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Analysing the determinants of China's aggregate investment in the reform period

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Abstract

Although investment has played an important role in China's phenomenal economic growth over the last two decades, there has been little research on investment determination at the macro level. This study sets out to explore and explain the factors that influence China's aggregate investment measured by the fixed capital formation during the reform period and to draw useful conclusions from analysing these determinants. The investigation is based on an assumption that aggregate investment in China is determined by both the cost of investment and the increasing aggregate demand created by the reforms. A dynamic investment function is developed to simultaneously capture the long-run and short-run properties of the investment behaviour. The empirical results based on a panel data set of 28 Chinese provinces and autonomous regions suggest that a homogenous equilibrium correction mechanism exists in China's aggregate investment process.

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1. Introduction

Aggregate investment measured by fixed capital formation in China has increased exponentially since the economic reform programme first started in 1978. Although there

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are disagreements about whether the aggregate investment is a driving force for China's recent economic growth, the importance of investment in the creation of aggregate demand and the improvement of economic infrastructures has been widely acknowledged (Chow, 1993; Sun 1998). Since 30% of China's Gross Domestic Product (GDP) during the 1990s consisted of aggregate investment, its expansion provides an important source for growth in the aggregate demand for construction products, machinery, equipment, and other durable goods. This, in turn, leads to increases in the demand for consumer goods and services.

Firms' investment behaviour and their investment funding allocations differ significantly between the pre- and postreform periods. According to Sun (1998), a system generated "investment hunger" existed before 1978 because firms' (especially the state-owned enterprises (SOEs)) investment decisions did not depend on profit maximisation or cost minimisation behaviour. Although it was desirable for SOEs to make profits once the new investment projects were completed, any losses were always borne by the central and local governments. This investment expansion drive, coupled with the soft-budget constraint, led to the inefficient allocation of scarce capital resources. The Chinese economy began its transition from a planned system to a market economy in 1978, and the shares of collective-owned enterprises (COEs), township and village enterprises (TVEs), and joint venture enterprises (JVEs) in terms of output and employment in the national economy have increased substantially. This, together with the introduction of various profit-incentive reform programmes, has changed firms' investment decision behaviour. Profitability and cost of investment have become the most important factors to be considered by firms in their short-run and long-run production plans. The key sources for investment in the prereform period were mainly from firms' internal funds and the central and local governments' budgetary funds. The process of firms' investment decision-making was, therefore, to compete for the acquisition and use of these funds. Since these investment funds were limited, the distribution of the funds to enterprises was unbalanced, only those enterprises (mostly SOEs) in the key industries, such as defence, public utility, and manufacturing industries, were able to share the limited financial resources. This situation has changed since 1978, and firms have gained more investment autonomy through the increased availability of both internal and external funds. The rise in internal funds was due to the adjustment of the depreciation rate from 3.6% before 1978 to 5.7% in the reform period. In addition, the amount of internal funds was also enlarged by the introduction of the profit-retention scheme and contract responsibility system (CRS). The increase in external funds was also made possible by a significant rise in rural and urban household savings during this period. The reforms in the banking system, such as decentralisation of credit control and the development of other financial institutions, have also helped to channel the financial resources towards a broad range of sectors in the economy.

Although many researchers believed that aggregate investment has played an important role in China's phenomenal economic growth over the last two decades (see Chai, 1998; Chow, 1985, 1993; Li, Liu, & Rebelo, 1998; Sun, 1998), there has been little research on investment determination at the macro level. This study sets out to explore and explain the factors that influence China's aggregate investment measured by the fixed capital formation during the reform period and to draw useful conclusions from analysing these determinants. This is particularly important on the eve of China's accession to the WTO, as an under-