

# **Public Sector Finances as Determinants of Private Investment in PPP Projects – Experiences from Select Countries**

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## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Public-Private Partnership (PPP) projects have been gaining in popularity in many developing countries along with developed countries. While there has been sufficient research on private sector capacity to make the partnership successful, not much research exists on the importance of the financial health of the public sector in PPP projects. The premise of the current research is that strong public sector finances instil confidence in the private sector of governments' ability to honour PPP commitments and that, in turn, increases the attractiveness of PPP projects. Through a number of case studies relating to government finances of Indian states and other countries, it is seen that governments which have checks and balances to issuance of guarantees and other forms of indirect support for PPP projects are actually able to attract higher levels of PPP investment.

*Keywords: PPP projects; government guarantees; contingent liabilities.*

## **1. INTRODUCTION**

PPPs are becoming a highly favoured method of undertaking infrastructure projects and seem to

be the only way forward in case of multi-lateral projects. It is said that the success of the one belt-one road initiative is dependent on the capacity of the private sector along with that of

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the public sector to join in the financing and risk-sharing associated with the project. That capacity, as the paper argues later, may have been enhanced because of the strong finances of the public sector partner – the Chinese government in this case. Since these are long-term projects, the risks in terms of contingent liabilities for both the private and the public sector are also spread out over a fairly long period of time. Investors in these PPP projects will, therefore, need to have a clear picture of the liabilities of the government/public authority throughout the project period. A Discounted Cash Flow analysis of the possible pay-outs under different scenarios would help understand better the feasibility of the project from the viewpoint of both the private and the public sector. Currently, guarantees issued by governments on loans procured by the private partner form a major part of the contingent liabilities. Other than guarantees on loans, contingent liabilities may arise if the government has guaranteed some minimum revenue or rate of return to private developers - a phenomenon that has been prevalent in case of PPP projects. Since this may translate into additional cash outflows from the government kitty, investors in PPP projects would like to be confident about the government's ability to meet these possible cash outflows as they consider this to be a key criterion along with private sector efficiency to determining the success of the PPP project. Proper recording, disclosure and management of guarantees and other contingent liabilities, therefore, become vital to the success of the PPP initiative.

This paper looks at guarantees issued in different countries and in different states of India to support PPP projects.

## **2. TYPES OF SOVEREIGN GUARANTEES**

Now, what are the common types of guarantees issued in PPP projects? On alternative forms of guarantees, EPEC Report on State Guarantees in PPPs [1] lays down different forms such as loan guarantees - accelerator or debt-service type or partial or full; refinancing guarantees and PPP contract provisions such as revenue or usage guarantees; minimum service charge guarantees; change of law/regulation undertakings and termination payment guarantees. Under the acceleratable type, the lenders are entitled to recover full repayment of their debt from the guarantor upon default of payment, while for the Instalment/Debt Service

category, the guarantor pays as per original terms of the loan agreement. Revenue guarantees may guarantee a given percentage of revenues with the percentage being larger in the initial years. These are common in the case of toll-roads and such guarantees serve to reduce the traffic risk of the private operator. The Chilean government also issues exchange-rate guarantees; thereby taking away the risk of exchange rate fluctuations in their initial foreign borrowings. Other guarantees may even compensate investors for changes in government policy. Governments usually are under tremendous pressure to issue guarantees but such guarantees should not be given under situations of opaque costing. Often, it is seen that successful projects may lack transparency in costing. That is why, extreme care and caution has to be exercised and a thorough cost-benefit analysis done before issuing guarantees to operators.

As per the World Bank report of 2016, conducted by Ruiz-Nunez, Fernanda and Clive Harris [2] on the State of PPPs in Emerging Markets and Developing Economies 1991-2015, payment guarantees comprise 91% of all indirect support provided by governments with revenue guarantees comprising only 7% of total indirect support. In India too, payment guarantees outweigh all other kinds of guarantees. As noted above, a robust guarantee management system begins with designing different types of guarantees.

With a range of guarantees now becoming common particularly in emerging economies due to their lower credit rating, the PPP rules and regulations framework nowadays contain provisions such as creation of guarantee redemption fund for the management of such guarantees. The Brazilian law looked up to by many, obliges the public party to guarantee payments to the concessionaire by measures such as i) pledge of revenues; ii) creation or use of special funds; iii) purchase of guarantees from insurance companies that are not under public control; iv) guarantees by international organisations or financial institutions that are not controlled by any government authority; or v) guarantees by guarantor funds or state-owned companies created especially for that purpose. The 2014 court ruling ordering the municipality of Rio das Astros to not withhold payments to the concessionaire even though it was attempting termination of the contract with the financial institution appointed to manage the guarantee

fund, was considered to be a landmark ruling towards protection of investor interests. It was, though, later overturned by the Superior Court of Justice in May 2015 on an appeal to that decision on grounds of fiscal ill-health caused by the then political crisis [3].

Nonetheless, it is important that there is clarity on the purpose which the state guarantee is trying to fulfil. European PPP Expertise Centre - EPEC [1] classifies the drivers of guarantees as follows:

- Public Sector Policy Drivers: i) Building up confidence in underdeveloped markets; or ii) Accelerating Implementation by unblocking projects; or iii) Safeguarding credibility by protecting the programme;
- Financial Drivers: i) Leveraging additional finance by improving credit quality enabling more bank lending; ii) Reduction of cost of capital and consequent possibility of additional borrowings and higher discounted value of value for money; iii) Addressing market-wide instability as during the 2008 financial crisis and iv) Tapping new sources of funds.

Other than the level of guarantees, issues that may assume importance include the following:

- i) Conflicts of interest arising as a result of issuing guarantees (e.g., in case of a major event of default)
- ii) In case guarantee is invoked, the placing of the government in the list of project lenders and the loss-sharing mechanism (pro rata or first loss).

Different countries have different rules on guarantee limits. Rules of some countries have been enumerated below:

- a) UK: In UK, there are individual departmental limits for each department ranging from 6-7 per cent of total annual spending.
- b) In Greece, payments of approved PPP projects are capped at 15 per cent of its public investment program.
- c) Brazil: i) Guarantees are limited to 22% of net recurrent revenue (total tax revenue less transfers to other levels of government); ii) Guarantees are subject to a collateral in an amount equal to or higher than the level of guarantee; iii) The entity seeking the guarantee must follow its

obligations with the guarantor and with its controlled entities; iv) the Central Bank is prohibited from granting guarantees to the federal government, states or municipalities and v) Guarantees have to be reported every four months.

- d) New South Wales in Australia: i) Guarantees are to be issued only on payment of risk-based fees; ii) All public corporations with total guaranteed debt levels exceeding AU\$10 million have to obtain a credit rating from a treasury-selected rating agency. Other countries that charge risk-based fees are Chile, Colombia, Peru, Sweden and the United States. Higher guarantee fee is chargeable on riskier projects and loans as expected losses increase.
- e) Colombia: i) Guarantees are limited to US\$4.5 billion or equivalent (about 1.6% of GDP) on the stock of guarantees. There is a second limit also of 0.4% of GDP on annual obligations from PPP contracts in the form of called guarantees and annuity payments. In Turkey, there are two annual limits.
- f) India: In India, in 2010, an inter-ministerial taskforce recommended that the sum of total annuity commitments for a particular grant or scheme of any department for the next five years should not exceed 25 per cent of the department's current five-year plan outlay of such grant or scheme. Overall guarantees are limited to 0.5% of GDP, though there are no separate caps for PPP projects

The analysis by OECD contained in the 2014 Handbook [4] of the following countries helps to understand the purposes for which the state guarantee may be required in PPP projects.

Clearly, Egypt does not require state guarantees for operational risks and particularly locational and construction risks. The social and environmental risks are also low and ability to mitigate is high. Political risks, on the other hand, are not only high but the ability to mitigate is also low.

Figs. 1 & 2 show that financial risks have the potential to pose challenges in both Egypt and Jordan. Jordan's political risks are also high with low ability to mitigate but this relates only to public perception and social opposition as data for other parameters is not available.

**Egypt: Barriers to Private Participation in Infrastructure**

EGYPT					
Risk categories	Barriers to Private Infrastructure Investment	Frequency (number) (%)		Relevance*	Ability to mitigate*
Political	Political & Civil Disturbance	10	20%	High	Low
	Corruption & Lack of transparency	1	2%		
	Public Perception & Social Opposition	1	2%		
	Change of Law & Breach of Contract	na	na		
Financial	Concessional Funding (lack of private funding)	4	8%	Medium	Medium Low
	Transfer of Funds	na	na		
	Foreign Exchange (inc. devaluation risk)	3	6%		
	Counterparty Risk (lack of sovereign guarantee)	5	10%		
Legal & Institutional	Project Scoping (incl. contract design & risk allocation)	7	14%	Medium	Medium High
	Government Capacity	3	6%		
	Interagency Coordination	4	8%		
	Bidding Process	na	na		
	Legal Framework (incl. permits & licensing)	5	10%		
Operational	Land Availability and Ownership	4	8%	Low	High
	Choice of Location	1	2%		
	Construction Risks	1	2%		
	Social & Environmental Risks	2	4%		

**Fig. 1. Egypt: Barriers to private participation in infrastructure**

Source: *Public-Private Partnership in the Middle East and North Africa – A Hand Book for Policy Makers, OECD, 2014*

**Jordan: Barriers to Private Participation in Infrastructure**

JORDAN					
Risk categories	Barriers to Private Infrastructure Investment	Frequency (number) (%)		Relevance*	Ability to mitigate*
Political	Political & Civil Disturbance	na	na	Medium High	Low
	Corruption & Lack of transparency	na	na		
	Public Perception & Social Opposition	3	16%		
	Change of Law & Breach of Contract	na	na		
Financial	Concessional Funding (lack of private funding)	2	11%	Medium High	Medium Low
	Transfer of Funds	na	na		
	Foreign Exchange (inc. devaluation risk)	na	na		
	Counterparty Risk (lack of sovereign guarantee)	2	11%		
Legal & Institutional	Project Scoping (incl. contract design & risk allocation)	2	11%	Medium Low	Medium High
	Government Capacity	2	11%		
	Interagency Coordination	na	na		
	Bidding Process	2	11%		
	Legal Framework (incl. permits & licensing)	3	16%		
Operational	Land Availability and Ownership	1	5%	High	High
	Choice of Location	na	na		
	Construction Risks	na	na		
	Social & Environmental Risks	2	11%		

**Fig. 2. Jordan: Barriers to private participation in infrastructure**

Source: *Public-Private Partnership in the Middle East and North Africa – A Hand Book for Policy Makers, OECD, 2014*

In the case of international projects, guarantees may also be given by Multilateral Development Banks, although their greater emphasis is on trade-related guarantees which form about 50 per cent of the outstanding guarantees in the case of Asian Development Bank (ADB) and Multilateral Investment Guarantee Agency (MIGA), 80 per cent in the case of EBRD (European Bank for Reconstruction and Development) and 100 per cent in the case of African Development Bank (AfDB). Guarantees for infrastructure finance have been usually a small share of resources as they create

additional capital adequacy requirements constraining their lending capacity [5]. Besides, guarantees often come at a cost. In Morocco, for example, as per European Investment Bank (EIB) Report of 2011 on Legal & Financial Frameworks [6], guarantees come at an average cost of about 3.5% of the loan amount which may get priced in by the bidders.

An alternative to guarantees is direct support by governments in the form of initial or deferred grants or output purchase agreements such as power purchase agreements (PPAs) or water

purchase agreements (WPAs). As per the EIB Report of 2011, in Algeria, the credibility of state-owned off takers in PPP projects was enhanced by the formation of joint ventures of these entities with highly rated government entities such as Sonatrach Ltd in the oil and gas sector [6]. Once this joint venture was formed, the lenders felt reassured and the government also avoided the need to issue guarantee to the concessionaire. Though highly satisfactory, the joint venture came only after protracted negotiations and significant revision of contractual documentation.

In India, PPAs are quite common in the energy sector and WPAs are common particularly in the state of Maharashtra, though Karnataka, Madhya Pradesh and Tamil Nadu also have a few such cases. In fact, most of the PPP investment has also come in the energy or power sector. Ideally, of course, the investment in PPP projects should be recovered through user fees or purchase agreements with private entities and wholesale market comprising of a single buyer or a group of buyers at market prices. The study by Ruiz-Nunez, Fernanda and Clive Harris [2] had also shown that, from 2010 to 2014, 63% of PPP deals had some kind of direct or indirect support by the governments. At times, PPAs/WPAs with private entities are combined with annuity/availability funding from the government, chiefly in the road sector.

### **3. LITERATURE REVIEW OF PUBLIC ROLE IN PPP PROJECTS**

PPP contracts have received special attention in the literature due to their special characteristics and wide-ranging ramification potential. Istrate & Puentes [7] had found that states, even in the US, lacked technical capacity to comprehend the complicated PPP contracts and, therefore, recommended establishing dedicated PPP units and promote an outcome-based procurement culture. Wibowo & Kochendoerfer [8] laid out a methodology under the chance-constrained goal programming framework to maximize benefits and value for money from guaranteed projects. The Jubilee Debt Campaign in UK published a report in February 2017 showing that much of the financial risks in PPPs have been assumed by the public in the medium to long term. The interest rate on PPPs was also found to be almost twice that of the government borrowing rate and the transaction costs in terms of legal and advisory fees averaged 10% of project cost. UK regulations, though, check project compliance with UK National Infrastructure Plan,

demonstration of project bankability and risk management and value for money to tax payers before issuing any guarantee [9]. Owolabi [10] identified and examined 16 accountability mechanisms for guarantees issued by the UK government. Many developing countries, such as Indonesia, have set up guarantee funds to instil confidence in investors for investment in PPPs [11]. However, to generate confidence, the guarantee fund must be endowed with a strong asset base not subject to annual budget appropriations [12]. Similarly, the minimum revenue guarantee provides a sweetener to the private party but some governments try to reduce the fiscal burden by insisting on reverse deals resulting in sharing of revenues with governments whenever the revenues exceed benchmark levels. The research by Aslan & Duarte [13] finds that select countries that have taken the lead in PPP projects have also focused on sound budgeting and accounting practices incorporating fiscal risks of all projects in the medium-term and annual budgets. Credit enhancement through guarantees by Multilateral Development Banks (MDBs) provide further assurance to private investors and also cover any possibility of non-fulfilment of sovereign guarantees, especially in emerging economies [14]. Rhee & Hangyong [15] found that PPPs may actually crowd out public investments both in the short-term and the long-term and that private investment may go up only in the short term. However, Tvarno [16] shows that quality and efficiency in providing public services may be the driver for PPP projects instead of shortage of public funds. Life cycle costing as an economic tool has been a great enabler pushing firms towards quality parameters. Grilo et al [17] and Budina, Polackova Brix & Irwin [18] in their study concluded that economic stability, institutional strengths and soundness of legal and regulatory framework are crucial to the success of PPP projects. The study by Babatunde, Perera, Zhou & Udeaja [19] showed that high contingent liabilities as a factor accounted for 4.09 per cent of the total variance of causes of financial close delays in PPP projects in developing countries. Other critical factors in the study were unstable economic policy and weak financial, technical and managerial capabilities of the concessionaires. Ter-Minassian [20] concluded that cooperative arrangements and moral suasion across different levels of government could be an add-on to market measures to persuade sub-national governments to be fiscally responsible and promote savings in good times and avoid pro-

cyclicality. Lee [21] found that the annual spending of some provincial governments in Korea had exceeded budgeted figures by a margin of around 1.5% - 2% of total budget. For example, the excess for Gyeonggi-do and Chungnam was 2.5% of total budget and other provinces like Gangwon-do in Jeonnam, Chilgok-gun in Gyeongbuk, Jecheon-si and Gwangju-si recorded excess spending of 1.75%, 1.64%, 1.61% and 1.54% of total budget of the project. The author called for both caution as well as measures to help the local governments. The study by Pereira Dos Santos & Kearney [5] showed that multilateral development banks (MDBs) have also considered guarantees as a tool for de-risking and crowding-in private investments. Guarantees have accounted for 45 per cent of total private resource mobilization, though 5 per cent of total MDB operations. Kim et al. [22] brought out case studies from Korea highlighting the institutional arrangements and government policies that spurred PPPs in a big way in the country. Nose [23] showed that government guarantees are more common in cases where PPP contracts are less transparent and bureaucracy is less efficient. The Japanese system of rating municipalities has helped establish a robust competitive culture driving PPPs at the local level. Colombia is also known for a very well-developed fiscal management system with the borrowing limits of subnational governments linked to indicators such as operational savings, liquidity and solvency. This set classifies firms into the 'traffic light system'. Those classified in the 'red light' category will have to seek permission of the Ministry to go for any additional borrowings with a complete ban on funding operating expenses through borrowings and face mandated credit rating before issuance of debt (Salazar, 2013). The study by Adarkwa & Radovic [24] analysed the relationship between Infrascopes sub-indicators and number of projects. In the study, the financial facility factor was found to be most highly correlated with the total number of projects that reached financial closure between 2011 and 2015. That is why, improving the capacity of insurance and pension funds to invest in capital markets and offering alternative forms of guarantees in contracts boosts investor confidence. When financial facility scores were low, the subnational adjustment factors were also high because of low credit rating of subnational governments.

The 2016 World Bank study on Benchmarking Public Private Procurement [25] revealed that 82

economies reflect a range of regulatory frameworks and institutional arrangements for PPPs. All have in place specific frameworks for regulating PPPs, with 71 percent either having a concession or a specific PPP law (25 percent of which coexist with a concession law), 11 percent having PPP guidelines or policies, and the remaining 18 percent resorting to the general procurement law to govern their PPP contracts.

#### **4. MANAGEMENT OF PPP PROJECTS**

Laying down clear selection criteria is the first step towards transparency and good management of PPP projects [26]. In most cases, weights are assigned to both the qualitative factors and the quantitative factors in terms of the economic benefit ushered in by the project. The innovativeness that the bidder will bring in design, construction, financing and/or operations is generally a key component of the qualitative features specified in the tender document. The economic value created by the project bidder through the formation of the PPP as per the concession terms is ordinarily the key quantitative figure to be submitted by the bidder. In fact, in many countries like UK and Australia, it has to be shown that the economic value created through the PPP will be larger than through the traditional government procurement route [27]. In emerging countries, at times, because of inadequate capacity in economic value assessment, PPP contracts have been awarded on the basis of the highest offer of premium payable to the Authority or the least viability gap funding required by the private bidder in case no party quotes a premium.

#### **5. THE INDIAN EXPERIENCE IN PPPs**

India has specific PPP regulatory framework and requires clearance from budgetary authority both before tender and before signing the contract [28]. Besides, the tender, PPP award and the contract terms are all available online. In that sense, transparency in India is much higher than even in some developed countries like Australia, Italy and USA. The Indian PPP experience began with premiums paid upfront to the National Highway Authority of India in case of road projects that were awarded from the year 2000 [29]. In subsequent years, however, the interest from private developers waned and in 2014, just before elections, the UPA government announced that the premium of approximately Rs 651 crore payable to the government by the private developers could be spread over the next

12 years. Current rules in India on PPP projects restrict the maximum viability central government subsidy and state government subsidy each to 20% of total project cost. But most governments adopt a multi-criteria analysis for selecting projects that goes beyond financial viability and includes measures such as socio-economic benefits, environmental & resettlement issues, impact on employment & poverty alleviation, contribution to GDP, regional impact, impact on export earnings etc.

Indian states vary a great deal in specifying selection criteria of PPP projects [30]. Andhra Pradesh which was the forerunner in PPP projects in the early period of India's PPP experience can be credited with creating robust bid documents. The technical criteria that includes the bidding firm's experience and innovative capacity are given a weight of as much as 80% with only 20% kept for financial parameters. Further, each technical criterion is also given a specific score. Some states like Gujarat openly consider competitive negotiation in addition to competitive bidding, particularly for projects with social significance or those that bring in cutting-edge technology or in cases where there are no other competitive bidders. But experience shows that it may be difficult to assess whether a particular technology is cutting-edge technology or not. Besides, during negotiations, as per PPIAF guidelines, external experts/negotiators must be invited along with the internal project team. Competitive bidding, therefore, is the preferred mechanism for PPP procurement. Bihar, of late, is also powering ahead in PPP projects, particularly focussed on tourism, education & training and healthcare sectors. It may be mentioned here that social and commercial infrastructure projects have accounted for only 9% of total PPP investments so far. Karnataka, on the other hand, has received major investments in logistics & transportation including construction of logistics parks, elevated roads, high-speed rail, bus terminals, cruise terminals, passenger amenities centres, vehicle fitness centres, and development of commercial complexes. The toll-operate-transfer (TOT) model currently being experimented in case of national highways has been quite a satisfactory one for the Government of India [31]. In the first phase of bidding, contracts have been received at 1.5 times the bid price. Under this model, the private developers buy the right to collect the toll on existing roads by paying one-time concession fee upfront to the government. A number of foreign companies like

Macquarie, Roadis Infrastructure Holding, etc. have won the contracts together with Indian companies such as National Investment and Infrastructure Fund and IRB Infrastructure Ltd. This model is also referred to as the reverse Build-Operate-Transfer (BOT) model and is said to be the answer to India's infrastructure needs.

At the global level, the International Public Sector Accounting Standards Board (IPSASB), a unit of the International Federation of Accountants (IFAC), is steering governments to move away from the cash-based system of accounting to accrual-based system of accounting as that would enable disclosure of contingent liabilities on the balance sheet rather than appear as off-balance sheet items that may escape the scrutiny of investors and analysts [32]. This is a very big task for IPSASB and although governments may be convinced about the need to adopt the accrual-based system of accounting, their ability to do the same may be rather inadequate. Based on IPSAS, Europe has developed its own accounting standards for the public sector known as EPSAS (European Public Sector Accounting Standards) and have also attempted at framing budgetary standards [33]. In other regions, for example, South Asia, the move towards public sector accounting standards is a little slower. Although the Government Accounting Standards Advisory Board (GASAB) in India has framed accrual-based standards, they are still to be approved by the government [34]. Hence, the date for adoption of these standards is not known yet. Nepal and Bangladesh, too, are following cash-based accounting standards mainly due to lack of trained staff. Sri Lanka, relatively, is ahead with issuance of 10 Sri Lanka Public Accounting Standards which are equivalent to IPSAS; however, since they are not mandatory, all public sector units are not currently following them [35]. The OECD countries, on the other hand, have made considerable progress in this direction. As of 2017, as per a report of IFAC [36], nearly three-fourth of the OECD countries have adopted accrual accounting for their year-end financial reports as opposed to a quarter in 2003. The study also points out that while the direct adoption of international accounting standards, such as International Public Sector Accounting Standards (IPSAS) or International Financial Reporting Standards (IFRS), by national governments remains very low, almost 40% of the standard-setters use IPSAS (28%) or IFRS (9%) as primary or explicit references for developing their national standards.

Although India has not adopted public sector accounting standards, both Central and state governments are now disclosing guarantees issued by them each year due to the operation of the Fiscal Responsibility and Budget Management Act of 2003. Tables 1 and 2 give snapshots of guarantees issued by the Central Government and state governments respectively.

As seen in the table, in the case of the first two categories, the highest value of payment guarantees to domestic institutions including

statutory corporations and financial institutions have been issued by the Ministry of Consumer Affairs, Food and Public Distribution followed by the Ministry of Finance – Department of Economic Affairs which is also in charge of formulation of guidelines for PPP projects. In the third category of payment guarantees to international financial institutions, foreign lending agencies, foreign governments and foreign consultants, the dominant issuers are the Ministry of Finance – Department of Economic Affairs and the Ministry of Power.

**Table 1. Central Government Guarantees in India**

As at the end of reporting period 2015-16 (Rs crore)

1	2	3	4	5	6	9	11
1 Guarantees given to the Reserve Bank of India, other Banks and Financial Institutions (viz., Industrial Finance Corporation of India, Industrial Development Bank of India, Life Insurance Corporation of India, Unit Trust of India, etc.) for repayment of principal and payment of interest, cash credit facility, financing seasonal agricultural operations and for providing working capital in respect of companies, corporations, cooperative societies and cooperative banks.	Ministry of Agriculture Department of Agriculture and Cooperation	2650	2500	150	119.00	2531	1.50
	Ministry of Finance Department of Economic Affairs	19137.71	18999.14	138.57	1884.79	17252.92	68.02
	Ministry of Consumer Affairs, Food and Public Distribution	54495.00	54495.00	...	...	54495.00	...
	Ministry of Industry Department of Heavy Industry	449.01	449.01	...	84.01	365.00	3.17
	Ministry of Micro, Small and Medium Enterprises, Khadi & Village Industries Commission (KVIC)	284.50	284.50	...	15.50	269.00	...
	Department of Pharmaceuticals	1067.19	1067.19	...	...	1067.19	...
	<b>Total</b>	<b>78085.96</b>	<b>77797.39</b>	<b>288.57</b>	<b>2103.30</b>	<b>75982.66</b>	<b>72.69</b>
2 Guarantees given for repayment of share capital, payment of minimum annual dividend and repayment of bonds / loans, debentures issued / raised by statutory corporations and financial institutions	Ministry of Chemicals and Fertilizers Department of Chemicals and Petrochemicals	250.00	250.00	...	...	250	...
	Ministry of Power	7000	7000.00	...	...	7000	...
	Ministry of Consumer Affairs, Food and Public Distribution	16195.62	16195.62	...	3121.1	13074.52	...
	Ministry of Railways	0.07	0.07	...	...	0.07	...
	Ministry of Communication & Information Technology, Department of Telecommunications	7513.97	7513.97	...	...	7513.97	29.80
	<b>Total</b>	<b>30959.66</b>	<b>30959.66</b>	...	<b>3121.1</b>	<b>27838.56</b>	<b>102.30</b>
3 Guarantees given in pursuance of agreements entered into by the Government of India with International Financial Institutions, Foreign lending agencies, Foreign Governments, Contractors, Consultants, etc., towards repayment of principal, payment of interest / commitment charges on loans, etc., by them and payment against agreement for supplies of material and equipment on credit basis to companies, Corporations / Port Trusts, etc.	Ministry of Civil Aviation	36300.3	31094.57	5205.73	-	36300.3	...
	Ministry of Coal	715.76	662.68	53.08	23.36	692.4	5.87
	Ministry of Power	32076.69	29468.00	2608.69	669.91	31406.78	386.08
	Ministry of Finance, Dept of Economic Affairs	138026.04	110747.24	27278.8	2388.11	135637.93	147.91
	Ministry of Micro, Small & Medium Enterprises, National Small Enterprises	60.72	55.06	5.66	5.37	58.37	0.31
	Ministry of Road Transport and Highways	713.56	675.95	37.61	42.76	670.8	...
	Ministry of New and Renewable Energy	5261.26	4268.1	993.16	241.55	5019.71	53.00
	Ministry of Steel	429.77	393.99	35.78	11.09	418.68	1.03
	Ministry of HUPA	545.27	504.32	40.95	60.2	485.07	3.98
	Department of Commerce	3.03	3.03	1.3	...	1.73	0.02
	Ministry of Urban Development	543.05	503.71	39.34	...	543.05	6.04
	Ministry of External Affairs	28187.5	12833	15354.75	...	28187.5	...
	<b>Total</b>	<b>242863.21</b>	<b>191209.65</b>	<b>51653.56</b>	<b>3440.63</b>	<b>239422.58</b>	<b>704.58</b>

Source: Reserve Bank of India



On state finances, Table 2 gives the value of guarantees issued by different states of India.

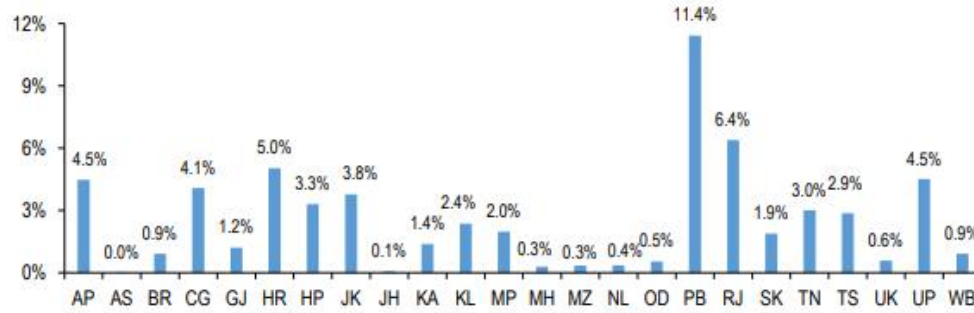
As can be seen in the Table, Punjab is on a slippery slope with about Rs 658.5 billion of guarantees in 2015-16. Maharashtra, on the other hand, has been able to bring down its guarantees from the high of Rs 594.7 billion in 2005-06 to Rs 82.7 billion in 2014-15. The other notable positive change has been in the case of Madhya Pradesh. Telangana, the new state, has to be a little cautious as guarantees had already reached high levels of Rs 185 billion in 2016-17 over a period of just three years. These figures become important as investors weigh in on their

option of selection of the state in which to invest in. This also assumes significance as India does not have a common PPP law; each state has its own unique procedures and regulations to facilitate PPPs. Therefore, foreign investors need to study the fiscal health of multiple states in order to assess whether the governments will be able to honour their guarantees and meet their contingent liabilities if and when invoked. Governments that are weak politically and economically could face challenges in attracting PPP investment. Even governments that are strong may need to create separate funds through budgetary provisions to provide assurance to both domestic and foreign investors.

**Table 2. State Government Guarantees in India**

(Rs billion)																
State	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (E)	2016-17 (E)
AP	102.4	153.4	153.2	177.1	174	174.6	168.7	167.5	152.6	116.4	100.5	151.7	312.4	106.8	106.8	-
Assam	18.5	11	10.2	6.1	12.2	8.6	-	8.0	3.0	2.5	-	1.1	-	-	-	-
Bihar	10	7.9	9.0	11.7	5.9	6.2	5.6	-	-	6.4	6.7	10.9	-	20.0	23.0	23.0
Chandigarh	0.2	2.7	3.0	6.2	14.2	42	12.9	17.5	11.2	11.2	22.2	24.7	17.5	16.2	20.1	39.4
Goa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gujarat	187.2	190.0	176.2	156.8	140.8	127.0	115.6	103.4	99.8	88.2	76.2	63.9	-	60.2	160.0	160.0
Haryana	86.0	76.8	58.7	42.1	56.3	50.7	27	45.8	45.4	45.3	56	207.3	273.1	306.2	-	-
HP	41.1	21.5	46.1	43.2	35.5	21.3	25.9	19.6	19.5	28.6	27.6	31.2	-	42.8	-	-
J&K	10.3	10.3	36.3	50.7	-	-	97.1	25.4	30.4	-	-	-	-	28.6	51.6	51.6
Jharkhand	-	-	-	-	-	-	-	-	-	-	-	-	1.6	1.6	1.6	1.6
Karnataka	118.5	133.1	141.8	174.5	88.8	97.3	103.9	81.8	69.5	66.2	66.4	66.9	77.8	110.3	122.9	-
Kerala	119.4	126.2	140.1	123.2	119.4	94.1	83.2	76	75	74.3	82.8	91	97.6	111.3	-	-
MP	96.7	96.7	99.7	94.4	136.9	57.0	-	19.1	-	49.8	50.7	56.1	-	-	2.8	-
Maharashtra	355.2	380	670.7	588.2	594.7	429.9	360.9	213	173.2	150.4	113.1	93.9	77.1	82.7	-	-
Manipur	-	-	-	-	2.2	1.9	2.1	2.2	1.9	-	1.8	19.1	-	-	-	-
Meghalaya	-	-	-	-	-	-	-	-	-	11.1	-	-	-	-	-	-
Mizoram	-	-	-	-	-	1.3	-	1.2	1.0	1.0	-	-	-	-	-	-
Nagaland	-	-	-	-	-	-	-	-	-	0.2	0.5	0.7	-	-	-	-
Odisha	53.1	55	51.8	38.2	35	26.5	21.7	13.9	10.3	20.7	25.1	22.5	17.1	16.7	12.9	-
Punjab	61.5	186.3	129.9	105.9	92.3	-	110.2	85.0	332.9	-	460.3	624.4	-	-	658.5	-
Rajasthan	129.1	148.2	172.4	127.0	131	147.1	197.7	277.7	390.7	506.9	607.1	-	-	945.8	-	-
Sikkim	-	-	-	-	-	0.8	0.8	-	0.8	-	1.6	1.9	-	1.1	0.9	0.7
Tamil Nadu	120.0	119.2	108.2	77.8	63.3	58.5	56.1	54.2	59.6	-	221.2	240.7	495	537	515.9	-
Telangana	-	-	-	-	-	-	-	-	-	-	-	-	-	168.8	167.9	185
Tripura	-	-	-	-	0.5	0.4	0.4	0.3	0.3	1.0	1.2	1.9	-	-	-	-
UP	62.7	36.0	83.6	84.3	110.6	127.4	133.6	209.2	172.2	-	294.5	353.9	693	744.5	-	-
Uttarakhand	-	-	-	-	-	17.4	-	-	15.1	-	17.4	15.7	14.7	18.3	20.3	17.4
West Bengal	76.4	103.3	110.4	141.5	135.2	131.4	136.8	120.2	103.9	72.3	77.8	67.2	45.5	93.2	87.4	-
Total	1648.1	1855.1	2198.3	1948.5	1621.3	1665.1	1540.8	1768.2	1252.5	2313.4	2146.6	2122.4	3412.0	1952.5	478.8	-
Per cent of GDP	7.2	7.6	8.0	6.3	5.3	3.8	3.3	2.7	2.7	1.6	2.6	2.2	1.9	2.7	1.4	0.3
Memo Item																
NCT Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pondicherry	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.5	0.6
-	Not Available															
* Data as on 1st January																
Source: Information received from the state governments																

Source: Reserve Bank of India



Note: Data not available for Delhi, Goa, and Tripura. Data used for Chhattisgarh, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana are for 2016-17. Data used for Jharkhand and Uttar Pradesh are for 2015-16. Data used for Haryana and West Bengal are for 2014-15.

Sources: State Budget Documents; RBI State of State Finances; Central Statistics Office, MOSPI; PRS.

**Fig. 3. Outstanding Guarantees as per cent of GSDP (2018) – Indian States**

(Horizontal axis of Fig 3 contains the names of Indian States, full names of which are given in Appendix I)

Of course, no state needs to make budgetary provision equal to its contingent liability. The model followed may be akin to the expected loss method adopted by bankers. The value-at-risk models or the cash-flow-at-risk models are useful in arriving at the probabilities of different loss levels. What is important, though, is that such exercises are regularly undertaken by states on a dynamic basis and that means that each contingent liability/guarantee is closely monitored. However, there may be occasions when governments do not closely monitor their contingencies, as payments may be made from the Consolidated Fund of India in the case of the Central Government and state consolidated funds in the case of states. This happens when guarantee amounts are relatively small. Specific guarantee redemption funds outside the consolidated funds for large value of guarantees provide higher safety to investors. A Guarantee Redemption Fund (GRF) has been established in the Public Accounts of India from 1999-2000 for redemption of guarantees given to CPSEs, FIs, etc. by the Union Government whenever such guarantees are invoked. The fund is fed through budgetary appropriations with an annual provision in the Budget Estimates (BE), under the head 'Transfer to Guarantee Redemption Fund' (Grant No. 32 of Department of Economic Affairs). The states, similarly, have their own Guarantee Redemption Funds through budgetary provisions. The amount in these funds has to be a function of both the state finances and the probability that the guarantee would be invoked.

Another depiction of state guarantees as per cent of GDPs is given in Fig 3. Once again, the weak finances of Punjab and some other states like Rajasthan, Uttar Pradesh, Madhya Pradesh and

Telangana become evident. Fig. 4 shows that over the period 2012-13 to 2017-18, Punjab (2.8%), West Bengal (1.8%) and Kerala (1.6%) has the highest revenue deficits as well. The 14<sup>th</sup> finance commission had recommended that states should totally eliminate their revenue deficits. The overall deficit of these states was also high, crossing the prudent limit of 3%. As this paper argues, guarantees provided by fiscally weak governments will not be able to support PPP projects either directly or indirectly. Unless the public sector house is in order, private investment will not flow in.

## 6. THE INFRASCOPE INDEX – MEASURING READINESS FOR SUSTAINABILITY OF PROJECTS

Management of guarantees is a key input determining the capacity to undertake PPP projects. In fact with climate change and disaster risk management also becoming important in PPP projects, management of guarantees is likely to assume a bigger role. The Infrascopes Index, a tool developed by the Economic Intelligence Unit (EIU) to measure a country's readiness for sustainable and efficient PPP projects [37], could also aid in assessing ability to manage guarantees and other contingent liabilities. The parameters used by EIU in arriving at country/region scores are similar to those developed by Public-Private Infrastructure Advisory Financing (PPIAF) of World Bank.

The five components included in the Infrascopes Index are:

- i) Enabling laws and regulations;

- ii) Institutional Framework;
- iii) Operational Maturity;
- iv) Investment and Business Climate; and
- v) Financing Facilities for Infrastructure Projects

Under financing facilities, government payment risk and currency risk are key components along with strength of capital markets and institutional investors and insurance market. These have a direct impact on the management of guarantees but there are other sub-components of other categories that can equally impact the government's capacity to honour the guarantees issued. For example, PPP selection criteria, fairness/openness of bids and contract changes, regulators' risk allocation record, coordination among government entities and renegotiation rules and procedures under the first category of regulatory framework, can have a tremendous influence on the management of guarantees.

The full list of sub-indicators used to arrive at Infrascopes scores serve as a checklist to a well-managed guarantee system is given in Table 3.

The Infrascopes Index has been used to rank countries of different regions. Certainly, the top-rated countries would have higher capacity in meeting their guarantee obligations due to both strong institutions and strong finances. Some of the rankings of 2017 are as shown below in Table 4.

As seen from the above table, Colombia, Chile and Peru have been the highest-ranked countries with overall infrascopes scores of 76, 75 and 73 respectively. In all these countries, the rules and regulations framework has been very strong and their long PPP experience is also a big advantage. However, there is scope for improvement in investment & business climate as well as financial matters. Colombia and Chile,

**Table 3. Indicators Employed for Calculation of Infrascopes Scores**

- 
- 1) Regulations
    - a. Conducive regulatory environment
    - b. PPP selection criteria
    - c. Fairness/openness of bids and contract changes
    - d. Conciliation schemes
    - e. Regulators' risk-allocation record
    - f. Coordination among government entities
    - g. Renegotiations
    - h. Sustainability
  - 2) Institutions
    - a. PPP institutional framework
    - b. Stability of PPP dedicated agency
    - c. Project preparation facilities
    - d. Transparency and accountability
  - 3) Maturity
    - a. Experience with infrastructure PPP contracts
    - b. Expropriation risk
    - c. Contract termination
  - 4) Investment and business climate
    - a. Political effectiveness
    - b. Business environment
    - c. Political will
    - d. Competition environment in the local industry
  - 5) Financing
    - a. Government payment risk
    - b. Capital market for private infrastructure finance
    - c. Institutional investors and insurance market
    - d. Currency risk
- 

*Source: Evaluating the environment for public-private partnerships in Eastern Europe, Central Asia and the Southern and Eastern Mediterranean, Economic Intelligence Unit (EIU), 2017*

**Table 4. Infrascopes rankings**

Average Global Score = 56  
Scoring is 0 to 100 where 100 is best

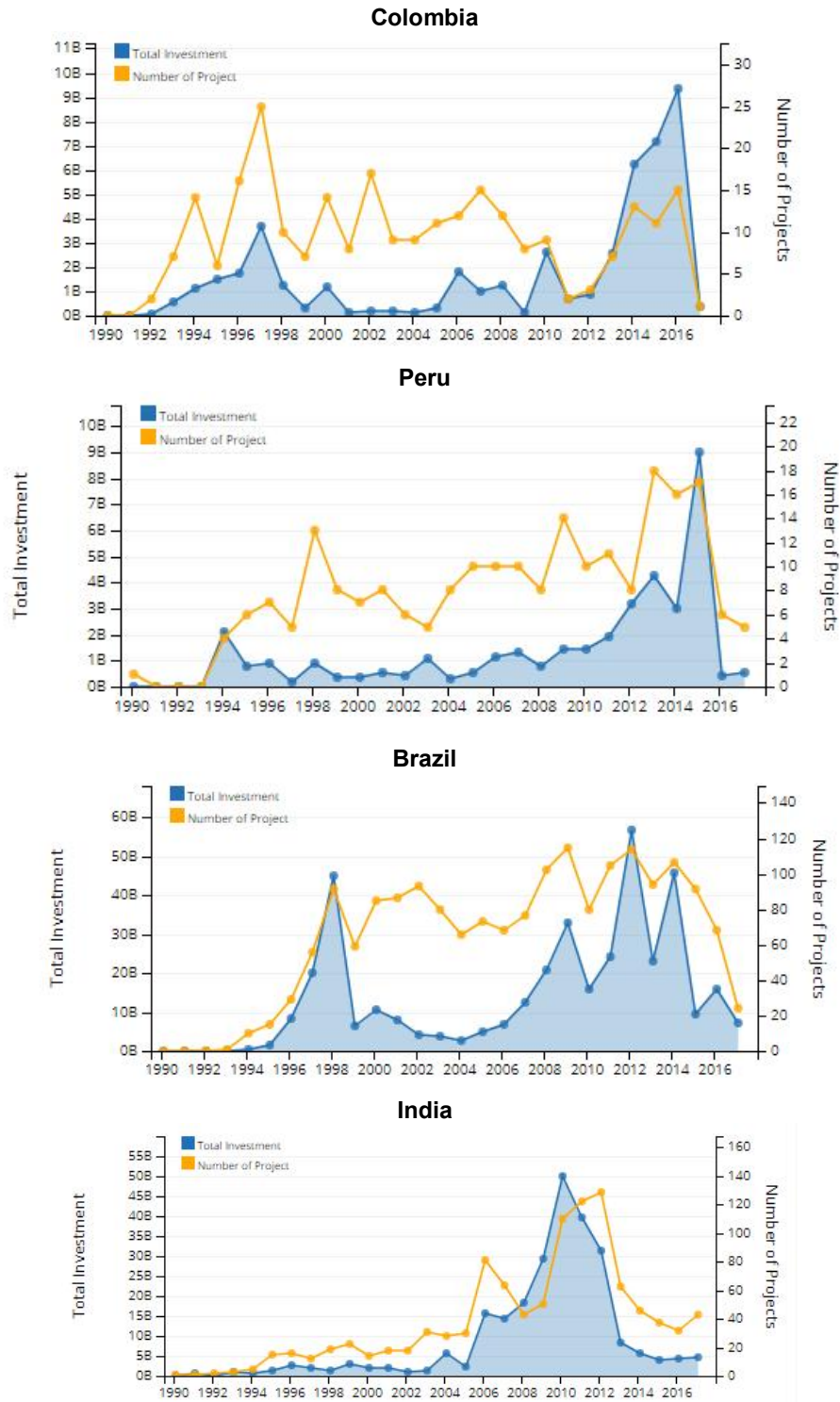
Country	Overall	Regulations	Institutions	Maturity	Investment & Business Climate	Financing
Albania	48	55	53	33	74	34
Argentina	43	60	42	28	48	43
Belarus	46	55	53	56	39	23
Benin	60	81	61	60	66	31
Brazil	70	73	88	68	51	73
Bulgaria	45	51	8	51	65	48
Burkina Faso	54	55	55	52	71	37
Chile	75	91	68	81	72	62
Colombia	76	91	75	82	68	63
Costa Rica	59	53	40	70	75	54
Dominican Republic	49	68	16	40	60	52
Ecuador	40	68	31	19	54	40
Egypt	55	55	68	61	51	38
El Salvador	61	90	91	49	45	38
Georgia	41	36	1	62	62	35
Gautemala	57	80	80	51	45	33
Honduras	66	76	63	82	65	38
Jamaica	69	80	75	80	74	34
Jordan	63	49	78	72	59	53
Kazakhstan	59	54	88	60	62	28
Kosovo	64	61	76	71	61	49
Malawi	41	48	61	43	39	14
Morocco	58	51	40	78	61	53
Nicaragua	59	78	66	67	39	40
Panama	49	47	11	67	59	54
Paraguay	58	71	60	56	66	37
Peru	73	71	66	81	66	77
Romania	49	29	33	68	72	34
Senegal	67	72	61	83	67	45
Serbia	61	67	38	66	77	53
Slovakia	64	85	55	63	71	47
Sri Lanka	52	57	44	59	56	44
Timor-Leste	58	78	80	56	54	22
Togo	35	28	1	56	49	31
Trinidad & Tobago	52	49	48	60	62	38
Turkey	61	50	53	83	53	57
Ukraine	50	47	43	63	52	37
Uruguay	65	61	63	71	67	58
Venezuela	9	13	0	10	12	8

Source: *Evaluating the environment for public-private partnerships in Eastern Europe, Central Asia and the Southern and Eastern Mediterranean, Economic Intelligence Unit (EIU), 2017*

with finance category scores of 59 and 62 respectively are still low on sovereign guarantee partly because of inadequate guarantee fund and high currency risks. That is why, both the countries have not been ranked as mature on

these two parameters. Peru, on the other hand, has done far better with the finance category score of 77, but has to do more work on setting up robust institutions and improving its investment climate. Further improvement in

these scores depends on the ability to address including ability to resolve conflicts speedily. The these challenges of implementing PPP projects ranking of states or sub-national governments



**Fig. 4. Infrascope 2017 Statistics**  
 Source: PPI World Bank Database

based on their Infrascopes scores, thus, provides easy guidance to investors on locational suitability for investment. That is why, some municipalities have also quite enthusiastically employed Infrascopes scores. Beyond these scores, however, the size of the country may also matter in determining the level of PPP investment. As the graphs below show, Brazil, with almost equivalent scores as Colombia and Peru, attracts PPP investment which is about 10 times larger than that of Colombia or Peru. India, too, had received a high overall score of 70.3 in 2014 largely due to its robust set of rules and regulations. Gujarat, at that time had received a score of 68 based largely on the same strengths. But infrascopes scores for other Indian states have not been published by the EIU. It would be useful for a domestic institution to develop a similar index for all states in India as they will be a good guide to both domestic and foreign investors intending to form partnership with local governments.

Ruiz-Nunez, Fernanda and Clive Harris [2] had also shown that the top five countries in terms of total PPP investment commitments from 1991-2015 were Brazil, China, India, Mexico and Turkey. The financial and economic crisis of 2001-2002 prevented investments from coming into Argentina despite having the fifth highest overall investment commitments and that is why Turkey replaced Argentina in the top five countries.

There is no doubt that governments, too, need assistance in both the design and implementation of PPP projects. Infrastructure UK (IUK) which replaced Partnership UK (PUK) in 2010 and helped the government in its various activities relating to PPP projects was later merged with the Major Ports Authority to form a new organisation by the name of the Infrastructure and Projects Authority (IPA) that looked after both the assessment and financing of projects [38]. IPA is closely involved with the public sector entity in the commencement and closure of project deals. The technical assistance given to local governments cover all the stages of a PPP project from development, structuring and procurement to execution and delivery. In USA, many states have their own PPP public agency like a government department or a commission/advisory board mainly in the transportation sector. In some other countries, transaction advisors are appointed as and when necessary [39]. In India, Infrastructure Development Finance Company (IDFC),

International Finance Corporation (IFC), Price Waterhouse Coopers (PwC), Grant Thornton Ltd, Ernst & Young (E&Y) etc. are the more well-known transaction advisors. A robust institutional set-up, though, is common in countries scoring high on the financial parameter.

The IMF, in collaboration with the World Bank, has developed the PPP Fiscal Risk Assessment Model (PFRAM), an analytical tool that quantifies the macro-fiscal impact of PPP projects [40]. Used by ministries of finance, the tool provides a structured process for gathering information for a PPP project in a simple, user-friendly, excel-based platform. It can be used to evaluate an existing project at different stages of its project cycle as well as to evaluate potential projects.

## 7. CONCLUSIONS

India has done reasonably well crafting PPP laws and regulations and building institutions that support the smooth implementation of these laws and regulations. India has also been able to honour guarantees and meet other contingent liabilities issued to domestic and foreign investors; thereby, showing fiscal prudence despite the large value of PPP projects being undertaken in the country. Individual states, though, may not be as well placed. Newer states such as Telangana, have already run up high values of guarantees, most of which are payment guarantees. Governments which are able to carve out alternatives to issuance of guarantees such as offtake agreements and/or issue guarantees that do not involve outflow of funds, are stronger fiscally which, in turn, help to draw in larger investments. Besides, guarantees are an additional expense to the private partner, especially when a pass-through to consumers is not feasible. Among other factors that determine PPP-friendliness, one of the crucial factors is fiscal health of the public authority. Currently, the term 'Viability Gap funding' is largely understood only from the private sector angle as it seeks government finances to compensate itself against inadequate benefits from the project. The government or the public authority must similarly assess the maximum possible viability gap funding from its side given the expected value of the assets that would be transferred to it at the end of the concession period and the immediate transfers from it to the private party in the form of land, tolling rights etc. and the value of the contingent liabilities it is assuming. Merely awarding contracts on the basis of the least request for viability gap funding may not be

appropriate as even this least amount may be more than the viable gap funding amount from the viewpoint of the government or the public sector authority.

A proper assessment of the type of guarantee needed and the time period at which it is to be given to address a given risk has been seen to be critical in many PPP projects. That is why, countries or states with equally robust legal framework and strong institutions may still differ in their ability to attract PPP investments.

### COMPETING INTERESTS

Author has declared that no competing interests exist.

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