



# Sources of Financing for Public-Private Partnership Investments in 2015

- Multilateral development banks (MDBs) contribute a larger share of financing to PPPs in IDA<sup>1</sup> countries (19 percent) than in non-IDA countries (7 percent).
- Governments play a key role in financing PPPs in low-to-middle-income countries: About a quarter of the financing for the PPPs profiled is from the public sector.
- Public sector financing of transport projects (41 percent) tends to be higher than that of energy projects (16 percent).
- Bilateral institutions are as active as MDBs, financing about 7 percent of the overall investment and about 34 percent of investment in IDA countries.
- East Asia and Pacific (EAP) had the highest financing for PPPs from the private sector (83 percent); whereas, Latin America and the Caribbean (LAC) had the highest portions of public spending on PPPs (39 percent).
- Local private financiers are the most active in Turkey and India.
- Institutional investors account for only 1 percent of PPP investment in low-to-middle income countries.

*This note is a product of the Public-Private Partnership (PPP) Group of the World Bank and the Private Participation in Infrastructure Database (PPI Database), by Jenny Chao and Deblina Saha.*

## 1

### BACKGROUND AND CONTEXT

Infrastructure is essential to an economy's growth, yet worldwide, especially in low-to-middle-income countries, a funding gap exists for building and maintaining infrastructure. The private sector together with development finance institutions (DFI), which include both multilateral and bilateral development banks, can play an important role in bridging this gap—often alongside public sector financing. In fact, in April 2015, a group of MDBs, including the World Bank Group, reiterated their commitment to scale up and leverage their support, noting that “Our business models are well suited to help move the international community from billions of dollars in ODA and other official assistance to trillions in finance for development from all sources—public and private, national and global.”<sup>2</sup> To better grasp this dynamic, it is therefore helpful to understand how PPPs in low-to-middle-income countries are financed.<sup>3</sup> To that end,

<sup>1</sup> As defined by the World Bank Group, <http://ida.worldbank.org/about/borrowing-countries>.

<sup>2</sup> World Bank Group, From Billions to Trillions: MDB Contributions to Financing for Development, July 13, 2015, <http://www.worldbank.org/mdgs/documents/FfD-MDB-Contributions-July-13-2015.pdf>.

<sup>3</sup> The term *finance* in this note refers to investment commitments at financial closure, not actual expenditures.

this note analyzes the sources of financing in 2015 for infrastructure investments with private participation globally, as well as across specific regions, and sectors.

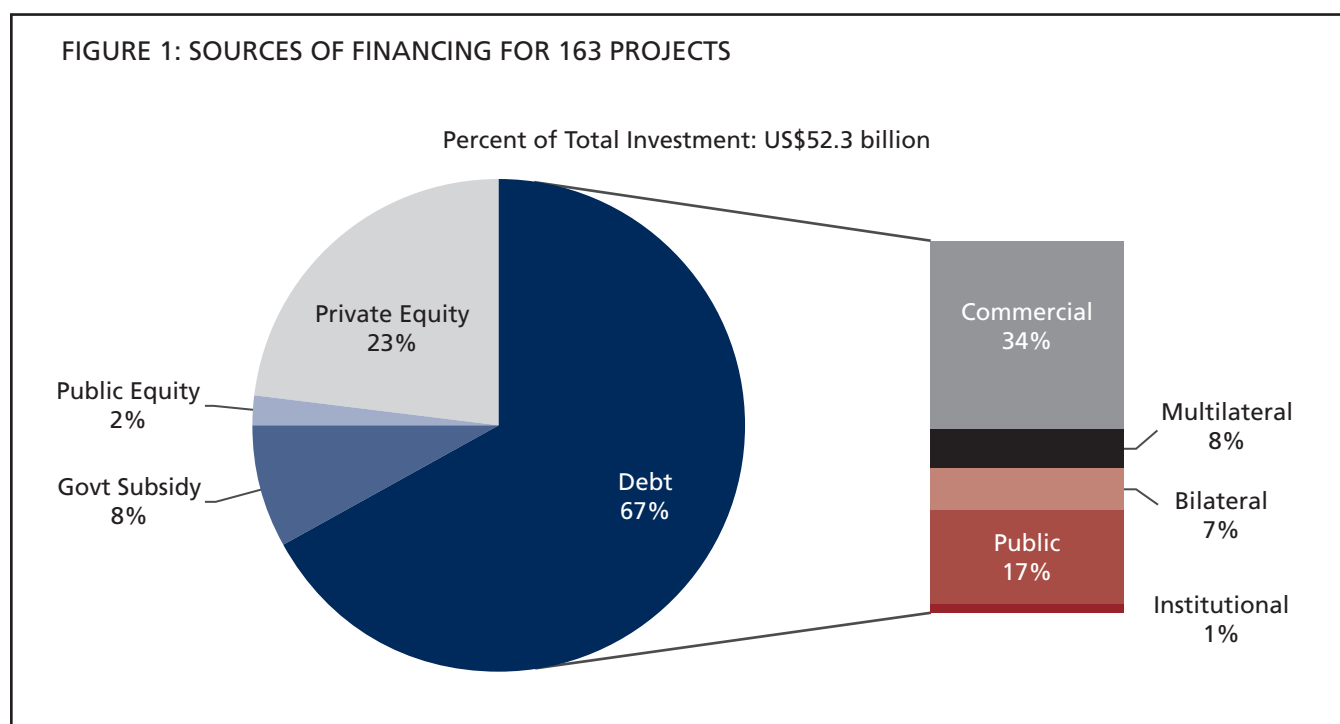
As mentioned, PPP financing may come from public, private, or DFI sources. Public source financing includes (a) governments providing part of a project’s upfront capital costs through grants or viability gap funding (government subsidies<sup>4</sup>); (b) state-owned enterprises (SOE) investing equity; and (c) state-owned banks extending loans. Private source financing includes equity (including equity financed by corporate debt) through the project’s developer or project finance debt through private lenders, which can be either commercial banks or institutional financiers. Particularly for low-to-middle income countries (tracked by the PPI Database), DFIs also provide various forms of support.

For our purposes, we assessed the financial sources for the upfront capital costs of PPP projects reaching financial closure in 2015 in low-to-middle-income countries, thus excluding divestitures, merchant projects, and management and lease contracts (which have no investment in physical assets). We have also excluded any concession fees paid to governments, as these fees are often defrayed by project revenues and thus not representative of a project’s upfront capital investment.

Out of the 294 projects initially identified for this note, financing information was available for only 163; these are the projects used for our analysis. About half of those projects with no financing information available were in China, the other half in LAC. Both regions have a lot of activity in locally funded and developed small-scale PPPs, in which case financing information is not often accessible publicly.

## 2 GLOBAL OVERVIEW

In 2015, the 163 projects analyzed in this note had investment commitments in physical assets totaling US\$52.3 billion. Figure 1 provides a breakdown of the sources of financing for these projects.



<sup>4</sup> The term *government subsidies* in this note refers to all cash subsidies provided by a government for capital investments of a project to cover the costs of the physical assets during construction.

The total investment commitment of US\$52.3 billion comprised of about two-thirds in debt (US\$35.2 billion), one-quarter in equity (US\$13.1 billion), and 7.5 percent in government subsidies (US\$3.9 billion). Breaking the debt down further, exactly half of it (US\$17.6 billion) was financed by commercial lenders; about a quarter (US\$9.0 billion) by public lenders, i.e., SOEs and financial institutions; and the remainder by DFIs and, to a lesser extent, institutional investors.

DFIs played a key role in the PPPs covered by this report: 44 projects or 27 percent received multilateral support and 47 projects or 29 percent received bilateral support, mostly loans. Of these projects, 22 received support from both multilateral and bilateral financial institutions.

Active in only two out of the 163 projects, institutional lenders committed US\$0.7 billion, representing about 2 percent of the debt portion, or 1 percent of the total investment. This is likely linked to the higher risk profile of PPPs in low-to-middle-income countries, particularly because of the lack of credit ratings for the PPPs, making it difficult for institutional investors to accurately evaluate the asset risk.

The majority of the total equity (92 percent or US\$12.1 billion) was financed by private sponsors via balance sheet transactions. The remaining equity (8 percent or US\$1.0 billion) was financed by SOEs forming joint ventures with private sponsors in order to implement the projects.

Upfront capital grants by the government for five projects constituted US\$3.9 billion or 7.5 percent of the total investment. In the public-private split, out of the total capital investment of US\$52.3 billion, 58 percent of the projects were financed by private sources (US\$30.3 billion); 26 percent by public sources (US\$13.9 billion); and 15 percent by DFI sources (US\$8.0 billion). Therefore, both the public sector and DFIs still have key roles to play in PPPs. Table 1 below is a breakdown of the sources of financing by type of financing.

**TABLE 1: SOURCES OF FINANCING—TYPE OF FUNDING AND CATEGORY**

Privates Sources			Public Sources			DFI Sources		
Type	Amount (US\$ billions)	Percent (%)	Type	Amount (US\$ billions)	Percent (%)	Type	Amount (US\$ billions)	Percent (%)
Commercial Debt	\$17.6	34%	Public Debt	\$9.0	17%	Multilateral Debt	\$4.3	8%
Institutional Debt	\$0.7	1%	Govt. Subsidy	\$3.9	7%	Bilateral Debt	\$3.6	7%
Sponsor Equity	\$12.0	23%	SOE Equity	\$1.0	2%	DFI Equity	\$0.1	0%
<b>Total</b>	<b>\$30.3</b>	<b>58%</b>	<b>Total</b>	<b>\$13.9</b>	<b>26%</b>	<b>Total</b>	<b>\$8.0</b>	<b>15%</b>

See Appendix-A for a summary of the financing for the top ten deals for which information is available.

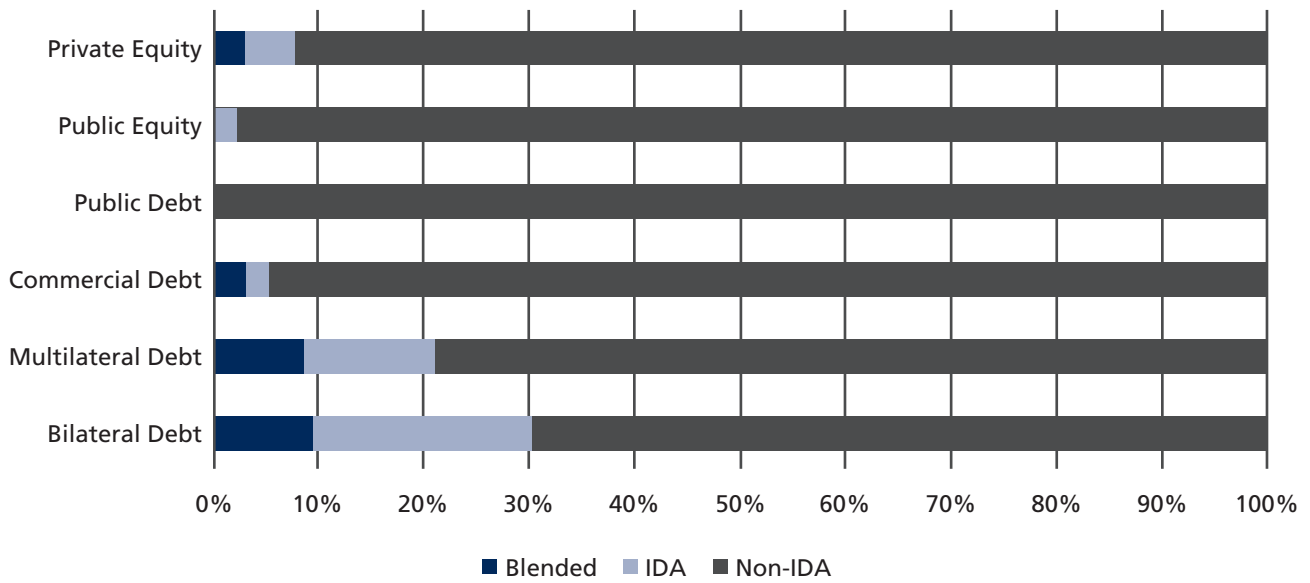
### 3

## SOURCES OF FINANCING FOR PPPs IN IDA COUNTRIES

Unsurprisingly, DFIs have played a critical role in financing infrastructure in IDA countries, while commercial lenders seem to prefer non-IDA markets. This is evidenced by 30 percent and 21 percent of the total bilateral and multilateral investments, respectively, going to IDA and blended<sup>5</sup> countries, as opposed to these countries receiving 5 percent of the total commercial debt. Only a minuscule portion of public sources went to IDA and blended countries, where public spending is constrained by limited government resources. Figure 2 shows the sources of financing for IDA countries compared with others.

<sup>5</sup> As defined by the World Bank Group, <http://ida.worldbank.org/about/borrowing-countries>.

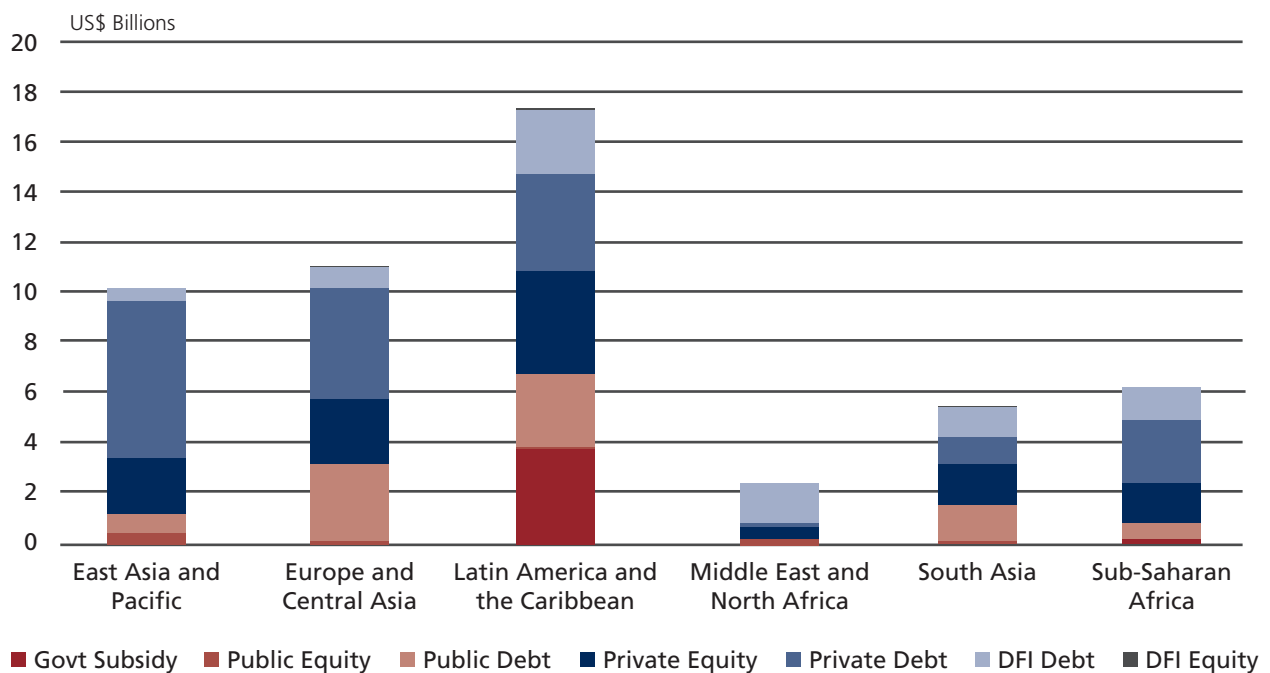
FIGURE 2: SOURCES OF FINANCING FOR IDA, NON-IDA, AND BLENDED COUNTRIES



Bilateral institutions contributed the largest portion of financing in IDA countries at 34 percent of the total IDA investment, while private sponsors' equity was 24 percent of IDA financing. MDBs and commercial banks each accounted for 19 percent of the total IDA investment.

## 4 REGIONAL OVERVIEW

FIGURE 3: SOURCES OF FINANCING BY REGION



The mix of financing for PPPs varies by region. East Asia and Pacific had the most active private sector financing, with 83 percent coming from private sources (debt and equity). Similarly, commercial debt providers were also the most active in EAP, contributing to 61 percent of the upfront capital costs. In Malaysia, this figure was as high as 77 percent, while in Thailand, 75 percent. Only 13 percent of the investment commitments were funded by public sources and 4 percent by DFI sources.

Conversely, Latin America and the Caribbean had relatively low contributions from the private sector at 46 percent, with correspondingly high activity from the public sector at 39 percent. DFI sources made up the remaining 15 percent. However, public funding in 2015 includes the US\$3.6 billion capital subsidy for the Lima Metro-Line 2 Project, which drove up the public sector's totals.

With about 30 percent of total investment commitments from state-owned banks, South Asia (SAR) is notable for attracting the highest investments by state-owned lenders than any other region. This is because India's public sector banks were the most active lenders in the country's infrastructure sector. DFI sources funded 20 percent of capital costs in SAR, while private sources funded 48 percent—roughly, an even split between debt and equity.

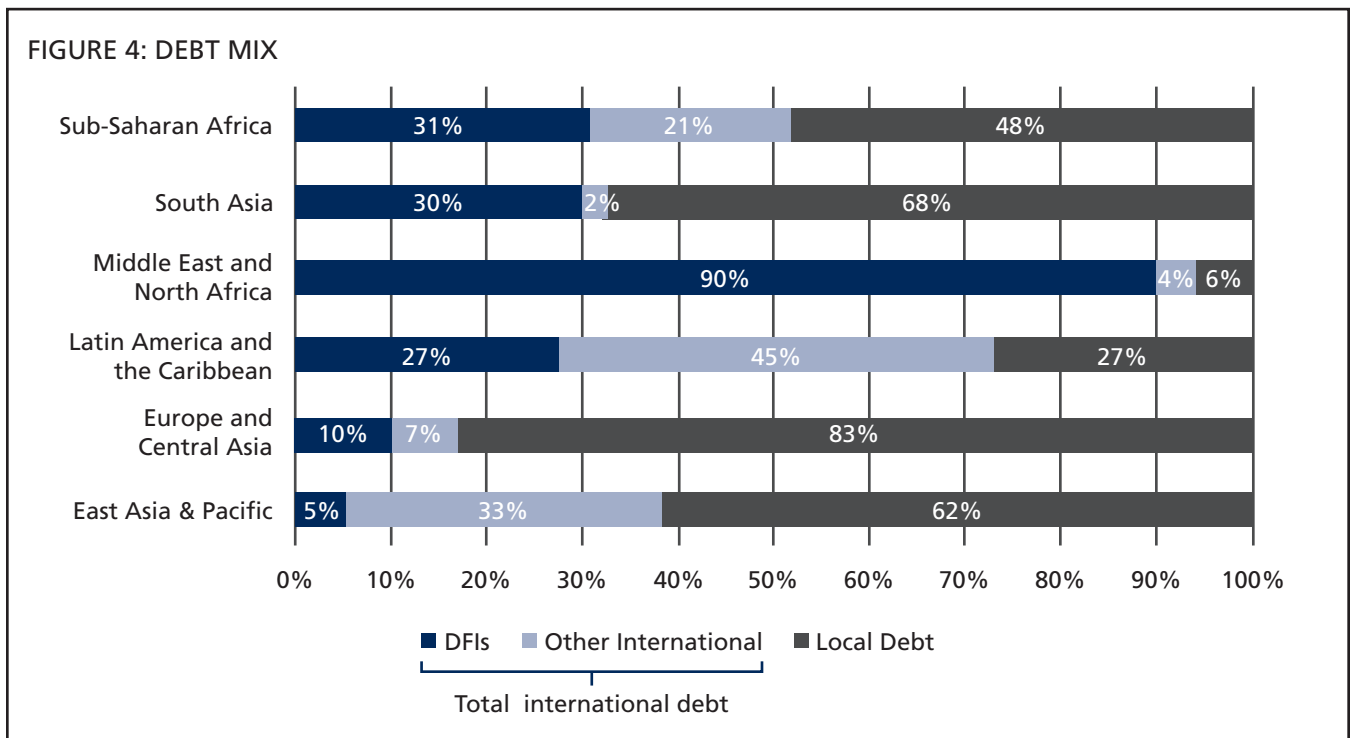
In Europe and Central Asia (ECA), dominated by Turkey, private sources funded 64 percent of the total investment; public sources provided 28 percent (mostly from state-owned lenders); and DFIs, the remaining 8 percent.

Sub-Saharan Africa (SSA) had healthy private sector financing at 66 percent, but very low public funding at only 12 percent. DFIs predictably filled the gap, comprising 22 percent of the investment commitments in the region—the second highest contribution by DFI sources after MENA.

Finally, in the Middle East and North Africa (MENA), DFIs captured 65 percent of the investment commitments. Private sector resources provided 29 percent (mostly in the form of equity) and the public sector only contributed 5 percent. Of the 11 projects, eight received both multilateral and bilateral debt and two received only bilateral debt.

Appendix-B provides a more detailed breakdown of financing by region.

## 5 LOCAL VERSUS INTERNATIONAL DEBT FINANCING

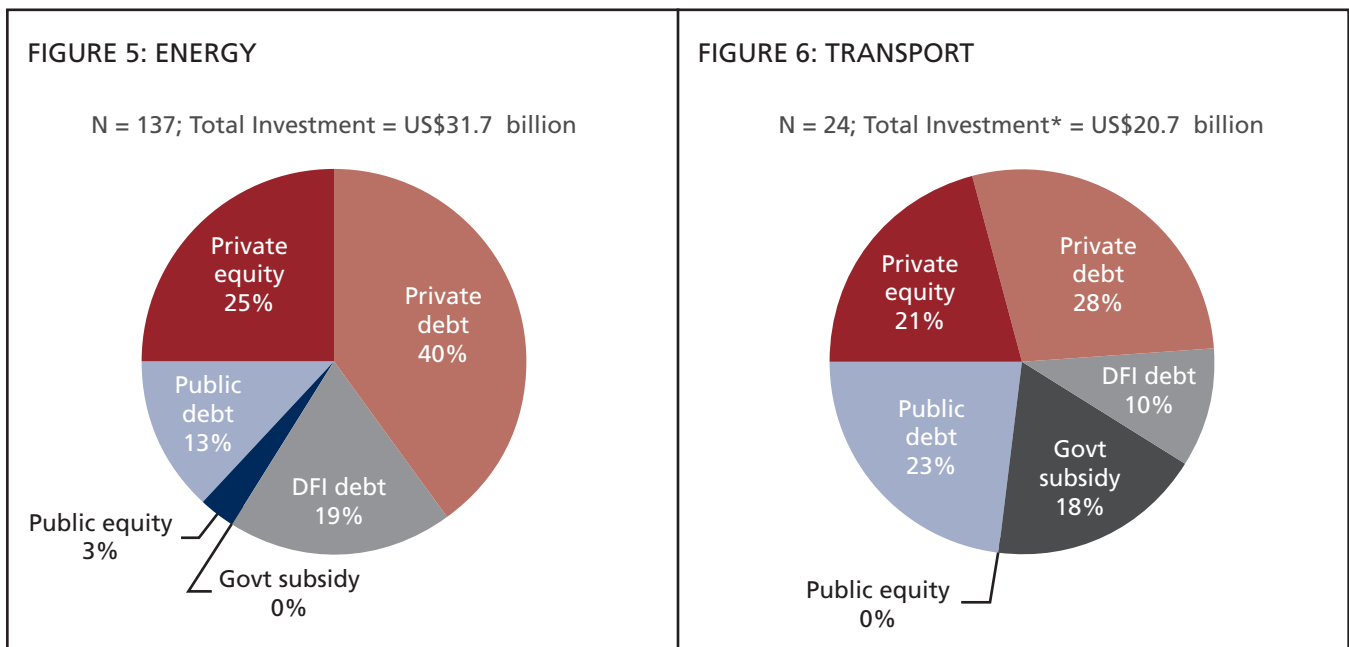


Local debt providers were the most active in ECA in 2015, capturing 83 percent of the total debt requirements in the region. A majority of the projects closed in Turkey, where local Turkish banks financed a large portion of the investments. The two projects closing in Russia were financed by local Russian banks; whereas, the projects closing in Montenegro, Lithuania, and Georgia were all financed by DFIs and international commercial lenders. Local debt providers were also active in SAR and EAP, financing 68 percent and 62 percent of the total debt in each region, respectively. In SAR the higher contribution of local debt providers was driven by Indian banks, contributing 92 percent of the total debt, while debt in Pakistan, Bangladesh, and Nepal were largely internationally financed. In EAP the higher contribution of local debt providers is because of Thailand, where local banks contributed 88 percent of the total debt.

International debt providers were the most active in MENA in 2015, providing 94 percent of the total debt requirements in the region; however, the majority of the debt was financed by DFIs (90 percent). LAC saw the highest proportion of debt from international debt providers, other than DFIs, at 45 percent, followed by EAP at 33 percent. Almost all the debt financing in Brazil (13 projects) was by local state-owned banks and the Brazilian Development Bank. In Peru, Jamaica, El Salvador, Colombia, Costa Rica, Uruguay, and Honduras, almost all the projects (20 out of 22) were financed by international lenders, mostly DFIs. In SSA, 52 percent of the total debt was financed by international lenders. In Zambia, Uganda, and Rwanda, all the projects were financed by international lenders, again mostly DFIs. In Senegal and Nigeria, 80 percent of the total debt was financed by international lenders, with a fair mix of DFIs and commercial lenders. In South Africa, although only 30 percent of the debt was financed by international lenders, the majority of the financing came from international lenders other than DFIs. Nedbank, a South African bank, financed 9 of the 14 projects reaching financial closure in that country.

## 6 SECTOR OVERVIEW

Of the 163 total projects, 137 were in the energy sector, with investments totally US\$31.7 billion; 24 were in transport, US\$20.7 billion; and only two were in water, US\$162 million. The share of private sector funding in energy was higher than that in transport: 65 percent and 49 percent, respectively. The same can be said of DFI funding in energy (19 percent) versus transport (10 percent). Conversely, 41 percent of the investments in transport projects were funded by the public sector, compared with only 16 percent in energy, indicating that private sector financing is more accessible in the energy sector. There was not enough of a sample size for water projects in 2015 to determine conclusively the trends in that sector. Figures 5 and 6 summarize the sources of financing in the energy and transport sectors.



\*Refers to investment in physical assets only, i.e., excludes fees paid to governments.

See Appendix-C for a more detailed breakdown of the sources of financing by sector and region.

## 7 CONCLUSION

Though commonly assumed that the private sector provides the majority of financing for PPPs, the results delineated in this note make clear that PPP financing in low-to-middle-income countries actually comes from a diverse mix of sources, with strong roles played by both the public sector and DFIs. Commercial lenders tend to be the most active in what they perceive to be more “bankable” deals, such as projects in stable, upper-middle-income countries and in more profitable sectors like energy (electricity generation) and transport (airports). Conversely, MDBs and bilateral institutions are the most active in IDA countries, playing a key role by helping to crowd in or mobilize private sources of financing in countries where private lenders may not otherwise be comfortable taking country risk. Finally, governments can often be seen as active participants, most commonly through debt financing from state-owned banks, but also through taking equity stakes in projects and providing upfront capital grants.

# Appendix A

## DEBT FINANCING FOR TOP 10 DEALS

The top 10 deals<sup>6</sup> accounted for US\$22.4 billion invested in physical assets, of which 54 percent (US\$11.8 billion) were financed solely by private sources: commercial debt (US\$8.5 billion) and sponsor equity (US\$3.3 billion). Public sources financed 36 percent or US\$8.4 billion: public debt (US\$4.2 billion), government subsidy (US\$3.7 billion), and public equity (US\$0.5 billion). DFIs financed the remaining 10 percent (US\$2.2 billion): multilaterals (US\$ 1.2 billion) and bilaterals (US\$1.0 billion).

TABLE A-1: SOURCES OF DEBT FINANCING FOR THE TOP TEN DEALS

Country	Project	Sector	Investment (US\$ millions)	Project Banks (debt type/scope of infrastructure/US\$ millions)
Turkey	IGA Airport	Transport	\$6,487	Vakif Bank (commercial/local/\$1,063.4); Halkbank (public/local/\$1,063.4); Ziraat Bankasi (public/local/\$1,595); Denizbank (commercial/local/\$531.7); Finansbank (commercial/local/\$319); Garanti Bankasi (commercial/local/\$319)
Peru	Lima Metro Line 2	Transport	\$6,445	US\$1.2 billion bond from Citi Corp, Morgan Stanley, Santander, Bank of America Merrill Lynch, Banca IMI, BBVA, Credit Agricole, Natixis, Societe Generale; US\$800 million term loan from Cassa Depositi e Prestiti; KfW-IPEX' Societe Generale' Banco Santander; Spanish state-owned Instituto de Crédito Oficial; IADB (multilateral/international/\$750)
Malaysia	3B Jimah East Power Plant (coal-fired)	Energy	\$2,675	HSBC (commercial/international/\$826); CIMB Group (commercial/international/\$826); Malayan Banking Berhad, a.k.a. Maybank (commercial/local/\$413)
Mexico	Los Ramones Gas Pipeline Phase II Norte	Energy	\$1,679	BBVA (commercial/international/\$100); HSBC (commercial/international/\$100); Banobras (public/local/\$276); Bancomext (public/local/\$184); Nacional Financiera S.N.C (public/local/\$240); Santander Bank (commercial/international/\$160); Bank of Tokyo, Mitsubishi (commercial/international/\$57) HSBC (commercial/international/\$100); Grupo Financiero Inbursa (commercial/local/\$85); Credit Agricole (commercial/international/\$57)
Philippines	San Buenaventura Power Plant (coal-fired)	Energy	\$1,195	BDO Unibank (commercial/local/\$178.79); China Bank (commercial/international/\$178.79); First Metro (commercial/local/\$178.79); Philippines National Bank (public/local/\$178.79); Rizal Commercial Banking Corporation; (commercial/local/\$178.79)
Turkey	Dalaman Airport Domestic Terminal	Transport	\$1,086	UniCredit (commercial/international/\$98.9); EBRD (multilateral/international/\$98.9)

<sup>6</sup> Refers to the top 10 deals among the 163 projects for which detailed financing information is available.



**TABLE A-1: SOURCES OF DEBT FINANCING FOR THE TOP TEN DEALS**

<b>Country</b>	<b>Project</b>	<b>Sector</b>	<b>Investment (US\$ millions)</b>	<b>Project Banks (debt type/scope of infrastructure/US\$ millions)</b>
Philippines	Mactan-Cebu International Airport	Transport	\$1,024	BDO Unibank (commercial/local/\$236); Bank of the Philippine Islands (commercial/local/\$60.5); Development Bank of the Philippines (DBP) (public/local/\$16.1); Land Bank of the Philippines (public/local/\$36.4); First Metro (commercial/local/\$23.8); Philippine National Bank (commercial/local/\$23.8); Asian Development Bank (multilateral/international/\$75)
Morocco	NOORo II parabolic CSP	Energy	\$1,00	Agence Française de Développement (bilateral/international/unavailable); KfW (bilateral/international/unavailable)
Turkey	Efeler Geothermal Project	Energy	\$940`	EBRD (multilateral/international/\$200); Türkiye İş Bankası (commercial/local/\$325); Türkiye Sınai Kalkınma Bankası; (commercial/local/\$130); Black Sea Trade & Development Bank (multilateral/international/\$65)
Philippines	Therma Visayas Power Plant (340MW-coal)	Energy	\$937	First Metro (commercial/local/\$78); Asia United Corp (commercial/local/\$78); Bank of the Philippine Islands (commercial/local/\$78); China Bank (commercial/local/\$78); Development Bank of the Philippines (DBP) (public/local/\$78); Land Bank of the Philippines (public/local/\$78); Maybank (commercial/local/\$78); SB Capital Corp (commercial/local/\$78); BDO Unibank (commercial/local/\$78)

# Appendix B

## BREAKDOWN OF SOURCES OF FINANCING BY REGION

Table B-1 provides the percent of the information available for sources of financing and gives a breakdown of sources by region for each category of funding source: public, private, and DFIs.

TABLE B-1: TOTAL INVESTMENT AND PERCENT OF FINANCIAL SOURCES BY REGION										
Region	Information Availability (%)	Total Investment (US\$ billions)	Percent of Total Investment by Sources of Financing (%)							
			Govt Subsidy	Public Equity	Public Debt	Private Equity	Commerical Debt	Institutional Debt	Multi-lateral Debt	Bi-lateral Debt
EAP	29%	\$10.1	0%	4%	9%	21%	62%	0%	4%	0%
ECA	93%	\$10.9	0%	1%	28%	24%	35%	6%	6%	2%
LAC	46%	\$17.3	21%	1%	17%	24%	22%	0%	9%	5%
MENA	100%	\$2.5	0%	6%	0%	22%	7%	0%	20%	45%
SAR	95%	\$5.4	2%	0%	28%	28%	21%	0%	11%	10%
SSA	91%	\$6.2	0%	3%	10%	26%	38%	1%	8%	13%

# Appendix C

## BREAKDOWN OF SOURCES OF FINANCING BY SECTOR

Energy: Private sources financed 65 percent of the total sector investment: US\$12.5 billion of commercial debt and US\$8.1 billion of private sponsor equity. Public sources financed 16 percent: US\$4.2 billion of debt by state-owned lenders; US\$0.9 billion of public equity; US\$7.6 million of government subsidy. DFI sources financed the remaining 19 percent: US\$2.7 billion and US\$3.1 million of multilateral and bilateral debt, respectively. The sector received the highest amount of DFI funding among all sectors. Of the 137 projects in energy, 33 received some form of multilateral support, while 37 had some form of bilateral support. Three projects received a political risk insurance/guarantee (US\$12 million) and four projects received equity from the International Finance Corporation (US\$47 million).

Table C-1 shows the percent of the sources of financing in energy subsectors.

**TABLE C-1: PERCENT OF SOURCES OF FINANCING BY ENERGY SUBSECTORS**

Subsectors and Number of Projects	Percent of Total Investment by Sources of Financing (%)					
	Commercial Debt	Multilateral Debt	Bilateral Debt	Public Debt	Public Equity	Private Equity
Electricity generation: 128	39%	9%	11%	12%	3%	26%
Electricity generation and transmission:3	14%	42%	8%	0%	0%	35%
Electricity transmission: 3	74%	0%	0%	17%	0%	9%
Natural gas transmission: 3	49%	0%	0%	27%	0%	23%

**Transport.** Private sources financed 49 percent of the total investment in physical assets: US\$5.1 billion of commercial debt; US\$0.8 billion of institutional debt; and US\$4.4 billion of private sponsor equity. Public sources financed 41 percent: US\$4.9 billion of debt from state-owned lenders; US\$3.9 billion of government subsidy; and only US\$59 million of public equity. DFI sources only financed 10 percent: US\$1.5 billion (multilateral debt) and US\$0.5 billion (bilateral debt). Table C-2 shows the percent of the sources of financing in transport subsectors.

**TABLE C-2: PERCENT OF SOURCES OF FINANCING BY TRANSPORT SUBSECTORS**

Subsectors	Percent of Total Investment by Sources of Financing (%)							
	Govt Subsidy	Commercial Debt	MDB Debt	Bilateral Debt	Institutional Debt	Public Debt	Public Equity	Private Equity
Airports	0%	36%	3%	0%	0%	35%	0%	25%
Ports	0%	3%	24%	3%	0%	15%	0%	56%
Railway	57%	21%	12%	2%	0%	7%	0%	0%
Roads	2%	19%	2%	6%	13%	28%	1%	29%

**Water.** In this sector there were only two water projects. Of the total sector investment, private sponsors contributed US\$38 million in equity or 23 percent; commercial lenders financed US\$86 million or 53 percent; and multilaterals financed US\$22 million or 14 percent. The sector also received government subsidy of US\$15 million, accounting for the remaining 10 percent of the total sector investment.