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ScienceDirect
China Economic Review 18 (2007) 87–111
China Economic Review

The real effects of monetary policy in China: An empirical analysis☆

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Received 12 July 2005; accepted 16 November 2005

Abstract

This paper examines whether institutional changes have affected the interaction between the real economy and monetary policy in China. We find evidence that structural changes in the financial and real sectors over the period of our study did influence the way in which monetary policy affected the real economy. There were an increasing influence of interest rates on output over 1984 to 1997 and non-state owned enterprises were increasingly reacting to monetary policy changes, suggesting that banking sector reforms were having effects, despite the fact that most credit was allocated to the loss-making State sector.

JEL classification: E52; P24
Keywords: Monetary policy; Output; Structural change

1. Introduction

Since the start of economic reforms in 1979, there have been significant structural changes in the Chinese economy. Financial deregulation and innovation, since the beginning of 1990s, have

☆ The data of industrial output are obtained from the China Statistics Monthly published by the Office of National Statistics. Credit and deposits data are from People's Bank of China; the central bank lending rate comes from the Quarterly Bulletin of People's Bank of China; and the retail price index is taken from the China Statistical Monthly. Total loans include the credits of the state-owned commercial banks, other commercial banks, and urban/rural cooperatives. Total deposits are obtained by subtracting cash in circulation from money supply. All the data are collected in nominal terms at current prices, and then are deflated by the retail price index. Series are seasonally adjusted (using multiplicative weights) and transformed into logarithms (except for the interest rate). The sample period used for estimation is from 1984.01–1997.09.

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1043-951X/$ - see front matter
doi:10.1016/j.chieco.2005.11.002

widened the menu of financial options available, changing the way in which monetary policy operates on the real economy[1]. In addition we have observed major changes in the environment in which state-owned enterprises have operated and the increasing emphasis on the private sector as the driving force behind economic growth.

Examining the relationships between real and financial variables in the Chinese economy, and how this has been altered by structural reform and financial deregulation, are therefore of interest for the study of monetary policy in China. This paper analyses the impact of monetary policy on the real economy after financial reform in 1984, when a two tier banking system was introduced, to the end of 1997, after which further major changes took place which will have impacted upon the way in which monetary policy operated but which are not considered in this paper. The reason for our choice of this period is that we wish to investigate specifically the impact of structural changes that have led to the non-state-owned sector becoming the major driver of growth in the Chinese economy. It was during 1984 to 1997 that a considerable amount of the real sector restructuring took place[2] and hence concentrating on this period provides us with the opportunity to examine this particular feature. In this context we are interested in the following issues: do we observe changes in the way that monetary policy has operated on the real sector? If so do these changes reflect the relative importance of the state-owned sector to the overall growth of the real economy? If we observe changes can they be related to the developments in the financial sector over the period of our study?

Our approach is empirical — we do not specify a theoretical model but adopt an approach of allowing the data to provide answer to the questions posed above. We will use a vector autoregression (VAR) approach to examine these issues. This has become a standard procedure for the analysis of monetary policy in developed, market-based economies.[3] However, for China we need to specify the system to be estimated quite carefully to capture the key aspects of monetary policy. Furthermore, in order to consider whether the effects of monetary policy have been influenced by the restructuring in the real sector we differentiate between different classes of firms: state-owned enterprises (SOEs), collective enterprises (CLEs) and individual and private enterprises (PEs). On a priori grounds we will argue that there is likely to be variation in the estimated relationships of the VAR as a result of structural changes. We investigate the appropriateness of this conjecture through statistical testing and conclude that there is evidence that the impact of monetary on the real economy did vary over the period of our study. We investigate what these changes imply about the effects of monetary policy and relate these changes back to the institutional developments that have taken place.

The remainder of the paper is organized as follows. In Section 2, we discuss the policy and institutional settings which form the background of this study and outline the approach we take to the operation of monetary policy in China. In Section 3 we present the results of our empirical analysis. We focus particularly on testing formally for structural breaks and relate the different

[1] For example, the development of the Shanghai and Shenzhen stock markets, which opened in 1990 and 1991, respectively, and the increasing use of bonds issue to fund government fiscal deficits. During the early 1990s there was relaxation of rules for holding foreign exchange and the foreign exchange market was unified for current account transactions in 1993.

[2] By 1997 over half of industrial output was estimated to be produced by the non-state-owned sector.

[3] Yu (1997) has conducted a similar analysis of the interaction between monetary variables and the real economy using cointegration analysis, but does not take into account the possibility of structural change and is not concerned with the way in which monetary policy operates, except in general terms. The work reported here can be seen as complimentary to, and an extension of, his results.