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Does banking development promote real sector growth? evidence from Egypt

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Abstract

Purpose – This study aims to clarify the impact of banking development on industrial sector during 1980 to 2020.

Design/Methodology/approach – For the empirical analysis the study uses data from 1980 to 2020 and employs ARDL model to investigate the short-run and long-run relationship between banking development and industrial sector growth. We use four sets of indicators of banking development to distinguish (size, depth, efficiency and stability) as aspects of banking development.

Findings – The main results of our study are summarized in two findings: First, banking development expressed by BD index has positive and significant impact either in the short or long run on Egyptian industrial sector growth confirmed the supply heading hypothesis through the study period while financial openness has a negative and insignificant impact on industrial growth and banking performance. Second, results showed a positive and significant impact of capital stock and openness while they clarified that credit to government does not crowd out credit to industrial sector through the period.

Originality/value – our study has selected industrial sector only as representative of real economy to estimate the impact of banking sector, also this paper is the first study examines the crowding out effect in Egyptian credit market on industrial sector growth. According to our finding, the main recommendation summarized in the need to develop banking performance either through proactive role of banking system to reduce operating costs for achieving banking efficiency or directing more credit towards industrial sector to enhance growth.

Keywords: Egypt; Banking development; Financial globalization; ARDL model.

GEL Classification E44; F65; G21

الملخص

الهدف - تستهدف هذه الدراسة ايضاح تأثير التطور المصرفي على القطاع الصناعي المصري خلال الفترة من ١٩٨٠-٢٠٢٠.

المنهجية - لغرض التحليل التطبيقي طبقت الدراسة نموذج الانحدار الذاتي ذو فترات الابطاء الموزعة على بيانات سلسلة زمنية تمتد من ١٩٨٠-٢٠٢٠ لدراسة العلاقة قصيرة وطويلة الاجل بين التطور المصرفي والقطاع الصناعي المصري وقد استخدمت الدراسة اربعة مؤشرات بحيث تعكس الابعاد المختلفة للتطور المصرفي وهي الحجم- العمق- والكفاءة- ولاستقرار، الى جانب مجموعة من المتغيرات الضابطة ممثلة في العولمة المالية - رصيد رأس المال كنسبة من الناتج المحلي الاجمالي - الائتمان المقدم للحكومة كنسبة من الناتج المحلي الاجمالي.

النتائج - تلخصت النتائج الرئيسية لهذه الدراسة في نتيجتين الاولى أن التطور المصرفي في الاقتصاد المصري قد دعم فرضية قيادة جانب العرض حيث كان له تأثير ايجابي ومعنوي على القيمة المضافة الصناعية في الاجلين القصير والطويل. اما النتيجة الثانية فقد اوضحت التأثير الايجابي لكل من رصيد رأس المال والانفتاح التجاري على القطاع الصناعي، في حين كان تأثير العولمة المالية سلبيا على كل من القطاع الصناعي وكذلك اداء القطاع المصرفي، كما اوضحت النتائج عدم تحقق فرضية المزاحمة في سوق الائتمان المصري.

قيمة واصالة البحث - ركزت الدراسة على تأثير التطور المصرفي على القطاع الصناعي المصري بخلاف الدراسات السابقة التي استهدفت دراسة العلاقة بين النمو المالي بشقية (سوق المال والقطاع المصرفي) على النمو الاقتصادي، كما تعتبر هذه الدراسة هي الاولى التي تختبر فرضية المزاحمة في سوق الائتمان المصري. في ضوء النتائج التي تم التوصل اليها توصي الدراسة بضرورة قيام القطاع المصرفي بدور استباقي لتخفيض تكاليف التشغيل سعيا لتحقيق كفاءة اكبر بالاضافة الى توجيه مزيد من الائتمان الى القطاع الصناعي.

الكلمات المفتاحية: مصر، التطور المصرفي، العولمة المالية، نموذج الانحدار الذاتي لفترات الابطاء الموزعة .

1. Introduction

Although the relationship between financial sector and economic performance has been discussed for a long time in both theoretical and empirical studies, this discussion has not reached to a firm conclusion indicating which one causes the other. Theoretically, we can divide the relationship between real growth and development of financial intermediation according to causality to two patterns (Patrick,1966) the first one, goes back to the seminal contribution of Robinson 1952 who believed in the importance of growth in promoting financial development, which known Later as the demand-following hypothesis which states that, the increase of economic growth leads to an increases in the demand for financial services which consequently has positive impact on financial development. In the same context (Gurly & Show,1967; Harrison et al,1999) clarified that both income and wealth have positive impact on financial development. The second one, is supply heading hypothesis that is supported by many scholars starting from Schumpeter (1911) through (Goldsmith,1959; Makinnon,1973; King & Liven,1993; Liven 2004; Khan; Senhadji, 2000 and Naser, without date) who argued that the indispensable role of financial development in Producing information about possible investments, allocating resources, monitoring investments, risks management, and reducing economic fluctuations, thus stimulating growth and achieving a better distribution of income. Although the two previous hypotheses are widely accepted, (Samargandi et al., 2015; Arcand et al., 2015; Lay, 2020) argued that the nexus between finance and growth is nonlinear relationship, that more financial development may be an impediment to the economic growth. Because its impact converted from positive to negative, as more financing is associated with a negative impact on growth after a certain threshold. So it takes an inverted U-shaped.

In the line with supply heading hypothesis, our study aims to explore the role played by banking sector “as the strongest institution that provides financial services in the Egyptian economy” on industrial sector from 1980 to 2020. The reason for choosing the industrial sector

is due to its importance as it is considered the mainstay of the economic growth because of its efficiency in rising the rate of GDP growth compared to agriculture or services sectors, as well as its ability to employ a large part of workforce either through its linkages with other sectors or by creating forward and backward interconnection relationships with many industrial activities. This paper contributes to empirical study by two aspects. Firstly, through deepening the concept of banking development by using more than one dimension for banking development in Egyptian economy, as well as it concentrates on one country rather than panel studies which neglect the characteristics of each country. Secondly, this is the first attempt to employ financial globalization index with four dimensions of banking development to study the impact of financial development, both internal and external, on the Egyptian industrial sector. Therefore, the paper aims to examine the following hypothesis.

H₁: banking development has positive impact on the growth of Egyptian industrial sector.

The rest of the study is organized as follow: analytical overview of Egyptian economy is presented in section 2. Literature review is discussed in section 3. Data sources and descriptive analysis are presented in section 4. Econometric methodology and empirical results are presented in section 5. Finally, section 6 gives the conclusion and policy implications.

2. Egyptian economy overview

Despite the Egyptian authorities adopted an open-door policy since the mid-seventies to encourage foreign investment by doing a set of actions such as: Allowing profits to be transferred abroad, immunity from confiscation and Granting more tax exemptions, the Egyptian economy continued to suffer from many imbalances, like an exacerbation of the budget deficit, increasing in inflation rate and external indebtedness in addition to negative real interest rate which required the adoption of a comprehensive program to reform the economic structure and improve

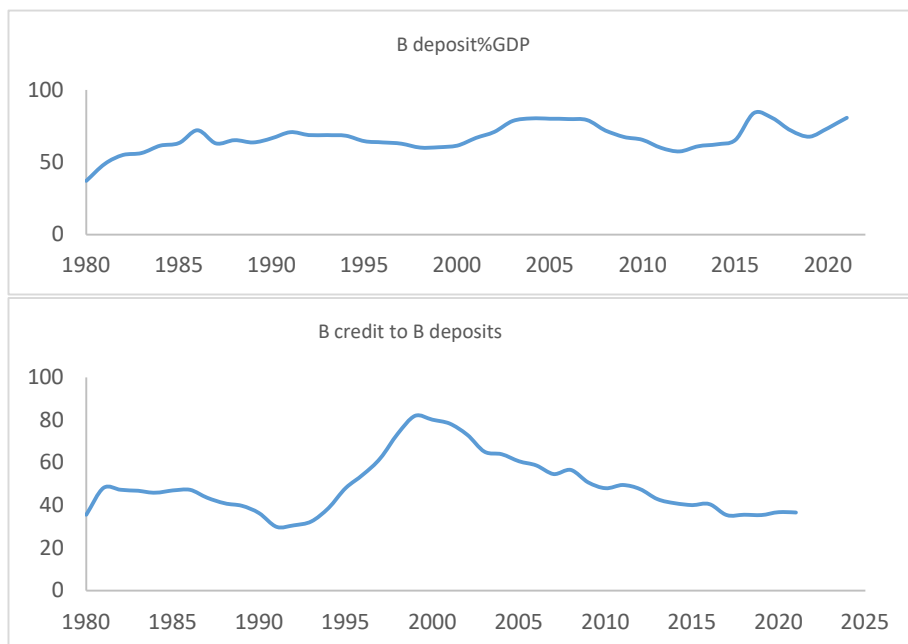
economic performance. Since the early 1990s, Egypt has had an agreement with the IMF and the World Bank in which it committed to implementing reform policies in three phases (Bolbol et al.,2005). The first aimed to liberalize exchange rate and prices as well as tightening both monetary and fiscal policy. The second based on liberalizing trade, enhancing private participation and developing financial sector through liberalizing interest rate to promote saving and encourage the most efficient investments, abolition of credit ceilings. In addition to using indirect monetary tools such as treasury bills, adopting strong precautionary measures in the banking sector and ensure their transparency, by publishing data in accordance with international accounting standards (Mohieldin et al., 2019). The third phase, was concentrated in reinforce the previous two phases.

2.1 Indicators of banking development in Egypt

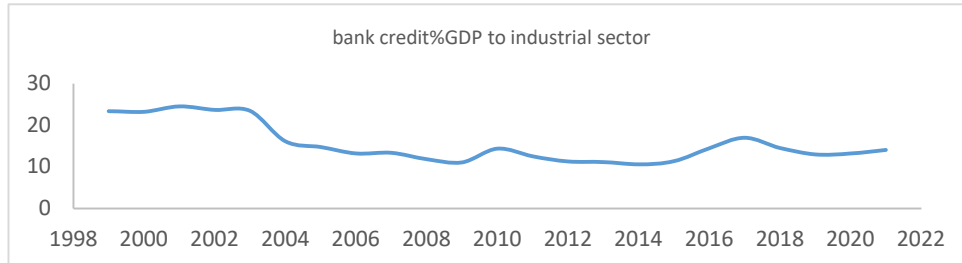
Banking industry is recognized as a major component of financial sector in any economy through boosting the real economy by rising efficiency of savings, directing resources to productive sectors, reducing risks and relieving investors from the burden of self-financing (Bencivenga & Smith, 1991), consequently promoting economic growth. For Egypt the Banking sector can be classified according to ownership to four categories (Fouad et al., 2022), the first, is public banks which are considered as a major player in Egyptian banking industry, especially the National Bank of Egypt, Bank Misr and Cairo Bank because they acquire the largest volume of banking transactions. The remaining three types are private, foreign and joint venture. They operate in the Egyptian economy in accordance with Law 88 of 2004 of the Central Bank of Egypt and play limited role in loans market. By tracking different indexes of banking sector development as deposits, loans and total assets, we can notice that banking deposits which is considered as a main source of lending process. It has witnessed consecutive increases, rising from 37% as a percentage of the GDP in 1980 to 80% in 2020, coinciding with the liberalization of the exchange rate, rising inflation rates and the issuance of high-return savings

certificates to attract depositors' money. For loans, although it has been grown from 194 billion in 2001 to 2.2 trillion in 2020, the ratio of loans to deposits has witnessed a decline from 81.94% in 1999 to 36.72% in 2021 which is inconsistent with growth requirements and considered significantly below world average even in other developing countries ratio. (Naser, without date) argued that Egyptian banking sector has a limited role in financing enterprises because only 17.4% can obtain financing from financial intermediaries, since banking sector targets large companies as the most creditworthy, to reduce credit risks, while the majority of enterprises seek to finance their firms from their own funds. Therefore, the SMEs neither access easily to finance due to high cost of credit nor meet the banking guarantees. Figure 1 shows the development of deposits bank, the ratio of loans to deposits and credit provided to industrial sector.

Figure 1. banking indicators



Source: Author calculations based on the data collected from World Development Indicators of World Bank.



Source: Compiled by author based on the data collected from CBE annual report different issues.

3. Literature review

Through utilizing VAR model over the period spanning from 1988-2011 (Kamal,2013) has found that there is a unidirectional effect from the banking sector development to economic growth which is confirmed the supply heading hypothesis. (Seven & Yetkiner, 2016) used cross section for 146 countries divided into three groups according to income levels over the period 1991-2011. They found that banking development has a positive and significant impact on economic growth in low and middle income countries. In contrast, financial development had a negative and significant effect in high income countries. Through applying modified OLS (Ahmed, 2008) clarified that the results of the impact of financial development on growth depend on the variable which is used as a proxy of financial development. When he used the ratio of private sector credit to GDP, he found a negative effect of financial development on economic growth, but when he employed domestic credit to GDP, he found a positive and insignificant effect. Results also indicate that positive and significant impact of financial liberalization on economic growth. (Khalil Mhadhbi et al, 2019) applied a bootstrap panel causality test for 40 developing countries over the period 1970-2012 to examine the causality relationship between banking development and growth, their results showed that development in banking sector doesn't cause growth in 57% of the study sample including Egypt, likewise results reveal that the causality

from growth to banking development was not achieved in ٥٧% of the study sample, While the causal relationship has not been validated in any direction for 16 countries, representing 40% of the study sample. (Yakubu et al., 2021) found that financial intermediation represented by index constructed from three measures: broad money, banking deposits as well as domestic credit by the financial sector which is positively affects economic growth in the short run while this relationship converted to negative and statically significant in the long run, the study also finds positive and significant impact of financial globalization on the economic growth in the long run. (Al mahadin, et al., 2021) examined the relationship between banking development and economic growth for Jordan over the period 1980-2018. The results confirmed the supply leading hypothesis and enhanced it through a causality test which clarified the unidirectional relationship from banking development to economic growth. (Kouki & Harrathi, 2013) implemented panel regression of four countries in North Africa (Egypt, Morocco, Tunisia and Algeria), they found that the financial development either banking sector or financial market has a positive impact in both Egypt and Morocco while financial market only has a positive effect on economic growth in Tunisia whereas the results indicate negative impact of financial development and growth in Algeria. Through implementing panel regression of 41 countries (Cetorelli & Gambera., 2001) clarified that banking services has a positive impact in providing credit to industrial units especially young firms. (Demetriades & Hussein, 1996) presented an evidence regarding the existence of bidirectional causality between banking indicators and growth through employing both Engle-Granger and Johansen cointegration tests on 16 countries, their results also give an evidence of the importance of economic reform programs in promoting growth especially if it conjugates with deepening financial sector. (Abu-Bader & Abu-Qarn., 2008) sought to examine the direct and indirect causality relationship between financial development and economic growth in Egyptian economy over the period 1960-2000, their results confirmed the bidirectional causality between financial development indexes and

growth either directly or indirectly through employing investment to GDP as indirect channel that promotes growth. (Bolbol et al., 2005) reported that the financial development based on banking indicators has a positive effect on TFP growth but after certain threshold of per capita income in Egyptian economy during the period 1974-2002.

4. Data sources and descriptive analysis

4.1 Data description

Consistent with theoretical, empirical studies and world bank global financial database report 2019, the study employs four indicators of banking sector performance expressing various dimensions of banking development. The function below has been suggested to investigate the role of banking development in elevating Egyptian industrial sector using time series data from 1980 to 2020.

$$IND = f(BD, FOP, CAP/Y, M2/Y, OPEN, GOV_c, DUM)$$

Where IND is industrial value added; BD is banking development index composite according to principal component analysis (PAC); FOP is financial globalization, we employ *de facto*(KOFFiGIdf), it is a composite index from several variables (the sum of FDI, portfolio investment, international debt, international reserves, international income payments); CAP/Y is the stock of capital formation to GDP; M2/Y is the percentage of money supply to GDP, it is the most commonly variable used in financial development studies, an increase in money supply may indicate to extensive use of currency rather than bank deposits or flighting out capital from country (Demetriades & Hussein,1996; Abu Bader& Abu Qarn, 2008; Sreerama et al.,2012) as well as its direct impact on inflation rate especially in developing countries which harms production incentives thereby negatively affect industrial value added, hence it can be considered as a good indicator

of monetary policy status; OPEN is trade openness (imports+exports) to GDP; GOVc is government credit to GDP to examine crowding out effect in credit market finally, dum is a dummy variable (captures effects of economic reform). The data of M2/Y, government credit, openness and industry value added have been collected from World Bank (WDI) database while (bank deposits to GDP as an indicator of banking size and its liquidity which related with its ability to offer loans and facilitate access to financial services; Bank lending-deposit spread as an indicator of banking efficiency; bank credit to bank deposits as proxy of stability;) from (GFD) database. Credit to industrial sector extracted from central bank of Egypt. In the case of Egypt through the past four decades the spread between deposit and lending rate fluctuated by 5% (Mohieldin et al., 2019). FOP from (KOF) database. Finally, CAP/Y was obtained from PENN World Table 10.01.

4.2 descriptive statistics

Table 1 informs us that is the maximum value of value added is 39.89033 in 2014 compared to 25.94175 in 1987 which reflects remarkable progress in Egyptian industrial sector. Also the value of capital stock clarifies remarkable progress through the period. Table 1 also shows the descriptive statistics of study variables, the mean of all variables is positive as well as Skewness and kurtosis coefficients different from zero and three in turn. For Jarque-Bera, statistics table 1 Shows that all variables have a normal distribution except GOVc. The volatility of variables is very weak expressed by standard deviation except capital stock.

Table 1.
Descriptive analysis

	IND	BDep/Y	B Cred	INDc	SPREAD	FOP	M2/Y	CAP/Y	OPEN	GOVc
Mean	32.24	66.85	49.14	15.94	5.150	55.43	83.50	96.14	48.37	36.41
Median	31.71	65.97	47.14	15.12	5.000	54.80	82.82	97.19	46.57	32.80
Maximum	39.89	84.04	81.94	24.56	8.328	67.81	98.14	140.11	74.46	70.66
Minimum	25.94	37.00	29.96	10.61	3.583	34.69	66.42	53.03	30.25	23.89
Std. Dev.	3.60	9.29	13.82	3.824	1.143	8.298	7.638	25.50	11.44	10.99
Skewness	0.35	-0.50	0.868	0.749	0.745	-0.697	0.260	-0.073	0.368	1.468
Kurtosis	2.36	4.19	2.916	2.736	3.178	3.409	2.730	1.626	2.304	4.604
J-B	1.554	4.221	5.283	4.050	3.945	3.607	0.587	3.261	1.796	19.12
Prob	0.459	0.121	0.071	0.132	0.139	0.165	0.746	0.196	0.407	0.0001
Obs	40	40	40	40	40	40	40	40	40	40

5. Econometric methodology and empirical results

Our study aims to examine the short and long run impacts of banking development on growth, in order to find out the effect of underlying variables on growth expressed in industrial value added. We follow the methodology of (Mohieldin et al, 2019). Procedures of econometric methodology require examining the stationarity of the variables as an initial requirement, therefore we apply Augmented Dicky Fuller (ADF) and Philips Perron (pp) tests as follow:

5.1. Unit Root Testing

Table 1 presents the results of unit root tests for all of the considerable variables. The statistic values of these tests indicate to different degrees of stability for study variables, so ARDL model by (pesaran and shin,1998; pesaran et al, 2001) considered as suitable methodology to test cointegration relationship among variable because it has some advantage. The first, it allows the variables of the study to be integrated from different degrees, provided that the degree of their integration is not of the second order. The second, that ARDL model is relatively more appropriate for small size samples. Finally, applying ARDL technique allows us to obtain unbiased estimates of the long-run model.

ARDL model can be represented by the following equation:

$$y_t = \beta_0 + \beta_1 y_{t-1} + \dots + \beta_p y_{t-p} + \theta_0 x_t + \theta_1 x_{t-1} + \dots + \theta_q x_{t-q} + \varepsilon_t$$

Where y_t denotes the dependent variable; y_{t-p} is a lagged value of the dependent variable, whereas x_{t-q} is suggested lags for explanatory variables. Finally, ε_t is the random disturbance term. Based on previous equation, to examine the long-run and short-run impact of our variables on industrial growth, ARDL model is specified as follows:

$$\begin{aligned} \Delta ind = & \beta_0 + \sum_{i=1}^k \beta_{1i} \Delta BD_{t-1} + \sum_{i=1}^k \beta_{2i} \Delta FOP_{t-1} \\ & + \sum_{i=1}^k \beta_{3i} \Delta BD * FOP_{t-1} + \sum_{i=1}^k \beta_{4i} \Delta CAP/Y_{t-1} \\ & + \sum_{i=1}^k \beta_{5i} \Delta M2/Y_{t-1} + \sum_{i=1}^k \beta_{6i} \Delta OPEN_{t-1} \\ & + \sum_{i=1}^k \beta_{7i} \Delta COVC_{t-1} + \alpha_1 BD + \alpha_2 FOP + \alpha_3 BD * FOP \\ & + \alpha_4 CAP/Y + \alpha_5 M2/Y + \alpha_6 OPEN + \alpha_7 GOVC \\ & + \gamma ECT_{t-1} + dum + \varepsilon_t \end{aligned}$$

Where β_0 is the intercept; Δ indicates to the difference operator; $\beta_1 - \beta_7$ and $\alpha_1 - \alpha_7$ are short-run and long-run coefficients, respectively; ε is the error term; k is the lag length; γ is the coefficient of ECT. Bound test was applied to examine the long run relationship among variables.

Table 2.
ADF and PP unit root tests

ADF			PP			Integration order
variable	Level	Δ	variable	Level	Δ	
Ind ^a	-0.399229	-5.525359**	Ind ^a	-1.649586	-5.413137**	I(1)
BD ^b	-2.580853*	-3.314900**	BD ^b	-2.082428*	-3.328190**	I(0)
FOP ^a	-1.693192	-6.055884**	FOP ^a	-1.759355	-6.055724**	I(1)
M2/Y ^a	-2.714148	-6.204591**	M2/Y ^a	-3.384992*	-6.188364**	I(0)
CAP/Y ^a	-1.083628	-8.991159**	CAP ^a	-02.442539	-9.029672**	I(1)
GOVc ^c	-2.336720	-5.555593**	GOVc ^c	-1.701711*	-5.134515**	I(0)
OPEN ^a	-2.722143*	-8.962206**	OPEN ^c	-3.922944**	-8.188839**	I(0)

a. Model without trend.

b. Model without constant and trend.

c. Model with trend and intercept.

Table 2. shows the different types of unite root tests. To know if the data has a unit root or not, we estimate the equation without constant and trend, equation with constant only and equation with constant and trend. Unit root tests were done according to following procedures. First, estimating equation with constant and trend, if we discover that trend is not significant, we estimate equation without trend as well if constant is not significant, we estimate equation without constant and trend. ***, **, * indicate the significance level of 0.01,0.05 and 0.1, for unit root tests.

5.2. Bound testing for cointegration

According to the bounds test results in Table 3, the calculated F statistics are greater than the upper critical value at the 1% significance level, indicating a cointegration relationship among the study variables. Thereby, the study proceeds to next steps of ARDL methodology, which implies estimating the long run relationship and then ECM.

Table 3.
Bounds tes

Test Statistic	Value	Signif.	I(0)	I(1)
	6.0653			
F-statistic	14	10%	1.92	2.89
k	7	5%	2.17	3.21
		1%	2.73	3.90

Note: k is the number of the explanatory variables, ***denotes 1% level of significanc

Table 4.
Long-run results Selected Model: ARDL (1, 2, 1, 0, 0, 0, 0, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BD	11.27552	4.351921	2.590929	0.0155
FOP	-0.186981	0.121384	-1.540406	0.1355
BD*FOP	-0.181622	0.067889	-2.675297	0.0127
M2/Y	-0.351936	0.126671	-2.778347	0.0100
CAP/Y	0.128175	0.033514	3.824577	0.0007
GOVc	-0.071183	0.084795	-0.839463	0.4089
OPEN	0.164005	0.089678	1.828822	0.0789
C	52.27906	10.12581	5.162950	0.0000

Note: ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

5.3. Long-run results

The estimated coefficients of the long-term ARDL model are presented in Table 4. Results confirm the supply leading hypothesis (Goldsmith, 1969), where the coefficient of BD is positive and statistically significant at 0.05 level of significance consistent with prior expectation. In despite of the dependency of industrial sector on either self-finance or stock market, banking sector played positive and significant role in Egyptian market through the period. For financial openness, results indicated to a negative and insignificant impact of financial globalization on industrial sector due to the exposure to external and internal shocks as 2008 crisis as well as the negative impact of Jan revolution; then the negative impact of interactive term $BD*FOP$ on industrial sector was expected and consistent with (Aghion et al., 2004) who clarified that the financial openness may threaten economy if the country is at an intermediate stage of financial development. In the same context (Mukherjee, 2021) posited that the financial openness can be affected by political stability, government effectiveness and the level of economic growth. For $M2/Y$ as an indicator of monetary policy, the results show the negative and significant impact of $M2\%$ GDP, which is expected due to the inflationary effect of the money supply, especially in the case of developing countries like Egypt where money in circulation constitutes a large proportion of M2 (Abu-Bader & Abu-Qarn). The effect of CAP/Y , $OPEN$ were consistent with prior expectation. Lastly, results reject crowding out hypothesis in the study period where $GOVc$ was negative but insignificant.

5.4. Short-run results

Table 5 shows that the finding of the short run estimation of study variables. The result of error correction coefficient is -0.488 and it is significant at 1% level, this implies tendency to equilibrium and reduction of disturbance by 49% annually. Results also reveal that banking development affects positively and significantly on industrial value added which is consistent with long run results. This suggests that

banking development played their expected role in promoting growth in Egyptian economy. For financial openness results reveal that it doesn't have a significant impact in the short run. Findings also reveal the importance of economic reform procedure represented in dummy variable in affecting the short run results.

Table 5.

short-run results

Selected Model: ARDL (1, 2, 1, 0, 0, 0, 0, 0)

Model selection method: AIC

Variable		Std. Error	t-Statistic	
Coefficient		Prob		
ΔBD	4.782673	0.750215	6.375073	0.0000***
ΔBD -1	-0.796387	0.349827	-2.276518	0.0313**
ΔFOP	0.027272	0.034861	0.782306	0.4411
ΔDUM	1.630164	0.243398	6.697534	0.0000***
ECT_{t-1}	-0.476095	0.056350	-8.448910	0.0000***
R^2	0.720381			
Adjusted R^2	0.687485			
Durbin-Watson stat	2.171084			

Note: ***, ** and * denote significance at the 1, 5 and 10% levels, respectively

5.5. Diagnostic tests results

Table 6 shows the results of diagnostic tests (serial correlation-heteroscedasticity), jarque-Bera normality as well as RESET test for stability. According to the results, our model passes all previous tests. Finally, both figures (2), (3) confirmed the stability of estimated model through CUSUM and CUSUM squared plots.

Table 6. Diagnostic test

Test	JB	Breusch-Godfrey LM	Breusch-pagan-godfrey	Ramsey RESET
F-Statistics	0.077	0.813	1.389	1.994
Probability	(0.962)	(0.455)	(0.233)	(0.170)

6. Conclusion and recommendations

In this paper we discussed the impact of various dimensions of banking sector (size, depth, efficiency and stability) on industrial value added through the period spanning from 1980-2020. The study employed ARDL model, this methodology based on checking the existence of long run relationship between considered variables as well as ECM term to assess the speed of disturbance modification in the model. The unit root tests revealed that all variables are stationary either in the level or in the first order. The bounds test affirmed the existence of long run relationship between industrial value added and explanatory variables. Our results revealed the positive effect of banking performance on industrial value added therefore, it confirms the supply heading hypothesis in Egyptian economy. Following the empirical finding study recommendation concentrated in two points, the first, that the Egyptian government should support the main pillars of financial globalization FDI and stock market by controlling macroeconomic instability and enhancing transparency in stock market to reduce corruption and elevating investors' confidence level then, achieving more stability in financial openness index. The second, through paying more attention from the banking sector to reduce financial cost to encourage investment.

Finally, this study mainly focuses on examining the relationship between banking development and economic growth represented by industrial value added only, therefore it may suffer from some deficiency in the following two points:

\- Ignoring other sectors of the Egyptian economy, such as agriculture and services.

٢- Ignoring the role of stock market in promoting Egyptian industrial sector. Therefore, the previous shortcomings afford the opportunity for further research in the future.

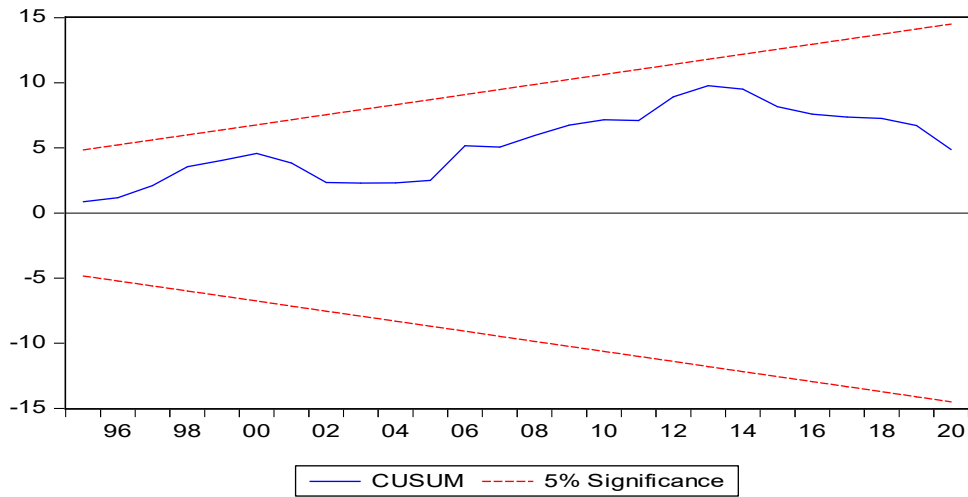


Figure 2.

Plots of CUSUM

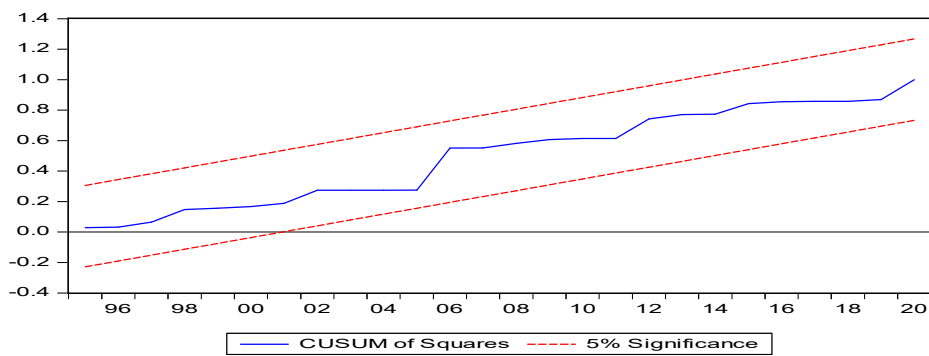


Figure 3.

Plots of CUSUM of squares

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