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A new data set on bank competition in national banking markets

Sofronis Clerides, Manthos D. Delis and Sotirios Kokas

Department of Economics, University of Cyprus, P.O. Box 20537, 1678 Nicosia, Cyprus
Tel.: +357-22893700, Fax: +357-22895028, Web site: www.econ.ucy.ac.cy

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Sofronis Clerides
Department of Economics, University of Cyprus
CY-1678, Nicosia
Email: s.clerides@ucy.ac.cy

Manthos D. Delis
Finance Group, Surrey Business School, University of Surrey
Guildford, GU2 7XH, UK
Email: m.delis@surrey.ac.uk

Sotirios Kokas
Department of Economics, University of Cyprus
CY-1678, Nicosia
Email: skokas01@ucy.ac.cy

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Abstract

We estimate the degree of competition in the banking sectors of 148 countries worldwide over the period 1997-2010. We employ three methods, namely those of Lerner (1934), Koetter, Kolari and Spierdijk (2012) and Boone (2008a). For the estimation of marginal cost required under all methods, we use the semi-parametric methodology of Delis (2012) that allows increasing the flexibility of the functional form imposed on the cost function. All three indices show that the competitive conditions in banking have deteriorated on average during the period 1997-2006. This trend reverses until 2008, while in 2009 and 2010 market power again increases. Thus, we provide evidence that the competitive conditions are correlated with financial stability. The empirical results also highlight important differences between regional and income groups of countries. On average, the banking systems of Sub-Saharan Africa and subsequently of East Asia and Pacific are the least competitive, while the banking systems of Europe and Central Asia and South Asia seem to be the most competitive ones. Further, the non-OECD countries characterized by either high- or low-income levels have less competitive banking sectors, while middle-income countries have more competitive banking sectors. For the OECD countries the results of the Lerner-type indices and the method by Boone (2008a) give conflicting results.

Keywords: Bank competition, Semi-parametric estimation, World sample

1. Introduction

The objective of this paper is to present a new set of estimates for bank competition in 148 countries for the period 1997-2010. Competition is measured in terms of the Lerner index, the adjusted-Lerner index and the profit elasticity (otherwise known as Boone indicator).

The issue of competition in the banking sector has attracted much interest in recent years, not least because of the financial crisis. Alongside the usual concerns about competition, the issue has additional significance in banking because of the sector's crucial role in the allocation of credit. Economic development relies upon financial intermediation services that link users and providers of capital and allow consumption decision to be smoothed over time. There are at least three key questions of interest in the theoretical and empirical literature. First, does the degree of bank competition impact the efficiency of credit allocation (Cetorelli and Strahan, 2006; Bonnacorsi and Dell'Ariccia, 2004)? Second, how does the intensity of competition affect the financial system's stability (Keeley, 1990; Boyd and De Nicolo, 2005)? Third, what are the macroeconomic outcomes of banking-sector competition (Cetorelli, 2004)?

To address these important questions, one first needs to come up with measures of the intensity of bank competition. One approach adopted in some earlier studies (e.g., Cetorelli and Strahan, 2006) is to use concentration-based measures as a proxy for bank competition. There is however a growing consensus that concentration measures, useful as they may be in revealing important structural characteristics of the industry, are not good proxies for bank competition (Beck, Demirguc-Kunt and Levine, 2006; Claessens and Laeven, 2004). Instead, the related literature favors measures like the price-cost margin or Lerner index (Lerner, 1934), the adjusted-Lerner index (Koetter, Kolari and Spierdijk, 2012), the H-statistic (Panzar and Rosse, 1987), and the profit elasticity (Griffith, Boone and Harrison, 2005; Boone, van Ours and van der

Wiel, 2007). All but the H-statistic require knowledge of marginal cost. Given that data on marginal cost are not publicly available, an important first step in the construction of a competition index is the estimation of marginal cost.

This paper contributes to the literature on bank competition in four important ways. First, we use a novel technique to obtain accurate estimates of marginal cost and market power for each observation in the sample. More precisely, we use the smooth coefficient model, a semiparametric approach that allows for a flexible cost structure. Second, we have the broadest coverage compared to all existing studies, with 148 countries from 1997 to 2010. While most studies focus on a specific region or income group of countries, our dataset allows studying the degree of within-country banking competition in a large number of countries. With coverage up to 2010, we are also able to analyze the evolution of banking competition during the financial crisis. Third, we compute all three different indicators favored by the recent banking literature, namely the Lerner index, the adjusted-Lerner index and the profit elasticity. Fourth, we clean the raw bank-level data required to estimate these indices from double-counting stemming from mergers and acquisitions, ownership issues, inflexible features of the Bankscope database, and other problems.

All indices indicate significant changes in banking competition over time and across income and regional classification. The Lerner index, the adjusted-Lerner index and the profit elasticity produce similar patterns of competition over time. At the same time, all three indices show that competitive conditions deteriorated on average during the period 1997-2006. This trend reverses until 2008, while in 2009 and 2010 market power again increases. This trend raises interesting questions about the relationship between competitive conditions and financial stability. Notably, during the upward phase of the business cycle the bank competition seems to deteriorate on average. In contrast, during worsening economic conditions, competition increases.

The empirical results also highlight important differences across regions and income groups. On average, the banking systems of Sub-Saharan Africa and subsequently of East Asia and Pacific are the least competitive, while the banking systems of Europe and Central Asia and South Asia are the most competitive ones. Further, non-OECD countries characterized by either high- or low-income levels have less competitive banking sectors, while middle-income countries have relatively competitive banking sectors. For the OECD countries the results between the Lerner-type indices and the profit elasticity give conflicting results. In particular, the various Lerner-type indices agree that bank market power is lower in OECD countries, while the profit-elasticity index shows that OECD countries have, on average, relatively high market power.

The structure of the paper is as follows. Section 2 presents an overview of the measures of banking competition favored by the related empirical literature. Section 3 describes our data and the empirical methodology. Section 4 presents the empirical results on the various indices of bank competition. Section 5 concludes.

2. Empirical methods for the estimation of competition

Estimation of competition (inverse of market power) is heavily influenced by the New Empirical Industrial Organization (NEIO) literature. This literature has been developed primarily from the models of Iwata (1974), Bresnahan (1982), and Panzar and Rosse (1987).[1] The most widely and popular tool used for the estimation of bank market power is the Lerner (1934) index. The main reasons for its popularity are its simplicity, its straightforward interpretation, and the fact that it does not pose stringent data requirements. The Lerner index shows the ability of an individual

[1] The H-statistic of Panzar and Rosse (1987) is also used routinely in the banking literature to assess the degree of competition. The disadvantage of this model is that it maps the various degrees of market power only weakly and, thus, cannot be viewed as a continuous variable. Bikker et al (2009) argue that the only hypothesis that can actually be tested using the H-statistic is whether the bank operates in long run equilibrium.

bank to charge a price above marginal cost. Formally, it is defined as

$$Lerner_i = \frac{P_i - mc_i}{P_i} \ , \tag{1}$$

where P_i and mc_i are firm *i*'s price and marginal cost respectively. The Lerner index ranges between 0 and 1, with zero corresponding to perfect competition and larger values reflecting greater market power (less competition).

Koetter, Kolari and Spierdijk (2012) point out that the conventional approach of computing the Lerner index assumes both profit efficiency (optimal choice of prices) and cost efficiency (optimal choice of inputs by firms). As a result, the estimated price-cost margins do not correctly measure the true extent of market power. The authors propose a correction in the form of the efficiency-adjusted Lerner index:

$$adjusted\ Lerner_i = \frac{\pi_i + tc_i - mc_i \cdot q_i}{\pi_i + tc_i} \ , \tag{2}$$

where π_i is the profit of bank *i*, *tc* is the total cost, *mc* is the marginal cost and *q* is the total output. Like the standard Lerner index, the adjusted Lerner ranges from 0-1, with larger values indicating greater market power. A thorough discussion of this index is provided by Koetter, Kolari and Spierdijk (2012).

The profit elasticity (Boone indicator) is an estimate of the percentage decrease in profits resulting from a 1 percent increase in the marginal cost:

$$profit\ elasticity_i = \frac{\partial \ln \pi_i}{\partial \ln mc_i} \ . \tag{3}$$

The implicit idea for this measure is that an increase in competition - due either to a decrease in entry costs or to goods becoming closer substitutes - will increase the profits of an efficient bank relative to the profits of a less efficient bank. In addition, the difference between profits will

increase when the market is more competitive, as the more efficient market will penalize the least efficient bank more severely. In other words, the profit elasticity links bank performance with differences in efficiency (in terms of marginal cost).

Boone, Griffith and Harrison (2005) suggest that the profit elasticity can be estimated from the equation:

$$\ln \pi_i = \alpha + \beta \ln mc_i \,. \qquad (4)$$

The coefficient β is the profit-elasticity index of market power and it should be negative, given that profits and marginal cost have a negative relationship. In other words, a larger β in absolute value reflects a more competitive industry. For example, if β = -0.2, a 1 percent increase in the marginal cost (due to a decrease in the efficiency level) of bank *i* will decrease its profits by 0.2 percent. If β = -0.5, a 1 percent increase in the marginal cost of bank *i* will decrease its profits by 0.5 percent. Hence, a large absolute value of β can be interpreted as a reduction in the "ability" of the bank to affect its losses due to an increase in competition, implying that β serves as a continuous indicator of market power. Intuitively, equation (4) examines the relationship between profits and marginal cost; or, differently phrased, the indirect relationship between profits and efficiency. Profit elasticity has already been used in empirical applications in various industries (e.g., Delis, 2012; Van Leuvensteijn, Sorensen, Bikker and van Rixtel, 2013; Boone and Van Leuvensteijn, 2010). For the analytical framework rationalizing the use of this measure, see Boone, Griffith and Harrison (2005).

It is worth pointing out that a measure of the profit elasticity can be derived from the adjusted-Lerner index by solving for π in equation (2) and differentiating with respect to marginal cost. The result is

$$profit\ elasticity_i = \frac{q_i \cdot mc_i}{q_i \cdot mc_i - tc_i\left(1 - adjusted\ Lerner_i\right)} \,. \qquad (5)$$

Hence, the adjusted Lerner and profit elasticity are two closely related concepts.

The Lerner, adjusted-Lerner and profit-elasticity indices each have their own merits and drawbacks. Simplicity and direct applicability to empirical studies are strong arguments in favor of the Lerner and adjusted-Lerner indices, while the existence of a solid theoretical foundation seems to favor profit-elasticity index. In particular, Stiglitz (1989) and Boone (2008b) show that a rise in competition can actually yield an increase in the Lerner Index. In contrast, the recent work of Schiersch and Schmidt-Ehmcke (2010) shows that profit elasticity makes critical assumptions relative to firm size (the biggest firms are assumed to be the most efficient) and relative to the definition of the extent of the market.

In this study we do not take a stand on which measure better reflects competition. We use all three indices described above to measure banking-sector competition in a broad sample of 148 countries. We make all estimates available to the wider research community and let researchers decide which indicator is preferable, given the objectives of their research agenda. In fact, we will claim in the next section that probably the most important issue underlying all indices is the robust estimation of marginal cost at the bank-year level, which is required under all approaches.

3. Data and methodology

3.1. Data

Like many other banking studies, we rely on Bankscope as our primary source of bank-level data. Our sample covers the period 1997-2010. We do not consider earlier years because of concerns associated with coverage and accounting issues. We focus on commercial banks, savings banks and cooperative banks. We exclude real-estate and mortgage banks, investment banks, other non-banking credit institutions (mainly operating in Germany), specialized governmental credit

institutions, bank-holding and other holding companies.[2] Besides bank-holding companies, the excluded institutions are less dependent on the traditional intermediation function and have a different financing structure compared to our focus group. Therefore, in this study we focus on the market power of banks carrying out traditional banking activities. The inclusion of bank-holding companies can lead to double counting, as these are corporations controlling one or more banks. We always check that we have the subsidiaries of these companies in the sample to avoid false exclusion of some banks. Further, we have included in our sample only countries that had at least three banks in each year of our panel.

We apply three further selection rules to avoid including duplicates in our sample. This is an essential part of the sample-selection process and is absent in most empirical studies using the Bankscope database (for a similar strategy with ours, see Claessens and van Horen, 2012). First, even though we do not include bank-holding companies, we still need to exclude double entries between parent banks and subsidiaries.[3] Bankscope's consolidation code system allows downloading either consolidated or unconsolidated statements, but in some cases information on either unconsolidated or consolidated statements of certain banks is not available.[4] We use either the consolidated or the unconsolidated statement depending on which one is available. This is a non-trivial choice and requires the re-examination of all banks on an individual basis to avoid double counting. Notably, there are cases of banks with subsidiaries in domestic or in foreign countries and one should be very careful in avoiding double-counting of subsidiaries that are

[2] The main activities of the excluded financial institutions relate to the following: provide mortgages; assist corporations and governments in a range of services (e.g., M&A's, raising capital, etc.); provide credit to public sectors; provide funding for public or municipal projects.

[3] For the determination of the subsidiary we follow the definition generally applied in the literature, i.e. 50% or more of the shares of the subsidiary owned by the parent bank.

[4] A consolidated statement is the statement of a bank integrating the statements of its subsidiaries or branches. An unconsolidated statement does not integrate subsidiaries.

established, for example, in a foreign country.[5]

Second, we account for mergers and acquisitions (M&A's). We went through all the M&A's one-by-one and made sure that both banks appear separately in the sample before the M&A and only the merged entity or the acquiring bank is included in the sample after the event. For example, if bank A and bank B merged in 2005, we create a new entity AB after 2005 and exclude the separate financial accounts of A and B that might still be reported for some time after the merger. We identify M&A's and their timing using Bankscope and the websites of the merging parties.

Third, in the US there are quite a few separate banks that have the same name but are active in a different state. To solve this issue, we relate the value of total assets of, say, bank *i* in the last year this bank appears in our sample with Bankscope's identification number for bank *i*. This also allows avoiding problems with our procedure concerning M&A's described above. The process described so far yields an unbalanced panel with 89,778 observations, corresponding to 12,206 banks that were operating in 148 countries between 1997 and 2010.

In order to compute the desired competition indices we first need to estimate a cost function and to calculate the variables π, p, q and tc. The cost equation has the form:

$$tc_{it} = f(q_{it}, w_{l,it}, w_{k,it}, w_{d,it}), \qquad (6)$$

where $w_{l,it}, w_{k,it}$ and $w_{d,it}$ are factor prices for labor, capital and deposits respectively. To identify bank inputs and outputs for the cost function we use the intermediation approach, which

[5] Let us provide some examples to clarify this point. Assume that bank A1 is the parent bank with a consolidated (C) statement and banks A11, A12 and A13 are subsidiaries and unconsolidated (U) statement. If we include all banks in our sample we will have 3 duplicates. Hence, we need to subtract either the percentage of the subsidiaries or to exclude the subsidiaries from the sample. The former solution is not feasible because we do not have enough information for the percentage and the time duration of the ownership of the subsidiaries. Thus, we resort to the later solution. Two other examples for the case of banks with foreign subsidiaries that we account for using the same strategy are (i) B1 is a parent bank with a C statement, B11 is a subsidiary bank operating in the domestic market with a C or a U statement and B111 is a sub-subsidiary bank operating in the domestic market and (ii) B1 is a parent bank with C statement, B12 is a subsidiary bank operating abroad with a C or a U statement and B121 is a sub-subsidiary bank operating in the domestic market with a U statement.

assumes that deposits are inputs used in the production process to produce bank outputs, and has been shown to be the preferred approach by a number of studies (e.g., Berger and Humphrey, 1997; Hughes and Mester, 1993). In particular, we measure bank total costs (*tc*) by real total expenses, and bank output (*q*) by real total earning assets. This measure for bank output relates to the traditional banking activities and, therefore, our main indices reflect competition in these activities. We construct real variables were appropriate, using the GDP deflator (obtained from the World Bank).[6] Real total earning assets include loans, securities, and other earning assets (such as investments and insurance assets).

In turn, the three input prices are: w_l for the price of labor, which is given by the ratio of personnel expenses to total assets;[7] w_k for the price of physical capital, given by the ratio of capital expenditures to fixed assets; and w_d for the price of deposits, which is measured as total interest expenses over total customer deposits. We measure bank profits π using total profits before taxes. For the Lerner index and the adjusted-Lerner index we need the aggregate output price *p*. This is calculated as the ratio of total income over total earning assets (Beck, Jonghe and Schepens 2012).

We also specify a cost function with the same three inputs but two outputs, namely real total earning asset (q_1) and off-balance sheet items (q_2). We employ this alternative technique, as many banks have a significant volume of off-balance sheet items and naturally use their inputs to produce these outputs. Under this approach, our competition index reflects competition in the traditional banking activities, given the fact that many banks also use their inputs toward the production of off-balance sheet items.

[6] As is standard in the macroeconomics literature, for Taiwan we use the GDP deflator of China and for Netherlands Antilles we use the GDP deflator of Aruba.

[7] We divide by total assets instead of the number of employees because Bankscope has limited information on the number of employees. The related literature follows a similar approach (e.g., Delis, 2012; Claessens and Laeven, 2004).

As a final step, we clean our sample from outliers in the sense of unreasonably negative values for total assets and total expenses. Additionally, for the three input prices we drop 1% of our sample from each end of their distribution. This excludes unreasonably high or low input prices (Delis, 2012; Claessens and Laeven, 2004). Notably, the initial dataset before all the steps of the cleaning process that we describe above includes 300,180 observations for 21,445 banks operating in 149 countries between 1997 and 2010. Our final dataset consists of 89,778 observations for 12,206 banks operating in 148 countries between 1997 and 2010. Most of the observations dropped are related to some form of double-counting stemming from Bankscope's consolidation system and M&As. This shows that the data-cleaning process is extremely important in generating sensible indices of bank competition. Table 1 reports the number of banks for all years, Table 2 provides detailed information on the construction of the variables, and Table 3 reports summary statistics.

[Insert Tables 1, 2 and 3 about here]

3.2. Econometric methodology for the estimation of market power

An important concern for the empirical estimation of market power is the choice of a proper functional form to obtain observation-specific estimates of marginal cost. The selection of a functional form constitutes a crucial and difficult decision, because an inappropriate choice will invalidate any inference. That is, the production technology (i) can be different even between banks operating in the same industry and (ii) changes over time. To this end, we rely on a semiparametric approach, which has some nice features that we analyze below.

We start from the cost function implied by a standard log-linear production function and impose the usual linear homogeneity restriction in inputs prices (that is, we normalize total cost

and the input prices by the price of deposits before taking logs). We end up with the following cost function:

$$\ln tc_{itc} = b_1 + b_2 \ln w_{l,itc} + b_3 \ln w_{k,itc} + a_1 \ln q_{itc} \,. \tag{7}$$

We estimate this equation with a semi-parametric partial linear smooth coefficient (PLSC) model, which uses the local polynomial fitting regression and the Gaussian kernel function to obtain estimates of a_1 for each bank *i* at time *t* in country *c*. A thorough discussion of the PLSC model can be found in Fan and Zhang (1999), Mamuneas, Savvides and Stengos (2006). Delis (2012) and Delis, Iosifidi and Tsionas (2012) use this model to estimate marginal cost and the summary that follows is based on their discussion.

We can write the econometric form of the total cost equation as

$$Y_i = E(Y_i \mid W_i) + e_i = X_i \beta_1 + V_i \beta_2 (Z_i) + e_i \,. \tag{8}$$

In this equation, β_2 is a function of one or more variables with dimension *k* added to the vector *Z*, which is an important element of the analysis and will be discussed below. The presence of a linear part in Eq. (8) is in line with the idea of the semiparametric model as opposed to a fully nonparametric one. The coefficients of this part are estimated in a first step as averages of the polynomial fitting by using an initial bandwidth chosen by cross-validation. In the second step we use these average estimates to re-define the dependent variable as

$$Y_i^* \equiv Y_i - X_i \hat{\beta}_i = V_i \beta_2 (z) + e_i^* \,. \tag{9}$$

The coefficient $\beta_2(z)$ that is evaluated at a *z* point of *Z* is a smooth but unknown function of *z*. Here, we estimate $\beta_2(z)$ using a local least squares approach.[8] Using the PLSC technique, we allow the

[8] Mamuneas Savvides and Stengos (2006) discuss in detail how this function can take specific parametric formulations (such as linear) that can be tested against the general unknown specification. They also provide formulae for the local least squares criterion.

model to be linear in the regressors but their coefficients are allowed to change "smoothly" with the value of other variables z.

We can now re-write Eq. (7) in econometric form as

$$\ln tc_{itc} = b_1 + a_1(z_{itc}) \ln q_{itc} + b_{2,itc} \ln w_{l,itc} + b_{3,itc} \ln w_{k,itc} + e_{itc}, \quad (10)$$

where *e* is a stochastic disturbance and *z* is the smoothing variable required by the PLSC approach. The model is semiparametric in the sense that it treats only the coefficient a_1 as a function of z. From Eq. (10) we can obtain the marginal cost for each bank *i* at time *t* in country *c* as $\partial tc_{itc} / \partial q_{itc} = a_1(z_{itc})(tc_{itc} / q_{itc})$.[9]

A critical issue in the estimation process is the choice of the variable(s) to comprise *Z*. The best candidates are variables that are highly correlated with, but that also allow variation for a_1 across firms and time. In a cost function, the natural candidates to use are the input prices. The advantage of this choice is that input prices most certainly affect a_1 to a large extent and also play an important role in the determination of marginal cost. This has been shown many times when researchers employ a translog specification, which includes multiplicative terms of output with input prices, to estimate the cost function parametrically. Delis, Iosifidi and Tsionas (2102) propose using a linear combination of input prices. Following this paradigm, we define the smoothing variable as $z_{itc} = \ln w_{l,itc} + \ln w_{k,itc}$.

Subsequently, we use the estimates of marginal cost to calculate the Lerner index from Eq. (1) and the adjusted-Lerner index from Eq. (2), as well as to estimate the profit elasticity from Eq. (4). A problem that arises with the estimation of Eq. (4) is the fact that we have to take the

[9] We use $\ln tc_{itc} = b_1 + a_1(z_{itc}) \ln q_{1,itc} + a_2 \ln q_{2,itc} + b_{2,itc} \ln w_{l,itc} + b_{3,itc} \ln w_{k,itc} + e_{itc}$ for the model with the off-balance sheet items. Given that we focus on the market power stemming from traditional banking activities, marginal cost is still derived from $\partial tc / \partial q_{1,itc} = a_1(z_{itc})(tc_{itc} / q_{1,itc})$.

logarithm of profits, and profits can be either positive or negative. Bos and Koetter (2011) show that a reasonable solution to avoid a loss of observations is to use the following transformation for bank profits (π):[10]

$$\pi^{+} = \begin{cases} \pi & \text{if } \pi \in \Re_{+} \\ 1 & \text{if } \pi \in \Re_{-} \end{cases} \text{ and } NPI = \begin{cases} 1 & \text{if } \pi \in \Re_{+} \\ |\pi| & \text{if } \pi \in \Re_{-} \end{cases} . \quad (11)$$

This is an indicator that captures both the profits and losses since π^{+} can be used as a left-hand side variable in the regression equation and NPI as a right-hand side variable. Hence, the actual estimated equation equivalent to that of Eq. (4) is

$$\ln \pi^{+}_{itc} = a + \beta(z_{itc}) \ln mc_{itc} + \gamma \ln NPI_{itc} + u_{itc} . \quad (12)$$

Estimation of equation (10) and subsequently of equation (12) via the PLSC technique presents some considerable interrelated advantages. Most importantly, the semiparametric nature of the method implies that no assumption regarding the functional form of the underlying cost function is made globally. This is important as it usually quite difficult for the researcher to be certain about the validity of the chosen functional form. The PLSC method allows for considerable flexibility in the estimation of the cost function because of variation in the structural variables employed. In their survey paper, Reiss and Wolak (2007) are very skeptical about using a specific functional to estimate cost functions without a prior analysis of the data, since an "incorrect" cost function can bias the estimation and inference of marginal cost to an unknown magnitude and direction. The flexibility of the semiparametric technique also allows using large international samples of banks, without being concerned that certain banking markets in different countries or

[10] There are two alternative approaches. The first is to truncate profits and exclude banks that incur losses and the second is to rescale profits by adding the maximum loss observed in the sample plus a small number to each observation on bank profits. The obvious drawback of the first approach is that it introduces selection bias. The rescaling approach is a good approximation when the shift is small relative to the magnitude of the shifted variable but will bias the estimated coefficient if the shift is large, which may be the case here. We experimented with both of these alternative approaches but they produced coefficients which were either insignificant or unreasonable.

banks within the same country face or adopt different production technologies. Hence, this approach takes into account the heterogeneity in the productions technology across banks and countries. Finally, Mammen, Rothe and Schienle (2012) establish theoretically that the two-step estimation procedure reduces measurement errors stemming from unobserved country factors. On the basis of these arguments, Delis, Iosifidi and Tsionas (2012) and Wheelock and Wilson (2012) show that estimation of marginal cost using semiparametric and nonparametric methods produces significantly better results than parametric techniques and commonly used functional forms like the translog.

4. Bank competition in the world

In Table 4 we report the pairwise correlation coefficients between the Lerner, the adjusted-Lerner and the profit-elasticity measures. The Lerner and the adjusted-Lerner indices are highly correlated, while the correlation coefficients involving the profit elasticity are smaller, bust still statistically significant at the 1% level.

Further, in Tables 5, 6, 7 and 8 we report the average values of these indices by country and year. As is common in the literature, we obtain these market-level measures by taking the weighted mean of the individual measures, with market shares as the weights. The reported values are effectively four new indices of banking-sector competition that (i) rely on efficient estimates of marginal cost, (ii) have the largest coverage compared to previous studies, and (iii) are constructed on the basis of a clean database as discussed in Section 3.1. The weighted mean values are 0.27, 0.21, -0.46, and 0.22 for the Lerner index, the adjusted-Lerner index, the profit elasticity, and the Lerner index with two outputs, respectively. The Lerner index ranges between -0.12 in Ecuador in 1998 and 0.82 (close to monopoly) in Cuba in 1997. The adjusted-Lerner index ranges between

-0.18 in Paraguay in 2002 and 0.82 in Cuba in 1997. The profit elasticity ranges between -0.7 in China in 1997 and -0.33 in Afghanistan and Serbia in 2006 and 2002, respectively. We will omit the analysis for the Lerner index for the two-output case, as the results on this index are very similar to the other two Lerner-type indices.

[Insert Tables 4, 5, 6, 7 and 8 about here]

The Lerner and adjusted-Lerner indices suggest that Austria, Belgium, Germany, Israel and Paraguay have the most competitive banking systems, while Cuba, Ethiopia, Libya and Seychelles have the least competitive ones. The results for the European countries are consistent with the findings of Carbo et al. (2009). The values for the profit elasticity suggest that South Korea, Kuwait, Mexico, Paraguay, Portugal and Turkey have the most competitive banking systems, while Japan, Afghanistan and Finland have the least competitive ones.

The results in Tables 5, 6 and 7 indicate that the degree of competitiveness varies considerably across countries and geographical areas. In Figures 1, 2 and 3 we show the time trend in average bank competition for each of the three indices. In broad terms, all indices identify similar trends in competition for the 148 economies over time. More precisely, average bank market power peaks in 2006 for the Lerner index (*Lerner = 0.30*), in 2005 for the adjusted-Lerner index (*adjusted Lerner = 0.26*) and in 2004 for the profit elasticity ($\beta = -0.42$), declines somewhat from 2006-2008 and increases again in 2009 and 2010.

This pattern may reflect the sharp increase in financial globalization before the financial crisis of 2007 and related reforms that are likely to have led to higher market power through cross-border M&A's and increased efficiency without an accompanying reduction in the lending rate. Furthermore, the start of the global financial crisis coincides with a decrease in the market power. This may be related to capital losses and non-performing loans suffered by many banks,

which reduced efficiency, or to the rising informational asymmetry costs faced by banks during crises (e.g., adverse selection and moral hazard) that increase the cost of lending. The increase of market power before the financial crisis of 2007 may also be partially attributed to financial globalization and the gradual penetration of foreign banks in local markets through the acquisition of domestic banks.

[Insert Figures 1, 2 and 3 about here]

To examine the evolution of bank competition among different groups, we use the World Bank's classification of countries according to income group and geographical region. There are five income groups. The first includes all the OECD countries with an annual income per capital of $12,476 or more (31 countries). The second includes the high income (HI) countries that are not members of the OECD and have an annual income per capita of $12,476 or more (19 countries). The third, fourth and fifth groups are the upper-middle-income (UMI, 43 countries with income of $4,036 – $12,475), the lower-middle income (LMI, 33 countries with income $1,026 – $4,035) and the low income (LI, 22 countries with income $ 1,025 or less). For the regional classification the World Bank includes only the low and middle-income economies. In particular, there are six groups: East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SA) and Sub-Saharan Africa (SSA).

In Figures 4, 5 and 6, we plot the average of the three indices across (i) OECD economies, (ii) high-income economies (non OECD), (iii) upper-middle income economies, (iv) lower-middle income economies and (v) low-income economies. In Figures 4 and 5, the market power of banks in the OECD countries is on average low (*Lerner = 0.2)* and stable until 2001 but starts increasing until 2004. This finding is in line with Bikker and Spierdijk (2008) who suggest that the increase in

the market power of banks was the result of the creation and the widespread employment of more innovative financial products and the greater use of new technologies. These may have increased scale economies and network externalities and, thus, led to larger banks with greater market power.

In the other (non-OECD) high-income economies the market power of banks follows the same path as in the OECD countries, but is on average higher (*Lerner = 0.30*). For middle-income economies, the market power of banks peaks in 2005 (*Lerner = 0.27*) and declines slowly only after 2008. The overall trend in the low-income economies is slightly different, as market power is following an increasing path until 2006 and remains stable thereafter. The higher systemic risk in the low-income economies, might lead to increased probability of default, higher probability of bank runs and to the survival of a smaller number of banks that might find it easier to collude. The above results are consistent with the picture shown in Table 1.

Figure 6 reveals similar trends through time, but also some differences compared to the results in Figures 4 and 5. For example, Figures 4 and 5 indicate that market power is higher in the high-income economies compared to the OECD countries, while the opposite is shown in Figure 6. An interesting pattern in Figures 4, 5 and 6 is the fact that the medium-income countries have a more competitive and stable banking sector than the high-income countries (non OECD), perhaps because they operate in a less risky business environment. The relatively high market power of banks operating in the middle-income countries may be explained by the stronger local loan demand from local firms in these countries (Caminal and Matutes, 2002). Notably, the middle-income economies are characterized by a large number of small- or medium-sized local firms, a structural element that has been shown to increase loan demand and raise market power of banks.

[Insert Figures 4, 5 and 6 about here]

Figures 7, 8 and 9 show the weighted averages of our three indices across the regional groups of countries. The Sub-Saharan African and East-Asian and Pacific banking systems seem to be the least competitive ones according to all indices. Further, the banking systems of East Asia and Pacific, South Asia, and Latin America and the Caribbean have large fluctuations in the degree of competition, while the banking systems of Sub-Saharan Africa and Europe and Central Asia have relative stable market power. Also, the market power in the Middle East and North Africa region is increasing and stable.

[Insert Figures 7, 8 and 9 about here].

5. Conclusions

This paper introduces three new indices of bank market power, namely the Lerner index, the efficiency-adjusted Lerner index, and the profit elasticity. We contribute to the literature on bank competition in four important ways. First, we use a semiparametric technique to obtain estimates of marginal cost for each bank-year observation in the sample. This technique has some important advantages compared to parametric techniques, especially related to the increased flexibility of the functional form. Second, we have the broadest coverage compared to all existing studies, with 148 countries from 1997 to 2010. Third, we compute all three different indicators favored by the recent banking literature, namely the Lerner index, the adjusted-Lerner index and the profit elasticity. Fourth, we clean the raw bank-level data required to estimate these indices from all double counting stemming from mergers and acquisitions, ownership issues, inflexible features of the Bankscope database, etc.

Our results show that the Lerner index, the adjusted-Lerner index and the profit elasticity produce similar patterns of competition over time. All three measures show that market power

increased on average during the period 1997-2006, declined until 2008, and increased again in 2009 and 2010. This trend shows that the degree of banking competitiveness is correlated with the business cycle. More precisely, during the upward phase of the business cycle, bank efficiency improves owing to lower informational asymmetries and adjustment costs. However, the pricing of banking products might not decline at the same rate, thereby yielding an increase in the market power of banks. The empirical results also emphasize important differences among regional and income groups of countries.

The new indices make the explicit examination of the factors that affect banking-sector competition possible. Among these factors, the political and regulatory elements that influence the extent of market power, as well as the reasons behind the different patterns produced by the three indices are particularly promising direction for future work. Further, an examination of the real effects of bank competition based on the aggregate indices would provide important insights about the role of bank competition in promoting growth, equality and prosperity.

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Table 1
Number of banks in the sample

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
							All countries							
	3,895	4,051	6,349	6,262	6,184	6,047	5,937	6,062	7,362	7,486	7,829	7,838	7,531	6,945
							Income groups							
LI	54	66	74	87	90	98	111	120	138	140	161	191	207	180
LMI	223	250	282	278	273	283	299	337	391	397	427	440	446	391
OECD	3,154	3,241	5,443	5,281	5,194	5,013	4,815	4,848	5,765	5,693	5,777	5,652	5,524	5,219
HI	110	112	107	116	116	116	114	128	141	142	140	133	113	94
UMI	354	382	443	500	511	537	598	629	927	1,114	1,324	1,422	1,241	1,061
							Regional groups							
EAP	119	118	119	100	98	103	112	137	172	183	199	220	222	208
ECA	83	83	145	164	183	236	290	324	625	791	955	1,004	811	649
LAC	222	271	291	333	318	282	284	291	280	293	322	345	357	326
MENA	49	44	48	48	42	46	49	51	49	57	74	89	97	89
SA	76	83	86	89	93	100	111	114	121	117	125	127	135	123
SSA	82	99	110	130	138	145	151	154	181	181	210	237	242	205

Notes: LI refers to the low-income economies, LMI refers to the lower-middle-income economies, OECD refers to the OECD member countries, HI refers to high-income economies other than OECD countries, and UMI refers to upper-middle-income economies. EAP refers to East Asian and Pacific countries, ECA to the European and Central Asian countries, LAC refers to Latin American and Caribbean countries, MENA refers to Middle Eastern and North African countries, SA refers to Southern Asian countries and SSA refers to Sub-Saharan African countries.

Table 2
Data description

Variable	Measure	Notation
For aggregate output (1 output)		
Earning assets	Natural log of deflated total earning assets (measure of a bank's output)	q
Price of output	Total income/ total earning assets	P
For disaggregate outputs (2 outputs)		
Earning assets	Natural log of deflated total earning assets (measure of bank's output)	q_1
Off-balance sheet items	Natural log of deflated off-balance sheet items (measure of bank's output)	q_2
Price of earning asset	Total income/ total earning assets	P_1
Expenses	Natural log of deflated total interest expenses and total noninterest expenses (measure of a bank's total cost)	tc
Price of deposits	Total interest expenses/ total customer deposits	w_d
Price of labor	Personnel expenses/ total assets	w_l
Price of physical capital	(Overheads-personnel expenses)/ fixed assets	w_k
Profits	A bank's deflated total profits before tax	π
NPI	Natural log of $\begin{cases} 1 & \text{if } \pi \in \Re_+ \\ \lvert\pi\rvert & \text{if } \pi \in \Re_- \end{cases}$	NPI
Positive profits	Natural log of $\begin{cases} \pi & \text{if } \pi \in \Re_+ \\ 1 & \text{if } \pi \in \Re_- \end{cases}$	π^+

Table 3
Summary statistics

Variable	Observations	Mean	Std. dev.	Min.	Max.
For aggregate output (1 output)					
Earning assets	89,778	11.71	2.02	6.83	21.38
Price of output	89,778	0.09	0.07	0.02	0.71
For disaggregate output (2 output)					
Earning assets	89,778	11.71	2.02	6.83	21.38
Off-balance sheet items	79,875	9.16	2.47	-1.58	21.26
Price of earning asset	89,778	0.09	0.07	0.02	0.71
Price of off-balance sheet	79875	39.30	811	0	110,787
Expenses	89,778	8.9	1.9	4.6	18.4
Price of deposits	89,778	0.06	0.09	0.00	1.03
Price of labor	89,778	0.02	0.01	0.00	0.09
Price of physical capital	89,778	1.70	3.71	0.13	56.96
Profits	81,939	7.00	2.13	-2.24	16.76
NPI	89,778	0.58	2.09	-2.27	16.69
Positive profits	89,778	6.39	2.83	-2.24	16.76
Lerner index	88,202	0.27	0.12	-0.12	0.82
Adjusted-Lerner index	85,832	0.21	0.13	-0.17	0.82
Profit elasticity	89,778	-0.47	0.08	-0.70	-0.33

Notes: The table reports summary statistics (number of observations, mean, standard deviation, minimum and maximum) for the variables used in the empirical analysis. The bank level variables are defined in Table 2. The measures of competition are defined in Eqs. (1), (2) and (4) for the Lerner index, the adjusted-Lerner index and the Profit elasticity, respectively, and are estimated using the methodology in Section 3.2.

Table 4
Correlation between indices of weighted market power by market share

	Lerner index	Adjusted -Lerner index	Profit elasticity
Lerner index	1.00		
Adjusted-Lerner index	0.86*	1.00	
Profit elasticity	0.33*	0.31*	1.00

Notes: The * mark denotes statistical significance at the 1% level.

Table 5
Average estimates of market power (weighted by market shares) using the Lerner index

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Mean
Afghanistan									0.381	0.237	0.084	0.362	0.299	0.147	0.252
Albania			0.120	0.321	0.210	0.201	0.184	0.215	0.293	0.274	0.317	0.303	0.318	0.359	0.223
Algeria	0.153	0.165	0.065	0.153	0.229	0.387	0.244	0.459	0.590	0.648	0.533	0.624	0.528	0.513	0.378
Andorra	0.255	0.296	0.354	0.359	0.305	0.373	0.459	0.505	0.505	0.507	0.439	0.281			0.386
Angola	0.275	0.313	0.281	0.397	0.498	0.427			0.412	0.267	0.459	0.492	0.427	0.467	0.393
Antigua and Barbuda				0.051	0.090	0.123	0.133				0.266	0.334	0.344		0.192
Argentina	0.217	0.170	0.189	0.218	0.136	0.121	0.019	0.167	0.257	0.285	0.245	0.209	0.325	0.318	0.205
Armenia	0.182	0.235	0.215	0.188	0.280	0.348	0.375	0.389	0.374	0.364	0.354	0.329	0.226	0.284	0.296
Australia	0.253	0.248	0.211	0.285	-0.085	0.225			0.250	0.233	0.218	0.165	0.250	0.251	0.209
Austria	0.147	0.122	0.132	0.146	0.145	0.154	0.189	0.185	0.182	0.174	0.166	0.151	0.206	0.260	0.168
Azerbaijan	0.533	0.370	0.377	0.535	0.436	0.382	0.375	0.435	0.441	0.388	0.388	0.411	0.380	0.275	0.409
Bahamas, The	0.159	0.173	0.210	0.272	0.294	0.214	0.321	0.356	0.393	0.388	0.421	0.333	0.391	0.390	0.308
Bahrain	0.205	0.177	0.175	0.161	0.177	0.239	0.223	0.284	0.265	0.201	0.189	0.232			0.211
Bangladesh	0.030	-0.033	0.070	0.114	0.134	0.142	0.138	0.164	0.214	0.189	0.211	0.256	0.275	0.339	0.160
Belarus	0.092	0.209	0.112	0.178	0.120	0.183	0.168	0.150	0.182	0.211	0.186	0.174	0.241	0.246	0.175
Belgium	0.103	0.138	0.145	0.162	0.166	0.150	0.161	0.158	0.122	0.143	0.071	-0.016	0.079	0.155	0.124
Bermuda	0.097	0.114	0.118	0.156	0.120	0.194	0.210	0.131	0.269	0.266	0.274	0.128	0.211	0.229	0.180
Bolivia	0.138	0.186	0.206	0.179	0.194	0.239	0.203	0.145	0.177	0.221	0.238	0.300	0.261	0.274	0.211
Bosnia and Herzegovina								0.215	0.237	0.233	0.256	0.183	0.230	0.251	0.229
Botswana	0.246	0.307	0.248	0.324	0.326	0.338	0.353	0.337	0.357	0.328	0.269	0.294	0.309	0.336	0.312
Brazil	0.137	0.160	0.155	0.132	0.144	0.161	0.228	0.219	0.244	0.274	0.278	0.195	0.294	0.259	0.206
Bulgaria					0.309	0.283	0.339	0.360	0.372	0.378	0.385	0.338	0.323	0.343	0.343
Burkina Faso	0.277	0.386	0.337	0.270	0.236	0.350	0.348	0.317	0.342	0.306	0.308	0.246	0.266	0.346	0.310
Cambodia				0.478	0.469	0.337	0.386	0.436	0.436	0.450	0.484	0.517	0.379	0.363	0.430
Cameroon			0.580	0.499	0.451	0.420	0.385	0.479	0.432	0.426	0.435	0.390	0.314	0.345	0.430
Canada	0.135	0.108	0.179	0.168	0.166	0.194	0.202	0.229	0.187	0.215	0.190	0.152	0.258	0.304	0.192
Cayman Islands	0.176														0.176
Chile	0.161	0.160	0.204	0.206	0.238	0.283	0.194	0.150	0.160	0.228	0.308	0.217	0.411	0.383	0.236
China	0.405	0.383	0.254	0.275	0.259	0.346	0.379	0.399	0.385	0.390	0.429	0.407	0.417	0.449	0.370
Colombia	0.146	0.081	0.030	0.085	0.146	0.152	0.244	0.283	0.322	0.279	0.312	0.318	0.341	0.379	0.223
Costa Rica	0.073	0.084	0.076	0.182	0.185	0.183	0.235	0.220	0.214	0.226	0.213	0.175	0.145	0.222	0.174
Cote d'Ivoire	0.379	0.386	0.322	0.300	0.263	0.241	0.230	0.273	0.266	0.276	0.303	0.286	0.277	0.263	0.290
Croatia	0.209	0.167	0.169	0.226	0.202	0.215	0.251	0.271	0.282	0.257	0.268	0.253	0.274	0.301	0.239
Cuba	0.824	0.761	0.731	0.689	0.569	0.703	0.785	0.787	0.701	0.611	0.470	0.557	0.536	0.651	0.670
Cyprus	0.155	0.151	0.284	0.107	0.111	0.143	0.176	0.208	0.188	0.253	0.284	0.202	0.233	0.249	0.196
Czech Republic	0.180	0.158	0.167	0.166	0.162	0.239	0.267	0.298	0.343	0.328	0.328	0.277	0.440	0.444	0.271
Denmark	0.165	0.175	0.141	0.147	0.251	0.265	0.390	0.180	0.184	0.161	0.135	0.104	0.218	0.213	0.195
Dominican Republic	0.189	0.180	0.166	0.190	0.190	0.198	0.175	0.115	0.184	0.202	0.220	0.226	0.220	0.266	0.194
Ecuador	0.050	-0.124	0.297	0.127	0.113	0.185	0.197	0.227	0.268	0.276	0.268	0.241	0.234	0.265	0.187
Egypt, Arab Rep.											0.065	0.065	0.314	0.238	0.171
El Salvador	0.119	0.169	0.166	0.178	0.244	0.288	0.282	0.304	0.326	0.365	0.359	0.365	0.380	0.447	0.285
Estonia	0.262	0.029	0.014	0.052	0.204	0.271	0.328	0.347	0.341	0.364	0.323	0.313	0.286	0.373	0.251
Ethiopia	0.270	0.257	0.344	0.285	0.406	0.331	0.574	0.573	0.574	0.612	0.538	0.616	0.650	0.595	0.473
Finland	0.055	0.000	0.338	0.354			0.266	0.207	0.174	0.188	0.194	0.118	0.267	0.280	0.203
France	0.100	0.107	0.128	0.112	0.132	0.152	0.168	0.205	0.220	0.221	0.197	0.172	0.229	0.248	0.171
Gambia, The	0.495		0.569	0.551	0.552	0.529	0.530	0.437	0.401	0.417	0.272	0.330	0.253	0.317	0.435
Georgia		0.335	0.362	0.318	0.339	0.341	0.341	0.316	0.351	0.333	0.282	0.262	0.230	0.235	0.311
Germany	0.171	0.151	0.164	0.139	0.132	0.157	0.175	0.189	0.185	0.204	0.166	0.153	0.193	0.234	0.172
Ghana	0.160	0.442	0.419	0.137		0.412	0.414	0.435	0.483	0.442	0.293	0.274	0.241	0.324	0.344

Greece	0.169	0.201	0.404	0.215	0.000	0.044	0.112	0.136	0.183	0.216	0.173	0.104	0.184	0.151	0.164
Guatemala				0.088	0.124	0.126	0.186	0.228	0.246	0.251	0.242	0.253	0.248	0.257	0.204
Haiti	0.123	0.119	0.116	0.172	0.156	0.108	0.224	0.099	0.145	0.171	0.178	0.197	0.183	0.183	0.155
Honduras	0.338	0.262	0.186	0.129	0.165	0.197	0.256	0.180	0.205	0.240	0.250	0.272	0.233	0.208	0.223
Hong Kong SAR, China	0.238	0.187	0.243	0.273	0.165	0.351	0.389	0.429	0.300	0.276	0.260	0.176	0.299	0.343	0.281
Hungary	0.153	0.144	0.087	0.122	0.163	0.181	0.226	0.219	0.245	0.243	0.250	0.192	0.223	0.313	0.197
Iceland	0.167	0.175	0.200	0.068	0.145	0.210	0.231	0.269	0.336	0.363	0.331	0.426	0.337	0.489	0.268
India	0.121	0.146	0.120	0.158	0.158	0.209	0.244	0.303	0.282	0.266	0.241	0.186	0.194	0.211	0.203
Indonesia	0.134	0.043	0.030	0.107	0.129	0.160	0.228	0.325	0.248	0.256	0.295	0.311	0.315	0.356	0.210
Iraq											0.463	0.316			0.389
Ireland	0.177	0.175	0.253	0.215	0.148	0.135	0.228	0.217	0.144	0.132	0.146	0.146	0.196	0.205	0.180
Israel	0.153	0.064	0.092	0.124	0.084	0.102	0.116	0.177	0.150	0.198	0.206	0.141	0.197	0.108	0.136
Italy	0.157	0.200	0.143	0.203	0.183	0.218	0.218	0.179	0.241	0.258	0.240	0.198	0.238	0.236	0.208
Jamaica	0.128	0.158	0.201		0.289	0.216	0.271	0.233	0.267	0.278	0.271	0.301	0.293	0.334	0.249
Japan	0.246	0.246	0.259	0.259	0.250	0.230	0.266	0.261	0.282	0.285	0.286	0.242	0.191	0.233	0.253
Jordan	0.152	0.182	0.173	0.147	0.239	0.237	0.325	0.362	0.490	0.400	0.363	0.349	0.370	0.419	0.301
Kazakhstan	0.245	0.310	0.306	0.246	0.347	0.366	0.359	0.393	0.356	0.329	0.340	0.243	0.230	0.077	0.296
Kenya	0.153	0.262	0.270	0.311	0.321	0.318	0.380	0.371	0.361	0.391	0.369	0.344	0.326	0.384	0.326
Korea, Rep.	0.071	0.115	0.219	0.179	0.266	0.311	0.316	0.331	0.310	0.291	0.271	0.191	0.221	0.258	0.239
Kuwait	0.092	0.239	0.287	0.299	0.367	0.444	0.517	0.555	0.565	0.470	0.393				0.384
Kyrgyz Republic	0.176			0.323	0.116	0.371	0.375	0.460	0.365	0.397	0.454	0.319	0.359	0.327	0.337
Lao PDR		0.232				0.019	0.000	0.252	0.478	0.555	0.669	0.292	0.285	0.353	0.314
Latvia	0.280	0.214	0.257	0.280	0.271	0.303	0.337	0.356	0.362	0.327	0.305	0.241	0.247	0.227	0.286
Lebanon	0.168	0.149	0.141	0.144	0.127	0.141	0.163	0.142	0.151	0.149	0.144	0.179	0.190	0.226	0.158
Libya				0.535		0.576	0.535	0.050	0.401	0.523	0.597	0.691	0.248		0.462
Lithuania	0.269	0.154	0.242	0.151	0.183	0.217	0.184	0.252	0.289	0.306	0.311	0.245	0.178	0.205	0.228
Luxembourg	0.103	0.095	0.115	0.134	0.118	0.134	0.151	0.189	0.207	0.198	0.184	0.137	0.242	0.285	0.164
Macao SAR, China	0.127	0.132	0.166	0.184	0.190	0.290	0.354	0.396	0.366	0.296	0.280	0.325	0.395	0.423	0.280
Macedonia, FYR	0.498	0.353	0.346	0.297	0.303	0.265	0.317	0.317	0.359	0.359	0.365	0.314	0.261	0.242	0.328
Madagascar	0.555	0.565	0.507	0.377	0.321	0.356	0.451	0.458	0.471	0.492	0.441	0.337	0.271	0.260	0.419
Malawi	0.420	0.460	0.443	0.390	0.263	0.357	0.360	0.371	0.390	0.491	0.525	0.438	0.422	0.360	0.406
Malaysia	0.277	0.246	0.271	0.362	0.344	0.355	0.351	0.352	0.355	0.353	0.360	0.366	0.362	0.409	0.340
Mali	0.252	0.266	0.298	0.253	0.324	0.307	0.335	0.304	0.311	0.367	0.325	0.304	0.321	0.286	0.304
Malta	0.214	0.217	0.249	0.226	0.225	0.239	0.273	0.307	0.345	0.339	0.336	0.292	0.310	0.362	0.281
Mauritania	0.574	0.505				0.313	0.340	0.186	0.463	0.466	0.275	0.277	0.431	0.333	0.378
Mauritius	0.174	0.198	0.180	0.183	0.204	0.326	0.279	0.324	0.330	0.279	0.262	0.284	0.304	0.399	0.266
Mexico	0.011	0.002	0.063	0.017		0.280			-0.025	-0.023					0.046
Moldova	0.353	0.388	0.401	0.413	0.380	0.384	0.408	0.351	0.289	0.341	0.340	0.284	0.222	0.309	0.347
Mongolia			0.316	0.220	0.272	0.255	0.226	0.263	0.214	0.167	0.200	0.219	0.207	0.190	0.229
Montenegro						0.000	0.275	0.238	0.161	0.204	0.256	0.205	0.197	0.231	0.196
Morocco	0.217	0.237	0.217	0.294	0.310	0.329	0.329	0.375	0.305	0.337	0.336	0.359	0.354	0.364	0.312
Mozambique	0.263	0.236	0.319	0.259	0.279	0.272	0.194	0.238	0.259	0.340	0.368	0.375	0.385	0.356	0.296
Namibia				0.183		0.023	0.490	0.425	0.270	0.255	0.256	0.249	0.241	0.270	0.266
Nepal	0.355	0.247	0.319	0.362	0.357	0.348	0.231	0.258	0.273	0.311	0.292	0.333	0.326	0.283	0.307
Netherlands Antilles		0.114	0.142	0.210		0.130	0.129								0.145
Netherlands	0.126	0.127	0.143	0.204	0.213	0.109	0.094	0.160	0.154	0.135	0.177	0.183	0.149	0.256	0.159
New Zealand	0.121	0.085	0.230	0.207	0.226	0.272	0.249		0.200	0.211	0.196	0.173	0.204		0.198
Nicaragua						0.201	0.220	0.237	0.295	0.327	0.342	0.370	0.379	0.367	0.304
Niger	0.261	0.399	0.066	0.206	0.145	0.206	0.143	0.233	0.304	0.322	0.265	0.352	0.336	0.328	0.255
Nigeria	0.228	0.290	0.304	0.276	0.296	0.268	0.275	0.264	0.313	0.317	0.309	0.325	0.195	0.224	0.277
Norway	0.169	0.061	0.146	0.157	0.155	0.128	0.159	0.219	0.265	0.230	0.176	0.146	0.266	0.263	0.181
Oman	0.309	0.274	0.283	0.258	0.301	0.392	0.398	0.428	0.423	0.420	0.378	0.429	0.464		0.366

Pakistan	0.040	0.023	-0.014	0.045	0.119	0.185	0.259	0.270	0.395	0.368	0.321	0.277	0.288	0.276	0.204
Panama	0.196	0.134	0.317	0.259	0.255	0.300	0.363	0.322	0.306	0.275	0.320	0.311	0.305	0.313	0.284
Papua New Guinea		0.250	0.259	0.088			0.401	0.641	0.520	0.504	0.611	0.614	0.530	0.490	0.446
Paraguay	0.278	0.181	0.104	0.041	0.092	0.015	-0.114	0.052	0.140	0.131	0.133	0.208	0.168	0.216	0.118
Peru	0.219	0.203	0.184	0.160	0.174	0.259	0.295	0.315	0.357	0.364	0.351	0.387	0.438	0.390	0.293
Philippines	0.264	0.272	0.177	0.001	0.065	0.214	0.298	0.237	0.239	0.248	0.239	0.193	0.278	0.325	0.218
Poland	0.170	0.175	0.162	0.165	0.166	0.169	0.137	0.174	0.190	0.239	0.246	0.215	0.232	0.241	0.192
Portugal	0.119	0.131	0.104	0.168	0.305	0.202	0.230	0.294	0.198	0.162	0.138	0.082	0.087	0.065	0.163
Qatar				0.242	0.318	0.471	0.522	0.514	0.551	0.435	0.398	0.370	0.375		0.420
Romania	0.233	0.215	0.214	0.199	0.247	0.190	0.202	0.262	0.236	0.221	0.209	0.224	0.234	0.278	0.226
Russian Federation	0.207	0.061	0.410	0.377	0.454	0.344	0.310	0.339	0.307	0.297	0.282	0.272	0.239	0.202	0.293
Rwanda					0.187	0.205	0.257	0.109	0.004	0.320	0.352	0.343	0.249	0.343	0.237
San Marino	0.185	0.262	0.400	0.397	0.328	0.335	0.435	0.506	0.504	0.460	0.382	0.195			0.366
Saudi Arabia	0.263	0.261	0.254	0.247	0.311	0.405	0.490	0.501	0.490	0.488	0.340	0.225	0.362	0.288	0.352
Senegal	0.356	0.428	0.351	0.344	0.364	0.352	0.345	0.342	0.330	0.340	0.307	0.327	0.297	0.281	0.340
Serbia						0.374	0.472	0.362	0.336	0.217	0.249	0.228	0.234	0.176	0.294
Seychelles		0.198						0.508	0.559	0.567	0.595	0.594	0.377	0.528	0.491
Sierra Leone	0.190	0.400		0.646	0.535	0.481	0.474	0.519	0.472	0.386	0.287	0.188	0.247	0.328	0.396
Singapore	0.248	0.232	0.362	0.353	0.297	0.230		0.414	0.361	0.309	0.331	0.376	0.489	0.438	0.342
Slovak Republic	0.092	0.032	0.029	0.142	0.158	0.183	0.216	0.246	0.267	0.291	0.284	0.304	0.322	0.390	0.211
Slovenia	0.214	0.213	0.224	0.238	0.188	0.210	0.214	0.252	0.266	0.252	0.249	0.184	0.237	0.269	0.229
South Africa	0.105	0.163	0.167	0.179	0.204	0.300	0.211	0.177	0.155	0.233	0.222	0.199	0.217	0.229	0.197
Spain	0.130	0.161	0.228	0.181	0.179	0.196	0.238	0.275	0.242	0.246	0.229	0.207	0.292	0.305	0.222
Sri Lanka	0.149	0.177	0.114	0.102	0.094	0.150	0.224	0.210	0.210	0.196	0.171	0.146	0.171	0.232	0.168
Sudan	0.395	0.266	0.246	0.258	0.145	0.317	0.180	0.291	0.257	0.277	0.171	0.223	0.193	0.214	0.245
Sweden	0.186	0.168	0.156	0.182	0.183	0.169	0.206	0.277	0.234	0.224	0.178	0.160	0.223	0.244	0.199
Switzerland	0.168	0.132	0.126	0.156	0.124	0.165	0.179	0.180	0.122	0.125	0.039	0.036	0.129	0.179	0.133
Syrian Arab Republic									0.000	0.064	0.309	0.568	0.569	0.567	0.346
Taiwan				0.159	0.165	0.227	0.349	0.283	0.307	0.278	0.248	0.218	0.294	0.342	0.261
Tanzania							0.471	0.439	0.390	0.423	0.395	0.392	0.357	0.343	0.401
Thailand	0.171	0.011	0.045	0.106	0.148	0.233	0.290	0.375	0.375	0.288	0.289	0.334	0.369	0.389	0.245
Togo	0.111	0.191	0.216	0.446	0.225	0.129	0.276	0.315	0.259	0.307	0.259	0.282	0.244	0.344	0.258
Trinidad and Tobago	0.195	0.193	0.231	0.266	0.284	0.302	0.360	0.347	0.309	0.321	0.338	0.345	0.313	0.442	0.303
Tunisia	0.562	0.557	0.458	0.302	0.292	0.267	0.189	0.208	0.221	0.285	0.295	0.323	0.331	0.346	0.331
Turkey	0.022	0.034	0.143	0.046	-0.017	0.112	0.190	0.240	0.286	0.226	0.227	0.209	0.335	0.320	0.169
Uganda											0.401	0.360	0.368	0.341	0.367
Ukraine	0.229	0.269	0.316	0.211	0.229	0.182	0.245	0.233	0.221	0.243	0.220	0.314	0.250	0.214	0.241
United Arab Emirates	0.307	0.298	0.314	0.295	0.340	0.462	0.507	0.516	0.516	0.359	0.346	0.372	0.453	0.468	0.397
United Kingdom	0.182	0.184	0.177	0.243	0.110	0.169	0.282	0.292	0.254	0.241	0.236	0.103	0.294	0.308	0.220
United States	0.239	0.229	0.252	0.224	0.266	0.332	0.355	0.321	0.304	0.268	0.227	0.239	0.344	0.352	0.282
Uruguay	0.072	0.076	0.073	0.097	0.037	0.248	0.013	0.241	0.090	0.190	0.269	0.363	0.181	0.250	0.157
Uzbekistan	0.378	0.307	0.301	0.371	0.364	0.321	0.223	0.181	0.239	0.275	0.283	0.229	0.212	0.248	0.281
Venezuela, RB	0.291	0.283	0.217	0.182	0.226	0.301	0.327	0.343	0.276	0.293	0.281	0.263	0.265	0.306	0.275
Vietnam	0.379	0.346	0.314	0.345	0.264	0.292	0.273	0.349	0.336	0.282	0.277	0.208	0.198	0.205	0.291
Yemen, Rep.									0.055	0.226	0.231	0.200	0.272	0.242	0.204
Zambia	0.047	0.172	0.117	0.194	0.234	0.224	0.101	0.233	0.296	0.340	0.340	0.299	0.337	0.288	0.230
Zimbabwe													0.297	0.299	0.298
Mean	0.212	0.207	0.226	0.230	0.228	0.255	0.280	0.298	0.299	0.301	0.294	0.277	0.290	0.305	0.266

Notes: The table reports average estimates of market power (weighted by market shares) by country and year. Averages are obtained from the bank-level estimates of market power using the Lerner index, as this is defined in Eq. (1). Higher values reflect higher market power (lower competition).

Table 6
Average estimates of market power (weighted by market shares) using the adjusted-Lerner index

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Mean
Afghanistan									0.412	0.129	0.017	0.400	0.259	0.027	0.207
Albania			0.515	0.258	0.133	0.125	0.187	0.152	0.295	0.247	0.293	0.248	0.227	0.273	0.211
Algeria	0.009	0.028	0.042	0.041	0.058	0.230	0.145	0.098	0.207	0.460	0.420	0.512	0.496	0.468	0.230
Andorra	0.220	0.254	0.315	0.324	0.299	0.366	0.443	0.479	0.438	0.449	0.374	0.236			0.350
Angola	0.248	0.296	0.065	0.046	0.270	0.133			0.364	0.194	0.375	0.435	0.361	0.405	0.266
Antigua and Barbuda				0.051	0.090	0.123	0.138				0.249	0.276	0.301		0.175
Argentina	0.183	0.098	0.097	0.115	0.042	0.038	-0.013	0.104	0.194	0.197	0.177	0.155	0.256	0.288	0.138
Armenia	0.082	0.180	0.135	0.105	0.144	0.341	0.320	0.391	0.373	0.345	0.322	0.301	0.140	0.253	0.245
Australia	0.281	0.230	0.137	0.160	-0.125	0.238			0.241	0.221	0.208	0.139	0.167	0.204	0.175
Austria	0.097	0.055	0.092	0.089	0.077	0.081	0.116	0.135	0.134	0.184	0.145	0.074	0.099	0.148	0.109
Azerbaijan	0.487	0.311	0.187	0.424	0.325	0.258	0.259	0.303	0.300	0.303	0.325	0.273	0.174	0.062	0.285
Bahamas, The	0.152	0.172	0.189	0.249	0.273	0.175	0.284	0.328	0.383	0.372	0.399	0.289	0.357	0.331	0.282
Bahrain	0.167	0.088	0.112	0.120	0.129	0.126	0.214	0.372	0.278	0.202	0.148	0.118			0.173
Bangladesh	0.040	-0.023	0.035	0.062	0.092	0.092	0.090	0.115	0.097	0.163	0.174	0.216	0.240	0.293	0.120
Belarus	-0.124	0.015	-0.034	0.077	-0.054	0.131	0.115	0.116	0.158	0.152	0.164	0.124	0.177	0.178	0.085
Belgium	0.083	0.058	0.114	0.118	0.124	0.111	0.149	0.142	0.140	0.161	0.072	-0.068	0.028	0.127	0.097
Bermuda	0.095	0.105	0.120	0.153	0.111	0.170	0.204	0.307	0.321	0.281	0.273	0.237	0.210	0.240	0.202
Bolivia	0.110	0.076	0.085	-0.041	0.027	0.046	0.097	0.079	0.124	0.196	0.220	0.221	0.232	0.215	0.121
Bosnia and Herzegovina								0.091	0.128	0.140	0.144	0.074	0.071	0.096	0.106
Botswana	0.211	0.289	0.284	0.269	0.318	0.326	0.329	0.314	0.339	0.308	0.239	0.274	0.266	0.310	0.291
Brazil	0.087	0.063	0.065	0.107	0.103	0.104	0.166	0.161	0.187	0.168	0.231	0.089	0.208	0.200	0.139
Bulgaria					0.295	0.239	0.346	0.336	0.309	0.332	0.347	0.303	0.189	0.182	0.288
Burkina Faso	0.303	0.386	0.298	0.191	0.196	0.329	0.272	0.232	0.160	0.208	0.165	0.127	0.223	0.302	0.242
Cambodia				0.445	0.000	0.246	0.274	0.285	0.273	0.372	0.462	0.503	0.309	0.302	0.316
Cameroon			0.286	0.308	0.279	0.309	0.381	0.341	0.299	0.320	0.323	0.289	0.264	0.304	0.309
Canada	0.120	0.072	0.151	0.125	0.122	0.090	0.169	0.216	0.176	0.206	0.184	0.127	0.193	0.272	0.159
Cayman Islands	0.138														0.138
Chile	0.124	0.105	0.068	0.148	0.183	0.249	0.171	0.155	0.187	0.238	0.277	0.133	0.280	0.289	0.186
China	0.392	0.352	0.185	0.201	0.214	0.269	0.294	0.329	0.327	0.328	0.378	0.331	0.375	0.416	0.314
Colombia	0.077	0.023	0.000	-0.016	0.063	0.092	0.180	0.241	0.255	0.217	0.227	0.208	0.224	0.284	0.148
Costa Rica	0.066	0.079	0.071	0.164	0.167	0.142	0.210	0.203	0.194	0.190	0.188	0.148	0.095	0.161	0.148
Cote d'Ivoire	0.235	0.193	0.198	0.184	0.137	0.088	0.091	0.154	0.191	0.248	0.273	0.255	0.272	0.231	0.196
Croatia	0.135	0.093	0.105	0.198	0.189	0.215	0.232	0.236	0.256	0.231	0.234	0.220	0.187	0.204	0.195
Cuba	0.822	0.761	0.726	0.684	0.554	0.681	0.778	0.770	0.683	0.607	0.454	0.559	0.516	0.611	0.658
Cyprus	0.126	0.117	0.273	0.165	0.068	-0.022	0.035	0.062	0.122	0.196	0.258	0.172	0.138	0.130	0.131
Czech Republic	0.055	-0.002	0.016	0.103	0.146	0.249	0.295	0.316	0.330	0.321	0.307	0.217	0.355	0.360	0.219
Denmark	0.147	0.146	0.120	0.118	0.186	0.206	0.339	0.194	0.205	0.191	0.147	0.023	0.048	0.108	0.156
Dominican Republic	0.162	0.138	0.139	0.142	0.146	0.169	0.122	0.093	0.155	0.189	0.213	0.207	0.184	0.233	0.164
Ecuador	0.019	-0.052	0.039	0.081	0.125	0.143	0.138	0.160	0.199	0.216	0.201	0.211	0.172	0.188	0.131
Egypt, Arab Rep.											0.237	0.046	0.285	0.222	0.197
El Salvador	0.129	0.137	0.086	0.091	0.138	0.181	0.185	0.205	0.205	0.288	0.271	0.251	0.176	0.334	0.191
Estonia	0.257	0.000	0.034	-0.052	0.116	0.218	0.295	0.332	0.349	0.364	0.345	0.222	0.001	0.086	0.183
Ethiopia	0.157	0.205	0.232	0.213	0.345	0.247	0.529	0.491	0.559	0.597	0.527	0.610	0.637	0.591	0.424
Finland	0.000	0.378	0.335	0.393			0.261	0.207	0.168	0.190	0.191	0.113	0.197	0.251	0.224
France	0.072	0.090	0.105	0.097	0.105	0.119	0.134	0.178	0.186	0.195	0.169	0.131	0.159	0.193	0.138
Gambia, The	0.491		0.557	0.544	0.542	0.528	0.492	0.442	0.361	0.363	0.265	0.322	0.215	0.297	0.417
Georgia		0.329	0.283	0.230	0.236	0.257	0.269	0.197	0.297	0.246	0.219	0.034	0.046	0.178	0.217
Germany	0.117	0.106	0.100	0.087	0.067	0.064	0.097	0.099	0.110	0.100	0.085	0.061	0.108	0.130	0.095
Ghana	0.037	0.435	0.410	0.055		0.406	0.426	0.431	0.466	0.427	0.269	0.203	0.119	0.244	0.302

Greece	0.126	0.123	0.388	0.127	0.000	0.072	0.075	0.081	0.116	0.154	0.098	0.050	0.075	0.003	0.106
Guatemala				0.083	0.120	0.108	0.164	0.198	0.231	0.239	0.227	0.234	0.219	0.243	0.188
Haiti	0.208	0.139	0.108	0.142	0.146	0.093	0.209	0.074	0.126	0.199	0.184	0.206	0.209	0.235	0.163
Honduras	0.327	0.162	0.121	0.063	0.112	0.114	0.162	0.146	0.183	0.217	0.228	0.210	0.155	0.164	0.169
Hong Kong SAR, China	0.223	0.103	0.118	0.231	0.066	0.304	0.329	0.423	0.315	0.277	0.233	0.150	0.247	0.319	0.239
Hungary	0.146	0.107	0.054	0.118	0.151	0.152	0.176	0.165	0.200	0.194	0.185	0.129	0.052	-0.011	0.130
Iceland	0.104	0.129	0.158	0.029	0.081	0.139	0.094	0.154	0.318	0.397	0.253	0.188	0.222	0.331	0.185
India	0.062	0.098	0.064	0.101	0.079	0.125	0.158	0.219	0.165	0.182	0.178	0.142	0.137	0.162	0.134
Indonesia	0.061	0.015	0.014	0.080	0.123	0.143	0.192	0.316	0.197	0.198	0.246	0.242	0.247	0.297	0.169
Iraq											0.440	0.309			0.374
Ireland	0.161	0.146	0.193	0.179	0.059	0.093	0.221	0.210	0.069	0.137	0.129	0.029	0.008	0.000	0.117
Israel	0.126	0.042	0.065	0.092	0.020	0.020	-0.005	0.084	0.089	0.181	0.168	0.097	0.157	0.113	0.089
Italy	0.098	0.148	0.143	0.191	0.160	0.179	0.166	0.151	0.199	0.224	0.208	0.138	0.145	0.144	0.164
Jamaica	0.128	0.158	0.201		0.289	0.217	0.266	0.227	0.264	0.272	0.264	0.283	0.269	0.316	0.243
Japan	0.066	0.114	0.114	0.122	0.125	0.102	0.108	0.147	0.180	0.203	0.196	0.142	0.085	0.143	0.132
Jordan	0.123	0.136	0.112	0.094	0.134	0.141	0.222	0.319	0.461	0.392	0.334	0.330	0.295	0.352	0.246
Kazakhstan	0.229	0.222	0.204	0.159	0.164	0.237	0.232	0.247	0.241	0.238	0.260	0.037	0.063	0.304	0.203
Kenya	0.112	0.216	0.219	0.256	0.252	0.239	0.292	0.287	0.296	0.338	0.339	0.307	0.299	0.360	0.272
Korea, Rep.	-0.010	-0.070	0.045	0.087	0.137	0.134	0.047	0.156	0.253	0.250	0.242	0.105	0.092	0.080	0.111
Kuwait	0.171	0.216	0.271	0.285	0.357	0.421	0.484	0.533	0.532	0.435	0.380				0.371
Kyrgyz Republic	0.129			0.304	0.014	0.368	0.257	0.350	0.353	0.380	0.445	0.254	0.299	0.272	0.285
Lao PDR		0.038				0.019	0.517	0.394	0.350	0.550	0.683	0.315	0.286	0.349	0.350
Latvia	0.254	0.004	0.172	0.261	0.238	0.262	0.285	0.330	0.351	0.331	0.296	0.124	0.027	0.027	0.212
Lebanon	0.145	0.138	0.118	0.111	0.104	0.106	0.113	0.113	0.132	0.122	0.131	0.166	0.184	0.215	0.135
Libya				0.535		0.576	0.512	0.035	0.536	0.508	0.560	0.604	0.248		0.457
Lithuania	0.191	0.127	0.210	0.116	0.159	0.197	0.220	0.239	0.248	0.292	0.308	0.162	-0.003	-0.004	0.176
Luxembourg	0.094	0.084	0.109	0.119	0.107	0.129	0.148	0.183	0.187	0.197	0.177	0.116	0.210	0.274	0.152
Macao SAR, China	0.094	0.039	0.094	0.109	0.104	0.181	0.237	0.371	0.369	0.313	0.286	0.280	0.393	0.419	0.235
Macedonia, FYR	0.240	0.269	0.195	0.067	0.097	0.110	0.209	0.322	0.205	0.296	0.280	0.224	0.145	0.153	0.201
Madagascar	0.557	0.544	0.487	0.407	0.332	0.207	0.391	0.473	0.485	0.459	0.425	0.316	0.097	0.120	0.378
Malawi	0.401	0.453	0.357	0.334	0.248	0.286	0.338	0.318	0.328	0.441	0.496	0.442	0.419	0.371	0.374
Malaysia	0.194	0.061	0.158	0.265	0.229	0.275	0.276	0.305	0.280	0.283	0.287	0.318	0.297	0.372	0.257
Mali	0.215	0.174	0.152	0.065	0.255	0.209	0.176	0.122	0.115	0.250	0.206	0.225	0.223	0.230	0.187
Malta	0.187	0.200	0.152	0.172	0.166	0.215	0.290	0.336	0.356	0.351	0.336	0.287	0.294	0.345	0.263
Mauritania	0.344	0.383				0.226	0.262	0.185	0.379	0.411	0.192	0.098	0.220	0.128	0.257
Mauritius	0.104	0.161	0.157	0.152	0.185	0.297	0.198	0.295	0.312	0.274	0.251	0.262	0.267	0.371	0.235
Mexico	-0.018	-0.015	0.054	0.030		0.340			0.003	0.009					0.057
Moldova	0.300	0.248	0.305	0.381	0.391	0.355	0.346	0.298	0.272	0.324	0.322	0.230	0.105	0.196	0.291
Mongolia			0.097	0.161	0.157	0.174	0.143	0.117	0.106	0.081	0.147	0.169	0.181	0.184	0.143
Montenegro						0.018	0.197	0.179	0.129	0.139	0.148	0.106	0.042	0.048	0.112
Morocco	0.152	0.086	0.204	0.216	0.214	0.170	0.176	0.259	0.277	0.225	0.265	0.251	0.228	0.272	0.214
Mozambique	0.307	0.195	0.217	0.173	0.212	0.204	0.178	0.230	0.205	0.315	0.346	0.353	0.345	0.312	0.257
Namibia				0.042		0.000	0.445	0.000	0.247	0.211	0.232	0.233	0.224	0.264	0.190
Nepal	0.329	0.180	0.284	0.318	0.301	0.261	0.181	0.281	0.366	0.356	0.322	0.350	0.342	0.294	0.297
Netherlands Antilles		0.114	0.000	0.242		0.144	0.146								0.129
Netherlands	0.115	0.099	0.135	0.197	0.205	0.086	0.078	0.155	0.194	0.106	0.163	0.152	0.126	0.238	0.146
New Zealand	0.110	0.076	0.218	0.217	0.223	0.249	0.155		0.188	0.204	0.189	0.165	0.128		0.177
Nicaragua						0.192	0.248	0.273	0.308	0.229	0.199	0.260	0.227	0.244	0.242
Niger	0.234	0.331	0.066	0.150	0.099	0.130	0.061	0.193	0.192	0.200	0.150	0.284	0.275	0.298	0.190
Nigeria	0.207	0.220	0.227	0.211	0.207	0.207	0.221	0.249	0.272	0.258	0.283	0.282	0.089	0.215	0.225
Norway	0.170	0.056	0.131	0.135	0.115	0.111	0.153	0.213	0.293	0.251	0.195	0.125	0.187	0.253	0.171
Oman	0.282	0.257	0.217	0.191	0.065	0.233	0.272	0.343	0.416	0.420	0.388	0.368	0.331		0.291

Pakistan	0.037	0.055	-0.131	0.045	0.082	0.184	0.307	0.311	0.388	0.364	0.285	0.180	0.196	0.216	0.180
Panama	0.197	0.167	0.315	0.220	0.202	0.259	0.315	0.248	0.264	0.182	0.251	0.232	0.229	0.266	0.239
Papua New Guinea		0.203	0.119	0.126			0.387	0.633	0.521	0.502	0.605	0.586	0.522	0.478	0.426
Paraguay	0.251	0.204	0.081	0.067	0.064	-0.179	-0.085	0.055	0.108	0.101	0.120	0.193	0.152	0.208	0.096
Peru	0.117	0.060	0.051	0.031	0.064	0.136	0.217	0.239	0.300	0.300	0.325	0.331	0.351	0.311	0.202
Philippines	0.201	0.156	0.079	0.000	0.056	0.167	0.249	0.175	0.194	0.200	0.204	0.173	0.227	0.284	0.169
Poland	0.151	0.165	0.149	0.134	0.139	0.129	0.114	0.145	0.200	0.238	0.229	0.149	0.100	0.133	0.155
Portugal	0.044	0.053	0.061	0.138	0.128	0.131	0.182	0.201	0.169	0.141	0.114	0.047	0.074	0.071	0.111
Qatar				0.205	0.257	0.400	0.476	0.519	0.555	0.430	0.395	0.335	0.297		0.387
Romania	0.229	0.157	0.162	0.181	0.201	0.166	0.157	0.228	0.200	0.191	0.151	0.176	0.078	0.097	0.170
Russian Federation	0.173	0.029	0.369	0.348	0.389	0.320	0.272	0.298	0.274	0.241	0.221	0.192	0.107	0.157	0.242
Rwanda					0.194	0.134	0.159	0.070	0.108	0.291	0.373	0.267	0.147	0.311	0.205
San Marino	0.166	0.246	0.397	0.371	0.313	0.295	0.197	0.233	0.306	0.224	0.168	0.047			0.247
Saudi Arabia	0.236	0.225	0.215	0.227	0.285	0.376	0.456	0.445	0.467	0.450	0.261	0.162	0.197	0.049	0.289
Senegal	0.194	0.232	0.249	0.292	0.298	0.268	0.298	0.304	0.288	0.297	0.265	0.245	0.221	0.226	0.263
Serbia						0.023	0.298	0.231	0.162	0.155	0.175	0.232	0.151	0.122	0.172
Seychelles		0.158						0.457	0.550	0.564	0.592	0.584	0.340	0.524	0.471
Sierra Leone	-0.111	0.438		0.647	0.545	0.478	0.473	0.482	0.429	0.340	0.136	0.098	0.148	0.283	0.337
Singapore	0.130	0.103	0.286	0.304	0.277	0.166		0.414	0.307	0.335	0.313	0.311	0.406	0.404	0.289
Slovak Republic	0.003	0.000	0.095	0.176	0.152	0.161	0.204	0.225	0.251	0.269	0.255	0.248	0.165	0.299	0.179
Slovenia	0.154	0.163	0.166	0.164	0.173	0.186	0.171	0.197	0.210	0.214	0.207	0.095	0.045	0.071	0.158
South Africa	0.075	0.124	0.148	0.156	0.110	0.210	0.071	0.134	0.194	0.203	0.184	0.138	0.111	0.145	0.143
Spain	0.093	0.112	0.211	0.186	0.154	0.163	0.170	0.229	0.238	0.248	0.219	0.143	0.154	0.175	0.178
Sri Lanka	0.088	0.096	0.103	0.029	0.041	0.077	0.146	0.144	0.166	0.167	0.145	0.120	0.149	0.219	0.121
Sudan	0.376	0.245	0.241	0.238	0.104	0.245	0.121	0.215	0.201	0.036	0.164	0.211	0.183	0.208	0.199
Sweden	0.191	0.192	0.181	0.183	0.306	0.099	0.177	0.247	0.243	0.221	0.183	0.136	0.052	0.214	0.187
Switzerland	0.005	0.124	0.148	0.139	0.096	0.098	0.151	0.180	0.145	0.143	0.055	0.029	0.073	0.173	0.111
Syrian Arab Republic									0.461	0.064	0.294	0.606	0.538	0.552	0.419
Taiwan				0.131	0.112	0.072	0.187	0.164	0.153	0.121	0.160	0.104	0.186	0.284	0.152
Tanzania							0.462	0.441	0.349	0.346	0.376	0.358	0.285	0.271	0.361
Thailand	0.055	0.016	0.027	0.151	0.108	0.137	0.238	0.304	0.334	0.207	0.188	0.249	0.297	0.339	0.189
Togo	0.242	0.137	0.133	0.367	0.209	0.078	0.140	0.584	0.263	0.327	0.285	0.317	0.230	0.314	0.259
Trinidad and Tobago	0.180	0.175	0.223	0.251	0.264	0.276	0.333	0.335	0.338	0.311	0.331	0.346	0.281	0.270	0.280
Tunisia	0.370	0.311	0.321	0.176	0.267	0.140	0.120	0.100	0.138	0.153	0.185	0.214	0.232	0.227	0.211
Turkey	-0.007	0.006	0.121	0.043	0.037	0.113	0.133	0.212	0.254	0.206	0.217	0.171	0.272	0.304	0.149
Uganda											0.310	0.358	0.338	0.310	0.329
Ukraine	0.152	0.051	0.229	0.100	0.117	0.098	0.156	0.145	0.157	0.150	0.140	0.114	0.044	0.085	0.124
United Arab Emirates	0.303	0.272	0.272	0.260	0.306	0.423	0.466	0.494	0.502	0.355	0.325	0.303	0.274	0.312	0.348
United Kingdom	0.166	0.158	0.168	0.249	0.120	0.265	0.246	0.256	0.214	0.207	0.192	0.093	0.103	0.113	0.182
United States	0.213	0.206	0.230	0.194	0.216	0.283	0.323	0.303	0.287	0.250	0.168	0.088	0.128	0.213	0.222
Uruguay	0.028	0.044	0.041	0.043	0.020	0.235	-0.029	0.124	0.042	0.176	0.211	0.319	0.171	0.204	0.116
Uzbekistan	0.326	0.321	0.268	0.200	0.203	0.157	0.154	0.145	0.109	0.170	0.194	0.174	0.147	0.169	0.195
Venezuela, RB	0.261	0.211	0.146	0.158	0.184	0.223	0.284	0.324	0.246	0.253	0.239	0.202	0.193	0.231	0.225
Vietnam	0.379	0.346	0.314	0.273	0.221	0.283	0.263	0.299	0.218	0.194	0.242	0.148	0.167	0.177	0.252
Yemen, Rep.									0.020	0.168	0.185	0.119	0.188	0.140	0.137
Zambia	0.000	0.020	0.135	0.137	0.187	0.192	0.097	0.132	0.249	0.269	0.307	0.237	0.211	0.219	0.171
Zimbabwe													0.260	0.286	0.273
Mean	0.167	0.156	0.172	0.179	0.170	0.194	0.228	0.250	0.261	0.261	0.256	0.222	0.208	0.236	0.213

Notes: The table reports average estimates of market power (weighted by market shares) by country and year. Averages are obtained from the bank-level estimates of market power using the adjusted-Lerner index, as this is defined in Eq. (2). Higher values reflect higher market power (lower competition).

Table 7
Average estimates of market power (weighted by market shares) using profit elasticity

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Mean
Afghanistan									-0.339	-0.331	-0.375	-0.355	-0.382	-0.399	-0.363
Albania	-0.341	-0.392	-0.550	-0.506	-0.426	-0.415	-0.430	-0.398	-0.389	-0.392	-0.393	-0.417	-0.396	-0.391	-0.417
Algeria	-0.647	-0.692	-0.679	-0.659	-0.600	-0.590	-0.396	-0.392	-0.401	-0.400	-0.401	-0.394	-0.396	-0.362	-0.501
Andorra	-0.633	-0.635	-0.538	-0.632	-0.616	-0.453	-0.395	-0.389	-0.387	-0.400	-0.479	-0.625			-0.515
Angola	-0.368	-0.401	-0.372	-0.344	-0.415	-0.404			-0.395	-0.400	-0.398	-0.407	-0.469	-0.493	-0.405
Antigua and Barbuda				-0.472	-0.465	-0.433	-0.397				-0.389	-0.406	-0.422		-0.426
Argentina	-0.408	-0.419	-0.424	-0.429	-0.444	-0.635	-0.545	-0.451	-0.436	-0.451	-0.446	-0.466	-0.432	-0.441	-0.459
Armenia	-0.591	-0.552	-0.606	-0.616	-0.562	-0.400	-0.389	-0.382	-0.380	-0.395	-0.394	-0.450	-0.468	-0.465	-0.475
Australia	-0.449	-0.582	-0.537	-0.420	-0.410	-0.456			-0.438	-0.467	-0.513	-0.559	-0.440	-0.424	-0.474
Austria	-0.572	-0.485	-0.478	-0.608	-0.503	-0.456	-0.428	-0.445	-0.484	-0.514	-0.517	-0.532	-0.465	-0.430	-0.494
Azerbaijan	-0.625	-0.544	-0.448	-0.403	-0.417	-0.420	-0.397	-0.436	-0.435	-0.444	-0.498	-0.547	-0.549	-0.590	-0.482
Bahamas, The	-0.399	-0.402	-0.419	-0.420	-0.401	-0.395	-0.400	-0.400	-0.403	-0.393	-0.401	-0.395	-0.399	-0.422	-0.403
Bahrain	-0.666	-0.676	-0.661	-0.685	-0.602	-0.458	-0.483	-0.449	-0.517	-0.635	-0.670	-0.605			-0.592
Bangladesh	-0.418	-0.417	-0.426	-0.428	-0.433	-0.432	-0.427	-0.423	-0.444	-0.445	-0.455	-0.480	-0.465	-0.447	-0.439
Belarus	-0.398	-0.397	-0.460	-0.516	-0.487	-0.521	-0.465	-0.423	-0.415	-0.446	-0.488	-0.557	-0.633	-0.642	-0.489
Belgium	-0.605	-0.602	-0.430	-0.470	-0.433	-0.422	-0.404	-0.401	-0.541	-0.561	-0.633	-0.629	-0.547	-0.454	-0.509
Bermuda	-0.393	-0.397	-0.392	-0.413	-0.412	-0.407	-0.367	-0.369	-0.396	-0.395	-0.394	-0.400	-0.360	-0.349	-0.389
Bolivia	-0.460	-0.446	-0.454	-0.439	-0.418	-0.402	-0.396	-0.385	-0.395	-0.396	-0.396	-0.398	-0.395	-0.368	-0.411
Bosnia and Herzegovina								-0.431	-0.422	-0.414	-0.448	-0.466	-0.472	-0.424	-0.440
Botswana	-0.455	-0.414	-0.393	-0.438	-0.402	-0.392	-0.391	-0.390	-0.395	-0.401	-0.421	-0.400	-0.408	-0.397	-0.407
Brazil	-0.546	-0.579	-0.576	-0.494	-0.536	-0.605	-0.461	-0.435	-0.457	-0.441	-0.429	-0.526	-0.456	-0.459	-0.500
Bulgaria					-0.399	-0.396	-0.396	-0.403	-0.422	-0.410	-0.404	-0.423	-0.442	-0.418	-0.411
Burkina Faso	-0.399	-0.401	-0.399	-0.397	-0.396	-0.397	-0.397	-0.393	-0.395	-0.395	-0.394	-0.396	-0.399	-0.420	-0.398
Cambodia				-0.397	-0.400	-0.504	-0.398	-0.431	-0.393	-0.400	-0.407	-0.540	-0.564	-0.441	-0.443
Cameroon			-0.388	-0.418	-0.403	-0.402	-0.394	-0.417	-0.428	-0.422	-0.444	-0.413	-0.389	-0.369	-0.407
Canada	-0.466	-0.433	-0.404	-0.402	-0.406	-0.397	-0.397	-0.395	-0.395	-0.395	-0.394	-0.395	-0.394	-0.389	-0.404
Cayman Islands	-0.512														-0.512
Chile	-0.646	-0.669	-0.592	-0.619	-0.518	-0.400	-0.398	-0.396	-0.399	-0.401	-0.401	-0.506	-0.396	-0.394	-0.481
China	-0.703	-0.667	-0.535	-0.443	-0.400	-0.394	-0.393	-0.394	-0.391	-0.395	-0.395	-0.394	-0.391	-0.394	-0.449
Colombia	-0.499	-0.546	-0.539	-0.443	-0.426	-0.404	-0.396	-0.393	-0.411	-0.401	-0.395	-0.404	-0.399	-0.395	-0.432
Costa Rica	-0.619	-0.574	-0.574	-0.552	-0.502	-0.498	-0.433	-0.446	-0.433	-0.421	-0.421	-0.538	-0.534	-0.428	-0.498
Cote d'Ivoire	-0.399	-0.401	-0.407	-0.401	-0.401	-0.400	-0.397	-0.397	-0.393	-0.381	-0.383	-0.401	-0.397	-0.396	-0.397
Croatia	-0.469	-0.473	-0.510	-0.417	-0.395	-0.402	-0.401	-0.402	-0.400	-0.400	-0.409	-0.422	-0.453	-0.420	-0.427
Cuba	-0.389	-0.387	-0.640	-0.703	-0.591	-0.446	-0.339	-0.410	-0.433	-0.521	-0.667	-0.551	-0.551	-0.697	-0.523
Cyprus	-0.523	-0.507	-0.461	-0.479	-0.453	-0.439	-0.455	-0.450	-0.440	-0.412	-0.424	-0.462	-0.435	-0.436	-0.455
Czech Republic	-0.642	-0.635	-0.532	-0.435	-0.418	-0.407	-0.400	-0.407	-0.404	-0.404	-0.401	-0.395	-0.402	-0.401	-0.449
Denmark	-0.396	-0.398	-0.393	-0.397	-0.406	-0.401	-0.396	-0.614	-0.580	-0.595	-0.598	-0.615	-0.514	-0.457	-0.483
Dominican Republic	-0.462	-0.516	-0.523	-0.553	-0.555	-0.528	-0.497	-0.464	-0.430	-0.413	-0.408	-0.402	-0.400	-0.400	-0.468
Ecuador	-0.684	-0.642	-0.651	-0.442	-0.416	-0.402	-0.398	-0.392	-0.388	-0.395	-0.396	-0.395	-0.390	-0.390	-0.456
Egypt, Arab Rep.											-0.414	-0.445	-0.428	-0.440	-0.432
El Salvador	-0.575	-0.583	-0.592	-0.554	-0.432	-0.389	-0.389	-0.391	-0.391	-0.393	-0.392	-0.388	-0.388	-0.398	-0.447
Estonia	-0.425	-0.641	-0.522	-0.507	-0.444	-0.392	-0.389	-0.390	-0.391	-0.393	-0.399	-0.544	-0.467	-0.389	-0.449
Ethiopia	-0.572	-0.540	-0.514	-0.497	-0.400	-0.452	-0.400	-0.390	-0.394	-0.400	-0.392	-0.400	-0.399	-0.400	-0.439
Finland	-0.388	-0.401	-0.393	-0.387			-0.391	-0.383	-0.378	-0.388	-0.395	-0.432	-0.397	-0.382	-0.393
France	-0.467	-0.465	-0.453	-0.462	-0.441	-0.431	-0.412	-0.425	-0.447	-0.455	-0.485	-0.521	-0.500	-0.459	-0.459
Gambia, The	-0.422		-0.392	-0.392	-0.393	-0.393	-0.397	-0.429	-0.423	-0.389	-0.378	-0.381	-0.375	-0.370	-0.395
Georgia		-0.479	-0.496	-0.465	-0.451	-0.405	-0.393	-0.389	-0.405	-0.485	-0.579	-0.615	-0.578	-0.534	-0.483
Germany	-0.444	-0.442	-0.434	-0.444	-0.445	-0.428	-0.418	-0.412	-0.407	-0.406	-0.412	-0.417	-0.401	-0.399	-0.422
Ghana	-0.487	-0.462	-0.518	-0.404		-0.394	-0.394	-0.401	-0.399	-0.399	-0.397	-0.396	-0.413	-0.398	-0.420

Greece	-0.427	-0.465	-0.428	-0.534	-0.341	-0.389	-0.396	-0.399	-0.400	-0.395	-0.392	-0.411	-0.391	-0.392	-0.411
Guatemala				-0.671	-0.673	-0.653	-0.502	-0.463	-0.454	-0.446	-0.436	-0.407	-0.409	-0.406	-0.502
Haiti	-0.391	-0.397	-0.413	-0.401	-0.397	-0.399	-0.401	-0.398	-0.378	-0.396	-0.398	-0.364	-0.333	-0.340	-0.386
Honduras	-0.467	-0.602	-0.506	-0.447	-0.403	-0.391	-0.389	-0.407	-0.398	-0.399	-0.402	-0.426	-0.440	-0.448	-0.437
Hong Kong SAR, China	-0.660	-0.672	-0.674	-0.667	-0.442	-0.392	-0.392	-0.395	-0.449	-0.507	-0.490	-0.393	-0.381	-0.391	-0.493
Hungary	-0.586	-0.565	-0.502	-0.457	-0.448	-0.453	-0.428	-0.466	-0.427	-0.433	-0.451	-0.474	-0.496	-0.414	-0.471
Iceland	-0.480	-0.510	-0.650	-0.694	-0.698	-0.592	-0.456	-0.454	-0.532	-0.651	-0.684	-0.494	-0.444	-0.404	-0.553
India	-0.499	-0.501	-0.518	-0.514	-0.496	-0.487	-0.453	-0.415	-0.403	-0.413	-0.416	-0.464	-0.492	-0.465	-0.467
Indonesia	-0.615	-0.650	-0.567	-0.558	-0.618	-0.586	-0.527	-0.417	-0.414	-0.445	-0.408	-0.410	-0.407	-0.400	-0.502
Iraq											-0.500	-0.538			-0.519
Ireland	-0.579	-0.574	-0.485	-0.486	-0.394	-0.392	-0.515	-0.535	-0.560	-0.532	-0.608	-0.596	-0.550	-0.373	-0.513
Israel	-0.440	-0.558	-0.506	-0.507	-0.528	-0.474	-0.405	-0.387	-0.398	-0.400	-0.397	-0.397	-0.396	-0.400	-0.442
Italy	-0.517	-0.481	-0.451	-0.436	-0.437	-0.401	-0.384	-0.390	-0.408	-0.416	-0.443	-0.483	-0.419	-0.398	-0.433
Jamaica	-0.640	-0.387	-0.390		-0.397	-0.461	-0.479	-0.495	-0.440	-0.432	-0.425	-0.408	-0.442	-0.405	-0.446
Japan	-0.396	-0.394	-0.372	-0.354	-0.348	-0.342	-0.336	-0.335	-0.335	-0.336	-0.340	-0.350	-0.356	-0.346	-0.353
Jordan	-0.479	-0.461	-0.465	-0.480	-0.444	-0.409	-0.399	-0.395	-0.397	-0.409	-0.410	-0.409	-0.397	-0.403	-0.425
Kazakhstan	-0.392	-0.520	-0.503	-0.409	-0.417	-0.435	-0.539	-0.568	-0.585	-0.593	-0.596	-0.631	-0.614	-0.616	-0.530
Kenya	-0.646	-0.494	-0.450	-0.414	-0.403	-0.385	-0.372	-0.362	-0.371	-0.374	-0.380	-0.394	-0.394	-0.386	-0.416
Korea, Rep.	-0.658	-0.685	-0.666	-0.670	-0.618	-0.498	-0.460	-0.419	-0.411	-0.457	-0.520	-0.591	-0.501	-0.427	-0.541
Kuwait	-0.543	-0.680	-0.644	-0.648	-0.531	-0.476	-0.404	-0.392	-0.413	-0.522	-0.607				-0.533
Kyrgyz Republic	-0.399			-0.398	-0.408	-0.453	-0.378	-0.380	-0.390	-0.389	-0.383	-0.478	-0.453	-0.370	-0.407
Lao PDR		-0.611				-0.401	-0.397	-0.401	-0.434	-0.485	-0.401	-0.450	-0.410	-0.396	-0.439
Latvia	-0.394	-0.422	-0.418	-0.396	-0.401	-0.392	-0.392	-0.390	-0.409	-0.438	-0.484	-0.543	-0.502	-0.428	-0.429
Lebanon	-0.635	-0.642	-0.643	-0.645	-0.650	-0.610	-0.578	-0.536	-0.524	-0.553	-0.545	-0.491	-0.465	-0.452	-0.569
Libya				-0.388		-0.387	-0.389	-0.410	-0.387	-0.359	-0.353	-0.352	-0.333		-0.373
Lithuania	-0.395	-0.397	-0.413	-0.406	-0.396	-0.399	-0.399	-0.399	-0.394	-0.402	-0.417	-0.508	-0.470	-0.398	-0.414
Luxembourg	-0.612	-0.643	-0.581	-0.557	-0.517	-0.517	-0.509	-0.522	-0.488	-0.490	-0.474	-0.486	-0.482	-0.432	-0.522
Macao SAR, China	-0.576	-0.580	-0.545	-0.556	-0.523	-0.394	-0.394	-0.398	-0.398	-0.491	-0.493	-0.392	-0.383	-0.384	-0.465
Macedonia, FYR	-0.433	-0.435	-0.446	-0.437	-0.399	-0.402	-0.402	-0.400	-0.400	-0.401	-0.397	-0.394	-0.390	-0.392	-0.409
Madagascar	-0.399	-0.401	-0.400	-0.415	-0.410	-0.410	-0.398	-0.371	-0.395	-0.425	-0.526	-0.392	-0.392	-0.391	-0.409
Malawi	-0.400	-0.393	-0.628	-0.531	-0.536	-0.463	-0.428	-0.397	-0.394	-0.389	-0.399	-0.394	-0.392	-0.398	-0.439
Malaysia	-0.562	-0.629	-0.488	-0.417	-0.412	-0.401	-0.424	-0.411	-0.405	-0.406	-0.402	-0.396	-0.388	-0.384	-0.437
Mali	-0.383	-0.383	-0.396	-0.395	-0.396	-0.393	-0.394	-0.392	-0.395	-0.398	-0.399	-0.399	-0.398	-0.399	-0.394
Malta	-0.457	-0.440	-0.525	-0.437	-0.426	-0.431	-0.411	-0.423	-0.425	-0.426	-0.443	-0.439	-0.423	-0.420	-0.438
Mauritania	-0.390	-0.485				-0.416	-0.384	-0.393	-0.396	-0.385	-0.417	-0.393	-0.376	-0.384	-0.402
Mauritius	-0.685	-0.687	-0.688	-0.666	-0.629	-0.646	-0.481	-0.484	-0.513	-0.510	-0.534	-0.511	-0.443	-0.422	-0.564
Mexico	-0.534	-0.669	-0.660	-0.633		-0.701			-0.572	-0.540					-0.616
Moldova	-0.635	-0.680	-0.517	-0.451	-0.488	-0.431	-0.420	-0.430	-0.416	-0.417	-0.469	-0.560	-0.574	-0.411	-0.493
Mongolia			-0.594	-0.531	-0.467	-0.525	-0.543	-0.525	-0.566	-0.582	-0.575	-0.535	-0.443	-0.634	-0.543
Montenegro						-0.392	-0.396	-0.402	-0.389	-0.385	-0.458	-0.426	-0.398	-0.391	-0.404
Morocco	-0.547	-0.550	-0.485	-0.426	-0.426	-0.418	-0.414	-0.408	-0.401	-0.405	-0.417	-0.412	-0.408	-0.402	-0.437
Mozambique	-0.408	-0.399	-0.398	-0.400	-0.402	-0.401	-0.399	-0.396	-0.395	-0.400	-0.401	-0.397	-0.395	-0.394	-0.399
Namibia				-0.387		-0.397	-0.630	-0.690	-0.403	-0.406	-0.391	-0.403	-0.408	-0.393	-0.451
Nepal	-0.495	-0.437	-0.482	-0.447	-0.443	-0.449	-0.409	-0.411	-0.396	-0.395	-0.424	-0.433	-0.454	-0.493	-0.441
Netherlands Antilles		-0.399	-0.400	-0.401		-0.693	-0.600								-0.499
Netherlands	-0.633	-0.601	-0.586	-0.553	-0.527	-0.508	-0.471	-0.571	-0.561	-0.510	-0.445	-0.425	-0.408	-0.390	-0.513
New Zealand	-0.623	-0.627	-0.490	-0.572	-0.533	-0.484	-0.438		-0.567	-0.468	-0.485	-0.530	-0.474		-0.524
Nicaragua						-0.540	-0.405	-0.390	-0.398	-0.428	-0.413	-0.398	-0.395	-0.392	-0.418
Niger	-0.345	-0.376	-0.369	-0.461	-0.376	-0.396	-0.399	-0.395	-0.397	-0.396	-0.397	-0.393	-0.397	-0.393	-0.392
Nigeria	-0.418	-0.424	-0.429	-0.463	-0.439	-0.449	-0.419	-0.406	-0.403	-0.397	-0.395	-0.395	-0.404	-0.398	-0.417
Norway	-0.471	-0.564	-0.474	-0.475	-0.465	-0.465	-0.418	-0.405	-0.402	-0.428	-0.453	-0.565	-0.442	-0.421	-0.461
Oman	-0.409	-0.441	-0.447	-0.451	-0.408	-0.394	-0.398	-0.398	-0.400	-0.400	-0.398	-0.401	-0.393		-0.411

Pakistan	-0.435	-0.495	-0.444	-0.442	-0.409	-0.417	-0.404	-0.396	-0.417	-0.458	-0.494	-0.484	-0.521	-0.488	-0.450
Panama	-0.473	-0.556	-0.480	-0.539	-0.501	-0.443	-0.425	-0.426	-0.422	-0.428	-0.409	-0.403	-0.404	-0.403	-0.451
Papua New Guinea		-0.411	-0.407	-0.404			-0.387	-0.396	-0.349	-0.374	-0.391	-0.394	-0.401	-0.394	-0.392
Paraguay	-0.468	-0.510	-0.635	-0.624	-0.651	-0.587	-0.390	-0.618	-0.508	-0.639	-0.588	-0.570	-0.538	-0.534	-0.561
Peru	-0.469	-0.536	-0.472	-0.480	-0.434	-0.398	-0.400	-0.400	-0.398	-0.399	-0.396	-0.391	-0.395	-0.390	-0.426
Philippines	-0.479	-0.486	-0.446	-0.387	-0.652	-0.492	-0.429	-0.395	-0.397	-0.396	-0.394	-0.395	-0.398	-0.399	-0.439
Poland	-0.594	-0.603	-0.499	-0.539	-0.491	-0.456	-0.495	-0.408	-0.410	-0.417	-0.417	-0.424	-0.408	-0.418	-0.470
Portugal	-0.534	-0.567	-0.507	-0.508	-0.539	-0.614	-0.624	-0.580	-0.441	-0.480	-0.508	-0.571	-0.514	-0.414	-0.529
Qatar				-0.545	-0.430	-0.392	-0.395	-0.393	-0.394	-0.493	-0.557	-0.485	-0.460		-0.454
Romania	-0.676	-0.663	-0.649	-0.640	-0.633	-0.581	-0.442	-0.442	-0.407	-0.405	-0.472	-0.508	-0.532	-0.435	-0.535
Russian Federation	-0.470	-0.478	-0.503	-0.449	-0.469	-0.437	-0.471	-0.438	-0.454	-0.475	-0.512	-0.548	-0.551	-0.478	-0.481
Rwanda					-0.393	-0.391	-0.392	-0.388	-0.417	-0.397	-0.399	-0.374	-0.380	-0.391	-0.392
San Marino	-0.676	-0.522	-0.387	-0.510	-0.609	-0.614	-0.415	-0.391	-0.391	-0.432	-0.492	-0.501			-0.495
Saudi Arabia	-0.518	-0.522	-0.469	-0.497	-0.435	-0.398	-0.399	-0.399	-0.399	-0.450	-0.447	-0.401	-0.395	-0.343	-0.434
Senegal	-0.397	-0.398	-0.399	-0.397	-0.395	-0.396	-0.397	-0.397	-0.395	-0.397	-0.392	-0.394	-0.396	-0.396	-0.396
Serbia						-0.331	-0.417	-0.394	-0.427	-0.451	-0.443	-0.448	-0.408	-0.405	-0.414
Seychelles		-0.546						-0.397	-0.394	-0.396	-0.396	-0.383	-0.396	-0.350	-0.407
Sierra Leone	-0.399	-0.380		-0.393	-0.388	-0.399	-0.394	-0.395	-0.398	-0.400	-0.399	-0.399	-0.398	-0.397	-0.395
Singapore	-0.669	-0.685	-0.565	-0.527	-0.630	-0.631		-0.389	-0.423	-0.456	-0.431	-0.391	-0.397	-0.380	-0.506
Slovak Republic	-0.667	-0.672	-0.643	-0.659	-0.454	-0.414	-0.397	-0.396	-0.393	-0.394	-0.400	-0.408	-0.398	-0.393	-0.478
Slovenia	-0.568	-0.484	-0.459	-0.505	-0.480	-0.438	-0.418	-0.396	-0.397	-0.402	-0.442	-0.537	-0.439	-0.422	-0.456
South Africa	-0.654	-0.547	-0.584	-0.460	-0.473	-0.388	-0.401	-0.392	-0.391	-0.389	-0.407	-0.490	-0.462	-0.393	-0.459
Spain	-0.629	-0.620	-0.431	-0.430	-0.428	-0.422	-0.416	-0.458	-0.518	-0.555	-0.629	-0.645	-0.497	-0.415	-0.507
Sri Lanka	-0.588	-0.499	-0.526	-0.539	-0.632	-0.531	-0.469	-0.445	-0.448	-0.469	-0.557	-0.569	-0.525	-0.437	-0.517
Sudan	-0.392	-0.390	-0.390	-0.419	-0.398	-0.423	-0.554	-0.412	-0.411	-0.594	-0.570	-0.555	-0.561	-0.606	-0.477
Sweden	-0.597	-0.591	-0.587	-0.612	-0.521	-0.413	-0.390	-0.366	-0.456	-0.444	-0.519	-0.537	-0.410	-0.401	-0.489
Switzerland	-0.452	-0.421	-0.468	-0.496	-0.447	-0.395	-0.396	-0.392	-0.455	-0.476	-0.546	-0.535	-0.387	-0.390	-0.447
Syrian Arab Republic									-0.334	-0.397	-0.571	-0.437	-0.406	-0.407	-0.425
Taiwan				-0.471	-0.468	-0.426	-0.443	-0.408	-0.405	-0.419	-0.426	-0.419	-0.396	-0.394	-0.425
Tanzania							-0.372	-0.359	-0.360	-0.375	-0.377	-0.377	-0.371	-0.375	-0.371
Thailand	-0.675	-0.681	-0.543	-0.455	-0.423	-0.405	-0.399	-0.399	-0.405	-0.414	-0.412	-0.404	-0.402	-0.399	-0.458
Togo	-0.415	-0.430	-0.401	-0.400	-0.399	-0.398	-0.394	-0.397	-0.386	-0.394	-0.396	-0.396	-0.393	-0.393	-0.400
Trinidad and Tobago	-0.516	-0.541	-0.571	-0.544	-0.562	-0.485	-0.401	-0.408	-0.437	-0.434	-0.430	-0.402	-0.392	-0.390	-0.465
Tunisia	-0.401	-0.569	-0.644	-0.681	-0.543	-0.451	-0.439	-0.411	-0.407	-0.417	-0.420	-0.427	-0.423	-0.423	-0.475
Turkey	-0.671	-0.643	-0.643	-0.638	-0.650	-0.613	-0.605	-0.551	-0.548	-0.575	-0.580	-0.560	-0.466	-0.406	-0.582
Uganda											-0.413	-0.391	-0.392	-0.371	-0.392
Ukraine	-0.492	-0.573	-0.518	-0.469	-0.474	-0.440	-0.438	-0.478	-0.498	-0.549	-0.601	-0.610	-0.622	-0.573	-0.524
United Arab Emirates	-0.444	-0.526	-0.488	-0.542	-0.488	-0.404	-0.395	-0.396	-0.422	-0.484	-0.525	-0.438	-0.410	-0.398	-0.454
United Kingdom	-0.450	-0.503	-0.484	-0.406	-0.458	-0.489	-0.397	-0.395	-0.439	-0.458	-0.465	-0.460	-0.418	-0.402	-0.445
United States	-0.441	-0.428	-0.418	-0.429	-0.410	-0.400	-0.393	-0.390	-0.402	-0.402	-0.400	-0.398	-0.376	-0.356	-0.403
Uruguay	-0.564	-0.573	-0.607	-0.602	-0.598	-0.631	-0.659	-0.567	-0.580	-0.355	-0.363	-0.370	-0.349	-0.340	-0.511
Uzbekistan	-0.586	-0.691	-0.577	-0.507	-0.536	-0.467	-0.484	-0.504	-0.466	-0.425	-0.392	-0.446	-0.525	-0.471	-0.505
Venezuela, RB	-0.400	-0.429	-0.415	-0.401	-0.407	-0.432	-0.414	-0.396	-0.394	-0.393	-0.408	-0.417	-0.409	-0.395	-0.408
Vietnam	-0.439	-0.441	-0.465	-0.411	-0.466	-0.435	-0.514	-0.465	-0.458	-0.516	-0.494	-0.549	-0.503	-0.549	-0.479
Yemen, Rep.									-0.397	-0.430	-0.431	-0.508	-0.473	-0.504	-0.457
Zambia	-0.401	-0.424	-0.393	-0.404	-0.394	-0.401	-0.398	-0.356	-0.358	-0.369	-0.374	-0.369	-0.372	-0.365	-0.384
Zimbabwe													-0.379	-0.377	-0.378
Mean	-0.508	-0.518	-0.500	-0.488	-0.470	-0.451	-0.427	-0.423	-0.424	-0.436	-0.449	-0.456	-0.435	-0.420	-0.456

Notes: The table reports average estimates of market power (weighted by market shares) by country and year. Averages are obtained from the bank-level estimates of market power using profit elasticity, as this is defined in Eq. (4). Higher values reflect higher market power (lower competition).

Table 8
Average estimates of market power (weighted by market shares) using the Lerner index, considering a two-output cost function

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Mean
Afghanistan									0.388	0.251	0.096	0.356	0.306	-0.013	0.232
Albania			0.212	0.220	0.216	0.212	0.195	0.225	0.303	0.284	0.324	0.311	0.328	0.368	0.284
Algeria	0.151	0.174	0.084	0.163	0.236	0.394	0.207	0.391	0.582	0.619	0.456	0.613	0.507	0.233	0.407
Andorra	0.264	0.119	0.137	0.367	0.314	0.382	0.467	0.512	0.512	0.514	0.447	0.290			0.362
Angola	0.284	0.322	0.291	0.405	0.216	0.199			0.295		0.467	0.499	0.311	0.200	0.328
Antigua and Barbuda				0.064	0.102		0.144				0.276	0.343	0.353		0.214
Argentina				0.013	0.114	0.112	0.023	0.172	0.264	0.065	0.032	0.052	0.043	0.074	0.102
Armenia	0.150	0.164	0.207	0.196	0.289	0.357	0.384	0.397	0.382	0.372	0.285	0.335	0.224	0.264	0.299
Australia	0.264	0.257	0.219	0.295	-0.069	0.236			0.235	0.243	0.227	0.176	0.260	0.261	0.228
Austria	0.158	0.134	0.144	0.123	0.147	0.155	0.187	0.164	0.161	0.083	0.065	0.079	0.125	0.138	0.130
Azerbaijan	0.539	0.378	0.386	0.541	0.443	0.390	0.378	0.442	0.446	0.396	0.396	0.404	0.364	0.249	0.396
Bahamas, The	0.164	0.163	0.221	0.283	0.299	0.222	0.298	0.364	0.401	0.396	0.429	0.313	0.268	0.280	0.310
Bahrain	0.214	0.185	0.185	0.171	0.188	0.249	0.234	0.291	0.274	0.210	0.196	0.240			0.218
Bangladesh	-0.039	-0.018	0.083	0.125	0.146	0.154	0.150	0.173	0.224	0.195	0.215	0.266	0.285	0.348	0.192
Belarus	0.105	0.197	0.108	0.117	0.109	0.194	0.167	0.162	0.193	0.222	0.197	0.184	0.238	0.116	0.182
Belgium	0.114	0.142	0.156	0.172	0.177	0.160	0.170	0.166	0.052	0.068	0.013	0.005	0.030	0.053	0.120
Bermuda	0.110	0.127	0.130	0.161	0.125	0.198	0.100	0.143	0.280	0.277	0.284	0.140	0.216	0.233	0.191
Bolivia	0.150	0.197	0.217	0.190	0.205	0.250	0.215	0.157	0.188	0.231	0.249	0.296	0.255	0.284	0.216
Bosnia and Herzegovina								0.218	0.248	0.243	0.262	0.186	0.229	0.246	0.232
Botswana	0.237	0.302	0.259	0.301	0.307	0.347	0.362	0.346	0.366	0.337	0.279	0.304	0.319	0.277	0.316
Brazil	0.120	0.145	0.159	0.139	0.153	0.168	0.230	0.223	0.227	0.274	0.282	0.199	0.279	0.252	0.207
Bulgaria					0.318	0.293	0.341	0.369	0.361	0.360	0.394	0.340	0.330	0.303	0.346
Burkina Faso	0.286	0.395	0.347	0.281	0.218	0.317	0.358	0.327	0.347	0.315	0.318	0.257	0.277	0.198	0.305
Cambodia				0.485	0.477	0.346	0.394	0.444	0.444	0.455	0.461	0.523	0.389	0.371	0.432
Cameroon			0.503	0.404	0.181	0.429	0.394	0.452	0.440	0.434	0.341	0.400	0.324	0.353	0.389
Canada	0.107	0.113	0.072	0.176	0.175	0.204	0.213	0.218	0.175	0.206	0.199	0.156	0.257	0.308	0.188
Cayman Islands	0.186														0.186
Chile	0.171	0.170	0.214	0.216	0.248	0.267	0.164	0.162	0.171	0.238	0.313	0.222	0.408	0.380	0.278
China	0.411	0.390	0.054	0.058	0.210	0.343	0.388	0.408	0.393	0.397	0.435	0.414	0.425	0.457	0.415
Colombia	0.031	0.022	0.048	0.098	0.158	0.164	0.254	0.293	0.165	0.135	0.079	0.113	0.136	0.108	0.157
Costa Rica	0.085	0.095	0.088	0.082	0.144	0.163	0.148	0.160	0.156	0.084	0.052	0.063	0.054	0.094	0.104
Cote d'Ivoire	0.369	0.196	0.299	0.309	0.273	0.251	0.240	0.283	0.276	0.286	0.312	0.242	0.226	0.273	0.274
Croatia	0.151	0.105	0.164	0.146	0.136	0.117	0.141	0.050	0.124	0.104	0.082	0.204	0.282	0.311	0.160
Cuba	0.827	0.351	0.617	0.692	0.574	0.413		0.480	0.706	0.615	0.474	0.561	0.329	0.654	0.552
Cyprus	0.166	0.163	0.294	0.118	0.124	0.155	0.085	0.100	0.071	0.110	0.246	0.189	0.213	0.258	0.162
Czech Republic	0.187	0.120	0.134	0.130	0.172	0.247	0.192	0.047	0.350	0.335	0.334	0.279	0.404	0.410	0.245
Denmark	0.175	0.185	0.153	0.156	0.257	0.271	0.394	0.190	0.193	0.170	0.144	0.115	0.228	0.224	0.200
Dominican Republic									0.157	0.204	0.225	0.232	0.133	0.154	0.190
Ecuador	0.059	-0.117	0.302	0.100	0.084	0.119	0.035	0.089	0.151				0.013	0.042	0.091
Egypt, Arab Rep.											0.078	0.070	0.324	0.249	0.255
El Salvador		0.075	0.151	0.189	0.190	0.298	0.280	0.296	0.336	0.216	0.217	0.215	0.217	0.012	0.233
Estonia	0.246	0.038	0.024	-0.022	0.048	0.012	0.010	0.069	0.350	0.366	0.324	0.323	0.266	0.006	0.201
Ethiopia	0.163	0.151	0.275	0.245	0.414	0.307	0.572	0.579	0.580	0.617	0.511	0.604	0.606	0.596	0.504
Finland	0.068		0.348	0.363			0.274	0.214	0.018	0.021	0.083	0.131	0.277	0.289	0.182
France	0.111	0.118	0.139	0.122	0.124	0.148	0.165	0.191	0.195	0.194	0.161	0.171	0.230	0.248	0.157
Gambia, The	0.502		0.575	0.558	0.559	0.536	0.536	0.445	0.409	0.425	0.282	0.339	0.263	0.326	0.418
Georgia		0.322	0.370	0.327	0.348	0.337	0.335	0.317	0.350	0.340	0.161	0.173	0.071	0.037	0.267
Germany	0.179	0.162	0.174	0.150	0.142	0.167	0.185	0.198	0.195	0.214	0.177	0.163	0.204	0.242	0.181
Ghana	0.172	0.449	0.427	0.149		0.420	0.422	0.443	0.487	0.448	0.300	0.276	0.247	0.323	0.311

Greece	0.180	0.212	0.413	0.221		0.050	0.117	0.072	0.098	0.087	0.130	0.094	0.159	0.099	0.140
Guatemala					0.133	0.137	0.197	0.239	0.167	0.036	0.020	0.116	0.110	0.016	0.134
Haiti												0.124	0.050	0.012	0.083
Honduras	0.347	0.258	0.197	0.141	0.176	0.208	0.267	0.191	0.214	0.251	0.260	0.282	0.234	0.210	0.231
Hong Kong SAR, China	0.147	0.115	0.113	0.092	0.165	0.190	0.001	0.375	0.251	0.286	0.270	0.187	0.308	0.352	0.255
Hungary	0.100	0.111	0.099	0.130	0.161	0.123	0.179	0.123	0.092	0.090	0.251	0.186	0.220	0.322	0.155
Iceland									0.196	0.312	0.316	0.431	0.346	0.496	0.341
India	0.129	0.156	0.132	0.158	0.142	0.187	0.220	0.272	0.251	0.198	0.218	0.167	0.182	0.179	0.187
Indonesia	0.129	0.040	0.030	0.114	0.137	0.162	0.235	0.328	0.256	0.257	0.298	0.318	0.249	0.154	0.199
Iraq											0.192	0.161			0.176
Ireland								0.068	0.126	0.097	0.153	0.153	0.207	0.216	0.161
Israel	0.164	0.074	0.102	0.135	0.094	0.112	0.128	0.188	0.162	0.209	0.217	0.153	0.208	0.120	0.134
Italy	0.142	0.173	0.153	0.208	0.185	0.228	0.224	0.182	0.228	0.234	0.222	0.196	0.238	0.224	0.215
Jamaica	0.139	0.170	0.212		0.299	0.222	0.281	0.234	0.161	0.257	0.253	0.299	0.280	0.326	0.250
Japan	0.257	0.253	0.266	0.266	0.256	0.237	0.272	0.264	0.282	0.286	0.290	0.246	0.197	0.240	0.258
Jordan	0.164	0.194	0.185	0.159	0.250	0.248	0.334	0.371	0.425	0.409	0.197	0.358	0.313	0.359	0.285
Kazakhstan	0.248	0.311	0.315	0.254	0.355	0.375	0.368	0.401	0.364	0.336	0.347	0.251	0.238	0.057	0.308
Kenya	0.162	0.272	0.279	0.321	0.330	0.328	0.384	0.360	0.340	0.302	0.324	0.353	0.335	0.341	0.326
Korea, Rep.	0.078	0.120	0.157			0.007	0.012	0.214	0.176	0.198	0.207	0.151	0.144	0.262	0.161
Kuwait		0.229	0.295	0.307	0.376	0.451	0.524	0.561	0.571	0.477	0.327				0.416
Kyrgyz Republic	0.080			0.333	0.124	0.403	0.383	0.467	0.374	0.406	0.461	0.328	0.368	0.336	0.366
Lao PDR		0.242							0.084	0.083		0.043	0.039	0.362	0.128
Latvia	0.255	0.224	0.265	0.286	0.274	0.213	0.309	0.365	0.371	0.336	0.293	0.251	0.257	0.185	0.290
Lebanon	0.177	0.119	0.133	0.137	0.136	0.150	0.173	0.116	0.122	0.159	0.153	0.189	0.196	0.211	0.157
Libya						0.582	0.542	0.063	0.409	0.372	0.429		0.257		0.340
Lithuania	0.192	0.166	0.253	0.156	0.181	0.221	0.191	0.263	0.299	0.313	0.321	0.247	0.190	0.139	0.231
Luxembourg	0.112	0.104	0.124	0.144	0.128	0.125	0.157	0.191	0.208	0.196	0.178	0.134	0.234	0.293	0.155
Macao SAR, China	0.138	0.133	0.081	0.195	0.188	0.288	0.161	0.111	0.298	0.306	0.290	0.335	0.323	0.355	0.250
Macedonia, FYR	0.505	0.362	0.355	0.307	0.313	0.275	0.326	0.326	0.227	0.364	0.374	0.324	0.272	0.156	0.317
Madagascar		0.088	0.120	0.094	0.126	0.187	0.255	0.257	0.479	0.499	0.449	0.347	0.281	0.270	0.265
Malawi	0.428	0.467	0.450	0.399	0.273	0.366	0.369	0.379	0.398	0.498	0.532	0.445	0.311	0.297	0.394
Malaysia	0.286	0.254	0.280	0.318	0.335	0.342	0.360	0.335	0.332	0.317	0.229	0.309	0.370	0.417	0.312
Mali	0.262	0.276	0.136	0.207	0.333	0.317	0.234	0.213	0.222	0.302	0.334	0.313	0.242	0.185	0.268
Malta	0.225	0.228	0.259	0.236	0.236	0.249	0.283	0.304	0.344	0.348	0.340	0.302	0.319	0.359	0.286
Mauritania						0.126	0.115	0.153	0.130	0.067	0.154	0.285	0.384	0.045	0.177
Mauritius	0.183	0.207	0.187	0.192	0.212	0.334	0.289	0.333	0.339	0.288	0.272	0.292	0.264	0.329	0.290
Mexico	0.021	0.012	0.071	0.023		0.286									0.044
Moldova	0.250	0.395	0.409	0.421	0.389	0.363	0.296	0.287	0.290	0.350	0.326	0.293	0.201	0.255	0.303
Mongolia			0.325	0.231	0.231	0.197	0.140	0.249	0.179	0.175	0.198	0.210	0.217		0.202
Montenegro							0.286	0.238	0.173	0.214	0.197	0.212	0.128	0.150	0.203
Morocco	0.227	0.246	0.227	0.303	0.319	0.338	0.339	0.384	0.315	0.347	0.346	0.368	0.150	0.151	0.296
Mozambique	0.273	0.247	0.329	0.224	0.252	0.254	0.205	0.249	0.270	0.349	0.376	0.314	0.322	0.284	0.291
Namibia									0.260	0.250	0.266	0.176	0.155	0.281	0.233
Nepal	0.364	0.257	0.328	0.371	0.366	0.357	0.237	0.267	0.283	0.327	0.297	0.336	0.287	0.209	0.298
Netherlands Antilles			0.154	0.221		0.137	0.139								0.155
Netherlands	0.122	0.115	0.151	0.211	0.222	0.120	0.105	0.136	0.123	0.101	0.145	0.171	0.133	0.266	0.151
New Zealand	0.019	0.011	0.012	0.013							0.166	0.144	0.166		0.126
Nicaragua						0.212	0.231	0.248	0.305			0.292	0.316	0.298	0.285
Niger		0.407	0.072	0.109	0.100	0.122	0.155	0.160	0.314	0.207	0.258	0.361	0.346	0.337	0.252
Nigeria	0.216	0.284	0.301	0.268	0.299	0.274	0.284	0.239	0.201	0.220	0.279	0.331	0.205	0.228	0.267
Norway	0.180	0.073	0.158	0.162	0.166	0.138	0.166	0.135	0.211	0.199	0.169	0.153	0.260	0.241	0.197
Oman	0.296	0.255	0.293	0.269	0.311	0.401	0.406	0.436	0.431	0.387	0.387	0.437	0.472		0.363

Pakistan	0.002	0.002	0.003	-0.004		0.007	0.009	0.006	0.003	0.000	0.013	0.285	0.297	0.285	0.237
Panama	0.190	0.145	0.327	0.263	0.247	0.310	0.371	0.239	0.122	0.091	0.100	0.223	0.262	0.259	0.241
Papua New Guinea		0.261	0.269	0.101			0.409	0.646	0.526	0.511	0.616	0.620	0.536	0.498	0.438
Paraguay	0.254	0.190	0.099	0.051	0.100	0.028	-0.099	0.062	0.138	0.141	0.133	0.090	0.177	0.209	0.132
Peru	0.226	0.152	0.092	0.082	0.188	0.246	0.070	0.196	0.322	0.212	0.066	0.108	0.142	0.399	0.183
Philippines	0.130	0.100	0.112	0.015		0.225	0.298	0.217	0.241	0.251	0.234	0.201	0.286	0.334	0.242
Poland	0.175	0.116	0.082	0.157	0.113	0.091	0.093	0.065	0.093	0.189	0.177	0.161	0.222	0.227	0.148
Portugal	0.123	0.139	0.120	0.113	0.138	0.209	0.232	0.301	0.120	0.075	0.070	0.057	0.113	0.082	0.118
Qatar				0.252	0.327	0.478	0.529	0.521	0.307	0.443	0.406	0.379	0.383		0.414
Romania	0.241	0.011	0.208	0.192	0.248	0.198	0.210	0.172	0.247	0.232	0.220	0.234	0.240	0.287	0.223
Russian Federation	0.222	0.049	0.413	0.385	0.458	0.349	0.314	0.348	0.260	0.232	0.176	0.151	0.167	0.158	0.282
Rwanda					0.042	0.090	0.271	0.167	-0.059	0.330	0.359	0.280	0.211	0.352	0.255
San Marino	0.195	0.273	0.408	0.405	0.336	0.344	0.443	0.513	0.511	0.120	0.061	0.057			0.311
Saudi Arabia	0.273	0.271	0.145	0.257	0.321		0.497	0.508	0.497	0.495	0.349	0.236	0.371	0.297	0.339
Senegal	0.204	0.265	0.221	0.189	0.205	0.206	0.231	0.238	0.323	0.332	0.296	0.312	0.294	0.291	0.267
Serbia						0.381	0.402	0.351	0.345	0.211	0.233	0.210	0.185	0.144	0.246
Seychelles		0.208						0.515	0.565	0.573	0.601	0.600	0.234	0.282	0.441
Sierra Leone	0.202	0.409		0.651	0.542	0.488	0.482	0.525	0.479	0.395	0.189	0.199	0.257	0.338	0.414
Singapore	0.257	0.240	0.369	0.362	0.302	0.235		0.422	0.370	0.319	0.341	0.385	0.496	0.446	0.360
Slovak Republic	0.097	0.034	0.028	0.144	0.160	0.174	0.209	0.248	0.257	0.276	0.269	0.219	0.246	0.381	0.208
Slovenia	0.224	0.223	0.234	0.228	0.160	0.198	0.058	0.246	0.262	0.246	0.149	0.121	0.175	0.198	0.200
South Africa	0.104	0.173	0.165	0.163	0.164	0.310	0.222	0.188	0.167	0.244	0.233	0.210	0.228	0.239	0.207
Spain	0.140	0.172	0.239	0.189	0.186	0.163	0.248	0.204	0.215	0.250	0.233	0.215	0.204	0.189	0.210
Sri Lanka	0.160	0.188	0.126	0.115	0.105	0.158	0.235	0.221	0.221	0.207	0.159	0.137	0.182	0.243	0.182
Sudan	0.403	0.180	0.192	0.168	0.007	0.009	0.132		0.004	0.045	0.060	0.105	0.061	0.204	0.115
Sweden	0.196	0.177	0.167	0.192	0.191	0.177	0.217	0.282	0.244	0.234	0.188	0.170	0.234	0.255	0.219
Switzerland	0.179	0.143	0.137	0.166	0.136	0.170	0.153	0.187	0.129	0.133	0.040	0.024	0.132	0.092	0.126
Syrian Arab Republic										0.077	0.317	0.115	0.090	0.089	0.135
Taiwan				0.171	0.177	0.238	0.358	0.294	0.310	0.288	0.201	0.189	0.269	0.278	0.264
Tanzania							0.478	0.208	0.392	0.414	0.402	0.399	0.365	0.352	0.384
Thailand	0.156	-0.009	0.039	0.085	0.125	0.204	0.260	0.345	0.339	0.259	0.263	0.303	0.308	0.393	0.243
Togo	0.142	0.203	0.227	0.454	0.236	0.141	0.282	0.325	0.269	0.317	0.269	0.292	0.255	0.353	0.256
Trinidad and Tobago	0.206	0.204	0.241	0.244	0.257	0.312	0.369	0.356	0.319	0.330	0.347	0.354	0.323	0.450	0.316
Tunisia	0.568	0.562	0.464	0.308	0.301	0.276	0.200	0.174	0.188	0.245	0.294	0.333	0.340	0.355	0.289
Turkey	0.031	0.045	0.151	0.056	-0.010	0.122	0.199	0.143	0.295	0.236	0.237	0.218	0.344	0.329	0.203
Uganda											0.409	0.350	0.364	0.336	0.363
Ukraine	0.167	0.221	0.247	0.199	0.233	0.172	0.229	0.231	0.226	0.244	0.192	0.293	0.252	0.218	0.230
United Arab Emirates	0.317	0.307	0.323	0.304	0.349	0.470	0.514	0.522	0.523	0.368	0.355	0.381	0.461	0.476	0.413
United Kingdom	0.192	0.194	0.175	0.253	0.120	0.172	0.270	0.268	0.245	0.246	0.245	0.116	0.261	0.317	0.227
United States	0.235	0.229	0.254	0.228	0.267	0.329	0.350	0.329	0.311	0.277	0.237	0.249	0.351	0.359	0.292
Uruguay	0.086	0.070	0.082	0.105	0.042	0.253	0.024	0.230	0.041	0.003	0.142	0.029	0.062	0.235	0.099
Uzbekistan	0.197	0.148	0.304	0.379	0.372	0.330	0.226	0.161	0.209	0.233	0.253	0.240	0.222	0.242	0.255
Venezuela, RB	0.251	0.236	0.228	0.192	0.237	0.311	0.334	0.342	0.283	0.272	0.252	0.167	0.095	0.302	0.258
Vietnam	0.387	0.350	0.307	0.354	0.262	0.302	0.283	0.358	0.345	0.292	0.287	0.218	0.198	0.191	0.260
Yemen, Rep.									0.068	0.237	0.241	0.211	0.282	0.252	0.239
Zambia	0.060	0.047	0.061	0.205	0.240	0.231	0.110	0.243	0.305	0.349	0.348	0.308	0.346	0.297	0.264
Zimbabwe													0.014	0.025	0.018
Mean	0.178	0.166	0.210	0.196	0.211	0.247	0.267	0.263	0.248	0.238	0.211	0.204	0.255	0.269	0.229

Notes: The table reports average estimates of market power (weighted by market shares) by country and year. Averages are obtained from the bank-level estimates of market power using the Lerner index, considering a two-output cost function. Higher values reflect higher market power (lower competition).

Figure 1

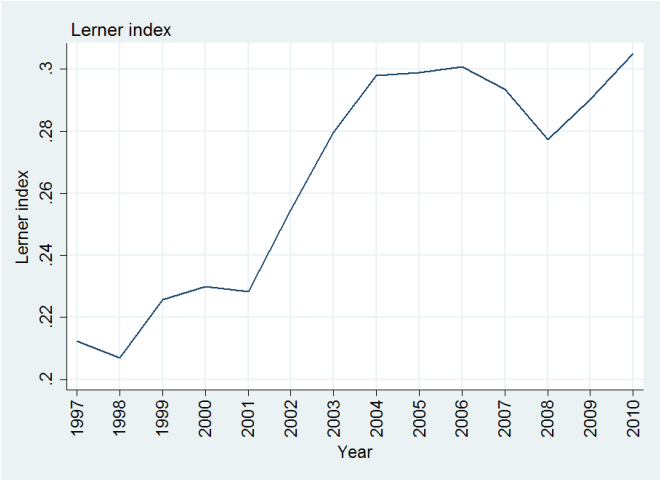


Figure 2

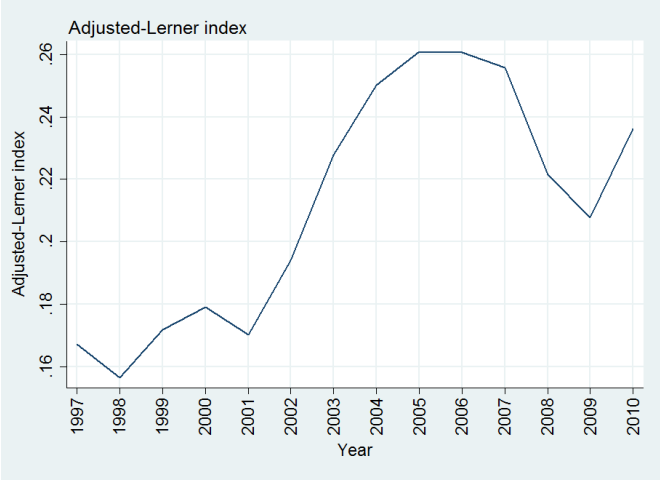


Figure 3

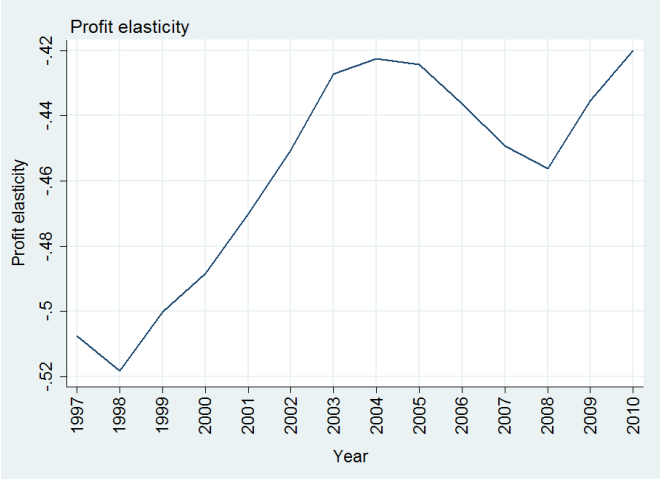


Figure 4

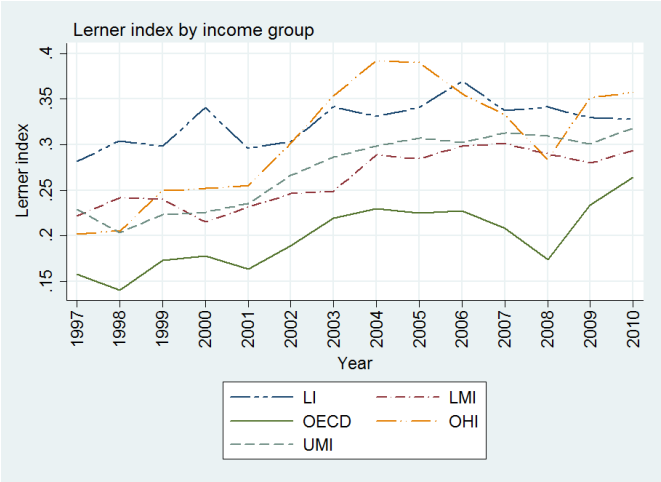


Figure 5

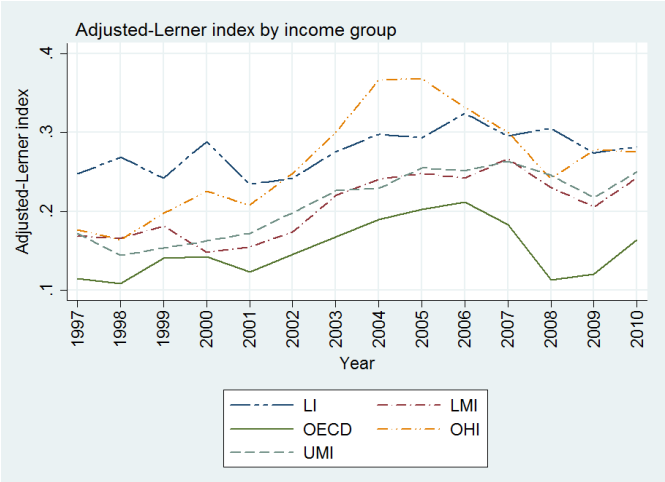
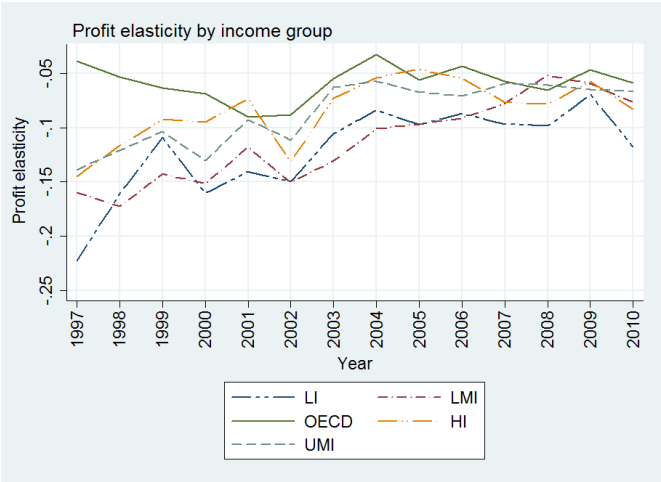


Figure 6



Note: LI refers to the low-income economies, LMI refers to the lower-middle-income economies, OECD refers to the OECD member countries, HI refers to high-income economies other than OECD countries, and UMI refers to upper-middle-income economies.

Figure 7

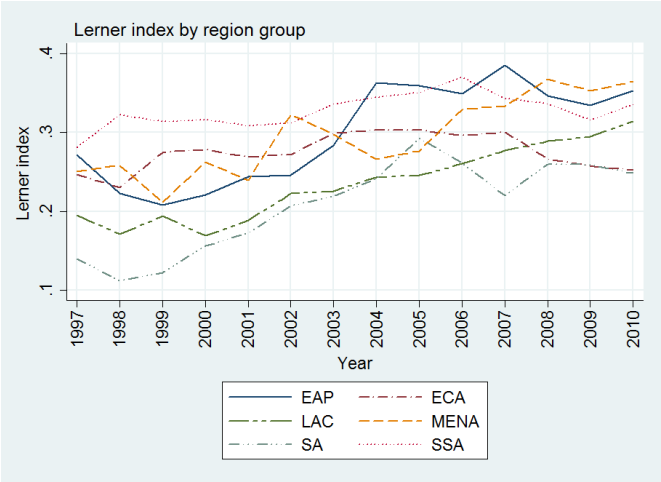


Figure 8

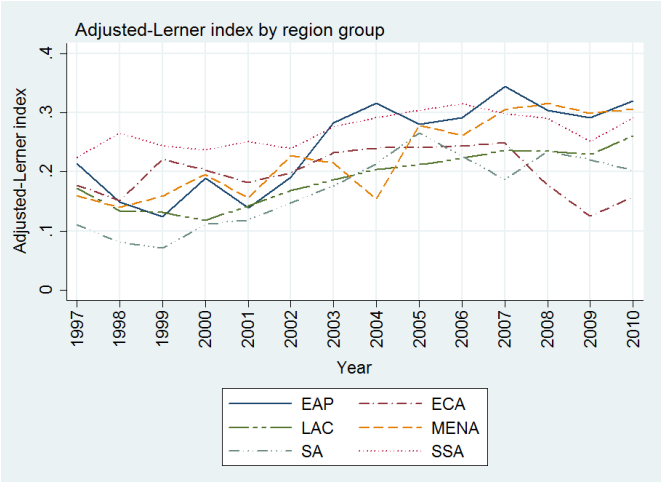
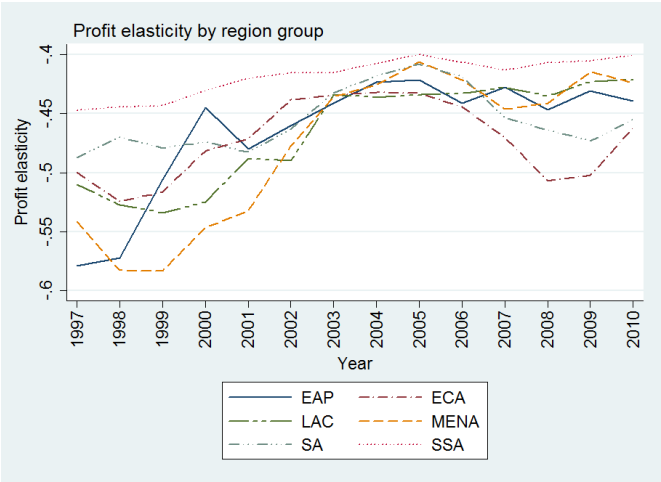


Figure 9



Note: EAP refers to East Asian and Pacific countries, ECA to the European and Central Asian countries, LAC refers to Latin American and Caribbean countries, MENA refers to Middle Eastern and North African countries, SA refers to Southern Asian countries and SSA refers to Sub-Saharan African countries.