

The Treatment of Public-Private Partnership Assets in the *GFSM 2001* Framework

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Abstract

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This study aims to contribute to providing guidance in the appropriate treatment of public-private partnership (PPP) assets within the Government Finance Statistics Manual (GFSM) 2001 framework. The study concludes that in PPPs where the government is the purchaser of the project outputs and it bears a substantial proportion of project risks, classifying the economic ownership under government would contribute to prudent fiscal management and debt sustainability analysis. Where before governments would recognize the future service payments as mainly expenditure on goods and services as spending accrues, they would now have to record acquisition of the PPP assets and recognize a significant portion of future payments as actual liabilities in the government balance sheet.

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I. INTRODUCTION

At present, there is no international standard on the statistical treatment of fixed assets constructed under public-private partnerships (PPPs). This study thus aims to contribute to providing guidance in the appropriate treatment of PPP projects within the *Government Finance Statistics Manual (GFSM) 2001* framework, with emphasis on the classification of assets by owner and the recording methodology during the different stages of the project. The emphasis is placed on this subject because the existing literature implies that the difficulties in statistical treatment are more pronounced in these areas.

Before this paper reviews the literature, a definition of PPPs is necessary. The paper will show that the IMF and European Commission definitions of the PPP capture many but not all types of PPPs. In brief, the IMF defines PPPs as “arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the government.”² According to the European Commission, in broad terms, “PPPs concern the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector.”³ However, various ways of private sector involvement—e.g., direct privatization and contracting out government services—share the definitions of both the IMF and the European Commission, but they do not provoke questions about statistical treatment in the same way that most PPP schemes do.

Although attempts have been made to specify the features or characteristics of a “typical PPP,” the characteristics are still not as clear-cut as we might hope. For instance, the European Commission cites four required elements of a project to qualify as a PPP:

- it should concern the construction or the operation of physical assets in areas characterized by a strong public function and involve the public sector as the principal purchaser;
- it must involve a private corporation as the principal operator;
- the principal finance of the project should not come from issuing public finance but from private sources, such as private bonds; and
- the private operator could provide significant inputs in the design and conception of the project and it must bear a considerable amount of risk.

In line with these characteristics, the IMF’s Fiscal Affairs Department (FAD) emphasizes the role of the private sector as investor and operator of a PPP project, as well as the transfer of significant risk from the government to the private sector. But these characterizations still do

² IMF Fiscal Affairs Department (FAD), 2004, “Public-Private Partnerships,” SM/04/94, March 12, p. 4.

³ European Commission, 2003, “Public Finances in EMU,” *European Economy* No. 3/2003, p. 128.

not capture all boundaries of PPPs. All of the elements mentioned by the European Commission and the FAD are present in infrastructure concessions or franchising⁴ like build-operate-transfer (BOT), build-own-operate, and rehabilitate-operate-transfer schemes; however, the role of the private corporation as project operator is not present in PPP schemes like build-lease-transfer, build-transfer, developer financing, and other arrangements where the private partner finances and constructs a facility but the government unit becomes the principal project operator.

To reduce the ambiguity, any general discussion of PPPs should distinguish among the different types of PPP arrangements. This will be done in this study. This will allow the reader to categorize the kind of contractual arrangement for a specific project.

After reviewing the issues raised in the literature, the paper will discuss features of PPPs important for deciding the statistical treatment and will offer several recommendations.

II. ISSUES RAISED IN THE LITERATURE

The existing literature implies that the difficulties in statistical treatment are more pronounced in the areas of ownership of fixed assets during project operation and accounting and recording methods for the PPP asset.

A. Ownership of Fixed Assets During Project Operation

This section will show that a standard for determining the economic ownership of PPP assets is evidently important to harmonize fiscal statistics with the national accounts and international accounting standards and to ensure the international comparability of data generated by governments. Moreover, since the direction of the discussion on the *1993 System of National Accounts (SNA) Update Issues* seems to point towards the official adoption of “change of economic ownership” as a term,⁵ there is merit in trying to settle the issue of classifying PPP assets in (or out of) government records based on the notion of economic ownership.

To begin with, although the *1993 SNA* does not specifically define ownership, it implies a principle that economic ownership takes account of where the risks and rewards of

⁴ The terms concession and franchising (as well as concession fees and franchise fees) are commonly used interchangeably in the literature on PPPs. The World Bank broadly defines concessions as all contractual arrangements through which a private firm obtains the right from government to provide a service **under conditions of significant market power** (“Concessions for Infrastructure,” <http://rru.worldbank.org/Toolkits/InfrastructureConcessions/>).

⁵ United Nations Statistics Division, 2005, various country comments for the *1993 SNA Update* subissue “Change of economic ownership (as term)” from March-May 2005, <http://unstats.un.org/unsd/sna1993/comments.asp?ID=36&atp=1>.

ownership lie.⁶ Thus, economic ownership ought to be assigned to the unit that will reap most of the benefits and bear most of the risks associated with the assets. This principle, however, does not seem helpful in cases where the private partner receives most of the benefits in terms of project income and profits while risk-allocation is skewed against the government, as in so called “sweet deals.”

Donaghue (2002) analyzes the difficulty of classifying the ownership of the fixed asset built under arrangements that will involve the transfer of the asset to the government at the end of the cooperation period, typically a BOT arrangement.⁷ BOT is a PPP scheme where the private partner builds an infrastructure facility (using equity or debt financing sources and according to specifications either agreed to or designed by the government), operates the facility under a long-term contract,⁸ and then transfers the facility to the government at the end of the contract period. The private firm recovers its cost and some return either by imposing user fees to the public or through fixed payments from the government. Since the private firm holds the legal title to the facility, the legal ownership of fixed assets clearly belongs to the private firm, but the economic ownership of such assets is often less clear.

Donaghue reports that the application of the *1993 SNA* is not clear in accounting for the ownership of BOT assets. Thus, the conventional approach, adopted in the *European System of Accounts (ESA 95) Manual on Government Deficit and Debt*, has been to classify the asset as being owned and controlled by the private firm during the period in which it operates the asset. When the asset is transferred to the government at the end of the contract period, it is recorded as government gross capital fixed capital formation balanced by a capital transfer from the private firm to the government.

The problems with this approach, as Donaghue has noted, are (1) the reversion to government control requires the creation of a large transaction that does not reflect real resource flows, that is, the “transfer” or “gift” of the asset from the private firm to the government; and (2) during the partnership period, the benefits to the private firm of the asset are less than the value of the asset itself because the residual value will revert to the government, and thus the conventional recording treatment overstates the firm’s assets and understates the government assets. Donaghue then argues that it is more appropriate to view the BOT asset as government capital formation, since the government holds most of the risks and benefits of ownership with respect to the residual asset, and the period during which the

⁶ IMF Statistics Department, 2004, “Adoption of Concept of Change of Economic Ownership: An Issue Paper Prepared for the December 2004 Meeting of the Advisory Expert Group on National Accounts.”

⁷ This paper is adopting the term build-operate-transfer (BOT) rather than “build-own-operate-transfer (BOOT),” the term previously used by Donaghue (2002). The former puts a silent treatment on ownership because although the legal ownership lies with the private operator, the economic ownership of the fixed asset is still an issue in the statistical treatment debate. The term BOT is also more common and has been used by the European Commission, the World Bank, the United Nations, and most governments engaged in PPPs.

⁸ What is long term is also ambiguous and depends on the context. The cooperation period for BOT arrangements that this author has reviewed range from 10-25 years.

private partner has exclusive use of the asset as equivalent, in economic terms, to the government's granting of a lease to the private partner.⁹

Hemming (2004) cautions that, from the standpoint of the national accounts, the classification of a PPP asset under the government balance sheet has to be matched by its removal from the aggregate private sector balance sheet (even though it may remain on the private operator's own balance sheet); otherwise it would lead to double counting of PPP investment in the national accounts.¹⁰ In addition to the issue of accounting for PPP assets, Hemming also raised questions on fiscal risks and debt sustainability implied by government guarantees and PPP contractual obligations. The analysis of these questions will not be covered here, but the reader is advised to consult materials such as "Government Guarantees and Fiscal Risk" (IMF FAD, 2005) and "Dealing with Public Risk in Private Infrastructure" (World Bank, 1997) for an extensive discussion of the issues and recommended approaches.

In the United Kingdom, the reporting standard most applicable to PPP¹¹ is a classification of ownership based on risk-bearing. Although the standard works well, it has its own problems. The overall principle set out in *Financial Reporting Standard 5 (FRS5) – Reporting the Substance of Transactions: Application Note F – Private Finance Initiative and other similar contracts* is that a party must account for the economic substance of a transaction, rather than simply its legal form. To reflect this economic reality, *FRS5* prescribes that a party that will reap the benefits and bear the balance of risks of ownership of a property "has an asset of the property" and must report this on its balance sheet.¹²

A technical note that sets out how this standard is to be followed in the public sector prescribes that when the accounting treatment is not immediately obvious, a detailed quantitative analysis will be required. To the extent that a quantitative risk analysis that evaluates potential variations in property profits for the private partner and the government can be done, the party that has the greatest proportion of the combined variations in profits has an asset of the property.¹³ If extended to international practice, the problems with this approach are the fact that the set of information necessary for a quantitative risk assessment is not often available to fiscal statistics compilers, and there is a danger of spurious accuracy given that assumptions and judgment play key roles in the quantitative risk assessment.

⁹ Donaghue, Brian, 2002, "Statistical Treatment of 'Build-Own-Operate-Transfer' Schemes," IMF Working Paper 02/167, October 2002, p. 18.

¹⁰ Hemming, Richard, 2004, "Fiscal Accounting and Reporting Issues Raised by Public-Private Partnerships," manuscript, Fiscal Affairs Department, International Monetary Fund, August 19, p. 8.

¹¹ The UK actually uses the term private finance initiative (PFI) instead of PPP. The distinction is as follows: "PFI is a procurement tool; PPP is an ownership structure. The vast majority of PFI contracts represent a liability for a stream of payments that stretches over the long term, and which the Government will have to meet from revenue expenditure in the year in which they are liable. In a PPP deal by contrast, the Government owns an equity stake in the company, an asset, and is therefore different in kind from a PFI transaction." HM Treasury, "PFI: meeting the investment challenge," July 2003, p. 118.

¹² HM Treasury, 2003, *op. cit.*

¹³ HM Treasury, "Technical Note No. 1: How to Account for PFI Transactions," hm-treasury.gov.uk

Eurostat, the European Union Statistical Office, has taken a position on the issue of ownership in a similar direction, that is, based on the extent of risk transfer to the private sector. Eurostat states that its position applies only in PPPs where the government is the main purchaser of the services supplied by the private partner. It recommends that the assets involved in such PPPs should be classified in the national accounts as private, and therefore recorded off-government balance sheet, if **both** of the following conditions are met: (1) the private partner bears the construction risk, and (2) the private partner bears at least one of **either** availability **or** demand risk.¹⁴

The IMF's FAD views the Eurostat decision as problematic. Since the private partner typically bears most construction risk and availability risk, the decision is likely to result in most PPP assets being recorded on private sector balance sheets, even though the government will bear most demand risk.¹⁵ The decision could then possibly open the door to PPPs that are intended mainly to circumvent euro area fiscal rules.¹⁶

For PPPs that involve transfer and provided that the residual value of the transferred asset is significant, the International Financial Reporting Interpretations Committee (IFRIC) proposes that the balance sheet recognition of PPP assets should be based on "control," that is, who controls or regulates the significant components of the PPP. In line with this proposal, the IFRIC released on March 3, 2005 *Draft Interpretations D12, D13 and D14* for service concession agreements, which basically look at the possible role of franchise grantor (government) control in determining the private sector accounting model for property, plant, and equipment. The IFRIC position exhibited for comments is that the asset would be recognized by the grantor rather than the operator if two conditions are met: (1) the grantor controls or regulates what services the operator must provide, to whom it must provide them and at what price, and (2) the grantor will control, through ownership, beneficial entitlement or otherwise the residual interest in the property at the end of the partnership period, including cases where the operator must replace an existing asset but the grantor has residual interest in the replacement.¹⁷

Critics question whether the view above is stretching the definition of control. In reality the grantor cannot do anything with the asset until the end of the contract period other than regulate user fees, and this kind of control, however, can apply to any regulated industry.¹⁸ Although the IFRIC international standard is being developed for the private sector, it will be helpful to follow the developments in the upcoming guidelines and draw lessons from them. The comment period ended on May 31, 2005, but there is no news as of this writing on whether changes were made in the draft IFRIC guidelines.

¹⁴ Eurostat, 2004, "Treatment of public-private partnerships," Eurostat News Release No.18, February 11.

¹⁵ IMF FAD, 2004, *op. cit.*, p.22

¹⁶ Hemming, Richard, 2004, *op. cit.*, p. 7.

¹⁷ IFRIC Draft Interpretations D12-D14.

¹⁸ Ernst & Young, 2005, "Service Concessions, Light at the End of the Tunnel?" *EYE on IFRS Newsletter*, May 20.

B. Accounting and Recording Methods

Current practices and evolving recommendations put importance on the requirement that asset recognition must be matched by a counterpart liability recognition. This requirement must therefore be complied with in the formulation of an internationally accepted reporting standard for PPPs.

To begin with, a corollary to the issue of economic ownership is the appropriate accounting and recording of the fixed asset during operation and, for PPPs with transfer, the residual asset upon transfer at the end of the partnership. In the case of BOT schemes, three possible approaches are discussed in Donaghue (2002), **with the underlying premise that the government is the economic owner of the fixed asset.**

The first approach is to treat a BOT scheme as an **operating lease** with the government as the lessor and the private operator as the lessee. The government acquires the asset, then leases it to the private operator, and the acquisition of the asset by the government is deemed financed by an imputed borrowing from the private operator, which borrowing is then offset by the imputed lease revenues from the operator.

The second approach is the **intangible nonfinancial asset approach**, where it is deemed that the private operator purchases from the government an intangible nonfinancial asset akin to a license, that is, a right to operate the BOT asset and derive a stream of income from operations during the contract period. Donaghue states that the intangible nonfinancial asset approach is similar to the treatment of spectrum leases. But others argue that this may be inappropriate because unlike mobile phone licenses where there is an underlying asset, namely, the spectrum, in the case of BOT schemes no such underlying asset exists.¹⁹

The third approach is the **financial asset and liability approach** where the BOT scheme is regarded as a lease and has the economic character of financial assets and liabilities; the financial asset or the right to obtain economic benefits from the BOT asset, is a claim by the lessee (the private firm) and it has a counterpart liability, being the lessor's (government) obligation to meet that claim. Donaghue notes that the problem with this approach is that it is not, at present, consistent with the *1993 SNA* treatment of leases and, therefore, the operating lease approach should be the fallback option until a satisfactory treatment of leases has been adopted.

The IMF's FAD offers a simpler alternative—the **public investment and liability write-off approach**. Here, PPP investment is regarded as public investment, that is, the net asset value builds up on the government balance sheet, and the imputed financial liability (for the acquisition of the asset) of the government to the private operator is written off. Writing off the liability is deemed justifiable because the private operator remains the legal owner of the

¹⁹ IMF, 2003, "Selected Accounting and Reporting Issues Related to Fiscal Statistics," p. 16.

PPP asset and therefore would not recognize a financial claim on the government.²⁰ The problem with this approach is that if all PPPs involving construction and operation by the private sector will be treated this way, it could result in an unrealistic distribution of net assets and net liabilities in the economy where, for a single transaction (project construction), one sector owns the assets and another bears the liabilities. The assets would be classified under the government balance sheet even if the private sector is the one that incurs real liabilities on account of the financing used for the PPP project.

In Australia, the lease approach has been relied on to classify and record PPP arrangements. A recognized accounting standard capable of addressing the complex risk allocation issues in a PPP transaction does not yet exist, and the Australian Accounting Standards Board is working actively to determine how these issues should be treated in government accounts. In the absence of more developed guidelines, the existing standard on accounting for **operating and finance leases** has tended to be adopted by some parties as a default.²¹

In the UK, a practical guide being used by public sector purchasers and auditors is *Technical Note No.1: How to Account for PFI Transactions*. As mentioned earlier, ownership is classified based on the principle that a party will have an asset of the property where that party has access to the benefits of the property and exposure to the risks inherent in those benefits. The technical note has guidelines for different cases. For example, if it is established that the government has an asset of the property and it has residual interests on the asset, the guideline prescribes that if the amount of payment (including zero) for the transfer of the PPP asset is specified in the contract, and if the specified amount does not correspond with the expected fair value (estimated at the start of the contract) of the residual asset, then any difference must be built up over the life of the contract.²²

The IMF Executive Directors endorse continued staff work towards the preparation of a statistical reporting standard for PPPs and, in the meantime, support disclosure requirements for PPPs particularly with respect to guarantees and contingent liabilities.²³ The succeeding section will show that some types of PPPs can be recorded based on existing rules and thus the problematic types of PPPs will have to be threshed out based on the features important for deciding the statistical treatment.

²⁰ IMF FAD, 2004, *op. cit.*, p. 41.

²¹ Webb, Richard and Bernard Pulle, 2002, "Public-Private Partnerships: An Introduction," Research Paper No. 1 2002-03, Economics and Industrial Relations Group, Parliament of Australia, September 24.

²² HM Treasury, "Technical Note No. 1: How to Account for PFI Transactions," <http://www.hm-treasury.gov.uk>

²³ IMF BUFF/05/85, The Acting Chair's Summing Up, Executive Board Meeting 05/45, May 20, 2005.

III. FEATURES OF PPPs IMPORTANT FOR DECIDING THE STATISTICAL TREATMENT

The features of PPPs that are important for deciding their statistical treatment are features of contract design that define the incentive structure and identify the sources of risks and rewards for each party. These are contract characteristics related to investment responsibilities, risk-bearing, cost-recovery, user fees, transfer of physical assets, and others.

It is difficult, and perhaps misleading, to devise an international standard that is applicable to all kinds of PPP contracts because there are just too many possible contractual arrangements that could result from the various and sometimes complex combinations of risks and rewards; any standard that could be developed is at best applicable only to a subset of PPPs. In addition, contractual arrangements frequently get altered by the time the PPP arrangement has ended. To give this difficulty some perspective, Box 1 lists some possible types of PPPs as they are called in several countries.²⁴

Notwithstanding the difficulty of specifying hard and fast rules, this paper narrows the focus to a subset of PPPs, which contains arrangements that often give rise to confusion on ownership classification and recording methodology, and then searches for tests that will provide guidance in the statistical treatment of PPP assets. Evidently, PPPs involving explicit operating lease of government facilities to the private sector, maintenance contracts, and management contracts do not result in complications since both the legal and economic ownership of assets are held by the government.

PPPs that involve private financing and construction of facilities, or manufacture and installation of equipment, but do not involve private operation are also easier to classify. In cases like build-transfer schemes and vendor financing, the government is invariably the owner of the fixed assets and recognizes debt liabilities to the private partner in exchange for its construction, manufacture or installation services, while the private partner recognizes financial assets in terms of receivables from the government. In cases like build-lease-transfer arrangements, the government is the economic owner even though the private partner holds the legal title. The statistical treatment is that of a financial lease and the applicable international standard is the *International Public Sector Accounting Standard (IPSAS) 13 – Leases*.

For PPPs where there is government financing or equity support for building up the fixed assets, that is, subsidies, the ownership of and accounting for component assets in the PPP project can be reckoned easily if the asset boundaries are clear. For example, if right-of-way is provided by the government, then the economic ownership of the land is still retained by the government. For PPPs where the government has significant investment in the special purpose vehicle (SPV) or consortium that implements the PPP project, the investment is classified as acquisition of equity in the SPV. Should the characteristics of the SPV merit its

²⁴ The sources of the definitions are Australia (Webb and Pulle, 2003), United States (GAO/GGD-99-71), and Philippines (RA 7718).

classification as a public corporation, the PPP assets would be captured in the public sector accounts through the public corporation statistics.

Box 1. Possible types of PPP Arrangements

Build-Operate-Transfer (BOT) – (see definition on page 3).

Build-Own-Operate (BOO) – The arrangement is similar to BOT except that there is no obligation for the government to purchase the facility at the end of the contract period.

Build-Transfer-Operate (BTO) – The arrangement is similar to BOT except that the transfer to the government takes place at the time the construction is completed, rather than at the end of the contract period.

Build-Lease-Transfer (BLT) – A contractual arrangement where a private firm finances and constructs an infrastructure or development facility, immediately turns it over to the government (the principal operator) under a lease arrangement for a fixed period, after which the legal ownership of the facility is automatically transferred to the government. This is also sometimes called a Lease-Purchase or Installment-Purchase contract. A variant of this scheme is the Build-Lease-Maintain-Transfer contract where the responsibility of the private sector to maintain the facility during the lease period is specifically stated.

Rehabilitate-Operate-Transfer (ROT) – An existing facility is turned over to the private sector to refurbish, operate, and maintain during the contract period. The legal title during the partnership period may or may not be turned over to the private partner. Other permutations of this arrangement include Lease-Develop-Operate (LDO) where a private developer is given a long-term lease to operate and expand an existing facility.

Rehabilitate-Own-Operate (ROO) – The arrangement is similar to ROT except that there is no obligation for the government to purchase the facility at the end of the contract period.

Build-Transfer – This is a turnkey construction contract. The private partner commits to find financing, builds the facility for a fixed price and absorbs the construction risk of meeting that price commitment.

Design-Build approaches – The more complex arrangements are design-build-operate-transfer and design-build-own-operate. A simple design-build-transfer approach, contrary to the separated and sequential method of contracting, creates a single point of responsibility for design and construction and can speed project completion by facilitating the overlap of the design and construction phases of the project. Moreover, creativity and efficiency is enhanced in having competing design bids.

Developer financing – In this approach, the private firm (usually a real estate developer) finances the construction or expansion of a public facility in exchange for the right to build residential housing, commercial stores, and/or industrial facilities at the site.

Management contracting – This approach transfers responsibility for the operations and maintenance of government-owned businesses to the private sector and leaves the responsibility for new investments to the government-owner. Management contracts are sometimes used where it is difficult to induce the private sector to commit capital or take commercial and/or political risks.

For PPPs where the private partner wholly provides financing, constructs the fixed assets, operates and maintains the infrastructure during a franchise period, and recovers its costs by charging user fees to the government or the general public, the classification of economic ownership is not always obvious. That is to say, the balance of risks and rewards of ownership between the private operator and the government is difficult to evaluate. It requires a deeper understanding of risk allocation.

The main principle for risk allocation is that risks should be borne by the party best able to assess, control, and manage them and at the lowest cost. The objective is to ensure that the party with the ability to reduce risks has incentives to do so. The kinds of risks that are relevant in risk-sharing analysis depend on the type of contract, but the major categories include design risk, construction risk, operation risk, demand risk, third-party revenue risk, residual value risk, financial risks, *force majeure* risks, and political risks. Thus, the important questions in risk analysis are: What kinds of risks are borne by each party? How does risk-sharing affect the economic benefits from the ownership and operation of assets?

On rewards of ownership, one should be careful in putting much importance on benefits from use rights, for instance, the government's use of a hospital built under PPP or its use of the computer facilities installed under a PPP computerization project. Use right is just one element in an array of possible rights associated with ownership. Other rights from which an owner can exploit rewards include (1) the right to the residual income or profits of a PPP project, (2) the right to allow or exclude use of the PPP facilities, (3) the right to the residual asset at the end of the contract period, and (4) the right to exploit other uncontracted for and unforeseen uses of the assets.

The residual income can wholly accrue to the private operator or be shared with the government. The latter case can be found in contracts where the private operator recovers its costs and some return through user fees to the public and is required to pay concession fees to the government through a fixed concession fee or variable revenue-sharing arrangement. The right to allow or exclude use of the PPP facilities is held by the private operator, but the government in its role as regulator has the capacity to influence this right when public security and/or convenience requires.

Associated with the right to the residual asset is the **residual value risk**, or the risk that the residual asset at the end of the contract will have significant value for the seller or the ultimate owner. If the private partner bears it, residual value risk is the costs associated with ensuring that the asset will have a high market value, or can still be used for other purposes if not liquidated. If the government bears it, residual value risk is the risk that the asset will still perform for a sufficiently long period of time after contract termination. For example, if the contract requires the government to purchase the residual asset at market value at the end of the contract period, then the private partner bears the residual value risk since it must incur costs in maintaining the residual asset so that it will fetch a high price. On the other hand, if the transfer to the government of the residual asset is at a nominal price, including zero, then the government bears most of the residual value risk.

The rewards from the right to exploit other uncontracted for and unforeseen uses of the assets are hard to recognize since these uses are not in the contract in the first place.

IV. SOME RECOMMENDATIONS

A recommended approach in the statistical treatment of PPPs is a step-by-step procedure that basically follows the decision tree in Figure 1. First, it is necessary to determine what type of contract is being implemented. If the financing, construction and operation responsibilities are primarily with the private partner, then the contract is among the class of contracts that makes asset ownership classification difficult. If not, the statistician can rely on existing standards for applicable rules, for example, rules on construction contracts, leases, vendor financing, maintenance contracts, etc.

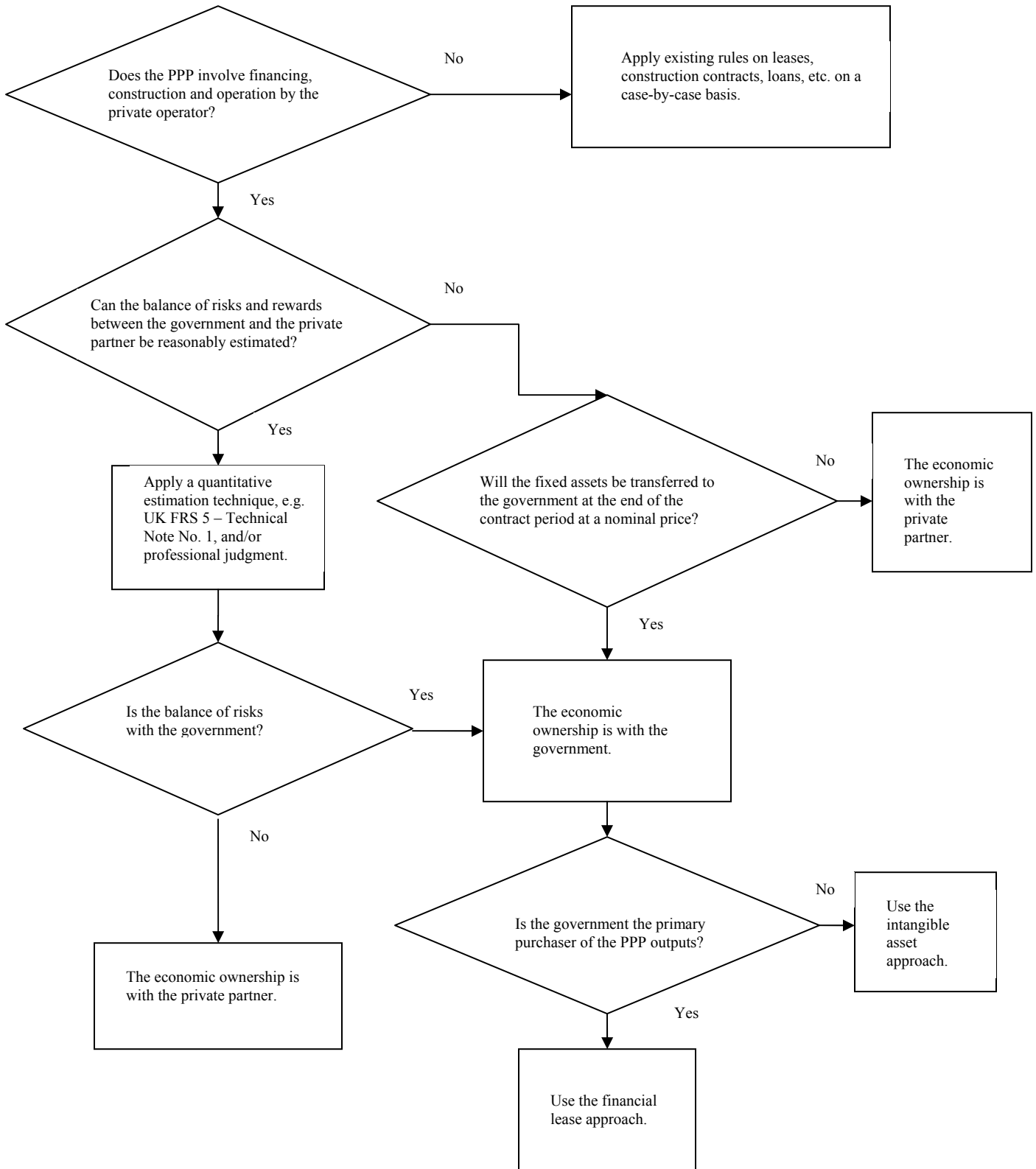
Note that if the private corporation which constructed the facilities is maintaining and ensuring the availability of the PPP facilities during the contract period (usually, PPP arrangements in hospital, prison or school building projects), it does not necessarily mean that the former is the operator of the facilities. Operation means the use of the PPP facilities in the actual production of outputs or services, including the exercise of the right to grant or deny final consumers access to the services. If it is the government that operates the facilities in this sense while making regular payments to the private firm, then the arrangement can be effectively qualified as a finance lease, as prescribed in the public sector guideline *IPSAS 13-Leases*.

Finance leases are dealt with in *IPSAS 13*, which states, “A finance lease is a lease that transfers substantially all the risks and rewards incident to ownership of an asset. Title may or may not eventually be transferred.” *IPSAS 13* also provides that:

“While the legal form of a lease agreement is that the lessee may acquire no legal title to the leased asset, in the case of finance leases the substance and financial reality are that the lessee acquires the economic benefits or service potential of the use of the leased asset for the major part of its economic life in return for entering into an obligation to pay for that right an amount approximating to the fair value of the asset and the related finance charge.” [para. 21, p. 296].

Thus, even if the government as lessee will not acquire any residual asset at the end of the contract, it can be considered the economic owner if it acquires the service potential of the use of the PPP asset for the major part of the asset’s economic life.

Figure 1. Deciding the statistical treatment of PPPs



For the contracts that elude treatment in the existing rules, the first-best approach is to estimate the balance of risks and rewards through methodologies like the one being applied by the UK *FRS 5 and Technical Note No. 1* mentioned earlier. The methodology prescribes identifying the key commercial risks borne by each party and then evaluating the net present value of the potential variations in property profits/losses by each party using modeling techniques like sensitivity analyses, scenario analyses or Monte Carlo simulation. The crucial indicator is the total potential variation in property profits/losses and how this variation is shared between the parties. The party that bears the greater proportion of the variation is deemed the owner of the fixed assets.

The problem with the quantitative estimation approach is the danger of having spurious results, depending on the accuracy of the inputs to modeling and the simplifying assumptions made by the evaluator. Moreover, the quantitative estimation approach may not be practical especially when the necessary inputs to quantitative risk analysis (e.g., the projected revenues or costs related to each risk) are not available to government statisticians, as is the case in countries with less developed statistical systems. Thus, professional judgment must also be exercised in assessing where the balance of risk allocation lies.

When the tests described above (i.e., using existing rules to classify PPPs or estimating the balance of risks using quantitative techniques and/or professional judgment) fail to give a conclusive result, a second-best approach, which suggests that the balance of risk-bearing is tipped by the way the residual value risk is allocated, can be used. If the residual asset is significant and will be transferred to the government at a nominal price when the contract ends, it can be considered that the economic ownership of the fixed asset lies with the government since it is the party that bears the residual value risk, an ownership risk. If the purchase price is equivalent to the market value of the residual asset, then the transaction at the end of the contract period is an ordinary market transaction by the government, that is, the purchase of a depreciated asset at its market value. Thus, PPP arrangements like BOT, ROT and design-build-operate-transfer are covered in this second-best approach, regardless of who purchases the services or outputs of the PPP project, the government or the general public. The recording treatment will differ based on who purchases the PPP outputs.

If the significant residual asset will not be transferred to the government, the private operator bears the residual value risk and the economic ownership of the fixed asset lies with the private partner all throughout the contract period. Thus, there is no need to record the asset in the government balance sheet. If the PPP asset is to be considered owned by the government, at the end of the contract period, the residual asset will still be recorded in the private sector account in the national accounting, and such treatment is difficult to reconcile. Moreover, the private operator has the benefit of ownership of the residual asset through liquidation or conversion to other uses at the end of the contract.

Some may argue that by focusing on residual value risk alone, the second-best approach de-emphasizes other major risks such as construction risk, availability risk, and demand risk. This is not true. In PPPs covered by this approach, risk allocation principles dictate that the private partner must bear the construction risk and availability risk to ensure that it has the

incentives to efficiently carry out its investment responsibilities during the construction and operation stage. Major construction risks, for example, cost overrun due to inefficient construction practices or delay in completion due to lack of coordination among subcontractors, are often within the private partner's control and therefore must be borne by it. The same is true with performance or availability risk due to, for example, quality shortfall or poor maintenance. Although cases exist wherein the government shares in the availability risk, such as in projects where fuel inputs are supplied by the government, the private partner as the operator still bears the greater proportion of the availability risk.

Recall that the Eurostat standard prescribes the classification of PPP assets as privately owned if the private partner bears the construction risk and either availability or demand risk. Using the second-best approach recommended in this paper, even if the private partner bears both the construction risk and availability risk, the assets can still be classified as government-owned if the PPPs involve the transfer of the residual asset at a nominal price. Recall also that the Eurostat standard applies only to the case where the government is the main purchaser of PPP services. The framework here, on the other hand, includes the case where the private partner levies user fees to the public.

In the case where the government is the purchaser of the PPP services, either for intermediate use or for final consumption, the government bears the demand risk if there is a minimum purchase necessary regardless of actual demand (take-or-pay agreement), the private partner bears the demand risk if the government's payments are entirely variable and depend on actual demand, and both parties share the risk if the contract stipulates fixed payments regardless of actual usage of the PPP services. In the case where the general public is the purchaser of the PPP services, the demand risk is a commercial risk which should primarily be borne by the private sector, although some governments allow a risk-sharing arrangement on a case-by-case basis. Some governments guarantee a minimum demand during the early stage of the project when demand is still starting to rise; some guarantee a minimum rate of return when demand is inelastic and unresponsive to the private operator's actions like service quality improvement. In contracts wherein there are exclusivity provisions, that is, the government will disallow competition in the PPP franchise holder's market for a specific period of time (usually until a certain level of demand is reached), the demand risk is still primarily with the private sector although the exclusivity acts as an implicit demand guarantee.

In the PPPs which are not covered by the second-best approach, the demand risk could be a significant factor in deciding the ownership classification. Such case is immediately evident in PPPs that can be treated like finance leases, where the government is the one bearing the demand risk. But whatever the economic ownership classification is, the explicit demand guarantees should be included in governments' contingent liability management, which may entail pricing these guarantees and setting aside a budget provision for them.

Some may also argue that since the government provides an implicit guarantee against the risk of project failure in the sense that it is expected to step in and buy out the project or assume the debt liabilities of the project when the project fails, then even the PPPs that do not

involve transfer of residual assets must be classified as government-owned. The principal reasons why the government will want to exercise its step-in rights in the event of project failure are (1) the supplier-buyer relationship has been so interdependent because of asset specificity²⁵ that it leaves both parties no other recourse but to buy out the other and vertically integrate, and (2) to ensure that the convenience, safety or security of the general public is not impaired.

Sometimes this “too-big-to-fail” notion of PPPs is explicit in the contract when a stand-by letter of credit is issued or a buy-out clause for *force majeure* or political and regulatory risks is stipulated. In cases where the cause of project failure is an exogenous event affecting all sectors of the economy and therefore beyond government control, risk allocation principles dictate that the government should not bear the risk of project failure.

However, classifying PPPs as government assets solely on the basis that it must ultimately bear the risk of overall project failure is not consistent with accounting principles. The event of project failure, and therefore the government’s stepping in, is an unplanned and uncertain future event and this means that the asset in question when there is an impending take-over is a “contingent asset” from the point of view of the government. In contrast, the transfer of the legal title in BOTs is neither unplanned nor uncertain because it is stipulated in the contract.

A familiar example of a contingent asset is an asset being pursued through legal proceedings the final outcome of which is uncertain. An entity should not recognize a contingent asset, just as it should not recognize a contingent liability, although appropriate disclosure and budgeting provision mechanisms must be required. The appropriate treatment for contingent assets and liabilities in PPPs is to require their continuous disclosure and assessment to ensure that if it has become highly certain that an event that may trigger their recognition in the balance sheet is imminent, immediate recognition can be made.

The recommendation in this paper should not be misconstrued as saying that residual value risk-bearing is the overriding criterion in the estimation of the balance of risks, nor that the residual value test should be applied in a mechanistic way. It bears repeating that the residual value test should be applied only when other tests, including professional judgment, fail to yield categorical results.

After classifying the PPP assets as government-owned, either through first-best or second-best procedures, the next task is to apply reasonable methods in recording these assets in the government balance sheet. In the case where the government purchases the PPP services, the **financial lease approach** could be used. In the case where the general public purchases the PPP services, the **intangible asset approach** could be used.

²⁵ Asset specificity means that assets are not valuable in other uses aside from those implied in the contractual relationship. For example, the fixed assets in a water treatment plant project cannot be redeployed in other locations and are not useful for purposes other than bulk water treatment.

The financial lease approach and the intangible asset approach to be described here are similar to the IFRIC draft recommendations for the private sector. The IFRIC guidelines do not suggest counterpart accounting entries in the government balance sheet but the recommendations in this paper are the other side of the coin. The major difference with the IFRIC analysis is the rationale for considering the PPPs covered under Cases 1 and 2 above as government-owned. The IFRIC believes the justification based on “control” is a more durable approach than one based on “risks and rewards” since the latter leads to complexities and inconsistencies.²⁶ However, the notion of control itself leads to inconsistencies because the IFRIC recommendations cannot be applied to other regulated (“controlled”) industries. The notion of economic ownership, on the other hand, requires that the rationale for treating the assets as government-owned be based on the balance of risks and rewards.

Case 1 – The government purchases the PPP services

The possible recording method is for the government to recognize the asset in its balance sheet and a liability in terms of payables (for the financing arrangement and the construction services rendered in advance by the private operator). As the private partner recovers its construction and operating costs plus some return through regular payments from the government, some portion of the transaction is akin to financial lease payments. Thus, by unbundling the future payment obligations and recognizing the liability, some portion of the commitment to pay is recorded and treated as having the same macroeconomic effect as public debt in debt sustainability analysis. On the private sector balance sheet, it can be considered that while the private partner recognizes a debt liability to the project financiers, there is an underlying counterpart financial asset in terms of receivables from the government.

Figure 2. Financial lease approach

Government Balance Sheet		Private Sector Balance Sheet	
Assets	Liabilities	Assets	Liabilities
Fixed asset	Payables for financing and construction services	Financial assets, i.e., receivables from the government	Debt servicing to project financiers; equity liability to shareholders

Of course a significant portion of the regular payments by the government is for the purchase of produced PPP outputs which could be for final consumption, for instance, information technology services in automated processing of foreign visas, or for further inputs to the government’s production of other services, for instance, generated power for a state-owned electric distribution utility, or treated bulk water for a public water utility. Thus, the regular

²⁶ Ernst & Young, 2005, *op. cit.*

payments by the government can be thought of as consisting of lease payments for the fixed assets and payments for PPP outputs. The portion recognized as payments for PPP outputs are to be recorded as expenditure on goods and services as they accrue. Although not part of the balance sheet record, the future payments for this portion could also be used in debt sustainability analysis since these payments, being contractual obligations, also put pressure on government finances in the same way that debt obligations do.

Appendix 1 provides a simplified numerical illustration of this approach using the *GFSM 2001* framework.

Case 2 – The general public purchases the PPP services

Two possible complications arise from this treatment: (1) how to account for the acquisition by the government of the fixed asset if there is no liability that could be recorded, and (2) how to justify the basis for recording the tariff revenues as the private operator's revenue when it is not the owner of the fixed asset.

At this point in the analysis, the intangible asset approach suggested by Donaghue (on page 6) needs to be revisited. It can be considered that by entering into contracts under this category, the government has created an intangible asset that gives the private operator the right to operate the fixed asset and charge the public for the goods or services produced using the asset. Thus, in the acquisition by the government of the fixed asset, the private partner is deemed compensated with this intangible asset, much like in an asset swap. Moreover, the tariff revenues are essentially private revenues arising from the private owner's use of its intangible asset.

The intangible asset approach was a promising approach at the time Donaghue recommended it, although there were a few snags in its application. He suggested then that to avoid arbitrarily increasing net assets in the economy, the original value of the BOT asset must be reduced by an amount equal to the imputed value of the intangible nonfinancial asset but this procedure distorts asset valuation, especially since the reduced fixed asset value is not useful for calculating depreciation.

There is really no need to reduce the fixed asset by an imputed value of the intangible asset. It is sufficient to impute a value of the swapped intangible asset equivalent to the constructed fixed asset, and it is deemed that as the government records consumption of fixed capital, the intangible asset also depreciates in the private sector balance sheet. The basis for this is the international standard on intangible assets, *International Accounting Standard (IAS) 38 (Revised)* made effective on April 1, 2004, and the *GFSM 2001* definition of intangible nonproduced asset.

IAS 38 (Revised) provides that an intangible asset is identifiable when it "arises from contractual or other legal rights." Further, the *GFSM 2001* calls this kind of asset as an intangible nonproduced asset and states that:

“Intangible nonproduced assets are constructs of society evidenced by legal or accounting actions. Some entitle their owners to engage in certain specific activities to produce certain other specific goods or services and to exclude other units from doing so except with the permission of the owner. The owners of the assets may be able to earn monopoly profits by restricting the use of the assets to themselves.”
[para. 7.78, pp. 120-121]

The criteria for determining which contracts give rise to intangible assets were still under discussion at the time the *GFSM 2001* was formulated. The examples of intangible assets enumerated in *IAS 38 (Revised)* include licenses, franchises and marketing rights. This paper interprets that a BOT franchise falls under the intangible asset with finite life category mentioned in *IAS 38 (Revised)*, where finite life means the asset’s useful life shall not exceed the contractual or legal rights that give rise to the asset. *IAS 38 (Revised)* also stipulates an amortization procedure for the intangible asset over its useful life.

This paper adopts the IFRIC suggestion that the private operator should recognize in its balance sheet receivables for its construction services (rather than the fixed asset) during the construction stage, and the intangible asset from the franchise grantor to offset the receivable once the construction is complete. *IAS 38* states that an intangible asset should be recognized if and only if (1) it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise, and (2) the cost of the asset can be measured reliably. Thus, the government recognizes the creation of an intangible asset only when the probability of future economic flows from the asset is highly certain, i.e., when the project is completed and charging for user fees is set to begin. *IAS 38* also provides that the value of an intangible asset acquired in exchange for another asset is measured at the fair value of the asset given up (adjusted by the amount of any cash or cash equivalents transferred).

Figure 3. Intangible asset approach

Government Balance Sheet		Private Sector Balance Sheet	
Asset	Liabilities	Asset	Liabilities
<u>Construction stage</u>			
Add: Fixed Asset	Add: Accounts Payable	Add: Accounts Receivable	Liabilities on account of project finance
<u>Start of operation</u>			
Intangible Asset (created)	Less: Accounts Payable	Add: Intangible Asset	
Less: Intangible Asset	(Liability is extinguished)	Less: Accounts Receivable	

Appendix 1 also provides a simplified numerical illustration of this approach using the *GFSM 2001* framework.

Note that classifying the assets in the government balance sheet for PPPs that involve transfer of residual assets is recommended not merely for convenience—not just to deal with the statistical problem of having a sudden jump in the public investment data (at the end of the contract period) under the conventional approach, and not also because statistics compilers find it difficult to reconcile the notion of a “gift” from the private operator in the form of a residual BOT asset. The underlying reason is that the balance of risks is tipped by the residual value risk-bearing by the government. Thus, for these reasons—the asset value is significant after the contract period and the government bears the residual value risk—there is strong justification for considering the government the economic owner of the PPP asset. The same principle could apply if the contract provides for a “bargain purchase option,” i.e., the government has the option to buy the facility at below market value at the end of the contract period, because this option will most surely be exercised.

Note also that for arrangements with transfer of residual asset at nominal price, the principle of risk allocation fails—the private operator is the party best able to control the residual value of the PPP asset since it is the one that has the ability to ensure proper upkeep of the facility as the contract end becomes imminent, and yet it is not the party shouldering the residual value risk. This is not to say, however, that governments are powerless to manage this risk. Contracts must have risk-mitigating measures that will give incentives to the private partner to partly control for the residual value risk, such as requiring performance bonds valid for a certain period of time after the transfer of the legal title to the asset.

V. CONCLUDING REMARKS

The classification of the economic ownership of one class of PPPs, that is, arrangements where the government bears a substantial proportion of project risks, under government would help in exercising a more prudent fiscal risk management. Specifically in the case where the government is the primary purchaser of PPP outputs and bears the greater proportion of risks, where before governments would recognize the future service payments as mainly expenditure on goods and services as spending accrues, they would now have to record acquisition of the PPP assets and recognize a significant portion of the future payments as actual liabilities in the government balance sheet. The upshot of this is the inclusion of the otherwise project liabilities in fiscal risk assessment and country debt sustainability analysis.

Government statistics compilers, however, must know what accounting practices are being applied by the private sector. If the assets in the class of PPPs mentioned above are being recorded in the private operator’s balance sheet, then statisticians must ensure that an offsetting deduction is made in the aggregate data on private sector investments, otherwise there will be double-counting of investments in the national accounts. Governments must also watch out for the official adoption of the IFRIC guidelines D12-D14 as an international standard to ensure that statistics are harmonized and no unnecessary deductions in the private sector accounts are made in the attempt to avoid double-counting in the national accounts.

PPPs have been a matter of concern in fiscal risk management also because the impacts of contingent liabilities in most of these arrangements are not captured in fiscal statistics. Although the emphasis here is on the statistical treatment of fixed assets, this paper also suggests that future research in fiscal statistical treatments tackle the issue of accounting for contingent liabilities.

In terms of statistical methodology, the practical approach at present is to capture in government finance statistics the contingent liability exposure implied by government guarantees and to require continuous monitoring of this exposure. In terms of policy, future research could start with approaches recommended in various literature, which include valuing guarantees (for example, through actuarial, stochastic or options pricing methods) and comparing them with other alternatives before project approval, setting a ceiling on aggregate guarantees (for example, a specific amount or a certain percentage of GDP), and building up a contingency fund to lessen the budgetary impact of events that would trigger the call on guarantees.

Appendix 1

Simplified Illustration of the Suggested Recording Approaches

To simplify the analysis, this numerical illustration considers construction costs only and ignores other costs and present value discounting of the transactions. The values are in currency units (CU).

The Financial Lease Approach

Consider a hypothetical 10-year PPP contract where the government is the purchaser of the PPP outputs and the private partner finds financing for the project, constructs the facility over 2 years, operates it for 8 years, and transfers the residual asset to the government at zero price after the contract ends. Assume further that as a result of risk assessment, either through the first-best or second-best approaches described in the text, the government is deemed the economic owner of the PPP assets.

The construction costs are:

Year ²⁷	Cost per year
1	700
2	700

The contract stipulates that the government will pay a fixed fee of 300 CU per year from years 3-10 for the PPP outputs. Assume that the fixed asset has a 14-year useful life and consumption of fixed capital (the economic equivalent of depreciation) is 100 CU per year, computed using the straight-line depreciation method.

Transactions and other economic flows are recorded on an accrual basis under the *GFSM 2001* framework, which means that transactions are recorded at the time economic value is created, transformed, exchanged, transferred, or extinguished. With reference to the codes in the *GFSM 2001*, the transactions affecting the government balance sheet during the contract period are:

²⁷ All throughout this appendix, figures are reckoned at the end of the year.

Year	Acquisition of Nonfinancial Asset	Incurrence of Liabilities	Lease Payments/Disposal of Financial Assets, e.g. Currency and deposits (<i>GFSM</i> code 3312)	Consumption of Fixed Capital (<i>GFSM</i> code 311)
	Fixed Asset (<i>GFSM</i> code 311)	Accounts Payable/Lease Obligations (<i>GFSM</i> code 3318 or 3328)		
1	700	700		
2	700	700		
3			175	100
4			175	100
5			175	100
6			175	100
7			175	100
8			175	100
9			175	100
10			175	100

Since the government is the economic owner of the fixed asset, it has to recognize in its balance sheet the fixed assets and the counterpart liability, that is, accounts payable for the construction and financing services advanced by the private partner. It is deemed that the government extinguishes this liability through a portion of the 300 CU yearly fixed payments. The liability is extinguished fully during the contract period by recognizing 175 CU as yearly lease payments (the remaining 125 CU is for operation and maintenance costs and the value of PPP outputs). The government will have a residual asset of 600 CU at the end of the contract and no transfer of fixed capital from the private sector will have to be recorded when the transfer of legal title is made.

The Intangible Asset Approach

Consider again a hypothetical 10-year PPP contract where the private partner finds financing for the project, constructs the facility over 2 years, operates it for 8 years, and transfers the residual asset to the government at zero price after the contract ends.. This time, however, the private operator recovers its costs and earns profits by charging user fees to the general public. Assume once more that as a result of risk assessment, either through the first-best or second-best approaches described in the text, the government is deemed the economic owner of the PPP assets.

The construction costs, construction period, useful life of the fixed asset, and depreciation method are similar with the previous case.

With reference to the codes in the *GFSM 2001*, the transactions affecting the government balance sheet during the contract period are:

Year	Acquisition of Non-financial Asset		Net Incurrence of Liabilities	Disposal of Non-financial Asset	Consumption of Fixed Capital (<i>GFSM</i> code 311)
	Fixed Asset (<i>GFSM</i> code 311)	Intangible Asset (<i>GFSM</i> code 3144)	Accounts Payable (<i>GFSM</i> code 3318 or 3328)	Intangible Asset (<i>GFSM</i> code 3144)	
1	700		700		
2	700	1400	700	1400	
3			0		100
4					100
5					100
6					100
7					100
8					100
9					100
10					100

During construction, the government records as its own the fixed asset being constructed by the private firm and recognizes accounts payable for the construction and financing services. It then recognizes the creation of the intangible asset when it is highly likely that future economic benefits will flow from it, that is, at the end of year 2. As settlement of the accounts payable it has incurred, the government then trades the intangible asset with the private operator also at the end of year 2.

After accounting for the consumption of fixed capital, the government will have a residual asset of 600 CU at the end of the contract and no transfer of fixed capital from the private sector will have to be recorded when the transfer of legal title is made.

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