

Financialization and external debts in the MENA region: Dynamic forecasting of Egypt's external debts

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المخلص:

هناك اهتمام متزايد بمفهوم التحول المالي مما أدى إلى اهتمام الأدبيات بمفهوم التحول المالي في الدول النامية والاقتصادات الناشئة من عدة جوانب. إحدى تلك الجوانب هي القدرة المتزايدة لحكومات تلك الدول على الاقتراض والاعتماد المتزايد على الأسواق المالية. لذلك تهدف هذه الدراسة على التركيز على الإطار المفاهيمي للتحول المالي، لتحديد العلاقة بين التحول المالي والديون الخارجية في منطقة الشرق الأوسط وشمال إفريقيا، كما حاولت الدراسة أيضاً التنبؤ بقيمة أرصدة الدين الخارجي لجمهورية مصر العربية كأحد الدول النامية والاقتصادات الناشئة من عام ٢٠٢٠ إلى ٢٠٢٤ باستخدام نموذج ARIMA لإثبات التحول المالي.

ولقد خلصت الدراسة إلى أن هناك زيادة هائلة في الديون الخارجية والحكومية في منطقة الشرق الأوسط وشمال إفريقيا خلال الفترة من ٢٠١١ إلى ٢٠١٩ وهي أحد سمات التحول المالي والاعتماد المتزايد على الأسواق المالية. علاوة على ذلك، تم توقع ارتفاع قيمة الديون الخارجية لمصر من ٢٠٢٠ إلى ٢٠٢٤.

الكلمات المفتاحية:

التحول المالي - الأسواق المالية - العولمة - التحرير المالي - أسواق رأس المال - الاقتصادات الناشئة - الاقتصادات النامية - الديون الخارجية - الديون الحكومية - عدم الاستقرار المالي - نموذج ARIMA

Abstract

Considering the growing exposure of the financialization concept, the literature has shown the financialization of developing and emerging economies (DEEs) from different aspects. One of these aspects is the increasing capability of DEEs' governments to borrow and be heavily dependent on financial markets. Therefore, this study aim to explore the conceptual framework of financialization, to examines the relationship between financialization and external debts in the Middle East and North Africa region (MENA). The study likewise attempted to forecast the value of Egypt's external debt stocks as one of the DEEs' countries from 2020 to 2024; using the ARIMA model; to demonstrate financialization.

The study concludes that there is massive increase in external and government debts in the MENA region within the period from 2011 to 2019 as a feature of financialization and the amplified dependence on the financial markets. Furthermore, it has been concluded that Egypt's external debts are expected to rise from 2020 to 2024.

Keywords:

Financialization - financial markets - globalization - liberalization - capital markets - emerging economies - developing economies - external debts - government debts - financial instability - ARIMA model.

1. Introduction:

Financialization has become more prevalent than before. Given that, many scholars in social sciences have employed this term- since the late 1990s and early 2000s- trying to characterize the growing prominence of finance (Epstein, 2015) and the transition from the industrial economic system to finance capitalism.(Sawyer, 2013)

Despite the criticism of the terminology as confusing, there are few published definitions and no consensus on a single one (Aalbers, 2016); nonetheless, the most prevalent one is that of (Epstein, 2001) who argues that financialization refers to “*the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operations of the economy and its governing institutions, both at the national and international levels.*” More definitions have been built on Epstein definition, like (Palley, 2013), who states that financialization is “*a process whereby financial markets, financial institutions and financial elites gain greater influence over economic policy and outcomes.*” As well as (Aalbers, 2016) who expresses it as “*the increasing dominance of financial actors, markets, practices, measurements, and narratives, at various scales, resulting in a structural transformation of economies, firms including financial institutions, states, and households.*” But (Krippner, 2005) defines financialization as “*a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production.*” Moreover (Stockhammer, 2010) summarizes the term by “*broad set of changes in the relationship between the financial and real sector, which gives greater weight than heretofore to financial actors or motives*”

On the other hand, DEEs are characterized by having vulnerable capital, relying on financial debts and imports of products and

services without being positioned to achieve exterior current account balances. Excessive spending and shortage of revenue, which leads to fiscal balance deficits, are the source of public debts. (Szybowski, 2018) DEEs remained dependent on external capital flows, which minimized their capability to generate steady economic growth, retaining wages beneath international levels and higher financial returns than international averages. It observed that some crises were the results of capital outflows caused by changes in interest and exchange rates. (Levy-Orlik, 2013) Proper policies, such as high interest rates and over-estimated exchange rates, are expected in this respect. (Feijo, Lamônica & Lima, 2019) It is related to increasing domestic public debts. As government bonds are used to alleviate the country from opposition to speculation, generally through foreign exchange reserves accumulation. (Hardie, 2012) However, the beneficial effects of this accumulation fall behind the damaging consequences of debts. (Mansour, 2013)

This study consists of seven sections; the first part examines several concepts of financialization and DEEs' characteristics. The second section analyses the financialization concept and financialization in DEEs in pieces of literature. The third section analyses the external debts in the MENA region. The fourth part explores the model specifications and methodology and the fifth section evaluates the results. The sixth section represents the discussion. The final section summarizes the key findings.

2. The analysis of financialization in literature:

Due to finance's growing dominance over the economy, the notion of financialization has captivated the interest of scholars. (Karaagac, 2020) The relationship between governments and

financial markets has been discussed in a rising number of studies recently claiming that governments have become heavily dependent on financial markets due to the increase of debts in

developed countries. (Preunkert, J., 2017) Consequently, debt growth has been an inherent feature of financialization. (Bogdan & Lomakovych, 2021; Karwowski & Centurion-Vicencio, 2018) Moreover, some studies depict financialization through debt indicators. (Palley, 2013) Others believe that financialization is the process by which the government becomes a financial player through strengthening markets for government debt. (Karwowski & Centurion-Vicencio, 2018).

The evaluation of DEEs' financialization is innovative. (Bonizzi, 2013) However, recent works of literature have shown the financialization of DEEs from different points of view, focusing on the international manifestations of DEEs financialization (Bortz, & Kaltenbrunner, 2018). In particular, these studies showed the increasing capability of these governments to borrow. (Hardie, 2012; Bonizzi, 2013; Kaltenbrunner, 2010). Other literature centered on the domestic context represented the modifications of the financial sector's role and financialization's effects on the economic variables. These papers demonstrated that financialization expanded in all nations. (Zalewski, & Whalen, 2010; Van Arnum, & Naples, 2013; Lin & Tomaskovic-Devey, 2013; Dünhaupt, 2014; Alvarez, 2015; Golebiowski, Szczepankowski & Wisniewska, 2017).

On the international context, financial deregulation in monetary policy is considered to have set the stage for financialization. (Karwowski & Centurion-Vicencio, 2018). The threats of financial globalization and liberalization cause the debt crisis (Amin, 1996; McMichael, 1996; Arrighi, 1998; De Angelis, 1998; Watson, 2000) since liberalization leads to high interest rates, which encourages domestic and foreign players to amass foreign currency. The national currency appreciates due to expansion in financial markets, which boosts asset values and attracts additional capital flows, causing the national currency to appreciate and the country's current account to worsen. Financial instability spreads when the currency depreciates,

resulting in financial crises throughout the whole economy. (Bonizzi, 2013)

Another aspect is “Minsky's financial instability hypothesis,” which explains why financialization has a leaning of instability and leads to financial collapse. Financial instability is thought to be an endogenous explanation of the economic cycle that analyses the economy's financial structure. After a lengthy period of quietness, units’ expectations tend to become optimistic, and the boundaries of safety narrow. Then, due to endogenous forces, units are no longer in a position to meet their obligations, which leads to debt deflation and crisis spreading. (Caverzasi, 2014; Whalen, 2017; Palley 2013; Bhaduri, 2011)

The hazards associated with financialization have grown in tandem with debt levels which elevated financial market volatility, money supply risk, and inflation risk; exposed borrowers to debt refinancing risks, market changes in interest rates and currency rates, and crowding out of private investments; and increased liquidity concerns as the strain of public debt expanded dramatically. (Bogdan & Lomakovich, 2021) This will not only fail to generate protracted investment but will also lead to financial vulnerability. (Powell, 2013) Furthermore, refinancing domestic debt with external debt, even at a lower interest rate or for a longer maturity term, compounds the issue. (Bortz, & Kaltenbrunner, 2018) Worsening the situation is the reality that investors may reward or punish governments by influencing the cost and availability of borrowing. (Preunkert, J., 2017) Accordingly,

financialization not only crowds out the actual economy but also increases its reliance on financial credit, elevating finance above the real economy. (Aalbers, 2008) Hence, the long-term stalling of the economic cycle can be attributed to financialization. (Qi, 2019) As an impact, financialization has transformed the way

governments issue and manage debt, as well as the structure of public debt. (Fastenrath & Trampusch, 2017).

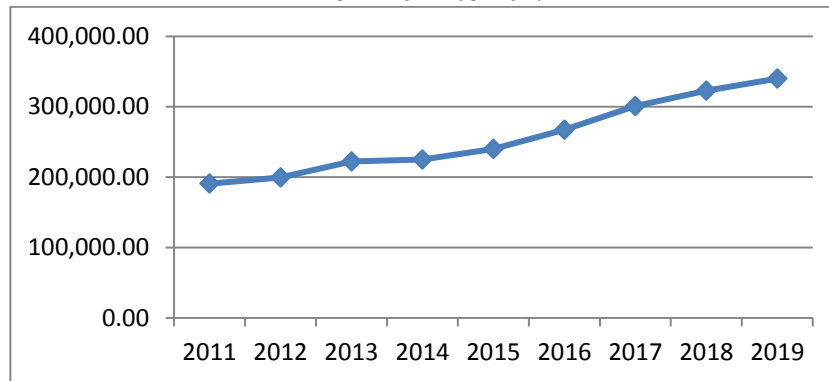
Consequently, the current study attempts to answer the inquiry of the study: is there a relationship between financialization and external debts? One aspect of financialization is the increasing capability of DEEs' governments to borrow and be heavily dependent on financial markets which can be depicted through debt indicators as mentioned before. Therefore, to demonstrate financialization, this study hypothesized that Egypt's external debts follow a Moving Average pattern. To test this hypothesis, the study applies the ARIMA model using a dataset of Egypt's foreign debts from 1978 to 2019.

3. Financialization and external debts in MENA:

To study the financialization of external debts in the MENA region, this paper relied on World Bank International Debt Statistics 2021, principally the data from 2011 to 2019, after excluding high income countries. The countries included are Algeria, Djibouti, Egypt, Iran, Jordan, Lebanon, Morocco, the Syrian Arab Republic, Tunisia, and Yemen. The external debts stock is the key element that clarifies this relationship.

The external debt stocks: The World Bank defined it as “long-term external commitments that are public or publicly guaranteed, private nonguaranteed long-term external debts, IMF financing and short-term external debt, including long-term debt interest arrears.”

**Figure 1: Total external debt stocks of MENA region
From 2011 to 2019**



Resource: World Bank, (2021) International Debt Statistics (IDS).

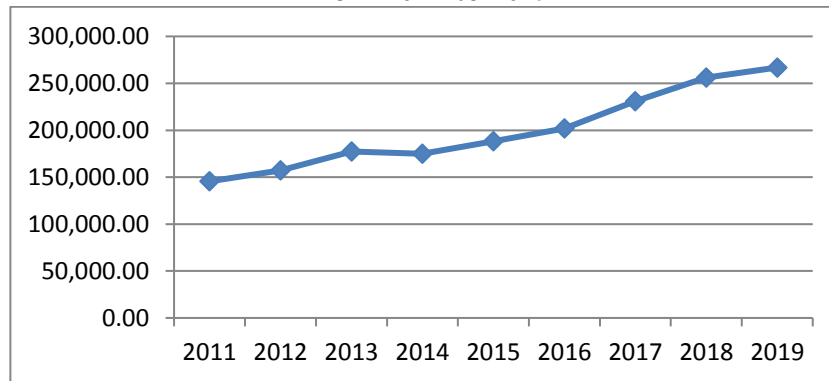
The region's external debt stocks increased from 190 billion USD in 2011 to 340 billion USD in 2019 with an increase of 79%. With the closure of 2020, the region's external debt stocks increased to \$360 billion, an increase of 8.9 percent over the equivalent number at the end of 2019. The major cause was an estimated 11 % increase in Egypt's external debt stocks and 13% in both Jordan and Morocco. (Worldbank, 2021)

The external debts have three main components which are: long-term debt, short-term debt, and IMF credits and we will analyze each component separately.

1. Long-term debt :

The main component of foreign debt is long-term debt, as it represented 76% of the total external debts in 2011 and then became 78% in 2019. Long-term debt maturity is more than one year. The long-term debts have been increased from 145billion USD to 266 billion USD with a significant percentage increase of 83%.

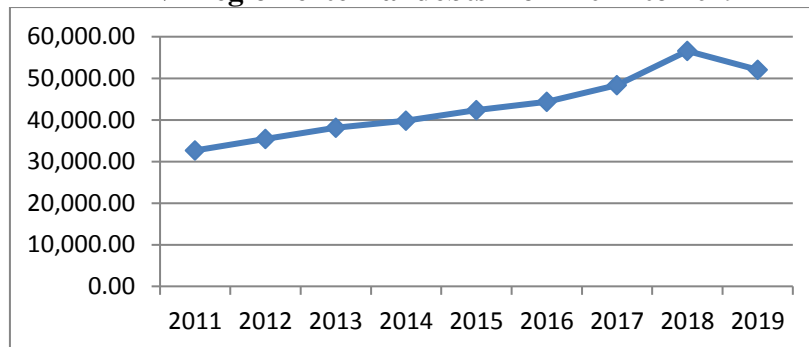
Figure 2: Long-term debts of MENA region external debts From 2011 to 2019



Resource: World Bank, (2021) International Debt Statistics (IDS).

The long-term debts consist of the obligations of debtors, both public and private: a) Private non-guaranteed debt refers to foreign obligations made to borrowers that are not assured for redemption in the debtor country by a government entity. The private sector not guaranteed of the total long debts has been increased from 32 billion USD to 52 billion USD with a percentage increase of 62.5%.

Figure 3: Private sector not guaranteed long- term debts of MENA region external debts from 2011 to 2019

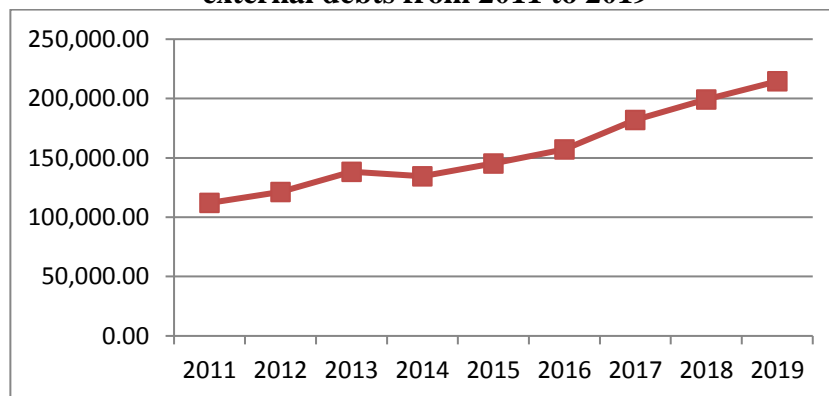


Resource: World Bank, (2021) International Debt Statistics (IDS).

b) Public and publicly guaranteed debt includes public debtors' external obligations and has two components:

- Public debt: (which is the main components of public and publicly guaranteed debt) borrowed by a national government or department, by a political subdivision or agency, or by separate public entities. Public debts represent 99.3% of Public and publicly guaranteed debts in 2011 and reached 99.9% in 2019. The public debts have been increased from 112 billion USD to 214 billion USD with a percentage increase of 90%. The public debts represent 77% of long-term external debts in 2011 and this percentage has been increased to reach 80% in 2019.

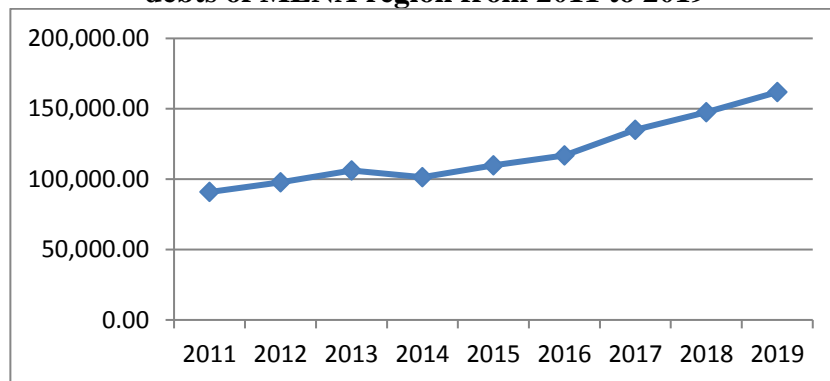
Figure 4: Long- term public sector debts of MENA region external debts from 2011 to 2019



Resource: World Bank, (2021) International Debt Statistics (IDS).

The general government debts of public debts increased 78% within the eight years representing 81% of the public sector in 2011 and 75% in 2019.

Figure 5: Long- term general government debts of public debts of MENA region from 2011 to 2019

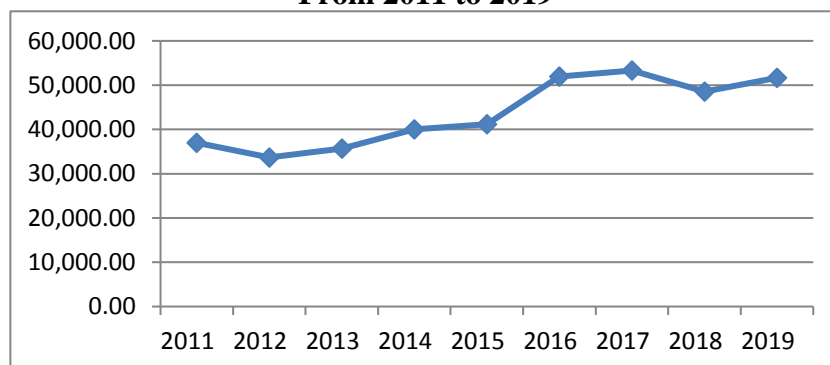


Resource: World Bank, (2021) International Debt Statistics (IDS).

1. Short-term debt:

Short loans represent the second component and characterized by maturity of one year or less. The percentage of the short-term from the total external debts stock was 19% in 2011 and has been decreased to 15% in 2019.

Figure 6: Short-term debt of MENA region external debts From 2011 to 2019



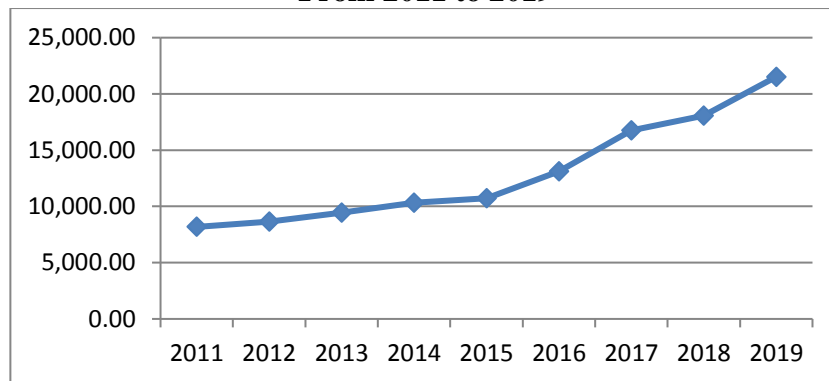
Resource: World Bank, (2021) International Debt Statistics (IDS).

This increases the long loans and IMF credit as many countries try transforming short-term debts into long-term debts.

1. Use of IMF credits

When a loan is made from the IMF, the government commits to altering the economic policies. These steps are indispensable to empowering the government in order to reimburse the IMF. (IMF) The IMF credits represent 4% of external debt in 2011 and have been increased to 6% in 2019.

**Figure 7: IMF debt of the MENA region external debts
From 2011 to 2019**



Resource: World Bank, (2021) International Debt Statistics (IDS).

From the above analysis, we can note the significant increase in borrowing in the region, as all components of borrowing have increased in large proportions. External debts have increased by nearly 78%, and there is a significant increase in long-term loans, reaching 83%, of which government debt represents about 80%, and long-term government debts have increased during those years by an increase of 78%. As for short loans, they increased by about 40% during the same period, while IMF loans increased by 163%.

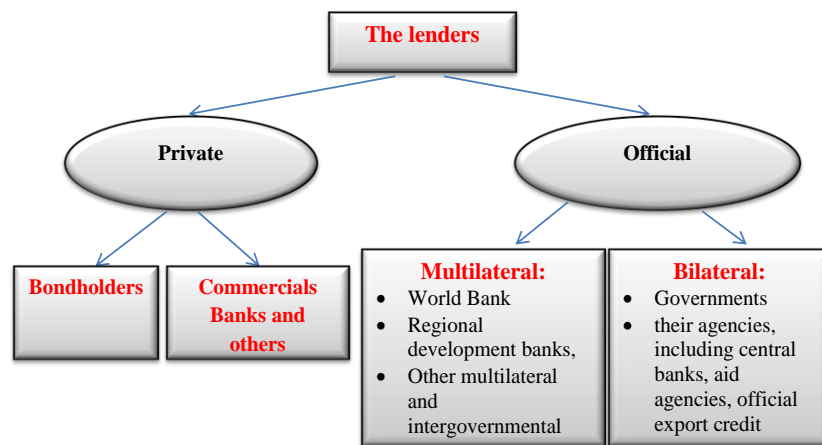
Table 1: The external debts components of the MENA region and its increase percentage from 2011 to 2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019	% of increase from 2011 to 2019
Total External debt stocks	190730	199633	222408	225214	240064	267144	300887	322904	340004	78.26
IMF Credit	8179.1	8645.5	9451.9	10330.3	10723.2	13123.7	16768.3	18075.5	21521.6	163.13
IMF % from total external	4.29	4.33	4.25	4.59	4.47	4.91	5.57	5.6	6.33	
Short-term	37003.9	33681.7	35663.3	39998	41202.7	51978.8	53304.7	48559.7	51641.3	39.56
Short-term % from total external	19.4	16.87	16.04	17.76	17.16	19.46	17.72	15.04	15.19	
Long-term	145547	157306	177293	174886	188138	202042	230813	256269	266841	83.34
Long-term % from total external	76.31	78.8	79.72	77.65	78.37	75.63	76.71	79.36	78.48	
Public and publicly guaranteed sector	112884	121884	139186	135041	145785	157683	182436	199701	214755	90.24
Public sector	112053	121198	138407	134444	145304	157259	182008	199395	214522	91.45
Public sector% of long term	76.99	77.05	78.07	76.88	77.23	77.83	78.85	77.81	80.39	
of which: General Government	90855.6	97716.7	106109	101323	109822	116773	135016	147650	161831	78.12
General Government debts % of Public sector	81.08	80.63	76.66	75.36	75.58	74.26	74.18	74.05	75.44	

Resource: World Bank, (2021) International Debt Statistics (IDS).

To analyze the source of these loans, we will review the sources of long-term lending; since it represents the largest proportion of debts; especially after the decline in short-term lending. We have two main types of creditors in general, private and official creditors.

Figure 8: Types of Lenders



Resource: World Bank, (2021) International Debt Statistics (IDS).

From the above figure, the private creditors are the bondholders, commercial banks, and other private creditors. The bondholders' percentage as lenders increased by 200% from 2011 to 2019 which is a huge amount and it is evidence of the increase of financialization of debts. As for the commercial banks, their lending ratios increased to 86% for the same period. Regarding the official creditors, their lending increased by 54% versus 172% of private creditors within the same period.

Official creditors consist of multilateral and bilateral official creditors. The percentages of multilateral increased 61% and the percentages of bilateral increased about 48%.

Net inflows from official creditors grew by 43% to \$8.7 billion. FDI was down 13% in 2019, indicating a slowdown in regional investment. (Worldbank.2021)

So it is concluded that the creditors increased their percentages of lending but the uppermost increase is due to the bondholders, then commercial banks, followed by the multilateral, and finally from the bilateral. This exhibits the dependency on the financial markets.

Table 2: The long-term external debts creditors of MENA region and its increase percentage from 2011 to 2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019	% of increase from 2011 to 2019
Long-term External debt stocks	145,547	157,306	177,293	174,886	188,138	202,042	230,814	256,269	266,841	83.34
Public and publicly guaranteed debt from:	112,884	121,884	139,186	135,041	145,785	157,683	182,436	199,701	214,755	90.24
Official creditors	78,588	82,363	92,200	87,494	90,831	102,707	114,709	116,786	121,213	54.24
Multilateral	38,492	41,247	44,942	43,527	43,549	49,359	57,457	58,305	61,995	61.06
of which: World Bank	13,081	13,888	15,171	15,202	16,336	18,404	21,711	23,694	26,495	102.54
Bilateral	40,095	41,115	47,258	43,967	47,282	53,347	57,252	58,481	59,218	47.69
Percentages of Official creditors from the Public and publicly guaranteed Debts	69.62	52.36	52.00	50.03	48.28	50.83	49.70	45.57	45.43	
Private creditors:	34,296	39,521	46,986	47,547	54,954	54,976	67,728	82,915	93,543	172.75
Bondholders	25,939	31,481	39,107	39,503	45,943	47,247	59,401	69,509	77,956	200.53
Commercial banks and others	8,357	8,041	7,879	8,045	9,011	7,729	8,327	13,407	15,587	86.52
Percentages of Private creditors from the Public and publicly guaranteed Debts	30.38	25.12	26.50	27.19	29.21	27.21	29.34	32.35	35.06	

Resource: World Bank, (2021) International Debt Statistics (IDS).

4. Model specifications and methodology

This study employs the data of Egypt's external debts obtained from the World Bank, International Debt Statistics. The range of data from 1978 to 2019 (according to availability of data) provides the basis for forecasting external debts from 2020 to 2024, as the data for 2020 is still not available. As previously stated, external debts is a significant aspect in demonstrating financialization. As a consequence, this variable was chosen to depict financialization. (Bogdan & Lomakovych, 2021; Karwowski & Centurion-Vicencio, 2018; Palley, 2013) In the mid-1970s, J. Box and D. Jenkins developed ARIMA model (Autoregressive Integrated Moving Average) time series prediction technique for forecasting macroeconomic variables in the short run.

the main equation of the model depicts an autoregressive integrated moving-average (ARIMA) process of order (p d, q), where p is the degree of the autoregressive process (AR), d is the degree of differencing, and q is the degree of the moving-average process (MA). (Young, W. L. 1977)

$$y'_t = c + \phi_1 y'_{t-1} + \dots + \phi_p y'_{t-p} + \theta_1 \epsilon_{t-1} + \dots + \theta_q \epsilon_{t-q} + \epsilon_{t,t} \quad (1)$$

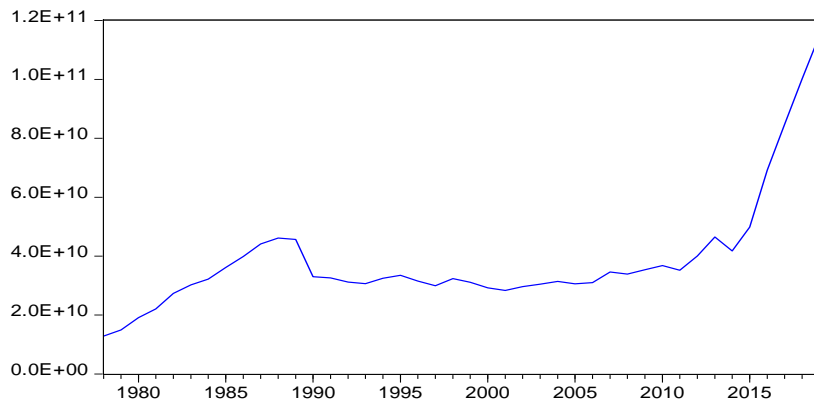
Where y'_t is the differenced series of the External debts (Exdebts). On the right side, the predictors include both lags of External debts y'_t values and lags of errors. (Hyndman, & Athanasopoulos. 2018)

$$Exdebts_{,t} = c + \phi_1 Exdebts'_{t-1} + \dots + \phi_p Exdebts'_{t-p} + \theta_1 \epsilon_{t-1} + \dots + \theta_q \epsilon_{t-q} + \epsilon_{t,t} \quad (2)$$

The fundamental process is to provide a visual demonstration of changes in the level of external debt. Figure 9 depicts Egypt's

external debts from 1978 to 2019, where the level of external debts was almost constant till 2015 then perpetually enlarged.

Figure 9: Egypt’s external debts from 1978 to 2019
ExDEBTS



The major step in a time series analysis is the unit root test. The Dickey-Fuller(ADF) and Philips Perron (PP) tests are the most frequent time-series tests used. The unit root test results of external debts at the level are presented in Table 3. It demonstrates that the data series is not stationary.

Table 3: Unit Root tests results

Series	ADF	PP
Exdebts	2.899198 Prob(1.0000)	2.488823 Prob(1.0000)
	1%	-4.198503
	5%	-3.523623
	10%	-3.192909
		-3.600987
		-2.935001
		-2.605836

Table 4 shows that the external debts data set is not stationary at first level.

Table 4: Unit-root test results at First Difference

Series	ADF	PP
Exdebts	-2.885002 Prob(0.1779)	-2.790925 Prob(0.2088)
1%	-4.205004	-4.205004
5%	-3.526609	-3.526609
10%	-3.194611	-3.194611

Table 5 presents that the external debts data set is stationary at second level.

Table 5: Unit-root test results at second Difference

Series	ADF	PP
Exdebts	-7.346704 Prob(0.0000)	-15.04357 Prob(0.0000)
1%	-4.219126	-4.211868
5%	-3.533083	-3.529758
10%	-3.198312	-3.196411

The Akaike Info Criterion (AIC) and the Schwarz Criterion (SC) are then used to evaluate the ARIMA model. Table 6 depicts three of the most efficient ARIMA models. The ARIMA model (1,2,2) satisfied the minimum AIC and SIC. Therefore, it was selected as the best model for estimating the external debts in the coming years. Then diagnostic tests were applied, the White Noise test (Residual Diagnostics) and the ARMA structure process, and their results were satisfactory.(see the appendix)

The suggested method estimates Egypt's external debts over the following five years.

Table 6: Empirical Estimation of the ARIMA Fit Model

	ARIMA (2,2,1)	ARIMA (1,2,2)	ARIMA (3,2,3)
L1. ar		-0.357508***	
L2. ar	-0.243575*		
L3. ar			0.999961***
L1. ma	-0.373658***		
L2. ma		-0.386756**	
L3. ma			-0.995189***
AIC	47.39035	47.35832	47.46303
SC	47.55924	47.48498	47.63192

t- statistics: *, **, *** Significant at 1%, 5%, 10 %

5. Results:

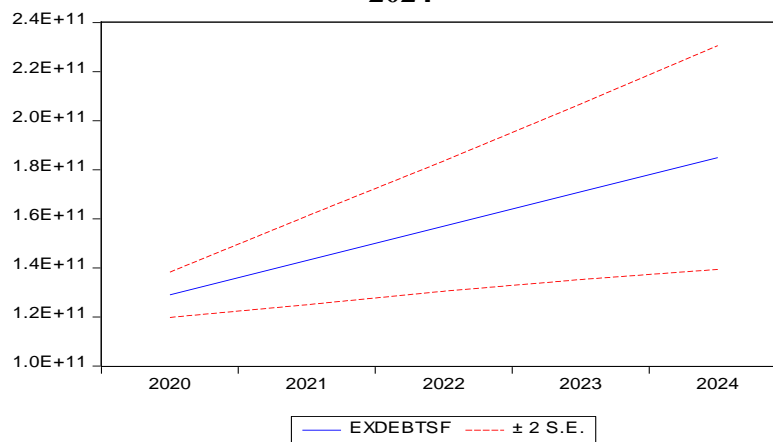
The results supported the hypothesis that Egypt's external debts follow a Moving Average trend. The observed patterns can be employed to predict the series' future values. Corresponding to projections, Egypt's external debts would probably continue to expand until 2024.

Table 7: Forecast of Egypt External debts from 2020 to 2024

	2020	2021	2022	2023	2024
Egypt external Debts	1.2903E +11	1.4302E +11	1.57E +11	1.7098E +11	1.8496E +11

The external debts' growth rate may increase by 12% in 2020 than in 2019. The percentage of the external debts may continue to increase but in a decreasing pattern for the following years by 10,8% in 2021, 9.7% in 2022, 8,9% in 2023, and 8.1% in 2024.

Figure 9: Forecast of Egypt External debts from 2020 to 2024



6. Discussion:

There was a significant increase in borrowing in the MENA region. The region faced a significant level of debt until late 2019. The external debt stocks of MENA countries have been increased by 79% from 2011 to 2019. The public debts have been increased by 90%. The increasing capability of DEEs' governments to borrow is one of the reasons that encouraged these countries to depend heavily on borrowing and the result is an enormous increase in their external debts. The major causes of this increase in international finance were excessive liquidity on the supply side and over-optimistic assessments of emerging borrowing nations' repayment capacity on the demand side. (Mustapha, S. & Prizzon, A., 2015)

The situation has been worsening as a result of the Covid-19 pandemic. Increased demand for crisis expenses places great strain on the imbalance in the region's budget which increases the external debts. (IMF)

However, the key point is not the government debt, but its sustainability, which the IMF has described as the government's ability to meet its commitments, now and in the future, without financial support or default. The debt sustainability analysis is more complex than the GDP debt ratio since it is a dynamic factor that should take into account many economic variables and fiscal structures and requires judgments about future events. (Massó, 2016)

The paper likewise forecasted the value of Egypt's external debts between 2020 and 2024 using the ARIMA model. It is important to mention that forecasting is not an accurate tool but it enables the policymakers to be more prepared for the upcoming years to avoid the increase of the external debts.

As concluded, Egypt's external debts will probably rise. Just as mentioned before, 2015, which was the beginning point for the problem, was exacerbated by an unrealistic exchange rate. In addition, the funding for the budget deficit would not produce fund to allow these promises to be paid for. The debt burden grew without precedent following the liberalization of the exchange rate. Moreover, economic changes concentrated on the financial and not the real and institutional side after the exchange rate liberalization. (Kissinger, 2020)

7. Conclusion:

This study gave an analysis for the rising of financialization in emerging economies and particularly in the MENA region to explore the relationship between financialization and external debts in the Middle East and North Africa region (MENA). The study concluded that debt growth is an aspect of financialization. Accordingly, there was a significant increase in

borrowing in the MENA region from 2011 to 2019 due to the amplified dependence on the financial markets rather than the real economy.

Likewise, the study attempted to predict Egypt's external debts as one of the DEE's countries and conclude that there is a probable increase in its external debts in the next five years.

If no structural adjustments are implemented on the MENA region, debt accumulation, crowding out, and an inability to repay for future generations may occur.

This study has policy implications such as:

1. The reduction of excessive dependence on financialization to avert the impacts of a debt accumulation
2. DEE's must constantly monitor and manage debt to avert financial crises. (Dadush, Dasgupta, & Ratha, 2000)
3. Emphasis on the real economy and production rather than the financial sector to achieve stable real GDP growth.
4. Assuring that the debts contribute to sustainable economic growth.
5. Promoting the direct investment and increasing the exports.
6. Proper fiscal adjustments (Fiscal consolidation): to allow governments to modify their fiscal policies by maintaining primary budget surpluses in terms of debt reduction, mostly through revenue-increasing and discretionary spending initiatives.(Ornert, 2019)

For future studies, researchers must assess the impact of the Covid-19 pandemic on the external debts of the region and its effect on Egypt's external debts.

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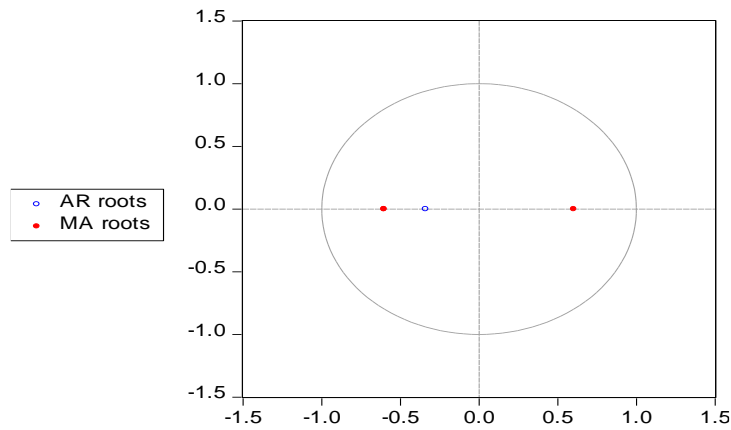
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Appendix:

Inverse Roots of AR/MA Polynomial(s)



Q-statistic probabilities adjusted for 2 ARMA terms

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	-0.042	-0.042	0.0759	
		2	-0.044	-0.046	0.1621	
		3	0.096	0.093	0.5816	0.446
		4	0.004	0.010	0.5824	0.747
		5	-0.076	-0.068	0.8587	0.835
		6	0.120	0.108	1.5760	0.813
		7	-0.002	-0.001	1.5763	0.904
		8	-0.147	-0.129	2.7099	0.844
		9	0.167	0.146	4.2299	0.753
		10	-0.073	-0.086	4.5294	0.806
		11	0.051	0.101	4.6792	0.861
		12	-0.061	-0.106	4.9018	0.898
		13	0.013	0.011	4.9129	0.935
		14	0.013	0.051	4.9230	0.961
		15	0.063	0.029	5.1881	0.971
		16	-0.064	-0.056	5.4768	0.978
		17	-0.110	-0.105	6.3623	0.973
		18	0.129	0.102	7.6288	0.959
		19	-0.062	-0.020	7.9321	0.968
		20	-0.062	-0.098	8.2517	0.975

