Do performance and environmental conditions behave as barriers for cross-country banking activity in Europe?
Ana Lozano-Vivas & Jesús T. Pastor

Our paper shows how the efficiency scores of the commercial banks of a given European country will change if they decide to move to a different European country. Our experiment is performed over a sample of 700 banks belonging to 11 different European countries. We propose to perform a specific analysis for each pair of European countries. We consider each time three types of DEA models. The internal model, which considers the banking inputs and outputs and the banks of a single country. The basic model, which considers the same variables as the internal model but the banks of the two countries under study, and the complete model which adds to the basic model the set of environmental variables. These three models allow us to measure the technical as well as the environmental variable gaps between the two considered countries. In this way, we are able to predict the new efficiency score of any bank that decides to operate in a different country. This information is useful to know whether performance technology and the particular environmental conditions of the country banking industry behave as entry barrier for cross-border banking activity. The results indicate, as expected, that being technologically good appears to be a significant deterrence to foreign competition and that adverse environmental conditions constitute a real barrier for the foreign banking industries.

Efficient, Profitable and Safe Banking: An Oxymoron? A Panel VAR Approach
Michael Koetter & Daniel Porath

Cost and profit efficiency (CE and PE) are key to evaluate bank performance. But efficiency improvements may imply deteriorating profitability and excessive risk-taking. The dynamic reactions of performance in response to efficiency changes remain unclear on both theoretical and empirical grounds. We use panel data provided by the German central bank to estimate impulse response functions derived from a vector autoregressive model to measure the response of profitability (ROA) and probabilities of default (PD) to efficiency shocks. A unit shift in efficiency reduces PD's and increases ROA. The long-run impact of PE on risk is larger than for CE, but the latter reduces PD's faster. CE has a slightly larger impact on profits than PE. In sum, efficient and stable banking do not contradict each other.

Value Creation in European Banking
Phil Molyneux & Franco Fiordelisi

This paper empirically investigates the determinants of shareholder value creation in European banking focussing on both listed and non-listed European banks over 1995-2002. We find that bank’s cost and profit efficiency have a positive influence on shareholder value creation. Leverage is also found to be inversely related to shareholder value creation suggesting that highly capitalised banks are more likely to generate value for their owners compared with lowly capitalised counterparts. Other factors that are found to impact positively on value creation include depositor and borrower satisfaction, market concentration and employee costs. We explain the positive relationship between staff costs and value creation as a consequence of higher expenses reflecting better quality or ‘satisfied’ bank employees which in turn results in greater value creation. Finally, substantial variations exist in shareholder value creation across European countries, bank ownership types and also over time.

Italy—Assessing Competition and Efficiency in the Banking System
Paulo Drummond, Andrea M. Maechler & Sandra Marcelino

The paper assesses the degree of banking competition and efficiency in Italy—over time as well as compared to that in other countries, such as France, Germany, Spain, the United Kingdom, and the
United States. The paper finds competition in the Italian banking sector has intensified in loan and deposit markets in recent years, but banks still operate in a high-cost, high-income system, particularly with respect to retail/services, and efficiency gains have yet to fully materialize. The degree of competition falls within the range of estimates for a set of comparator countries. Greater contestability should act as a powerful force to drive banks to become more competitive and efficient. Competition policy will also continue to be an important consideration, both in enforcing Italy’s antitrust laws and in ensuring that the procedures for dealing with weak banks and other merger and acquisition reviews focus on stability and competition objectives.

**Bank efficiency and Capital Markets**
Iftekhar Hasan  
TBA

**Is there a Single Frontier in a Single European Banking Market?**  
Jaap W.B. Bos & Heiko Schmiedel  
This paper attempts to estimate comparable efficiency scores for European banks operating in the Single Market in the EU. Using a data set of more than 5000 large commercial banks from all major European banking markets over the period 1993-2004, the application of meta-frontiers enables us to assess the existence of a single and integrated European banking market. We find evidence in favor of a single European banking market characterized by cost and profit meta-frontiers. However, compared to the meta-frontier estimations, pooled frontier estimations tend to underestimate efficiency levels and correlate poorly with country-specific frontier efficiency ranks.

**The effect of the environment on profit efficiency of bank branches**  
Mohamed E. Chaffai & Michel Dietsch  
The banking efficiency literature has two main peculiarities: (i) it focused mainly on cost efficiency; (ii) most of works in that field have been devoted to measure the efficiency at the bank level. Concerning the first point, it has been proved that profitability is a better measure to be considered when the objective is to measure bank performance. Concerning the second point, among the numerous papers devoted to bank efficiency measurement very few have been devoted to the issue of efficiency at the branch level. Another important issue addressed in this paper is the link between profit efficiency and environment. Dietsch and Lozano Vivas (2000) find evidence in France and Spain, that environment is an important component while comparing cost inefficiency of banks at the industry level. In their study, the authors show that the introduction of environmental variables, macroeconomic, and bank structure and regulation variables in the cost frontier model reduce the cost inefficiency gap between the two countries studied. However, they do not propose a specific measure of the inefficiency related to environment. This paper contributes in this field by showing on the environment effect at the branch level. We also propose a measure of environment on technical inefficiency.

**Profit and Productivity: Differences Across Organizational Form**  
Emili Grifell-Tatjé & C. A. Knox Lovell  
We examine variation in financial performance, both across organizational form and through time. Because variation in financial performance may be driven by variation in productivity, we also examine variation in productivity, again across organizational form and through time. The organizational forms we consider are Spanish commercial banks, savings banks and financial cooperatives, and the time period is 1993-2004. We decompose multilateral variation in profit into price variation and quantity variation. We then decompose multilateral quantity variation into margin variation and productivity variation. Finally, we decompose multilateral productivity variation into
variation in technology, variation in cost efficiency and variation in scale. We find variation in financial performance across the three organizational forms, some of which is attributable to variation in productivity, although the nature of the relationship is sensitive to the financial performance indicator used. We also find that deregulation and liberalization have acted to narrow performance gaps among organizational forms. However evidence that the mechanism through which convergence has occurred is increased competition is not compelling.

POSTER PRESENTATIONS

Do infrastructure and banking efficiency boost productivity? Evidence from Italian manufacturing firms
Francesco Aiello, Camilla Mastromarco & Angelo Zago
We investigate the determinants of output growth using data for Italian manufacturing firms. Applying stochastic frontier techniques, we decompose output growth into factor accumulation and TFP growth. The latter is further decomposed into technological change, efficiency change, and scale effects. We find that both input accumulation and factor growth are important in explaining output growth. In addition, the efficiency change (technological catch-up) is the most significant component of productivity growth. Using a specific formulation of the asymmetric error component, we also show that banking efficiency and public infrastructure have statistically significant and economically relevant effects on the technological catch-up.

Banking Industry Consolidation and Macroeconomic Differences
Luca Colombo & Giberto Turati
We study whether macroeconomic conditions in different areas have an impact on the magnitude and direction of the concentration process of a banking industry. Our analysis is focused on Italy, that provides an ideal setting to investigate the role of macroeconomic variables, due to the wide and persistent economic differences observed across regions. By using probit and count data (ZIP) models to study the consolidation of the Italian banking sector in the second half the 1990s, we document a significant and novel direct impact of the local ‘business environment’ on the concentration of the industry at the regional level. This effect complements the well known indirect effect of macroeconomic characteristics on the profitability and efficiency of banks. We also show that institutional and organizational variables affect the likelihood and number of M&A deals, and help explaining differences in performance. Our results appear to be robust to different specifications, and to a number of robustness checks, including alternative sets of variables defining local ‘macroeconomic conditions’.

Bad Loans and Efficiency in Italian Banks
Paola Dongili & Angelo Zago
We estimate banks’ technical efficiency taking into account bad loans by using directional distance functions, a generalization of the radial distance functions. Using these functional representations of technology it is possible to credit banks for their efforts to increase outputs and decrease bad loans and resource use. We find that once bad loans are considered, the efficiency of banks increase significantly. In addition, omitting bad loans may underestimate the performance of better credit quality banks. These results suggest that a significant aspect of banking production - credit quality - needs to be considered when evaluating banks’ performances for regulatory purposes.
The Long Run Intermediation Efficiency of Swiss Bank, 1906-2005
Dirk Drechsel & Ulrich Woitek

This paper measures technical efficiencies for Swiss Banks via Stochastic Frontier Analysis in a historical context. In particular, the indirect intermediation approach will be applied onto a new data set with time series for all Swiss Banks in the period 1906-2005. Given a higher intermediation efficiency in providing financial services to the customers, the service fees and the effectively charged rate on credit will decline in a competitive environment. This might raise the incentive for firms to invest and for households to consume. Because of the high degree of stability, data on the Swiss banking industry are more reliable than for other economies. Recently Weill (2004), Rime and Stiroh (2003) and others estimated the intermediation efficiencies for Swiss banks from 1992 onwards. The contribution of this paper is to extend the observation period to the entire 20th century with data on a heterogeneous set of Swiss banks: major banking houses, cantonal state banks, savings and local banks, commercial banks, consumer loan banks, stock exchange banks, private banks, finance and investment societies, cooperatives, foreign banks and foreign owned banks. The investigation on the performance of the different kind of banks includes events such as the two World Wars, the Great Depression, the end of Bretton-Woods, the real estate and business loans crisis of the early 1990s and the New Economy crash. Stochastic Frontier Analysis helps to distinguish between productivity changes, input factor accumulation and technical efficiency. The stochastic efficiency measure for the intermediation approach shows how good certain banks are in providing financial services. These efficiency measures will be compared over time and individual banking efficiency patterns will be identified.