



2017 Transport Sector

Private Participation
in Infrastructure (PPI)



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Acknowledgement & Disclaimer

This report was written by a team comprising Deblina Saha (Task Team Leader), Akhilesh Modi and Iuliia Zemlytska, with copy editing 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), Abha Joshi-Ghani (Senior Adviser, IPG Group) and Towfiqua Hoque (Head of Infrastructure Finance and PPPs, Singapore). The team is thankful to Darwin Marcelo (Senior Infrastructure Economist, IPG Group) and Daniel Benitez (Senior Transport Economist, Transport & Digital Development) for providing valuable comments which helped shape the report. Cover photo © Hans Johnson/Creative Commons CC BY ND 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.

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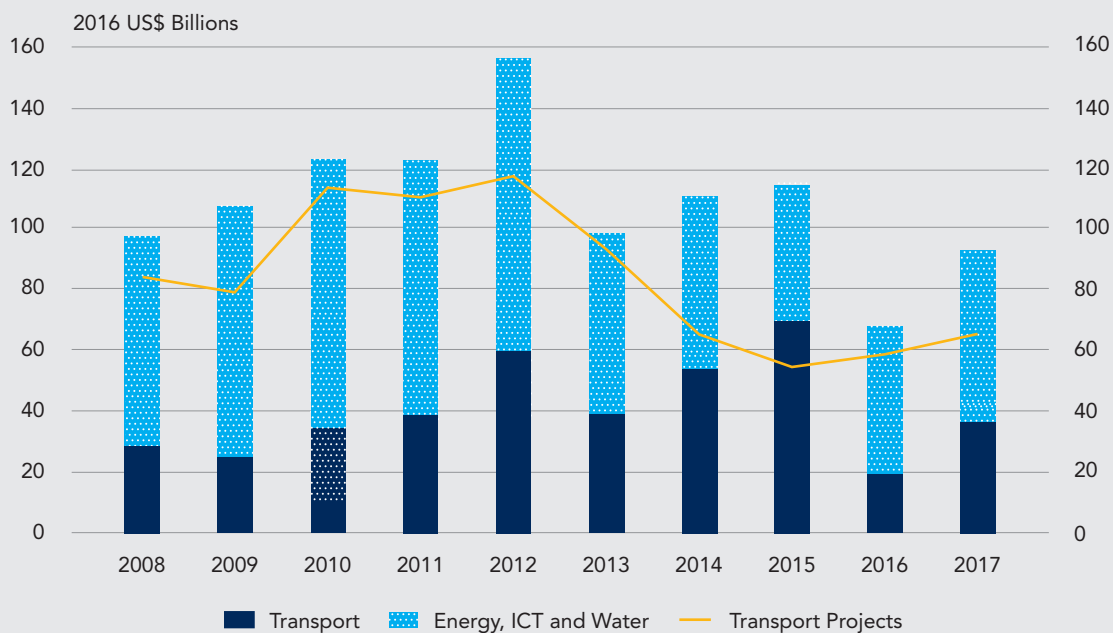
2017 Transport Highlights

- **In 2017, PPI transport investments almost doubled, and now accounts for a third of total PPI investments.** US\$36.5 billion was invested in 66 transport projects in 2017, compared to US\$18.9 billion invested in 2016. Although the energy sector continued to be the predominant sector, transport investments accounted for a higher proportion of overall investments in 2017 compared to previous years—transport PPI investments accounted for more than a third (39 percent) of total investments in 2017 across all four sectors (energy, water, transport and information and communication technologies (ICT)), compared to only about a quarter (24 percent) in 2016.
- **Railway projects attracted the lion's share of PPI investment in transport, overtaking roads.** Although, there was a marginal increase of eight percent in road PPI investments, the share of road PPI investments dropped drastically from 66 percent in 2016 to 37 percent in 2017. This was due to a surge in railway investments (led by Indonesia and China) which accounted for 45 percent of total transport investments.
- **Transport projects received more capital subsidies, while energy projects received more indirect support via payment/tariff guarantees.** Almost half (32) of the transport PPI projects received subsidies, of which, three quarters or 24 projects received capital subsidies and the remaining eight received revenue subsidies. Majority of the capital subsidies went to road projects in India, which is now encouraging road PPPs under a hybrid-annuity model where part of the project cost is funded by the government through a viability gap funding mechanism. Only one project in transport sector received indirect support- in the form of a debt guarantee. This compares to more than 50 percent of energy projects receiving indirect government support.
- **Development finance institution (DFI) support to projects remains constant.** Overall, in the previous three years, the number of transport projects that received DFI support has been constant at eight projects, even though the number of PPI transport projects undertaken has increased (54 in 2015, 60 in 2016, and 66 in 2017).
- **Only the Middle East and North Africa (MENA) and Sub-Saharan Africa (SSA) relied heavily on DFI support.** Non-DFI debt represented more than 90 percent of the total debt in EAP, Europe and Central Asia (ECA), and Latin America and Caribbean (LAC), whereas 70 percent and 100 percent of the debt in MENA and SSA, respectively, came from DFIs.
- **South Asia (SA) was the only region that raised most of its debt from local sources.** SA financed 68 percent of its debt locally, whereas other regions financed less than 30 percent of their debt locally.

1. Overview

FIGURE 1

Transport PPI investments compared to total PPI investments, 2008-2017

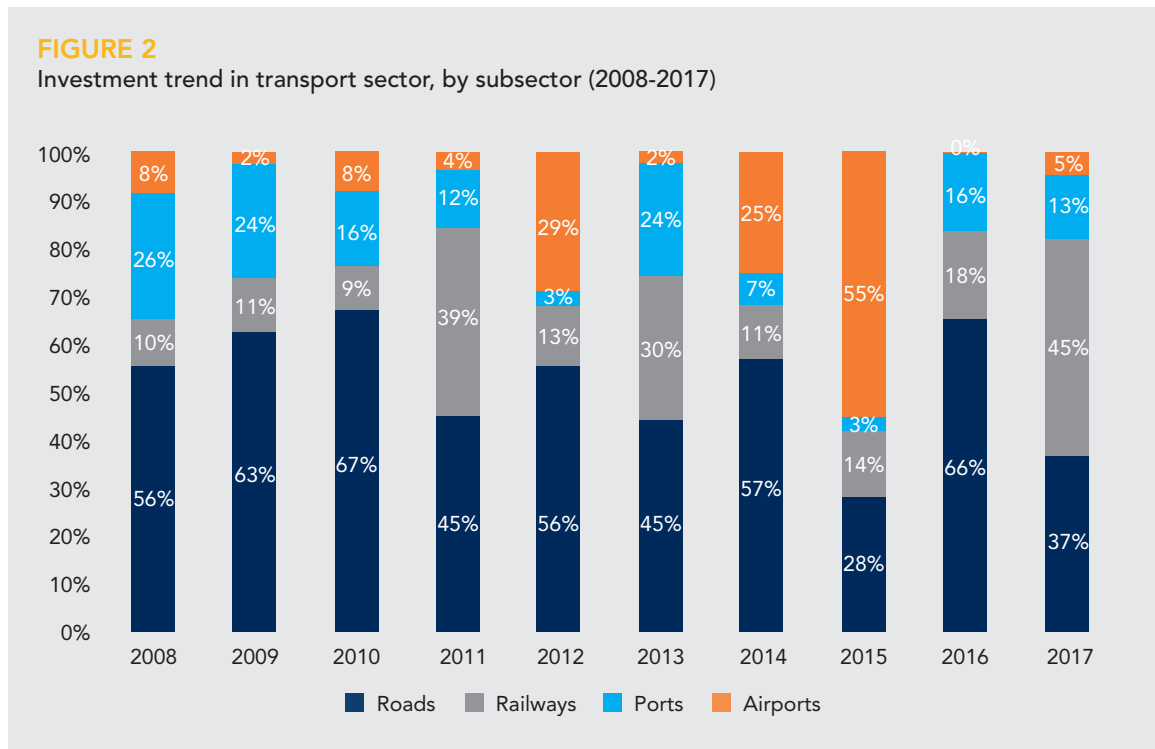


Source: PPI Database, World Bank, as of November 2018

Transport PPI investments form an integral part of total PPI investments, as seen in Figure 1. Since 2008, transport PPI investments have been forming a larger and larger percentage of PPI investments across the four sectors (energy, ICT, water and transport). PPI investments in transport used to attract 23 to 29 percent of all PPI investments prior to 2011. After 2011, transport PPI investments have consistently garnered more than 30 percent of all PPI investments, reaching a high of 61 percent in 2015. This indicates a willingness by private investors to supplement public funding gaps in this sector.

PPI transport investments (across 66 projects) doubled from 2016 to 2017—transport investments were US\$18.9 billion in 2016 and US\$36.5 billion in 2017. However, transport PPI investments in 2017 and 2016 were well below the all-time investment high of US\$69.8 billion in 2015. This represented a drop of more than 73 percent from 2015 to 2016. Consequently, in 2016, transport investments represented only 28 percent of total PPI investments; this was the lowest share post 2011, and the second lowest in the previous 10 years. Among the four sectors, energy always attracts the highest PPI investments, followed by transport. 2017 was no different, with energy projects attracting US\$51.9 billion across 200 projects, more than twice the amount of PPI investments in transport projects.

2. Investment Trends in Transport, by Subsector (2008-2017)

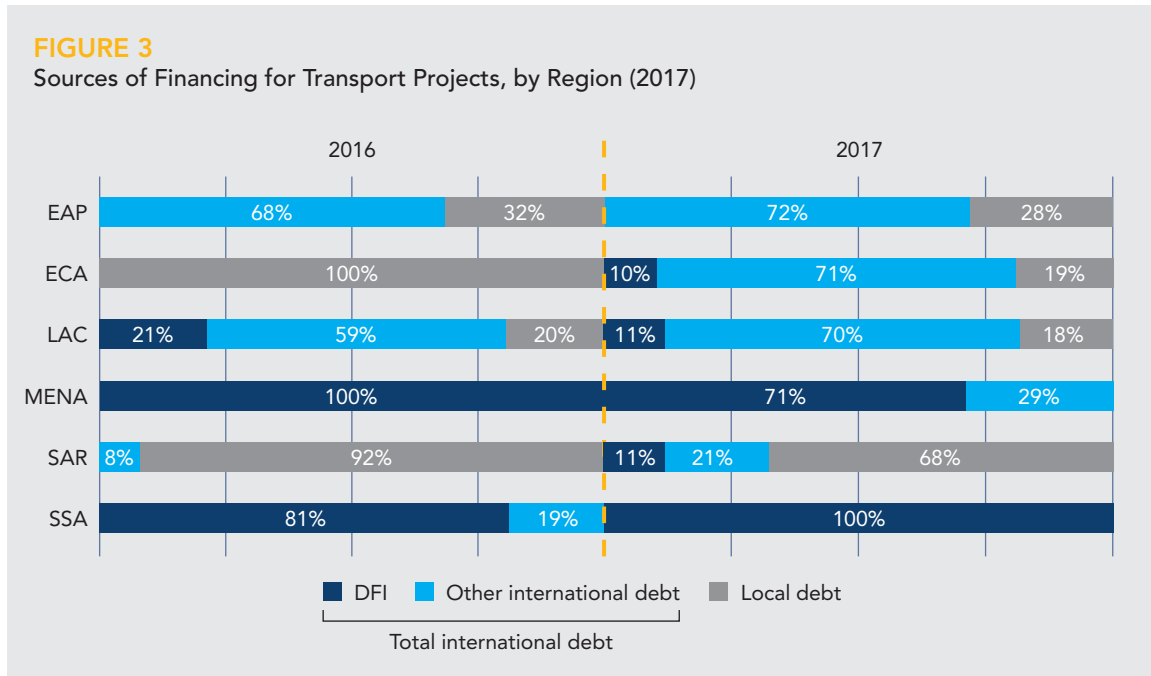


The transport sector has been further broken down into four key subsectors—airports, ports, railways and roads. Of these, road projects have attracted the lion’s share of PPI investment in the previous 10 years. In six of the previous 10 years, road PPI investments surpassed 50 percent of all transport PPI investments. In 2010 and 2016, road projects attracted two-thirds of all transport PPI investments, which represented the subsector’s highest-ever share of transport PPI investments. The lowest share of road PPI investments was in 2015, when the subsector accounted for slightly more than one-quarter of total transport PPI investments.

Of the other subsectors, railway projects also attracted significant PPI investments, though the amounts have been erratic. In 2017, railway projects’ share of total transport PPI investments was the highest among the four subsectors, at 45 percent. Incidentally, this was the highest proportion in the previous 10 years—2.5 times higher than in 2016, and three times higher than in 2015.

Airport PPI investments were subdued in 2017, accounting for only five percent of all transport PPI investments. This was substantially lower than the 55-percent share that airport PPI investments commanded in 2015, which was its highest share since 2008. In 2016, airport projects attracted no PPI investments. Port projects’ share of transport PPI investments declined from 26 percent in 2016 to 13 percent in 2017. Historically, port projects have represented a lower share of PPI investments, due to fewer projects being executed in emerging markets and developing economies (EMDEs).

3. Sources of Financing and DFI Support

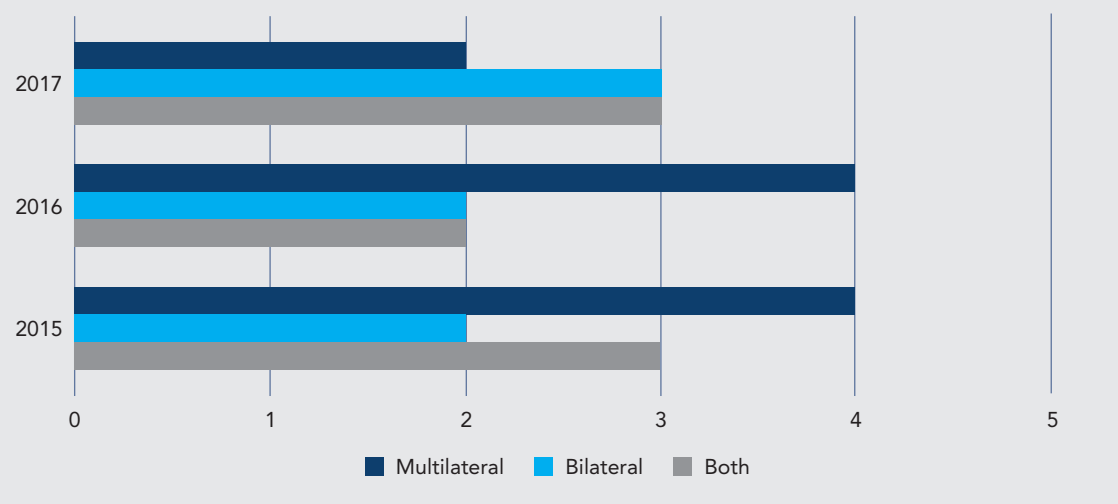


Only MENA and SSA relied heavily on DFI support, while SA was the only region that raised the majority of its debt from local sources (Figure 3). Non-DFI debt formed more than 90 percent of the total debt in EAP, ECA and LAC, while 70 percent and 100 percent of the debt in MENA and SSA, respectively, came from DFIs. SA financed 68 percent of its debt locally; other regions financed less than 30 percent from local sources.

Similarly, ECA, which raised all its debt from local sources in 2016, raised less than 20 percent of its debt from local sources in 2017.

FIGURE 4

Number of transport projects with private participation in EMDEs getting multilateral, bilateral and joint support from DFIs (2015 – 2017)

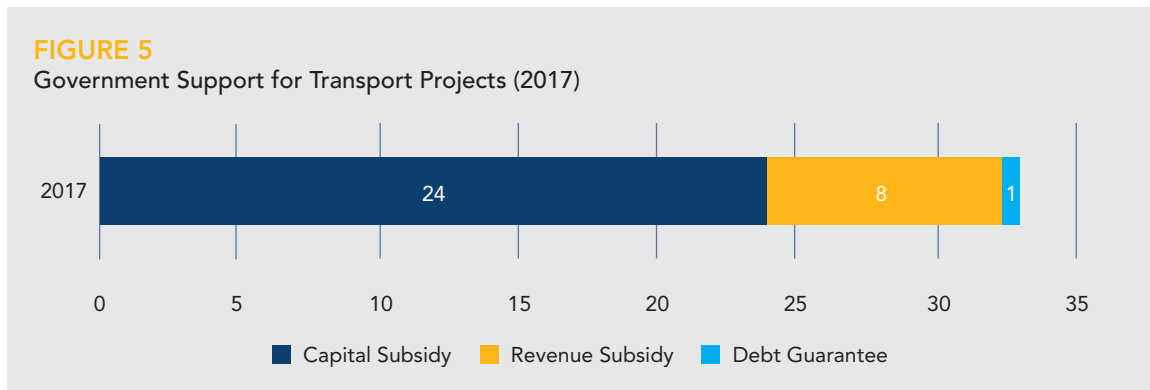


Overall, in the last three years, the number of transport projects that received DFI support has been constant, even though the number of PPI transport projects has varied considerably (54 in 2015, 60 in 2016, and 66 in 2017).

In 2017, eight of the 66 transport projects received some form of DFI support. Cumulatively, DFI support for the eight transport projects totaled US\$770 million. Almost two-thirds (US\$484 million) of the support was multilateral, while the remaining US\$285 million was bilateral. MENA was the largest beneficiary, with multilateral financing reaching US\$244 million. SSA was the second-largest recipient, with US\$106 million worth of financing. ECA attracted US\$74 million, while SA and LAC attracted US\$33 million and US\$27 million, respectively. EAP received no multilateral support for transport projects in 2017.

Although LAC attracted a relatively low share of multilateral support, it accounted for the largest portion of bilateral support, attracting US\$135 million, or almost 50 percent of the total bilateral support. Similarly, SA received less multilateral support but accounted for a significant portion (33 percent, or US\$93 million) of total bilateral support. MENA and EAP received no bilateral support for transport projects in 2017.

4. Government Support



Government support was extended in the form of subsidies and guarantees to half (32) of the 66 transport projects. Governments clearly preferred to provide direct support in the form of capital subsidies, rather than indirect support in the form of guarantees. By contrast, energy projects received most of their support in the form of revenue subsidies and guarantees.

Capital subsidies were the preferred method for governments to extend support to transport projects. Twenty-four of the 32 projects that received government support got capital subsidies, while eight got revenue subsidies. South Asia drew the highest number of capital subsidies (for 18 projects); it was followed by EAP, which got capital support for four projects. ECA and MENA received capital-subsidy support for one project each.

Revenue subsidies were most common in the EAP region—of the eight projects that received revenue subsidies in 2017, seven were in EAP and one was in ECA.

Only one transport project received indirect government support, in the form of a debt guarantee.

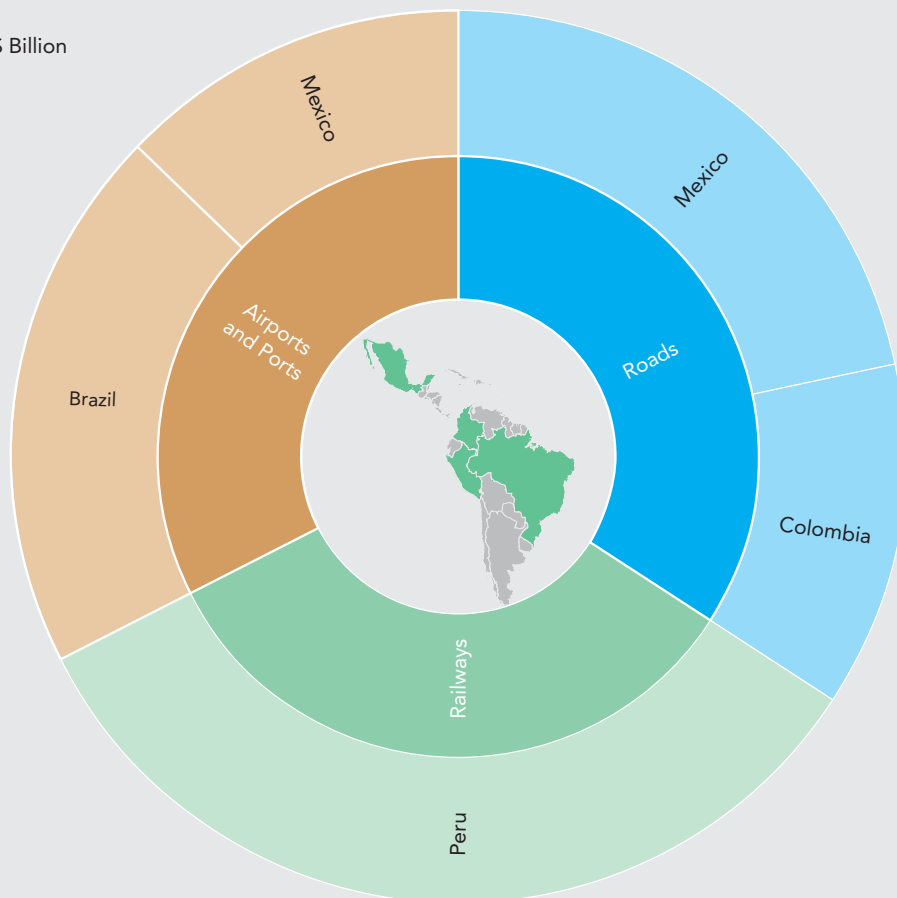
5. Regional- and Country-Level Investments

5.1 LATIN AMERICA AND CARIBBEAN

FIGURE 6

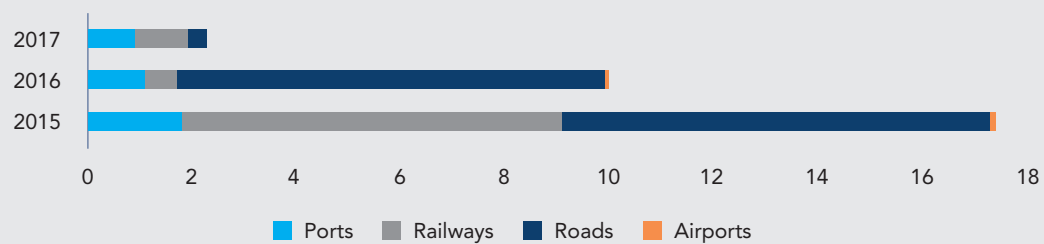
Countries receiving PPI investments in the transport sector in LAC region (2015–2017)

2016 US\$ Billion

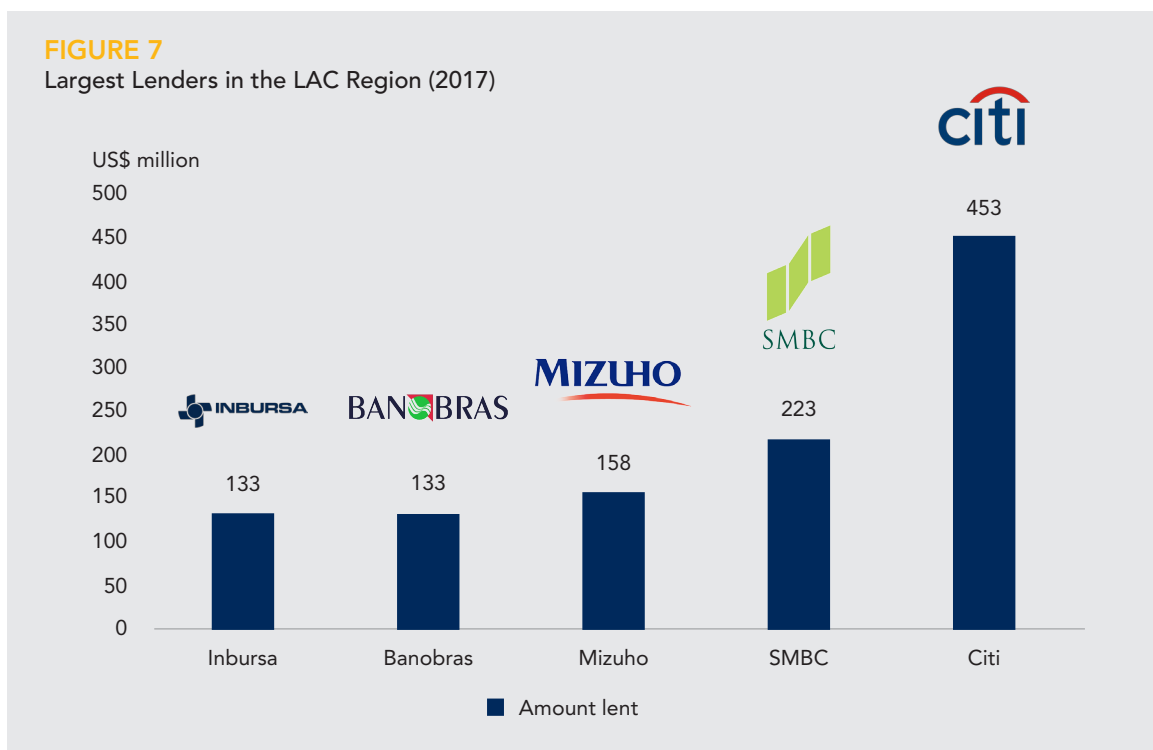


Note: Highlighted areas show countries in the region that received transport PPI investments in 2017

Transport PPI Investments in LAC region



In LAC, port and railway projects received the largest share of investments in 2017. Overall PPI transport investments in 2017 were much lower than in 2016 and 2015—transport investments in 2017 were slightly more than US\$2 billion, compared to US\$10 billion in 2016 and US\$17.7 billion in 2015. Investments in roads dominated for three years straight with US\$8.3 billion, US\$8.2 billion, and US\$1 billion accounting for 47 percent, 82 percent, and 44 percent of total transport investment respectively. Brazil was among the countries that received PPI investments across all three subsectors. Colombia was by far the largest recipient of PPI investment for road projects, raking in more than US\$14.5 billion from 2015 to 2017. Mexico was among the other countries that received significant road investments (US\$660 million in 2017). Peru was the only country in LAC to receive railway investments in 2017 (worth US\$381 million), whereas Brazil received significant investments in the previous two years (US\$594 million in 2016 and US\$906 million in 2015). Port-project investments formed a significant proportion of total PPI investments in 2017, with Brazil receiving US\$550 million worth of investments for such projects in 2017. Other key countries that have seen port investments are Jamaica (US\$452 million in 2016), Panama (US\$400 million in 2016), and Costa Rica (US\$671 million in 2015).



Lenders in the region were diversified, with international banking group Citi lending twice as much as the second-largest lender. Japanese banks lent a total of US\$381 million. Other local banks from the LAC region lent US\$266 million.

5.2 EAST ASIA AND PACIFIC

FIGURE 8

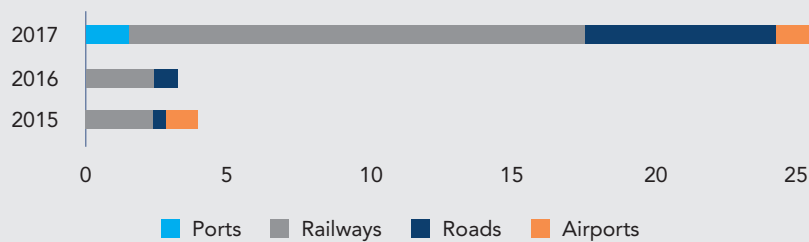
Countries receiving PPI investments in the transport sector in EAP region (2015–2017)

2016 US\$ Billion



Note: Highlighted areas show countries in the region that received transport PPI investments in 2017

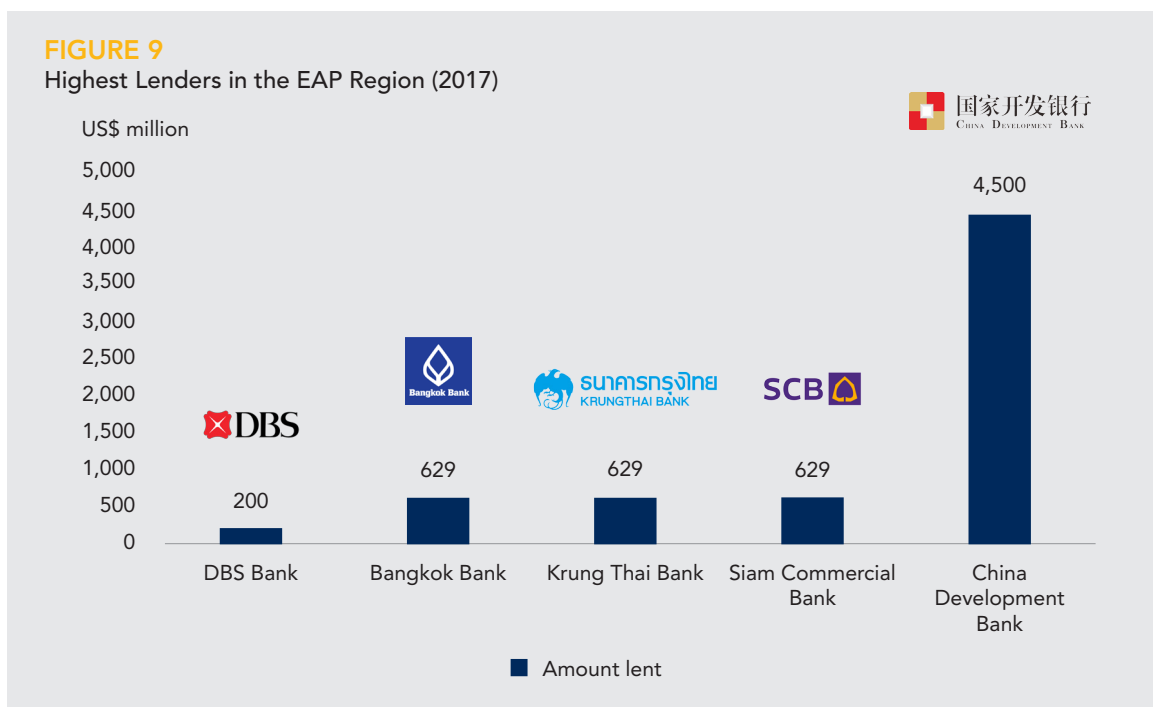
Transport PPI Investments in EAP region



The East Asia and Pacific region saw an eight-fold increase in PPI investments in the transport sector compared to 2016, and a six-fold increase compared to 2015. The bulk of the increase in 2017 was attributable to significant PPI investments in railway and road projects. EAP railway projects saw an

exponential jump, from US\$2.4 billion in 2016 to US\$16 billion in 2017. Similarly, road PPI investments jumped from US\$900 million in 2016 to US\$6.7 billion in 2017. Port projects also saw a massive jump, from a negligible US\$4.5 million in 2016 to US\$1.5 billion in 2017. Airport projects, which did not receive any investments in 2016, attracted US\$1.2 billion worth of PPI investments in 2017.

Not surprisingly, China dominated PPI investments across all transport subsectors and was responsible for more than half (US\$13 billion) of the total transport PPI investments (US\$25.4 billion) in the region for 2017. China dominated in road projects, attracting US\$5.9 billion worth of investments in 2017, with Thailand the next closest at US\$745 million. Both China and Indonesia received significant PPI investments in railway projects. Chinese rail projects drew US\$6.9 billion worth of investments, while Indonesia drew US\$6 billion worth of such investments. A single port project worth US\$1.5 billion was undertaken in Malaysia, representing the only port project in the region, while Cambodia's only PPI investment since 2015 was for an airport project worth US\$1 billion in 2017.



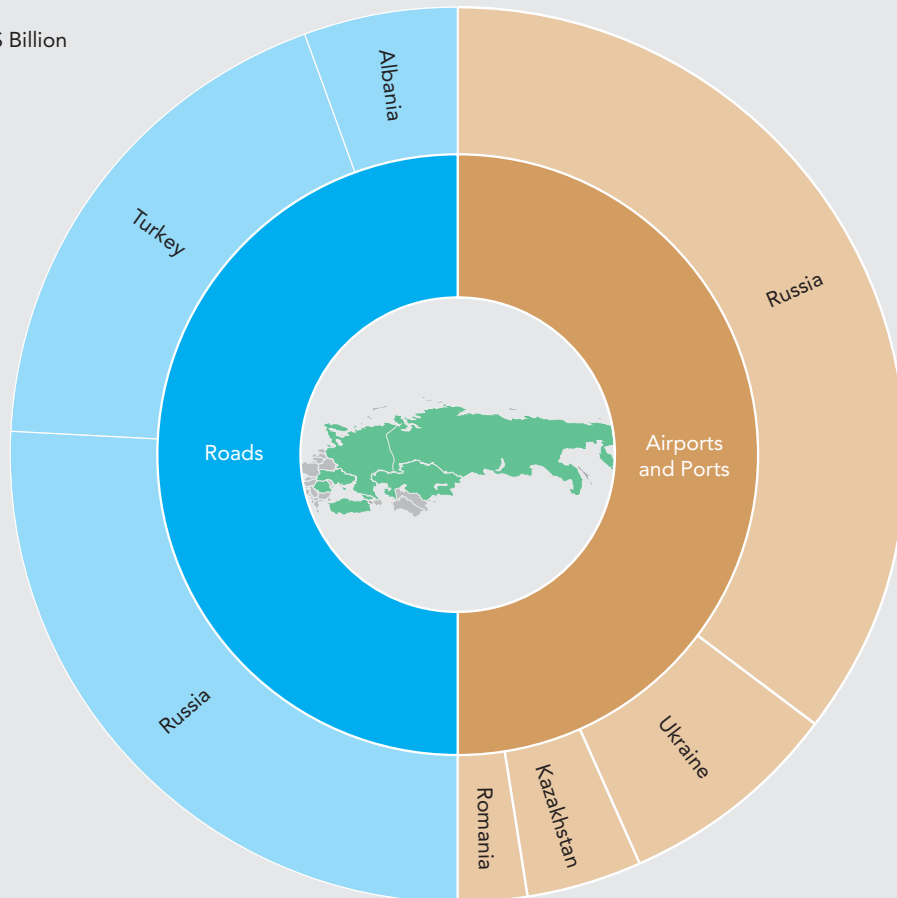
Projects were primarily funded by banking institutions with a base in the region. China Development Bank was the largest lender, with disbursements double those of the other four lenders. Thailand-based banks lent a combined US\$1.9 billion, and Singapore-based DBS lent US\$200 million.

5.3 EUROPE AND CENTRAL ASIA

FIGURE 10

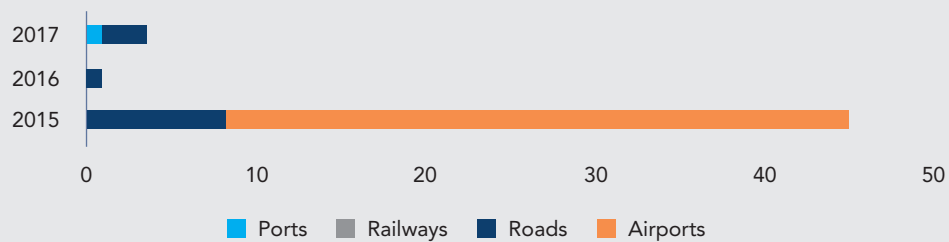
Countries receiving PPI investments in the transport sector in ECA region (2015–2017)

2016 US\$ Billion



Note: Highlighted areas show countries in the region that received transport PPI investments in 2017

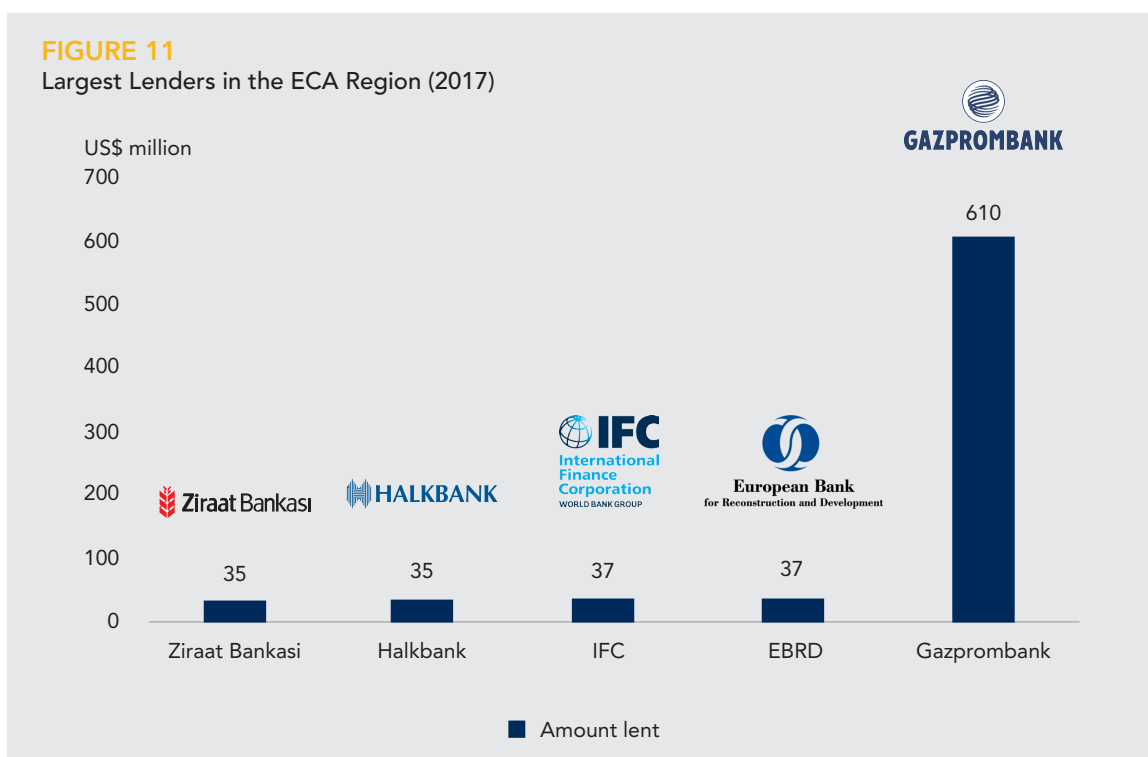
Transport PPI Investments in ECA region



The Europe and Central Asia region received US\$3.6 billion worth of investments in the transport sector in 2017. This was four times the amount invested in the sector in 2016 (US\$858 million). Only port and road projects gained significant PPI investment traction; railways and airports did not receive

any PPI investments in 2017. Although 2015 also saw significantly high PPI transport investments, the most significant portion (US\$37.2 billion) was accounted for by a single airport project in Turkey.

Albania (US\$285 million), Russia (US\$1.4 billion) and Turkey (US\$992 million) were the largest recipients of PPI investments in road projects in 2017. Although port projects received US\$940 million worth of investments, two-thirds of this amount was made in Russia (US\$664 million) and the balance was split between Ukraine (US\$150 million), Kazakhstan (US\$75 million) and Romania (US\$50 million).



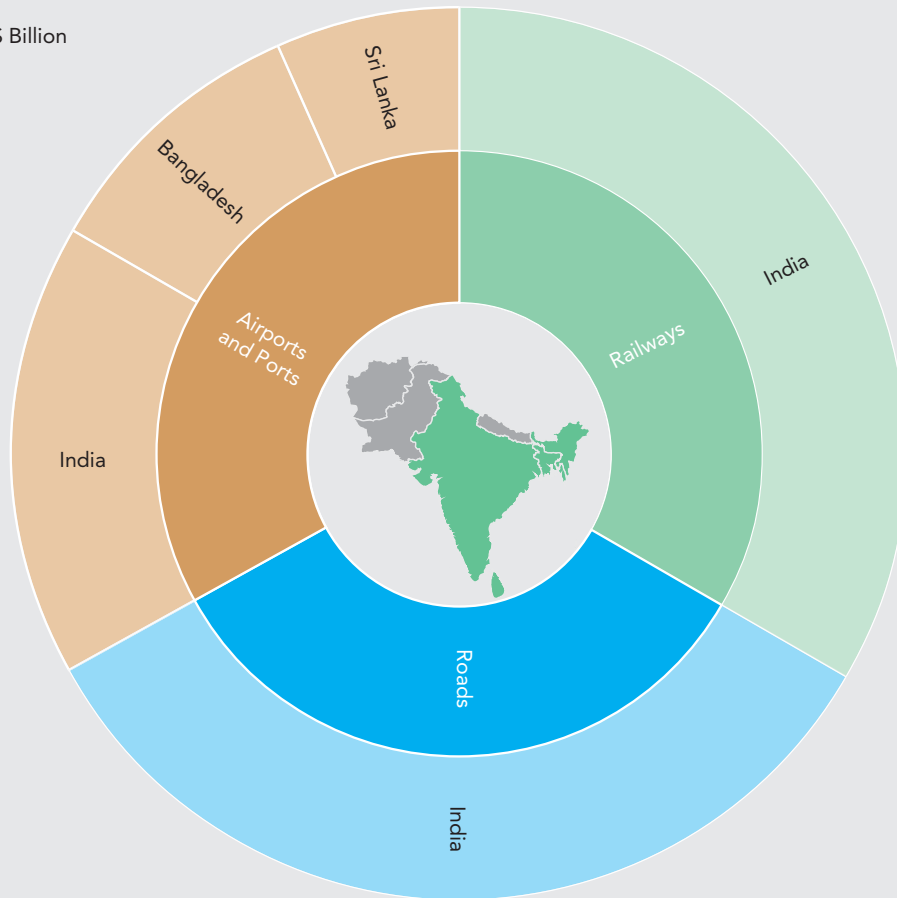
ECA received most of its investments from banks based in the region, with Gazprom lending a significant proportion (US\$610 million). Other region-based banks lent a combined US\$70 million, while DFIs lent a combined US\$74 million.

5.4 SOUTH ASIA

FIGURE 12

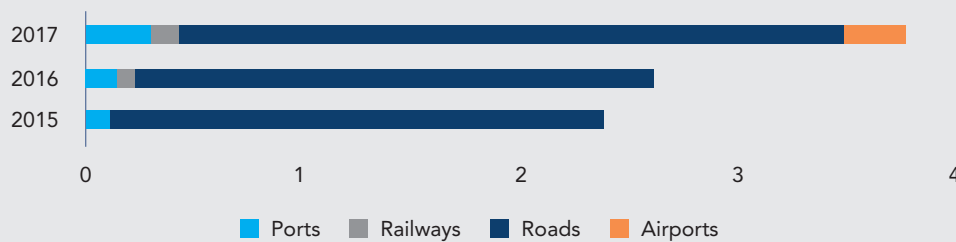
Countries receiving PPI investments in the transport sector in SAR region (2015–2017)

2016 US\$ Billion



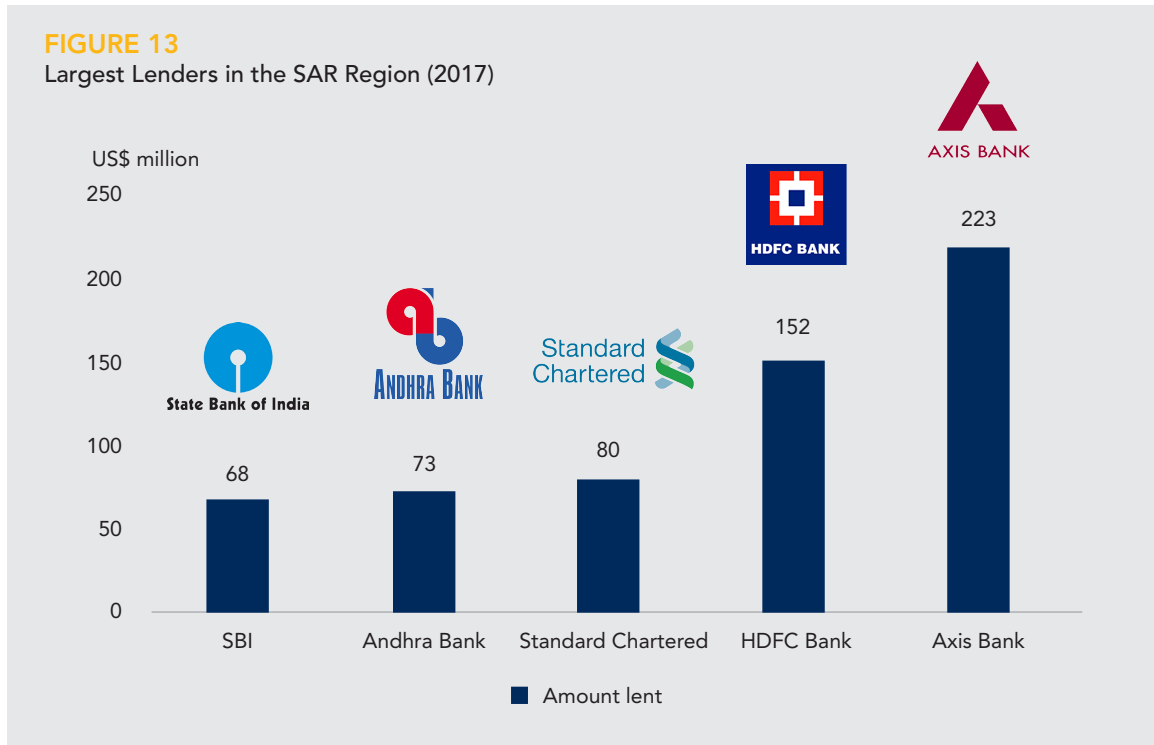
Note: Highlighted areas show countries in the region that received transport PPI investments in 2017

Transport PPI Investments in SAR region



The South Asian region received investments in transport worth US\$3.8 billion in 2017, compared to US\$2.5 billion in 2016 and US\$2.4 billion in 2015. Road projects contributed significantly to increased PPI transport investments in 2017, increasing from US\$2.4 billion in 2016 to US\$3.1 billion

in 2017. In fact, road-project PPI investments represented 81 percent of total transport PPI investments in the region in 2017. Port projects also gained traction, more than doubling (from US\$139 million in 2016 to US\$300 million in 2017), on the back of two projects in Bangladesh and Sri Lanka. India, the heavyweight in the region, attracted all PPI investments in the road and railway subsectors in 2017. Nepal was the only country that did not attract any PPI investment in 2017.



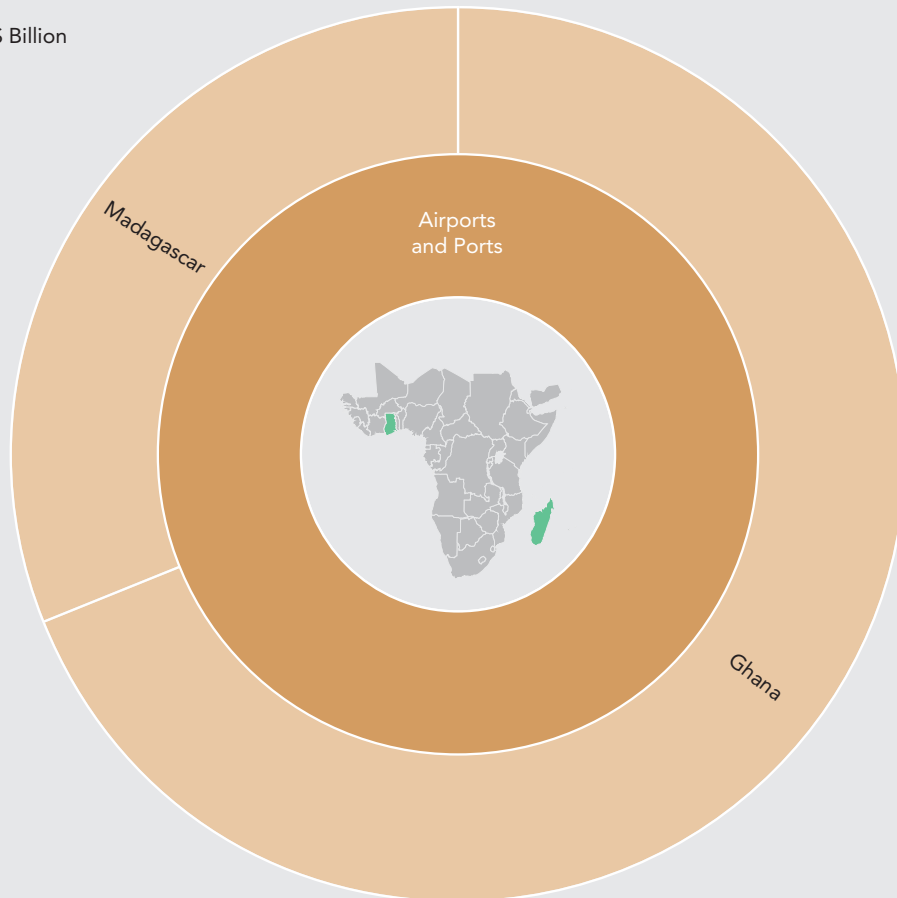
Lending in this region has largely been a local story, with four of the five lenders being India-based banks. Standard Chartered, the lone international bank, lent US\$80 million. By comparison, Indian banks lent US\$516 million.

5.5 SUB-SAHARAN AFRICA

FIGURE 14

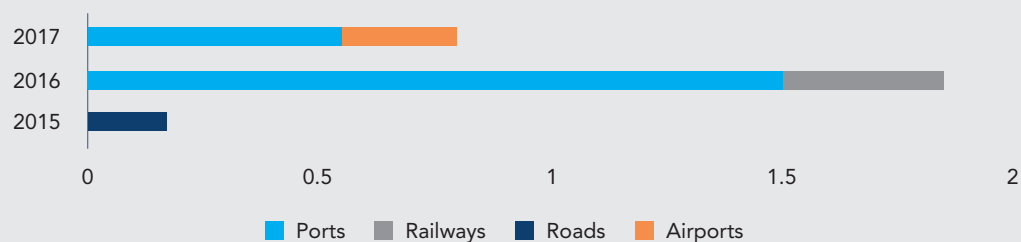
Countries receiving PPI investments in the transport sector in SSA region (2015–2017)

2016 US\$ Billion



Note: Highlighted areas show countries in the region that received transport PPI investments in 2017

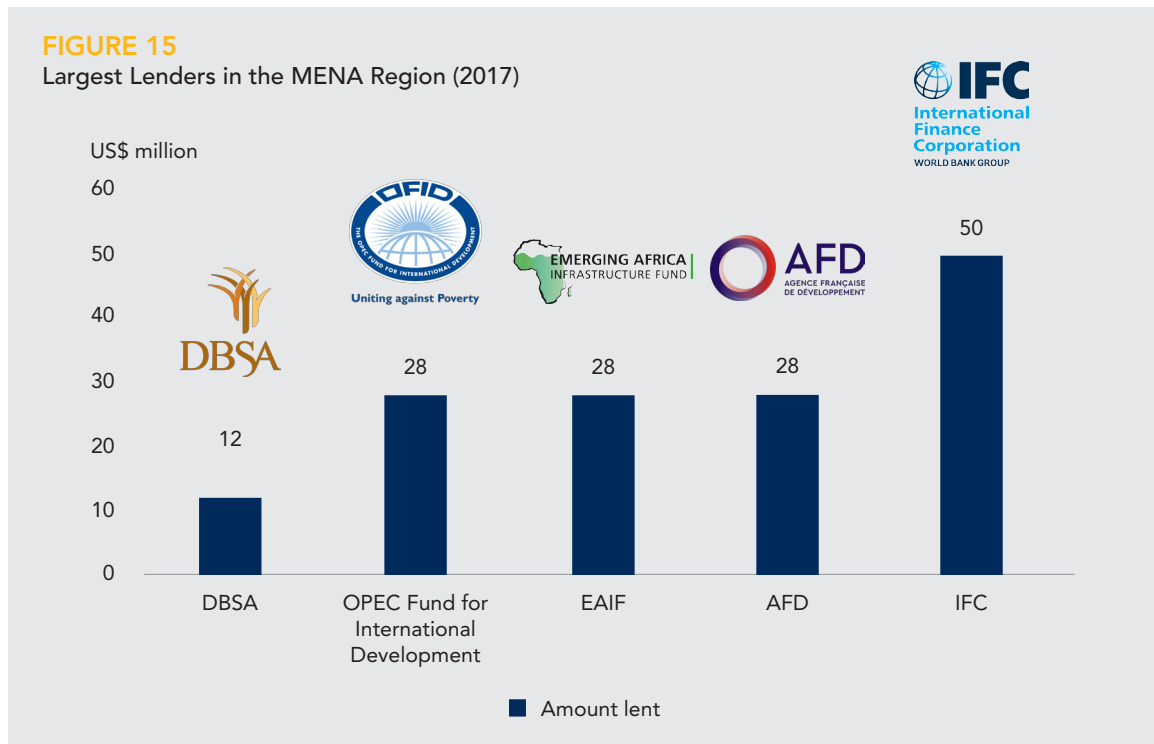
Transport PPI Investments in SSA region



PPI transport investments in the region were down by more than 50 percent in 2017, compared to 2016. Total PPI transport investments in 2017 were US\$795 million, well below the investment amount of US\$1.8 billion in 2016. Port projects have consistently been the main driver of PPI trans-

port investments in the Sub-Saharan Africa region, with US\$550 million of PPI investments directed to this subsector in 2017. However, PPI investments in port projects in 2017 were one-third of the investments in port projects in 2016. Also, 2017 saw the only PPI investment in an airport project (worth US\$245 million) in the last three years in the region. Significantly, no road and railway projects received PPI investments in 2017.

Only two countries received PPI transport investments in 2017, and this accounted for the total PPI investments in the region. Ghana received US\$550 million for a port project, while Madagascar attracted US\$245 million worth of PPI investment for an airport.

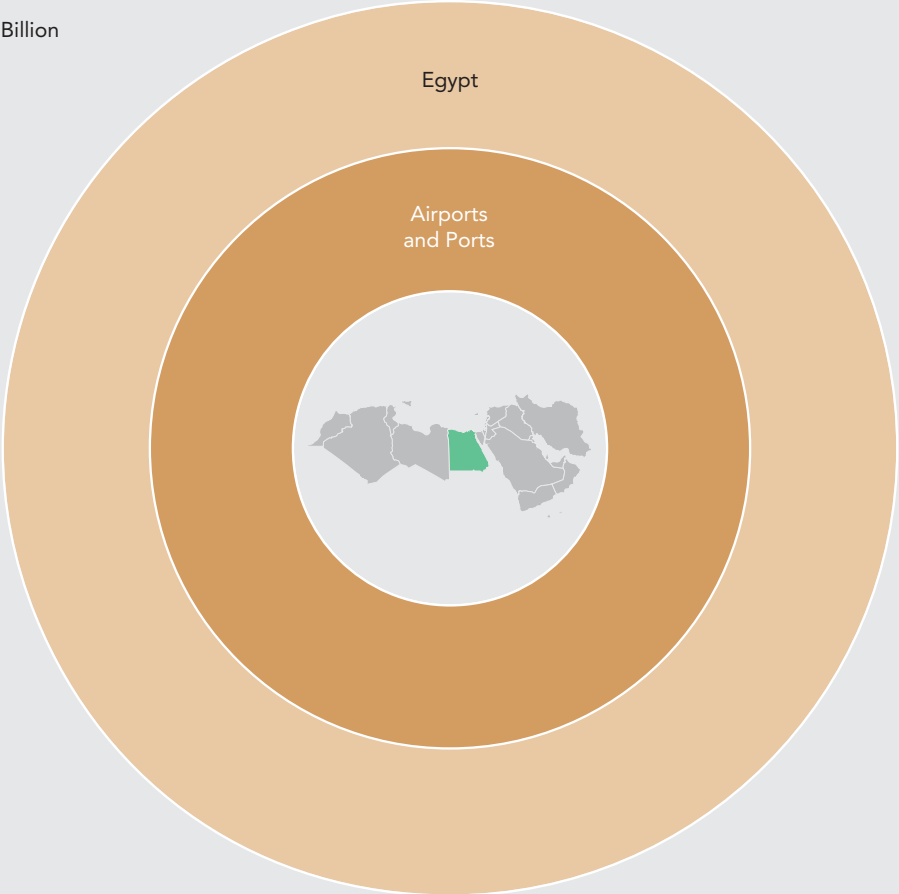


In significant contrast to lenders in other regions, the top five lenders in the SSA region were DFI institutions. The International Finance Corporation (IFC) was the largest lender, with US\$50 million. Combined investments stood at US\$146 million.

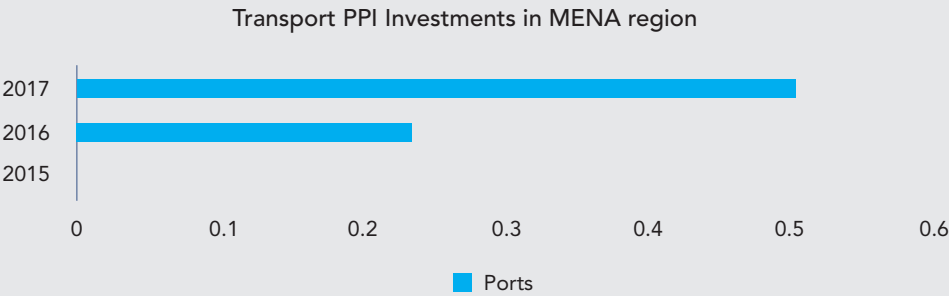
5.6 MIDDLE EAST AND NORTH AFRICA

FIGURE 16
Countries receiving PPI investments in the transport sector in MENA region (2015–2017)

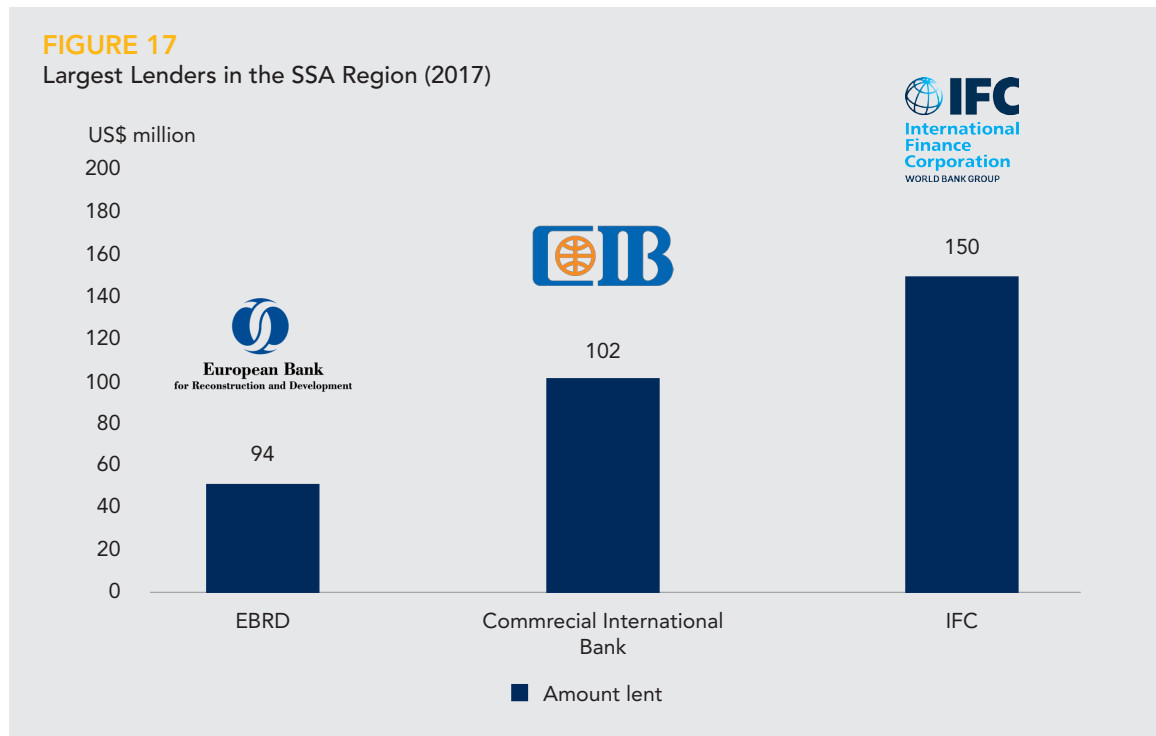
2016 US\$ Billion



Note: Highlighted areas show countries in the region that received transport PPI investments in 2017



The Middle East and North African region saw PPI transport investments worth only US\$504 million in 2017, which went to a port project in Egypt. There was also only one PPI project in 2016 (in the port subsector in Iran), worth US\$235 million. In 2015, there were no PPI transport investments in the region.



As with the SSA region, there were only DFI sponsors in the MENA region. All the financing (US\$346 million) in the region was provided by three DFIs.

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 and 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 provides information on more than 8,000 infrastructure projects dating from 1984 to 2017. It contains over 50 fields per project record, including 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**](https://ppi.worldbank.org)



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