Analysis of competition in the banking sector

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NOVEMBER 2009

COMPETITION COMMISSION OF PAKISTAN

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FOREWORD

This Report is the first of a series of competition impact assessments that have been initiated in Pakistan, following our first State of Competition 2008 Report. The banking sector was chosen, firstly, because of its current topical world-wide interest in public policy questions emanating from systemic failures of banks, averted through a series of unprecedented governmental bailouts at the tax payer's expense. In order to shore up public confidence in their banking systems, governments in the U.S. and U.K. have practically insured and underwritten the survival of their major banks and taken the unusual step of pre-empting the Competition Commission (in the UK) from questioning it. This has provided greater impetus to the debate that was already on-going in academic, policy and financial circles, on whether or not there was an inherent contradiction between the requirements of banking stability and those of competition, or whether there was a trade-off between the two. The Report reviews different aspects of this debate and joins it through the perspective provided by the history of banking in Pakistan.

The second reason for choosing the banking sector was its emerging importance in Pakistan as one of the largest recipients of direct foreign investment. This has raised a number of questions of whether the inflow has justified the cost of securing this investment, whether it has resulted in greater efficiency in domestic banking, as was expected, and whether foreign bank entry has led to greater competition, as predicted by policy analysts who have looked at the international evidence. The Report examines the theory as well the practice and the results obtained in Pakistan.

Thirdly, the banking system in Pakistan has been the subject of a World Bank-assisted reform program (starting 1997) meant to improve financial intermediation, prudential regulation and efficiency. During the past decade the State Bank has also encouraged consolidation of banks and other structural measures designed to promote stability and prudential commercial lending. The impact of these structural changes and regulatory policies on the state of competition needed to be assessed.

Since this was the first study commissioned by the Competition Commission of Pakistan, we have been quite careful in the choice of the methodology of competition analysis. The literature review shows three distinctly different approaches. One is that of evaluating *competitiveness* of different countries through multiple indices that are meant to quantify and grade different aspects of economic enterprise, including the level and quality of banking and financial services. The competitiveness indicators of the Global Competitiveness Index (GCI) and the Financial Development Index of the World Economic Forum are of a different genre than the *state of competition* indicators that we have used.

The second methodology that has been used specifically for the banking sector is that of an econometric analysis of cross-country panel data as well as country-specific banking statistics. These include the IMF and the World Bank policy studies that look at the structure of the banking industries and their *contestability*. Several cross-sectional and country-studies of banking structures, efficiency and performance have been conducted, but we find that they do not directly address the relevant issues pertaining to competition. Of greater relevance, therefore,

to our present purpose have been the more detailed investigations by policy practitioners or consulting groups looking at specific competition-related issues within individual countries, such as the United Kingdom, South Africa and Ireland.

The present Report is more fine-grained than conventional industry analyses. Its basic premise is that, for competition purposes, one must look at the *relevant market*, and that the core of the 'market' is the 'product'. Unfortunately, this needs customization of data, and the question of what constitutes the relevant market is not always an easy one. Also, markets evolve over time. A snap-shot view of the level of competition or competitiveness, captured through a single statistic (concentration ratio, H-statistic, market share), might give a misleading picture of the underlying dynamics of market concentration. Hence an understanding of the process of evolving competition is required. For that one needs to take some sort of a historical view, in order to appreciate the context in which competition is taking place or is being thwarted.

The present study of the banking sector is markedly different from those of other countries in that it looks at the evolution of competition in Pakistan over the last 60 years. It provides a historical as well as a thematic perspective. We hope that this will also serve as a template for other sectoral studies by the Competition Commission that are on the anvil.

We wanted this study to speak to policy practitioners, to the academic community, to the business interest and to the consumer-awareness groups, all of whom have a stake in competition. I think that this Report addresses all these concerns. This is largely on account of the fact that the author of the Report is fluent in all three languages – that of the academician, of the practitioner, and of business and commerce. Dr Agha Ghazanfar specialized in competition analysis at the London Business School. As Professor of business management he has been actively engaged in research in business economics, strategic management and policy. During the 1990s he was the Economic Minister and Financial Advisor at the Pakistan Embassy in Washington DC, and was also an Advisor on international financial to the Government of Ukraine at Kiev. In the field of business and commerce, he has been Managing Director of National Fertilizer Marketing (Pakistan) and Director of the Trading Corporation of Pakistan. He also has a rich and diverse experience of public service at the highest level in Pakistan, having served the Government as Member of the Planning Commission and Federal Government Secretary of Statistics and of Investment. It is evident that he has brought his intellectual standing in academia, his knowledge of private and public businesses, of regulatory control and the working of governments at all levels to bear upon this complex service sector.

Khalid A. Mirza
Chairman
Competition Commission of Pakistan

Islamabad
9 November 2009

ACKNOWLEDGEMENTS

This Report is meant for policy makers and regulators – in particular, the Competition Commission, the State Bank, and the Ministry of Finance with which the principal investigator has been associated for a number of years. However, we hope that it would also be of interest to a wider lay audience as well as the academic community. That is why we have tried not to cast it in the mould of a technical exposition or a treatise on economics and finance. The historical narrative serves as a backdrop to highlighting the issues that confront civil society as it comes to grip with the banking oligarchy of Pakistan. At the same time we hope that the Report's wider and more general appeal does not detract from its utility as a policy instrument for the Competition Commission.

This study owes its genesis and successful completion to Khalid Mirza. Were it not for his unflinching belief in the need for documenting failures of competition and constant vigilance in ensuring a competitive playing field in industry and commerce, this study could not have materialized. The entire Competition Commission, including all its Members, was highly supportive. To Shahid Ahmed Director General of the Commission, we owe a special intellectual debt. He helped steer our course, while the indefatigable Mohammad Shahab performed yeoman service.

We have trodden over a mine field of data, both statistical and historical, to arrive at our conclusions. This was made possible by Azizullah Khattak of the State Bank of Pakistan, who went out of his way to furnish us with customized data pertaining to all bank statistics, as specified by us. Aamir Aziz Saiyid, Advisor to the Banking Mohtasib, provided valuable insights.

We also wish to place on record our gratitude to Dr Ahmad Kaleem, Associate Professor at the Lahore School of Economics, who reviewed the entire data set and pointed out quirks and systematic patterns thrown up by the statistics. Much of the analysis in Chapters 6 and 7 is based on his early diagnosis. Subsequent data mining, statistical processing and presentation was done by Nayyar Kazmi.

Dr Ghazanfar, the principal investigator, presented the Report to a Consultative Group on Competition, at Karachi on 2nd October 2009, which included the Deputy Governor of the State Bank, Chief Executive of Pakistan Business Council, Managing Director of Oxford University Press, senior media representatives, businessmen, professionals and academicians. Feedback obtained at this presentation reinforced the authors' findings. The vast number of subsequent calls and inquiries, and some media discussion that has already taken place on this Report, suggest that this Review of the banking sector might well strike a responsive chord among several stakeholders. For that we are grateful to the audience.

Lahore,
15 October 2009

Agha Ghazanfar
Nayyar Almas Kazmi

EXECUTIVE SUMMARY

The virtue of competition among banking service providers has not been fully recognized or accepted by policy practitioners. The academic community has also not devoted as much attention to the requirement of competition in the banking sector as it has to other industries. There has been a debate on what effect competition has on the performance of banks and whether society benefits as a result of heightened competition. However, this debate has been inconclusive and the evidence a mixed one. This report starts by discussing the findings obtained so far from major studies throughout the world.

CHAPTER 1: METHODOLOGIES AND ISSUES IN BANKING COMPETITION

Chapter 1 is devoted to a discussion of methodologies for analysis of competition in the banking sector. It includes a review of the competition issues that have been highlighted in the literature, the factors affecting competition, and the different approaches adopted to analyze them. Three different sets of issues are prominent. The first set of issues relates to the effects of competition on efficiency, on access and on stability. The second relates to factors that promote or impair competition. The third comprises the quantitative techniques for analyzing competition

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Different approaches have been adopted: (i) the structural approach, based on the Structure-Conduct-Performance model, that looks at competition being driven by market structure, (ii) the contestability approach in which competition is analyzed in terms of entry barriers and regulatory restrictions, or otherwise, and (iii) the approach of formal competition indicators such as the H-statistic.

CHAPTER 2: REVIEW OF COMPETITION STUDIES: INDIA, BRAZIL, PAKISTAN

This chapter discusses the application of econometric techniques and methodologies to specific countries. The findings of three such country-studies are discussed---the three countries being India, Brazil and Pakistan. In the study on banking sector efficiency in Pakistan, Qayyum and Khan (PIDE, 2007) examined four aspects of the banking sector: x-efficiency, economies of scale, technological progress and competition. In the second study on concentration and competition in the banking system, Mahmood ul Hasan Khan of the Financial Stability Department of the State Bank followed the well-trodden approach of the Structure-Conduct-Performance model of Industrial Organization and examined recent changes in concentration ratios and the Herfindahl-Hirschman Index.

None of these studies has, however, scratched beneath the statistical surface. Actual competition in product markets has not been looked into at all. Even so, despite the State Bank's claim that competition is increasing and banking in Pakistan is reasonably contestable, Hassan Khan (2008) arrived at the conclusion that it was weak. The present Report examines the causes and ramification of this competitive failure.

CHAPTER 3: INTERNATIONAL EXPERIENCE

This chapter provides a critical review of the international experience that appears to be relevant to Pakistan. It starts with a discussion of the independent review of the competition in the banking

sector in the U.K. that was commissioned in November 1998 in the same year that the Competition Act (1998) was legislated in the United Kingdom. The chapter analyses the methodology and the core problem identified in the UK review. It then goes on to look at key issues in other jurisdictions that are germane to the present study. A European perspective is followed by an analysis of country reports on South Africa and Ireland.

CHAPTER 4: ANTECEDENTS OF BANKING COMPETITION IN PAKISTAN

Stability of the banking system has been of paramount concern to the State Bank of Pakistan. The trade-off between stability and competition has never entered any public (perhaps not even private) discourse in Pakistan, and it is only recently that the opportunity cost of competition has entered the calculus. The genesis of the concern for stability is traced in this report to the founding of the State Bank (1948) amid perilous conditions and the subsequent journey, spanning 60 years. Concentration, collusion and restriction of competition are the major themes that unfold in this history.

It is found that nationalization of banks (on 1st January, 1974) was not necessarily a retrograde step, considering the state of competition (or the lack of it) preceding nationalization. However, after the 14 banks were consolidated, into five banks (National Bank, Habib Bank, United Bank, Muslim Commercial Bank and Allied Bank) all competition receded into the background. The Monopolies and Restrictive Trade Practices Ordinance did not apply to the public sector. The jurisdiction of the Monopoly Control Authority had been ousted; MCA was barred from looking into any aspect of public banking business.

CHAPTER 5: BANKING SINCE NATIONALIZATION

This chapter examines the structure of banking from 1974 to 1999 and the emergence of ersatz competition. Structural change during the decade 1990–2000 is analyzed, followed by a discussion on the last decade's consolidation operation and the impact of foreign bank entry. It is noted that mergers and acquisitions are not an unmixed blessing, and, the theory behind the State-sponsored mergers is suspect. Mergers do not lead to efficiency. The State Bank's own study confirms this.

CHAPTER 6: ANALYSIS OF PRODUCT-MARKETS: BANK DEPOSITS

Despite the on-going consolidation in the banking sector, the efficiency that the State Bank had hoped for has remained elusive. The primary reason for it is the high cost of financial intermediation, reflected in the high banking spread. The State Bank's own

> "analysis indicates that factors such as the structure of bank deposits (with 25 percent of total deposits in non-remunerative accounts) and the liquidity preference of depositors have a significant bearing on the level of banking spreads. Concerted efforts by banks to increase the proportion of fixed deposits are likely to narrow these spreads."

Yet, this has not happened. This chapter analyzes the changing structure of bank deposits during the past decade. It identifies and delineates product-markets in which competition has been (or has not been) taking place.

The demise of specialized banks is a noteworthy feature of this decade. Statistical evidence is furnished to help understand this feature.

Foreign bank competition is supposed to be the other noteworthy feature. However, contrary to popular perception and international theory, foreign bank entry has made no difference to

competition in Pakistan. Some remarkable findings emerge. For instance:

- The aggregate deposits' market has expanded nearly four-fold in the last ten years, although the number of depositors has decreased from 30 million to 25 million in the same period
- The rise in deposits was largely on account of a substantial increase in the average size of term deposits.
- The amount of savings deposits increased from Rs. 474 billion to Rs. 1.4 trillion, and that of term deposits from Rs. 357 billion to Rs. 1.3 trillion.
- But, the number of savings accounts fell from 22 million in 1998 to 14.5 million in 2008, and the number of term deposit accounts also decreased from 1.7 million (1998) to 1.4 million (2008).
- Current account deposits were the only deposits that witnessed an increase (and a significant one at that) both in terms of number of account holders and the amounts deposited. This is a reflection of the growing liquidity preference in the economy.
- During the past decade Pakistani commercial banks were able to attract the consumer surplus of a rising middle class economy into all its deposit instruments, but the less affluent were diminishing in importance as bank customers

By disaggregating the data and looking into specific product markets it has been observed that foreign as well as domestic banks have followed a strategy of going after richer customers only and pursuing only large-sized deposits. This has implications for competition.

Foreign banks have, however, declined in number and in their importance, and this decline has been progressive over the last 10 years. Their share in deposits has never exceeded 20% and is currently 3.78%. In terms of number of accounts they represent only one-half of one per cent. At best they represent fringe competition.

In recent years the big five banks have lost their share of deposits. This continual loss of market share raises another basic issue. Under competitive conditions, the loss of market share could not but have translated into a corresponding loss of revenues and profitability of the top five banks. Yet, the profitability of the big banks increased. This apparent paradox is shown to be the result of the absence of a competitive market.

CHAPTER 7: COMPETITION IN CREDIT ALLOCATION

High banking spreads have resulted in inefficient credit allocations. Despite the remarkable increase in the amount of deposits having become available to banks after 9/11 and the resulting decline in interest-rates to the point of becoming negative in real terms, Pakistan's ratio of private-sector credit to GDP remained low. This Chapter examines the pattern of credit allocation and its implications for competition. The hypothesis advanced by the State Bank that, although bank deposits were not competitively priced, loan advancing was on a competitive basis, does not stand up to scrutiny.

The most sizeable amount of credit was extended into accounts above Rs 10 million, followed by those accounts that range between Rs 1 million and Rs 10 million. Micro-financing was neglected by all banks, to the extent that even the meager share of 9.5% in total credit allocation in 2001 was halved and went down to 5% in 2008.

The borrowing public has been placed in double jeopardy. The first danger stems from the fragility imposed on the system, via the lack of diversification in the product portfolio. The second stems from the lack of competition. The failure, on the part of banks, to undertake even a modicum of risk in the assessment and appraisal of clients (when all other indicators point towards a very stable, almost risk-free environment) can point only towards the absence of any competitive pressure. Banks are comfortable in their safe havens of collateralized, up-market lending. But this skewed

pattern of operations poses a greater risk to public welfare.

CHAPTER 8: THREE BORROWERS' MARKETS

This Chapter looks at three markets that are of similar size, and in which bank lending is not supposedly based primarily on collateral but on individual risk assessment.

The first market, of SMEs, has Rs 383 billion of loan advances, the second has Rs 212 billion of agricultural advances, while the third consists of Rs 396 billion of consumer financing. The customers of the first market are 215,000 predominantly urban businesses, mostly of individual proprietors (not listed companies), engaged in manufacture, trading or services.

The second market comprises 1.5 million rural agriculturists who are furnished advances, in their individual capacity, for crops or farm machinery.

The third market of 3.4 million salaried persons or individual businessmen are extended credit on their own 'personal' standing of being financial savvy.

Despite the different profiles of the three kinds of consumers, their credit needs are of the same order of magnitude. Their credit accounts are typically in the range between Rs 100,000 and Rs 300,000, although there are obviously wide variations, with much smaller (e.g. Rs 20,000) and much larger (e.g. Rs 500,000) advances having been made.

These three markets throw up different issues and facets. The SME market is characterized by complacency, the agricultural market by neglect and consumer financing by management failure. None of these attributes could possibly have come to the fore, let alone allowed to last for any length of time, had the banking system been accountable to the market. An inefficient, mismanaged bank cannot survive competition, let alone earn-above normal returns. However, when there are barriers to exit, or a provision for "safe" exit --- because no bank failure can be tolerated, on the basis of spurious arguments of essential banking stability --- then all failures have to be tolerated. Competition is then replaced by consolidation. Price competition is over-ridden by the prevalence of high banking spreads – rightly pointed out by all analysts, including the former Governor of the State Bank herself, as the prime source of failure of financial intermediation.

Whichever way one looks at it, to whichever market one turns, the basic facts are the same. The consolidated banking system is profitable, stable and secure. It earns above-normal returns that are assured through maintenance of high banking spreads that the regulators do not want to bring down. As a consequence, there is a failure of competition.

One can hide behind fragments of statistics (as is done in cross-country quantitative analyses discussed in the earlier chapters of this report) and draw comfort from diminishing concentration ratios and rising industry-wide "contestability" indices. Yet, the moment one inspects the data more closely and looks at product-markets, a totally different picture emerges. That is the virtue of competition analysis.

CHAPTER 9: THE CORE ISSUES & RECOMMENDATIONS

The final Chapter identifies the core issues and makes policy recommendations.

Denial of banking access to 85% of the population, by way of depositors, and to 97% of the country's population of potential borrowers, should be the foremost concern of the government. In line with recommendation in other countries, it is recommended that steps be taken towards providing universal banking services, and that the State Bank should also determine, with some policy input from the Competition Commission, the range of permissible and reasonable restrictions and charges on switching of accounts that a bank might be able to impose upon its customers.

While denial of access, or insufficient access to banking services for less affluent classes of society, is possibly the most important public policy issue, from the perspective of competition there are other facts that also merit urgent attention. Chapter 9 summarizes the facts that have emerged from the historical review of the banking system in Pakistan. These facts might seem unrelated. Yet there is a common thread that binds them.

Rural banking coverage

Throughout its history Pakistan has been beset with the problem of providing rural credit for agriculture. Tomes of reports have been written on the subject, repeated policy interventions have been made, but all attempts to promote rural supply of banking services have been plagued by failure. This is manifest in the statistics: only 7% of lending is to the rural areas that account for only 10% of deposits. The official history of the State Bank has recounted the repeated attempts by the State regulator to promote rural banking. Every encouragement has been provided throughout the country's history to increase the number of rural branches. Even now the State Bank is actively encouraging this promotional effort. Yet, the loans given out in rural area are one-tenth the size of urban loans, and deposits of a rural branch are one-fifth those of an urban branch. 48.4% of national deposits accrue from Karachi and Lahore. These two cities take up 64.2% of bank advances, and the top 10 cities account for 75% of deposits and take up 85% of advances. While there may be some rudimentary competition in urban banking, there is none in rural areas.

The failure to integrate rural deposits and credit supply into urbanized banking services begs the important question of whether rural banking is indeed a separate market. Determination of the "relevant geographic market" is a significant competition-related question in any jurisdiction, and it is necessary to make this determination, depending on where competition is actually taking place. The available empirical evidence suggests quite strongly that the performance and financial activity in the rural market is opposite to that in the urban market.

SMEs

The lack of access is not limited to the rural sector. It has been chronicled for the SME sector as well. The World Bank study (2009) on 'Bringing Finance to Pakistan's Poor' documents the problems faced by SMEs in obtaining bank financing. In essence, the lack of access stems not from any failing on the part of the SMEs in meeting any credit benchmark, but the failure (or indifference) on the part of commercial banks to process the loan applications and evaluate the credit worthiness of the applicant. Commercial banks are simply not pushed to provide credit without collateral. They will not assess risk. This translates into complacence and is a reflection of the failure of competition, as observed in Chapter 8.

As in the case of rural finances, the problem of SME financing can only be solved, if at all, by allowing, and in fact encouraging, enterprises from outside the banking industry to enter this market. Scheduled banks that are centrally controlled and have national distribution networks have a high opportunity cost in operating this market. Locally- operated enterprises (such as microfinance

organizations, cooperatives and NGOs) have lower transaction costs, less information-gathering problems and greater capability to assess the local client's credit worthiness. Distance-related risks can be lowered only when the credit-provider is at the grass-roots or (at the very least) a regional level. National-level banking is therefore not the answer.

Low-cost housing

The inadequate level of housing finance, in particular the denial of funding for low cost housing (construction, purchase or renovation) is the result of an institutional failure.

In each of the three product markets that have been analyzed in this section, the solution to the chronic problems of policy neglect and bank complacency (a reflection of indifference to competition requirements) must be sought outside of the banking industry. No amount of exhortation or incentives to commercial banks has worked for the past 60 years, as this Report shows. It will not work in the future, because, for commercial banks, the opportunity cost of entering these three markets is much too high – because of prospects of 'monopoly rents' accruing elsewhere in lucrative markets from which there is no competitive compulsion to diversify out of.

The only solution thus is to open these three product markets to economic agents outside commercial banks and the Government. This would be a welcome invitation to NGOs, MFBs, cooperative societies, all outside the regulatory purview of the banking system. What is required is some thinking “out of the box”. Towards this end, it is recommended that a National Commission should be set up by the Government to analyze the three specific products (agricultural credit, SME financing and SMH lending) that have been identified in this Report as areas of neglect and total failure of competition requirements

Competition indicators & banking interest spreads

After a full-fledged review of the application of contestability indicators (such as the H-statistic) and of market structure indicators (such as concentration ratios and Herfindahl Hirschman Index) in cross-country studies (Chapter 1) and in the banking systems of specific countries (Chapter 2), this report has found that these statistical analyses do not yield any useful results. The universal conclusion of scores of studies -- that 'monopolistic competition' prevails in every country of the world --- has not added to our knowledge. The actual H-statistic derived for each country is not convincing. The excuse that data are not available to allow a proper analysis begs the question of why a statistical inquiry is attempted in the first place when statistics necessary for that inquiry are lacking. One wonders how an input-output analysis can be conducted, or should even be attempted, when data on input costs of products and price elasticity of demand are not known. It is not surprising, therefore, that statistical analyses based on insufficient statistics and on mere assumptions should have led to meaningless results.

Arguably, the interest rate spread is the best index of the efficiency of financial intermediation by the banking system and is a proxy indicator of the extent of competition prevalent in the industry.

The high level of administrative cost of the banks is possibly the single most important factor in keeping the interest spread high.

The root causes of the high interest rate spread lie in the opaque nature of banking and administrative costs, deposit rates and non-competitive regimes.

Transparent interest rates

Every Report on the banking sector of every country has advocated greater disclosure on the part of banks and greater transparency. Nowhere is this need more acute than in Pakistan. Bank operations are opaque in their deposit mobilization, their lending criteria, their charges of interest rates and financial services, their loan provisioning and their administrative expenses, including remunerations. Full public disclosure and operational transparency are not only essential regulatory requirements, but they are also the sine qua non for competition.

The most glaring lack of transparency in Pakistan is in the fixing of interest rates, most of all in the PLS accounts, which should be legally disallowed. All deposit rates offered on each type of account need to be posted in detail on the bank's website. In view of the financial illiteracy and lack of internet - access to most depositors, these interest rates must also be displayed prominently at each bank branch. The State Bank is not averse to this kind of disclosure. However, it needs to make sure that the banks actually comply with this requirement.

It is not only interest rates that need to be disclosed on the bank's website. Different service charges need to be known publicly. *There are five areas in which greater disclosure is warranted*. The ***first*** is with regard to interest rates on deposits. These need to be widely known publicly and adhered to by the banks – something that can happen only after the PLS account is discontinued. The ***second*** form of transparency must be with regard to service charges, including FCBI. The ***third*** disclosure should with regard to loan provisioning. The ***fourth*** should be that of administrative costs. The ***fifth*** relates to remunerations, including salaries and bonuses and other payments made to senior bank management and Boards of Directors. The growing international awareness of current excesses in respect of these payments warrants a closer scrutiny of the same in Pakistan. Audited statements of these remunerations --- and indeed of all administrative costs --- are available and are not confidential documents. Indeed they cannot be confidential in nature. Yet, they are not publicly known.

These five requirements are not only in the public interest, they are also the requirements of promoting greater competition. The time is ripe for providing a legislative cover to these needs, since the State Bank is reportedly submitting (or has already submitted) a new draft Banking Act to the Government for enactment. The 19 Objectives of this draft Act, appended to the "10 year Strategy paper for the banking sector reforms" prepared by the State Bank has many useful recommendations pertaining to prudential regulation and better bank management. Yet, the promotion of competition is absent from these 19 declared objectives, possibly because the State Bank does not officially consider 'competition' to be part of its mandate. If so, it might be justifiably abstaining from it for jurisdictional reasons.

Whatever the reason for the State Bank's abstention, it is within the jurisdiction and ambit of responsibilities of the Competition Commission of Pakistan to propose to the Government the inclusion of the above five recommendations in the newly proposed revised Banking Act. This should be in addition to the CCP recommending to the Government that it should disallow the continual currency of PLS accounts under the guise of an Islamic practice, contrary to the Supreme Court judgment of 23 December 1999. Shorn of its Islamic credentials, the PLS is an unfair practice, a misleading advertisement that is actionable under the law.

Simultaneously, the Competition Commission needs to help create public awareness, preferably with full support from the State Bank of Pakistan, on the five-point disclosure and transparency agenda recommended in the previous paragraphs.

Insuring deposits

The first principle of safeguarding the public interest in banking must be to protect the depositors against bank failure and not vice versa. Yet, the State policy of providing a safe exit to the inefficient and failing banking firms is tantamount to protecting the banks rather than the interests of the borrowers

An explicit depositor protection scheme (DPS) has therefore been proposed in the new draft Banking Act that has reportedly been finalized by the State Bank. The Competition Commission should support this proposal, and the Government should enact it.

M&A impact assessment

A review of the philosophy of consolidation is warranted. Specifically, this implies the removal of current policy restrictions on new bank entry and consideration of the effects of mergers and assessments. No attempt has been made so far to evaluate the effects of the recent spate of mergers. Nor is there any procedure for an ex- ante assessment of the possible effects of mergers. The State Bank is not likely to assess the impact of M&A on competition, since anti-trust action or promotion of competition is not a part of its mandate. Consequently, it is up to the Competition Commission to put together a mechanism for merger assessment benchmarking.

Re-classification of product-market data

A more efficacious way of analyzing the impact of competition is to look within product markets rather than the banking 'industry'. This approach has been suggested throughout this Report. For further analysis, of the kind recommended here, it would of course be necessary, as a first step, to identify the product market segments as well as the relevant geographical markets. Without that there can be no meaningful view of competition that is actually taking place. However, this analysis requires primary data on product markets. In the case of the banking sector, the State Bank reports and publishes statistics on 85 categories of borrowers and depositors under 7 main heads of account. It also reports on 5 types of accounts that are further broken down under 36 rates of interest. The reporting schema also has 31 classifications of size of accounts. Identifying relevant market segments from these matrices is much-too complicated a task, and one that cannot be performed without re-classification of data, which can only be done by the State Bank.

Strategic group analysis

With such re-specification of data it would be feasible, indeed desirable, to look at competition within each of the significant product markets. The important question here would be to determine the entry and exit barriers and cost conditions surrounding different segments within the banking industry. The resultant strategic group analysis would possibly be the most wholesome and useful one for the Competition Commission. It should be the methodology of choice.

Public interest

Banking firms throughout the world have enjoyed a special status, owing to the existence of what the UK Review described as the informal contract between banks and successive governments.

In every competition jurisdiction this appears to be a very difficult problem that requires tackling. In the case of Pakistan, the problem is especially acute because of high profitability and high interest spreads that are an invitation to entry. Yet, fresh entry has effectively been foreclosed to any new

entrant from outside the "industry". This ultimate barrier to entry, buttressed by ancillary fortifications that have been pointed out in this report, strengthens the banks' position and prevents other potential service-providers from competing down the monopoly rents of commercial banks. It weakens the bargaining position of customers and limits consumer choice. In the final analysis, the Government will have to take the decision whether the payment system and the banking system need to be opened up in the public interest or whether they must remain closed in the interest of the bankers' oligarchy.

CHAPTER 1

METHODOLOGIES AND ISSUES IN BANKING COMPETITION

This chapter is devoted to a discussion of methodologies for analysis of competition in the banking sector. It includes a review of the competition issues that have been highlighted in the literature, the factors affecting competition, and the different approaches adopted to analyze them.

Three different sets of issues have been studied by analysts of banking sectors. The first set of issues relates to the effects of competition on efficiency, on access and on stability. The second relates to factors that promote or impair competition. The third set considers various techniques for analyzing competition.

I. EFFECTS OF COMPETITION

There has been a wide-ranging debate in the academic community on what effect competition has on the performance of banks and whether society benefits as a result, through heightened efficiency, greater access or stability of the system. The evidence is mixed; there appears to be no consensus on causes and effects. We will discuss the findings obtained so far from major studies throughout the world.

It appears that the effect of competition on efficiency has been found to be generally more unambiguously positive than the effect on either access or stability.

Effect of competition on efficiency

It would seem intuitively obvious that greater competition should result in greater efficiency. However, the direction of this causality has not been fully established. While studying the relationship between the two, researchers have postulated that efficiency gains (through economies of scale and scope, and, more recently, through applications of information technology) result in higher market shares for the more efficient banks, and that these higher market shares translate into greater market concentration. Since greater concentration has also been held to be a measure of decreased competition, it follows that efficiency gains can result in lowering competition. It must be noted here that, in this view, market concentration is endogenously driven and is not the exogenous (determining) variable that has been most popularly used in the majority of econometric studies explaining the performance of the banking sector. Two types of efficiency have been looked at: *X-efficiency* and economies of scale and

scope[1]. In the traditional X-efficiency hypothesis, higher quality management or production processes yield higher market shares; in the other case, banks producing at a more efficient scale reap greater market shares.

In both the above scenarios we are looking at static efficiencies. The end result in either case is better performance. Competition is only an ancillary issue and one of only marginal interest. This is true also of the PIDE study (Qayyum and Khan, 2007) on the banking sector in Pakistan.

A more meaningful approach has been the one that looks at competition leading directly to decreased costs in financial intermediation, greater innovation or higher quality of service. Here the theoretical as well as the empirical literature provides a positive relationship between competition and efficiency. Besanko and Thakor (1992) provide a theoretical model in which financial product heterogeneity and lower entry barriers result in lower interest rates for borrowers and higher interest rates for depositors. More competitive banking also leads to greater growth.

At the empirical plane of cross-country studies, Demirguc-Kunt, Laeven, and Levine (2004) find that concentration has a negative effect on efficiency. The caveat in this finding, based on data from 77 countries, is that concentration is not really a good-enough indicator (as we shall see later) of any measure of competition. None the less, Claessens (2008), in an overview of competition policies, concludes that greater competition in the banking sector enables greater growth among financially dependent industries, thus leading to better economic performance and, by implication, greater efficiency.

A better proof of the virtue of competition can be obtained by looking at gains in efficiency not from a static point of view but from a more dynamic perspective. Thus, Allen and Gale (2004) argue that competition in the banking sector, whilst it may lead to an individual failure, ensures greater innovation and hence greater efficiency in the entire financial system. This is a reflection of the overall Schumpeterian process of creative destruction that unfolds over time in all industrial economies[2].

Effect of competition on access

Competition-related factors that might increase or decrease access (on the part of firms or households) has not really been investigated much, with the exception of some studies done by the World Bank Research Department. Beck et al (2007) have examined data of 209 banks from 62 countries to come up with indicators for barriers to banking services, including those that

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[1] For a review of the literature specifically devoted to this aspect, see Degryse and Ongena, 2007, and for an international survey, see Allen and Rai, 1996.

[2] For a theoretical exposition of this process, see Winter, 1984. For another, more empirically-based case study of such competition over a 100-year period, see Ghazanfar, 1984, and Ghazanfar et al, 1988.

limit access, especially in underdeveloped countries. Barriers such as minimum account requirements, fees for maintaining accounts, documentation required and non-financial factors (e.g., infrastructure, freedom of media) have been noted.

In theory, it is the extent of competition prevailing in the market that influences banks' decisions regarding their particular business practices and determines who gets physical access to banking services, who can afford these services and what eligibility criteria are in force. Beck et al (2007) found correlations between a range of explanatory variables and 16 specific barriers classified under 'physical access', 'affordability', and 'eligibility' for both deposits and loans. Under physical access they considered locations at which a deposit account could be opened. Under affordability they considered the minimum amounts (relative to per capita GDP) required for opening and for maintaining both checking and savings accounts, as well as the annual fees for checking and savings accounts. On the lending side, their affordability indicators were the minimum amounts (as a percentage of per capita GDP) as well as the fees for consumer loans and SME loans. The indicators of 'eligibility' barriers were the number of days taken to open a checking or a savings account, and the number of days taken to process a consumer loan or an SME loan application.

Identification of these 16 barriers to access to financial services has been a significant step in pointing out how financial exclusion actually takes place and how it varies from country to country. Yet, the conclusion of the study is that—

> "while competitive banking systems are associated with lower barriers, there is no clear correlation of barriers with the actual market structure. Contrary to conventional wisdom, government banks are not associated with lower access barriers. ... foreign banks do charge higher deposit fees ... regulatory and supervisory policies that are less restrictive and rely more on private banks rather than on powerful supervisors are also associated with lower barriers." (Beck et al. 2007, p. 33)

There has also been a limited amount of research on what effect competition actually has on the behaviour of banks with regard to lending and deposit mobilization. Peterson and Rajan (1995) investigated the effect of competition on banks' lending rates and on credit availability. They showed that increase in competition resulted in a credit squeeze for new firms that had an easier access to credit (on lower rates) when the market was more concentrated. Similarly, there has been some research on the effect of competition on bank deposit rates. "Overall most papers find a negative impact of an increase in concentration on time and savings deposit rates, but as with the loan rate studies, the effects vary across samples and specifications." (Degryse and Ongena, 2007, p. 27)

Distance-related issues have also been looked at in the context of competition--- in particular, whether there is discriminatory pricing when the physical distance between the borrower and the lender, and the distance to the closest competitor, increases.

The World Bank (Finance and Private Sector Development Unit) has also conducted cross-country surveys on access to financial services (see World Bank, 2008a, 2008b, 2008c). In the case of Pakistan –

> "policy measures cannot single-handedly increase financial access; financial institutional willingness to expand access in Pakistan has been stinted by slow technological advances, weak legal foundations, and unsuitable financial processes and products. Poor socioeconomic conditions, gender bias, and low levels of basic education and financial literacy remain barriers, but perhaps the single strongest driver of low demand for financial access has been income." (Nenova and Niang, 2009).

In other words, increase in competition, according to this view, will not make any significant impact on providing greater access to banking services.

Effect of competition on stability

The effect of competition on stability has not been clearly established. According to conventional wisdom, too much competition undermined stability (Allen and Gale, 2004), even though this causality was not properly documented. Ever since the crisis of the 1930s the predominant view was that excessive competition was injurious to systemic stability. Thus, to ward off bank failures, financial crises and systemic defaults, policy makers encouraged consolidation and were not too keen on promoting competition. After World War II, this concern with stability (rather than competition) became more pronounced and remained so until the 1970s. In the post-1970s era of liberalization, the policy objective became less clear. The academic literature pointed now to a trade-off between stability and competition (see Allen and Gale, 2004).

The concern for stability may, however, have become paramount once again in the wake of the crisis engendered by the aggressively risky sub-prime lending in the U.S. The wave of consolidation throughout the world during the last two decades is also a reflection of stability being the central concern of bank regulators. Even though this consolidation may have posed problems for them, regulators have sought comfort in the "too big (or, too important) to fail" thesis. Bank regulators have focused on prudential regulations and on prudent behaviour rather than competitive behaviour.

The theory of the trade-off between stability and competition has not, however, been validated empirically. Part of the reason is that both stability and competition have been very difficult to define and measure.

Stability has been measured negatively, by way of bank distress (either of an individual bank or of the system), which has been defined as the inability to effectively perform the intermediation functions of deposit-taking, lending and servicing payments. According to Demirguc-Kunt and Detragiache (1998, 2002) this distress became systemic when 10% of total assets became non-performing, the cost of rescue became 2% of GDP, emergency measures (e.g. deposit freeze,

blanket guarantees, bank closures, etc.) or nationalization had to be resorted to. Under these criteria, there were 116 episodes of systemic distress in 113 countries in the period 1974-2002 (Honohan and Laeven, 2005). Individual bank distress has been measured through near-bankruptcy or non-performing loan ratio; neither measure considers actual bank failure (Beck, 2008).

Measuring competition has been equally complex and unsatisfactory. Theoretical models have equated market concentration measures with competition, on the spurious assumption that an increase in concentration leads to a lessening of competition and vice versa. Alongside these concentration ratios, researchers have used an H-statistic (more about this later) and contestability criteria (e.g. entry barriers, activity restrictions, regulatory regimes) as indices of competition.

Through these indicators (of stability/fragility and competition) researchers have sought to test two contradictory hypotheses regarding concentration/ competition and stability. The competition versus stability argument is couched in the competition-fragility hypothesis – that more concentrated (i.e., less competitive) banking systems are more stable because greater profits shield them against fragility and act as a disincentive for excessive risk-taking. This is the "charter value" view of banking. By contrast—

> "in more competitive environment, banks earn fewer informational rents from their relationship with borrowers, reducing their incentives to properly screen borrowers, again increasing the risk of fragility. These models thus predict that deregulation resulting in more entry and competition, such as in the U.S. in the 1970s and 1980s and in many emerging markets, would lead to more fragility." (Beck, 2008).

Evidence gathered at bank-level was also meant to show that increased competition in the 1980s led to banks paying out higher interest rates on deposit certificates, thus eroding their charter values, leading to greater fragility (Keeley, 1990).

Insofar as the stability of individual banks is concerned, "there is no clear conclusion from these different empirical studies on the validity of either the competition-stability or the competition-fragility hypotheses." (Beck, 2008)

Turning from bank-level studies to cross-country studies, time-series analyses of large panel data claim to have shown more positive results. Thus, 47 bank crises in 69 countries were analyzed for the period 1980-1997 to show that "concentrated banking systems are less likely to suffer systemic banking crises". However, since "bank concentration is not an indicator of the lack of competition, more competitive banking systems are also less likely to suffer systemic banking distress…. Overall, the cross-country evidence points mostly to a positive relationship between bank competition and stability, but yields mixed results on the relationship between concentration and stability." (Beck, 2008). Furthermore, entry restrictions or regulatory constraint placed by regulators on bank activities have adverse effects on stability (Barth, Caprio and Levine, 2004, and Beck, Demirguc-Kunt and Levine, 2006). These findings negate the

"charter value" argument and suggest that increased contestability (greater competition) can promote stability rather than undermine it.

II. FACTORS AFFECTING COMPETITION

Competition, as a policy requirement in the banking sector, has lagged behind other industries. It has not always been regarded as an unambiguous public good. Too much risk–taking has been frowned upon. Not surprisingly, therefore, the theory of what determines competition in this sector is inadequate.

One of the earliest investigations into factors that drive banking competition was done by Claessens and Laeven (2004). Using panel data from 50 countries for the period 1994-2001 they sought to relate banking and regulatory structures (and other institutional and economic indices of those countries) to a composite competitiveness measure (the H-statistic) in order to explain the determinants of national competition. They found "systems with greater foreign bank entry and fewer entry and activity restrictions to be more competitive (and) no evidence that competitiveness measure negatively relates to banking system concentration." The conclusion that emerged from this study was that contestability, and not market structure, was the most important determinant of competition, and, therefore, "having a contestable system may be more important than a system with low concentration" (Claessens and Laeven, 2004)

Bikker et al (2007) also considered a number of determinants of competition in a study of 101 countries for the period 1986-2004. Their finding regarding the effect of market structure was the same as that of Claessens and Laeven: contrary to conventional theory, market concentration had no significant impact on competition. However, this second study (Bikker et al) negated Claessens' and Laeven's earlier finding regarding the importance of foreign entry: foreign ownership of banks was not found now to be of much significance. Nevertheless, Bikker et al concluded that "the more attractive a country's investment climate is for outsiders, the more competitive its banking sector will be. Apparently, the possibility of foreign investors entering the country adds to the competitive pressure." Overall, the most significant determinant was found, again, to be contestability --- as measured by lack of restrictions on bank activities and on foreign investment.

Bikker and Spierdijk (2008) went on to study how competition had changed from 1986 to 2004. They found evidence of a decrease in competition, attributable to the predominant trend of consolidation. They also argued that –

> "as the share of traditional bank intermediation in total banking activities is currently declining in favour of more complex and tailor-made services, this opaqueness may over time gain in importance and reduce competition. Other market failures found are informal entry barriers, strong product differentiation, cross-ownership, bank productions' network properties, high search and switching costs, lack of substitution possibilities, insufficient consumer power, weak functioning intermediaries and consumers' financial illiteracy. Many of these structural weaknesses that harm competition are not unique for financial markets, but occur in many service industries."

On this basis, Bikker and Spierdijk (2009) have argued for stronger anti-trust regulation, free entry for foreign investment, and removal of cross-sector restrictions.

Effect of foreign investment

Foreign bank entry was significant in Claessens and Laeven (2004), but not in Bikker and Spierdijk (2007); yet Bikker and Spierdijk used it as a proxy for contestability to establish a significant bearing on competitiveness. Thus, it has been assumed for a long time that foreign entry is good for competition and for growth. Even though the beneficial effects of foreign entry, through newer and better products, may be difficult to quantify, foreign banks have been considered to exert a competitively healthy influence upon the host country, inducing greater domestic efficiency[3]. But, Claessens (2009) argues, on the basis of evidence from several developing countries, that this is not always an unmixed blessing.

Detragiache, Tressel and Gupta (2006) have argued that "several studies find that foreign banks in lower-income countries (LICs) lend predominantly to the safer and more transparent customers, such as multinational corporations, large domestic firms, or the government." They cite separate, independent studies on Eastern Europe, Anglophone Africa, Latin America, Mexico, India and Pakistan in support of this finding.

The literature on this subject abounds in contradictory findings. While some studies show that foreign entry appears to decrease interest margins and profits, indicating heightened competition, others show the opposite. Equally contradictory results have been presented on the effect of foreign banks on the availability of credit to the private sector (especially SMEs), on operating cost and on cost-efficiency. In less developed countries, foreign banks lend largely to large multinationals, whilst SMEs and households are denied access[4]. Claessens (2009) shows that underdeveloped countries are confronted with special difficulties, owing to their institutional weaknesses, and also that the nature and extent of competition is changing rapidly with technological change and globalization.

Detragiache, Tressel and Gupta (2006) argue that the developed countries and the underdeveloped countries constitute two different worlds. While there are no adverse effects of foreign banks in the developed world, in the undeveloped countries foreign bank presence is associated with less access to credit for the private sector. Thus, domestic customers may be worse off as a result of foreign entry.

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[3] Chopra, 2007, has reviewed this literature.

[4] See Sengupta, 2007, for a model explaining this.

In line with this hypothesis and the empirical evidence cited by these researchers, it has been shown that domestic private banks are better equipped (because of superior knowledge of local conditions) than foreign banks to lend to "informationally opaque" borrowers about whose entrepreneurship and reliability they can form a better judgment based on "soft" information. By contrast, foreign banks rely on "hard" accounting data, processed from a distance, and end up lending only to safe ("informationally transparent") borrowers, thereby skimming off the cream. This need not, however, lead to a welfare loss, since domestic banks may not necessarily get driven out of the market. On the contrary, this forced segmentation of the market can spur domestic banks into making more profitable lending, albeit to more opaque borrowers.

An important empirical study in this regard is that of 80,000 business loans in Pakistan to "informationally opaque" borrowers (Mian, 2006). Domestic Pakistani banks also appear to have had greater success than their foreign counterparts in making recoveries from these borrowers. The explanation lies in the distance constraints (cultural and geographic) of overseas banks. Foreign management (ownership) relies more on hard data-based monitoring than on local discretion. Mian's findings (in 2006) on the Pakistani market corroborate his earlier (Mian, 2003) study of 1,600 banks in 100 emerging markets. His earlier empirical investigation was the first study to explain behavioural and performance-related differences in the banking sector in terms of differences in organizational design. The organizational aspect, as a determining (and explanatory) variable, has been looked at extensively in a wide-range of competitive strategy analyses across many other, and very different, industries; but Mian (2003, 2006) might well have been the first to break away from the traditional structural approach of banking-sector studies and examine the organizational aspect within this sector.

III. TECHNIQUES FOR ANALYSING COMPETITION

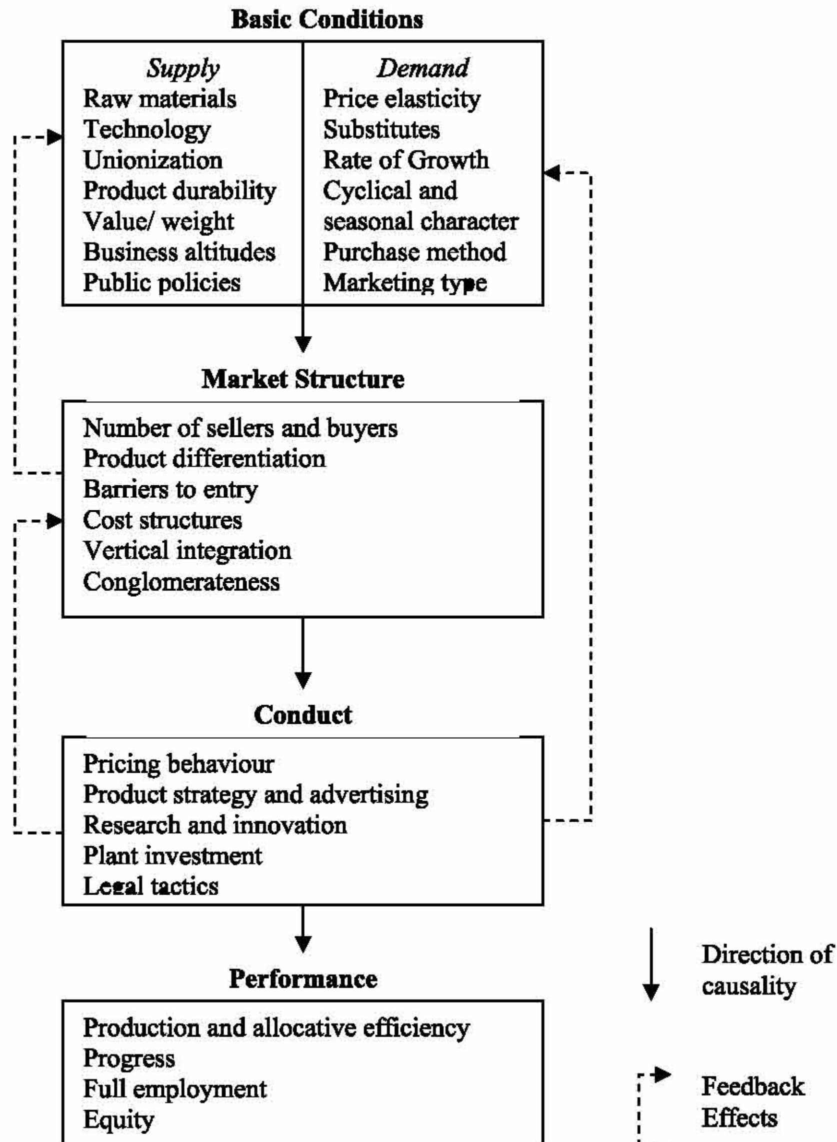
There have been three approaches to the analysis of competition in the banking sector: (i) the structural approach, based on the Structure-Conduct-Performance model, that looks at competition being driven by market structure, (ii) the contestability approach in which competition is analyzed in terms of entry barriers and regulatory restrictions, or otherwise, and (iii) the approach of formal competition indicators such as the H-statistic.

Structure-Conduct-Performance Model

Conventional analyses of industries, to which the banking industry is no exception, have, for the most part, used the Structure-Conduct-Performance (SCP) methodology of Industrial Organization. Introduced by Edward Mason at Harvard in the 1930s (see Mason, 1939, 1949), developed by Bain (1956, 1959) and spelt out in its most extensive and popular form by Scherer (1970), the model assumes that the structure of an industry determines the conduct of the incumbent firms, which in turn determines the performance of that industry.(See Figure 1.1)

From the 1950's to the 1970's almost all industrial analyses followed this simplistic model, with the further simplifying condition of the "conduct" of the firms usually being solved out of the equation and the direction of causality running directly from "structure" to "performance." A very large number of econometric studies applied this methodology to every conceivable industry, with scarce regard to the fact that the simplifying assumptions of the model were so far removed from the reality of industrial behaviour that the results obtained could only be of academic interest and held no practical relevance for business.

Figure 1.1: Structure-Conduct-Performance (SCP) Model of Industrial Organization



Source: Scherer (1970, p. 4)

Disaffection with the SCP methodology during the 1970s led to the adoption of different approaches to an analysis not only of industrial performance but also of the competition within industries. The new frameworks of inquiry were influenced more by the emerging field of Strategic Management than by the discipline of Economics, as had been the case previously, although economic concepts continued to be used quite effectively as analytical tools rather than as abstract theories.

The main variables of "structure", in accordance with Bain and Mason, were the number and size distribution of the firms in the industry, the extent of product differentiation, economies of scale and barriers to entry. Most of these variables were difficult to measure and quantify, with the exception of the number and sizes of the firms in the industry. Researchers therefore latched on to the simplest of indicators to serve as surrogates of "structure". The most commonly used indicator was market concentration, measured as a ratio of the top 5 (or 3, or some other convenient number) firms' share in the output of the industry. A more refined measure was the Herfindahl-Hirschman Index (HHI), which was a sum of the products (squares) of the individual market shares of all the firms in the industry.

The SCP model also made a number of other untenable assumptions. For instance, all firms in the industry were assumed to be single-product firms selling to the same market. The term "market" and the term "industry" were used interchangeably as if they meant the same thing. Moreover, the "industry" was assumed to be a neatly defined entity, with precise and fixed boundaries conforming to a Standard Industrial Classification. Firms were either within an industry or outside it; they could not belong to more than one industry, any more than they could sell more than one product.

Today, SCP has lost its appeal in studies of Industrial Organization. However, in studies of the banking sector, it continues to be the preferred model. Competition analysis has come late to the banking industry (Claessens, 2009, p.4) and perhaps that is why an outdated methodology persists here --- developments in competition theory over the last thirty years do not seem to have caught up in this sector. By and large, all academic studies of competition in the banking sector during the past 10 years have either been econometric studies seeking to explain performance through a structural analysis of the industry (financial sector of the country or across countries) or statistical studies of "conduct". In almost all cases the dependent variable has been "performance," with the further tendency to regard the extent of *competition* prevailing in the industry as an outcome of *performance* and of *structure* (the exogenous variable). The results have been completely inconclusive and unsatisfactory. They could not possibly have been otherwise.

It had been hypothesized, for instance, for almost a decade, that an increase in concentration (the fewer the firms in the industry) would lead naturally to a decrease in competition. An alternative hypothesis maintained that a greater degree of competition would ensure greater efficiency (and the survival of only the fittest), which would lead to greater concentration. However, the academic community has now (only recently) come to the conclusion (see Bikker and Spierdijk,

2009) that there is no evidence to suggest that concentration impairs competition or that competition results in concentration.

It had also been theorized that larger banks were more likely to collude among themselves and exploit their monopoly power; but, economic analyses have not borne out this contention either. Nor has any market structure variable (e.g., number of banks, concentration) been found to have any impact on market power across 76 countries studied by Bikker, Spierdijk, Finnie, 2007).

Contestability approach

The second approach, of looking at *contestability* rather than the structure of the market, has been somewhat more helpful. A contestable market is characterized by the absence of entry and exit barriers, minimal activity restrictions across industries and other institutional constraints. A contestable market ensures easy access (by households and businesses) to financial services.

Claessens and Laeven (2004) examined entry barriers and activity restrictions in a cross-section of 50 countries and found that systems that allowed greater foreign bank entry and had less banking activity restrictions were more competitive. Using foreign investment as a proxy for contestability, Bikker, Spierdijk, Finnie (2007) also found the same relationship, though in a subsequent analysis Bikker and Spierdijk (2009, p. 18) have reported that "foreign ownership does not play a significant role" in explaining competition. The welfare considerations ensuing from foreign bank entry (and ownership) have already been discussed.

In a contestable market, the threat of entry can be even more significant than actual entry. Even under a monopoly (Xerox in the 1960s, for example) super-normal profits can whet the appetite of potential entrants to break entry barriers (patents in the case of Xerox), leading to a more competitive outcome. This is an important subject of study in the literature on Strategic Management (see Porter, 1980; Ghazanfar, 1984), but has so far been absent in the banking studies, though Claessens (2009, p.8) does mention it as a point of theoretical interest.

H-Statistic

The most influential banking studies to date have been of the third kind --- using formal competition indicators. In these studies the emphasis shifts away from the structure of the industry and on to the "conduct" of the firms, and, in order to gauge whether the firms (in the banking industry) are conducting themselves competitively (or otherwise, acting in collusion), researchers want to look at their price-cost margins (PCM) or price mark-ups. The assumption here is that inordinately high PCMs reflect monopoly rents. It is a fair assumption. The problem, however, is that data on each bank's input costs are seldom, if ever, available, making the price-markup impossible to calculate directly---least of all for each product.

To overcome this problem, surrogate indicators have been used: for instance, the price (or interest) elasticity of demand. This too does not lend itself to careful observation or precise measurement. Nevertheless, it has been most frequently used in conjunction with "conjectural variation" (CV), which is the expected magnitude (in terms of changes in price or output) of the response of competitors. Unfortunately, CV does not lend itself to precise observation or measurement either.

None the less, the price/interest elasticity of demand (PED) and conjectural variation (CV) form part of the PCM equation of proxy indicators of competition in the theoretical model that deduces the conduct of firms in an oligopoly (see Bikker and Spierdijk, 2009, pp. 12-13):

$$PCM = HHI * PED * (1 + CV)$$ [5]

This theoretical model is no more than a composite of simpler (albeit difficult to observe) proxy indicators --- income: cost ratio, price- cost margin, interest rates margin --- that have been used by themselves or in conjunction with structural indicators such as the HHI, number of banks and their size distribution.

A number of other theoretical models have also been derived from the above equation (see Bresnahan, 1989, and Boone, et al, 2007). The most famous of these, and one that has been used most extensively, is Panzar and Rosse, 1987 (PR).

The PR model measures the change in the individual bank's, or the banking industry's, revenues (or profitability) as a result of changes in the prices (or costs) of factor inputs. In other words, it seeks to measure the interest/price elasticity of demand prevailing in the market. The theory behind this model is that, under a monopoly, this elasticity is close to zero (demand being inelastic), since the monopolist is not bound to vary his price/ output decisions in direct response to any competitor's prices or to a change in input factor prices. The opposite is true of perfect competition, in which case there is perfect elasticity of demand (unit elasticity being equal to 1) and a change in input prices can be expected to result in a correspondingly equal change in marginal costs, output prices and total revenues (other things also remaining equal and the industry assumed to be in a state of equilibrium). In this scenario, a change in the output price of one firm is matched by that of its competitors and the market reverts to the 'limit price' equilibrium where marginal cost equals marginal price and no firm can earn any rents.

In applying the PR model in practice, three different input prices are taken into account – namely, those of:

(i) deposits ---- the ratio between annual interest payments and total assets
(ii) wages ---the ratio between personnel expenses and total assets
(iii) capital --- the ratio between capital expenses and total assets

[5] HHI is the Herfindahl-Hirschman index of concentration.

The cumulative effect of the price elasticity of these three inputs is then calculated in order to arrive at the sum of the elasticity of the total interest revenues of the banks with regard to factor input prices. This summation of elasticities yields a composite H-statistic.

The H-statistic lies between zero (it can also be negative) for monopoly and 1 for perfect competition. The range in between denotes shades and degrees of monopolistic competition.

Classens and Laeven (2004) applied the PR methodology to calculate the H-statistic for 50 countries using 1994-2001 banking data. They also regressed these H-statistics on a variety of characteristics (for each country) in order to explain the underlying factors determining competition, as discussed earlier.

The PR methodology was also applied by Bikker et al (2006) to derive H-statistics for 101 countries. The resultant H-values were also explained (again through a regression analysis) in terms of similar factors that were specified to be the determinants of competition. The conclusions of both empirical studies with regard to factors determining competition are not startling, insofar as both studies conclude that contestability and institutional framework, not market structure, matter most.

The real problem lies with the H values obtained for most of the countries. As an example of the results coming out of the two studies for the competitiveness of the banking systems of some of the countries, *Table 1.1* shows the different H-statistics of various countries.

It would be seen that Finland and Austria, usually considered to represent one of the most competitive environments and ranked number 21 and 18 in the Financial Development Index (2008) have the least competitive banking systems, with H statistics of (-)0.27 and 0.07 respectively. Hong Kong has an H-statistic of 0.00. By contrast the highest values are for Bolivia (0.99), Bangladesh (0.98), while the statistics for China (1.57), Costa Rica (1.08), Ireland (1.11), Macedonia (1.08), Senegal (1.06) exceed the benchmark (value of 1) of perfect competition.