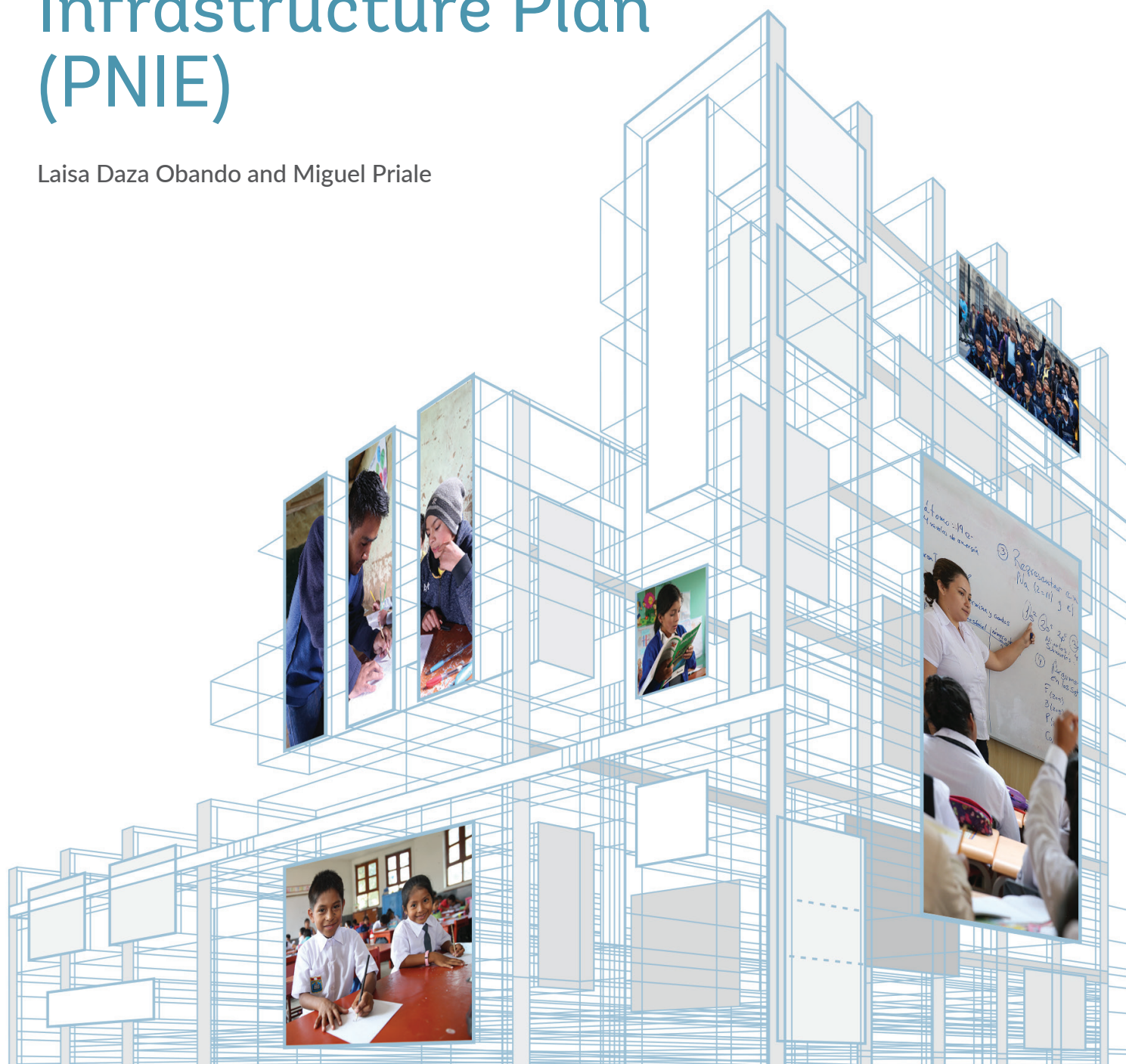


TECHNICAL NOTE

Financing Strategy: Peru National School Infrastructure Plan (PNIE)

Laisa Daza Obando and Miguel Priale



GFDRR
Global Facility for Disaster Reduction and Recovery



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Summary

The total estimated school infrastructure gap in Peru reaches **S/.105,000 million** (Soles 2015). A financing strategy was prepared as part of the Peru National School Infrastructure Plan (PNIE), using three spending scenarios (pessimistic, base, and optimistic) for a 10-year period (2016-2025). The projections for these scenarios are based on historical public budget spending in education and school infrastructure. The proposed target to be covered by the PNIE by 2025 is **S/. 80,000 million** (in the base scenario), which takes into account the **S/. 11,800 million** already invested in 2014-2016. The financing strategy also proposes participation from the private sector through Public Private Partnerships (PPPs) and Public Works through Taxes (OxI).

School infrastructure gap

Table 1 shows the gap estimation through the five programs of the PNIE.

Table 1 Peru school infrastructure gap and PNIE's programs

Program	Subprogram	Total infrastructure gap (million S/.)	% of total gap
P1. Risk reduction program	S1.1 Incremental retrofitting	3,967	
	S1.2. Demolition and temporary classrooms	6,546	
	S1.3. Conventional retrofitting	283	
	Subtotal P1	10,796	10%
P2. Furniture and equipment		10,801	10%
P3. Maintenance of school infrastructure		11,546	11%
P4. Improvement and expansion of school facilities		31,742	30%
P5. New school infrastructure	S5.1. Plan Selva	1,099	
	S5.2. Replacement of school buildings	21,890	
	S5.3. New school facilities	15,473	
	Subtotal P5	38,462	36%
ET. Strengthen school infrastructure management		2,496	2%
TOTAL		105,843	100%

Current school infrastructure spending

The projections on school infrastructure spending for the next 10 years are estimated based on an analysis of expenditures over the last five years (2010-2015). In addition, the projections also take into account the estimated spending in 2016 on education and school infrastructure, and spending by the three levels of government. In recent years, spending in education has maintained a growing trend. In 2010 this amount reached S/. 14,960 million, and S/. 25,581 million in 2015 (which represents an increase of 71% in five years). The percentage of spending on education as a share of GDP also shows a positive trend from 3.56% (2010) to 4.18% (2015), although with a slight drop to 3.45% in 2011 (Table 2).

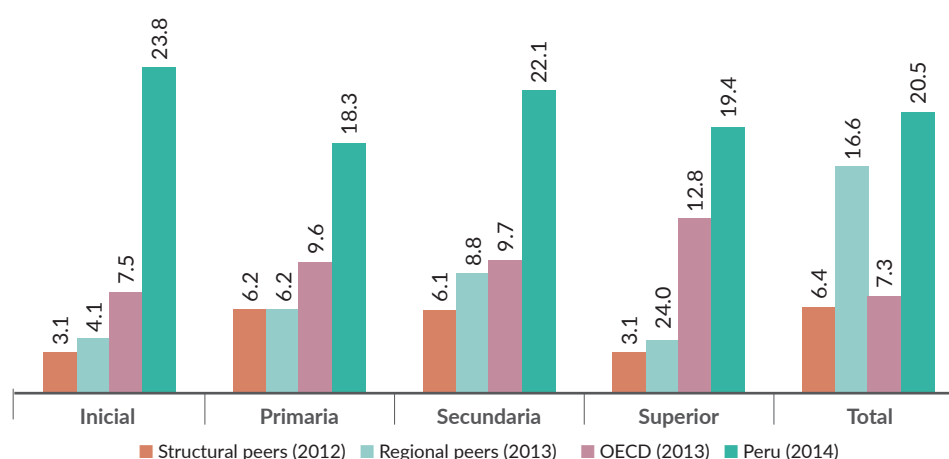
Table 2 Spending in education and in school infrastructure (in millions Soles) ^{/1}

Year	2010	2011	2012	2013	2014	2015
Spending in education	14,960	16,232	18,438	20,209	22,525	25,581
Spending in school infrastructure	3,173	3,461	4,515	4,595	4,564	4,839
GDP	419,693	469,884	508,389	546,040	575,983	611,996
Proportion (Spending in education/GDP)	3.56%	3.45%	3.63%	3.70%	3.91%	4.18%
Proportion (Total spending in school infrastructure/GDP)	0.76%	0.74%	0.89%	0.84%	0.79%	0.79%

^{/1} The amounts are nominal. Source: SIAF y BCR.

The share of current school infrastructure spending in Peru compared to OECD countries and regional and structural peers is higher for all levels of education, as shown in Figure 1. This can be explained by several reasons: i) the increase in education spending has been an explicit goal of the government and important reforms have been carried forward, ii) the level of deterioration of existing infrastructure is higher due to a lack of maintenance or renovation, iii) the need to expand the school infrastructure capacity to cover the unmet demand is higher, iv) infrastructure spending is not efficient due to the absence of a strategic plan that prioritizes and guides interventions. With the implementation of the PNIE the levels of infrastructure spending should reach a similar trend to that of the other countries.

FIGURE 1 Capital expenditure as a percentage of total expenditure, by level of education (public education)



Source: World Bank Stats. Structural peers: Canada, Australia, Malaysia, Romania, Thailand. Regional peers: Brazil, Colombia, Mexico, Argentina, Uruguay.

Financing scenarios

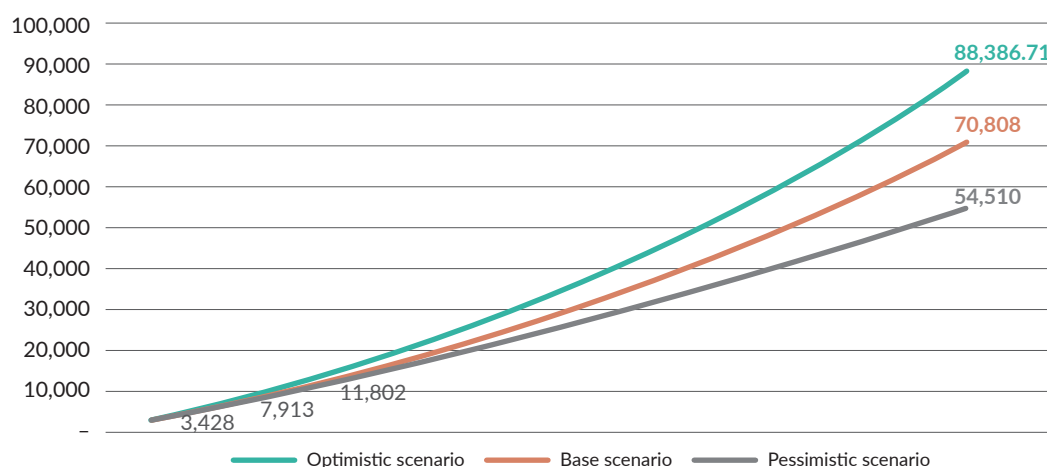
The PNIE total spending on school infrastructure over the next 10 years is projected using three scenarios: pessimistic, base, and optimistic. Each scenario is projected based on the following parameters: real GDP growth rate, percentage of spending on education as a share of GDP, and percentage of school infrastructure spending as a share of spending on education. The projections are estimated in real terms using 2015 prices, in order to compare with the school infrastructure gap which was estimated using 2015 prices. This will also help monitor the progress in closing the gap. Table 3 lists the parameters for the three scenarios. The analysis begins with the same executed budget during 2014-2016 of S/. 11,802,000¹. The rest of the parameters vary according to the historical performance during 2010-2015.

Table 3 Parameters used for the three scenarios

	Parameters per scenario (2017-2025)				Spending projections (million Soles) 2016-2025
	Budget executed 2014-2016	Real GDP growth (%)	% Spending on education (share of GDP)	% Spending on school infrastructure (share of spending on education)	
Base scenario	S/. 11,802	3.5%	3.64% (2017)* 5.0% (2025)	17.77% (2017)* 21.6% (2025)	S/. 70,808
Optimistic scenario	S/. 11,802	4.5%	4.30% (2017)* 5.5% (2025)	19.48% (2017)* 23% (2025)	S/. 88,387
Pessimistic scenario	S/. 11,802	2.5%	constant and equal to 3.47%	16.66%	S/. 54,510

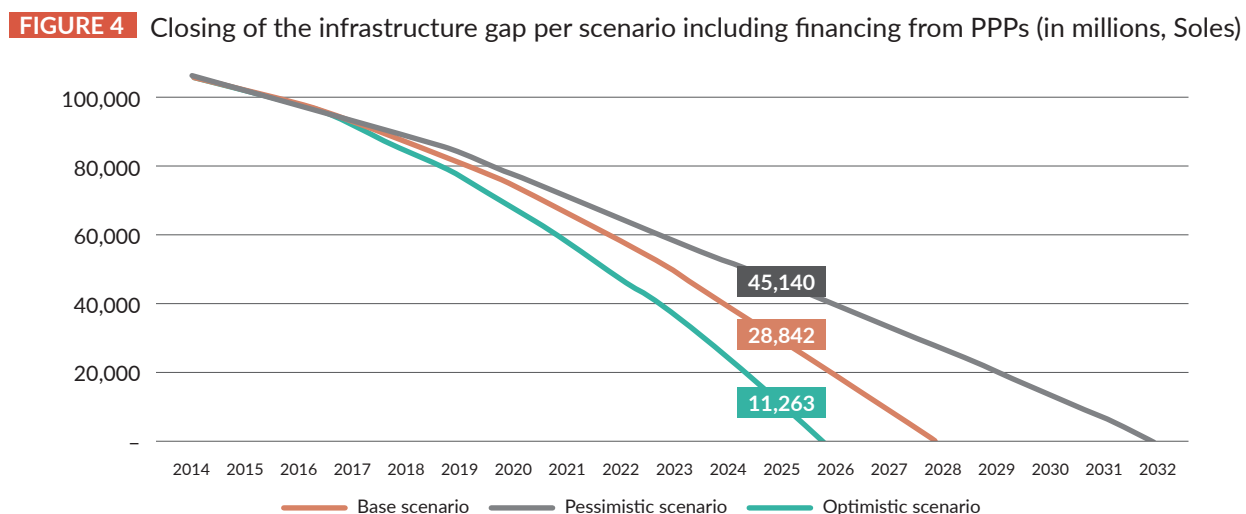
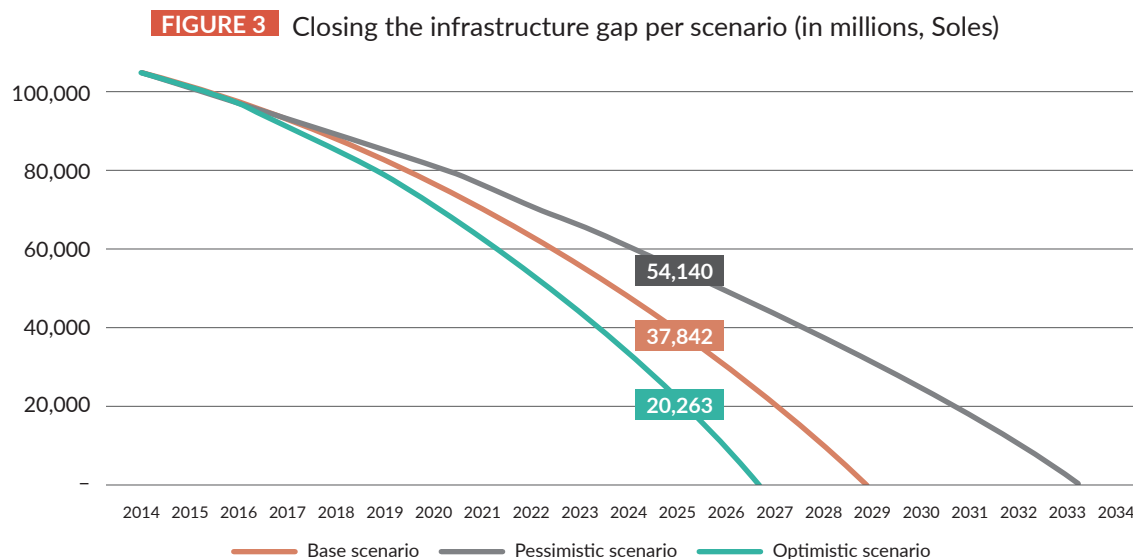
Figure 2 shows the cumulative projected spending on school infrastructure for each of the three scenarios. As a starting point, the executed expenditures for 2014-2015 are included together with an estimate for 2016 (S/. 11,802 million). The following have been considered as spending in infrastructure: projects in basic and higher education (non-university), productive technical education and emergency management, and current expenditures of maintenance of school facilities in basic education.

FIGURE 2 Cumulative spending on school infrastructure per scenario, 2016-2025 (in millions, Soles)



¹ 2016 executed expenditure was estimated with the Presupuesto Institucional Modificado (PIM) until March and assuming the same execution level of 2015 (80%)

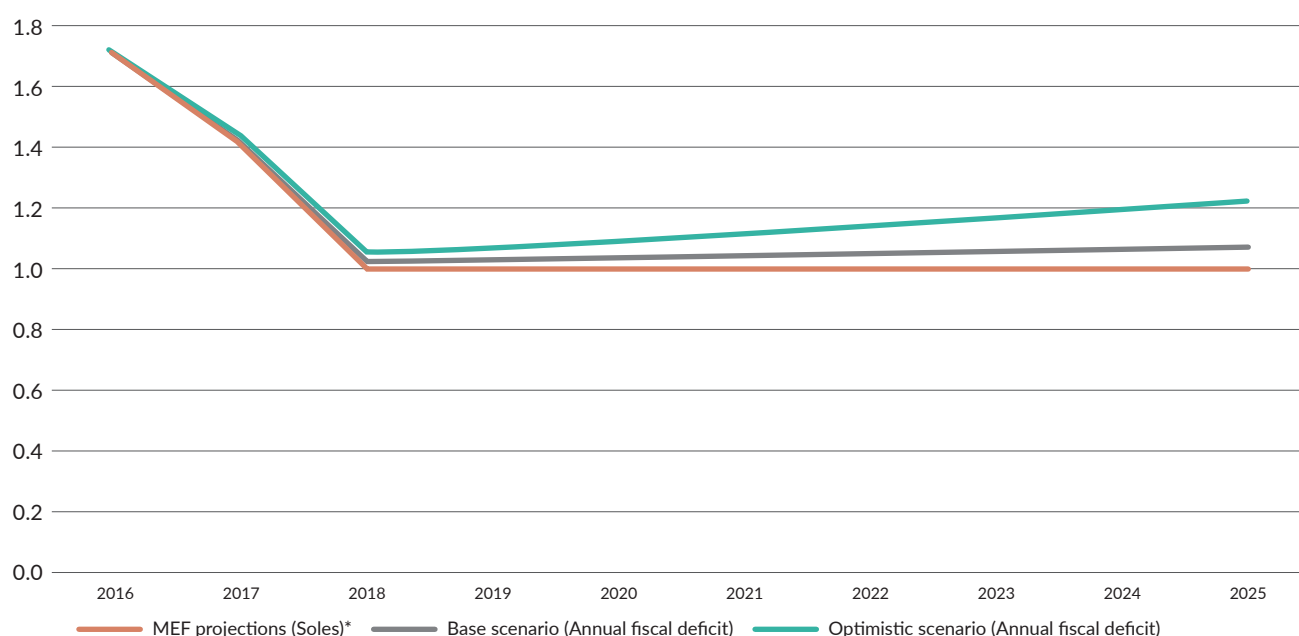
Figure 3 and Figure 4 illustrate the speed at which the infrastructure gap could be closed under each scenario. Figure 3 shows the projections only considering government resources, and Figure 4 takes into account financing from PPPs from 2018 on (S/.9,000 m). Under the base scenario (with government resources), 65% of the gap would be closed by 2025 and 100% by 2029 – and when considering PPP financing, 73% would be closed by 2025 and 100% by 2028. Under the optimistic scenario including financing from PPPs, 81% would be closed by 2025 and 100% by 2029. Finally, under the pessimistic scenario with PPPs, 58% would be closed by 2015 and 100% by 2032.



Fiscal impact

The following “negative” scenario was defined and analyzed to see the fiscal impact of the PNIE’s spending projections: i) 2% growth for 2016-2018 and the MEF’s budget deficit projection until 2018 for this growth rate and 3% growth for 2019 – 2026, ii) 100% execution rates for planned education infrastructure each year for the base and optimistic scenarios. Figure 5 shows the impact on the fiscal deficit under these scenarios. Based on the results from this analysis, maintaining the PNIE 2025 proposed target in a negative situation would mean between a 0.1 and 0.2% increase in the fiscal deficit projected by the MEF. This increase would not represent a high risk to the budget given the macroeconomic conditions in Peru².

FIGURE 5 Evolution of the fiscal deficit based on the base and optimistic scenarios 2016-2025



² If it is assumed that the fiscal deficit remains constant in real soles (fiscal spending and income remain unaltered), but that only the level of GDP is lower (in the pessimistic scenario), there would be an additional 0.1% effect in 2025.

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