Press points for Chapter 3: Is It Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment
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Key Points

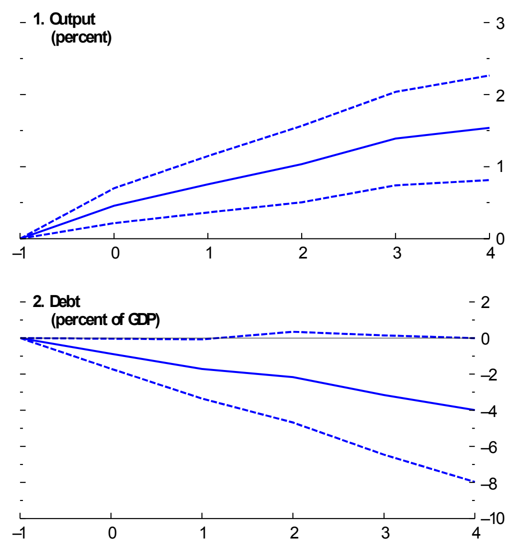
- In countries with infrastructure needs, the time is right for an infrastructure push. Borrowing costs are low and demand is weak in advanced economies, and there are infrastructure bottlenecks in many emerging market and developing economies.
- Public infrastructure is an essential factor of production. Increasing public infrastructure investment raises output in the short and long term, particularly during periods of economic slack and when investment efficiency is high.
- Debt-financed projects could have large output effects without increasing the debt-to-GDP ratio, if clearly identified needs are met through efficient investment. In other words, public infrastructure investment could pay for itself if done correctly.

Public infrastructure is an indispensable input in an economy's production, one that is highly complementary to other inputs such as labor and private (non-infrastructure) capital. It is hard to imagine any production process in any sector of the economy that does not rely on infrastructure. Conversely, inadequacies in infrastructure are quickly felt— power outages, insufficient water supply, and decrepit roads adversely affect people's quality of life and present significant barriers to the operation of firms.

The significant decline in the stock of public capital as a share of output—a proxy for infrastructure—over the past three decades across advanced, emerging and developing economies points to infrastructure needs. Gaps in the quantity of infrastructure provision in emerging market and developing economies are glaring. For example, power generation capacity per person in emerging market economies is only one-fifth of the level in advanced economies; and in low income-countries it is about one-eighth the level in emerging market economies. In some advanced economies deficiencies are emerging in the quality of the existing infrastructure stock.

Increasing public infrastructure investment raises output in the short term by boosting aggregate demand and in the long term by raising aggregate supply. In a sample of advanced economies, a 1 percentage point of GDP increase in investment spending increases the level of output by about 0.4 percent in the same year and by 1.5 percent four years after the increase (Figure 1, panel 1).

Figure 1. Effect of Public Investment in Advanced Economies
(Years on x-axis)



Source: IMF staff calculations.
Note: t = 0 is the year of the shock; dashed lines denote 90 percent confidence bands. Shock represents an exogenous 1 percentage point of GDP increase in public investment spending.

The boost to output from higher public investment is particularly strong if:

- Public investment is done during periods of economic slack and monetary policy accommodation, with the latter limiting the increase in interest rates in response to the rise in investment.
- Public investment efficiency is high, in that additional public investment spending is not wasted and is allocated to projects with high rates of return.
- Public investment is financed by issuing debt rather than raising taxes or cutting other spending, with both options delivering similar declines in the public debt-to-GDP ratio.

The time is right for an infrastructure push in countries where conditions are right. Borrowing costs are low and demand is weak in advanced economies, and there are infrastructure bottlenecks in many emerging market and developing economies. The increase in public investment would support demand in the short term and would also help raise potential output in the long term. Furthermore, debt-financed projects could have large output effects without increasing the public-debt-to-GDP ratio, if clearly identified needs are met through efficient investment (Figure 1, panel 2).

Increasing the efficiency of public investment is critical to reap its full benefits. Thus, a key priority in economies with relatively low efficiency of public investment should be to raise the quality of infrastructure investment by improving the public investment process, through, among others, better project appraisal, selection, execution, and rigorous cost-benefit analysis.