

## **PROGRAM IMPACT ASSESSMENT**

### **I. Summary**

1. This Program Impact Assessment (PIA) describes the impacts (benefits and costs) of the Expanding Private Participation in Infrastructure Program (EPPIP) on the infrastructure sector and the wider Philippines economy. It starts by identifying a number of problems that were facing the sector (and the impacts of these problems on the wider Philippines economy), and then outlines the key components of the program and the ways in which these program components affect private participation in infrastructure. It quantifies the costs associated with the program and identifies the benefits which, by virtue of the long lead times associated with infrastructure investment, are in their early stages of manifestation. The assessment starts with a brief review.

2. The net benefits (benefits minus costs) of EPPIP are estimated to be \$1.3 billion. The gross benefits are estimated to be \$2.5 billion. Benefits arise in two main ways: an increase in the overall level of infrastructure investment, with a resulting increase in value added (this benefit has not been quantified in the PIA); and an increase in the efficiency of infrastructure investment through the lower costs of public-private partnership (PPP) infrastructure projects compared to government infrastructure projects — again, resulting in an increase in value added (estimated to be \$2.5 billion). The main assumption underpinning this estimate is that PPPs are 15% more efficient than government infrastructure projects. However, EPPIP is assessed as still delivering a quantified net benefit if PPPs are assumed to be just 7.5% more efficient than government projects.

3. The costs of EPPIP are estimated to be \$1.2 billion (over the period June 2013 to June 2017). These comprise budgetary costs to the Government of the Philippines (\$150 million) in building its capacity to effectively and efficiently undertake public-private partnerships, a portion of the potential costs to the Government of the Philippines associated with contingent liabilities (about \$820 million), and the costs to the private sector of submitting bids for PPPs (\$250 million).

4. Some significant other potential budgetary outlays by the Government of the Philippines are associated with PPPs (\$3.6 billion). These relate to provisions for right-of-way and resettlement costs, access (interface) infrastructure, viability gap funding and contingent liabilities. These outlays and provisions have not been assessed as part of the costs of EPPIP because they are likely to be incurred by the government regardless of whether an infrastructure project is undertaken as a PPP or a government infrastructure project.

### **II. Program Impact Assessment: Methodology**

5. As a tool, the PIA provides a flexible methodology for the systematic analysis of reforms to ensure they achieve their defined policy objectives in a cost effective manner. As a process, PIA incorporates evidence-based approaches to regulatory development and policy formulation, considering available options for reform through consultation and regular questioning of policy assumptions. PIAs identify the channels of policy impact, both positive and negative, thus essentially providing a qualitative description of policy reforms, but also quantifying in dollar terms, to the extent possible, the impact of reforms. The PIA methodology assists in minimizing adjustment costs from reforms, and helps justifying the proposed regulatory reforms on the basis of the expected net benefits. To achieve these objectives, this

PIA is structured along three steps: a) development problems and constraints; b) PPP reform program; and c) estimation of the costs and benefits of the reforms.

6. In the assessment of costs and benefits of reform options, the PIA will aim to identify the channels through which the policy reforms incorporated into the program translate into benefits and costs (expenditure items). The PIA will, to the extent possible, quantify both benefits and costs from the proposed program in order to provide an estimate of net benefits. In presenting the results of the PIA, both a summary of the main costs and benefits from the expected reforms, as well as the key assumptions underlying the estimates will be offered. The PIA should show indication that the net benefits from the proposed program outweigh the costs and maximize net benefits. The estimation of costs from the reforms relies, when possible, on government estimates and official budget figures or budget proposals included in planning documents.

### III. Development Problem and Constraints

7. **The quality of infrastructure in the Philippines is poor compared to most of its regional neighbors, the result of years of under-investment.** The World Economic Forum's *Global Competitiveness Report 2014–15* ranks the Philippines 95<sup>th</sup> out of 144 countries on the quality of its overall infrastructure. Although this represented a slight improvement on the previous year's ranking (98<sup>th</sup>), the Philippines still ranked behind Singapore (5<sup>th</sup>), Malaysia (20<sup>th</sup>), Lao PDR (66<sup>th</sup>), Indonesia (72<sup>nd</sup>) and Thailand (76<sup>th</sup>), but ahead of Cambodia (109<sup>th</sup>) and Viet Nam (112<sup>th</sup>).

8. The report ranked the Philippines 87<sup>th</sup> on the quality of its road infrastructure, 80<sup>th</sup> on the quality of its railroad infrastructure, 101<sup>st</sup> on the quality of its port infrastructure, 108<sup>th</sup> on the quality of its air transport infrastructure and 87<sup>th</sup> on the quality of its electricity supply. The report put inadequate supply of infrastructure at second on the list of most problematic factors for doing business in the Philippines.

9. In the IMD's *World Competitiveness Yearbook, 2014*, the Philippines also ranked low in basic infrastructure (55<sup>th</sup> out of the 60 countries surveyed), behind Malaysia (13<sup>th</sup>), Thailand (28<sup>th</sup>) and Indonesia (39<sup>th</sup>). HSBC's 2011 Asian Infrastructure Measure for the Philippines was the lowest among the 11 surveyed Asian countries and the country's infrastructure investment needs during 2010–2030 were assessed at \$700 billion (HSBC 2013).

10. Links between infrastructure, economic growth and poverty reduction are well established, as noted in the *Global Competitiveness Report*:

Well-developed infrastructure reduces the effect of distance between regions, integrating the national market and connecting it at low cost to markets in other countries and regions. In addition, the quality and extensiveness of infrastructure networks significantly impact economic growth and reduce income inequalities and poverty in a variety of ways. A well-developed transport and communications infrastructure network is a prerequisite for the access of less-developed communities to core economic activities and services. (World Economic Forum 2015, p. 6)

11. The Philippine Development Plan, 2011–2016 identified the country's inadequate infrastructure as a critical constraint to economic growth. It noted that this inadequacy — in quality and quantity — was the result of low levels of public and private sector investments in infrastructure. The mid-term update of the Philippine Development Plan 2011–2016 (2014) stated the government's strategy to invest massively in infrastructure development by increasing public infrastructure spending to at least 5% of GDP by 2016.

12. By 2014, the level of infrastructure development had increased to around 3.5% of GDP reflecting, amongst other things, reforms undertaken since 2010 and a declining level of government debt.

13. **Private participation in infrastructure investment is very low compared to international benchmarks.** From a peak of 6% of GDP in 1998, private sector investment in infrastructure fell to an average of just 2% of GDP over the period 2000 to 2012, and just 0.4% in 2013. The declining rates of private participation since the 1990s reflect a combination of the impacts of economic shocks and a number of governance issues that arose with some of the public-private partnership projects undertaken in the 1990s. These issues included large government outlays for contingent liabilities (such as “take or pay” agreements) and unsolicited bids that were not competitively tendered. Subsequently, the Government of the Philippines pulled away from private involvement in infrastructure investment.

14. **Greater private participation in infrastructure offers potential for substantial improvements in efficiency.** While all forms of investment have risks, infrastructure projects contain some risks that governments are generally better placed to bear and some risks that the private sector is generally better placed to bear. Efficiency is enhanced when the parties that are best placed to carry risks actually do so. For example, the private sector is generally better equipped (and incentivised) to bear project risks and market (demand) risks while the government is generally better placed to retain responsibility for sovereign risks (such as political and regulatory risks) over which it has more control.

15. By largely limiting itself to public provision of infrastructure, the Government of the Philippines has been foregoing the potential efficiency gains of private participation. Various studies have found private participation in infrastructure tends to provide significant benefits in terms of projects being delivered on time and on budget (details of several studies are provided later in the PIA).

16. **The Philippines has lacked the institutional architecture and policy environment to attract and manage private involvement in infrastructure.** An institutional architecture and policy environment is required to make private participation attractive to investors and to ensure that governments (taxpayers) receive ‘value for money’ from such private participation.

17. Despite a number of reforms being undertaken between 2010 and 2012, and the establishment of a number of institutional arrangements to facilitate and administer PPPs, a range of significant impediments and challenges still remained: incomplete PPP legal and regulatory frameworks; weak government capability to manage PPP project implementation; concerns over the sustainability of budget funding for the government’s direct and contingent liability obligations in PPPs; concerns over the fairness of the PPP project procurement process; a lack of private participation in local government unit (LGU) infrastructure; a lack of long term integrated infrastructure planning to better inform investors’ decisions; and a lack of financing mechanisms and instruments to leverage capital market-driven, long-term financing for a growing PPP project outline.

#### **IV. Reform Program**

18. The three enabling outputs of EPIP — designed to address the problems and constraints outlined above — are: strengthened government financial support to PPPs; expanded and efficiently implemented pipeline of PPP projects; and strengthened legal and

regulatory frameworks for PPPs. All of the EPIP reform measures, listed below, work towards the achievement of one or more of the above outputs.

19. Funding of right-of-way and land acquisition, resettlement and interface infrastructure will ensure the government has the capacity to address the risks associated with these matters — risks that it is better placed to bear than the private sector.

20. A viability gap-funding scheme will help to ensure the government has the capacity to address government objectives that the private sector traditionally does not have responsibility for (such as social equity outcomes).

21. Strengthened management systems for, and funding of, PPP contingent liabilities will help to achieve a balance between minimizing the government's exposure to fiscal costs on one hand and, on the other, offering an attractive risk-return proposition for private investors to ensure adequate investor interest, competitive bidding for PPPs, and bankability.

22. Facilitation of infrastructure finance mechanisms and tools to leverage capital market resources for PPPs will help to increase the availability of investment funds for private participation in infrastructure projects.

23. Improved long-term infrastructure planning will assist the private sector in its longer term strategic planning for participation in PPPs.

24. Increased institutional scope of the project development and monitoring facility (PDMF) to cover development of LGU PPPs will help to boost private participation in infrastructure at the local level.

25. Improved PPP project implementation oversight, procurement procedures, and audit will help to provide greater assurance that PPPs will deliver "value for money".

26. An improved PPP project appraisal system will promote learning and expertise in government agencies, and improve the efficiency and effectiveness of their operations.

27. Institutionalization of PPP management systems in national and local government contracting agencies will provide increased assurances and hence increased confidence and certainty for governments and private investors.

28. Amendments to the Build-Operate-Transfer (BOT) law to sustain the improved PPP institutional, procedural, budgetary, and regulatory frameworks will provide increased assurances and hence increased confidence and certainty for governments and private investors.

29. Development of PPP-related implementing regulations and guidelines (for example, on alternative dispute resolution mechanisms, material adverse government action and termination payments) will provide increased assurances and hence increased confidence and certainty for governments and private investors.

30. Implementation of PPP regulations and procedures, including those arising from eventual adoption of amendments to the BOT law, will provide increased assurances and hence increased confidence and certainty for governments and private investors.

## V. Estimations of the Benefits and Costs of the Reforms

31. Table 1 summarizes the main features of the reforms that the staff has identified for EPPIP. These benefits are not exhaustive, but provide an indication of the key impacts.

**Table 1: Summary of economic impacts of EPPIP reforms**

Name of reform	Enabling Outputs			Summary of Economic Impact
	Output 1	Output 2	Output 3	
Sustainable budget funding of right-of-way and land acquisition, resettlement and interface infrastructure	*	*		This improves bankability of PPP projects, leading to more competitive bidding for projects (efficiency gains), and facilitates the substitution of government projects with PPPs (efficiency gains).
Development and operationalization of viability gap funding scheme	*	*		This improves bankability of PPP projects, leading to more competitive bidding for projects (efficiency gains), and facilitates the substitution of government projects with PPPs (efficiency gains).
Strengthening of systems for management and funding of PPP contingent liabilities	*	*		This improves bankability of PPP projects, leading to more competitive bidding for projects (efficiency gains), and facilitates the substitution of government projects with PPPs (efficiency gains).
Facilitation of infrastructure finance mechanisms and tools to leverage capital market resources for PPPs	*	*		This increases the availability of investment funds for private participation in infrastructure projects, leading to more competitive bidding for projects (efficiency gains), and facilitates the substitution of government projects with PPPs (efficiency gains).
Improved long-term infrastructure planning		*		Improved information provision assists the private sector in undertaking longer term strategic planning for participating in PPPs, leading to more competitive bidding for projects (efficiency gains), and facilitating the substitution of government projects with PPPs (efficiency gains).
Increased institutional scope of the project development and		*		Increased use of PPPs by LGUs displaces LGU-delivered infrastructure projects (efficiency gains).

Name of reform	Enabling Outputs			Summary of Economic Impact
	Output 1	Output 2	Output 3	
monitoring facility (PDMF) to cover development of LGU PPPs				
Improved PPP project implementation oversight, procurement procedures, and audit		*		This will help to ensure PPP projects are delivered efficiently and contractual obligations are met (efficiency gains).
Improved PPP project appraisal system		*		This will promote learning and expertise in government agencies, leading to better PPP practices (efficiency gains).
Institutionalization of PPP management systems in national and local government contracting agencies		*		This will increase assurances and confidence for governments and private investors, facilitate the substitution of government projects with PPPs (efficiency gains) and improve PPP practices (efficiency gains).
Amendments to the BOT law to sustain the improved PPP institutional, procedural, budgetary, and regulatory frameworks		*	*	This will increase assurances and confidence for governments and private investors, facilitate the substitution of government projects with PPPs (efficiency gains) and improve PPP practices (efficiency gains).
Development of PPP-related implementing regulations and guidelines (e.g., alternative dispute resolution mechanisms, material adverse government action, and termination payments)		*	*	This will increase assurances and confidence for governments and private investors, facilitate the substitution of government projects with PPPs (efficiency gains) and improve PPP practices (efficiency gains).
Implementation of PPP regulations and procedures, including those arising from eventual adoption of amendments to the BOT law		*	*	This will increase assurances and confidence for governments and private investors, facilitate the substitution of government projects with PPPs (efficiency gains) and improve PPP practices (efficiency gains).

LGU = local government units, PPP = public-private partnerships.

32. **The base case against which EPPIP is assessed.** The impacts of EPPIP are assessed against the institutional architecture, policy settings and level of private participation in infrastructure before EPPIP commenced — that is, at June 2013. This represents the base case against which the impacts of EPPIP are measured.

33. At that time, with the support from ADB under TA 7796-PHI cofinanced with the governments of Australia and Canada, the government had already implemented some measures intended to address the issues that were constraining private participation in infrastructure, including: establishing a public office for PPP program facilitation (the PDMF has subsequently become a standard mechanism for producing bankable solicited PPP projects at national government level); amendments to the implementing rules and regulations (IRRs) of the BOT law (amendments adopted in July 2012); additional funding allocated under the Strategic Support Fund for PPPs to selected line departments for 2013 to cover the government's share in PPPs; guidelines for agency submissions to each funding source issued to streamline the budgeting processes for the Strategic Support Fund and the PDMF (in March 2012); and an executive order on the mainstreaming of alternative dispute resolution mechanisms in PPPs (issued in July 2012).

34. **Efficiency of PPPs versus government projects.** As noted above, one of the major benefits of EPPIP is the efficiency gains associated with substituting government infrastructure projects with PPP infrastructure projects. These gains can arise when the government, having assessed that a potential project meets its rate of return requirements, invites private investors to bid for the project, thus facilitating the substitution of a government project for a PPP.

35. Notwithstanding the fact that governments tend to have access to cheaper finance than private investors, there is considerable evidence to support the view that PPP projects are generally more efficient than government infrastructure projects. The United Kingdom National Audit Office (2003; 2005) compared the construction performance of PPP and traditional procurement. It found that only 30% of conventional projects were on time and only 27% were within budget. By contrast, PPPs were largely delivered on time or early (76%) and on budget (78%). The National Economic and Development Authority's (NEDA) Official Development Aid Portfolio Review CY2012 (2013) found that development projects in the Philippines, including many infrastructure projects, were beset with delays and cost overruns — for example, of 57 programs/projects in 2012, 30 were delayed while only 16 were on schedule or ahead of schedule (the other 11 were new or in their start-up stage).

36. A number of studies have compared the costs of PPPs against traditional government infrastructure projects. Grimsey and Lewis (2007) reported on six such studies in order to assess the 'overall gains from PPPs' (pp. 175–176). These six studies found average PPP savings against traditional infrastructure projects of 13%, 17%, 20%, 5 to 40%, 9% and 6 to 15% respectively. An Australian study (Infrastructure Partnerships Australia 2007), based on detailed analysis of publicly available data for a sample of 21 PPP projects and 33 traditional projects, found relative cost efficiency of PPPs against traditional procurement ranging from 30% when measured from project inception, to 11% when measured from contractual commitment to the final outcome.

37. Some types of infrastructure projects are better suited to PPPs than others. For example, PPPs appear particularly suited to those infrastructure projects where objective service standards can be defined and enforced, making the quality contractible. Once service standards have been set, the project company can select the most efficient (least cost) way of meeting the standards. Most transportation infrastructure — roads, ports, airports and railways

— falls into this category. In situations where quality is not contractible, the choice of PPPs is not as clear cut — sometimes traditional public provision may be preferable while in other situations outright privatization may be the most efficient option (Engel et al, 2014).

38. **Sources of efficiency gains from EPIP.** Efficiency gains from EPIP can arise in a number of ways. First, they can arise from the lower project costs associated with PPPs. PPPs encourage improved up-front consideration of project risks, and the delivery of projects “on budget”. This is because private participants generally have stronger incentives than governments to identify project risks at the beginning of the project, and to manage all of the design, construction, operation and maintenance costs as efficiently as possible.

39. Second, efficiency gains can arise through higher project benefits associated with PPPs. Private participants generally have stronger incentives than governments to deliver projects in a timely manner (thus providing benefits to users quicker than comparable government projects) and to provide an output that meets consumer demand — the return on their investment (such as from user fees) generally depends on doing so.

40. Third, efficiency gains from EPIP can arise through an improvement in government processes for setting up PPPs. This can lead to more PPPs being offered for tender and ultimately signed, leading to the substitution of relatively inefficient government projects for relatively efficient PPP projects.

41. Fourth, gains can arise through increasing the competitiveness of bidding for PPPs. Potential monopoly profits can be partly or completely dissipated through competitive PPP bidding processes. This can be achieved by removing barriers to entry for bidders, increasing the quality and quantity of information available to potential bidders, and broadening the pool of private funds from which to finance infrastructure projects.

#### **A. The Benefits of EPIP**

42. The economic benefits of EPIP have been assessed as arising in two main ways: an increase in the overall level of infrastructure investment, with a resulting increase in value added (this benefit has not been quantified); and an increase in the efficiency of infrastructure investment, measured by the lower costs of PPP infrastructure projects compared to government infrastructure projects and a resulting increase in value added.

43. **Increased infrastructure investment.** Anecdotal evidence suggests that the availability to the government of an alternative (additional) means of infrastructure delivery — that is, through private participation — is having a positive effect on overall levels of infrastructure investment, even after taking into account other potential influences, such as an improved economic environment. While this effect should not be overstated, given the taxation and borrowing powers of the Philippine Government, and hence its substantial capacity develop infrastructure itself, it is nonetheless feasible that private involvement is acting as a catalyst for higher levels of infrastructure investment in the Philippines.

44. As noted above, the Philippines lags behind most of its regional neighbors in terms of the quality of its existing stock of infrastructure, and its levels of infrastructure investment are still relatively low by international standards. Hence, it is reasonable to assume that a well targeted and efficiently developed infrastructure project would deliver a positive net benefit by increasing value added.

45. Table 2 summarises the estimated increase in the value of the PPP project pipeline relative to the existing (pre-EPPIP) value of the project pipeline over the period June 2013 to June 2017. It estimates that the value of the project pipeline will increase by \$24.5 billion over the period June 2013 to June 2017 (much of this increase has already been achieved).

**Table 2: Value of the PPP project pipeline**

	Cumulative number of PPP projects	Cumulative value of PPP projects
June 2013 (before EPPIP) <sup>(a)</sup>	24 <sup>(a)</sup>	\$6.5 billion <sup>(a)</sup>
May 2015 (with EPPIP)	45	\$23.6 billion
June 2017 (with EPPIP) (estimated)	60 <sup>(b)</sup>	\$31 billion <sup>(b)</sup>
<b>Increase in value of project pipeline (between June 2013 and June 2017)</b>		<b>\$24.5 billion</b>

Notes: (a) data is for December 2012, but is assumed to approximate the level at June 2013. (b) Assumes a modest increase in the number and value of projects in the pipeline between May 2015 and June 2017.

Sources: PPP Center; ADB estimates.

46. Table 3 summaries the distribution of the increase in the PPP project pipeline. It assumes that: 40% of the increase in the value of the PPP project pipeline is attributable to non-EPPIP factors, such as the pre-EPPIP reforms and improved economic conditions (\$9.8 billion); 30% of the increase is EPPIP-induced projects that would otherwise have proceeded as government infrastructure projects (\$7.4 billion); and 30% of the increase in the pipeline is projects that would not have proceeded in the absence of EPPIP— that is, they are *additional* infrastructure projects (also \$7.4 billion).

**Table 3: The benefits of increased infrastructure investment induced by EPPIP**

Increase in the value of the PPP project pipeline (from table 2)	Increase attributable to non-EPPP factors (such as pre-EPPIP reforms and improved economic conditions) (40%)	EPPIP-induced increase that that would have proceeded as government projects in the absence of EPPIP (30%)	EPPIP-induced increase that comprises <i>additional</i> infrastructure projects (30%)
\$24.5 billion	\$9.8 billion	\$7.4 billion	\$7.4 billion

Sources: PPP Center; ADB estimates.

47. Given NEDA's hurdle rate of a 15% internal rate of return from infrastructure projects, it is likely that the estimated \$7.4 billion of PPP projects that would not have proceeded in the absence of EPPIP will deliver an increase in the economy's overall level of value added, even after taking into account the opportunity cost of capital. This increase in value added has not been quantified in this PIA.

48. **Increased efficiency of infrastructure investment.** Efficiency gains are assessed to apply to all of the projects in the PPP project pipeline that EPPIP induces — comprising those that would otherwise have proceeded as government projects (\$7.4 billion) and the additional projects that would not have proceeded at all without EPPIP (\$7.4 billion) (from table 3). The

efficiency gains are also assessed to apply to half of the new PPP projects *signed* over the period from June 2013 to June 2017, on the basis that the improved institutional architecture and policy settings associated with EPPIP will induce an increase in the number and value (\$2.1 billion) of projects signed (table 4).

**Table 4: Value of signed PPP projects <sup>(a)</sup>**

	Cumulative value of new signed PPP projects at the pre-EPPIP annual rate <sup>(b)</sup>	Cumulative value of new signed PPP projects with EPPIP	Increase
June 2014	\$1.2 billion	\$1.5 billion	\$0.3 billion
June 2015	\$2.4 billion	\$3.0 billion	\$0.6 billion
June 2016	\$3.6 billion	\$6.0 billion	\$2.4 billion
June 2017	\$4.8 billion	\$9.0 billion	\$4.2 billion
<b>Increase attributable to EPPIP (50%) <sup>(c)</sup></b>			<b>\$2.1 billion</b>

**Note:** (a) Excluding telecommunications sector; (b) assumes that the annual value of new projects signed continues at the annual rate before EPPIP commenced in 2013 — that is, around \$1.2 billion per year; (c) Half of the forecast increase in the value of PPPs signed over the period June 2013 to June 2017 is assumed to be attributable to EPPIP, the other half to other factors such as the pre-EPPIP reforms.

**Sources:** PPP Center; ADB estimates.

49. The increase in the value of PPP projects (signed and in the project pipeline) *that could be attributed to EPPIP* is estimated at \$16.9 billion, comprising \$14.8 billion from the project pipeline (table 3) and \$2.1 billion from signed projects (table 4).

50. The PIA assumes PPP infrastructure projects are 15% more efficient than government infrastructure projects. This relative efficiency is estimated by assuming that, compared to PPPs, government projects end up costing an average of 15% more. That is, for a project budgeted to cost \$100 million, it is assumed that if it were undertaken as a PPP it would be delivered 'on time and on budget' whereas if it were undertaken as a government project it would ultimately cost \$115 million because of delays and cost overruns. If the \$16.9 billion of PPP projects expected to be signed or added to the PPP project pipeline — *and attributable to EPPIP* — had been delivered as government projects, it is assumed they would have ultimately cost \$19.4 billion. The net benefit associated with the higher efficiency of these PPPs is therefore estimated to be \$2.5 billion (table 5).

**Table 5: The efficiency gain attributable to EPPIP-induced PPP infrastructure projects**

	Value
Increase in value of PPP projects signed and in the project pipeline attributable to EPPIP	\$16.9 billion
Cost of delivering these projects as PPPs	\$16.9 billion
Cost of delivering these projects as government projects	\$19.4 billion
Net efficiency gain attributable to EPPIP	\$2.5 billion

Sources: PPP Center, ADB estimates.

51. Overall, EPPIP is expected to deliver quantified benefits of \$2.5 billion, comprising the additional value added associated with the higher efficiency of PPP infrastructure projects compared to government infrastructure projects. This gain applies to the expected EPPIP-induced increase in infrastructure projects over the period June 2013 to June 2017. There is also likely to be an increase in the economy's level of value added associated with an EPPIP-induced increase in overall level of infrastructure spending in the Philippines. This increase in value added has not been quantified.

52. The main assumption underpinning the \$2.5 billion estimate is that PPPs are 15% more efficient than government infrastructure projects. However, EPPIP is assessed as still delivering a quantified net benefit if PPPs are assumed to be just 7.5% more efficient than government projects.

**Table 6. Summary of main assumptions in the estimation of benefits from reforms**

Source of Benefits	Assumption	Available Data/Base case
Increase in the efficiency of infrastructure investment, measured by the lower costs of PPP infrastructure projects compared to government infrastructure projects and a resulting increase in value added	Increase in value of PPP project pipeline between June 2015 and June 2017 estimated at \$7.5 billion.	Increase in value of the pipeline between June 2013 and June 2015 was \$17.1 billion
	EPPIP-induced increase that comprises additional infrastructure projects (30%)  EPPIP-induced increase that that would have proceeded as government projects in the absence of EPPIP (30%)	N/A. Close to zero-based scenario for Philippines.
	Half of the forecast increase in the value of PPPs signed over the period June 2013 to June 2017 is assumed to be attributable to EPPIP, the other half to other factors such as the pre-EPPIP reforms.	N/A. Close to zero-based scenario for Philippines.
	PPP infrastructure projects are 15% more efficient than government infrastructure projects	Review of literature and international research.

## **B. The costs of EPPIP**

53. The costs of EPPIP comprise the costs to the Government of the Philippines and the costs to the private sector. The costs of EPPIP are estimated at almost \$1.2 billion (table 7). The costs of EPPIP are expenditures that are incurred as a result of EPPIP and that would not have occurred in the absence of EPPIP. They include: the additional administrative and operating costs incurred by departments and agencies in the Government of the Philippines (such as the Department of Public works and Highways, Department of Transportation and Communications, Department of Finance, NEDA and the PPP Center) to enable them to

conduct PPPs in an effective and efficient manner (about \$150 million); a portion of the Government of the Philippines' budgetary earmarks for contingent liabilities (\$820 million); and the costs to the private sector associated with submitting bids for PPP projects (about \$250 million).

54. There are some significant other potential budgetary costs associated with EPPIP, estimated at \$3.6 billion.<sup>1</sup> These comprise costs associated with right of way and resettlement (\$1135 million), access (interface) infrastructure (\$488 million), viability gap funding (\$73 million) and contingent liabilities (\$1910 million). However, the PIA assumes that these costs would be incurred by the government, one way or another, regardless of whether a project is delivered as a PPP or as a government project. Accordingly, these costs have not been attributed to EPPIP.

55. Costs associated with contingent liabilities are not straightforward to classify. For example, one common contingent liability is a government commitment to make a compensating payment to the PPP project company if the government breaks the PPP contract before its scheduled end. Contingent liabilities of this nature appear to be costs associated with PPPs and not with government infrastructure projects. By contrast, another common contingent liability arises when a government guarantees a certain level of project revenues. Shortfalls in project revenues would be costly for PPPs and government projects alike. Without details on the nature of the contingent liabilities being covered in the Risk Management Program,<sup>2</sup> the PIA has assumed that 30% (\$820 million) is PPP-specific costs attributable to EPPIP, while the remainder (\$1910 million) has been assumed to not be attributable to EPPIP.

**Table 7: The costs of EPPIP**

Types of Adjustment Costs	Government and Statutory Agencies	Cost (\$ million)
<b>Administrative Costs</b>	i) Administrative and operating costs incurred by DPWH and DOTC in assessing needs and budgeting for right of way and resettlement costs of their PPP projects and interface infrastructure— estimated at \$0.18 million over the period from 2015 to 2017  (ii) Administrative and operating	29.89 <sup>(a)</sup>

<sup>1</sup> Right of Way and Resettlement Costs: The budget funding under the Strategic Support Fund for right of way and resettlement costs of PPP projects of the DPWH and DOTC for 2015 to 2017 is estimated at \$860 million. The Sector Assessment summary noted that between 2011 and 2014 some \$1.1 billion was allocated to selected line departments for government share in PPPs (for right of way, land acquisition, resettlement and project-related capital expenses). 25% of this – for 2014, is \$275 million. Total \$1135 million.

Access Infrastructure: The budget funding under the Strategic Support Fund for access infrastructure to airports and RORO facilities developed through PPPs is estimated at \$366 million (2015 to 2017). A pro-rata amount has been assumed for 2014. Total \$488 million.

Viability Gap Funding: Funding of PhP800 million a year is projected for 2016 and 2017. With an exchange rate of PhP44 per USD1, the sum is estimated at \$36.4 million. A similar sum is assumed for 2014 and 2015. Total \$73 million.

Contingent Liabilities: The Risk Management Program (for contingent liabilities) in the Unprogrammed Fund of the General Appropriations Acts was PhP20 billion for 2014, PhP30 billion for 2015, PhP30 billion for 2016 and PhP40 billion (proposed) for 2017; converted at an exchange rate of PhP44 to USD1 gives a total of USD2.73 billion. 30% of the total (ie. \$820 million) is assumed to be attributable to PPP projects associated with EPPIP; the remaining 70% (\$1910 million) is assumed to be independent of whether a project is a PPP or a government project and hence not attributable to EPPIP.

<sup>2</sup> National government agencies can only source funds from budget appropriations. Private investors in PPPs are therefore subject to appropriation risk associated with contingent liabilities and are likely to price this risk into their bids. The government has sought to address the appropriation risk associated with contingent liabilities by the inclusion of the Risk Management Program in the Unprogrammed Fund of the 2014 and 2015 General Appropriations Acts. In 2015, the amount was PhP30 billion. The Unprogrammed Fund approach is fiscally neutral because the amounts cannot be availed of unless there are new or additional sources of funds such as: excess collections from previously identified non-tax revenue sources; collections from new tax laws or new non-tax revenue sources; or newly approved loans for foreign-assisted projects. (Haydarov and Montes, 2015)

Types of Adjustment Costs	Government and Statutory Agencies	Cost (\$ million)
	<p>costs incurred in preparing studies and policy papers on VGF – estimated at \$0.34 million (2015 to 2017)</p> <p>(iii) Administrative and operating costs incurred in developing methodology for estimating and managing Contingent Liabilities and accessing the CL Fund– estimated at \$1.26 million (2015 to 2017)</p> <p>(iv) Administrative and operating costs incurred to prepare options for facilitating infrastructure financing and guarantee facilities including the activities of the TWG on Infrastructure Finance – estimated at \$0.77 million (2015 to 2017)</p> <p>(v) Administrative and operating costs incurred by DOTC in preparing Transport Infrastructure Development Roadmaps for Mega Manila, Metro Cebu and Metro Davao, updated Strategy for Development of National Airports and 3-year rolling infrastructure plans – estimated at \$2.82 million (2015 to 2017)</p> <p>(vi) Administrative, operating and investment costs of having a dedicated assistant secretary, ad hoc contract management units and regular PPP Implementation Unit in DOTC to oversee PPP project implementation – estimated at \$1.85 million (2015 to 2017)</p> <p>(vii) Administrative and operating costs of the PPP Center to handle increased scope of work under the PDMF, facilitate LGU PPPs, coordinate PPP project appraisal and develop standard PPP contracts for selected sub-sectors – estimated at \$11.41 million (2015 to 2017)</p> <p>(viii) Administrative and operating costs for NEDA to develop a new process for appraising the socio-economic aspects of PPPs and to apply value analysis – estimated at \$1.1 million (2015 to 2017)</p> <p>(ix) Administrative and operating</p>	

Types of Adjustment Costs	Government and Statutory Agencies	Cost (\$ million)
	costs for DOF to appraise risk allocation, financial viability and fiscal sustainability— estimated at \$0.68 million (2015 to 2017)  (x) Administrative and operating costs for the PPP Governing Board to push for amendments to the BOT Law and adopt Implementing Rules and Regulations for EO78 on Alternative Dispute Resolution in PPP projects – estimated at \$2 million (2015 to 2017)	
	Budget funding for expanded Project Development and Monitoring Facility <sup>(b)</sup>	
<b>Other Fiscal Costs</b>	Budget earmarks for contingent liabilities <sup>(c)</sup>	820
<b>Private Sector Costs</b>	Costs of submitting bids for PPP projects — and contributions to the contingent Liability Fund (unquantifiable) <sup>(d)</sup>	253
<b>Total Costs of EPPIP</b>		<b>\$1.22 billion</b>

BOT = Build-Operate-Transfer, DOF = Department of Finance, DPWH = Department of Public Works and Highways, DOTC = Department of Transportation and Communications, LGU = local government unit, NEDA = National Economic and Development Authority, PPP = public-private partnership, VGF = viability gap funding.

Notes: (a) Administrative costs (i) to (x) are estimated for the period 2015 to 2017; a pro-rata estimate for 2014 has been added to the total; (b) Includes some contributions from partner countries; (c) The Risk Management Program in the Unprogrammed Fund of the General Appropriations Acts has allocated or is expected to allocate Php20 billion for 2014, Php30 billion for 2015, Php30 billion for 2016 and Php40 billion (proposed) for 2017; converted at an exchange rate of PhP44 to USD1 gives a total of USD2.73 billion. 30% of the total (ie. \$820 million) is assumed to be attributable to PPP projects associated with EPPIP; the remaining 70% (\$1910 million) is assumed to be independent of whether a project is a PPP or a government project and hence not attributable to EPPIP (d) Estimate is based on: cost of bid preparations being 0.5% of total project costs; an average of four bidders (three losing); and the winning bidder's costs absorbed into project costs — and applying this to the estimated EPPIP-induced increase in PPPs (\$16.9 billion). The 0.5% bid cost estimate is based on lower end of PPP bid costs in Australia, 0.5-1.2% of project capital value, and in Canada, 0.35 – 1% (Clayton Utz 2013). Source: ADB estimates.

### C. Risks

56. The main identified risks to the achievement of the net benefits of EPPIP are corruption in the bidding processes and/or weak enforcement of the contractual obligations of private participants. These risks could lead to higher government costs and/or reduced benefits from PPP projects. The impacts of these potential risks have not been quantified in this PIA.

57. However, several measures are in place or underway to lessen these risks, such as the strengthened legal and regulatory frameworks for PPPs being funded under EPPIP, the PPP Center's recent introduction of probity advisory into its procurement mechanisms, and the anti-corruption action plan being developed by the Good Governance and Anti-Corruption Cabinet Cluster of the Philippines.

### Table Summary Program Impact Assessment

- The EPPIP will contribute to an increase in value added and therefore economic growth in the short to long term through 3 main channels. The first channel is strengthened government financial support to PPPs. The second channel is an expanded and efficiently implemented pipeline of PPP projects. The third channel is through strengthened legal and regulatory frameworks for PPPs.

Channel of Effect		Impact on the Sector/Economy		Estimated benefits, Winners and Losers
General	Specific	Short to medium Term	Long Run	
Strengthened government financial support to PPPs	Strengthened provisions and processes for contingent liabilities, viability gap funding and right of way, resettlement and interface infrastructure	Increased assurance that the government will be able to manage the PPP risks it agrees to bear and compensate the private sector for any costs imposed on it by such risks. This should increase private interest in PPPs and lead to more competitive bidding and the substitution of government projects with PPPs.	Greater private participation in infrastructure will increase the overall level of infrastructure investment in the Philippines and increase the efficiency of infrastructure investment by displacing government projects. This will boost economic growth and help to achieve a number of social objectives such as poverty alleviation.	The estimated benefits are spread across the three channels of effect.  Estimated net benefits are \$3.0 billion from an increase in value added associated with additional infrastructure investment and an increase in value added associated with greater efficiency of infrastructure investment (from the substitution of government projects for PPPs).
An expanded and efficiently implemented pipeline of PPP projects	Improved long term infrastructure planning, extension of PPPs to LGUs, and improved PPP management systems	Increased efficiency and effectiveness of government processes at both national and local level. This will increase the confidence of both governments and private investors, leading to more PPPs being offered and greater private sector interest.	Greater private participation in infrastructure will increase the overall level of infrastructure investment in the Philippines and increase the efficiency of infrastructure investment by displacing government projects. This will boost economic growth and help to achieve a number of social objectives such as poverty alleviation.	These benefits will be distributed, to varying degrees, amongst taxpayers, private investors in infrastructure, users of infrastructure, builders of infrastructure, and the broader community through increased economic growth.
Strengthened legal and regulatory frameworks for PPPs	Amendments to BOT law, development implementing regulations and guidelines	Increased clarity, certainty and confidence for governments and the private sector.	Greater private participation in infrastructure will increase the overall level of infrastructure investment in the Philippines and increase the efficiency of infrastructure investment. This will boost economic growth and help to achieve a number of social objectives such as poverty alleviation.	The only potential losers identified are businesses dependent on government infrastructure projects. However, such businesses should be able to find alternative opportunities in an expanded infrastructure sector.

ADB = Asian Development Bank, BOT = Build-Operate-Transfer, LGU = local government unit, PPP = public-private partnership.

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