and improvement: (1) the northern part of the original C-3 plan with three lanes in each direction; and (2) the MM road with three lanes in each direction.

Although the area along the MM road was also occupied by many squatters, they were cleared by order of the mayor around the construction site. Note that this mayor was different from the mayor who gave up relocating the squatters. One of the reasons why they were successfully cleared was because the road area was owned by the Department of Social Welfare and Development (DSWD). Detailed engineering for the C-3 and related roads was conducted from 1979 to 1981. The final loan agreement on the 13th ODA loan was signed May 1986. The construction commenced June 1988.

Republic Act 7279, or the Urban Development and Housing Act (UDHA), should be discussed considering the significant impact of this law to the projects in the case study. The law was enacted 1 March 1992 during the time of President Corazon Aquino. The UDHA law is often referred to as the "Lina Law" after its main proponent, Jose Lina, a former secretary

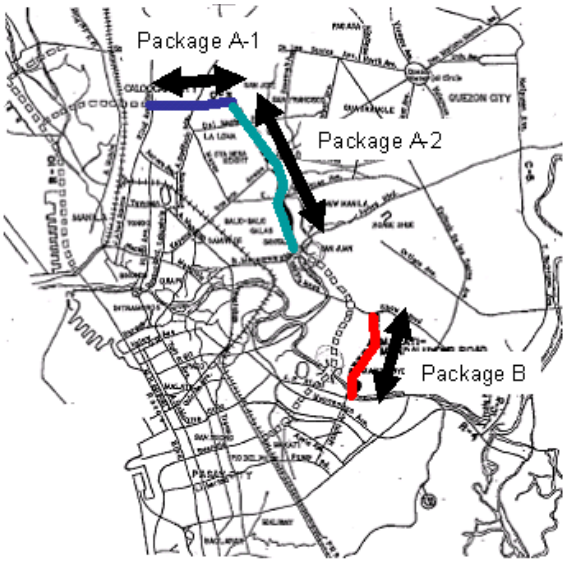

Figure 2: Three packages of the C-3 Construction Project.

of the Department of the Interior and Local Government. The law describes the procedures involved in the relocation of squatters, including compensation when they are relocated from the site of an investment project. Prior to this law, squatters were not eligible for any kind of compensation in the event of removal.

The C-3 Project was divided into three packages: Package A-1, Package A-2, and Package B. The sections corresponding to these three packages are shown in Figure 2.2. Package A-1 is 4.67 km in length and is located in Quezon City, taking the west part of the original C-3 Road. Package A-2 is 4.67 km in length and stretches from Aurora Boulevard. to Sgt. E. Rivera along G. Araneta Avenue. Package B covers the MM road with a length of 2.72 km and connects Makati Avenue to Shaw Boulevard. The implementation processes of the above three packages are described in the following sub-sections. The overall process of the C-3 project is summarized in Table 1.

3. PROJECT IMPLEMENTATION PROCESSES

3.1 Project Implementation Process: Package A-1

The first bidding was done for the package A-1 in December 1987. J. H. PAJARA Construction Corporation submitted the lowest bid and won the contract for this package 17 February 1988. The contractor began construction after they received the Notice to Proceed on 2 June 1988. However, construction progress fell behind schedule, mainly because not all of the ROW had yet been acquired. This made it difficult for the contractor to proceed with the construction efficiently. In addition to the delay in the land acquisition, the contractor also experienced a shortage in operating capital due to the very low bid price. For these reasons, the contractor lost interest in completing the project within schedule. Although the URPO instructed and warned the contractors to improve their productivity, they found no remarkable improvement. Finally, the Department of Public Works and Highways (DPWH) agreed with PAJARA Construction Corp. to terminate the contract. DPWH allowed the contractor to complete whatever items of work had not yet been completed. At the time of this agreement, only 30% of the project had been accomplished although construction had started approximately 20 months before. Termination was officially confirmed by the DPWH in February 1990.

After termination of the first contract, the bidding process for a new contract (to complete the project) began June 1988. The new contract package included: the remaining works specified in the first contract, recommended additional works to raise the road level along the Talayan creek (between Quezon and Del Monte Avenues), and the completion of an open-channel waterway with stone masonry retaining walls from Calamba to Retiro Streets. PAJARA Construction did not join the bidding process for the new contract. The Makati Development Corporation won the bid for the new project contract in 1990. The winning price was higher than the original price by about 40 million pesos (about 70% of the original price). The DPWH put a high priority on completing the construction of the three sections included in the package before December 1990. However, construction once again fell behind schedule because the Makati Development Corporation suffered from lack of manpower and materials. The contractor was directed to improve the situation several times. However, it was only on 20 July 1991 that the section of the project from Ma. Clara to Retiro Streets was finished and opened to traffic. Although construction was one year behind the deadline, most of the works were completed by December 1991. Finally, on 14 January 1992 the C-3 Package A-1 was formally opened to traffic.

3.2 Project Implementation Process: Package A-2

The first bidding for Package A-2 was opened to the public in December 1987. However, since there was no pre-qualified contractor that accepted the contract price proposed by the DPWH, a failure of bidding was declared. A second bidding was conducted in June 1988. However, the lowest bid price was 22 percent higher than the approved agency estimate (AAE), which was 52,341,171.65 pesos. The bidder with the lowest bid price rejected the proposal from the DPWH to accept the AAE price. The DPWH then began negotiations with the second lowest bidder, the Makati Development Corporation. Although the Makati Development Corporation accepted the AAE price, the DPWH needed ten months to get the concurrence from the Overseas Economic Cooperation Fund (OECF) to accept the Makati Development Corporation as the contractor. This was because the price negotiation itself violated the guidelines of the OECF (that a bidder shall not be required as a condition of award to undertake the responsibility of modifying the bid). After 10 months of waiting for concurrence from OECF, the Makati Development Corporation requested a price adjustment due to the delay in the process. Finally, it seemed that the contract with the adjusted price was finalized on 10 July 1989. However, the DPWH Secretary declared that no price adjustment would be made considering the higher cost demanded by the negotiated contract. This particular contract was eventually nullified.

Although, price negotiations between government authorities and bidders have been a common if not popular practice among the construction companies in the Philippines, this was inconsistent with the OECF guidelines on modifying the bid. This inconsistency resulted in a significant delay. Subsequently, and perhaps partly because of the experiences of the C-3 project, a new amendment of Implementing Rules and Regulations PD 1594 was established in 1990.

The third bidding was conducted in May 1990. The Makati Development Corporation finally won the bid for Package A-2 with a bid of 78,888,583.10 pesos. This price was 50 percent higher than the original AAE price. The project was also delayed by a whole year of legal battles between the URPO and the land owners due to valuation problems for the necessary compensation. Previously, the ROW acquisition cost was based upon assessor's and owner's valuations. The lower value was adopted by the government for valuation purposes. However, often the assessor's valuation was not updated to current market levels while the owner's valuation was too subjective. This meant that the valuation was almost always unacceptable to the affected party. Also, the valuation only included land and structures but not special facilities such as factory machines and the like. Thus, there were legal conflicts which were elevated to the Supreme Court of the Philippines. Eventually, DPWH lost the case.

3.3 Project Implementation Process: Package B

Package B of the C-3 Project was also known as the Makati-Mandaluyong Road Project. This 2.72 km road connecting Makati Avenue to Shaw Boulevard consisted of two segments. The Satrap Construction Co. won the bid for this package at 29,501,735.11 pesos. They received the Notice to Proceed on 24 October 1988. The construction started in November 1988.

Construction progressed very slowly, with only 6.73% of the total construction completed within 81% of the originally planned construction period. First of all, only 34.71% of the route was ready for construction due to ROW problems and concerns about the design. However, delays in construction were evident even on works scheduled for workable areas. The completion report pointed out the following reasons for the slow progress of the

contractor: scarcity of equipment, lack of skill, and inefficient project management. Moreover, the report also included bad weather conditions and the spiraling market price as reasons for the delay. Although the DPWH revised the schedule several times and advised Satrap Construction Co. to improve its performance, the contractor did not show any significant progress in their work. The DPWH finally decided to terminate the contract in November 1989. In order to minimize the negative impact of the unfinished construction on the general public, the DPWH decided to undertake some of the remaining works themselves.

The DPWH then divided Package B into two parts: Package B-1 (Coronado and San Francisco Streets) and Package B-2 (in the Welfareville area). The bidding for Package B-1 was opened to the public on 15 February 1990. Manifold Construction Enterprises Inc. won with a bid of 36,550, 791.30 pesos in April 1990. Construction started in July 1990 and finished on 22 May 1991. The route was opened to traffic on 14 May 1991. This section of the project was completed in just 10 months because the contractor made every effort to fast-track the construction. To illustrate, when additional piles were needed, instead of importing from Japan the piles were procured from the local market. This may have caused the cost to be higher and the quality lower; nevertheless, construction proceeded without delay. In April 1991, almost all major works were completed and only some minor items of work remained. Finally, it was completed 14 May 1991, and the President of the Philippines attended the opening ceremony. The improvements to Nueve de Febrero and Martinez Streets were completed under separate agreements between the DPWH, the Manila South Engineering District and the local government of the Municipality of Mandaluyong.

The bidding for Package B-2 was postponed due to the occupancy of squatters at Welfareville. However, all related agencies made many efforts to clear the site to start the construction. The bidding was conducted in February 1991. Although the lowest bid offered by the E. Ramos Construction Inc. was 19.5% higher than the AAE price, the contract was awarded to E. Ramos Construction Inc. for this package. The contract was approved on 18 June 1991 together with the Notice to Proceed. The construction also began in June 1991 because the contractor had already started mobilizing all necessary heavy equipment and manpower even before the issuance of the notice. The contractor had started working at its own risk to catch up with the fast-track program of the DPWH. The construction was completed and the road opened to traffic on 14 February 1993. The inauguration was earlier than the original schedule.

4. IDENTIFICATION OF MAJOR INSTITUTIONAL SPILLOVERS

One example of an important institutional spillover of the C-3 project is the amendment of Implementing Rules and Regulations PD 1594. During implementation of the C-3 project, the DPWH changed the rules in the bidding system. To know what the institutional influences of the change in the bidding system were, we describe the case relating to this institutional change and examine the socio-economic context of the institutional change (including common local negotiation practices and external factors that had some bearing on the system change). To analyze the process of change in the bidding system, we first identified the key actors. Later, the actors' strategies were examined by laying out their hypothetical options and targets. Finally, the institutional spillovers of the amendment of PD 1594 are discussed.

4.1 Case Description

PD 1594 stipulates the basic rule of tendering in the Philippines. It clearly states that the successful bid price should not be above the given ceiling price. In other words, the bidder can only win the bid when his or her proposed price is lower than the given ceiling price. If the lowest bid price is higher than the ceiling price, the contract cannot be agreed upon. However, in such cases the DPWH often negotiated with the bidders to change the bid to a lower price.

According to our interview with the Japan Overseas Consultants (JOC), it was the JOC that pointed out that the negotiation between the DPWH and the lowest price bidder violated the Guidelines for Procurement of the OECF. The JOC took the role of advising the DPWH under the contract with the JBIC. The OECF guidelines stated that a bidder shall not be required as a condition of award to undertake responsibilities for modifying the bid (Section 5.09 Award of Contract / OECF), such as asking them to change their bid to the AAE. The JOC warned the DPWH of this violation during the implementation of the package A-1, in 1989.

Based upon the advice of the JOC, the DPWH amended the Implementing Rules and Regulations of PD 1594 in 1989 to exempt projects funded by foreign loans from the rule requiring successful bids to be priced under the ceiling price (AAE). In other words, bidders could win the tender even with the bid price higher than the ceiling price if the project was funded by foreign loans. This amendment was applied to the third bidding of Package A-2 in the C-3 project.

4.2 Social and Economic Context

In the Philippines, for many years it had been common practice for the DPWH and construction companies to negotiate the contract prices of projects. It appears that both DPWH and the construction companies benefited from this scheme. For the DPWH, it gained from this price negotiation in two ways. It would not have to conduct another bidding process, thus avoiding the additional costs. Furthermore, the DPWH would no longer need to raise the contract price if the bidder agrees to comply with the AAE. They can save contract costs with the low ceiling price. For the construction companies, negotiating prices with the DPWH was very important, if not necessary, to win the contract. For most companies, winning a major contract with the government enabled them to keep their company running.

The DPWH and the construction companies were not negotiating on an even playing field. The DPWH had the stronger bargaining position in the price negotiation since it made the final decision on the contract. Therefore, the construction companies had to acquiesce to decisions made by the DPWH. As a result, the DPWH often succeeded in negotiating a contract price at most equal to the ceiling price.

This practice of price negotiation was notable as one of the causes for projects being delayed. To begin with, it makes the bidding process more complicated and time-consuming. When bidders do not tender the best possible price, continuous negotiations had to be made between the DPWH and the construction companies. Moreover, the delay caused by the practice of price negotiation could also lead to capital shortages on the side of the winning contractors. This not only took away the incentive for higher productivity and faster project completion, but also destroyed the morale of the construction industry. The formation of relationships that went beyond the professional level was also a consequence of this long-standing practice of price negotiation between the authorities and the construction companies. The practice led to many different kinds of corruption. Sadly, there is no evident effort to change this situation in

the domestic construction market.

There were two external pressures that beleaguered the construction industry in the Philippines during the 1980s. First was the construction boom that happened during the implementation of the C-3 project. The construction companies suffered from the rapid increase in domestic demand for construction materials and related resources. The construction boom caused a considerable increase in the market price for construction materials. In addition, the rapid growth in the construction industry also posed new challenges in managing the equipment and human resources necessary for the projects. Unfortunately for the construction companies, while the market price for construction inputs increased, the contract price remained the same. Despite knowing that the ceiling price would never cover the required cost of the project, the construction companies could do very little about the problem because the DPWH would certainly negotiate for a contract price lower than the ceiling price.

The second external factor that impacted the Philippine construction industry was the entry of the JOC into the domestic bidding system during implementation of the C-3 project. As mentioned earlier, despite knowing about the various problems caused by the long-standing custom of price negotiation, the domestic stakeholders did not undertake any evident measures to change the system. Actually, the practice of price negotiation may have been favored by the authorities and construction companies simply because they benefited from said system. However, when the JOC joined in as a project adviser to the DPWH, changes began to happen. The JOC warned the DPWH of the problems arising from the bidding system, including its violation of OECF guidelines. As an outsider, the JOC could point out problems without any political conflict. Finally, the DPWH decided to change the bidding system since the advice from the JOC was reasonable from the legal viewpoint; this also provided benefits for itself (in the long-term) by following the international standard.

4.3 Main Actors in the Case

The key actors in amending PD 1594 were the Overseas Economic Cooperation Fund (OECF, now known as the Japan Bank for International Cooperation or JBIC), the Department of Public Works and Highways (DPWH), the Prequalification, Bids, and Awards Committee (PBAC), and the Japan Overseas Consultants (JOC). The OECF had a statutory mandate to undertake lending and other operations for the promotion of Japanese exports, imports and economic activities overseas. It was also directed to ensure the stability of international financial order. The OECF also pursued economic and social development activities in developing economies. By and large, the OECF contributed to the sound development of the Japanese as well as the international economy. The OECF did not compete with financial institutions in the private sector. It was the OECF that funded the C-3 project based upon the recommendation of the JICA's feasibility study and after consultation with the government of the Philippines. The DPWH and PBAC were the agencies that stipulated the amendment of PD 1594. The Urban Road Project Office (URPO) was the agency under the DPWH responsible for implementing the project at the actual site. Other related government agencies cooperated and gave their assistance; however, the URPO was the lead agency handling relocation issues and conducting the actual resettlement of those affected. The PBAC was the government committee that dealt with the prequalification, bids, and awards. It had the power to officially decide the ceiling price and monitor the bidding process organized by the DPWH. The JOC was the consulting company hired by the JBIC to advice the DPWH on the C-3 project. Part of their job was to check the bidding process and project implementation.

4.4 Analysis of the Actor Strategy Processes

Next, we examine the details of the decision-making processes that may have occurred as the amendments to the PD 1594 were introduced.

4.4.1 The DPWH's strategy

We start our analysis with the behavior of the DPWH. It was only after the JOC pointed out that the price negotiation system violated the OECF Guideline that the DPWH decided to amend the PD 1594. Essentially, the amended PD 1594 exempts foreign aided projects from the ceiling price regulation. For our analysis, we asked two questions: why did the DPWH make such a decision; and what were the options available to the DPWH. To answer these questions, we examine the DPWH's hypothetical options and enumerate their hypothetical targets.

The hypothetical options of the DPWH may have been as follows:

(D-i) Request the PBAC to revise its system and set a ceiling price estimated to be higher than the current price;
(D-ii) Amend the Implementing Rules and Regulations PD 1594 to exempt only foreign-aided projects from the ceiling price regulation;
(D-iii) Amend the Implementing Rules and Regulations PD 1594 to exempt all projects from the ceiling price regulation;
(D-iv) Apply the exception only for this project; or
(D-v) Maintain the status quo.

The hypothetical objectives of the DPWH may have been as follows:

(D-1) Implement the project at a lower cost;
(D-2) Complete the project earlier;
(D-3) Ensure the quality of project by working with well-qualified contractors; and
(D-4) Maintain a good relationship with the OECF/Japan.

It is understandable that the option selected by the DPWH was considered in view of the above-mentioned objectives. Based upon the interviews conducted, it appears that the DPWH put high priority on implementing the project at a lower cost (Objective D-1) and was also very much concerned about completing the project early (Objective D-2). The DPWH may have also recognized the importance of maintaining a good relationship with the OECF/Japan (Objective D-4); however, this was not readily observed. Furthermore, the DPWH may have also wanted to guarantee the quality of the project by working with well-qualified contractors (Objective D-3). However, when the DPWH pushed for the fast-tracking of the construction in the later stages of the project (particularly Package B-2), they clearly showed that this objective was less important compared to the other targets.

This is how we evaluated the actions taken by the DPWH. First, it is clear that the DPWH did not choose Option D-iii, which would have exempted all projects from the ceiling price regulation. However, a more problematic scenario in the bidding process could be expected if no degree of regulation was prescribed to all the projects. Therefore, to amend PD 1594 in this direction would result in the Philippine government losing a huge amount of money. Hence, Option D-iii Option would not act upon the DPWH's Objective D-1. Second, the DPWH did not choose Option D-iv, which would have applied the exemption only for this particular project, perhaps anticipating the possibility of the same problem arising in the future. The DPWH may have preempted the rejection by the JOC and OECF of any temporary solution to the problem. However, stop-gap solutions would not have offered long-

term answers to the problem and may have even brought additional costs and time delay to the projects. Therefore, Option D-iv did not fulfill Objectives D-1 and D-2 of the DPWH. Third, the DPWH did not choose Option D-i, which would have requested the PBAC to revise its system and set a ceiling price estimated to be higher than the current price. This option would have required many consultations and long discussions with pertinent government agencies (not only with the PBAC). Therefore, this option would also not satisfy Objective D-2 of the DPWH. Finally, there was the option to keep the status quo (D-v). But since amendments were later made to Implementing Rules and Regulations PD 1594 to exempt foreign-aided projects from the ceiling price regulation, DPWH evidently opted to pursue Option D-ii.

The action taken by the DPWH was quite clear. However, to evaluate what the DPWH prioritized as their primary objective is neither simple nor obvious because none of the objectives were necessarily dominant over the others. It could be that after comparing the Objectives D-1 and D-2 with Objective D-4, the DPWH may have considered it more important to maintain a good relationship with the OECF/government of Japan (Objective D-4) rather than keep construction costs low and complete the project early. Although what could have been the reason for this consideration is still unclear, it is possible that implicit threats to stop the loan by the OECF may have been made. The possible withdrawal of the loan may not have been communicated directly by the OECF because in principle the OECF never intervenes in the domestic affairs of the country receiving the loan. However, this may have been brought to the attention of the DPWH by the JOC. We learned from the interviews that the OECF and the JOC conducted a special seminar on OECF Guidelines during the project. So whether or not the OECF instructed the JOC to recommend a revision as a condition for the loan approval, somehow the involvement of the JOC in the project significantly influenced the DPWH to make the necessary revision to the bidding process.

4.4.2 The OECF's strategy

If the OECF came to know (probably through the JOC's report) of the violations made by the DPWH against the OECF guidelines in the bidding process, the organization's hypothetical options are listed as follows:

(O-i) Indirectly request the DPWH to carry out changes to improve the bidding process. The OECF would not directly confront the DPWH about the violation against the OECF guideline. However, it would carefully scrutinize the bidding process to ensure that it was fair and impartial.

(O-ii) Ignore the violation but <u>reject all the bids received by the DPWH.</u> Note that OECF would not directly confront the DPWH about the violation against the OECF guideline.

(O-iii) Directly recommend the DPWH to stop the bid price negotiations for projects funded by foreign aid.

(O-iv) Halt the loans to the project.

The following are the hypothetical objectives that the OECF may have had:

(O-1) Safeguard Japanese interests. This may include maintaining the nation's good reputation in other countries.

(O-2) Contribute to the development of the Philippines.

(O-3) Strictly follow the guideline/rules to conform to international standards.

We now discuss the possible objectives considered by the OECF, and what could have been their first priority. It is most likely that Objective O-1, safeguarding the interests of Japan,

preceded all other targets. However, the OECF may have also been concerned about the development of the Philippines (Objective O-2). It is also very likely that the OECF may have also wanted to strictly follow the guidelines to conform to international standards (Objective O-3). Essentially, to pursue Objective O-3 may also fulfill Objective O-1. However, in some cases these two objectives may conflict with each another. To illustrate, the reputation of OECF and consequently Japan may be negatively affected if it imposes on the local government the strict implementation of the guideline/rules. In principle, the OECF does not interfere in the domestic affairs of the country receiving the loan; hence, it difficult for the OECF to pursue Objective O-3.

Next, we analyze the actions taken by the OECF vis-à-vis the options which they did not take. First, the OECF did not opt to halt the loan (Option O-iv). If this was the option taken, we could expect problems relating to the diplomatic relationship between the Philippines and Japan. Hence, O-iv ran contrary to Objective O-1. Second, since the OECF strives never to directly intervene in local affairs, it did not choose Option O-iii: directly recommend the DPWH to stop the bid price negotiations for foreign aid projects. Third, the OECF did not choose Option O-ii: not directly confront the DPWH and ignore its violations of the OECF guideline, but instead reject all bids received by the DPWH. If this had been the choice, it would in effect paralyze the bid process and definitely bring about delays in the project completion. But more importantly, if all the bids received by the DPWH were completely rejected without any explanation from the OECF, tension and animosity may have arisen between the OECF and DPWH. Option O-ii therefore did not pursue Objective O-2. Finally, the OECF had no other choice but Option O-i. We have no evidence as to whether the OECF chose Option O-i or not. However, we suppose that the OECF had a strong incentive to follow the international standard at the time. In interviews with the then-officers of the DPWH, they pointed out that OECF projects used to be implemented less strictly than those for other organizations such as the World Bank and Asian Development Bank. We guess that the OECF had already become aware of such a reputation among the local stakeholders. This may have given the OECF the incentive to begin operating in a stricter manner. If the OECF had a strong incentive to change the situation, we may add to the above list another hypothetical option for OECF to choose from:

(O-v) Informally request the JOC to influence the DPWH to improve the bid price negotiation system.

Interviews with the JOC revealed that the JOC had several discussions regarding the DPWH's violation of the OECF regulations. Although the JOC did not explicitly state this, it appears possible that the OECF requested the JOC to recommend to the DPWH to implement changes in the bidding system. Even if the OECF did not make the request explicitly, the JOC may have taken some actions to influence the DPWH to voluntarily make the desired changes after the discussions with the OECF.

4.4.3 The JOC's strategy

It is supposed that the JOC came to know that the DPWH was violating the OECF guidelines for the bidding process. We list the JOC's hypothetical options as follows:

(JOC-i) Ignore the violation and not discuss it with the OECF;
(JOC-ii) Ignore the violation (and not warn DPWH), but discuss it with the OECF;
(JOC-iii) Warn the DPWH about the violation without discussing it with the OECF; or
(JOC-iv) Warn the DPWH about the violation and discuss it with the OECF.

The hypothetical objectives that the JOC had are summarized as follows:

(JOC-1) Work well in the project as an efficient adviser to the DPWH;

(JOC-2) Profit from the project; and
(JOC-3) Maintain the JOC's good reputation, especially with the OECF.

The first part of our analysis is to decide which objective had the highest priority for the JOC. On one hand, the JOC should pursue Objective (JOC-1) as a consultant. One of the ways to achieve Objective (JOC-3) was by also satisfying Objective (JOC-1). On the other hand, the JOC also needed to pursue Objective (JOC-2) as a private company. For more profit, the JOC may need to have made efforts to reduce the cost and/or avoid unnecessary work. Therefore, achieving objective (JOC-1) may be to some degree in conflict with Objective (JOC-2).

Next is the question of how the JOC evaluated the options. It may be better to discuss this by considering the following two sub-questions: how the JOC evaluated the options of discussing the violation with the OECF (JOC-ii and JOC-iv), and how the JOC evaluated the options to advise or warn DPWH regarding the violation (JOC-iii and JOC-iv). First, the JOC seems to have discussed DPWH's violation with the OECF. This is probably because the JOC wanted to contribute to the OECF as an advisor. As shown earlier, this would lead to the JOC having a good reputation with the OECF. Next, the JOC recommended that DPWH move to amend the Implementing Rules and Regulations PD1594, since the JOC judged that continued violation of the OECF guidelines was undesirable, especially from an ethical viewpoint. In addition, the JOC may have been afraid that it would take a long time to complete the bid price negotiation between the DPWH and the bidders. If the negotiation process were to continue longer, the JOC would also be burdened with more costs, in violation of Objective (JOC-2).

4.4.4 Institutional Spillover in the Amendment of PD1594

The institutional spillover observed in the amendment of PD 1594 is discussed here. We focus on the interactions between the DPWH and OECF. We discuss these interactions in the following two situations: one where the OECF does not have Option (O-v); and the other where it does. Note that Option (O-v) for the OECF is "informally request the JOC to influence the DPWH to improve the bid price negotiation system."

Suppose that the DPWH has the two options (D-ii) and (D-v). Note that (D-ii) is "amend Implementing Rules and Regulations PD 1594 to exempt only foreign0aided projects from the ceiling price regulation" and (D-v) is "maintain the status quo." Next, assume that the OECF has the two options (O-i) and (O-iv). Note that (O-i) is "maintaining the status quo" whereas (O-iv) is "halt the loans to the project." Let us examine the combination of these options between the two actors as the two matrices shown in Table 2 and 3. These can be regarded as the simple non-cooperative games between the two players.

We set the hypothetical payoffs for each stakeholder in each pair of options. The left value in the payoff box means the payoff for the DPWH, whereas the right value means the payoff for the OECF. Assume that the payoffs are both zero when they choose the options to maintain the status quo. Second, both the DPWH and OECF receive critical damage when the OECF chooses Option (O-iv). Third, under the condition that (O-i) and (D-ii) are chosen, the DPWH loses benefits while the OECF earns them. This is because the OECF can revise PD1594 while the DPWH should take some effort to change the regulation. This game has the single Nash equilibrium: that is, the pair of (O-i) and (D-v). We call this equilibrium the "status quo equilibrium."

Table 2: Game on the PD1594 between the DPWH and the OECF (without the option (O-v))

		OECF	
		Option (O-i) Status quo	Option (O-iv) Halt the loans
DPWH	Option (D-ii) Change the PD1594	[-*a*, +*b*]	[-*M*, -*M*]
	Option (D-v) Status quo	[*0*, *0*]	[-*M*, -*M*]

Notes: *a*, *b* and *M* are positive.

Table 3: Game on the PD1594 between the DPWH and the OECF (with the option (O-v))

		OECF	
		Option (O-i) Status quo	Option (O-v) Intervene indirectly
DPWH	Option (D-ii) Change the PD1594	[-*a*, +*b*]	[*0*, +*c*]
	Option (D-v) Status quo	[*0*, *0*]	[-*d*, +*e* or -*e*]

Notes: *a*, *b*, *c*, *d* and *e* are positive.

Next, let us introduce the new option (O-v) to the OECF options. The new game can be described as follows. First, look at the case where the DPWH chooses (D-ii) while the OECF chooses (O-v) (located at the right-top box). We assume that the DPWH achieves a zero payoff. This payoff is equal to the payoff from choosing Option (D-v) when the OECF chooses Option (O-i). This reflects the DPWH's situation in which no option is dominant over the other as shown earlier. On the other hand, OECF gains the positive payoff +c. This is because the OECF can bring about the revision PD 1594, which would bring the bidding process in line with its policies. Next, we take a look at the case where the DPWH chooses (D-v) while the OECF chooses (O-v) (located at the right-bottom box). However, the DPWH gains the negative payoff –d because they may lose face or suffer a loss of reputation with the OECF. On the other hand, the payoff of OECF may also be negative (-e) because they need to use resources in the effort to intervene in local affairs despite their principles.

The equilibrium of this game depends upon the final nature of payoffs in the matrix, particularly the values of *b* and *c*. If *b* is greater than *c*, the game outputs the single Nash equilibrium, or the "status quo equilibrium." If *b* is equal to *c*, the game outputs two Nash equilibriums: one is the "status quo equilibrium," while the other is the pair of (D-ii) and (O-v). We call the new equilibrium the "intervention equilibrium." If *b* is smaller than *c*, the game outputs the single Nash equilibrium, the "intervention equilibrium." As the earlier sections show, the "intervention equilibrium" was observed in reality. This is taken to imply that *b* was equal to or smaller than *c*. This probably means that the OECF found a greater benefit in recommending the DPWH to amend PD 1594 than doing nothing.

4.5 Discussions

The empirical case study in the C-3 project gives us the lessons for the infrastructure investment project funded by foreign aid in the future. First, the outsider's intervention into the local politics is often effective for the local stakeholders to overcome the locked-in system. In our case, the bidding price negotiation system between the DPWH and the construction companies had become a long-standing practice. Thus, it had become difficult to change it

with discussions only among the local stakeholders. This appears to be because the stable equilibrium has been achieved among the local stakeholders. This situation can be regarded as the locked-in system. The outsider's intervention into the local politics is often effective for the local stakeholders to overcome such the locked-in system. Especially when the outsider is the donor to the local project, the influence of their intervention may be greater than the usual case.

Second, the indirect intervention may be more effective than the direct intervention. The indirect influence by the donor's intervention into the local politics may be effective if the local stakeholders are allowed to solve the domestic problems by themselves under the donor's guidance. As shown earlier, the OECF had the principle of non-intervention in the local political issues. Instead of direct intervention, they gave incentive to the DPWH to move from the status quo option into the institutional change option.

Third, the consultants can take an important role to enable the stakeholders to communicate smoothly. Although the main tasks of consultants are the technical assistance to the local planner/engineer, a kind of informal mediator is also sometimes expected both by donors and by local stakeholders. On the one hand, the consultants understand the donor's ideas well as the consultants are hired by the donors. In addition, the consultants often come from the same country as the donors. In such the cases, they can easily communicate together. On the other hand, the consultant staffs usually stay at the local office and work together with the local staffs for a long time. As they share the experiences under the same condition, they become to know each other well. Thus, the consultants can share the information of various stakeholders and coordinate them with such the information. One of the important expected results of consultant's coordination is that they can contribute to keeping the local stakeholder's ownership of the project. In the C-3 Project, as an adviser to the DPWH, the JOC probably showed the benefit of changing the PD1594 to the DPWH. As the DPWH was not formally forced to change, they could keep the ownership of (and credit for) the project.

5. CONCLUSIONS

This paper empirically identifies institutional spillover effects stemming from a road construction project funded by foreign aid and analyzes the mechanism of the effects by examining the behavioral process of the main actors, including the donor, recipient, consulting company, and local organizations. The Circumferential Road No.3 Construction Project in Manila, Philippines was used for the case study.

The paper demonstrated the example for institutional spillover effects in a transportation infrastructure project only during the implementation stage. Analyzing the behavioral process of the main actors also implicated the potential role of the donor and consultant company for institutional changes in the local organizations. However, there may be additional spillover effects after project implementation. For example, the changes in the institutional system or the lessons learned during the implementation of one project may bring about an impact on other infrastructure projects and cause further spillover effects. To verify such additional institutional spillover effects, it is necessary to investigate them with a long-term viewpoint. Although post-evaluations of investment projects are gradually being done by international aid organizations, these evaluations rarely include the institutional aspects of the project. It is highly recommended that these institutional evaluations be done to help open the "black box" and understand what really happened during the investment project. With this additional

knowledge, it will become possible to better facilitate transactions between governments and funding agencies.

ACKNOWLEDGMENT

This study was originally done under the project of "Aid Effectiveness to Infrastructure: A Comparative Study of East Asia and Sub-Saharan Africa" initiated by the Institute of Japan Bank of International Cooperation (JBICI). We greatly appreciate the many interviewees for their kind support to our study.

REFERENCES

Bourguignon, F., and Sundberg, M. (2006) **Aid Effectiveness – Opening the Black Box**. World Bank.

Cesar, C., and Serven, L. (2004) The effects of infrastructure development on growth and income distribution, World Bank Policy Research Working Paper, No. 3400, Washington D. C.

Datt, G., and Ravaillion, M. (1998) Why have some Indian states done better than others at reducing poverty, **Economica, Vol. 65, No. 257**, 17–38.

Jerve, A. M., and Nissanke, M. (2008) Aid effectiveness to infrastructure: a comparative study of East Asia and sub-Saharan Africa: framework paper, **JBICI Research Paper, No. 36-1,** 1–68.

Japan Bank for International Cooperation (1998) **Philippines: Metropolitan Area and Regional Roads Project Evaluation**.

Japan International Cooperation Agency (1978) **Feasibility Study of C-3 and R-4 and Related Project Roads**.

Kato, H., Diaz, C. E. D., and Onga, M. (2008) Aid effectiveness to infrastructure: a comparative study of East Asia and sub-Saharan Africa: Philippines case study, **JBICI Research Paper, No. 36-2**, 1–60.

Overseas Technical Cooperation Agency (1973) **Urban Transport Study in Manila Metropolitan Area (UTSMMA)**.

Overseas Economic Cooperation Fund (1994) **Circumferential Road 3 and Makati-Mandaluyong Road Projects: Final report**.

Salehi, E. H. and Ramirez, M. T. (2003) Institutions, infrastructure and economic growth, **Journal of Development Economics, Vol. 70,** 443–477.