

## Impact of Infrastructure Investment on Quality of Job Creation: Closed Input-Output Analysis for Indian States

Topic: Effects of Infrastructure Investments

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The major objectives of this study include understanding the role of key infrastructure sectors such as roads and buildings as well as canal irrigation construction in the economies of two Indian states (Gujarat and West Bengal), to examine their potential in generating employment and to analyse the quality of employment generated. This is carried out by using an economy-wide analysis to develop a set of employment multipliers (direct, indirect, and induced) for select infrastructure construction sectors (national highways/urban roads, rural roads, buildings and irrigation canals) in Gujarat and West Bengal. The focus is on analysing job creation and growth potential of the “new” infrastructure sectors. The multipliers are developed by using input-output models that are derived after constructing the state input-output (IO) tables with sixteen basic sectors plus four new infrastructure construction sectors for the year 2009-10 for the two states. The regional/state IO tables are prepared using a hybrid method on the focussed construction sectors surveyed in the two states together with secondary data use and expert knowledge collected from both national and local levels.

The infrastructure sector has vast potential to drive growth. Developing countries, including India, are investing substantially in this sector to achieve full growth potential. The Planning Commission of India is aiming at a total outlay of Rs 51.46 trillion in the infrastructure sector during the 12th Five-year Plan (2012-17). Development of roads has been the most critical driver of India's physical infrastructural growth in recent years. India already has one of the largest road networks in the world, aggregating to around 3.34 million km. The National Highways Development Project (NHDP), the largest highway project ever undertaken by the country, is being implemented by the National Highway Authority of India (NHAI). In 2009-10, the National Highways Authority of India was able to build highways at an average of 1372 km/day (India Infrastructure Report, 2012). Gujarat (being an advanced economy) and West Bengal (being less developed) were chosen for the study as it was felt that the analysis would bring into prominence the vast contrasts present in their economic structures as well as within India as a whole. Gujarat is located on the western most part of India and its Gross State Domestic Product (GSDP) at factor cost at current prices in 2009-10 has been estimated at Rs. 4,293.56 billion as against Rs. 3,677.45 billion in 2008-09, showing a growth of around 16.8 per cent during 2009-10. The share of Gujarat state for the year 2009-10 at current prices in Gross Domestic Product at the all India level works out to 7.0 per cent. Gujarat has undergone many changes since its inception and has gained traction in industrialisation in recent years. West Bengal, located on the east, is the sixth largest economy in the country and is one of the most densely populated states. It is traditionally an agrarian economy with more than 70 per cent of the population living in rural areas. Policies adopted here are more labour friendly. During 2011-12 the rate of growth of per capita income in the state was 6.21 per cent. The study shows that open multipliers for the two states are quite similar but taking induced effects from a closed IO analysis including households into the framework marks a clear difference between West Bengal and Gujarat (West Bengal having the higher multipliers). This induced effect is important for policy considerations, specifically for government bodies pushing employment-related policies such as the Ministry of Labour. Law-makers do not necessarily consider the induced effects of a change due to an investment in a certain sector. At most, the immediate effect on jobs and output is perceived and the extra effect generated through households is ignored as that is not explicit. To provide a more realistic picture of the possible outcome of alternative investment plans, this paper places considerable emphasis on the induced multiplier effects on employment by gender and type (formal

and informal). The simulations carried with alternative scenarios show that the buildings sector generates the maximum employment but this is due to the already large share of this sector within the infrastructure sector. Multiplier analysis on the other hand shows that rural roads construction in Gujarat and irrigation canal construction in West Bengal have the highest employment multipliers. Also, in all simulations, informal employment generation is much higher than formal employment generation.