Finance & Banking Studies

Intellectual Capital and Its Disclosure on Firm Value: Evidence of Indonesian Banking Industries

I Nyoman Wijana Asmara Putra
Corresponding Author: Faculty of Economics and Business, Universitas Udayana, Bali, Indonesia

Ni Made Dwi Ratnadi
Faculty of Economics and Business, Universitas Udayana, Bali, Indonesia
ORCID ID: 0000-0003-2658-9063

Abstract

Intangible assets, such as information, are becoming increasingly essential to companies. Intellectual capital is another term for knowledge assets. The aim of this study is to find empirical evidence of the influence of intellectual capital and intellectual capital disclosure on firm valuation, as well as to identify the types of disclosures made by the banking industry listed on the Indonesia Stock Exchange from 2015-2019. The data used in the analysis were secondary data from annual reports. A six-way numerical coding scheme determines the disclosure item index. With 36 disclosure objects, the disclosure categories are divided into three categories: structural capital, human capital, and external capital. Content analysis and multiple linear regression are two data analysis methods. The results of the analysis show that an average of 49.91 percent is expressed in the form of a narrative, 16.44 percent is in the form of a combination of qualitative and quantitative, 7.53 percent is in the form of numbers and 1.44 items are expressed in the form of monetary units (rupiah). Meanwhile, an average of 24.33 percent of items of disclosure were not disclosed. Intellectual capital disclosure has a positive impact on firm value, while intellectual capital has no impact. According to research, investors in the banking industry consider intellectual capital disclosure when making investments.

Keywords: Intellectual Capital; Banking Capital; Firm Value

JEL Classifications: B26; F65; K42

Introduction

The sudden shift phenomenon, which has caused a shift in the global business world, refers to the very rapid fundamental change that occurs in the twenty-first century. Globalization, technological innovation, and intense business competition are forcing companies to change their business practices. The shift from industrial-based businesses to technology-based and knowledge-based businesses is a symptom of a sudden shift. A company's existence is now determined by knowledge and technology, rather than traditional capital such as natural resources, financial resources, and other tangible assets (Oktavianti and Wahidahwati, 2014). Technology and company knowledge are stored in the intellectual capital they have, so that intellectual capital becomes the heart of knowledge-based growth today (Rahim et al., 2011).

In order for an enterprise to survive, enterprises must swiftly transform the strategy from a labor-based to a knowledge-based business to become a science-based enterprise. Alongside economic changes characterized by a science-based economy with the application of knowledge management, a company's prosperity will be dependent on a transformation of knowledge creation and capitalization itself (Sawarjuwono, 2003).

Intellectual capital can help companies whose profits are influenced by innovation and knowledge-intensive services increase their profits (Edvinsson and Sullivan, 1996). Companies, investors, and analysts want more reliable information about managerial quality, expertise, experience, and integrity, customer relationships, and personal competence, for example. These are intellectual capital-related factors. Today, there is a greater appreciation for intellectual capital's ability to create and sustain competitive advantage and shareholder value. For example, Apple Inc's global annual revenue in fiscal 2017 was $ 229 billion. Apple is the world's largest information technology company in terms of revenue, as well as the world's third-largest mobile phone manufacturer, trailing only Samsung and Huawei. In August 2018, Apple became the first company in the United States to go public, with a market capitalization of more than $1 trillion. Apple's company value is based on intangible intellectual assets rather than tangible assets.

Intellectual capital refers to a company's broad knowledge capacity. Many studies, according to Lev and Zarowin (1999), show that the current accounting model cannot capture the key factor of a company's long-term value, namely intangibles resources. Financial reports are thought to fail in describing a wide range of intangible asset values (Lev and Zarowin, 1999), resulting in increased information asymmetry between companies and users (Barth et al., 2001) and inefficiencies in the capital market's resource allocation process (Li et al al., 2008). Accounting's failure to fully recognize intangibles (such as human resources, customer relationships, and structural capital) confirms the claim that traditional financial reports have lost their relevance as a decision-making tool (Oliveira et al., 2008). According to Chen et al. (2005), one of the consequences of the emergence of intellectual capital is the existence of a more corporate award obtained from investors. As a result, companies today primarily recognize intellectual capital in order to increase company value. According to Utomo and Anis (2015), there are three types of capital that are critical for a company to achieve its goals: physical capital, financial capital, and intellectual capital. Bukh et al. (2001), Petty and Guthrie (2000), and Mourtisen et al. (2005) identify that the intellectual capital literature in accounting mainly discusses external reporting. This information gap can cause a gap between the book value of a company's equity and market value (Suhardjanto and Wardhani, 2010). Purnomosidhi (2006) states that the information needs of users of financial statements can be met if companies disclose intellectual capital voluntarily. Different characteristics between companies give rise to different interests related to the disclosures made (Ahmad and Sulaiman, 2004) and become a differentiator between one company and another (Suhardjanto and Wardhani, 2010).

In fact, not many companies in Indonesia disclose their intellectual capital in their financial statements. Traditional financial statements as financial instruments have lost their relevance. Accounting Standards Board (2007) in Rashid et al. (2012) state that there is an increase in demand for disclosure of intellectual capital due to dissatisfaction with traditional financial reports. According to Lev and Zarowin (1999), this is because the existing accounting model cannot reflect the main indicator of a company's long-term value in the form of intangible resources. Investors will give high value to companies that have larger intellectual capital (Yuniasih et al., 2010). The absence of standard standards regarding disclosure of intellectual capital causes not all companies to disclose intellectual capital in their financial statements. If the company does not disclose its intellectual capital, it is feared that it will create information gaps between users and the company. This research is important to do to determine the disclosure of intellectual capital made by public companies in Indonesia and its effect on company value. The company value is a reflection of the prosperity of the shareholders.

The concept of intellectual capital is increasingly developing along with the era of knowledge-based industries to become a new economic center. Fixed assets and financial assets are increasingly displaced compared to the effect of intangible assets for companies (Gogan, et al., 2016). During the last few years, research on the effect of intellectual capital disclosure of intellectual capital on company performance and value has been relatively small in Indonesia, such as Ulum, et al. (2008), Solikhah, et al. (2010), Yuniasih, et al. (2010); Widarjo (2011), Suniari & Suaryana (2017). However, there are still inconsistent results. In addition, there are relatively few that test the type of intellectual capital disclosure. This research is relatively different from previous research conducted in Indonesia, namely in the measurement of intellectual capital disclosure items that have been adjusted to the latest regulations in Indonesia and the six-point (0-5) scale scheme determined by the six way numerical system, which has never been done by researchers. previous. Related to the importance of information in an efficient market, disclosure of information about intellectual capital plays a very important role.

This study aims to analyze the type of intellectual disclosure made by companies, to test empirically the effect of intellectual capital on firm value and to test empirically the effect of intellectual capital disclosure on firm value.

Literature Review

According to signaling theory, high-quality businesses will try to communicate their dominance to the consumer. On the one side, the signal would cause investors and other stakeholders to increase the company's valuation and, as a result, make more successful decisions. Information published as an announcement will provide a signal for investors in making investment decisions (Jogiyanto, 2013). One type of information released by a company and can be a signal for external parties, especially by investors, is an annual report. The information disclosed in the annual report can be in the form of financial or non-financial information. If a company wants its shares to be purchased by investors, the company must disclose information openly and transparently.

In economics and finance, signal theory is developed to account for the fact that company insiders generally have better and faster information about a company's current state and prospects than outside investors. The emergence of this information asymmetry makes it difficult for investors to assess the company's quality objectively. Based on signal theory, the company will attempt to send a signal to potential investors in the form of positive information through financial statement disclosures.

The company discloses intellectual capital in the financial statements aimed at meeting the information needs needed by investors to increase company value. Positive signals from the organization are expected to be responded positively by investors so that they can increase the value of the company. Disclosure of intellectual capital can distinguish them from companies with lower quality, because investors believe that the company has good long-term prospects when the company discloses intellectual capital in its annual reports.

Resource-based theory is a view in strategic management science regarding a company's competitive advantage which is believed to be able to help companies win the competition with competitors. This theory is widely used as a theoretical reference in research related to intellectual capital and firm value.

Hipothesis development based on literature findings

Belkaoui (2003) states that a potential strategy to improve company performance is to combine tangible assets and intangible assets. Companies that have resources that can be used as competitive advantages and are able to direct the company to have good long-term performance as suggested by the Resource-based theory (Wernerfelt, 1984). Sources of a company's sustainable competitive advantage are assets that are valuable, rare, immatability, and not substitute. If the company controls and is able to utilize resources effectively and efficiently, this will lead the company to good long-term performance and increased company value (Ulum, 2016).

Firer and Williams (2003), Chen et al. (2005) and Tan et al. (2007) have proven empirically that intellectual capital has a positive effect on the company's financial performance. Ulum et al. (2008) conducted a study on intellectual capital using a sample of banking companies in Indonesia. The results of these studies state that intellectual capital is measured by Value Added Intellectual Coefficient (VAICTM) was proven statistically to have an effect on company performance and future company performance. The results of research

conducted by Isnawati and Anshori (2007), and Sianipar (2009) also show that there is a significant influence between value added intellectual capital and company performance. Widarjo (2011) examined the effect of intellectual capital at the time of IPO, intellectual capital as measured by VAICTM had no significant effect on firm value. The results of this study indicate that the market, in this case potential investors, does not give a higher value to companies that have high intellectual capital. Based on these results the research hypothesis is:

H1: Intellectual capital has a positive effect on firm value

Intellectual capital is an intangible asset owned by a company and is believed to be able to provide added value to the company in creating innovative products and services that are sold to customers. This innovation will create a competitive advantage that is believed to be able to make the company dominate market share. The advantages of intellectual capital in creating competitive advantages and added value are considered capable of contributing to increasing company value. Ownership and use of intellectual resources allows investors to reward companies that are able to create added value in a sustainable manner (Oktari, et al., 2016). Signal theory provides the view that companies will provide more voluntary disclosure of information than they should to provide a positive signal, so that companies tend to increase the information provided to stakeholders by making disclosures in annual reports. The effect of disclosure of intellectual capital and firm value is explained in research conducted by Jihene and Paturel (2013). Information on intellectual capital disclosed in annual reports contributes to the creation of firm value. Intellectual capital information is considered as one of the important information in making decisions regarding investment and funding. The company will report intellectual capital to provide signals and attract potential investors to invest. The capital market accepts intellectual capital as an opportunity for companies to grow in the long run, and as a strategic indicator or measure the value and condition of the company in the future. These results are also supported by research conducted by Berzkalne and Zelgalve (2014), Nimtrakoon (2015), Holienka, et al. (2016) and Sardo and Serrasqueiro (2017) who state that intellectual capital has a positive and significant effect on firm value. Investments in intellectual capital allow companies to innovate and provide signals to the market about growth opportunities, which in turn drive the increase in company value. Based on the results of the study, the research hypothesis is:

H2: The disclosure of intellectual capital has a positive effect on firm value

Research and Methodology

The research was conducted at the Indonesia Stock Exchange through downloading the official IDX website, namely www.idx.co.id. The companies studied are companies that are included in banking companies listed on the Indonesia Stock Exchange in 2015-2019. The population in this study were companies in the banking industry group that were listed on the Indonesia Stock Exchange in 2015-2019. The selection of the study period was based on the availability of up-to-date data and in accordance with the concept of time series in calculating the variables studied. The object of research is limited to the type of industry because the characteristics of the industry depend a lot on intellectual capital, namely employees in the form of competence and knowledge as well as technology and information systems (Basuki & Sianipar, 2012; Firer & Williams, 2003; Sutanto & Siswantaya, 2014).

The selection of the research sample was based on the purposive sampling method, which is a sampling technique with certain criteria or considerations (Sugiyono, 2017). The criteria used to select the sample in this study were the sample companies registered consecutively during the observation period, namely 2015-2019. The consecutive use of registered companies is related to the tests carried out, namely to test the impact of intellectual capital on firm value. The company did not earn negative profits during the observation period. This requirement is applied because the researcher predicts the positive effect of intellectual capital on firm value. Negative profit will cause the value of the company's intellectual capital to be negative. Logically, the intellectual capital of the company should be positive so that companies that have negative intellectual capital value are excluded from the sample.

Table 1: Variables Measurement

Variable	Definition	Measurement	Source
Intellectual capital	Creation of value obtained from the management of intellectual capital.	$VAICTM = VACE + VAHC + VASC$	Firer dan Williams (2003), Tan et al. (2007), Ulum et al. (2008), Sianipar (2009), Yuniasih et al. (2010), and Solikhah et al. (2010) dan widarjo (2011)
Disclosure of intellectual capital	The number of intellectual capital items disclosed in the annual report.	$IMI = \dfrac{\sum_{IJ} MItem}{\sum_{IJ} AMItem}$	Ulum, et al. (2014); Wang, et al., (2016)
Firm Value	The ratio of the stock price to the company's book value	$PBV = \dfrac{closing\ stock\ price}{book\ value\ per\ share}$	Solikhah, et al. (2010); Yuniasih, et al. (2010)

The hypothesis was tested using multiple linear regression with the OLS model. Therefore, so that the regression results cannot be carried out a classical assumption test which includes normality test, autocorrelation, heteroscedasticity and multicollinearity. The type of intellectual capital disclosure is tested with descriptive statistics, namely by describing the type of disclosure made by the company in a sixway scale system, developed from Wang et al. (2016). The details of the six-point scale adopted from the study (Wang, et al., 2016) are described as follows: 0 = intellectual capital items are not displayed in the annual report; 1 = intellectual capital items presented in narrative form; 2 = intellectual capital items are presented in numerical form; 3 = intellectual capital items are presented in monetary terms; 4 = intellectual capital items are presented in a combination, namely in the form of numerical and narrative information 5 = intellectual capital items are presented in the form of images.

Findings

Based on the results of content analysis on 36 items of intellectual capital disclosure in the annual reports of sample companies, it is found that intellectual capital disclosure has fluctuated from 2015-2019.
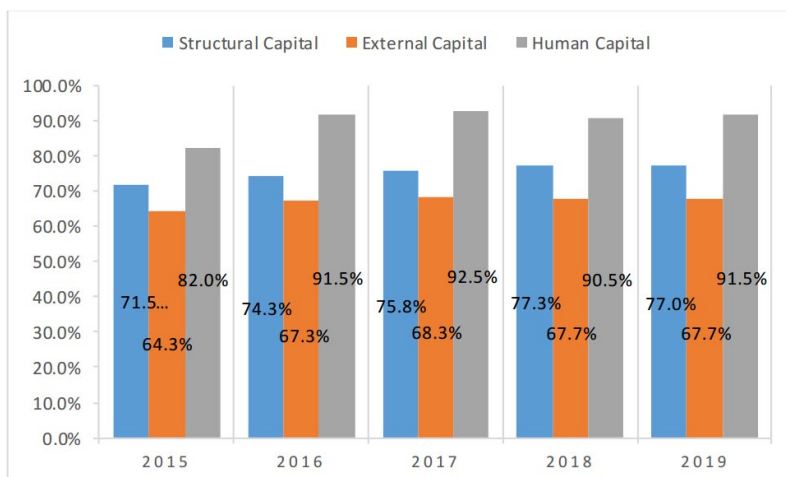

Figure 1: Percentage of Intellectual Capital Disclosure 2015-2019

The number of disclosure items is 36, which are grouped into three categories namely structural capital, external capital and human capital. Each category of disclosure was analyzed the number of items that were disclosed and those that were not by using the five ways scale system.

Based on the information in Figure 1., the number of structural capital disclosure items tends to increase. The number of items on external capital disclosure has increased, but has remained stagnant in the last two years. Disclosures of external capital in 2015 were 64.3 percent, while in 2017 there were 67.3 percent of items disclosed. Likewise, human capital disclosure items tend to fluctuate. However, the items disclosed by

the company in 2017 were more than in previous years, namely as many as 92.5 percent of the items disclosed.
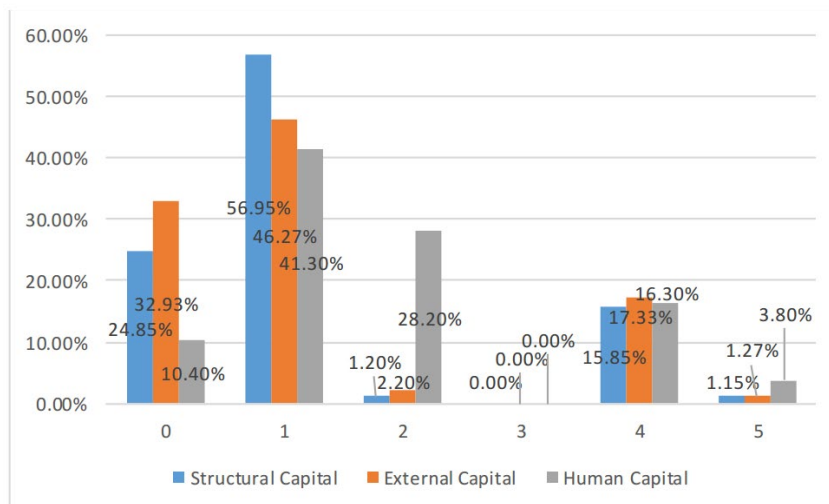

Figure 2: Types of Intellectual Capital Disclosure in Financial Statements

Figure 2. informs that 24.85 percent of items of structural capital disclosure are not disclosed by the charging companies. As many as 32.93 percent of items on external capital disclosures and 10.40 percent for human capital items were not disclosed in the annual report. As many as 56.95 percent of structural capital disclosure items were disclosed in a narrative. A total of 46.27 percent for external capital disclosure items and 41.30 percent for human capital. Disclosure of human capital disclosure items with numbers as much as 1.2 percent, external capital 2.2 percent and 28.2 percent for structural capital. No banking company discloses intellectual capital in monetary terms.

The disclosure of intellectual capital items with the most qualitative and quantitative combinations was for structured capital as much as 15.85 percent, external capital as much as 17.33 percent, and human capital as much as 16.3 percent. The disclosure of intellectual capital items with the most charts was human capital as much as 3.8 percent, structured capital as much as 1.15 percent, and external capital as much as 1.27 percent. These results indicate that banking companies tend to disclose their intellectual capital disclosure items through narrative.

Prior to multiple linear regression analysis, a classic assumption test was performed first. The classical assumption test carried out includes the normality test, multicollinearity test, autocorrelation test and heteroscedasticity test.

The research data used is said to be normally distributed if the value Asymp. Sig. (2-tailed) is greater than α = 0.05. Based on the results of the normality test of the Asymp value. Sig. (2-tailed) from the tested equation model is 0.691, greater than 0.05. This shows that the data used in this study are normally distributed.

The autocorrelation test aims to test whether in the linear regression model there is a correlation between confounding error in period t and confounding error in period t-1 (Ghozali, 2016: 107). If a regression model contains symptoms of autocorrelation, then the predictions made with that model will be not good or may give deviant predictive results. The autocorrelation test results show that the resulting dw value is 1.901. Because the number of n = 125 and k = 2, the value of dL = 1.6757 and du = 1.7406 is obtained so that the value 4 - du = 2.2594 is also obtained, then the criteria du <dw <4 - du can be formulated, namely 1, 7406 <1.901 <2.2594. This shows that the data used in this study are free from autocorrelation.

The multicollinearity test aims to test whether the regression model finds a correlation between the independent variables, because a good regression model should not have a correlation between the independent variables. The multicollinearity test results show the value of intellectual capital, intellectual capital disclosure, and company size show a tolerance value> 0.1 or a VIF value <10. Therefore, it can be concluded that the independent variables in this study are free from multicollinearity or there is no correlation between independent variables. Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. A regression model that contains heteroscedasticity symptoms can give deviant predictive results. The results of the heteroscedasticity test obtained the significance value of the variables of intellectual capital, intellectual capital disclosure, and

company size on the residual absolute variables were above 0.05, it can be concluded that the data used in this study did not have a heteroscedasticity problem.

This study uses multiple linear regression equations to determine the effect of intellectual capital, intellectual capital disclosure, and company size on firm value. The recapitulation of the results of multiple linear regression analysis is presented in Table 2.

Table 2: Regression Test Result (Dependent variable: Firm Value)

	Expected correlation	Coefficient	Std. Error	t-ratio	p-value	
const		-3.277	1.366	-2.399	0.018	***
Intelectual Capital	+	0.006	0.059	0.097	0.923	
Intelectual Capital Disclosure	+	1.656	0.557	2.974	0.004	***
Firm Size		0.151	0.048	3.109	0.002	***
Adjusted R2		0.092				
Sig. F		0.002				

The first hypothesis states that intellectual capital has a positive effect on firm value. The results of testing the first hypothesis in the study are presented in Table 2. The results of the analysis show that the significance value of intellectual capital> 0.05 is 0.923. This means that intellectual capital has no effect on firm value, which means that H1 is rejected. The results of this study indicate that the higher or lower the intellectual capital does not affect firm value. The results of this study are in line with research conducted by Widarjo (2011) and Aida & Rahmawati (2015) which states that intellectual capital has no effect on firm value. This means that high or low intellectual capital does not affect firm value.

The company has not been able to take advantage of the value of intellectual capital to increase the value of its company. This result is inconsistent with the research of Belkaoui (2003), Firer and Williams (2003), and Ulum et al. (2018). The inconsistency of this result is probably because in Indonesia until now there is no standard regulating quantitative measurement of intellectual capital owned by companies.

The second hypothesis states that intellectual capital disclosure has a positive effect on firm value. Based on Table 2, it can be seen that the significance value of intellectual capital disclosure is <0.05, namely 0.004. This means that the intellectual capital disclosure index has a positive effect on firm value. The market gives an appreciation for the disclosure of the resources owned by the company. This research shows that the higher the disclosure of intellectual capital, the company value will increase. The results of this study support the signal theory which provides the view that companies will provide voluntary disclosure of more information than they should to provide a positive signal, so that companies tend to increase the information provided to stakeholders by making disclosures in annual reports. Disclosure of intellectual capital as an intangible asset can increase company value in the eyes of investors. Every company has unique knowledge, skills, values and solutions that can be transformed into "value" in the market. Management of intangible assets can help companies achieve competitive advantage, increase productivity and market value (Pulic & Kolakovic, 2003). Investors in Indonesia see intellectual assets as an advantage that a company has to improve its performance in the future. Investors provide higher value for companies that have intellectual capital.

The results of this study are in line with research conducted by Berzkalne and Zelgalve (2014), Nimtrakoon (2015), Holienka, et al. (2016) and Sardo and Serrasqueiro (2017) who state that intellectual capital has a positive and significant effect on firm value. Investments in intellectual capital allow companies to innovate and provide signals to the market about growth opportunities, which in turn drive the increase in company value.

Conclusions

Based on the results of the analysis, it can be concluded that the type of disclosure of intellectual capital of companies belonging to the banking industry from 2015-2019, using the six-way numerical coding system found that on average 49.91 percent of the 36 disclosure items were in narrative form, 16, 44 percent of items are disclosed in the form of a combination of qualitative and quantitative, 7.53 percent of items are disclosed in the form of numbers and 1.44 items are disclosed in the form of monetary units (rupiah). While

an average of 24.33 percent of the items disclosed by the sample companies were not disclosed. Structured capital disclosure items are mostly disclosed in narrative form. On the other hand, the type of external capital disclosure is mostly not disclosed by companies.

Based on the results of the data analysis and discussion that has been explained, it can be concluded that intellectual capital has no effect on firm value. This indicates that the company has not been able to utilize the value of intellectual capital to increase company value. Meanwhile, disclosure of intellectual capital has a positive effect on firm value. This means that the higher the intellectual capital disclosure index causes the firm value to tend to increase.

This research is only limited to banking companies so that the generalization area of this research only includes banking companies that fall within the specified purposive sampling criteria. Future research can be directed to increase the sample size in the study.

References

Albertazzi, U., & Gambacorta, L. (2009). Bank profitability and the business cycle. Journal of Financial Stability, 5(4), 393–409. https://doi.org/10.1016/j.jfs.2008.10.002

Alexiou, C., & Sofoklis, V. (2009). Determinants of bank profitability: Evidnce from the Greek banking sector. Economic Annals, LIV(182), 93–118. https://doi.org/10.2298/EKA0982093A

Alp, A., Ban, Ü., Demirgüneş, K., & Kiliç, S. (1997). Internal Determinants of profitability in turkish banking sector. The ISE Review, 12(46), 1–13.

Altunbaş, Y., Gardener, E. P. M., Molyneux, P., & Moore, B. (2001). Efficiency in European banking. European Economic Review, 45(10), 1931–1955. https://doi.org/10.1016/S0014-2921(00)00091-X

Angbazo, L. (1997). Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. Journal of Banking and Finance, 21(1), 55–87. https://doi.org/10.1016/S0378-4266(96)00025-8

Athanasoglou, P., Brissimis, S., & Delis, M. (2008). Bank-specific, industry-specific and macroeconomic determinants of African Islamic banks' profitability. Journal of International Financial Markets, Institutions and Money, 4(12), 121–136. https://doi.org/10.1016/j.intfin.2006.07.001

Athanasoglou, P., Delis, M. D., & Staikouras, C. (2006). Determinants of bank profitability in the South Eastern European region. Bank of Greece Working Paper. https://doi.org/10.5897/JAERD12.088

Barth, J. R., Nolle, D. E., Phumiwasana, T., & Yago, G. (2003, May 1). A Cross-Country Analysis of the Bank Supervisory Framework and Bank Performance. Financial Markets, Institutions and Instruments. Blackwell Science Ltd. https://doi.org/10.1111/1468-0416.t01-2-00001

Beltratti, A., & Paladino, G. (2015). Bank leverage and profitability: Evidence from a sample of international banks. Review of Financial Economics, 27, 46–57. https://doi.org/10.1016/j.rfe.2015.08.002

Berger, A. N. (1995). The Relationship between Capital and Earnings in Banking. Journal of Money, Credit and Banking, 27(2), 432. https://doi.org/10.2307/2077877

Berger, A. N., Hanweck, G. A., & Humphrey, D. B. (1987). Competitive viability in banking. Scale, scope, and product mix economies. Journal of Monetary Economics, 20(3), 501–520. https://doi.org/10.1016/0304-3932(87)90039-0

Bikker, J. A., & Haaf, K. (2002). Competition, concentration and their relationship: An empirical analysis of the banking industry. Journal of Banking and Finance, 26(11), 2191–2214. https://doi.org/10.1016/S0378-4266(02)00205-4

Bikker, J. A., & Hu, H. (2002). Cyclical patterns in profits, provisioning and lending of banks and procyclicality of the new Basel capital requirements. Banca Nazionale Del Lavoro Quarterly Review, 55(221), 143–175. ,

Bourke, P. (1989). Concentration and other determinants of bank profitability in Europe, North America and Australia. Journal of Banking and Finance, 13(1), 65–79. https://doi.org/10.1016/0378-4266(89)90020-4

Boyd, J. H., & Runkle, D. E. (1993). Size and performance of banking firms. Testing the predictions of theory. Journal of Monetary Economics, 31(1), 47–67. https://doi.org/10.1016/0304-3932(93)90016-9

Camilleri, S. J. (2005). An analysis of the profitability, risk and growth indicators of banks operating in Malta. Spring, (31), 32–48.

Căpraru, B., & Ihnatov, I. (2014). Banks' Profitability in Selected Central and Eastern European Countries. Procedia Economics and Finance, 16, 587–591. https://doi.org/10.1016/S2212-5671(14)00844-2

Cooper, M. J., Jackson, W. E., & Patterson, G. A. (2003). Evidence of predictability in the cross-section of bank stock returns. Journal of Banking and Finance, 27(5), 817–850. https://doi.org/10.1016/S0378-4266(01)00263-1

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: Some international evidence. World Bank Economic Review, 13(2), 379–408. https://doi.org/10.1093/wber/13.2.379

Dietrich, A., & Wanzenried, G. (2011). Determinants of bank profitability before and during the crisis: Evidence from Switzerland. Journal of International Financial Markets, Institutions and Money, 21(3), 307–327. https://doi.org/10.1016/j.intfin.2010.11.002

Dietrich, A., & Wanzenried, G. (2014). The determinants of commercial banking profitability in low-, middle-, and high-income countries. Quarterly Review of Economics and Finance, 54(3), 337–354. https://doi.org/10.1016/j.qref.2014.03.001

Djalilov, K., & Piesse, J. (2016). Determinants of bank profitability in transition countries: What matters most? Research in International Business and Finance, 38, 69–82. https://doi.org/10.1016/j.ribaf.2016.03.015

Doğan, M., & Yildiz, F. (2013). The Impact of the Board of Directors ' Size on the Bank ' s Performance : Evidence from Turkey. European Journal of Business and Management, 5(6), 130–141.

Ghosh, A. (2016). Banking sector globalization and bank performance: A comparative analysis of low income countries with emerging markets and advanced economies. Review of Development Finance, 6(1), 58–70. https://doi.org/10.1016/j.rdf.2016.05.003

Goddard, J., Molyneux, P., & Wilson, J. O. S. (2004). The profitability of European banks: A cross-sectional and dynamic panel analysis. Manchester School, 72(3), 363–381. https://doi.org/10.1111/j.1467-9957.2004.00397.x

Goddard, J., Molyneux, P., Wilson, J. O. S., & Tavakoli, M. (2007). European banking: An overview. Journal of Banking and Finance, 31(7), 1911–1935. https://doi.org/10.1016/j.jbankfin.2007.01.002

Gul, S., Irshad, F., & Zaman, K. (2011). Factors affecting bank profitability in Pakistan. The Romanian Economic Journal, (39), 61–87.

Hassan, M. K., & Bashir, A.-H. M. (2005). Determinants of Islamic Banking Profitability. In Islamic Perspectives on Wealth Creation (pp. 118–140). https://doi.org/10.3366/edinburgh/9780748621002.003.0008

Heffernan, S. A., & Fu, X. (2010). Determinants of financial performance in Chinese banking. Applied Financial Economics, 20(20), 1585–1600. https://doi.org/10.1080/09603107.2010.505553

Ines, B., Ben, G., & Mhiri, S. M. (2013). Explanatory Factors of Bank Performance in Tunisia: A PanelModel Approach. Global Journal of Management and Business Research Finance, 13(5).

Karim, B. K., Sami, B. A. M., & Hichem, B. K. (2010). Bank-specific, industry-specific and macroeconomic determinants of African Islamic banks' profitability. International Journal of Business and Management Science, 3(1), 39–56. https://doi.org/10.1016/j.intfin.2006.07.001

Kosmidou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. Managerial Finance, 34(3), 146–159. https://doi.org/10.1108/03074350810848036

Kosmidou, K., Pasiouras, F., Doumpos, M., & Zopounidis, C. (2006). Assessing performance factors in the UK banking sector: A multicriteria methodology. Central European Journal of Operations Research, 14(1), 25–44. https://doi.org/10.1007/s10100-006-0158-5

Mamatzakis, E., & Panagiotis, R. (2003). Determinants of Greek commercial banks, 1989-2000. SPOUDAI - Journal of Economics and Business, 53(1), 84–94.

Mansur, I., Zangeneh, H., & Zitz, M. S. (1993). The association between banks' performance ratios and market-determined measures of risk. Applied Economics, 25(12), 1503–1510. https://doi.org/10.1080/00036849300000154

Mendes, V., & Abreu, M. (2003). Do macro-financial variables matter for european bank interest margins and profitability? EcoMod2003 - International Conference on Policy Modeling, 1–12.

Menicucci, E., & Paolucci, G. (2016). The determinants of bank profitability: empirical evidence from European banking sector. Journal of Financial Reporting and Accounting, 14(1), 86–115. https://doi.org/10.1108/JFRA-05-2015-0060

Miller, S. M., & Noulas, A. G. (1997). Portfolio mix and large-bank profitability in the USA. Applied Economics, 29(4), 505–512. https://doi.org/10.1080/000368497326994

Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. Journal of Banking and Finance, 16(6), 1173–1178. https://doi.org/10.1016/0378-4266(92)90065-8

Naceur, S. Ben, & Goaied, M. (2001). The determinants of the Tunisian deposit banks' performance. Applied Financial Economics, 11(3), 317–319. https://doi.org/10.1080/096031001300138717

Pasiouras, F., & Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. Research in International Business and Finance, 21(2), 222–237. https://doi.org/10.1016/j.ribaf.2006.03.007

Petria, N., Capraru, B., & Ihnatov, I. (2015). Determinants of Banks' Profitability: Evidence from EU 27 Banking Systems. Procedia Economics and Finance, 20, 518–524. https://doi.org/10.1016/S2212-5671(15)00104-5

Rhoades, S. A. (1995). Market share inequality, the HHI, and other measures of the firm-composition of a market. Review of Industrial Organization, 10(6), 657–674. https://doi.org/10.1007/BF01024300

Rhoades, S. A., & Rutz, R. D. (1982). The impact of bank holding companies on local market rivalry and performance. Journal of Economics and Business, 34(4), 355–365. https://doi.org/10.1016/0148-6195(82)90041-8

Saeed, M. S. (2014). Bank-related, Industry-related and Macroeconomic Factors Affecting Bank Profitability: A Case of the United Kingdom. Research Journal of Finance and Accounting, 5(2), 2222–2847.

Saona, P. (2016). Intra- and extra-bank determinants of Latin American Banks' profitability. International Review of Economics and Finance, 45, 197–214. https://doi.org/10.1016/j.iref.2016.06.004

Short, B. K. (1979). The relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. Journal of Banking and Finance, 3(3), 209–219. https://doi.org/10.1016/0378-4266(79)90016-5

Smith, R., Staikouras, C., & Wood, G. (2003). Non-Interest Income and Total Income Stability. Publication Bank of England. https://doi.org/10.2139/ssrn.530687

Sufian, F., & Chong, R. R. (2008). Determinants of Bank Profitability in a Developing Economy : Empirical Evidence From the Philippines. Asian Academy of Management Journal of Accounting and Finance, 4(2), 91–112. https://doi.org/10.1080/10599230903340205

Sufian, F., & Habibullah, M. S. (2009). Bank specific and macroeconomic determinants of bank profitability: Empirical evidence from the China banking sector. Frontiers of Economics in China, 4(2), 274–291. https://doi.org/10.1007/s11459-009-0016-1

Tan, Y. (2016). The impacts of risk and competition on bank profitability in China. Journal of International Financial Markets, Institutions and Money, 40, 85–110. https://doi.org/10.1016/j.intfin.2015.09.003

Tarus, D. K., Chekol, Y. B., & Mutwol, M. (2012). Determinants of Net Interest Margins of Commercial Banks in Kenya: A Panel Study. Procedia Economics and Finance, 2, 199–208. https://doi.org/10.1016/S2212-5671(12)00080-9

Vong, P. I., & Chan, H. S. (2009). Determinants of Bank Profitability in Macao. Macau Monetary Research Bulletin, 12(6), 93–113.

Wheelock, D. C., & Wilson, P. W. (1995). Evaluating the Efficiency of Commercial Banks: Does Our View of What Banks Do Matter? Federal Reserve Bank of St. Louis Review, 77(4), 39–52.

Williams, B. (2003). Domestic and international determinants of bank profits: Foreign banks in Australia. Journal of Banking and Finance, 27(6), 1185–1210. https://doi.org/10.1016/S0378-4266(02)00251-0