

## **Research and development and productive structure: assessing the economic effects of the public financing on Brazilian economy**

Topic: Investment and capital formation

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Research and development (R&D) become an essential requirement for economic sectors to innovate and in adapting to changes in the competitive environment of the domestic and external market. The sector expenditures are classified between internal activities and external acquisitions in R&D, whose amounts can be financed by own, third parties and public capital. Especially public capital represents the second largest R&D funding source in Brazil, but its allocation differs by sector. An issue in debates about public R&D funding is to understand their role in the economic effects projected on the Brazilian economy. The main aim of this paper is to analyze the in time path of deviations of the macroeconomic and sectorial variables indicators without public capital R&D until 2020. We use a dynamic general equilibrium model so that its core database is based on the 2010 Brazilian Input-Output table with explicit R&D expenditures. The main findings of this paper indicated that lack of capital public R&D promote negative effects on GDP growth, exports, and investments in Brazilian economy until 2020. Besides, the sectorial projections suggest negative effects on vehicles and equipment for transport, communication and information technology, as well as chemical products, which are most intensive in public capital R&D.