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Major issues in transport: Innovative financing options for regional infrastructure development and maintenance

Innovative financing options for regional infrastructure development and maintenance

Note by the secretariat

Summary

Intraregional trade in Asia and the Pacific is growing, not only in terms of absolute volume but also in terms of diversity of products, stage of processing and geographic scope. To sustain this growth, Governments must invest in transport infrastructure and create an enabling environment for the growth of transport services. At the same time, growing populations and greater public expectations are exerting pressure on Governments to expand and upgrade domestic transport infrastructure. Faced with these challenges, ESCAP members and associate members have made financing transport infrastructure a priority issue for the region, as reflected in Commission resolution 68/4 on the implementation of the Ministerial Declaration on Transport Development in Asia and the Pacific, including the Regional Action Programme for Transport Development in Asia and the Pacific, phase II (2012-2016), and the Regional Strategic Framework for the Facilitation of International Road Transport and Commission resolution 69/6 on implementation of the Tehran Declaration to promote public-private partnerships in infrastructure development in Asia and the Pacific for sustainable development.

A number of innovative options that policymakers have at their disposal in order to finance infrastructure investment are highlighted in the present document; these include: mobilizing additional public revenues; providing financial support measures to attract further private sector involvement in infrastructure; and blending concessional and non-concessional financing for infrastructure financing. They are innovative not necessarily because they are new, but because they often involve a combination of old and new approaches in order to acquire "more for the same money". Recognizing the need to strengthen regional cooperation on the issue of financing transport infrastructure projects of regional importance, the document also contains a presentation of a number of regional mechanisms that might have the potential to address financing gaps in infrastructure investment in the region.

* E/ESCAP/FAMT(2)/L.1/Rev.1.

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I. Introduction

1. As intraregional trade in the Asia-Pacific region continues to expand, the demand for high-quality transport infrastructure and services is expected to grow. A recent study by the Organisation for Economic Co-operation and Development, for example, estimates that global passenger and freight travel will double between 2010 and 2050, and that nearly 90 per cent of this increase will be outside the region covered by that organization, including China, India and other Asian countries.[1] To accommodate this demand, cumulative expenditure on transport infrastructure investment (that is, capital construction) is projected to be $45 trillion by 2050. Meanwhile, it was estimated in a 2009 joint study by the Asian Development Bank and the Asian Development Bank Institute that transport infrastructure investment needs for the Asia-Pacific region would be of the order of $2.9 trillion for the period between 2010 and 2020.[2]

[1] As measured by person kilometres and freight tonne-kilometres. John Dulac, *Global Land Transport Infrastructure Requirements: Estimating Road and Railway Infrastructure Capacity and Costs to 2050* (Paris, Organisation for Economic Co-operation and Development/International Energy Agency, 2013), Information Paper. Available from www.iea.org/publications/freepublications/publication/TransportInfrastructureInsights_FINAL_WEB.pdf.

[2] Total investment costs for all major infrastructure sectors, namely electricity, transportation, telecommunications, water and sanitation, was estimated to be $8.2 trillion. Source: *Infrastructure for a Seamless Asia* (Tokyo, Asian Development Bank/Asian Development Bank Institute, 2009).

2. Aware of the challenges in funding transport infrastructure, ministers attending the second session of the Ministerial Conference on Transport, which was held in 2012, adopted the thematic area of "Finance and private sector participation" as part of the Regional Action Programme for Transport Development in Asia and the Pacific, phase II (2012-2016), which has the objective of promoting regional cooperation between the public and private sectors on financing and maintaining infrastructure.[3] More recently, the Commission, in its resolution 69/6 on implementation of the Tehran Declaration to promote public-private partnerships in infrastructure development in Asia and the Pacific for sustainable development, requested the Executive Secretary to assist members and associate members in meeting sustainable infrastructure development challenges through, among other things, the dissemination of information on public-private partnerships and the organization of meetings and regional networking arrangements aimed at promoting the exchange of experiences and information.

3. In view of these mandates, the aim in the present document is to highlight selected innovative financing options from the region and beyond that have been used successfully to finance transport infrastructure projects. They demonstrate a proactive and sometimes entrepreneurial response by Governments to finance their infrastructure development and maintenance plans.

4. In section II, there is an examination of several domestic sources of financing that, compared with other regions such as North America and Europe, are currently underutilized in the Asia-Pacific region. In section III, there is an update of the current status of public-private partnerships in the region, and several modalities through which Governments can provide financial support to attract more private finance to infrastructure projects are presented. In section IV, "blended" approaches, which combine concessional funding with non-concessional funding in order to make projects financially viable, are described. Finally, in section V, a number of possible regional mechanisms that could be further developed in collaboration with member States, as well as multilateral financial institutions and other funding bodies, to address the infrastructure gaps in the region are presented.

II. Mobilizing additional public resources

5. Public budgets, typically through allocations from the Ministry of Finance, have historically been the main source of infrastructure financing, and are likely to continue to be so. There is, however, an opportunity to increase transport revenues to support more investment in transport infrastructure. A recent review by the International Monetary Fund of revenue mobilization in developing countries found that, on average, the Governments of developing countries, including lower income countries, have maintained fairly stable levels of domestic revenue mobilization (measured as total government revenue as a percentage of gross domestic product) despite the recent global financial and economic crises.[4] The review also found that there is scope for increasing this taxation, especially in lower income countries, through focused and efficient revenue mechanisms.

[3] See Commission resolution 68/4 of 23 May 2012 on the implementation of the Ministerial Declaration on Transport Development in Asia and the Pacific, including the Regional Action Programme for Transport Development in Asia and the Pacific, phase II (2012-2016), and the Regional Strategic Framework for the Facilitation of International Road Transport.

[4] International Monetary Fund, "Revenue mobilization in developing countries", 8 March 2011.

6. In line with the "user pays" principle, which is gaining greater acceptance in Asia, there are two currently underutilized sources of domestic revenue generation that countries in the region may consider in order to fund infrastructure: fuel levies and land value capture mechanisms.

A. Fuel levies

7. Some countries, including India, the Lao People's Democratic Republic and Nepal, use fuel levies to finance new road construction and maintenance. These levies are in most part managed by dedicated road funds.[5] Fuel funds offer a relatively transparent source of financing, which is easy for the fuel supplier to collect and is easily and transparently accounted for. As they target fuel users, they can also be introduced in a coherent way with government policies to reduce pollution and greenhouse gas emissions.[6] In India, the money raised through the levy on petrol and diesel goes into a Central Road Fund; it amounts to 200 billion rupees ($4.3 billion) or roughly 34.5 per cent of the total estimated cost of the National Highway Development Plan. It also contributes to rural, state and inter-state roads.[7] Transfers from the Central Road Fund have also been used as security to leverage finance from commercial lenders.

B. Land value capture mechanisms

8. Value capture finance, or land value capture mechanisms, refer to a range of different measures that the public sector may use in order to create or "capture" the additional value and/or externalities generated from public sector investments and public and/or privately financed projects. While the mechanisms often involve complex financial and contractual arrangements, the concept is relatively simple: certain public measures, such as development of transport infrastructure, will add value to land and real estate, and this additional value (expected and actual) can be used to finance those measures. The mechanisms can be divided into either one-off or ongoing funding sources, although some may also be both. For example, local governments or transport development authorities may offer the right to develop land on a long-term lease basis or outright sale. According to one study, many cities in China have financed half or more of their urban infrastructure investment directly from land leasing, while borrowing against the value of land on their balance sheets to finance the remainder (see box 1).[8]

9. Certain forms of ongoing mechanism include betterment taxes and tax increment financing. Betterment taxes, or benefit assessments, target those that benefit from the increased accessibility created by transport infrastructure development. Such taxes range from direct land or property taxes; a tax on income generated from the sale of land and buildings that have increased in value after the introduction of the improvement measure; or taxes that are equivalent to the difference between the unimproved value of

[5] See E/ESCAP/MCT.2/6.

[6] For road funds in South Asia, see Jean-Noel Guillossou and Natalya Stankevich, "Assessment of road funds in South Asia region", Transport Note, No. TRN-37 (Washington, D.C., World Bank, 2008). Available from www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/02/12/000333037_20090212225234/Rendered/PDF/474310BRI0TRN111PUBLIC10Boxx334133B.pdf.

[7] See the website of the National Highways Authority of India: www.nhai.org.

[8] George E. Peterson, "Land leasing and land sale as an infrastructure-financing option", Policy Research Working Paper, No. 4043 (Washington, D.C., World Bank, 2006). Available from https://openknowledge.worldbank.org/bitstream/handle/10986/9020/wps4043.pdf?sequence=1.

the land and the higher value following re-zoning. In a public-private partnership project, the betterment tax can sometimes serve as the public sector's contribution. Meanwhile, tax increment financing estimates the level of development that will occur as a result of improvements in transport infrastructure, and uses this funding stream as the basis for securing a bond to help fund the transport scheme in the first place. Expected growth in property tax revenues are securitized to provide funds for infrastructure improvements. Such schemes have been used widely to finance urban transit projects in the United States of America, for example in Chicago.

Box 1
Examples of successful infrastructure projects that used land value capture mechanisms

The best-known project that used land value capture mechanisms to pay for itself is the Hong Kong Mass Transit Railway. The railway is now one of the major players in the property market in Hong Kong, China, using the profits from new housing projects along its urban railway lines to pay for the construction costs of new lines. But there are also other innovative examples from the region. For example, in order to finance the construction of a ring road in Changsha, Hunan Province in China, the municipality transferred leasehold rights to a public-private agency — the Ring Road Investment Corporation — for strips of land 200 metres wide on both sides of the road. Out of a total of 33 square kilometres of land, some 12 square kilometres was finished land, possessing infrastructure access and approval for development, while the remaining land had very little market value. Therefore, half of the total cost of the second stage (about $730 million) of the project was financed directly from the sale of leasehold rights on the land with infrastructure, while the other half was financed through borrowing against the future anticipated value of the improved land, namely through the sale of the remaining land. Mumbai's Metropolitan Region Development Authority used a similar approach by selling land in the Bandra-Kurla commercial centre to finance public works in the city. Land value capture mechanisms are successful when property rights are clearly recognized in law, and there are transparent and reliable systems for valuing land and property.

Sources: George E. Peterson, "Land leasing and land sale as an infrastructure-financing option", Policy Research Working Paper, No. 4043 (Washington, D.C., World Bank, 2006). Available from https://openknowledge.worldbank.org/bitstream/handle/10986/9020/wps4043.pdf?sequence=1; and Richard Dobbs and others, *Infrastructure Productivity: How to Save $1 Trillion a Year* (McKinsey Global Institute, 2013).

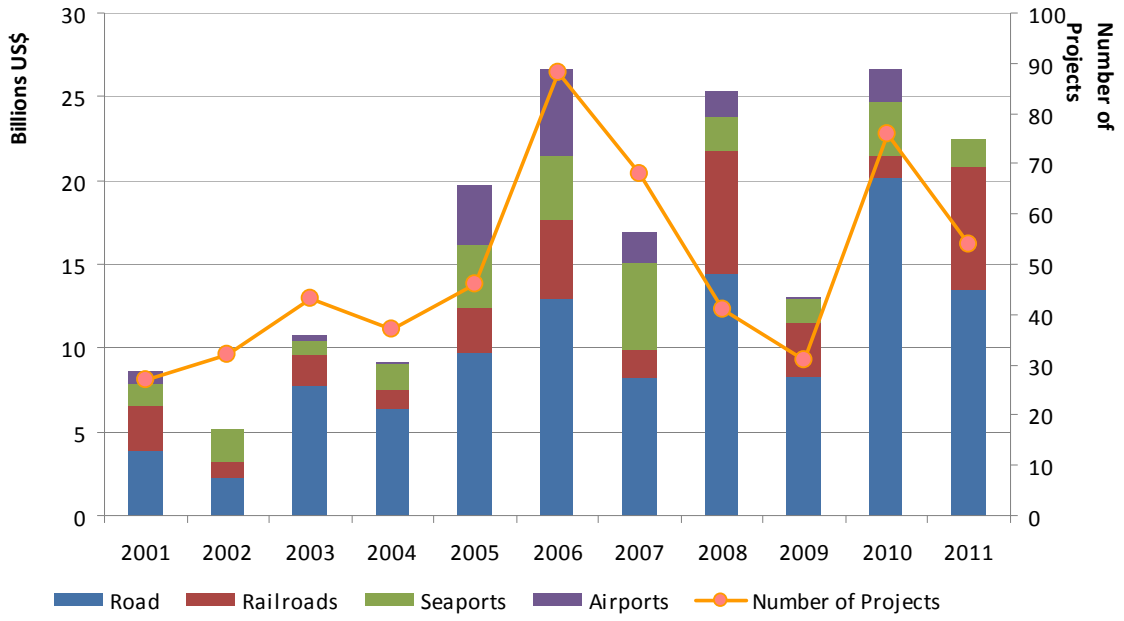
III. Attracting more private sector involvement in infrastructure projects

10. Over the last decade, developing countries in the ESCAP region have been taking measures to promote public-private partnerships as an alternative approach to developing infrastructure and services by utilizing the efficiency and innovation of the private sector at the same as enabling access to private sector finance.[9] During the period 2001-2011, resources mobilized through

[9] In the context of infrastructure projects, a public-private partnership describes a long-term contractual arrangement between the Government and one or more private companies, whereby the private companies provide building or rehabilitation works in exchange for operating rights. At the end of this period, the asset is usually transferred back to the Government.

public-private partnerships reached close to $200 billion, supporting approximately 550 projects in ESCAP member countries (figure 1). After a dip between 2007 and 2009 resulting from the global financial crisis, the value of investments with private sector participation has reached historical levels in recent years, with more than $20 billion mobilized in 2011. The lion's share of this investment (58 per cent) has been made in the road sector (mainly highways), followed by railways (18.7 per cent), seaports (14.4 per cent) and airports (8.4 per cent).

Figure 1
Trends in public-private partnerships in transport infrastructure in the Asia-Pacific region
(Total value in billions of United States dollars and number of projects)



Source: ESCAP estimates based on the Public-Private Infrastructure Advisory Facility (PPIAF) Database, information from the Korea Development Institute's Public and Private Infrastructure Investment Management Center (PIMAC) and the Infrastructure Australia website (www.infrastructureaustralia.gov.au).

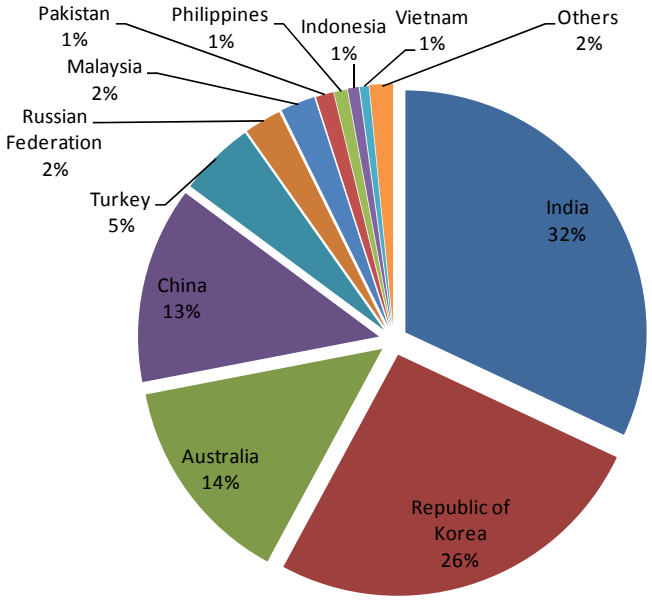
Note: For high-income countries, only projects for the Republic of Korea and Australia were included in the analysis.

11. As can be seen from figure 2 below, during the period 2001-2011 the geographic distribution of public-private partnerships in the region remained somewhat unbalanced, with India, the Republic of Korea, Australia and China accounting for over 80 per cent of total investments. However, several member States of the Association of Southeast Asian Nations (ASEAN), such as Indonesia, Malaysia, the Philippines and Viet Nam, are also increasingly using such partnerships to finance infrastructure projects.

12. It is worth noting that public-private partnerships still make up only a limited proportion of total investment in infrastructure, even in countries where they are very successful. In India, for example, no more than 20 per cent of investments in the road sector were financed by the private sector during the 11th plan (2007-2012), although this was a significant

increase from about 8.5 per cent under the 10th plan (2002-2007).[10] Similarly, in the Republic of Korea, investments by public-private partnerships in transport infrastructure (including transportation assets) dropped to around 10 per cent (2011 figure) from an earlier figure of 15 per cent.

Figure 2
Geographical distribution of public-private partnerships in transport infrastructure (2001-2011)



Source: ESCAP estimates based on the Public-Private Infrastructure Advisory Facility (PPIAF) Database, information from the Korea Development Institute's Public and Private Infrastructure Investment Management Center (PIMAC) and the Infrastructure Australia website (www.infrastructureaustralia.gov.au).

13. There are several arguments for adopting public-private partnerships as a means to develop large infrastructure projects. Apart from the fact that they allow a Government to access private sources of funding, it is argued that they allocate risks more efficiently between the public and private sectors, so that the risks are taken by the partners best equipped to handle them. For instance, past experience suggests that risks associated with construction can be better managed by private operators, thereby making projects more likely to be delivered on time and on budget. On the other hand, public authorities are in a better position to manage regulatory risks, such as those linked to construction permits or the use of land. Public-private partnerships are also believed to yield efficiency gains, as it is left to the private sector to design and construct according to the desired results rather than by specifying inputs.

14. As experience has shown, however, public-private partnerships are a complex mechanism involving a wide range of stakeholders, each with a fairly high level of expertise. They do not offer a "magic bullet" for resolving financing gaps, but can be a useful means to access private finance as well as create greater competition within the infrastructure development and management industry. Governments must therefore play a proactive role in developing and managing the projects of public-private partnerships,

[10] Gajendra Haldea, "Public private partnership in national highways: Indian perspective", Discussion Paper, No. 2013-11, (Paris, Organisation for Economic Co-operation and Development/International Transport Forum, 2013).

including through the provision of financial support measures. Some of the more popular types of financial support are described below.

A. Viability gap fund mechanisms

15. Transport infrastructure projects, like other projects traditionally implemented by Governments, are often considered socially desirable from a Government's perspective but are not financially viable and therefore cannot attract private sector finance. In a public-private partnership, Governments may thus choose to provide a one-off grant or other form of capital subsidy to make projects commercially viable. Usually, Governments will set certain conditions, such as the need for a private sector party or concessionaire of a project to expend its agreed share of the equity before government grants can be disbursed. Viability gap fund mechanisms are usually used during the construction phase and are therefore sometimes viewed as construction subsidies.

16. In India, for example, viability gap funding is provided for national highway projects. For example, the central Government may pay up to 20 per cent of the capital cost of a project while state governments may also pay up to 20 per cent, creating a viability gap funding grant of up to 40 per cent of build-operate-transfer projects.[11] The Department of Economic Affairs of the Government of India recently approved a viability gap funding grant for a metro railway project in the city of Hyderabad, Andhra Pradesh, of about $244 million, which constitutes 12.35 per cent of the total cost of the project.[12]

17. In Indonesia, the Government began developing a (viability gap funding) scheme to support the involvement of public-private partnerships in infrastructure investments in 2013.[13] Like the Indian model, projects must meet several conditions in order to receive funding, such as: a minimum investment of about $100 million; projects must be based on the "user pays" principle; and all other options have been discounted.[14] Meanwhile in Bangladesh, viability gap funding includes both capital grants, annuity payments or both, for up to 30 per cent of a build-operate-transfer project, excluding the cost of land.[15]

18. In the Republic of Korea, construction subsidies, which act as viability gap funding, can reach between 25 and 30 per cent for roads; 30 and 40 per cent for ports; and up to 50 per cent for railways, provided that these subsidies are required to keep user fees at an affordable level.

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[11] See India, Planning Commission, *Guidelines: Financial Support to Public Private Partnerships in Infrastructure* (New Delhi, Secretariat for the Committee on Infrastructure, 2005). Available from www.infrastructure.gov.in/pdf/Finance.pdf.

[12] www.thehindu.com/news/cities/Hyderabad/hyderabad-metro-rail-gets-rs-1458-crore-viability-gap-funding/article4693041.ece.

[13] Indonesia country report submitted to the third Asia-Pacific Ministerial Conference on Public-Private Partnership for Infrastructure Development, Tehran, 11-14 November 2012.

[14] See Freddy R. Saragih, "Role of Ministry of Finance to promote PPP infrastructure development". Available from www.jica.go.jp/press/2012/ku57pq000012e8t8-att/20130124_02_04.pdf.

[15] Bangladesh, "Guideline for Viability Gap Financing (VGF) for Public-Private Partnership (PPP) Project". Presentation made at the Indonesia PPP Infrastructure Investment Forum – Issues and Outlook for PPP Infrastructure Development in Indonesia, Tokyo, January 2013. Available from www.pppo.gov.bd/download/ppp_office/Guideline-for-VGF-PPP-Sep2012.pdf.

B. Direct government payments

19. Most projects that receive investments from public-private partnerships depend on a regular revenue stream to finance debt servicing as well as pay for ongoing operational and maintenance costs. In transport projects, these revenues may come from user fees, such as tolls, or from tax revenues described in the land value capture section above. However, some projects are deemed unsuitable for user-charging schemes and the Government may step in to provide the equivalent amount of revenue from the public purse. In these cases, two main systems have been used in the transport sector.

1. Shadow tolls

20. These are tolls that could have been charged to users, yet are paid to the concessionaire by the Government. These shadow tolls limit the risk of a possible negative impact resulting from the introduction of user fees. For example, the introduction of tolls may divert traffic to a toll-free alternative road that has less capacity, therefore resulting in a suboptimal distribution of traffic. Under such a system, the private concessionaire has an incentive to maintain the condition of the infrastructure so that it can attract as many users as possible.

2. Availability payments

21. Under this model, also known as the private finance initiative model, the private sector takes on the responsibility of building and operating a facility, and is expected to meet specified service levels for the duration of the contract period (typically 25-30 years) while the Government commits to paying the private sector for these services on a “no service, no fee” basis. However, private finance initiatives differ from public-private partnerships in that the Government commits to purchasing services from the private sector through a long-term agreement.

22. In the past, India used a private finance initiative-type model called the “annuity concession” model, under which the National Highways Authority of India agreed to pay the private operator a fixed, semi-annual payment (“annuity”) over an agreed period to compensate them for the construction, operation and maintenance costs of a given section of highways.[16] The typical operating and maintenance period was 10 years. From the Government’s perspective, this agreement was attractive because the private sector bore responsibility for bridge financing and performance risk, as well as any risks associated with higher than anticipated operational and maintenance costs. At the same time, it was attractive to the private sector because it guaranteed an income regardless of traffic levels and toll revenues. According to one analysis, the financial community was willing to fund such projects with debt-equity ratios of up to 75:25, compared with the 70:30 ratio of typical toll-based projects.[16]

C. State guarantees

23. Another way in which Governments can help shoulder the risk of projects is to offer guarantees to the private sector to assure them of a certain

[16] Kathleen Booth, “New approaches to PPP in the roads sector: India’s annuity concessions”, IP3’s Public-Private Partnership Information Series, August 2006. Available from www.ip3.org/ip3_site/new-approaches-to-ppp-in-the-roads-sector-india-s-annuity-concessions.html?print=1&tmpl=component.

level of revenue or that they will honour loans taken by the private sector in the event of a problem with repayment. There are several ways in which they can do this, including those described below.

1. Minimum traffic revenue guarantee

24. One type of guarantee that can be offered is the minimum traffic revenue guarantee, whereby the public partner guarantees revenues for a minimum number of vehicles at an agreed toll level. The Republic of Korea had a similar system, whereby a significant share of the projected revenue was guaranteed by the State. However, the system was deemed too generous and was exerting considerable pressure on the national budget; at the end of 2008, approximately $1.2 billion had been paid by the Government in the form of minimum revenue guarantee subsidies.[17] The system was discontinued the following year. A risk-sharing structure was introduced through which the Government ensures that the operational revenues of the public-private partnerships allow for a return at least equivalent to the rate of the government bond. On the other hand, a mechanism for reimbursing the Government is foreseen if revenues for the private sector grow beyond a specified threshold in the subsequent years of operation.

25. Overall, minimum revenue guarantees are important as they can ease the concerns of private investors regarding the actual traffic levels. This is particularly relevant as traffic forecasts tend, on average, to be overly optimistic for toll roads. A study has estimated that, on average, toll road forecasts have an optimistic bias of 23 per cent compared with actual traffic.[18] Such bias is even greater in countries that do not have a strong history of having toll roads. As research did not show the same bias for toll-free roads, it could be inferred that overestimation of traffic might be generated by the operator seeking to win a long-term contract and fearing renegotiation of future charges.

2. Default guarantee

26. A Government might also have to issue guarantees known as “default guarantees” to allow private promoters to access commercial loans. For instance, the Government could decide to cover the potential liabilities of the public-private partnership vis-à-vis its lenders, in order to enhance the creditworthiness of the operation, as has been done for some projects in Turkey. Care is needed here, however, to avoid the private sector being in a “no lose, no incentive” situation.

27. Similar financial instruments have also been created to improve the ability of the private party to honour debt servicing during the initial operating period or “ramp-up” phase of the project, when risk of default is at its highest. Indeed, the potential for project “distress” is at its highest during the early years of the project life cycle, when debts have been taken on and cash flow has just started (that is, there is no more of a liquidity cushion). An example of these instruments is the Loan Guarantee Instrument for Trans-European Transport Network Projects developed by the European Investment

[17] Jay-Hyung Kim and others, *Public-Private Partnership Infrastructure Projects: Case Studies from the Republic of Korea – Volume 1: Institutional Arrangements and Performance* (Mandaluyong City, Philippines, Asian Development Bank, 2011). Available from www.adb.org/sites/default/files/ppp-kor-v1.pdf.

[18] Robert Bain, “Error and optimism bias in toll road traffic forecasts”, *Transportation*, vol. 36, No. 5 (February 2009), pp. 469-482. Available from http://ibtta.files.cms-plus.com/PDFs/Error%20and%20optimism%20in%20traffic%20predictions.pdf.

Bank and the European Commission. Finally, some countries have also set up dedicated funds to issue guarantees designed to improve the creditworthiness of public-private partnership projects. For example, the Indonesia Infrastructure Guarantee Fund was created in 2010 [19] and the Korean Infrastructure Credit Guarantee Fund was established in 1994.

28. Beyond usage and default guarantees, other guarantees that have been developed to cover the other risks of public-private partnerships include guarantees required for protecting private operators against policy risk (for example, the introduction of perverse incentives, expropriation without compensation), *force majeure* or macroeconomic risk (for example, currency devaluation when revenues are in a local currency). Overall, all these guarantees may have substantial implications in the long run and will need to be carefully assessed. [20] As a basic principle, these guarantees should be limited as regards both duration and amount, and should allow for apportionment of the potential economic gains. There is also a growing demand and need to ensure that these contingent liabilities and guarantees are correctly reflected in national accounts.

D. Subordinate debt financing

29. Subordinate debt financing is a mechanism that allows Governments to reduce risk to senior debt lenders and thereby make a project more attractive.[21] Because subordinated debts are repaid after senior debts, they are more risky, but they also allow the debt of a project to be split into more and less risky forms, thereby improving credit quality to an extent that would not have been possible otherwise. With better credit ratings, a project may be able to attract bond financing, and, as the cost of bond financing is generally lower than commercial borrowing from banks and financial institutions, it can significantly enhance the financial viability of a project.

30. The availability of subordinate debt therefore helps in reducing the risk to senior debt lenders and helps the implementing agency to obtain loans at a lower interest rate, thus reducing the debt burden on the project. Because of this feature of subordinate debt, some Governments provide loans to implementing agencies (under public credit assistance programmes) to improve the credit quality of senior debt.

IV. “Blending” concessional and non-concessional financing

31. Given mounting public pressure to reduce official development assistance budgets, and the expected reduction in concessional lending by multilateral development banks, there has been growing interest among donor countries in new approaches that use limited concessional resources, including grants, to leverage non-concessional resources. This helps to increase the absolute size of the pool of resources for infrastructure development. There are several reasons why different stakeholders are

[19] For further details, see, Price Waterhouse Coopers, “The report: Indonesia 2012”. Available from www.pwc.com/id/en/publications/assets/thereport_indonesia 2012_obg.pdf.

[20] Further information on state guarantees is available in European PPP Expertise Centre, *State Guarantee in PPPs – A Guide to Better Evaluation, Design, Implementation and Management* (Luxembourg, 2011). Available from www.eib.org/epec/resources/epec-state-guarantees-in-ppps-public.pdf.

[21] Senior debt is debt that takes priority over other unsecured or otherwise more “junior” debt owed by the issuer. Senior debt is secured by collateral that can be sold to repay the senior debt holders. As such, senior debt is considered lower risk.

interested in “blended” approaches, whereby concessional funding is combined with non-concessional funding to meet the financing needs of a project, as described in paragraphs 32 to 34 below.

32. *Improving a project’s financial viability*: as described above, viability funding gaps in public-private partnerships illustrate how a public grant can make an infrastructure project sufficiently profitable to attract private sector interest. In the same way, blending grants with loans can reduce the overall cost of the project and make it financially viable. In particular, such blended approaches can help lower-income countries meet the concessional requirements of the International Monetary Fund (for example, a minimum 35 per cent grant for external financing).

33. *Covering risk that other financial partners are not ready to take*: donor grants can also reduce the risk associated with a specific type of operation and consequently attract more funding resources. Regional transport projects, for example, are generally perceived to entail higher risk than national transport projects, due to the fact that more than one country is involved (see section V below). The European Union has therefore used blended financing with some success to offset the perceived risks in large infrastructure projects in Europe. For example, risk-sharing instruments have been developed in the context of the Connecting Europe Facility, whereby grants from the European Union’s budget cover a portion of the risk that the European Investment Bank takes when it finances infrastructure projects related to trans-European transport networks. More than $40 billion worth of grants from the European Commission have been tentatively allocated for this purpose for the period 2014 to 2020, which the European Investment Bank is using to attract more private investors.

34. *Targeting finance to common policy goals*: it is interesting to note that donor countries and organizations are also increasingly interested in using blended approaches to channel funds to projects that have perceived benefits and a positive long-term impact, but would otherwise not be funded due to lack of financial viability. This is the case of some regional transport projects, as well as many sustainable transport projects in which traditional cost-benefit analysis fails to capture the positive externalities (for example, reduction of congestion in other parts of the network or diminution of health expenditure by reducing air pollution levels). Box 2 provides examples of how climate investment funds are leveraging concessional funds to gain greater access to private funds, in order to support projects that will result in an overall reduction in greenhouse gas emissions. Other examples of such blended approaches are given in section V below.

V. Establishing regional mechanisms for infrastructure financing

35. Having already presented possibilities for increasing the mobilization of public resources and financial measures to boost private sector participation in infrastructure development, and for optimizing the use of concessional resources, it is worth considering how regional projects could be further supported. Regional transport projects are, by their very nature, more complex than national ones, as they require much greater coordination and the value they generate depends heavily on all parties completing their share of the work. The cost and impact of such projects might also be unevenly

Box 2
Climate investment funds

Established in 2008, climate investment funds refer to a set of financing and risk mitigation instruments (including grants and highly concessional financing) that help developing countries achieve climate-smart development. Administered by the multilateral development banks, including the Asian Development Bank and the World Bank, the funds leverage financing from multilateral development banks themselves and from other donors as well as the private sector. The two main types of funds are the Strategic Climate Fund and the Clean Technology Fund. The latter had received $5.2 billion of pledges at the end of 2012 and can provide concessional resources for sustainable transport.[a]

Several countries are already benefiting from this source of funding. In the Philippines, $105 million of such financing is expected to leverage $400 million for the e-Trikes programme (small, solar-powered vehicles) and $50 million of climate investment financing is expected to leverage $300 million for rapid bus transit and traffic systems in Cebu City and Manila. In Viet Nam, climate investment financing will support rail and bus systems in Hanoi and Ho Chi Minh, improving public transport services and reducing greenhouse gas emissions from Viet Nam's rapidly growing transport sector.

Another "green" mechanism is the Green Climate Fund based in Incheon, Republic of Korea. This is the fund within the framework of the United Nations Framework Convention on Climate Change, which is expected to be one of a range of funding channels to achieve the long-term goal of mobilizing $100 billion per annum in climate finance by 2020 from a range of sources, both public and private. Work is currently ongoing to make it fully operational. Although it is difficult to anticipate the operational modalities of the fund, it is likely that transport will be one of the sectors to benefit from the resources that are leveraged.

[a] Climate Investment Funds, 2012 Annual Report: Creating the Climate for Change (Washington, D.C., 2012). Available from www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/2012_Annual_Report.pdf.

distributed among the countries involved, resulting in further complexities and a varying degree of commitment. In addition, institutional obstacles, such as inefficient cross-border procedures, may reduce the benefit of these projects and could pose additional legal, political and administrative barriers.

36. In the absence of dedicated instruments or concessional resources, it is likely that many regional projects will not be financed, thereby resulting in a potentially significant economic loss for all countries in the region. Although the region encompasses various institutional mechanisms for coordinating transport infrastructure development, such as the Working Group on the Asian Highway, very few are coupled with dedicated financial mechanisms that could support implementation of the projects that are identified. The following section presents several potential mechanisms that can help in pooling the financial resources that are required in further developing and upgrading regional transport networks.

A. Regional funds

37. In 2010, ASEAN member States and the Asian Development Bank (ADB) set up the ASEAN Infrastructure Fund, with an initial equity base of $485 million, of which $335 million is provided by ASEAN members and the

remaining $150 million from ADB. One of the goals of the fund is to support implementation of the Master Plan on ASEAN Connectivity by lending $4 billion to ASEAN members through to 2020. While the fund itself will function as a limited liability company, ADB is administering it, and approximately six infrastructure projects are expected to be financed each year from the fund. In June 2013, it was announced that the fund will begin its lending operations in the second half of 2013, with about $1 billion of capital to finance projects over the next three years.[22] It is still too early to say whether the fund will expand access to finance for the poorest countries in the region; this may be possible if it is combined with other concessional sources, such as grants.

38. Under the auspices of the South Asian Association for Regional Cooperation, the South Asian Development Fund was established in 1996 with a similar purpose, that of funding infrastructure projects, but its scope remains much smaller than that of the ASEAN Infrastructure Fund.

B. Multi-donor platform for regional infrastructure financing

39. Another approach for enhancing regional cooperation is to develop a multi-donor platform designed to collect grants from different donors, and to subsequently allocate them to different implementing partners (for example, financial institutions). As such, the grants provided by the multi-donor platform would complement the loans provided by participating international financial institutions. This is actually the approach recently developed by the European Union and its member States whereby the grants they provide are used to leverage loans from different national and multilateral public financial institutions.[23] Two such mechanisms are relevant to Asia — namely, the Investment Facility for Central Asia and the Asia Investment Facility — and are endowed with significant amount of grants (for the former, about $80 million during the period 2010-2013). Transport is, however, currently not eligible under these frameworks, though this might change in the future.

40. Such multi-donor mechanisms could be particularly relevant for the poorest countries in the region, since grants could enhance the financial viability of regional transport projects. This coordination platform could also be responsible for developing risk-sharing mechanisms designed to attract more private sector investors or for using concessional resources to foster regional infrastructure projects. By gathering all the major actors active in infrastructure financing around a common financial mechanism, such a regional approach might have additional merits compared to traditional bilateral cooperation, such as:

(a) Supporting identification and prioritization of regional projects;

(b) Providing a broader choice for channelling donor resources, as the platform will be open to various financial institutions;

(c) Creating more transparency about both the funds provided and the strings attached, while improving the exchange of information so as to enhance the future coherence of the various regional projects;

[22] Asian Development Bank, “ASEAN Infrastructure Fund readies $1 billion pipeline for lending operations”, 1 May 2013. Available from www.adb.org/news/asean-infrastructure-fund-readies-1-billion-pipeline-lending-operations.

[23] For further information, see European Commission, “Promoting investment through the Neighbourhood Investment Facility (NIF)”. Available from http://ec.europa.eu/europeaid/where/neighbourhood/regional-cooperation/irc/investment_en.htm.

(d) Reducing administrative costs compared with an ad hoc approach;

(e) Facilitating collaboration among participating institutions, including at the project level (for example, harmonization of procedures);

(f) Offering a framework for developing new ideas and concepts to support the financing of future infrastructure projects.

C. Regional project preparatory facility

41. Another way in which regional cooperation could be enhanced would be to create a facility to help countries prepare projects. Most countries lack potential bankable projects simply because they do not have the legal and technical expertise to design and formulate projects that are attractive to potential investors. To overcome this issue, some countries, such as Indonesia, have established dedicated project development facilities within the institutional framework of the Government.

42. The formulation of regional transport projects is even more costly and time-consuming due to the lack of data, such as cross-border traffic flows. Some analysts have called for the creation of an "Asian infrastructure financing fund" to help Governments prepare bankable projects for private co-financing.[24]

VI. Issues for consideration

43. Those attending the Forum may wish to share their views on the challenges of financing transport projects in their countries and comment on the various financing options for transport infrastructure development that have been described in the present document.

44. The Forum may also wish to guide the secretariat on ways to support Governments in the following areas:

(a) Building the capacity of Governments to establish and strengthen mechanisms for tapping into domestic resources, particularly for the financing of road maintenance over the lifespan of the infrastructure;

(b) Strengthening the regional network of public-private partnerships and programmes to facilitate the exchange of experiences and information among Governments and thereby enable them to work more effectively with the private sector;

(c) Facilitating the exchange of information and attracting more active participation from multilateral development banks, bilateral donors and the private sector in financing regional transport infrastructure projects, particularly those with cross-border implications, such as those falling along the Asian Highway or Trans-Asian Railway and in proximity to dry ports of international importance, through, among other things, greater participation in the Asian Highway and Trans-Asian Railway investment forums and other regional meetings to discuss infrastructure financing.

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[24] Biswa Nath Bhattacharyay, "Financing Asia's infrastructure: modes of development and integration of Asian financial markets", Working Paper Series, No. 229 (Tokyo, Asian Development Bank Institute, 2010). Available from www.adbi.org/files/2010.07.12.wp229.financing.asia.infrastructure.pdf.