Measurements on China's R&D Capital Stock: 1978-2012

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Abstract: Currently the fewer estimations on R&D capital stock has revealed significant drawbacks, which affects the measurement's accuracy and reliability among subsequent researches, consequently extending R&D research period is of necessity. This paper has selected R&D input indicator, R&D growth rate, R&D depreciation rate and its' weight of price index, applied perpetual inventory method on R&D capital stock calculation from 1978 to 2012. The research findings are: (i) year 2000 is the essential turning point of R&D capital stock growth which obtains effective transition from the slowly creep to the sharply rise-up; (ii) the R&D capital stock/GDP ratio is fitted U-shaped curve which firstly descends and then ascends; (iii) China's innovation capability clearly falls behind USA whether R&D capital stock amount or its' GDP ratio. The above conclusions can prove that China has achieved great improvements on R&D programs during 1978 to 2012, but it is still urgent to enhance national innovation capability by continuous R&D inputs.

Keywords: R&D Inputs; Capital Stock; Perpetual Inventory Method; National Innovation Capability

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