The Role Of Non-Performing Loans (NPLs) And Capital Adequacy In Banking Structure And Competition

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CENTRE FOR COMPETITION POLICY

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Role of Non-Performing Loans and Capital Adequacy

CCP Policy Briefing

BACKGROUND

- Most previous studies into the structure of banking have assumed that they are strictly profit-maximising entities in the neo-classical sense, subject to exogenous change in market conditions. In reality however, and especially in developing countries, banks often have a strategic role which goes beyond profiting maximising and into promoting economic development.
- The main purpose of this research is to identify, using data from Korea, the theoretical and strategic determinants of banking structure when deposit rate regulation is liberalised by looking at the banking behaviour in terms of non-performing loans (NPLs) and capital adequacy measured by the BIS ratio.[1]
- Deregulation in the Korean banking sector began in 1982 after 30 years where the main focus had been to support under-developed or strategically important industries. In the first instance, public sector specialty banks began to be privatised and the preferential rates on policy loans were abolished. The ceiling on various rates was also lifted.
- The first wholly privately-financed banks opened in the early 1980s, followed by foreign banks. In 1988 interest rates were largely deregulated to increase banking competition. Entry barriers were further lowered in 1989 and three more commercial banks entered the market. A restriction on foreign ownership of domestic banks was lifted.
- At the same time as the liberalisation programme the Korean banking industry has faced the challenge of dealing with the effects of financial crises. In response, there has been substantial restructuring in the banking industry. It has undergone extensive consolidation over the past 10 years. Prior to the Asian financial crisis in 1997 there had been 9 new nationwide banks and 3 speciality banks. Since then, there have been 9 mergers between nationwide banks and 4 mergers between regional banks.

METHODOLOGY

- The research uses a model developed by Chiappori[2] who derived the equilibrium number of banks under various regulatory conditions (finding that the number under regulation is larger than under free market conditions but that none was socially optimal) It was adapted to take into account fundamental issues of banking operation regarding non-performing loans, their loss provision and impact of regulation on banking.
- The model tested the notion of profit-maximising under free competition, revenue-maximising under regulation and a situation of mixed competition.
- The structure, conduct, performance paradigm provided the foundation for the study of market structure in banking and was used for the empirical analysis employing a vector auto regression model to incorporate endogenous feedback between SCP variables – tougher competition leads to lower profits and thus firms are driven out of the industry, raising concentration.
- The data used covered 18 nationwide and 10 regional Korean banks for a 28 year period from 1976 to 2003. The data came from the Bank of Korea Financial Supervisory Services and Maekyung-Annual Corporation Reports.

KEY FINDINGS

- The model showed that as banks focus more on revenue maximisation, the equilibrium number of banks tends to be more than is required by the market compared to the profit-maximising case. So a shift in the competition environment from a focus on revenue to profit affects the number of banks downwards and the degree of competition in the

[1] The BIS ratio is a ratio of the Bank for International Settlement's capital to its assets
[2] Chiappori, P., Perez-Castillo, D. and Verdier, T. (1995) *Spatial Competition in the Banking System: Localisation, Cross-subsidies and the regulation of Deposit Rates* European Economic Review Vol. 39 No 5 pp 889 - 918

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E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL industry is less severe, requiring that they merge to maintain a high rate of return or capital base.

- A higher capital base encourages banks to maximise profit rather than revenue. Where high capitalisation exists, the banking sector will tend to be more concentrated. This may be as a consequence of the use of the BIS ratio which required higher capitalisation than had previously been used and which induced mergers and exits.
- The liberalisation of deposit rates in Korea has put downward pressure on both deposit and loan rates as competition on interest rates has become more severe and made interest rates more volatile.
- Non-performing loans have declined dramatically since the 1997 crisis whilst the banking sector has become more concentrated. However the capital adequacy (BIS) ratio has not improved by the same magnitude. This may be as a consequence of stricter loan loss provisions forcing the right off of NPLs but that these do not translate into improvements in capital adequacy ratios.
- The relationship between the degree of concentration and the market size is significantly positive. Market size itself seems to be affected by all the SCP variables which challenges the assumption of its exogeneity shown by previous studies.
- As a market becomes more concentrated the profitability of banks decreased which contrasted with the traditional view on market power. But this should be read with the commonly used banking sector rescue programmes of merger and acquisition to write off bad loans. Nevertheless, profitability was positively associated with interest margins, negatively associated with NPLs and positively associated with capital adequacy.
- As markets become bigger, relative NPL ratios decline. BIS ratios show a positive association with market size as well as interest margins.

POLICY ISSUES

- The key conclusion from this research, which is highly relevant for competition authorities and other policy makers, is that the banking industry does not conform to standard convergence theory in concentration with a given sunk cost.
- Capital adequacy ratios are positively associated with market concentration. M&A tends to be the most commonly used bank rescue programme. The evidence of this research suggests that while it improves their BIS ratio it has a negative effect on their NPLs. If banks try to reduce NPLs given their BIS ratio, credit rationing is inevitable and the knock-on effects will fall onto small and medium enterprises who will eventually be squeezed out of the traditional financial industries.

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The ESRC Centre for Competition Policy (CCP), at the University of East Anglia, undertakes competition policy research, incorporating economic, legal, management and political science perspectives, that has real-world policy relevance without compromising academic rigour.

FOR MORE INFORMATION

The full working paper (CCP Working Paper 06-15) and more information about CCP and its research is available from our website: www.ccp.uea.ac.uk

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