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Foreign bank entry and financial development: New evidence on the cherry picking and foreign bank's informational disadvantage phenomena in the MENA countries

Chadi Azmeh[1*]

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*Corresponding author: Chadi Azmeh, Faculty of Business Administration and Finance, International University for Science and Technology, Damascus, Syria
E-mail: Chadiazmeh@hotmail.com

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Abstract: This study investigates the impact of foreign banks entry on financial development in the MENA countries. We use the relative number of foreign banks as proxy for foreign banks entry, and liquid liabilities and claims on private sector as share of GDP as proxies for the financial development. We find a positive long-term and significant effect of foreign banks entry on the size and activity of financial development. We also find that the effect of foreign banks entry depends on the time period and the level of economic development. This result seems to suggest that MENA countries should not be taken as one group when studying the impact of financial sector reform on financial development. The impact of foreign bank entry is positive for the 10 richest MENA countries, while it is negative (but not statistically significant) or negligible for the group of less developed MENA countries. The last result indicates that there is a cherry picking phenomenon in less developed MENA countries. The negative effect of foreign banks cherry picking is diminished over time, since the period 2005-2014 show more positive impact of foreign bank entry on financial development, than the period 1995-2004. This result gives evidence that foreign banks need time to overcome informational disadvantage caused by geographical and cultural distance, to expand their lending into soft information borrowers, and to realize the expected positive effect of its entry on financial development in poorest MENA countries.

ABOUT THE AUTHOR

Chadi Azmeh is an associate professor in International Finance, Faculty of Business and Finance, International University for Science & Technology, Syria. He is a lecturer at the faculty of Business Administration, Jinan University, Lebanon. He specializes and publishes several papers in pertinent areas like development finance, financial liberalization, economic growth, and banking regulation and supervision.

PUBLIC INTEREST STATEMENT

This study examines the impact of foreign banks entry on financial development in the MENA countries. These countries are divided based on their level of economic development and for several period of time. The present study gives evidence that foreign banks, with their good reputation, pick best borrowers in the financial market in the 10 poorest MENA countries. More importantly, it concludes that this "cherry picking" phenomenon will be diminished over time, and that the negative effects of foreign banks entry on financial development may, in the future, become positive. The results have some implications, especially for the poorest MENA countries, whose economies are still undergoing financial reforms.

Subjects: International Finance; Finance; Banking

Keywords: foreign bank entry; financial development; cherry picking; MENA

JEL classifications: F65; O16

1. Introduction

It is largely recognized by the literature that financial systems contribute, substantially, in the process of economic development. Since the beginning of the 1990s, many poor countries have begun their financial sector reform. A careful evaluation of these efforts is still working in progress. Available evidence suggests that important deficiencies have been difficult to resolve. This paper examines how one of the aspects of financial sector reform, the foreign bank entry, affects financial sector development in the MENA countries.

Before the global crisis of 2008, there was a consensus that benefits of foreign bank entry greatly outweigh costs in many dimensions. It was generally considered that, in developing countries, foreign banks are more efficient than domestic banks (Berger, 2007; Bonin, Hasan, & Wachtel, 2005; Havrylchyk, 2006; Kasman, Kasman, & Carvallo, 2005; Sturm & Williams, 2004). They can achieve better economies of scale and risk management than domestic banks, and import better supervision and regulation. Their entry, into the markets of developing countries, increase domestic competition, increase access to financial services, and enhance financial and economic performance of borrowers (Levine, 1996). Furthermore, several studies find a supportive evidence of a positive role of foreign bank entry in the stability of the overall financial sector in developing countries. They claim that foreign banks penetration led to more stable banking sector in these countries (Bonin & Louie, 2017; Crystal, Dages, & Goldberg, 2002; Goldberg, Dages, & Kinney, 2000; Herrero & Simón, 2006; Martinez Peria, Powell, & Vladkova-Hollar, 2005).

While foreign banks entry is generally thought to have positive effects on financial development in host countries, especially through increased credit extension, some studies find more ambiguous results. Some show that foreign banks "cherry pick" borrowers (Azmeh, Al Samman, & Mouselli, 2017; Beck & Martinez Peria, 2008; Detragiache, Tressel, & Gupta, 2008; Gormley, 2010). This can weaken the overall access to financial sector. Cultural and geographical distance between foreign bank`s headquarter and its local branches, and the advantage of access to "external liquidity" from their parents banks (which lowers their deposit cost), leads them to avoid lending to soft information borrowers, and concentrate only on lending to hard information borrowers (Mian, 2003, 2006). In fact, cherry picking deteriorates the credit pool, since hard information borrowers are no longer pooled with other borrowers. Therefore, soft information borrowers need to pay higher interest rate that they may no longer have interest in borrowing. The negative effect of cherry picking becomes clear in less developed countries, since the level of relationship lending is important. Detragiache et al. (2008) give evidence of a negative impact of foreign bank entry on private credit.

At the other end of the spectrum, proponents of foreign bank entry claim that they should improve the quality, pricing, and availability of financial services. They will directly bring new and better skills, management techniques, training procedures, technology, and products to the domestic market. For example, advances in credit scoring methodologies coupled with enhanced computer power and increased data availability might encourage foreign banks to expand into soft information borrowers (Berger, Frame, & Miller, 2005; Mester, 1997; Petersen & Rajan, 2002).

Countries in the MENA region started their financial sector reform only in the 1990s. Many of them, still have state-dominated, as well as inappropriately regulated, financial systems. The World Trade Organization agreements on financial services in 1995 accelerated the pace of privatization, and removal of excessive regulations to open up domestic financial markets to foreign bank entry (Hassan, Sanchez, Ngene, & Ashraf, 2012; Lee, 2002). Foreign bank presence has increased from 30% in 2000 to 43% by 2012 (Ghosh, 2016). Does foreign bank entry was a good or bad policy for the

MENA countries? Does the cherry picking phenomenon exist in the MENA countries? Does its negative effects on financial development are reduced over time? Since time may be needed for foreign banks to overcome informational disadvantage caused by geographical and cultural distance, and for domestic banks to assimilate and adopt foreign banks` new technologies, skills, and management techniques. This in turn can play an important role in diminishing the deteriorate impact of cherry picking on the domestic financial sector.

To test empirically the validity of the last arguments, this paper examines the impact of foreign bank entry on financial development using a cross-sectional OLS and a dynamic panel estimation GMM on a group of 20 MENA countries for the period 1995–2014. The study divides the group of MENA countries into two groups based on their level of economic development (10 richest and 10 poorest MENA countries). It also divides each group into two periods (1995–2004 and 2005–2014). The main reason behind this division is to test if the effect of foreign bank entry on financial development stays the same for different periods of time, and based on the level of economic development. The paper contributes to the literature; since it examines how differences in income level and time periods across MENA countries would affect the relative impact of foreign bank entry on financial development. The paper also aims to ascertain whether a cherry picking phenomenon exist in the MENA countries, and most importantly, it aims to find evidence if the negative effect of cherry picking phenomenon is reduced over time. To the best of author`s knowledge, this is one of the early studies to examine empirically this issue in a systematic manner.

The rest of the paper is organized as follows: Section 2 discusses the literature review. Section 3 covers the methodology and econometric issues; Section 4 presents the empirical results; and sections 5 concludes the paper and discusses some policy implications.

2. Literature review

Demirgüç-Kunt, Huizinga, and Claessens (2001) and Claessens and Lee (2003) are the first to analyze concretely the effects of foreign bank entry on financial development. They find that foreign bank entry is associated with greater efficiency in the domestic banking system. Lensink and Hermes (2004) and Hermes and Lensink (2004) give evidence that the effects of foreign bank entry on the efficiency of domestic banks depend on the level of economic development and financial development. Lensink, Meesters, and Naaborg (2008) find that foreign bank entry negatively affects bank efficiency. However, higher quality of home country institutions and higher similarity between home and host country institutional quality reduce foreign bank inefficiency. Martinez Martinez Peria and Mody (2004) claim that the overall level of foreign bank participation seemed to influence spreads indirectly, through its effect on administrative costs. Several studies examine the effects of foreign bank entry on the efficiency of financial sector for one single country. Denizer (2000), Unite and Sullivan (2003) and Schulz (2006) conclude positive effects of foreign bank entry on domestic banks. While, Okuda and Rungsomboon (2004) claim that foreign banks has negatively affect the banking sector in the host country. Demirgüç-Kunt, Levine, and Min (1998), Bayraktar and Wang (2004, 2006), and Akinsola, Odhiambo, and McMillan (2017) conclude positive effects of foreign bank entry on economic growth. They claim that the positive effect of this entry on the efficiency of the domestic financial sector is the main reason behind this conclusion.

More recently, other dimensions of financial development (size and activity of the financial sector) take more attention to test the real implications of foreign bank entry on financial development. Detragiache et al. (2008), Claessens and Van Horen (2014), and Azmeh et al. (2017) find negative and significant impact of foreign bank entry on private credit in developing countries. Their results give evidence of the existence of phenomenon of cherry picking of foreign banks in developing countries. While, Al Samman and Azmeh (2016) did not found any effect of the level financial liberalization`s commitments of developing countries at the GATS on financial development.

Lee (2002) was the first to study the role of foreign bank entry in financial development in the MENA countries. He concludes positive effects of entry on the efficiency of domestic banks. Hassan

et al. (2012) also find a positive impact of foreign bank entry on the efficiency of financial sector in the MENA countries. Kobeissi and Sun (2010) find evidence of an association between greater foreign bank presence with improved profit efficiency in 17 MENA countries for the period 2000–2007. Turk Ariss (2008) conclude that foreign bank entry plays an important role in enhancing banking efficiency in Lebanon, and that domestic banks are as efficient as foreign banks. Alvarez (2011) examines the quality of information systems and collateral regimes in MENA countries. He shows that the quality of financial infrastructure is low comparing to other regions. Anzoategui, Peria, and Rocha (2010) concludes that the banking systems in the MENA countries are less competitive than those in most other regions. This is probably due to bank regulations, weak financial infrastructure, and less competition from non-banking sectors.

Based on precedent literature, the current paper aims at empirically testing the effects of foreign bank entry on financial development (the size and activity of the financial sectors) in the MENA countries. It will also test the effects of foreign bank entry on financial development for different periods of time, and for different level of economic development. The reason behind this is to examine whether cherry picking phenomenon is present in the developed and less developed MENA countries. Furthermore, the present paper examines if the negative effect of cherry picking is diminished over time, Since time may be needed for domestic banks to assimilate and adopt foreign banks` new technologies, skills, and management techniques, that play an important role in diminishing the deteriorate impact of cherry picking on the domestic financial sector.

3. Methods and materials

The current study examines the effects of foreign bank entry on financial development in the MENA countries. The number of foreign banks in the domestic market is used as indicator of foreign bank entry. While, financial development is measured by liquid liabilities and bank credit (which represents, respectively, the financial sector size and activity). Our main objective is to analyze the effect of foreign bank entry in the MENA countries on the size and activity of financial sector (financial development). Two important hypotheses are also tested. Is there any difference in results between the long-term and mid-term effects of foreign bank entry on financial development; and is there any difference in results that depends on the level of countries` economic development. To examine the last two hypotheses, the time period of the study is divided into two equal periods and the group of MENA countries is also divided into two groups, depending on the level of their GDP per capital.

Our sample covers 20 countries from the MENA region for the period between 1995 and 2014. Our choice for the study period is due to the fact that most MENA countries began their financial sector reform and liberalization, especially after the creation of the General Agreement on Trade in Services (GATS) in 1995. Figure 1 explores the increasing level of foreign bank entry during this period.

Countries covered by this study are:

(1) Richest MENA countries: Algeria, Bahrain, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates.

(2) Poorest MENA countries: Djibouti, Egypt, Iraq, Jordan, Morocco, Sudan, Syria, Yemen, West Bank and Gaza, Mauritania.

The division is based on their level of GDP per capita.

Based on previous literature, we choose several variables as determinants of financial development: the degree of foreign bank entry (number of foreign banks as a share of total number of banks), quality of institutions and legal system (Rule of law, Corruption control) (Demetriades & Arestis, 1996; Demetriades & Andrianova, 2004), level of economic development (GDP per capita), which are predicted to have positive impact on financial development. Moreover, inflation (Inflation rate) (Rousseau & Wachtel, 2002; Boyd, Levine, & Smith, 2001) and the degree of market

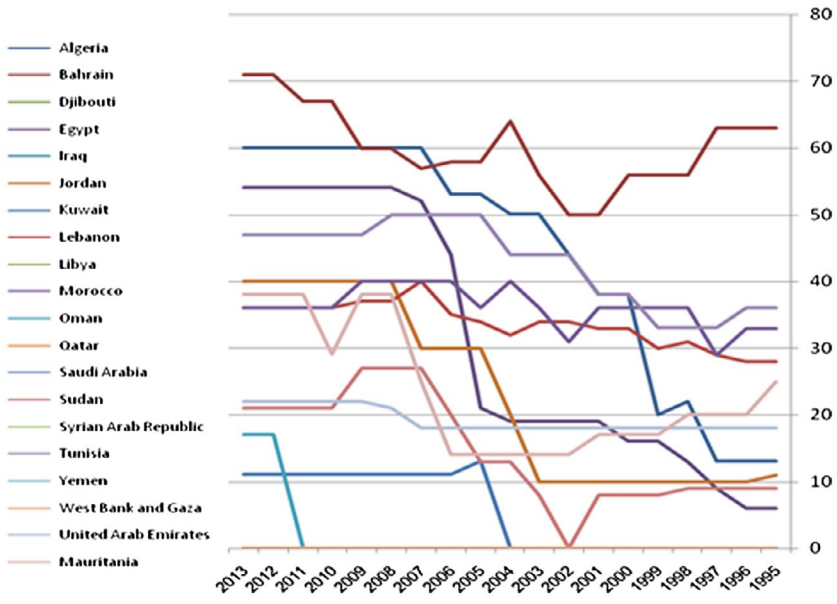

Figure 1. The number of foreign banks as percentage of total number of banks in the MENA countries for the period between 1995 and 2014.

Table 1. Summary statistics

Variable	Mean	Median	Minimum	Maximum	Std. Dev.	Missing obs.
Bank_concentration_	75.5600	78.5893	39.3265	100.000	17.8863	95
Foreign_banks_among_total_banks	20.9375	18.0000	0.000000	71.0000	20.3653	96
GDP_per_capita_	9656.70	2546.59	481.780	62,168.8	14,108.8	17
Liquid_liabilities_to_GDP	65.7909	58.2753	8.22397	252.719	41.9685	50
Private_credit_by_deposit_money	35.6838	33.1011	1.67978	96.1080	23.0768	48
Inflation	7.51387	3.69057	−16.1173	387.311	23.8353	72
Control_of_corruption_	−0.320484	−0.395533	−1.60988	1.72285	0.717267	80
Rule_of_law	−0.295592	−0.249176	−1.92388	1.04361	0.719596	80

Table 2. Correlation coefficients, (missing values were skipped) 5% critical value (two−tailed) = 0.0981 for *n* = 400

	Con	F.B.	GDP	Liq	Priv	Infl	Corr	Rule
Concentration	1.0000	−0.2921	0.0578	−0.3063	−0.3392	0.1194	−0.0856	−0.1512
Foreign_banks		1.0000	−0.2605	0.3304	0.3491	−0.0994	−0.0478	0.0068
GDP_per_capita			1.0000	−0.0856	0.2146	−0.1020	0.7146	0.6451
Liquid_liabilities				1.0000	0.6895	−0.2486	0.0226	0.1386
Private_credit					1.0000	−0.2832	0.5268	0.6144
Inflation						1.0000	−0.3094	−0.3510
Corruption							1.0000	0.8867
Rule_of_law								1.0000

concentration, which are predicted to have negative impact on financial development (see Tables 1 and 2 for summary statistics and correlation coefficients of all variables).

4. Empirical results

4.1. Cross-sectional OLS regressions

We use cross-sectional (OLS) method to estimate the following equation:

$$Y_i = \alpha + \beta F_i + \gamma X_i + \mu_i,$$

where:

Y_i: is the variable that represents financial development,
F_i: is the variable that represents the level of openness to foreign banks,
X_i: is the matrix of control variables and μi is the error term.
α: is the constant,
β: is the coefficient of the degree of openness to foreign banks and,
γ: is the vector of coefficients on the control variables.

Hence the model takes the following form:

$$\mathbf{Priv\ i} = \boldsymbol{\alpha} + \boldsymbol{\beta}\ \mathbf{Foreign\ i} + \boldsymbol{\gamma}\ \mathbf{corruption\ i} + \boldsymbol{\delta}\ \mathbf{ROL\ i} + \boldsymbol{\delta}\ \mathbf{log\ (Inf)\ i} + \boldsymbol{\varepsilon}\ \mathbf{log\ (GDP)\ i} + \boldsymbol{\eta}\ \mathbf{concentration\ i} + \boldsymbol{\mu}\ \mathbf{i} \quad (1)$$

$$\mathbf{Lly\ i} = \boldsymbol{\alpha} + \boldsymbol{\beta}\ \mathbf{Foreign\ i} + \boldsymbol{\gamma}\ \mathbf{corruption\ i} + \boldsymbol{\delta}\ \mathbf{ROL\ i} + \boldsymbol{\delta}\ \mathbf{log\ (Inf)\ i} + \boldsymbol{\varepsilon}\ \mathbf{log\ (GDP)\ i} + \boldsymbol{\eta}\ \mathbf{concentration\ i} + \boldsymbol{\mu}\ \mathbf{i} \quad (2)$$

For the first model, nine regressions were estimated. They are divided into three groups: full sample, 10 richest and 10 poorest MENA countries (the division in based on GDP per capita in 2014). In each group, three time period are tested: 1995–2014 (long-term effect), 1995–2004, and 2005–2014 (midterm effect) (see Table 3). The dependent variable is private credit by Deposit Money Banks to GDP (%).

Full sample: the value of the coefficient of foreign bank entry in the full sample for the full period (reg 1) is positive and it is statistically significant. Hence, the results suggest a positive and significant long-term and real effect from the level of foreign bank entry on the activity of the financial sector (financial development) in the MENA countries. The results in (reg 2 and 3) show that the real positive effect is due to the positive and significant effect during 2005–2014, since the value of the coefficient in (reg 2) is negative and not statistically significant.

Ten richest MENA countries: the value of the coefficient of foreign bank entry for this group is also positive and it is statistically significant (reg 4). As for the previous group, the positive effect is due to the positive and significant effect of foreign bank entry in the 10 richest MENA countries for the period 2005–2014 (reg 6). The value of the coefficient for the period 1995–2004, even it is positive, it is not statistically significant (reg 5).

Ten poorest MENA countries: the value of the coefficient in of foreign bank entry for this group is low and not statistically significant (reg 7). This predicts no long-term effect of foreign bank entry on financial development in the 10 poorest MENA countries. This result is due to the negative and significant effect of foreign bank entry on financial development for the period 1995–2004 (reg 8), since the effect is positive and significant for the period 2005–2014 (reg 9).

In this model, nine regressions, also, were estimated. As in the previous model, they are divided into three groups: full sample, 10 richest and 10 poorest MENA countries (the division in based on GDP per capita in 2014). In each group, three time period are tested: 1995–2014 (long-term effect), 1995–2004, and 2005–2014 (midterm effect) (see Table 3). The dependent variable is liquid liabilities to GDP (%).

Table 3. Private credit and foreign bank presence in the MENA countries: OLS cross-sectional regressions

Model	Full sample			10 richest MENA countries			10 poorest MENA countries		
	1	2	3	4	5	6	7	8	9
	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014
const	87.575 (12.890)***	142.344 (17.7104)***	82.634 (18.842)***	−6.703 (30.578)	118.495 (28.350)***	−93.555 (40.123)**	−129.472 (32.003)***	−124.297 (63.102)*	−101.067 (35.837)***
Foreign	**0.230 (0.056)*** **	**−0.0168 (0.093)**	**0.267 (0.0712)*** **	**0.318 (0.078)*** **	**0.099 (0.0977)**	**0.523 (0.093)*** **	**0.024 (0.085)**	**−0.373 (0.154)** **	**0.202 (0.099)** **
corruption_	−5.920(4.435)	15.117 (5.863)**	−14.221 (6.459)**	−3.760 (5.627)	30.662 (4.774)***	−32.204 (8.317)***	−6.065 (5.071)	−24.064 (7.873)***	2.377 (5.828)
ROL	34.158 (4.277)***	25.583 (4.784)***	39.994 (6.352)***	16.212 (6.845)**	3.416 (6.846)	34.631 (8.377)***	22.417 (4.848)***	35.061 (6.352)***	19.270 (6.562)***
log_Inf	−1.846 (1.291)	−0.924 (1.737)	−4.987 (1.987)**	0.552 (1.630)	−1.577 (1.335)	2.936 (2.896)	−4.017 (1.476)***	−2.544 (2.781)	−6.021 (1.530)***
log_GDP	−5.489 (1.294)***	−11.370 (1.972)***	−5.005 (1.794)***	7.667 (3.661)**	−7.160 (3.460)*	15.773 (4.624)***	23.812 (4.712)***	23.803 (8.970)**	18.747 (5.008)***
Concentration	−0.035 (0.074)	−0.107 (0.097)	0.0255 (0.0951)	−0.484 (0.114)***	−0.345 (0.103)***	−0.484 (0.132)***	0.128 (0.090)	0.070 (0.114)	0.258 (0.107)**
Obs	177	54	77	102	26	72	79	28	51
R^2	0.609	0.798	0.596	0.503	0.907	0.573	0.907	0.943	0.939
Adjusted R^2	0.595	0.772	0.576	0.471	0.878	0.533	0.899	0.927	0.931

Notes: This table reports the results of cross-sectional OLS regressions for the sample of the MENA countries. The dependent variable is private credit by Deposit Money Banks to GDP (%). Foreign is the ratio of the number of banks controlled by foreigners to the total number of banks in the country. Corruption is an index measuring the freedom from corruption. ROL (Role of Law) is an index measuring the restriction of the arbitrary exercise of power by subordinating it to well-defined laws. Log-Inf is the log difference in the consumer price index. Log-GDP is the log of GDP in US dollars divided by population. Concentration is the share of bank assets in the five largest banks. Standard errors are in brackets.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

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Full sample: the value of the coefficient of foreign bank entry in the full sample for the full period (reg 1) is positive and it is statistically significant. Hence, the results suggest a positive and significant long-term and real effect of foreign bank entry on the size of the financial sector (financial development) in the MENA countries. The results in (reg 2 and 3) show that the real positive effect is due to the positive and significant effect during 2005–2014, since the value of the coefficient in (reg 2) is not statistically significant.

Ten richest MENA countries: the value of the coefficient of foreign bank entry for this group is also positive and it is statistically significant (reg 4). As for the previous group, the positive effect is due to the positive and significant effect of foreign bank entry in the 10 richest MENA countries for the period 2005–2014 (reg 6). The value of the coefficient for the period 1995–2004, even it is positive, but it is not statistically significant (reg 5).

Ten poorest MENA countries: the value of the coefficient of foreign bank entry for this group is negative and statistically significant. Which predicts negative and significant long-term effect of foreign bank entry on the size of the financial sector in the 10 poorest MENA countries (reg 7). This result is mainly due to the negative and significant effect of foreign bank entry on financial development for the period 1995–2004 (reg 8). The effect for the period 2005–2014, even it is negative but it is negligible and not statistically significant (reg 9).

4.2. GMM panel regressions

A concern with cross-sectional regressions is that the relationship of interest may by disturbed by omitted country characteristics. Furthermore, the numbers of observations in some of the OLS regressions are rather low. It is less than 30 observations in regressions (5, 8) in both of Tables (3, 4). To approximate the samples by a normal distribution, sample size needs to be more than 30. Moreover, the right-hand side variables are potentially endogenous, which could further bias the results. To address these issues, we estimate the model using GMM estimator. Results of the GMM model regressions are presented in Tables 5 and 6.

In almost all specifications of the GMM model estimator, the results on the impact of foreign bank entry on the size and activity of the financial sector, confirming the results of the cross-sectional regressions. Two important differences, between the two models, need to be emphasized. The first difference is between results in regression number (5) in Tables 3 and 5. While, results from the cross-sectional regression show no impact of foreign bank entry on private credit for the period 1995–2004, results from the GMM regression show positive and significant impact on private credit for the same period. This implies that the impact of foreign bank entry on private credit in the 10 richest MENA countries is always positive and significant and was not changing over time. The second difference is for the 10 poorest MENA countries. Even though the sign of the results of regressions number (7, 8 and 9) in Tables (3 and 4) is similar to the same regressions in the GMM model in Tables 5 and 6, they are not statistically significant in the last model. Hence, we can conclude that foreign bank entry has negative but not statistically significant impact on financial development in the 10 poorest MENA countries.

At this stage, the current study concludes positive and significant long-term impact of foreign bank entry on the size and activity of the financial sector (financial development) in MENA countries for the period 1995–2014. These results are in conformity with Lee (2002), Hassan et al. (2012), and Kobeissi and Sun (2010). They conclude positive effects of foreign bank entry on the efficiency of domestic banks in the MENA countries. It is also in conformity with Denizer (2000), Unite and Sullivan (2003) and Schulz (2006) who demonstrate that foreign bank entry has positive effect on the efficiency of financial sector. The main difference between these studies and the present study is that this study chooses the size and activity of the financial sector as proxies of financial development while they opt for efficiency as a measure of financial development.

Table 4. Liquid liabilities and foreign bank presence in the MENA countries: OLS cross-sectional regressions

Model	Full sample			10 richest MENA countries			10 poorest MENA countries		
	1	2	3	4	5	6	7	8	9
	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014
const	84.958 (27.176)***	144.085 (27.025)***	49.311 (42.612)	−210.498 (59.550)***	5.989 (58.200)	−333.618 (86.213)***	−273.007 (40.375)***	−215.957 (84.588)**	−198.827 (41.534)***
Foreign	0.452 (0.118)***	0.032 (0.142)	0.598 (0.161)***	0.646 (0.153)***	0.298 (0.200)	0.929 (0.201)***	−0.223 (0.107)**	−0.895 (0.206)***	−0.014 (0.115)
corruption_	−24.960 (9.350)***	−5.314 (8.947)	−32.943 (14.609)**	−4.352 (10.960)	18.243 (9.800)*	−35.939 (17.872)**	−11.127 (6.397)*	−15.236 (10.554)	−16.561 (6.754)**
ROL	39.601 (9.018)***	47.722 (7.301)***	35.919 (14.366)**	−38.830 (13.330)***	−8.576 (14.056)	−24.630 (18.001)	31.224 (6.117)***	36.347 (8.516)***	45.508 (7.605)***
log_Inf	−5.403 (2.723)**	− 0.497 (2.651)	−7.086 (4.495)	−2.570 (3.176)	−2.549 (2.741)	3.791 (6.223)	0.589 (1.863)	0.555 (3.728)	−3.100 (1.774)*
log_GDP	−3.788 (2.728)	− 12.105 (3.010)***	0.627 (4.058)	34.769 (7.131)***	4.386 (7.103)	47.754 (9.936)***	49.961 (5.945)***	44.034 (12.025)***	38.410 (5.804)***
Concentration	0.071 (0.157)	0.261 (0.148)*	−0.008 (0.215)	−0.869 (0.222)***	0.018 (0.211)	−1.112 (0.284)***	−0.068 (0.114)	−0.136 (0.153)	0.110 (0.125)
Obs	177	54	123	98	26	72	79	28	51
R^2	0.257	0.693	0.229	0.272	0.400	0.379	0.930	0.947	0.964
Adjusted R^2	0.230	0.654	0.189	0.224	0.210	0.321	0.925	0.932	0.959

Notes: This table reports the results of cross-sectional OLS regressions for the sample of the MENA countries. The dependent variable is liquid liabilities to GDP (%). Foreign is the ratio of the number of banks controlled by foreigners to the total number of banks in the country. Corruption is an index measuring the freedom from corruption. ROL (Role of Law) is an index measuring the restriction of the arbitrary exercise of power by subordinating it to well-defined laws. Log-Inf is the log difference in the consumer price index. Log-GDP is the log of GDP in US dollars divided by population. Concentration is the share of bank assets in the five largest banks. Standard errors are in brackets.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

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Table 5. Private credit and foreign bank presence in the MENA countries: GMM panel estimation

Model	Full sample			10 richest MENA countries			10 poorest MENA countries		
	1	2	3	4	5	6	7	8	9
	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014
Foreign	0.438 (0.055)***	0.280 (0.176)	0.469 (0.061)***	0.338 (0.056)***	0.400 (0.105)***	0.384 (0.077)***	−0.213 (0.131)	−2.430 (8.189)	−0.024 (0.231)
corruption_	−16.465 (6.120)***	−2.489 (13.943)	−22.811 (7.125)***	−9.760 (6.374)	29.562 (7.968)***	−22.040 (7.168)***	−10.019 (12.197)	−36.227 (84.020)	−23.629 (21.804)
ROL	36.893 (6.164)***	25.167 (14.624)	42.811 (7.140)***	26.786 (7.103)***	−14.592 (8.795)	40.511 (8.630)***	37.921 (9.314)***	29.022 (78.722)	49.191 (16.395)***
Inf	0.200 (0.416)	1.310 (1.347)	−0.087 (0.486)	0.653 (0.947)	−2.500 (1.467)	0.481 (1.787)	−1.128 (0.443)**	−8.158 (26.608)	−1.554 (0.704)**
log_GDP	1.075 (0.832)	2.140 (2.568)	1.009 (0.942)	6.052 (1.075)***	9.219 (1.426)***	4.887 (1.717)***	3.576 (2.222)	28.874 (92.163)	6.554 (3.650)*
Concentration	0.231 (0.094)**	0.103 (0.305)	0.246 (0.105)**	−0.432 (0.115)***	−0.785 (0.18)***	−0.296 (0.135)**	0.365 (0.175)**	−1.046 (5.226)	0.216 (0.272)
Obs	149	25	110	88	15	65	61	10	45
R^2	0.533	0.460	0.572	0.539	0.903	0.565	0.888	0.580	0.839
Adjusted R^2	0.517	0.318	0.552	0.511	0.850	0.529	0.878	0.056	0.819

Notes: This table reports the results of panel regressions for the sample of the MENA countries. It presents results of estimation using GMM estimator with lags of control variables for instruments. The dependent variable is private credit by Deposit Money Banks to GDP (%). Foreign is the ratio of the number of banks controlled by foreigners to the total number of banks in the country. Corruption is an index measuring the freedom from corruption. ROL (Role of Law) is an index measuring the restriction of the arbitrary exercise of power by subordinating it to well-defined laws. Log-Inf is the log difference in the consumer price index. Log-GDP is the log of GDP in US dollars divided by population. Concentration is the share of bank assets in the five largest banks. Standard errors are in brackets.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

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Table 6. Liquid liabilities and foreign bank presence in the MENA countries: GMM panel estimation

Model	Full sample			10 richest MENA countries			10 poorest MENA countries		
	1	2	3	4	5	6	7	8	9
	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014	1995–2014	1995–2004	2005–2014
Foreign	0.663 (0.097)***	0.429 (0.258)	0.692 (0.116)***	0.365 (0.091)***	0.234 (0.159)	0.363 (0.144)**	−0.057 (0.160)	−3.188 (9.760)	−0.200 (0.247)
corruption_	−40.638 (10.837)***	−35.640 (20.427)*	−40.666 (13,391)***	0.212 (10.397)	10.611 (12.029)	−3.052 (12.860)	−34.020 (14.927)**	−28.841 (100.138)	−61.659 (23.340)**
ROL	49.632 (10.915)***	61.544 (21.423)***	45.032 (13.419)***	−8.837 (11.587)	−12.661 (13.277)	−8.541 (16.080)	77.122 (11.398)***	39.667 (93.823)	100.659 (17.550)***
Inf	−0.597 (0.738)	1.613 (1.974)	−1.087 (0.914)	1.101 (1.546)	2.593 (2.215)	0.840 (3.366)	−1.159 (0.543)**	−8.533 (31.712)	−1.838 (0.753)**
log_GDP	0.779 (1.473)	−1.002 (3.762)	1.790 (1.770)	7.473 (1.754)***	8.472 (2.153)***	7.188 (3.346)**	8.646 (2.720)***	39.412 (109.843)	12.474 (3.907)***
Concentration	0.485 (0.168)***	0.690 (0.447)*	0.394 (0.198)**	−0.368 (0.188)*	−0.525 (0.271)*	−0.295 (0.254)	0.401 (0.214)*	−1.313 (6.229)	0.187 (0.292)
Obs	149	25	110	88	15	65	61	10	45
R^2	0.263	0.345	0.253	0.165	0.605	0.148	0.927	0.744	0.919
Adjusted R^2	0.237	0.173	0.218	0.114	0.386	0.075	0.920	0.425	0.908

Notes: This table reports the results of panel regressions for the sample of the MENA countries. It presents results of estimation using GMM estimator with lags of control variables for instruments. The dependent variable is liquid liabilities to GDP (%). Foreign is the ratio of the number of banks controlled by foreigners to the total number of banks in the country. Corruption is an index measuring the freedom from corruption. ROL (Role of Law) is an index measuring the restriction of the arbitrary exercise of power by subordinating it to well-defined laws. Log-Inf is the log difference in the consumer price index. Log-GDP is the log of GDP in US dollars divided by population. Concentration is the share of bank assets in the five largest banks. Standard errors are in brackets.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

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The current study divides the MENA countries into two groups and for two periods of time. Several conclusions could be made from this division: (1) the impact of foreign bank entry on financial development is different for different periods of time. Furthermore, there are difference between long-term and midterm effect of foreign bank entry on financial development; (2) the effect of foreign bank entry on financial development depends on the level of economic development of countries. It is positive in the 10 richest MENA countries, while it is negative or negligible for the group of less developed MENA countries. This confirms the results of Lensink and Hermes (2004). It also confirms the results of Detragiache et al. (2008), Claessens and Van Horen (2014), and Azmeh et al. (2017), who find negative impact of foreign bank entry on private credit in developing countries. Hence, our results confirm the existence of cherry picking phenomenon, only in the 10 poorest MENA countries, since the sign of the coefficients of foreign bank entry is negative in almost all specifications of the two models, even though it is not significant in the GMM model. Furthermore, our results stress the importance of taking the level of economic development while studying the impact of foreign bank entry on MENA countries' financial development; (3) the period 2005–2014 show more positive impact of foreign banks entry on financial development, than the period 1995–2014. From this final observation, the present study concludes that foreign banks have more positive impact on financial development with time. Even though, they may begin with negative effect (especially for developing countries), this effect is reduced or even become positive with time. In fact, time may be needed for domestic banks to assimilate and adopt foreign banks` new technologies, skills, and management techniques, that play an important role in diminishing the deteriorate impact of cherry picking on the domestic financial sector. Furthermore, advances in credit scoring methodologies coupled with enhanced computer power and increased data availability might encourage foreign banks to expand into soft information borrowers. Hence, the present study gives evidence of a diminishing informational disadvantage of foreign banks in the poorest MENA countries. By contrast, results for the 10 richest MENA countries show no difference between periods, which means that domestic banks have already assimilate new technologies and skills brought by foreign banks.

5. Results and concluding remarks

In this study, we develop a model to examine the impact of foreign bank entry on financial development for a sample of 20 MENA countries during the period 1995–2014. We find positive and significant long-term effect of foreign bank entry on the size and activity of the financial sector. This result confirms the findings of Lee (2002), Hassan et al. (2012), and Kobeissi and Sun (2010), who conclude positive effect of foreign bank entry on financial development in MENA countries. The main difference between the present study and these studies is the choice of measures of financial development. They opt for the efficiency as a measure of financial development; while the present study opts for the size and activity of financial sector to measure financial development.

By dividing MENA countries, based on their level of economic development, into two groups, and by dividing each group for different periods of time, into subgroups, the present study provide an evidence of the existence of cherry picking phenomenon only in the group of poorest MENA countries. Since the impact of foreign bank entry is negative on the level of private credit. By contrast, the impact of their entry into the richest MENA countries is positive and significant. These findings confirm the results of Detragiache et al. (2008), Claessens and Van Horen (2014), and Azmeh et al. (2017). Furthermore, the present study gives evidence of a diminishing informational disadvantage of foreign banks in the poorest MENA countries. In effect, it demonstrates that domestic banks in poorest MENA countries, need time to adapt and assimilate new technologies. It also demonstrates that foreign banks also need time to overcome its informational disadvantage caused by geographic and cultural distance between home and host country. This may, in turn, diminish the negative and initial effect caused by foreign bank entry. By contrast, results for the 10 richest MENA countries show no difference between periods, which means that domestic banks have already assimilate new technologies and skills brought by foreign banks.

This study provides compelling evidence that foreign bank entry, measured by the number of foreign banks, was a good policy to increase financial development in the MENA countries. The main

contribution of the present study is that it provides evidence that the impact of foreign bank entry on financial development will depend on the time period and the level of economic development. There is a cherry picking phenomenon, but only the poorest MENA countries. In fact, MENA countries should not be taken as a one group when studying the impact of financial sector reform on financial development, to give more insights about the real implications of any proposed financial reform policy. Furthermore, the period 2005–2014 show more positive impact of foreign bank entry on financial development, than the period 1995–2014. This explains the fact that countries need more time to fully benefit from the entry of foreign banks (especially developing countries) and give evidence of a diminished foreign banks' informational disadvantage.

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Author details
Chadi Azmeh[1]
E-mail: Chadiazmeh@hotmail.com
ORCID ID: http://orcid.org/0000-0003-4225-4351
[1] Faculty of Business Administration and Finance, International University for Science and Technology, Damascus, Syria.

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