BUILD-OPERATE-TRANSFER PROJECTS IN TURKEY: CONTINGENT LIABILITIES AND ASSOCIATED RISKS

İlker Ersegün Kayhan*

Chevening/Abdullah Gül Research Fellow, Oxford Center for Islamic Studies,
University of Oxford

Glenn P. Jenkins
Department of Economics, Queen's University,
Kingston, Ontario, Canada, K7L3N6,
and Department of Economics, Eastern Mediterranean University
E-mail: Jenkins@econ.queensu.ca

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ABSTRACT

The government of Turkey actively promotes public-private partnership models in infrastructure projects. Public-private partnership implementation contracts risk incurring a heavy fiscal burden on the state through contingent liabilities. It is therefore important to distribute risk among contract parties, according to the risk-management capacities of each. In the context of Build-Operate-Transfer projects, governments are expected to cover political and force majeure risks, as well as to guarantee demand for the goods and/or services produced. In Turkey, however, the government also assumes responsibility for finance risk, construction risk, and availability risk, which are usually assumed by the private sector. This study presents an overview of the legal and institutional frameworks relevant to Build-Operate-Transfer projects in Turkey, assessing the explicit contingent liabilities and associated risks to formulate policy recommendations on the evaluation, monitoring, and management of such contingent liabilities and risks in line with international best practice.

Keywords: Public-private partnerships, infrastructure, contingent liabilities, Turkey

JEL classification: L33, G13, H54

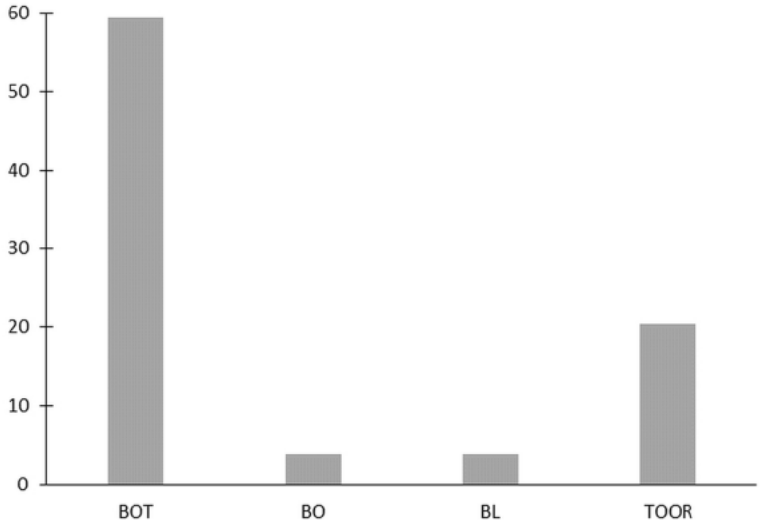
* *Correspondence Address:* İlker Ersegün Kayhan, Oxford Center for Islamic Studies, University of Oxford, George Street, Oxford OX1 2AR, UK, E-mail: ilker.kayhan@oxcis.ac.uk

Introduction

The government of Turkey has declared its intention to establish the country as one of the world's ten largest economies by 2023.[1] Achieving this goal requires major investment in public infrastructure. However, because Turkey already has high public deficits and debt, the government has chosen to implement infrastructure investment through public-private partnership (PPP) financing and operating arrangements, keeping investment expenditure off-budget and debt off-balance sheet. Since the 1980s, the PPP model has been used to attract private-sector participation in sectors ranging from energy and transportation to health and water and sanitation. During the Ninth Development Plan period (2007-13), 46 PPP projects have been authorized, amounting to a total investment of USD 28.5 billion, in nominal prices (equivalent to TRY 44.8 billion).[2] The Tenth Development Plan (2014-18) envisages total PPP investments of TRY 87.6 billion, in 2013 prices (equivalent to USD 46.1 billion).[3]

The oldest and most popular PPP model in Turkey is the Build-Operate-Transfer (BOT) model, which has been extensively used in a wide array of fixed-capital investments including the construction of highways, airports, marinas, border customs stations, hydroelectric power plants, and natural gas combined-cycle plants.[4] During 1986-2013 period, 167 PPP projects were authorized, amounting to total investment of USD 87.5 billion, in nominal prices (Figure 1). Total authorized investment in the 97 BOT[5] projects approved during the period amounted to USD 59.4 billion, in nominal prices.[6]

Figure 1. The Total PPP Investments in Turkey categorized by the Model (USD Billion, in Nominal Prices), for 1986-2013 period



The widespread use of PPPs in Turkey entails risks of its own that merit careful study. This paper addresses the explicit contingent liabilities and associated risks of BOT projects—the most common form of public-private partnership in Turkey—providing an overview of theory and practice, followed by specific examples to better illustrate key discussion points. Hemming et al. define the explicit contingent liability as "a guarantee that legally binds a government to take on

an obligation should a clearly specified uncertain event materialize, and as such gives rise to a contingent liability".[7] Polackova describes an explicit liability as a government liability recognized by law or contract, and defines contingent liability as an obligation should a particular event occur.[8]

The explicit contingent liabilities relevant to PPPs in Turkey are mainly guarantees of supply and demand, and loan guarantees extended by the government to the private sector. Supply guarantee is to cover probable payment obligations that may arise from the project company's purchases of production inputs, if such inputs cannot be provided by the state enterprises as promised by the government. Demand guarantee is the guarantee given by the government for the purchase, at a contracted price, of the goods and/or services produced by the project company. For example, in the energy sector, the government is committed to the purchase of the electricity produced, at a specified price. In the transportation sector, the government guarantees minimum traffic flow and associated private-partner revenues. However, these pose a hidden risk to the fiscal stability of the country, which not only limit the borrowing capacity of the state but also increase its cost of borrowing.[9]

The literature presents arguments for and against government explicit contingent liabilities in the context of PPPs. On the one hand, government guarantees on loans extended to the private sector are deemed an integral part of public-policy programs, promoting essential investment in essential but high-risk infrastructure projects, such as the expansion of electricity-generation capacity or the construction of highways between major cities.[10] Government financial guarantees are critical to persuading equity investors, banks, or other long-term private-sector investors to participate in PPPs. At the same time, government guarantees help to secure financing at competitive rates, boosting a project's financial viability.[11]

On the other hand, Hemming et al. caution that governments should not extend guarantees to protect the private sector against all risks; rather, the focus should be on those risks that affect individual projects or groups of similar projects.[12] However, the government of Turkey has not always taken heed of this caveat. Kordel regards the issue of unbalanced risk distribution between the public and private sector as a major problem encountered by PPPs in Turkey.[13] For instance, in the case of the İzmit Water Supply (Yuvacik Dam) Project, the government assumed responsibility for demand risk and financial risk, in addition to political risk and force majeure risk.[14]

The Yuvacik Dam Project, initiated in the mid-1990s, entailed a take-or-pay contract between the project company and İzmit Municipality, backed by an investment guarantee provided by the Treasury,[15] according to which the Municipality committed to pay for 142 million cubic meters of water per year, whether or not it took delivery of the specified volume. At the same time, the project company was at liberty to determine the annual tariff required for it to meet projected revenue requirements. The project began operations in 1999 with a high initial tariff, due to escalated construction costs and the devaluation of Turkish Lira. As a consequence, demand for water did not materialize from potential clients (mainly Istanbul Municipality). Furthermore, a regional drought meant that the dam failed to provide İzmit Municipality with the 142 million cubic meters of water per year agreed, yet the Municipality was required to pay for the contracted amount, which it was unable to do. The government's contingent liabilities thereby

became actual liabilities, with the Treasury required to pay for water that had not even been delivered—a total of USD 2.034 billion as of December 31, 2013.[16] Additionally, the Treasury had guaranteed a loan issued by the international market to İzmit Municipality, in order to contribute equity to the project company.

Similar scenarios have emerged in the transportation sector, where the government assumes demand risk by guaranteeing private-sector partners minimum traffic volumes and associated revenue-generation capacity. According to Coşan and Büyükbaş, the İzmit Bay Crossing Project on the Gebze-İzmir Highway entailed a guarantee of minimum traffic flows from the General Directorate of Highways providing for annual revenue of at least USD 700 million, with the tariff adjustable for inflation and indexed to USD.[17] Another example is the construction and operation of the third Bosphorus bridge, for which the government guaranteed traffic flows of at least 135,000 vehicles per day as well as minimum private-sector partner revenue.[18]

In addition to the disproportionate risk on the public sector posed by PPPs, government loan guarantees for such projects may induce moral hazard in private-sector partners.[19] For instance, a government guarantee on debt issued by a private-sector firm may reduce the incentive that firm has to meet its debt obligations. Additionally, loan guarantees may reduce the incentive of financial institutions to appraise the financial viability of PPP contract properly. Such a situation creates a distortion in financial-market dynamics, which are supposed to impose a degree of control over PPPs. Without the discipline of financial market forces, financial institutions may not retest government decisions with respect to PPP contracts.

The other caveat is that governments generally do not account for contingent liabilities when investment is guaranteed.[20] The reason for this is that governments may be biased toward off-budget policies, which pose more financial risk but require less immediate financing. However, the attendant risk here is that contingent liabilities are future obligations, and the magnitude and timing of probable outlays are unknown.[21] Usually, contingent liabilities are only included in the budget when they result in cash outlays. This is the practice regarding PPPs in Turkey, where cash-based accounting is used in financial reporting. The practice of off-budgeting contingent liabilities conceals the risk to government finances at the time those liabilities are assumed—risk that is exposed only when the liabilities materialize.[22] As shown in Table 1, the government of Turkey assumed large contingent liabilities on PPP investments, in the form of Treasury investment guarantees to BOT projects in the electricity and water sectors.

Table 1. BOT Projects with Treasury Investment Guarantees

Project	Date of Commissioning	Guarantee Issue Date	Treasury Guarantee (During Investment Period)	Treasury Guarantee (During Operating Period)	Operating Period
Birecik HPP[1]	10/4/2001	11/18/1995	Commitment of EEF[2] to obtain subordinated loan	Electricity purchase guarantees of TETAŞ[3], Commitment of undertaking loans.	15 years
Çamlıca I HPP	12/12/1998	8/7/1996	-	Electricity purchase guarantees of TETAŞ	15 years
Esenyurt NGCCP[4]	10/9/2002	4/2/1997	Commitment of EEF to obtain subordinated loan	Electricity purchase guarantees of TETAŞ, Commitment of BOTAŞ to supply gas, In case of termination, electricity purchase guarantees of EEF.	20 years
Fethiye HPP	12/20/1999		-	Electricity purchase guarantees of TETAŞ.	15 years
Gebze-Dilovası NGCCP	2/4/2002	9/4/1997	-		20 years
Gönen HPP	3/8/1998	3/14/1997	-		20 years
Suçatı HPP	1/18/2000	11/6/1997	-		15 years
Tohma-Medik HPP	12/23/1998	8/11/1997	-		20 years
Trakya Marmara Ereğlisi NGCCP	10/25/2002		Commitment of EEF to obtain subordinated loan	Electricity purchase guarantees of TETAŞ, Commitment of BOTAŞ[5] to supply gas, In case of termination, electricity purchase guarantees of EEF.	20 years
Unimar Marmara Ereğlisi NGCCP	2/4/2004	11/15/1996	Commitment of EEF to obtain subordinated loan	Electricity purchase guarantees of TETAŞ, Commitment of BOTAŞ to supply gas, In case of termination, electricity purchase guarantees of EEF.	20 years
İzmit Water Supply Project	1/18/1999	12/19/1995	-	Commitment of the Municipality to buy water and for undertaking loans.	15 years

[1]: Hydroelectric Power Plant
[2]: Electricity Energy Fund
[3]: Türkiye Elektrik Ticaret ve Taahhüt Anonim Şirketi (Turkey Electricity Trade and Undertaking Corporation)
[4]: Natural Gas Combined Cycle Plant
[5]: Boru Hatlarıyla Petrol Taşıma Anonim Şirketi (Petroleum Pipeline Corporation)

Source: Treasury

Provision of Government Guarantees to BOTs in Turkey

The following section summarizes the evolution of the provision of government guarantees to BOTs in Turkey, with specific reference to the relevant legislation involved.[23] The main purpose is to shed light on the type of explicit contingent liabilities and associated risks the administration[24] has assumed under BOT contracts. Such agreements are reached between the relevant government body and the project company, to undertake a given BOT project as envisaged by the Supreme Planning Board (SPB).[25] In 1984, the government permitted local or foreign companies to work, under private law, in electricity generation, transmission, distribution and trade.[26] Agreements between the government and the project company covered a period of up to 99 years, and were required to specify the tariff at which project companies (electricity producers) would earn sufficient revenues to cover annual operational and maintenance expenses, depreciation, and a reasonable shareholder dividend.

A comprehensive legal framework governing BOTs was introduced in 1994, covering a number of sectors including energy (generation, transmission, distribution, and trade), mining, and transportation (highways, railways and railway stations, seaports, airports).[27] The new law limited BOT agreements to a maximum of 49 years. Fees[28] or contribution payments[29] for the goods and services produced as a result of BOT projects were required to be determined by the minister in charge of the authority signing the BOT implementation contract[30] with the project company. In addition, the Council of Ministers was entitled to provide a BOT project company with Treasury investment guarantees for the following:

i) payment obligations arising from state institutions' and enterprises' purchases of goods and services (demand guarantee);
ii) payment obligations stemming from the project company's purchases of production inputs, if such inputs cannot be provided by the state enterprises as promised in the implementation contract (supply guarantee);
iii) repayment of bridge financing;
iv) repayment of outstanding senior loans if the government buys out facilities developed under a BOT project.

The 1994 law does not require that Treasury investment guarantees are made available to all BOT projects. The Cabinet of Ministers is entitled to provide Treasury investment guarantees at the suggestion of the responsible Treasury State Minister, based on the technical advice of the Treasury. The law also requires any central government administration that is signatory to a BOT contract to pay its guaranteed payment obligations during the operating period from its own budget.[31] However, the law decentralized the institutional set-up for the provision of demand guarantees, such that a wider range of relevant administrations (not just the Treasury) could issue demand guarantees for the goods and services produced by a BOT project company.[32] As a result, demand guarantees across sectors, from electricity-generation to airports to road transport, have proved difficult to monitor and manage.

As highlighted above, government authorities assume undue risk under the existing legal framework, by providing demand guarantees for goods and/or services provided by the project company. However, a further danger lies in foreign-currency risk. As Güner notes, "the demand guarantees and the pricing of the goods and services provided can be made in foreign currency,

and escalated and reviewed/revised at certain intervals".[33] This is yet another potentially substantial and unpredictable cost borne by government, in addition to the demand risk.

The law provides for force majeure to be addressed through either the extension of the contract term or the adjustment of the price of goods and/or services supplied by the project company. If the event leads to the termination of the contract, the government can assume responsibility for project senior loans, at least for the fraction of financing used, until the date of project termination.[34] In order to further encourage private sector participation in public investment, contractors are exempted from value-added tax on construction-related inputs (goods and services) until the year 2023.[35] This constitutes additional direct governmental support to the private sector (project companies), partially mitigating construction risk.

As already mentioned, Treasury investment guarantees can also be provided to cover the relevant administration's supply guarantees. A supply guarantee from the government to the private sector is a strong mitigator of availability risk.[36] However, generally, availability risk is supposed to be handled by the project company. The reason is that as long as the project company strongly influences at least some of operating costs of the project, allocating the relevant risk to the project company would be more likely to maximize total project value.[37]

As a result of the increase in contingent liabilities in the energy sector in particular, the government of Turkey passed the Electricity Market Law prohibiting Treasury investment guarantees for BOT-model investments in the energy sector.[38] Accordingly, the sponsors of BOTs have avoided seeking Treasury guarantees. However, the law has had a limited impact, as the sponsors have relied instead on the creditworthiness of the relevant administration (line ministry or SOEs) with which off-take agreements have been reached.[39] Treasury investment guarantees are therefore only a small fraction of the contingent liabilities assumed by government bodies through BOT contracts.

Institutional Set-up for Managing Contingent Liabilities and Associated Risks of BOTs

The following section outlines the role of public-sector authorities involved in the preparation, appraisal, approval, implementation, and operation of BOT projects, as defined by government.[40] The practical implications of contingent liabilities and associated risks arising from BOTs are then considered, followed by an assessment of the challenges posed by contingent liabilities arising from government guarantees in the context of BOT projects. The Ministry of Development (MOD) of Turkey is the secretariat of the SPB, and is responsible for the evaluation of all BOT projects and for ensuring coordination among stakeholders. However, the MOD has mainly been doing the administrative coordination among stakeholders, while it has not been evaluating BOT projects because of the lack of required technical capacity.[41] The relevant line ministry involved in a BOT project is responsible for conducting a pre-feasibility study encompassing technical, financial, economic, environmental, social, and legal analyses, as well as a risk analysis. The risk analysis is expected to elaborate on the rationale of the proposed risk-sharing structure, including contribution payments and any government guarantees. Based on the pre-feasibility study, the Ministry of Finance (MOF), the Treasury, and the MOD then prepare technical opinions, within 30 days of request, to be presented to the SPB. Based on these

technical opinions, the SPB authorizes (or rejects) the project, approving (or not) the start of the bidding process.

Previous to 2011, the relevant administration approached the SPB first for authorization of a proposed BOT project, and then again for approval of the implementation contract. Under the current system, the relevant administration is required to secure only initial SPB authorization of a project, after which the relevant ministry can approve the implementation contract. This means that the SPB no longer assesses implementation contracts, which are approved by line ministries, making the process of identifying and monitoring contingent liabilities more challenging. More importantly, a lack of technical expertise regarding the financial intricacies of BOTs may lead line ministries to overcommit financially.[42]

The MOF is responsible for the monitoring of contingent liabilities incurred by central government administrations. However, the MOF does not monitor those incurred under BOT projects.[43] A warning of the magnitude of contingent liabilities arising from PPPs in a developing economy such as Turkey comes from the Philippines, where the Ministry of Finance estimated that 54 percent of total contingent liabilities in 2003 related to PPPs.[44] The management of such large contingent liabilities requires an assessment of their financial cost. In Turkey, there is no system in place for the operational measurement of the cost of contingent liabilities arising from PPPs, while evaluation techniques are available in the literature to calculate cash-grant equivalents of complex financial contracts, including guarantees. Simply put, the cash-grant equivalent of a guarantee is calculated as the present value of future probable outlays, appropriately adjusted for risk.[45]

The Treasury's duty is to calculate the probable fiscal burden and risks arising from BOTs as a result of Treasury investment guarantees of administrations' commitments to project companies. The risk assessment of such contingent liabilities is carried out by the Risk Management Unit (The Middle Office) at the Treasury, which prepares risk-management strategy, monitors risk, and reports its findings to the Debt Management Committee. Two models have been built to assess the risk of the Treasury investment-guarantee portfolio.

One, with application to the electricity sector, is the credit-risk model—a spreadsheet that simulates the position of the guaranteed entity under different macroeconomic conditions.[46] This model requires an up-to-date assessment of the macroeconomic environment of the economy and how it is expected to impact on the electricity sector over time. For such a model to be of practical use, it must have a high degree of accuracy in terms of both macroeconomic specifications and the financial condition of the electricity sector. Therefore, while of academic interest, the Treasury does not employ the credit-risk model to evaluate the cost of the risk arising from administration guarantees. The second model is the credit-scoring model, which "forecasts default probability one period ahead through a linearly-weighted combination of observable explanatory variables."[47] The credit-scoring model is similar to the methodology used by a credit-rating agency, and is regularly used by the Treasury.[48]

The literature on BOTs in Turkey makes no reference to approaches to the evaluation of contingent liabilities and risks, including demand guarantees, arising from implementation contracts involving line ministries or SOEs. As such, it appears that the institutional set-up for

the management of contingent liabilities shares the same shortcomings as the legal structure governing BOTs, explaining the lack of data on the overall cost of contingent liabilities arising from BOTs in Turkey.

Discussion and Policy Recommendations

Unbalanced Distribution of Risks

Analyzed from the risk-sharing perspective the legislation, as discussed above, gives rise to an unbalanced distribution of risks between the government and the private sector. Currie and Velandia propose that the government may take risk on behalf of the private sector if it implies systematic risk; coverage beyond systematic risk is a question of political economy.[49] As such, the government may provide demand guarantees to the private sector to mitigate the demand risk. The Organization for Economic Cooperation and Development (OECD) provides a rule-of-thumb approach in PPP arrangements, arguing that legal and political risk should be borne by the government, whereas construction risk and availability risk should be borne by the private sector.[50]

In the case of Turkey, the government has assumed responsibility not only for political and force majeure risks but also for demand risk. Additionally, the government supports the private sector by mitigating construction risk, although the private sector should be expected to take the construction risk since it can influence it more effectively.[51] Referring to the State Audit Council's (SAC) investigation report on electricity-generation projects,[52] Emek highlights the fact that private-sector participants in energy-sector BOT projects incurred almost no construction risk.[53] The government also assumed most of the availability risk, with project companies compensated when BOTAŞ (a state-owned company and sole importer and supplier of natural gas) was unable to provide natural gas on time. Moreover, TETAŞ (Turkey Electricity Trading and Contracting Company) assumes foreign-currency risk, purchasing electricity generated under BOT projects in foreign currency and selling it in local currency.[54]

PPP implementation contracts risk incurring a heavy fiscal burden on the state through the aforementioned contingent liabilities. It is therefore important to distribute risk among contract parties, according to the risk-management capacities of each. Contingent liabilities can generate liquidity risk for the state, being similar to American put-options that can be called any time. Contingent liabilities can also create credit risk for the state, where it is unable to fulfill its financial obligations. These risks are more significant for developing economies, which tend to be less diversified and therefore have more volatile business cycles. Most developing countries also lack developed, deep and liquid capital markets, making them more dependent on short-term domestic currency debt and foreign currency debt. This in turn involves increased refinancing risk and exchange rate vulnerability. Therefore, emerging economies require even better evaluation, monitoring, and management of contingent liabilities than developed countries.[55]

Key Problems in System Design

BOT projects are a preferred means of funding infrastructure investment in Turkey because they do not require government funding at the construction stage, which is financed by the private sector. However, fiscal prudence demands that efficiency concerns related to contingent liabilities and related risks associated with such PPPs be properly assessed and priced before the

government makes any commitment to support implementation contracts. The proper management of contingent liabilities and associated risks in BOT projects requires the introduction of an operational measure of related cost, calculating the option value of guarantees extended by the government to private-sector partners. However, the pricing of such government guarantees, though theoretically attractive and desirable, is not a straightforward exercise for government authorities to undertake, because historical market data on BOT projects is largely unavailable. This presents a challenge to efforts to determine stochastic project parameters for BOT projects, which usually have unique elements.

One means of deriving the price of risk that a government takes on in providing guarantees to BOT project participants, is to conduct Monte Carlo simulations in an empirical cost-benefit analysis based on actual operations, calculating the expected present value in a given year of future probable guarantee payments, appropriately adjusted for risk.[56] However, it is not possible to know the precise distributions of risk parameters at a certain point in time. Even if it were possible to know the precise distributions, it would be highly improbable that the distributions would remain stable throughout the operation period, since the initial assumptions are likely to change over the long-term period of a BOT implementation contract—including the government in power, its priorities and policies. In such a context, the capacity of both government and private-sector actors to manage eventualities effectively will be a key indicator of success. However, another unknown factor in the success of the BOT model is how well government and private-sector participants will manage project operations—another important determinant of the distributions of risk variables.

The cost to the state of contingent liabilities associated with government guarantees to BOT projects will be a function of the amount of the guarantee and the probability that the guarantee payments will be due in any given year that the guarantee is outstanding. The probability that the guarantee payment will be due can be positively related to both the level of business risk and the level of market risk. Here, the government faces three key problems related to system design in the management of contingent liabilities associated with BOTs in Turkey.

The first problem is that BOT implementation contracts are relatively long-term (Table 1). There is therefore often a significant time lag between when a government provides a guarantee and the time a given liability arises—a period in which the business environment may change, as may risks. On the other hand, the private sector may be reluctant to participate in BOT projects because of the political risk inherent to long-duration implementation contracts, such as a change of government or of government policy.

Political risk hampers the promotion of the BOT model, adversely affecting the balance of risk and reward. A project company may dispute proposed changes, refusing to endorse them without substantial financial reward and/or adjustments to or renegotiations of the contract. In Chile, for example, nearly all BOT projects in the transport sector were re-negotiated, which resulted in over 50 percent of additional investment.[57] At the same time, it is important to note that it is in any case common for BOT implementation contracts to be adjusted after they have been signed, in the period after financial close but before the operational period, as well as during the operational period. Both types of changes are governed by the same contract.

From the government's perspective, substantial changes to a BOT contract, namely, changes that entail new financial outlays, may reduce the project's economic viability, as well as raising concerns regarding transparency and accountability. As such, substantial changes to a BOT contract should therefore trigger an appraisal of the project's fundamental, continued economic viability. This could entail simply adjusting inputs used in the cost-benefit analysis carried out at the appraisal stage. However, government authorities should also check that initial assumptions regarding risk parameters and distributions remain valid, in order to ensure proper contract management with the project company, avoiding higher costs, wasted resources, and low performance. Overall, BOTs should be regarded as mechanisms that require careful oversight and close monitoring throughout.[58]

The second problem of system design in the management of contingent liabilities associated with BOTs in Turkey is a lack of information regarding the business risks associated with BOT projects because, as stated above, most BOT deals have unique elements. It is therefore difficult to arrive at credible estimates of the expected value of contingent liabilities arising from a given project. This challenge could be overcome through a thorough project-appraisal process, entailing a detailed feasibility study that elaborates on the probable distributions of risk parameters, as well as issues related to implementation and operational capacity. Such a detailed feasibility study would require the development of relevant sector-specific appraisal methodologies, enabling the ministry or administration conducting the appraisal to incorporate consistent appraisal parameters to produce consistent, comparable results.[59] The feasibility study should encompass a detailed cost-benefit analysis, which should then be repeated empirically at yearly intervals throughout the project operational period, taking into account probable changes in the distributions of risk variables in order to support fully-informed decision-making in the event of any renegotiation of implementation contracts.

It is worth noting here that an independent review of project appraisals is an important means of screening out unsuitable projects, and of correcting mistakes and inaccurate assumptions. An independent review should also assess the capacity of proposing authorities to implement the project, and make recommendations to strengthen that capacity where gaps are apparent. Unsuitable projects should be prevented from progressing to selection or procurement where problems are identified. At the same time, potentially suitable projects can be improved through better appraisal. In the UK, for example, once a proposing ministry completes a project appraisal, the Treasury makes a final decision on project implementation.[60] In other countries including Australia (State of Victoria), Bangladesh, Jamaica, the Philippines, Portugal, the Republic of Korea, and South Africa, specialized PPP units conduct an independent review and quality assessment of project appraisals.[61] This is in sharp contrast to Turkey, where line ministries can approve the implementation contracts of BOT projects they themselves have proposed.

The third problem of system design in the management of BOT-related contingent liabilities is a non-competitive environment, exposing the government to market distortions or a lack of market that can give rise to serious incentive problems. As such, there may be a significant imbalance between financial outcomes of private-sector entities and economic outcomes of the country. The problems detailed above mean it is imperative that government authorities fully understand the business sectors and the risks associated with BOT deals. It is essential that responsible authorities calculate the likelihood of losses, and therefore expected loss, inherent to government

guarantees to BOT projects, and identify steps that can be taken to measure and manage the risk arising from those guarantees.[62] At the same time, it is extremely important that the government authorities do not simply use the project sponsor's financial and economic models to quantify and assess that risk. Rather, government must develop its internal capacity to conduct integrated project financial, economic, and risk analyses, enable the state to efficiently and accurately allocate associated risks through guarantees and risk-sharing contracts.

Turkey's Ministry of Development has recognized that all the state institutions involved in PPPs require capacity development in the area of project appraisal and implementation, and is committed to preparing a relevant a strategy document.[63] As mentioned in the previous section, the Treasury is already undertaking risk analyses for BOT projects subject to Treasury investment guarantees. However, risk analysis of explicit contingent liabilities arising from BOT contracts should not only focus on Treasury investment guarantees; the demand guarantees provided under BOT implementation contracts signed by line ministries and SOEs should also be evaluated and monitored.

Institutional Policy Recommendations

The establishment of an independent reviewer of BOT project appraisals, responsible for identifying and measuring contingent liabilities, is a critical first step in the management of PPPs in Turkey. The MOD is already responsible for the evaluation of BOT projects. It is therefore recommended that the existing PPP Department of the MOD be assigned the role of independent reviewer, evaluating BOT projects by means of a detailed integrated financial, economic, and risk analysis that takes account of contingent liabilities.

An alternative safeguard is to secure the active involvement of the MOF at the decision-making stage of PPPs, to ensure that the state takes on no more than the necessary risk. In South Africa, for example, "the Ministry of Finance reviews the fiscal affordability and value-for-money at different stages of PPP project preparation with authority to stop or suspend PPPs at various points within the project cycle including inception, tender, contract (re)negotiation, and contract signature. This…enables the ministry to stop or request modifications for a project proposal that is deemed too costly or risky".[64] In the case of Turkey, however, it is recommended that the MOD PPP Department act as a peer reviewer of project appraisals, evaluating projects through a detailed risk analysis that takes account of associated contingent liabilities, mainly because the MOD is the secretariat of the SPB, which authorizes (or rejects) projects, approving (or not) the start of the bidding process.

On the basis of its evaluation, including the question of whether the risks taken on by private-sector parties are commensurate with their desired rate of return, the PPP Department should advise whether or not to approve a project appraisal, before the bidding process starts. The Department should also provide advice as to how to minimize the risks to be taken on by the government. This recommendation is in line with what Güner refers to as "standardization" in the development of PPP implementation contracts.[65] The PPP Department's advice on risk-reduction should provide the basis for the SPB's approval (or refusal) to permit the start of the bidding process, as well as informing subsequent checks and final approval (or rejection) by the SPB of a BOT implementation contract. This is in contrast to the current situation, as stated above, in which line ministries approve the implementation contracts of BOT projects they have

themselves proposed. The existing PPP Department of the MOD can also be utilized as a knowledge center, to be drawn upon by government authorities in the preparation of PPP implementation contracts, in line with OECD recommendations.[66] Following best practice in countries such as Australia and Canada, the Department could also be made responsible for the development of guidelines on the issuing government guarantees in PPP arrangements.[67]

The next step in the management of contingent liabilities arising from PPPs is to implement a system for the continuous monitoring of project operations. This role requires the establishment of a specialized PPP unit within the MOF, in keeping with existing MOF responsibilities discussed above. Similar centralized PPP units exist within the ministries of finance of countries such as Australia and Chile, the Czech Republic, Egypt, Greece, Ireland, and Portugal, and South Africa.[68] Countries that have experienced serious difficulties with debt management, such as Belgium, Ireland, and New Zealand, which had established departments to manage sovereign debt, subsequently expanded those departments' responsibilities, mainly in order to achieve economies of scale. Some, such as in New Zealand, significantly expanded their scope to manage the risks of the entire government balance sheet, including contingent liabilities.[69] In the case of Turkey, the MOF and the MOD should coordinate to improve their capacities in this field; in particular, the MOF should capitalize on the existing capacity of the MOD's PPP Department.[70]

Following the establishment of a centralized PPP Unit, it is recommended that the MOF immediately begin monitoring all explicit contingent liabilities stemming from PPPs, including BOTs. At the same time, line ministries must be made responsible for meeting future costs of contingent liabilities from their own budgets, thus avoiding the free-rider problem. Through the process of continuous monitoring, each relevant line ministry or administration should then be required to make annual provisions for the calculated expected value of probable guarantee payments on a portfolio basis (i.e. for its corresponding set of guarantees), in much the same way as a bank makes provisioning for its loans. This will avoid the principal-agent problem, in which a line ministry or administration assumes that ultimate responsibility for any implementation contract rests with the state.[71] The MOF's monitoring of explicit contingent liabilities stemming from BOTs will also be instrumental in avoiding the creation of moral hazard in the private sector, sending a strong signal that the government is continuously checking the performance of project companies. In this respect, the government of Turkey has already committed itself to the establishment of an effective monitoring and evaluation unit to continuously monitor probable risks and impacts of PPPs on the budget, under the Tenth Development Plan.[72]

With regard to best practice in monitoring, the OECD recommends that budget documentation should disclose all costs and contingent liabilities arising from PPPs.[73] Similarly, the International Monetary Fund (IMF) recommends the disclosure of all contractual arrangements between the government and private entities, and the publishing of the main central government contingent liabilities.[74] This approach is used in Australia, Canada, New Zealand, the UK, and the US.[75] Other countries have specific legislative requirements regarding the disclosure of contingent liabilities. In Brazil, the annual budget directives law includes an annex with estimates of contingent liabilities. In Canada, financial statements must show contingent liabilities; ministries are required to report on the status of contingent liabilities. Chile requires reporting on government liabilities that arise from fiscal guarantees, while Colombia's

government presents a medium-term fiscal framework each fiscal year incorporating an assessment of contingent liabilities.[76] Turkey, however, does not disclose contingent liabilities arising from PPPs. The MOF is therefore recommended to present all contingent liabilities arising from PPPs in its annual budget documentation, in line with best practice in cited countries. As Lewis and Mody note, cash-based budgeting hides the exposure associated with contingent liabilities.[77] Therefore, it is also recommended that the MOF expedite the transition from cash- to accrual-based accounting. A clear acknowledgement of contingent liabilities, reflected in the accounting and budgeting system, contributes to enhanced fiscal prudence.[78]

In order to minimize asymmetric information in the management of contingent liabilities created by PPPs, Irwin and Mokdad recommend that PPP contracts should be published, along with all information regarding the costs and risks of the financial obligations imposed on the government.[79] This is not the case in Turkey, which is why there is a lack of comprehensive empirical evidence to evaluate the performance of BOT projects in the country, other than that provided by audit reports in some cases.[80] An important ingredient in the management of contingent liabilities stemming from BOT projects is policymakers' exposure to public pressure to act in a prudent manner. If, like Australia, Turkey were to publish its PPP implementation contracts, the public would be better able to do so.[81] However, the piecemeal nature of Turkish legislation on BOT projects means the sector is difficult for market participants and financiers to understand, let alone the general public.[82] This hinders the informed public debate about contingent liabilities and associated risks within the context of BOT projects.

The legal framework regulating BOT projects in Turkey varies from sector to sector,[83] resulting in a lack of harmonization that prevents efficient implementation.[84] This lack of legal harmonization is compounded by a lack of institutional harmonization, in that the administrative bodies involved in BOT projects also varies. As a result, the state faces the difficult challenge of monitoring and managing contingent liabilities that include investment guarantees issued by the Treasury as well as guarantees issued by other administrations, including line ministries. In an effort to mitigate the situation, a comprehensive PPP law was prepared in November 2007 but as of October 2015, it was yet to be voted in the Parliament. Nonetheless, the MOD is committed to the implementation of a single legal framework governing PPPs.[85]

A final recommendation draws on past experience, which has proved that future unjustified contingent liabilities should be avoided. Contingent liabilities facilitate the management of private-sector risk in PPPs.[86] As such, government guarantees are warranted when there is a need to encourage private investment in sectors requiring substantial investment where project returns are uncertain. Priority sectors in need of private investment should therefore be determined, using government guarantees as a tool to attract private participants to those sectors. However, in order to avoid moral hazard, the private sector should be encouraged to cover part of the risk it faces, through the purchase of investment insurance.

Notes

1. İnal, "Türkiye 2023 Yılında Dünyanın On Büyük Ekonomisinden Biri," 69.
2. MOD, *10. Kalkınma Planı*. TRY stands for Turkish Lira. TRY Equivalent is the authors' calculation by multiplying the amount in USD by TRY/USD 1.57193, the average exchange rate during 2007-13.
3. MOD, *Presentation on 10th Development Plan*. USD equivalent is the authors' calculation by dividing the amount in TRY by TRY/USD 1.90131, the average exchange rate in 2013.
4. MOD, *Kamu Özel İşbirliği Uygulamalarına İlişkin Gelişmeler,* 21.
5. Besides BOT model, there are other models. Build Operate (BO) model has been used to build five natural gas combined cycle plants. Transfer of Operations Rights (TOOR) model has been mainly used in transferring the operating rights of state-owned airports, seaports, and energy-generation facilities. Build-and-Lease (BL) is a relatively new model in Turkey, through which the private sector has built hospitals and leased them to the state for a period up to 49 years. BL is expected to be the PPP model of choice in future education-sector projects.
6. Investment figures are provided in nominal terms as the MOD does not provide annual investment amounts categorized by model.
7. Hemming et al., *Government Guarantees*.
8. Polackova, "Government Contingent Liabilities."
9. Emek, "Kamu-Özel İşbirliklerinin Devlet Muhasebe Sistemindeki Yeri," 11.
10. Jones and Mason, "Valuation of Loan Guarantees."
11. Levy, *Build, Operate, Transfer*. See Mody and Patro, "Loan Guarantee Valuation."; Lewis and Mody, "Management of Contingent Liabilities."; and Irwin, "Public Money for Private Infrastructure," for examples of government guarantee provisions in a number of projects around the world.
12. See note 7 above.
13. Kordel, "Comparative Overview of Public Private Partnerships."
14. Başaran, "Experience of Turkey in Public Private Partnerships."
15. "The Treasury" refers to the Undersecretariat of the Treasury. Treasury investment guarantees encompass all guarantee types listed in Article 11 of Law 3996. See the next section for more details.
16. Treasury, *PPP Projects with Treasury Investment Guarantees.*
17. Coşan and Büyükbaş, "İzmit Bay Crossing Project." The General Directorate of Highways (under the Ministry of Transportation) is part of the central government, with a separate budget funded by its own revenues, including those from the highways that it operates.
18. Rodrigues, İnal, and Cankorel, "Road PPPs in Turkey."
19. Sundaresan, "Measuring and Managing Government Contingent Liabilities."
20. Mody and Patro, see note 11 above.
21. Baldwin, Lessard, and Mason, "Budgetary Time Bombs."
22. See note 9 above.
23. See MOD, *Kamu Özel İşbirliğine İlişkin Mevzuat;* and Çal, *Kamu Hizmeti ve İmtiyazın Öyküsü,* 157-158.
24. Laws and regulations related to BOTs in Turkey frequently use the term "administration" in place of "government", referring to state institutions and enterprises, including line ministries, state-owned enterprises, and funds that are the original providers of services produced under the BOT model.
25. The SPB is composed of the Prime Minister, the Minister of Development, and other ministers as determined by the Prime Minister.
26. Law 3096, *Assigning Private Companies to Generate, Transmit, Distribute and Trade Electricity*.
27. Law 3996, *Investments and Services through BOT.*
28. Fee: the price that will be paid for goods and services produced by the BOT project.
29. Contribution payments: full or partial payment by the government to the project company where the beneficiaries cannot partially or fully pay for the goods and/or services produced by the project company.
30. In the Turkish context, an "implementation contract" means a project agreement.
31. Law 5762, *Making Changes in the Law on Investments and Services through BOT*.
32. Law 6111, *Making Changes on some Laws*.
33. Güner, "Changing BOT Regulations," 4-5.
34. Law 6288, *Making Changes in Value Added Tax Law and in the Law on Investments and Services through BOT*.
35. Ibid.
36. Availability risk occurs when the amount and/or quality of goods or services produced by the project company is not in line with that specified in the implementation contract.

37. Irwin, *Allocating and Valuing Risk in Privately Financed Infrastructure Projects,* 58.
38. Law 6446, *Electricity Market Law*.
39. Off-take agreement: an agreement between a producer and a buyer of a resource/service, in which the buyer agrees to purchase a specified portion of the producer's future production.
40. Council of Ministers Decision 1807.
41. See note 2 above.
42. OECD, *Public-Private Partnerships in Pursuit of Risk Sharing,* 108-110.
43. Emek, "Kamu-Özel İşbirliklerinin Devlet Muhasebe Sistemindeki Yeri," 19.
44. Llanto, "Contingent Liabilities: The Philippines," 266.
45. See note 21 above.
46. Cangöz, "Turkish Treasury's Debt Management Strategies."
47. Balıbek, "Establishing a Risk Management Function: Turkish Experience."
48. Irwin and Mokdad, *Managing Contingent Liabilities in Public-Private Partnerships,* 40.
49. Currie and Velandia, *Risk Management of Contingent Liabilities,* 2.
50. OECD, *Public-Private Partnerships in Pursuit of Risk Sharing,* 53.
51. See note 37 above.
52. See SAC, *Araştırma Raporu*.
53. Emek, "Altyapı Hizmetlerinin Özel Sektöre Gördürülmesi," 29.
54. Ibid., 31-32
55. Currie and Velandia, *Risk Management of Contingent Liabilities,* 11-13.
56. For a comprehensive list and descriptions of guarantee valuation methods, see Mody and Patro, "Loan Guarantee Valuation."; Wibowo, "Valuing Guarantees in a BOT."; Irwin, *Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. See Cebotari, "Contingent Liabilities: Issues and Practice," 17, for guarantee valuation methods used in a variety of countries; such as simulation, used by Chile, Colombia, Peru, mainly to estimate contingent liabilities associated with minimum-revenue guarantees under PPPs, and option pricing, used by Chile, mainly to value exchange-rate guarantees under PPPs.
57. Guasch, "Chile."
58. Rajaram et al., *Power of Public Investment Management*, 172.
59. Ibid., 89.
60. Ibid., 165.
61. World Bank, *Public Private Partnership Units*, 29-30.
62. Irwin et al., "Risk in Private Public Infrastructure."
63. See note 2 above.
64. Cebotari, "Contingent Liabilities: Issues and Practice," 26.
65. See note 33 above.
66. See note 42 above.
67. Cebotari, "Contingent Liabilities: Issues and Practice," 8.
68. See Irwin and Mokdad, *Managing Contingent Liabilities in Public-Private Partnerships,* vii; Cebotari, "Contingent Liabilities: Issues and Practice," 47; and OECD, *Public-Private Partnerships in Pursuit of Risk Sharing,* 112-113
69. Currie and Velandia, *Risk Management of Contingent Liabilities,* 18.
70. The PPP Department is under the Investments Planning, Monitoring and Evaluation General Directorate, under the MOD.
71. See note 42 above.
72. See note 2 above.
73. OECD, *Principles for Public Governance of Public-Private Partnerships*.
74. IMF, *Good Practices on Fiscal Transparency*.
75. Das et al., *Contingent Liability Management,* 20.
76. Cebotari, "Contingent Liabilities: Issues and Practice," 38.
77. Lewis and Mody, see note 11 above.
78. Llanto, "Contingent Liabilities: The Philippines," 278.
79. Irwin and Mokdad, *Managing Contingent Liabilities in Public-Private Partnerships,* 4.
80. Emek, "Altyapı Hizmetlerinin Özel Sektöre Gördürülmesi," 44.
81. Irwin and Mokdad, *Managing Contingent Liabilities in Public-Private Partnerships,* 15.
82. EBRD, *Turkey-Assessment of the Quality of the PPP Legislation*.

83. For instance, Law 3096 and Law 6446 covering the energy sector, while Law 3465 is only for highways.
84. Canaz Yılmaz, "Türkiye'de Kamu Özel Ortaklığı" 7-8.
85. See note 3 above.
86. Das et al., *Contingent Liability Management,* 63.

Bibliography

Baldwin, Carliss, Donald Lessard, and Scott Mason. "Budgetary Time Bombs: Controlling Government Loan Guarantees." *Canadian Public Policy Journal* 9, no.3 (1983): 338-346

Balıbek, Emre. "Establishing a Risk Management Function: Notes From Turkish Experience." (2006). www.oecd.org

Başaran, Emre. "Experience of Turkey in Public Private Partnerships for Insfrastructure Development." http://www.oecd.org (accessed April 22, 2015)

Canaz Yılmaz, Işıl. "Türkiye'de Kamu Özel Sektör Ortaklığı Modelleri." http://www.fazliogluhukuk.com (accessed March 16, 2015)

Cangöz, Coşkun M. "Turkish Treasury's Debt Management Strategies." www.oecd.org (accessed May 9, 2014)

Cebotari Aliona. "Contingent Liabilities: Issues and Practice." Working Paper No. WP/08/245. Washington, DC: IMF, 2008.

Coşan, Mehmet F., and Haluk Büyükbaş. "Gebze-İzmir Motorway, İzmit Bay Crossing Project." http://tmmmb.org.tr (accessed April 22, 2015)

Council of Ministers Decision 1807, *Republic of Turkey* (2011)

Currie, Elizabeth, and Antonio Velandia. (2002). *Risk Management of Contingent Liabilities Within a Sovereign Asset Liability Framework.* Washington, DC: World Bank, 2002.

Çal, Sedat. *Türkiye'de Kamu Hizmeti ve İmtiyazın Dönüşüm Öyküsü* [The Story of Transformation of Public Investment and Concessions in Turkey]. Ankara: TOBB, 2008.

Das, Tarun, Anil Bisen, M.R. Nair, Raj Kumar. *Contingent Liability Management – A Study on India.* London: Commonwealth Secretariat, 2002.

Emek, Uğur. "Türkiye'de Altyapı Hizmetlerinin Özel Sektöre Gördürülmesi: Neden, Ne Zaman, Nasıl?" [In Turkish] *İktisat, İşletme ve Finans* 24, no. 284 (2009): 9-45

Emek, Uğur. "Kamu-Özel İşbirliklerinin Devlet Muhasebe Sistemindeki Yeri ve Önemi." [In Turkish] *İktisat, İşletme ve Finans* 29, no. 337 (2014): 9-32

European Bank for Reconstruction and Development (EBRD). *Turkey-Assessment of the Quality of the PPP Legislation and the Effectiveness of its Implementation.* London: EBRD, 2011.

Guasch, J. L. (2009). "Chile." Presentation at the KDI/ADB/ADBI/WBI Conference: Infrastructure Public-Private Partnerships in Asia, Seoul, May 19-21, 2009 http://pimac.kdi.re.kr

Güner, Ece. "The PPP Program and Changing BOT Regulations." Paper presented at the Euromoney 5th Annual Turkey Energy and Infrastructure Finance Conference, Istanbul, March 26-27, 2012.

Hemming, Richard, Max Alier, Barry Anderson, Marco Cangiano, and Murray Petrie. *Public-Private Partnerships, Government Guarantees, and Fiscal Risk.* Washington, DC: IMF, 2006.

IMF. *Code of Good Practices on Fiscal Transparency.* Washington, DC: IMF, 2007.

Irwin, Timothy. "Public Money for Private Infrastructure: Deciding When to Offer Guarantees, Output-based Subsidies, and Other Fiscal Support." Working Paper No. 10. Washington, DC: World Bank, 2003.

Irwin, Timothy. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects.* Washington, DC: World Bank 2007.

Irwin Timothy, Michael Klein, Guillermo E.Perry, and Mateen Thobani. "Dealing with Risk in Private Public Infrastructure: An Overview." In *Dealing with Public Risk in Private Infrastructure,* edited by Timothy Irwin, Michael Klein, Guillermo E. Perry, and Mateen Thobani, 1-18. Washington, DC: World Bank, 1997.

Irwin, Timothy, and Tanya Mokdad. *Managing Contingent Liabilities in Public-Private Partnerships: Practice in Australia, Chile and South Africa.* Washington, DC: World Bank, 2010.

İnal, Vedit. "Türkiye 2023 Yılında Dünyanın On Büyük Ekonomisinden Biri Olabilir Mi?" [In Turkish] *Doğuş Üniversitesi Dergisi* 13, no. 1 (2012): 69-87

Jones, Philip E., Scott P. Mason. "Valuation of Loan Guarantees." *Journal of Banking and Finance* 4, (1980): 89-107

Kordel, Onur. "A Comparative Overview of Public Private Partnerships with Those in Turkey." http://www.mondaq.com (accessed November 11, 2015)

Law 3096, *Assigning Private Companies to Generate, Transmit, Distribute and Trade Electricity, Republic of Turkey* (1984)

Law 3465, *Building, Operations and Maintenance of Highways by the Institutions other than the General Directorate of Highways, Republic of Turkey* (1988)

Law 3996, *Structuring Investments and Services through the BOT Model, Republic of Turkey* (1994)

Law 5762, *Making Changes in the Law on Structuring Investments and Services through the BOT Model, Republic of Turkey* (2008)

Law 6111, *Restructuring Receivables and Making Changes in the Law on Social Security and General Health Insurance and on some Other Laws, Republic of Turkey* (2011)

Law 6288, *Making Changes in Value Added Tax Law and in the Law on Structuring Investments and Services through the BOT Model, Republic of Turkey* (2012)

Law 6446, *Electricity Market Law, Republic of Turkey* (2013)

Levy, Sidney M. *Build, Operate, Transfer: Paving the Way for Tomorrow's Infrastructure.* Toronto: Wiley, 1996.

Lewis, Christopher M., and Ashoka Mody. "The Management of Contingent Liabilities: A Risk Management Framework for National Governments." In *Dealing with Public Risk in Private Infrastructure,* edited by Timothy Irwin, Michael Klein, Guillermo E. Perry, and Mateen Thobani, 131-153. Washington, DC: World Bank, 1997.

Llanto, G. M. "Dealing with Contingent Liabilities: The Philippines." In *Fiscal Policy and Management in East Asia,* edited by Ito Takatoshi, and Andrew K. Rose, 257-284. Chicago: University of Chicago Press, 2007.

MOD. *Dünyada ve Türkiye'de Kamu Özel İşbirliği Uygulamalarına İlişkin Gelişmeler* [Global and Local Developments about PPP Implementations]. Ankara: MOD, 2012a.

MOD. *Kamu Özel İşbirliğine İlişkin Mevzuat* [The Legislation on PPPs]. Ankara: MOD, 2012b.

MOD. *10. Kalkınma Planı (2014-18)* [10th Development Plan (2014-18)]. Ankara: MOD, 2013a.

MOD. *Presentation on 10th Development Plan (2014-2018).* Ankara: MOD, 2013b.

Mody, Ashoka, and Dilip Patro. "Methods of Loan Guarantee Valuation and Accounting." CFS Discussion Paper No. 116, Washington, DC: World Bank, 1995.

OECD. *Public-Private Partnerships in Pursuit of Risk Sharing and Value for Money.* Paris: OECD, 2008.

OECD. *Recommendation of the Council on Principles for Public Governance of Public-Private Partnerships.* Paris: OECD, 2012.

Polackova, Hana. "Government Contingent Liabilities: A Hidden Risk to Fiscal Stability." Policy Research Working Paper No. 1989. Washington, DC: World Bank, 1998.

Rajaram, Anand, Tuan Minh Le, Kai Kaiser, Jay-Hyung Kim, and Jonas Frank. *The Power of Public Investment Management: Transforming Resources into Assets for Growth.* Washington, DC: World Bank, 2014.

Rodrigues, Magnus, Ekin İnal, and Turgut Cankorel. "Road PPPs in Turkey", *Infrastructure Journal,* (2013) http://www.chadbourne.com

SAC. *Elektrik Enerjisi Üretimi Alanında Sürdürülen Yap-İşlet-Devret (YİD), Yap-İşlet (Yİ) Ve İşletme Hakki Devri (İHD) Uygulamaları Hakkında Araştırma Raporu Özeti* [The Summary Investigation Report on BOTs, BOs and TOORs in Electricity Generation]. Ankara: SAC, 2003.

Sundaresan, Suresh M. "Institutional and Analytical Framework for Measuring and Managing Government Contingent Liabilities." In *Government at Risk: Contingent Liabilities and Fiscal Risk,* edited by Hana Polackova Brixi, and Allen Schick, 99-122. Washington, DC: World Bank, 2002.

Treasury. *PPP Projects with Treasury Investment Guarantees.* Ankara: Treasury, 2014.

Wibowo, Andreas. "Valuing Guarantees in a BOT Infrastructure Project." *Journal of Engineering, Construction and Architectural Management* 11, no. 6 (2004): 395-403

World Bank. *Public Private Partnership Units.* Washington, DC: World Bank, 2007.