



6th International Conference on Finance

December 14-15, 2018 in Sousse – Tunisia

The role of financial exclusion in weakening the performance of banks: dynamic panel data analysis in Algeria and Tunisia

Nesrine Bettioui, PhD Student¹
Email: betioui92nesrine@gmail.com

Ali Bendob*, PhD in finance¹
Email: bendobali4@gmail.com
*Corresponding author

Hasnia Douma, PhD Student¹
Email: doumahasnia@gmail.com

¹Institute of Economic sciences, Commerce and Management Sciences.
LMELSMC Laboratory, University of Ain Temouchent, Algeria

Abstract

In East and North Africa region nearly 70 percent of adults (168 million) do not report any ownership of the account in the Arab world, which is lagging behind other regions. The importance of financial inclusion lies in its impact on the economy of countries, economic growth, financial sector development, improving financial sector stability. This study aims to diagnosing the relationship between financial inclusion and performance of banks in Algeria and Tunisia during 2004-2012 by using the panel data and the GMM method. Our results under static or dynamic panel data analysis show the negative impact of financial inclusion on profitability indicators (ROA, ROE and NIM). We conclude that financial inclusion decreases the profitability of banks. This result reinforces the role of lack of financial inclusion or financial exclusion in the non-development of the banking sector and the non-promotion of economic growth in Algeria and Tunisia during the study period.

Keywords: financial inclusion, exclusion, performance of banks, CAMEL, Algeria, Tunisia, GMM.

JEL Codes: C33, G20, G21, E44

References

- ADEUSI, S. O., KOLAPO, F. T. & ALUKO, A. O.(2014)," DETERMINANTS OF COMMERCIAL BANKS' PROFITABILITY PANEL EVIDENCE FROM NIGERIA", *International Journal of Economics, Commerce and Management*, Vol.2 No.12, pp.1-18.
- ANTOUN, R., COSKUN, A. & GEORGIEVSKI, B.(2018)," Determinants of financial performance of banks in Central and Eastern Europe", *Business and Economic Horizons*, Vol.14 No.3,pp. 513-529.
- ANBAR, A. & ALPER, D. (2011)." Bank specific and macroeconomic determinants of commercial bank profitability: Empirical evidence from Turkey", *Business and Economics Research Journal*, Vol.2 No.2,pp.139-152
- AREMU, M. A., EKPO, I. C. & MUDASHIRU, M. A. (2013)," DETERMINANTS OF BANKS' PROFITABILITY IN A DEVELOPING ECONOMY: EVIDENCE FROM NIGERIAN BANKING INDUSTRY", *INTERDISCIPLINARY JOURNAL OF CONTEMPORARY RESEARCH IN BUSINESS*, Vol.4 No. 9,pp.155-181.
- ATHANASOGLU, P. P., BRISSIMIS , S. N. & DELIS, M. D.(2005)," BANK-SPECIFIC, INDUSTRY-SPECIFIC AND MACROECONOMIC DETERMINANTS OF BANK PROFITABILITY", *BANK OF GREECE*, Vol.25,pp. 2-35.
- BENDOB, A. (2015)," Profitability of public and private commercial banks in Algeria: Panel data analysis during 1997-2012", *European Journal of Business and Management*, Vol.7 No.20,pp. 117-128.
- FADZLAN, S. (2011)," Profitability of the Korean banking sector: Panel evidence on bank-specific and macroeconomic determinants", *Journal of economics and management*, Vol. 7 No.1,pp. 43-72.
- FADZLAN, S. & MUZAFAR SHAH, H.(2009)," Determinants of bank profitability in a developing economy: Empirical evidence from Bangladesh", *Journal of business economics and management*, Vol.10 No.3, pp.207-217.
- FERROUHI, E. M.(2014)," Moroccan Banks analysis using camel model", *International Journal of Economics and Financial Issues*, Vol.4 No.3,pp. 622-627.
- JABBAR, H. (2014)," Determinants of banks profitability", *IOSR Journal of Business and Management*, Vol.16 No. 1, pp.109-113.
- LELISSA, T. B.(2014)," The determinants of ethiopian commercial banks performance", *European Journal of Business and Management*, Vol. 6 No.14,pp. 52-62.
- MANSOURI, B. & AFROUKH, S.(2009)," La rentabilité des banques et ses déterminants: Cas du Maroc", *Economic Research Forum ERF*,pp. 1-32.

- NACEUR, S. B. (2003)," The determinants of the Tunisian banking industry profitability: Panel evidence", *working papers, Universite Libre de Tunis, October 2003*.
- OBAMUYI, T. M. (2013)," DETERMINANTS OF BANKS' PROFITABILITY IN A DEVELOPING ECONOMY: EVIDENCE FROM NIGERIA", *ORGANIZATIONS AND MARKETS IN EMERGING ECONOMIES*, Vol. 4 No.9, pp. 97-111.
- RAMADAN, I. Z., KILANI, Q. A. & KADDUMI, T. A. (2011)," DETERMINANTS OF BANK PROFITABILITY: EVIDENCE FROM JORDAN", *International Journal of Academic Research*, Vol.3 No.4, pp.180-191.
- RASIDAH , M. S. & TUMIN, M. H. (2014)," Performance and Financial Ratios of Commercial Banks in Malaysia and China", *working peaper*, pp.1-12.
- TROUDI, S. & LIOUANE, N. (2013)," Profitability determinants in the Tunisian Banks", *International Journal of Business and Social Research*, Vol. 3 No.3, pp. 32-42.
- Badi H. Baltagi (2005), *Econometric of panel data*, 3thrd, John Wiley & Sons.Ltd, England,
- Imad Z. Ramadan, Qais A. Kilani, Thair A. Kaddumi (2011), Determinants of bank profitability: evidence from Jordan, *International Journal of Academic Research*, Vol. 3. No. 4. July, 2011, I Part.
- Ramlall, I, (2009), "Bank-Specific, Industry-Specific and Macroeconomic Determinants of Profitability in Taiwanese Banking System: Under Panel Data Estimation", *International research Journal of Finance and Economics*, Issue 34.
- Stephen Oluwafemi Adeusi (2014), Determinants of commercial banks' profitability panel evidence from Nigeria, *International Journal of Economics, Commerce and Management*, Vol. II, Issue 12, Dec 2014.
- Dietrich, Andreas, and Gabrielle Wanzenried. (2014) "The determinants of commercial banking profitability in low-, middle-, and high-income countries." *The Quarterly Review of Economics and Finance* 54.3 (2014): 337-354.
- Karim, N. A., Alhabshi, S. M. S. J., Kassim, S., & Haron, R. (2018). Measuring Bank Stability: A Comparative Analysis Between Islamic and Conventional Banks in Malaysia. In *Proceedings of the 2nd Advances in Business Research International Conference* (pp. 169-177). Springer, Singapore.
- KOLAPO, T. F., AYENI, R. K. & OKE, M. O. (2012). "CREDIT RISK AND COMMERCIAL BANKS'PERFORMANCE IN NIGERIA: A PANEL MODEL APPROACH", *Australian journal of business and management research*, Vol. 2 No.2, pp.31.
- MAKRAM , N., ABAOUB, E. & OCHI, A. (2015). "The Determinants of Banking Performance in Front of Financial Changes: Case of Trade Banks in Tunisia", *International Journal of Economics and Financial*, Vol.5 No.2, pp. 410-417
- ROMAN, A. & ŞARGU, A. C.(2013)." Analysing the financial soundness of the commercial banks in Romania: an approach based on the camels framework", *Procedia Economics and Finance*, Vol.6, pp.703-712.
- AKINKUNMI, M. A.(2017)." Determinants of Banks' Profitability in Nigeria: Does Relative Market Power Matter?", *Journal of Finance*, Vol.5 No.1, pp.42-53

- ISLAM, M. A. & RANA, R. H.(2018)." DETERMINANTS OF BANK PROFITABILITY FOR THE SELECTED PRIVATE COMMERCIAL BANKS IN BANGLADESH: A PANEL DATA ANALYSIS". *Banks and Bank Systems*, Vol.12 No.3,pp.179-192.
- HASANOV, F., BAYRAMLI, N. & AL-MUSEHEL, N. (2018). "Bank-Specific and Macroeconomic Determinants of Bank Profitability: Evidence from an Oil-Dependent Economy", *International Journal of Financial Studies*,Vol. 6 No.3, pp.78.
- OLWENY, T. & SHIPHO, T. M. (2011). "Effects of banking sectoral factors on the profitability of commercial banks in Kenya", *Economics and Finance Review*, Vol.1 No.5, pp.1-30.
- MATTHEW, N.-G. & LARYEA, A. E. (2012). "A financial performance comparison of foreign vs local banks in Ghana", *International Journal of Business and Social Science*, Vol.3 No.21,pp.82-87.
- ONGORE, V. O. & KUSA, G. B. (2013)." Determinants of financial performance of commercial banks in Kenya", *International Journal of Economics and Financial Issues*,Vol. 3 No.1,pp. 237-252
- ECHEKOBA, F., EGBUNIKE, C. F. & KASIE, E. G. (2014). "Determinants of bank profitability in Nigeria: Using Camel Rating Model (2001–2010)", *IOSR Journal of Business and Management*,Vol. 16 No.9, pp.44-50
- SHAHZAD, F., NAWAB, S., TANVEER, S., SHAFI, K. & BHATTI, W. K. (2018). "Analyzing the individual effect of determinants effecting the financial performance of banks using camels model", *WALIA journal*, Vol.34 No.1,pp.27-31.
- TANVEER, S., BHATTI, W. K., SHAFI, K. & SHAHZAD, F.(2018). "Examining the financial performance of banks using camel approach",*Management*,Vol. 1 No.1,pp. 2-2.
- Qureshi. C. (2004), "Evaluation of the performance of banking institutions case study of a group of Algerian banks during the period 1994-2000". Part I, *Journal of the researcher*, University of Ouargla, No. 3,pp.89-95.
- Jaidi S., N. (2013). "Measuring the Operational Efficiency of Some Banks Operating in Algeria: An Empirical Study during the Period 2006-2010". *Journal of the researcher*, University of Qasdi Marbah, Ouargla Algeria, No. 12,pp.1-236
- Salihi.S. (2004)."The Maghreb Union: The Possibilities of Economic Integration, Regional Integration and the Alternative Strategy for Sustainable Development and Balanced Partnership". *Lecture Summary of the Algerian Economy and Globalization*, Faculty of Economic Sciences and Management Sciences, University of Setif, pp.1-15.
- Ann L. Owen, J. T. (2018). "The performance effects of gender diversity on bank boards". *Journal of Banking & Finance*, Vol.90,pp. 50-63. doi: <https://doi.org/10.1016/j.jbankfin.2018.02.015>
- Gafoor, C. A., Mariappan, V., & Thyagarajan, S. (2018). "Board characteristics and bank performance in India". *IIMB management review*, Vol.30.No. 2, pp.160-167.
- Hannes Köster, M. P. (2017). "Financial penalties and bank performance". *Journal of Banking & Finance*, Vol.79, pp.57-73.

- Mohamed , S., & James, G. A. (2018)." The effects of ownership change on bank performance and risk exposure: Evidence from indonesia". *Journal of Banking & Finance*, Vol.88,pp.483-794.doi:
<https://doi.org/10.1016/j.jbankfin.2017.02.002>
- Pelletier, A. (2018)." Performance of foreign banks in developing countries: Evidence from sub-Saharan African banking markets". *Journal of Banking & Finance*, Vol.,88,pp.292-311.
doi:<https://doi.org/10.1016/j.jbankfin.2017.11.014>
- GAP. (2017)." Financial Inclusion Measurement in the Arab World". *WORKING PAPER*,pp. 1-34.
- Cull, R., Harten, S., Nishida, I., & Bull, G. (2014)." *Benchmarking the financial performance, growth, and outreach of greenfield microfinance institutions in Sub-Saharan Africa*": The World Bank.
- Database, T. G. F. (2015)." Financial Inclusion in the Middle East". *world bank group*,pp., 1-4.
- Goddard, J., Molyneux, P., & Wilson, J. O. (2004). "The profitability of European banks: a cross-sectional and dynamic panel analysis". *The Manchester School*, Vol.72 No.3, pp.363-381.
- Johnson, S., & Williams, R. (2016)." The political economy of financial inclusion: tailoring donor policy to fit". *Development Policy Review*,Vol. 34 No.5, pp.721-743.
- Mehrotra, A., & Yetman, J. (2015)." Financial inclusion-issues for central banks". *BIS Quarterly Review*, pp.83-96.
- Naceur, M. S. B., Barajas, M. A., & Massara, M. A. (2015)." *Can Islamic banking increase financial inclusion?* ": International Monetary Fund.
- Naruševičius, L. (2013)." Modelling profitability of banks by using dynamic panel data estimation method. *Social Technologies*"Vol. 3 NO.2, PP.278-287.
- Ouma, S. A., Odongo, T. M., & Were, M. (2017). "Mobile financial services and financial inclusion: Is it a boon for savings mobilization? ",*Review of development finance*, Vol.7 No.1, pp.29-35.
- Troudi, S., & Liouane, N. (2013). "Profitability determinants in the Tunisian Banks". *International Journal of Business and Social Research*, Vol.3 No.3, pp.32-42.
- Tunay, N., Özataç, N., & Tunay, K. B. (2017)." The Effect of Financial Crises on Banking Performance in Developed and Emerging Economies *New Challenges in Banking and Finance*". Springer ,pp. 13-27.
- Berguiga, I., Said, Y., & Adair, P. (2017). "*The social and financial performance of Microfinance institutions in the MENA region: Do Islamic institutions perform better?* ".Paper presented at the 34th Spring International Conference, French Finance Association (AFFI).pp.1-17
- Harelimana, J. B. (2016). "Financial Inclusion and Financial Performance of Microfinance Institutions in Rwanda: Analysis of the Clecama Ejoheza Kamonyi". *Business and Economics Journal* . Vol.7 No.4, pp.1-6. doi: 10.4172/2151-6219.1000269
- Ouma, S. A., Odongo, T. M., & Were, M. (2017). "Mobile financial services and financial inclusion: Is it a boon for savings mobilization?". *Review of development finance*, Vol.7 No.1, pp.29-35.

Appendixes list:

Appendix (01): The following table exposes the list of banks and their countries

Algeria	Tunisia
.The Algerian outer bank	1. The Tunisian Central Bank
2.The Algerian National Bank	2. Arab International Bank of Tunisia
3.The Algerian people's loan	3. The National Bank of cropland management
4.The Bank of Agriculture and Rural Development	4. The Society Tunisian Bank
5.The national fund for savings and reserve	5.Security Bank
6.Local Development Bank	6. Bank HABITAT
7.BNP Paribas - Algeria	7.Commercial Bank
8.The Society General - Algeria	8. The Arab Tunisian Bank
9.The Maghreb Bank for Investment and Trade	9. The International Union of banks
10.Natexis Bank	10. The Banking Union traders
11.The Algerian Arab Banking Corporation	11. The international bank of North Africa
12.Trust Bank	12. Fund for the support of local communities
13.salam-BANK ALGERIA	13. The Libyan Tunisian Bank

Appendix (02): Description of dependent variables

Variable	Labels	Definitions
Profitability	Return on Assets (ROA)	Net income /Assets
	Return on the Equity (ROE)	Net income / Equity
	Margin Interest	total income benefits - the total benefits of deposits) /
	Net(NIM)	Total Assets

Appendix (03):Description of Independent variables

Variable	Labels	DESCRIPTIONS
Capital Adequacy	CA1	Equity/ Tot Assets
Management	MG2	Operating Income / average assets
Liquidity	LQ1	Net Loans / tot Assets
Gross Domestic Inflation	GDP	Gross Domestic Products (annual %)
Financial Inclusion	INF	Inflation (%)