



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



## Public infrastructure and economic growth in Pakistan

By Vaqar Ahmed, Ahsan Abbas and Sofia Ahmed

### Infrastructure as a public good

The role of infrastructure in impacting economic growth and welfare has been intensely studied across literature over the past three decades. The Post-World War II reconstruction model - where governments invest in economies in order to create an enabling environment for the private sector - has led to infrastructure being viewed as a public good (or its variant) and, for many countries, its provision became the sole (and a major) responsibility of the state.

The concept of infrastructure can be divided into two categories: public works (mainly focusing on the construction of infrastructure) and public service delivery (provision of utilities such as electricity and water). While the former still remains a public sector domain in developing countries, the latter has seen the growing involvement of the private sector (through unbundling of supply chain).

In Pakistan, a report published by the Planning Commission states that, although the country has been investing in such public assets (transport, electricity and telephony, ICT, education, health, security, public institutions) their management has proven largely inefficient and weak. As a result, the country's global ranking or performance in terms of infrastructure today is still amongst the world's lowest – average ranking of **114th out of 139 countries**.

### Simulations' results

The analysis shows that, in the long run, regardless of the selected financing mechanism (tax or international loan) increased investments in public infrastructure lead to macroeconomic gains and improvements in poverty level – see table below.

The simulations' results, however, suggest that a difference between the two distinct financing mechanisms, in terms of impact, would occur in the very short term (first period), where:

- the use of taxation puts strain on the industrial sector's output (given that this sector bears the largest burden of taxes, and particularly production tax) and thereby leads to a reduction in economic growth
- the use of international loans leads to Dutch disease-kind of effects, e.g. such as a decline in exports

### “Simulating an increase in public infrastructure investments”

In this study, a team of local researchers in Pakistan used a combination of (CGE) modeling and microsimulation techniques to simulate the impacts of a **4% increase of the “public infrastructure investment (PII) to GDP” ratio** – in line with the intent document in the Planning Commission's Framework for Economic Growth – on several aspects of the national economy.

The simulations were conducted using two different scenarios of financing mechanisms – one supposed that the increase in public spending would be financed with international loans, and the other with taxation (production tax) revenues.

Plus, regarding the impacts of the increased in PII at the micro level, a **distinction was made between households and firms** that may be considered as “constrained” (lack of credit access and savings instruments) and “non-constrained” (fully integrated in the open economy process and access to domestic and/or foreign capital).

Variables	Tax	Int'l loan
Real GDP	1.01	1.29
Total household consumption	0.94	1.16
Constrained	1.19	1.58
Non-constrained	0.18	0.37
Total Investment	3.07	3.35
Total exports	1.88	1.80
Total imports	1.58	1.93
Government revenue	2.26	2.55
Poverty (Constrained Household)	-0.34	-0.42
Poverty (Non-constrained Household)	-0.27	-0.38
Inequality (% Change in Gini Coefficient)	-0.1091	-0.1206

### Policy recommendations

Impact of public investment depends not only on the size of investment but the efficiency with which this invested sum is utilized and absorbed, as well as on the sectors in which the government intervenes. It is important for government expenditures not to compete with the private sector and rather to focus in areas prompt to market failures.

Also, when raising revenues through taxation, it will be important to see which sectors are taxed and to what level. In order to allow direct taxes to increase, the government will have to take measures that remove market irritants and reduce barriers to entry and exit for the private sector.