



H1 2018

Private Participation in Infrastructure (PPI)

Acknowledgement & Disclaimer

This report was prepared by a team comprising Deblina Saha (Task Team Leader), Teshura Nair and Seong Ho Hong, with editorial inputs by Luba Vangelova and design by Victoria Adams-Kotsch. The team is very grateful for the support and guidance received from Jordan Schwartz (Director, IPG Group) and Abha Joshi-Ghani (Senior Adviser, IPG Group). The team is thankful to Darwin Marcelo (Senior Infrastructure Economist, IPG Group) and Fernanda Ruiz-Núñez (Senior Economist, IPG Group) for providing valuable comments which helped shape the report. Page iv photo © See-ming Lee/Creative Commons CC BY 2.0. Page 18 photo © ICMA/Creative Commons CC BY SA 2.0.

This report describes Private Participation in Infrastructure (PPI) as indicated in the [Private Participation in Infrastructure Database](#). The database records investment information for infrastructure projects in low- and middle-income countries globally.

The PPI Database represents the best efforts of a research team to compile publicly available information, and should not be seen as a fully comprehensive resource. Some projects—particularly those involving local and small-scale operators—tend to be omitted because they are usually not reported by major news sources, databases, government websites, and other sources used by the PPI Projects database staff.

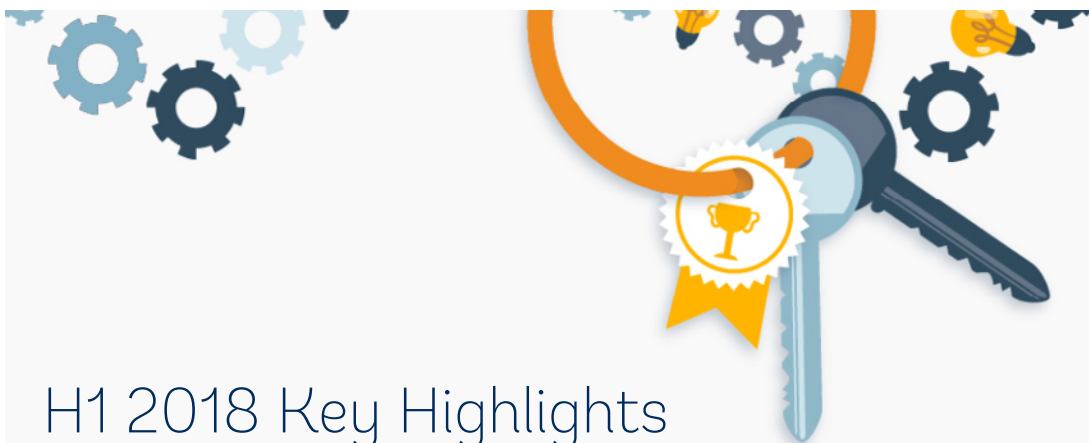
Index

H1 2018 Key Highlights	1
Executive Summary	2
1. Global PPI Investment Trends	4
2. Geographic Spread	6
3. Investments in IDA Countries	9
4. Sector Trends	10
5. Financing Trends	14
5.1 Financing Mix	14
5.2 DPI Support	16
6. Government Support	17



BUS
CK UP/
POFFI
ONLY
巴士
客上
客下

SLOW
慢行
小心左面車輛



H1 2018 Key Highlights

- In H1 2018, private investment commitments in energy, transport, information and communication technologies (ICT) backbone, and water infrastructure in low- and middle-income countries totaled US\$43.5 billion across 164 projects.
- With a seven-percent increase over H1 2017 investment levels and a two-percent increase over the half-year average of the past five years, investment in H1 2018 continued to show signs of recovery, and for the first time since 2014, investment levels are higher (albeit marginally) than the half-year averages of the past five years.
- East Asia and Pacific (EAP) received the highest level of investment, whereas investments in Latin America and the Caribbean (LAC) and the Middle East and North Africa (MENA), respectively, were the lowest and second-lowest levels of investment made in the past 10 years.
- Thirty-four countries received investments, with China, Turkey, Vietnam, India and Brazil (the top five) accounting for 66 percent of the global total—10 percent higher than in 2017, but similar to previous five-year averages. Vietnam makes its debut as a top-five country.
- Transport accounted for 57 percent of total investments, and water investments increased three-fold, while energy investments were reduced by 50 percent.
- Of the investment amounts for which financing information was available,¹ 78 percent was debt-financed; 62 percent of the total debt was raised from commercial providers, and 15 percent from bilateral providers. Overall, international sources financed 51 percent of the debt.
- Private sources financed 68 percent of investments, public sources financed 13 percent, and development finance institutions (DFIs)—which are both multilateral and bilateral—financed 19 percent (based on projects with available financing information).
- Of 84 electricity-generation projects, 78 were renewable-energy projects, which accounted for 64 percent of total electricity generation investment and capacity (6.7 out of 10.5 gigawatts). Solar was the most dominant technology for power generation.

¹ Financing information was available for 103 projects, with investments totaling US\$24.6 billion. Information was unavailable for most of the projects in China, including the megaprojects.

Executive Summary

Private Participation in Infrastructure (PPI) investment² in H1 2018, which stood at US\$43.5 billion across 164 projects, marked an increase of seven percent from H1 2017 levels. It is still 13 percent lower than the 10-year H1 average investment level of US\$49.9 billion. The increase over H1 2017 levels can be attributed to a rise in the number of road projects in China and Turkey, and an increase in investments in Vietnam, India, and South Africa. Number of projects also rose by six percent, from 154 in H1 2017 to 164 in H1 2018.

Investments in more countries and smaller projects. H1 2018 saw investments across 34 countries, which was higher than the five-year average of 30 countries, and similar to the number of countries with investment commitments in H1 2017 (35 countries). An increase in median project size and a decrease in average project size compared to 2017 indicates reduced investments in larger projects and more in smaller ones.

EAP continued to dominate global investments, and Europe and Central Asia (ECA) experienced a revival. EAP garnered 40 percent of global PPI investments in H1 2018, with investments totaling US\$17.3 billion (a 27-percent increase from H1 2017). ECA saw a recovery in H1 2018, led by Turkey and Russia, as it received US\$10.2 billion worth of investments, which is 88 percent higher than full-year 2017 investments. LAC, the former champion of PPI investments, dropped to third place and garnered the lowest share ever in the past 10 years. MENA's share also dropped, while SSA's share increased.

Vietnam made its debut in the top-five PPI countries, while India and Turkey rejoined that list, which also included China and Brazil. China by itself accounted for more than a quarter (27 percent) of global investment commitments, which was mostly due to a surge of road investments in the country. The increased investments in Turkey can be attributed to four highway megaprojects that together accounted for 95 percent of the investments in that country. Vietnam saw record high energy investments in 10 projects, which might have been spurred by higher feed-in-tariff regime ebbing from next year. With 24 projects totalling US\$3.4 billion, India had the second-highest number of projects (after China with 37 projects) and was the only top-five country with no megaprojects. Although Brazil made it to the top five, H1 2018 investments in the country were half of H1 2017 levels.

Lower IDA investments. H1 2018 IDA investments of US\$1.1 billion, across 10 projects and eight countries, represented half of H1 2017 investments. This number was also 30 percent lower than the average investment over the past five years. H1 2018 investment levels in IDA countries as a share of global PPI investments also dropped from nine percent in 2017 to three percent.

Transport overtook energy as the most dominant sector, and water investments increased three-fold. The focus of PPI investments shifted to the transport sector in H1 2018, with US\$24.4 billion, or 57 percent of total investment, directed to this sector. There were nine megaprojects in the sector, seven of which were highway projects in China and Turkey. Energy investments almost halved from

² "Investment" refers to private investment commitments at the time of financial close in energy, transport, water and ICT-backbone projects serving the public in low- and middle-income countries, including natural-gas transmission and distribution, but excluding oil and gas extraction. ICT backbone infrastructure includes fiber-optic cables, mobile towers and other hard assets, with an active government component.

H1 2017 levels, which were high because of six multi-billion-dollar projects in Indonesia, Pakistan and Jordan. At US\$3.1 billion across 22 projects, investment in the water sector in H1 2018 saw a three-fold increase over the H1 2017 levels and already surpassed full-year 2017 levels by 67 percent. This was due to increasing investments in water projects in China, India and Mexico, though investments in Brazil dropped to their lowest level ever.

Solar shone, as renewable-energy growth remained robust. Ninety-three percent of new electricity-generation projects used renewable energy (78 out of 84 projects). Although based on investment value and generation capacity, renewable energy captured only 64 percent of total electricity generation investment and capacity, it was higher than the H1 2017 average of 51 percent and the previous five-year average of 57 percent. Average project size for conventional-energy projects was US\$897 million, compared to US\$125 million for renewables. The most dominant form of technology in H1 2018 was solar, accounting for almost one-third of total investments in the sector, across 49 projects in 23 countries.

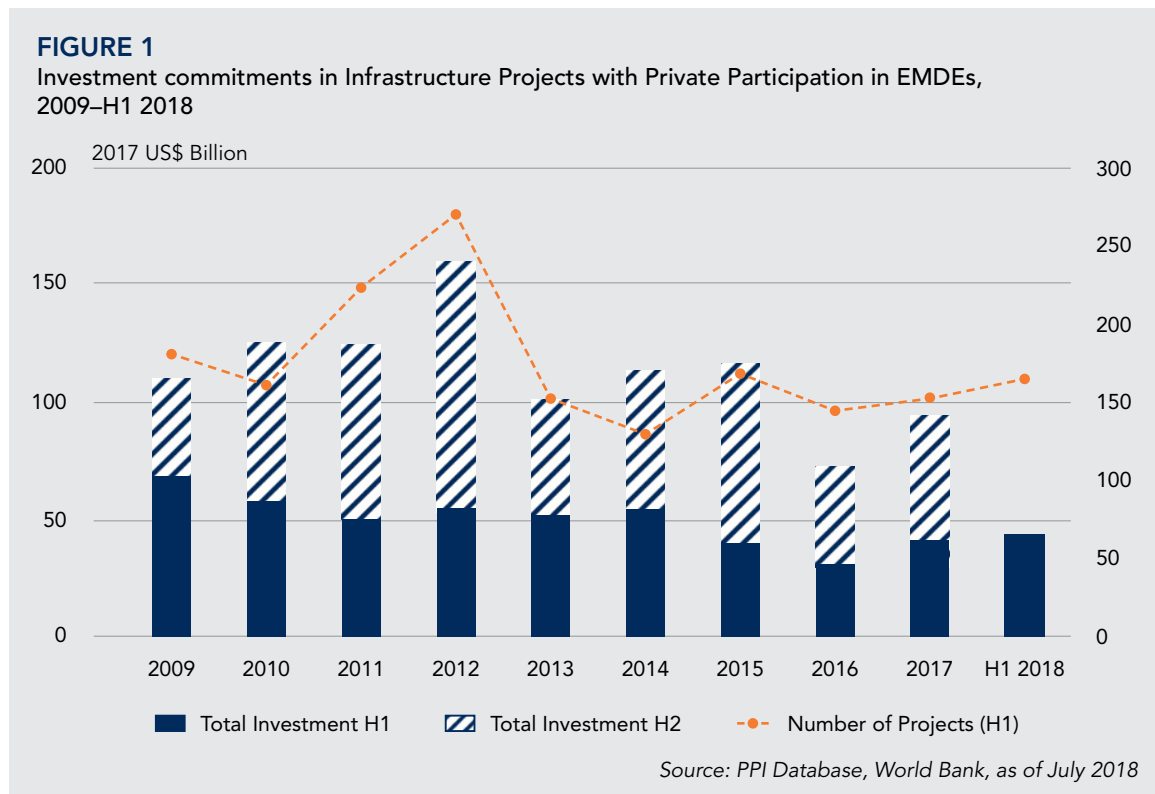
More projects received DFI support, but financing quantum was reduced. Forty-six out of 103 projects³ received some form of DFI support—the highest proportion in the past five years. However, DFIs played a reduced role in financing in H1 2018 compared to 2017, providing only 19 percent of the total investment. In addition to financing projects, the role of DFIs expanded to include enabling private investment through syndication support, guarantees and other risk-mitigation facilities. In H1 2018, eight projects received such non-financing support from DFIs.

Commercial lenders financed almost half of the H1 2018 investments, and local financing also increased. Of the total commercial debt of US\$11.6 billion,⁴ 40 percent was accounted for by Turkey, where two road megaprojects alone raised US\$3.4 billion worth of commercial debt. Brazil and Vietnam each accounted for more than 10 percent of the global commercial debt. Other countries with investments exceeding a billion dollars, and which financed a significant portion of their investments through commercial debt, were South Africa and Pakistan. Local debt providers accounted for almost half (48 percent) of the total debt raised, up from 22 percent in 2017. The increasing proportion of local debt was attributable mostly to local Turkish and Indian banks playing an active role in financing road projects.

³ Financing information was available for 103 projects with investments totaling US\$24.6 billion. Information was unavailable for most of the projects in China, including the megaprojects.

1. Global PPI Investment Trends

PPI investment in H1 2018 totalled US\$43.5 billion across 164 projects, an increase of seven percent over investments in H1 2017 and 44 percent over H1 2016 levels. The total investment recorded for H1 2018 is also two percent higher than the previous five years' H1 average investment level of US\$42.9 billion.



Although investment in H1 2018 seems to conform to the recovery trend begun in 2017, it still remains lower than historical levels, being the fourth lowest half-year investment in the past 10 years. On the brighter side, this is the first time since 2014 that investment levels are higher than the half-year averages of the previous five years, although that increase is a marginal two percent. Furthermore, higher investment levels are typically recorded in the latter half of each year (Figure 1), suggesting that full-year 2018 investments will continue to show signs of recovery.

H1 2018 saw investments across 34 countries, which was similar to the number of countries with investment commitments in H1 2017 (35 countries) and was also higher than the five-year average of 30 countries receiving investment commitments in the first half of the year.

The number of projects increased by six percent, from 154 in H1 2017 to 164 in H1 2018. It is also a 10 percent increase over the previous five-year H1 average of 149 projects.

Although the average (mean) project size in H1 2018 was lower than the average project size for the full year in 2017 (Table 1), the median project size was higher—US\$106 million in H1 2018 versus US\$96

million in H1 2017. This indicates reduced investments in larger projects in H1 2018, and an increase in investment commitment in smaller projects, which can be further observed in Figure 2.

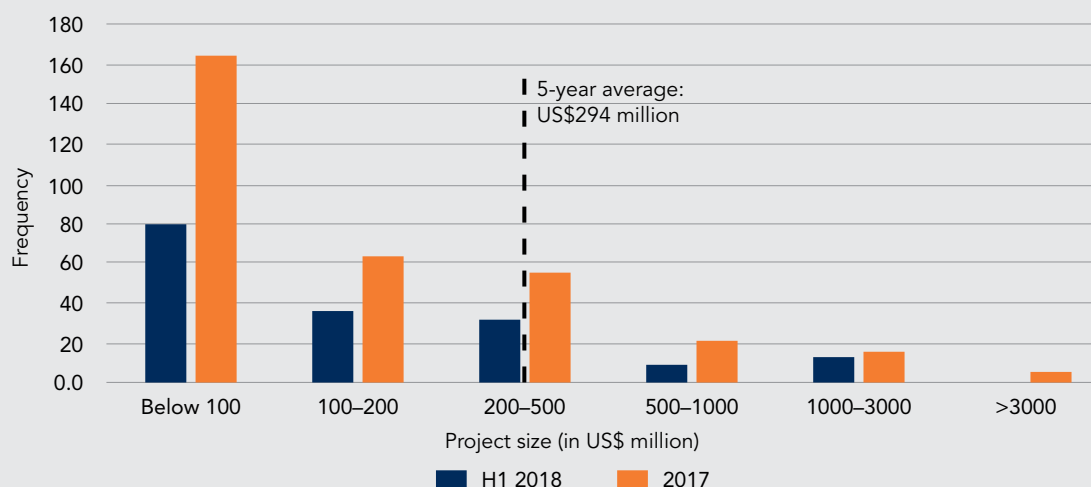
Year	Number of Projects	Mean	Median	Maximum
2013	411	246	92	3,800
2014	339	335	83	10,880
2015	341	343	85	36,803
2016	286	257	81	5,301
2017	321	295	96	6,882
H1 2018	164	265	106	2,987

Source: PPI Database, World Bank, as of September 2018

Investments in small projects (< US\$100 million) remained consistent at around 50 percent in both H1 2018 and 2017. Meanwhile, there was an increase in the share of medium-sized projects (US\$100-500 million) from 36 percent in 2017 to 40 percent in H1 2018. The biggest difference was that, although there were no projects larger than US\$3.0 billion in H1 2018, there were four such projects in 2017, which skewed the mean.

FIGURE 2

Size Frequency Distribution of Infrastructure Projects with private Participation in EMDEs, H1 2018 and 2017



Source: PPI Database, World Bank, as of July 2018

H1 2018 is characterized by an increase in greenfield projects, which accounted for 84 percent of all PPI projects, compared to the previous five-year average of 78 percent. In line with past trends, most greenfield projects (59 percent) were in the energy sector, whereas 57 percent of all brownfield projects were in the transport sector. Most greenfield investments happen in energy because the construction

period for power plants is very short (18 to 36 months) and therefore they are perceived to be lower risk. Because the construction period for transport projects is much longer, investors prefer brownfield projects in that sector, because they provide established revenue streams.

Following the trend seen in 2017, the ratio of brownfield to greenfield projects was the lowest in EAP, where there were 54 greenfield projects and only five brownfield projects. Contrary to the global trend, the majority of greenfield projects in China (23 of 34) were in the transport sector, as many new road constructions were recorded. Sub-Saharan Africa (SSA) had only greenfield projects.

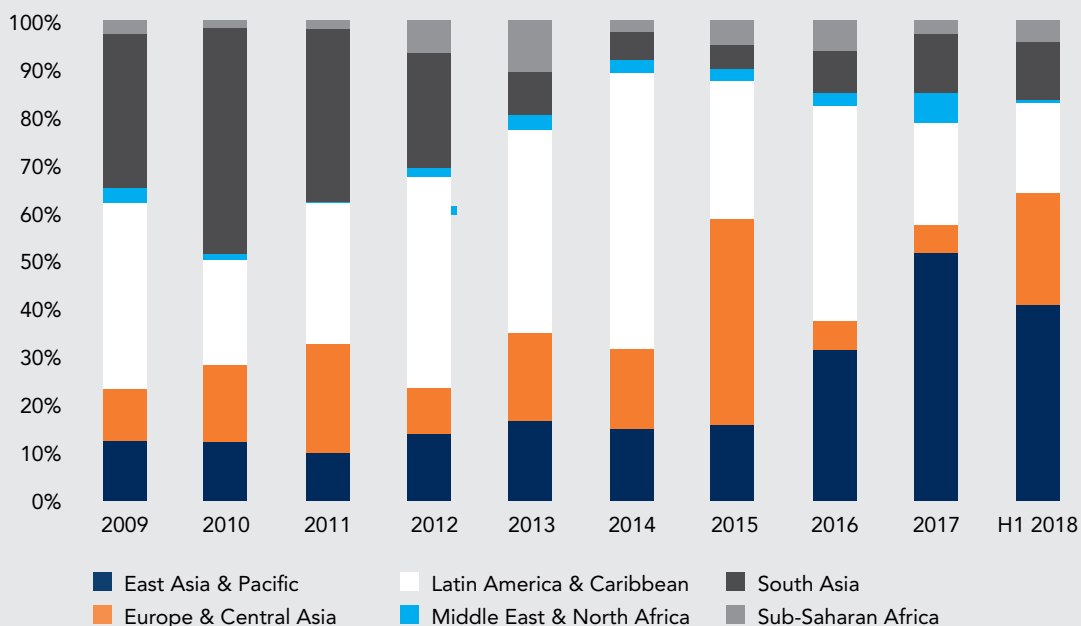
In H1 2018, only four transactions were recorded as management contracts, and there were two divestitures.

2. Geographic Spread

Similar to 2017, EAP continues to dominate global investments in H1 2018, accounting for 40 percent of investments. However, it dropped from its 2017 peak of 51 percent, as ECA garnered almost a quarter of the total global investments this time around (Figure 3). LAC, the former champion of PPI investments, has now dropped to third place and garners its lowest share of the previous 10 years. MENA's share also dropped, but SSA's share increased.

FIGURE 3

Regional Share of Investment Commitments in Infrastructure Projects with Private Participation in EMDEs, 2009–H1 2018

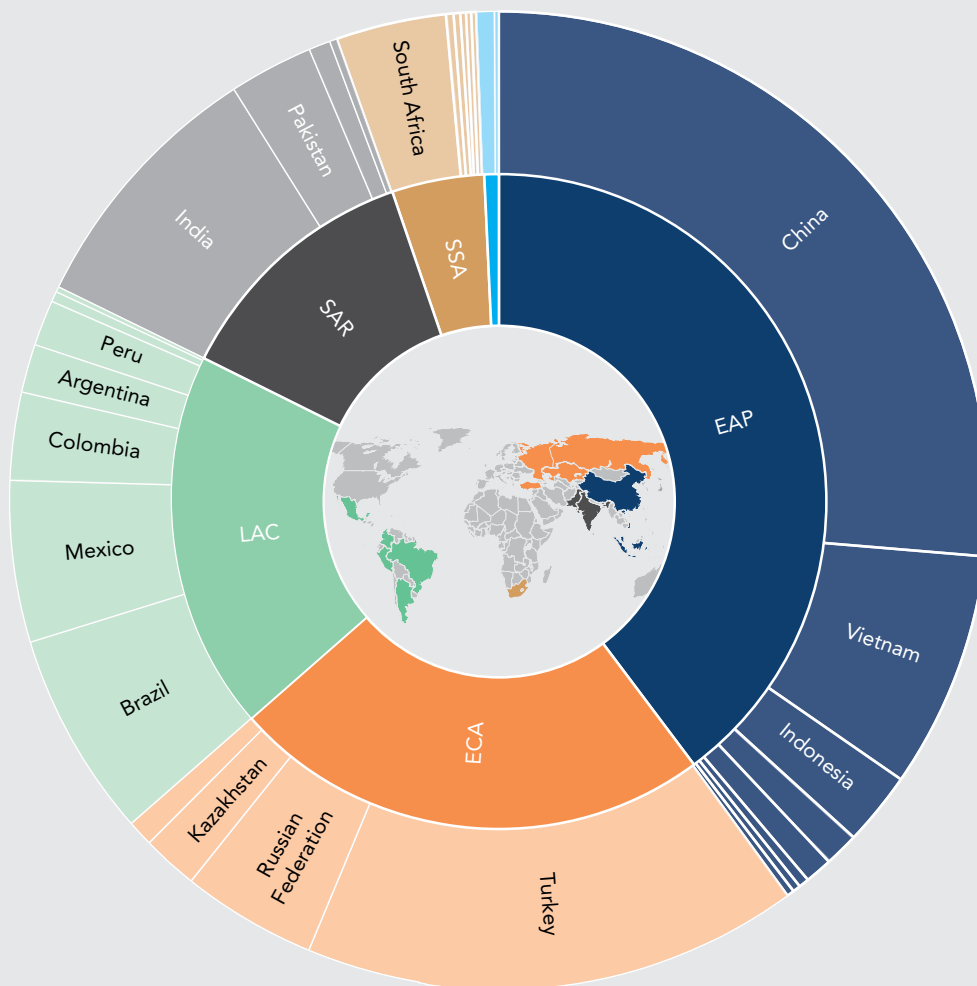


Source: PPI Database, World Bank, as of September 2017

At a country level, the five countries with the highest levels of investment in H1 2018 were: China, with US\$11.6 billion across 37 projects; Turkey, with US\$7.2 billion across eight projects; India, with US\$3.8 billion across 24 projects; Vietnam, with US\$3.4 billion across 10 projects; and Brazil, with US\$3.0 billion across 11 projects. In 2018, these five countries collectively accounted for 66 percent of global investment, attracting US\$28.9 billion. This was 10 percent higher than in 2017 (when China, Indonesia, Mexico, Brazil, and Pakistan accounted for 56 percent) but in line with the previous five-year average.

FIGURE 4

Investment Commitments in Infrastructure Projects with Private Participation In EMDEs, by Region And Country (H1 2018)



Source: PPI Database, World Bank, as of September 2018

Regionally, **EAP** received the highest level of PPI investment in H1 2018, at US\$17.3 billion—this marked a 27 percent increase from H1 2017 and was led by China and Vietnam (Figure 4). **China** by itself accounted for more than a quarter (27 percent) of global investment commitments, which was mostly due to a surge of road projects in the country. Twenty-two road projects, totalling US\$9.3 billion, accounted for four-fifths (80 percent) of total investments in China. Although PPI investment for China relative to its global counterparts appears large, it is a small share of GDP (about 0.2 percent) and of the total amount spent on infrastructure in the country.

Vietnam accounted for eight percent of global investment commitments, with a total of US\$3.4 billion across 10 projects. All the projects were electricity-generation projects—nine of them used renewable-energy sources, and one was a US\$1.9 billion coal megaproject.⁴ Vietnam’s commitment to reducing its reliance on coal-fired power and to dealing with environmental issues has resulted in an increased focus on investment in the renewable-energy sector (see *Renewable Energy Development Strategy 2016-2030*). Also, instrumental could be that the current higher feed-in-tariff regime would not be applicable from next year. There was a sharp decline in the investment commitments seen in Indonesia, which dropped from US\$8.2 billion in H1 2017 to US\$1.1 billion across only four energy projects in H1 2018. The 2017 spike for Indonesia was due to two multi-billion-dollar coal-fired power projects worth US\$4.2 billion and US\$2.2 billion.

ECA saw a recovery in H1 2018, led by Turkey and Russia, as it received US\$10.2 billion worth of investments, which is 88 percent higher than the full-year 2017 investments and 2.5 times the full-year 2016 investments. Turkey, with investments of US\$7.2 billion, saw a three-fold increase in investment from the H1 2017 levels. The increased investments in Turkey can be attributed to four highway megaprojects that together accounted for 95 percent of the investments in that country. For **Russia**, 75 percent of the investment went to a dry bulk-terminal megaproject, and the remainder to four solar-power plants and one bridge. **Kazakhstan** saw a ten-fold increase in investment from its full-year 2017 level (from US\$75 million to US\$792 million), mostly on the back of a US\$750-million road investment.

LAC continued to see declining levels of investment. Brazil and Mexico were the regional leaders, accounting for 65 percent of the regional investments. **Brazil** overtook Mexico in H1 2018 and was once again the leading investment destination in LAC, with US\$3.0 billion in investments; it was also among the world’s top five investment destinations in H1 2018. Mexico dropped from the top-five list, seeing a decline in investment from US\$4.4 billion in H1 2017 to US\$2.3 billion in H1 2018.

South Asia Region (SAR) attracted US\$5.4 billion in investments in H1 2018, marking a decline of 11 percent from H1 2017 levels. This was due to lower investments in Pakistan, which in the previous year was driven by two mega-hydropower plants worth US\$1.9 billion and US\$1.7 billion. **India**, with investments totalling US\$3.8 billion, surpassed Pakistan and made it back to the top-five list of investment destinations, thus continuing its traditional role of the heavyweight in the region. The majority of investment in India was in the transport sector (mostly roads), accounting for 55 percent of all investment commitments in the country. Also, with 24 projects, India had the second-highest number of projects and was the only top-five country with no megaprojects.

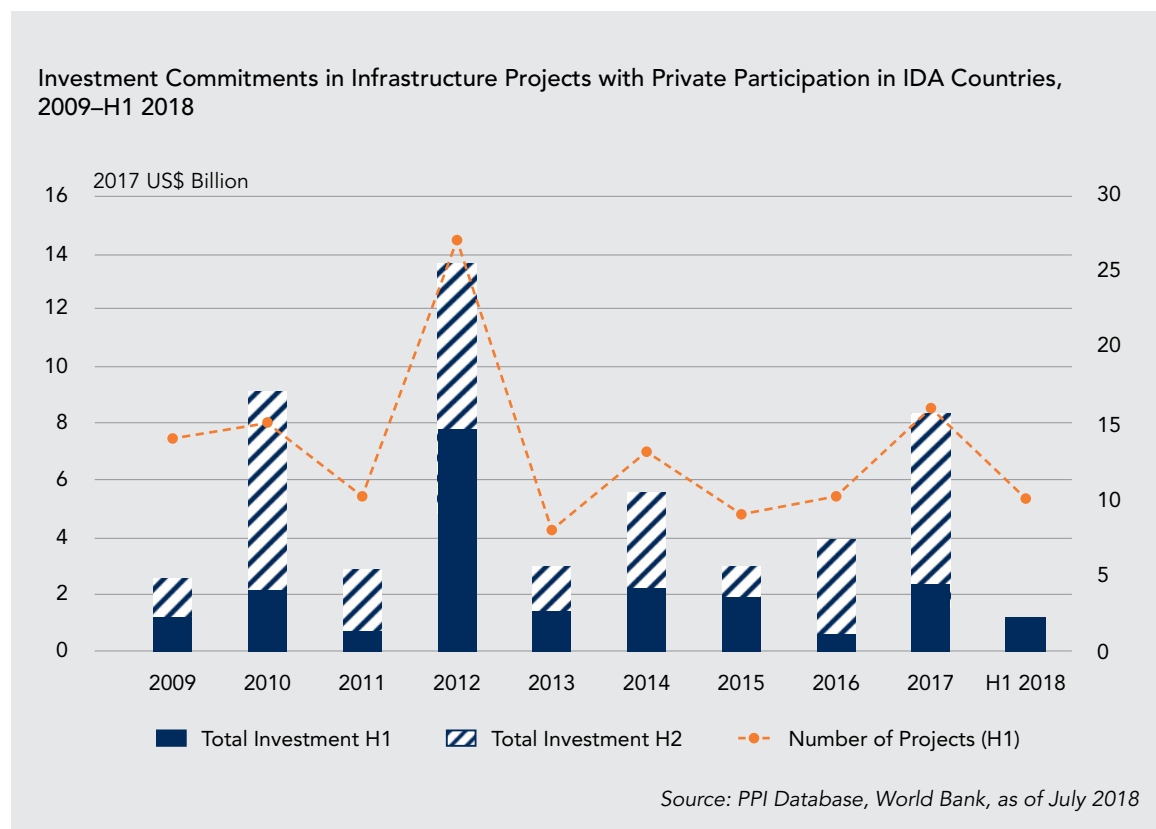
⁴ Refers to the 1.2-gigawatt Nghi Son 2 power plant that reached financial close in April 2018.

Sub-Saharan Africa received US\$2.0 billion across 12 projects, seeing a marginal three-percent increase in investment levels from H1 2017. In H1 2018, South Africa received the largest PPI commitment in the region, with US\$1.6 billion across five electricity-generation projects.

Investment in **MENA** dropped drastically from US\$3.0 billion in H1 2017 to US\$302 million in H1 2018. The H1 2017 surge was due to a US\$2.1-billion investment in an oil-shale-fired power plant in Jordan and a US\$500-million port investment in Egypt. In H1 2018, there were two small energy investments in Jordan and one water project in Morocco.

3. Investments in IDA Countries

PPI investments in IDA countries in H1 2018 totalled US\$1.1 billion across 10 projects and eight countries. The H1 2018 investments, although they represented a two-fold increase from H1 2016 levels of US\$548 million, were half of H1 2017 investments (Figure 5) and 30 percent lower than the average investment over the previous five years. H1 2018 investment levels in IDA countries as a share of global PPI investments also dropped from 2017 levels (nine percent to three percent).



Notably, Bangladesh had a large investment of US\$327 million for a greenfield water-treatment plant, and Cambodia, Guinea, Mali and Myanmar had projects that averaged US\$100 million. Together, these five countries accounted for 91 percent of total investment in IDA countries in H1 2018. The majority of these projects were in the energy sector, which accounted for 62 percent of all investment commitments in IDA countries. In H1 2018, only Myanmar had projects in the transport sector, pertaining to the construction of two dry ports and an international bulk terminal.

TABLE 2: INVESTMENT COMMITMENTS AND NUMBER OF INFRASTRUCTURE PROJECTS WITH PRIVATE PARTICIPATION IN IDA COUNTRIES IN H1 2018		
Country	Total Investment (US\$ millions)	Number of Projects
Myanmar	397	3
Bangladesh	327	1
Guinea	121	1
Cambodia	100	1
Mali	96	1
Zambia	45	1
Sierra Leone	40	1
Nepal	21	1
IDA Total	1,147	10

Source: PPI Database, World Bank, as of September 2018

4. Sector Trends

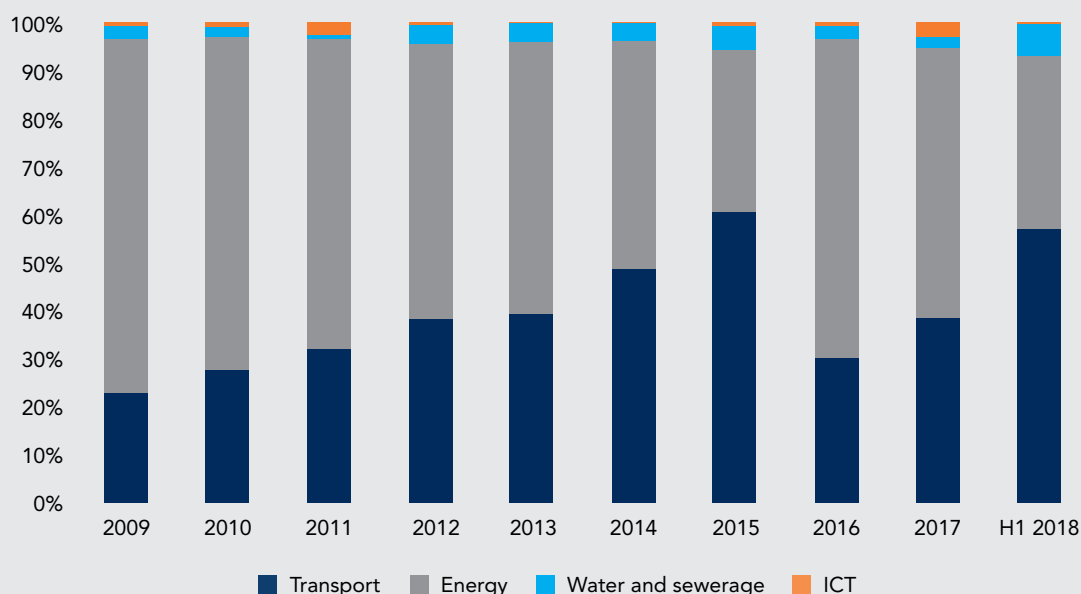
Transport overtook energy as the most dominant sector for H1 2018 investments, accounting for more than half of global investments (57 percent). The sector has experienced a continual increase in its share of overall investments since the big drop in 2016 (Figure 6), and now its share of overall investments is the highest it has been in the last 10 years (except for 2015, which was higher due to a single project—the US\$35.6-billion Turkey airport project).

Energy, on the other hand, has experienced a reduced share of investment since 2016, accounting for just more than a third of investment (36 percent) in H1 2018, compared to 66 percent in 2016. Water and sewerage accounted for seven percent, and ICT⁵ accounted for only 0.3 percent of total investment in H1 2018. While there has been a consistent low record of investment for both water and sewerage and ICT, H1 2018 investment in water and sewerage as a share of total investment was the highest in 10 years.

⁵ After a change in methodology in 2017, the PPI Database now only tracks ICT-backbone projects with an active government component, i.e., where the role of the government is not just limited to licensing. Merchant ICT projects are no longer tracked or reported.

FIGURE 6

Share of Sectoral Investment Commitments in Infrastructure Projects with Private Participation in EMDEs, 2009–H1 2018



Source: PPI Database, World Bank, as of September 2017

Transport-sector investment commitments totaled US\$24.4 billion across 53 projects in H1 2018, which is a 64-percent increase from H1 2017 levels and already equivalent to two-thirds of 2017's full-year PPI commitments in the sector. Within the transport sector, China received the largest amount of PPI investment (US\$10.5 billion), followed by Turkey (US\$6.9 billion), India (US\$2.1 billion) and Russia (US\$1.6 billion).

Within transport, road investments dominated, accounting for more than four-fifths (84 percent) of the sector's investments (US\$20.4 billion across 43 projects). Of the remaining 10 transport projects, seven were port transactions worth US\$2.5 billion, and three were airport investments totaling US\$1.6 billion. There were no railway projects in H1 2018.

The bulk of the investment in **roads** took place in China, with US\$9.3 billion invested across 22 projects, of which three were megaprojects that accounted for 86 percent of China's investment in road projects. Turkey invested US\$6.8 billion across four road megaprojects, while India invested US\$1.9 billion across 12 road projects. Colombia also invested US\$1.2 billion across 2 projects. Kazakhstan, Russia and Brazil had one road project each.

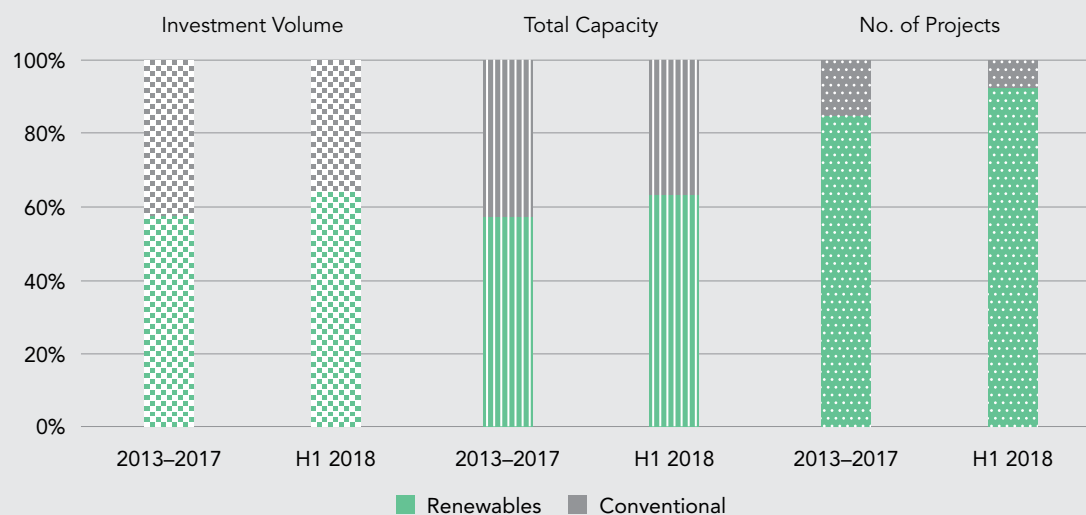
H1 2018 saw **port** investments worth US\$2.5 billion across six countries. This was an increase of 12 percent over H1 2017 levels of US\$2.2 billion. The largest deal was the Taman Dry Bulk Terminal in Russia, which had a total investment commitment of US\$1.4 billion. Timor-Leste also saw sizable investment of US\$490 million for one project. The remaining five projects in Peru, India, Myanmar and Turkey averaged US\$119 million.

There were three **airport** projects totaling US\$1.6 billion, with one megaproject in China amounting to US\$1.2 billion, and two projects in Brazil. The megaproject contributed to a four-fold increase in H1 2018 (versus H1 2017 investment levels of US\$442 million) in airports across three projects.

Energy-sector investments in H1 2018 (US\$15.7 billion across 88 projects) were less than half of the H1 2017 investments, which were elevated because of six multi-billion-dollar projects in Indonesia, Pakistan and Jordan. Almost all energy-sector investments in H1 2018 were directed towards electricity generation, with only US\$0.6 billion worth of investments in transmission and distribution across four projects.

FIGURE 7

Electricity Generation Projects using Renewables And Conventional Resources By Investment Volume, Capacity and Number of Projects, H1 2018 And five-year Average (2013-2017)



Source: PPI Database, World Bank, as of September 2018

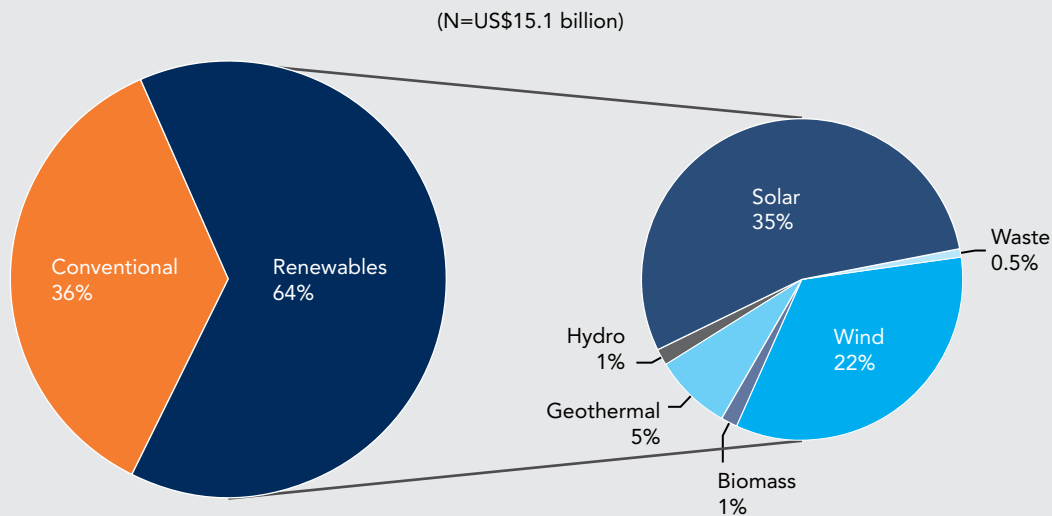
Ninety-three percent of new electricity-generation projects in H1 2018 used renewable energy (78 of 84 projects), which was more than the five-year average of 85 percent. However, renewable energy captured only 64 percent of total electricity generation investment and capacity (Figure 7). Although only six of 84 projects used conventional energy in H1 2018, these projects had a higher average investment of US\$897 million, compared to the average investment commitment of US\$125 million for renewable-energy projects. The higher average investment size of conventional-energy projects was impacted by one coal megaproject each in Vietnam and Pakistan, and one natural-gas megaproject in Brazil.

At a country level, Vietnam was the leader, with energy investments of US\$3.4 billion across 11 projects, although for renewable-energy investments, Mexico led with US\$1.8 billion in seven projects. South Africa (with US\$1.6 billion across five projects) and India (with US\$1.1 billion across nine projects) were the other renewable-energy champions in H1 2018.

The most dominant form of technology in H1 2018 was solar, accounting for almost one-third of total investments in the sector across 49 projects (Figure 8). Solar-energy projects were recorded in 23 countries—India led with six projects, while Brazil, Ukraine and Vietnam tied for second place with five projects each. Wind was the next most prominent renewable technology, accounting for 20 percent of sectoral investments, with 20 projects in seven countries.

FIGURE 8

Investment Commitments in Infrastructure Projects with Private Participation in the Energy Sector In EMDEs In H1 2018, By Technology



Source: PPI Database, World Bank, as of September 2018

At US\$3.1 billion across 22 projects, investment in the **water sector** in H1 2018 saw a three-fold increase over H1 2017 levels of US\$1.1 billion. Water-treatment projects received investments of US\$2.2 billion over 15 projects, which was almost a two-fold increase over H1 2017 levels and a four-fold increase over the five-year average. Investment in water-utility projects amounted to US\$764 million across six projects in H1 2018. This increase was due to increased investments in China, India and Mexico. China accounted for one-third of the investments in the water sector in H1 2018, with US\$1.1 billion across 13 projects. India and Mexico each received US\$0.5 billion worth of investments, which is much higher than the cumulative investments in these countries in the previous 10 years. Bangladesh recorded its first-ever water PPP project. However, Brazil, which has had consistent investments in water, saw its lowest-ever water investment at US\$1.4 million.

In the **ICT** sector, a total of US\$136 million was invested in one cross-border project. This saw a 91-percent decline in investment from H1 2017 levels of US\$1.4 billion across three projects. The cross-border project was the South Atlantic Inter Link, a submarine cable proving ICT-backbone infrastructure from Cameroon to Brazil.

5. Financing Trends

In H1 2018, detailed financing information was available for approximately 81 percent of PPI projects (103 of 127 projects). Financing information was not available for China's 37 projects. For the 103 projects, which have a combined investment commitment of US\$24.6 billion, the investments went mostly towards building physical assets. There was a total of US\$122 million earmarked for government fees in India and Turkey.

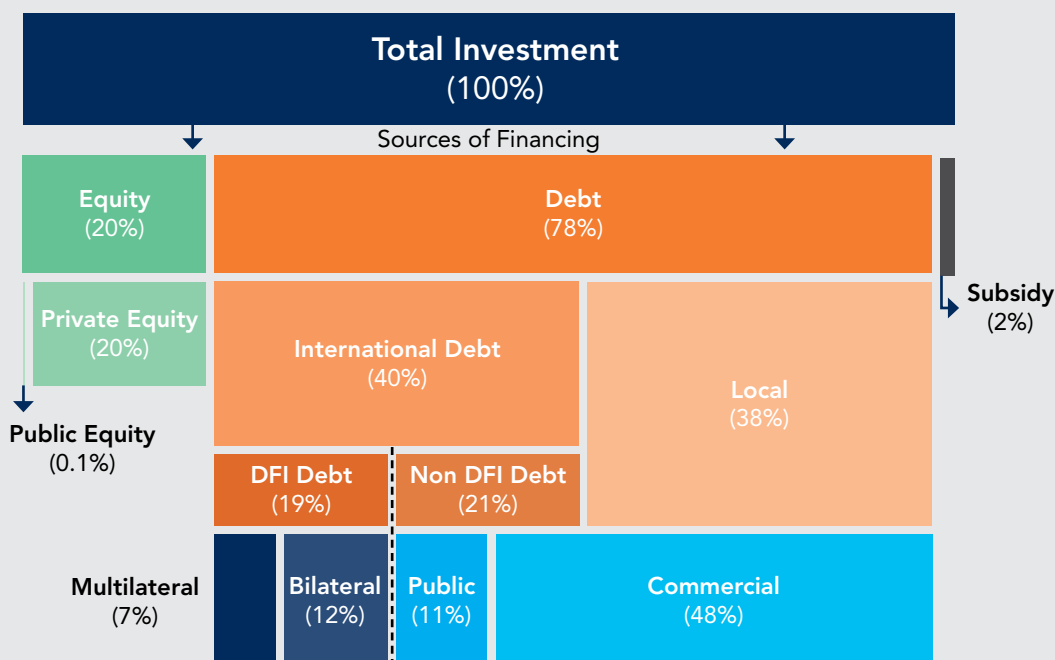
5.1 FINANCING MIX

With respect to the financing provided, out of the total investment of US\$24.6 billion across the 103 projects mentioned above, approximately 13 percent (US\$3.2 billion) came from public sources, 68 percent (US\$16.8 billion) came from private sources, and 19 percent (US\$4.6 billion) came from development-finance-institution sources. Figure 9 provides a detailed breakdown of the sources for this investment.

Of the US\$5.04 billion in total equity provided in H1 2018 for 103 projects, financing largely came from private sources. These accounted for 99.9 percent of total equity, or US\$5.03 billion. The remaining 0.1 percent of equity, or US\$6.05 million, was financed by the state-owned enterprises that participated in joint-venture projects. Fourteen projects recorded direct government financing in capital

FIGURE 9

Sources of Financing for Infrastructure Projects with Private Participation In EMDEs in H1 2018*



* All figures as a percentage of total investment

Source: PPI Database, World Bank, as of September 2018

subsidies and revenue subsidies. Detailed information was available for seven of the 14 projects, which received US\$499 million via up-front capital grants.

Debt continued to be the most popular source of financing in H1 2018, accounting for 78 percent of investment commitments, or US\$19.1 billion. Local debt providers played a more active role in H1 2018, accounting for almost half (49 percent) of the total debt raised, up from 22 percent in 2017. The increasing proportion of local debt is attributable mostly to local Turkish and Indian banks playing an active role in financing road projects. Incidentally, as Turkey and India saw active participation from local state-owned banks, SAR and ECA saw a sizeable portion of public debt (27 percent and 26 percent respectively). EAP, MENA and SSA, on the other hand, had no public debt. There were also no institutional debt providers recorded in H1 2018.

In H1 2018, there was a high reliance on commercial debt in all regions—each region raised more than half its total debt from commercial sources (Table 4). While MENA led with 83 percent, the portion of total debt financing was only US\$0.1 billion. The commercial debt financing in ECA (US\$4.7 billion) was most significant, accounting for 40 percent of the total commercial debt raised globally. All the ECA commercial debt was concentrated in Turkey, where the road megaprojects received financing from a consortium of commercial and public banks. Brazil and Vietnam accounted for 12 percent and 10 percent, respectively, of the global commercial debt. The other countries with investments exceeding

TABLE 3. DEBT TYPE BY REGION						
	Total Debt Funding (US\$ billion)	Commercial Debt (% of total debt)	Multilateral Debt (% of total debt)	Bilateral Debt (% of total debt)	Public Debt (% of total debt)	Project analyzed/total projects
EAP*	3.0	62%	12%	27%	0%	13/23
ECA	6.9	67%	1%	5%	26%	19/21
LAC	5.3	58%	15%	24%	4%	38/40**
MENA	0.1	83%	0%	17%	0%	3/3
SAR	2.6	52%	16%	6%	27%	21/29
SSA	1.3	61%	6%	33%	0%	10/12**
Global	21	61%	9%	16%	14%	103/127

* Excluding China

** Includes a cross-border project that is double counted

Source: PPI Database, World Bank, as of September 2018

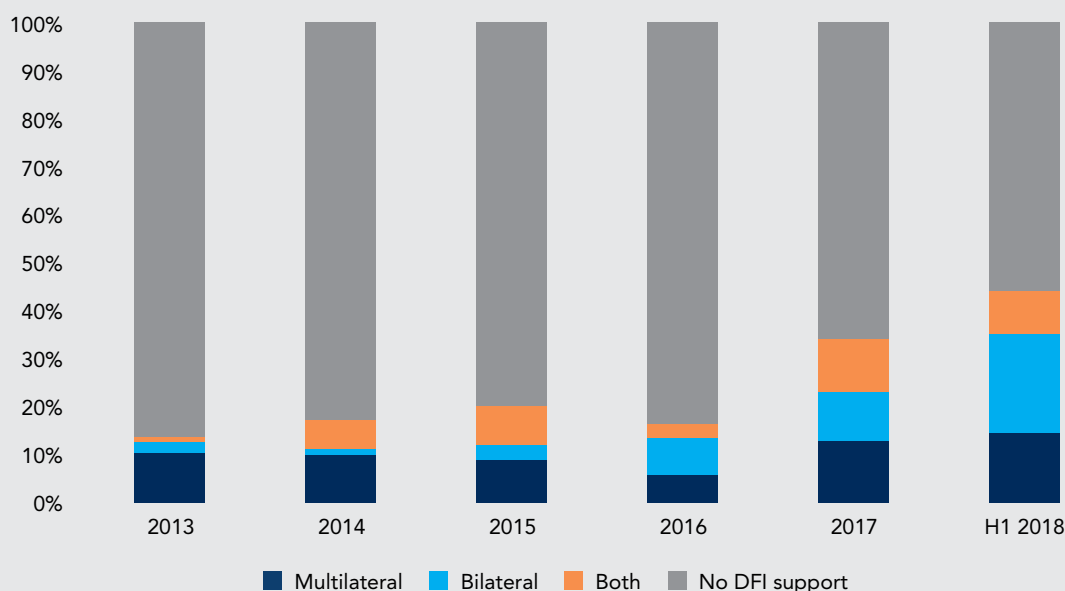
a billion dollars that financed a significant portion of their investments through commercial debt were South Africa and Pakistan. Seventy-two percent of total investments in South Africa and 62 percent in Pakistan were financed by commercial lenders.

Multilateral and bilateral debt only financed a fifth of the total investments. SSA, EAP and LAC were the only regions that had considerable debt from bilateral sources.

5.2 DFI SUPPORT

FIGURE 10

Share of Number of Infrastructure Projects with Private Participation In EMDEs that received Multilateral, Bilateral and Joint Support from DFIs, 2013–H1 2018



Source: PPI Database, World Bank, as of September 2017

There has been an upward trend in the share of projects receiving bilateral support. In H1 2018, 45 of 103 projects received some form of DFI support. Of these, 15 projects received only multilateral support, 21 projects received only bilateral support, and nine projects received both multilateral and bilateral support.

The DFIs provided direct debt support of US\$4.6 billion in H1 2018; of this, 63 percent (US\$2.9 billion) was provided by bilateral institutions. The multilateral institutions provided US\$1.7 billion in direct loans to 15 projects and provided syndication support of US\$79 million to three projects. The International Finance Corporation (IFC), the Asian Development Bank (ADB) and the Inter-American Development Bank (IDB) provided the bulk of multilateral support (68 percent), with a total of US\$1.1 billion given in loans.

Although the number of projects receiving DFI support increased, DFIs played a reduced role in financing in H1 2018 compared to 2017, providing a total of 19 percent of total investment. In addition to financing projects, the role of DFIs expanded to also enabling private investment through syndication support, guarantees and other risk-mitigation facilities. In H1 2018, eight projects received other such non-financing support from DFIs.

6. Government Support

Government support falls in two categories—direct and indirect. Direct government support includes government liabilities that directly cover project costs. These are either in cash or in kind, are certain to occur, and include capital subsidies, revenue subsidies, and land. Indirect government support includes a) contingent liabilities (liabilities that may not actually occur because they are contingent on a predetermined event), e.g., exchange rate, payment, revenue and debt guarantees, and b) government policies that support investment, such as tax breaks.

In H1 2018, 38 projects recorded direct government support; of these, 14 received capital subsidies, and the remaining 24 received revenue subsidies. The capital subsidy across 14 projects amounted to US\$917 million, of which 94 percent (US\$862 billion) went to the transport sector. Almost all those projects were highway projects in India, where the government policy is to provide viability gap funding to PPP projects.

The US\$917 million worth of subsidies recorded across 38 projects was 36 percent lower than H1 2017 levels of US\$1.4 billion across 50 projects, and 39 percent lower than the five-year average of US\$1.5 billion.

Nine other projects received indirect government support in the form of guarantees, with seven projects receiving revenue guarantees. An equal number of energy and transport projects received indirect government support (four projects in each sector). One water utility project in São Paulo received a payment guarantee. Information on the value of indirect support was not available.

Eight of the nine projects that received indirect government support were greenfield projects, and 86 percent of the projects that received government support were also greenfield projects. This indicates that in order to help mobilize private-sector investments, governments need to step in whenever the private sector doesn't feel comfortable bearing greenfield project risks.

About the Private Participation in Infrastructure Projects Database

The Private Participation in Infrastructure Database is a product of the World Bank Group's Infrastructure, PPPs & Guarantees team. Its purpose is to identify and disseminate information on private participation in infrastructure projects in low- and middle-income countries. The database highlights the contractual arrangements used to attract private investment, the sources and destination of investment flows, and information on the main investors. The site currently offers information on more than 8,000 infrastructure projects, dating from 1984 to 2017, and provides more than 50 fields per project record. These include country, financial closure year, infrastructure services provided, type of private participation, technology, capacity, project location, contract duration, private sponsors, debt providers, and development bank support.

For more information, please visit: **ppi.worldbank.org**

About the World Bank Group

The World Bank Group plays a key role in the global effort to end extreme poverty and boost shared prosperity. It consists of five institutions: The World Bank, including the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA); the International Finance Corporation (IFC); the Multilateral Investment Guarantee Agency (MIGA); and the International Centre for Settlement of Investment Disputes (ICSID). Working together in more than 100 countries, these institutions provide financing, advice, and other solutions that enable countries to address the most urgent challenges of development.

ppi.worldbank.org

worldbank.org/ppp

@WBG_PPP



THE WORLD BANK
IBRD • IDA

2018