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	RESEARCH ARTICLE 	
	The Role of the Exchange Rate in Achieving Financial Stability: An Analytical Study of Algeria for the Period 2010–2024	
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Keywords	Financial stability; Exchange rate; Overall indicators; Economy.	
<b>Abstract</b> Given the renewed and ongoing importance of the subject of the study and its impact on international economic relations and the local economy alike, the aim was to shed light on the various concepts related to the overall indicators of financial stability and exchange rate systems, and then to demonstrate the extent to which the values of these indicators change in the Algerian economy with changes in the exchange rate during the period under study. The study concluded that a flexible, managed exchange rate system was adopted, which enabled adaptation to global financial and economic fluctuations and contributed to achieving financial stability and a clear and direct impact on some overall financial stability indicators, such as financial reserves, the balance of payments, and inflation, while recording a weak response to other indicators, such as economic growth and external debt. This is due to the rentier nature of the Algerian economy, its heavy dependence on hydrocarbon revenues, its vulnerability to price fluctuations in global markets, and its being the main source of these foreign currency revenues, in light of the significant weakness of the productive apparatus, which pushes us to diversify economic activity and find financing alternatives. JEL classification: E44; F31; E01; A10.		
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## 1. Introduction

Exchange operations between currencies of various countries take on great importance for their connection with standards such as currency value and the economic situation and degree of its openness to the outside and also degree of its

connection and mutual impact with various economic and financial indicators then using all the above in building monetary and financial and economic policies and others to achieve diverse objectives and correcting imbalances and protecting against them, the exchange system in Algeria witnessed during the period 2010-2024 many transformations in the applied policies and legislative framework in response to economic and financial challenges at both internal and external levels, during this period was adopted the directed free exchange rate system which combines market flexibility in supply and demand operations with interventions by Bank of Algeria to control fluctuations, during it we witnessed several official devaluations of the currency value the thing which led raising the exchange rate in attempt to approximate it from its real value.

The Algerian state like other countries always seeking to control the exchange rate of the dinar as one of the tools of adjusting monetary policy and foreign trade within the framework of helping and contributing to improving overall indicators of financial stability and to increase effectiveness of development of its trade balance and control the volume of exports and imports in a way that matches the specificity and distinction of the local economy compared to other countries' economies, this study relies on analysis and study of the relationship between exchange rate changes and values of overall financial stability indicators in Algeria such as reserves and economic growth and inflation and others, in this context we raise the following problematic:

To what extent do exchange rate fluctuations affect the overall indicators of financial stability in Algeria during the period 2010-2024?

Through the problematic and to simplify the study can raise the following sub-questions:

- What is financial stability and its most important overall indicators and what is the exchange rate and its systems?
- What is the reality of exchange rate changes in Algeria and its impact on overall indicators of financial stability for the period 2010-2024?
- Study Hypotheses: As temporary answers to the sub-questions can start from the following hypotheses:
- Financial stability is a renewed concept built on protecting the financial and economic system from various risks and crises and it has overall indicators among them financial reserves, balance of payments, inflation and others; as for exchange rate it is an exchange standard between currencies that follows different systems;
- Exchange rate policy in Algeria remains hostage to oil price fluctuations and it is a decisive and effective tool in achieving financial stability.

**Importance of the Study:** This study derives its importance from the renewed and continuous importance of topics related to financial stability and exchange rate for what they have of sensitivity and impact on the current and future situation of the local economy and also on international economic exchanges and financial transactions, and therefore it is necessary to define these elements and simplify the concepts related to them for their comprehensiveness of several financial and economic sectors and others and what they witness of continuous development and innovation and updating in the framework of globalization then shedding light on their reality in the Algerian economy.

**Objectives of the Study:** This study aims to simplify the concepts related to financial stability indicators and exchange rate systems then evaluating the extent of impact of overall financial stability indicators in Algeria by dinar exchange rate changes during the study period.

**Methodology Followed:** In our attempt to cover various concepts and variables related to financial stability and exchange rate and after reviewing a number of previous books and studies was used the analytical method which helps in the research process and covering its various aspects and analyzing data and information to achieve the desired objectives of this study.

**Previous Studies:** Many researchers and economists addressed this topic from different angles we mention among them the following:

- Study by Makahlia Rawad and Shirt Kamal titled: The Role of Exchange Rate Policy in Achieving Economic Stability Quantitative Study Using Self-Regression Radiance Model VAR for Algeria's Case during 1990-2020, the study concluded to the impact of exchange rate change on some economic indicators such as inflation and unemployment with less impact of exchange rate shocks on other indicators such as growth rate and trade balance and the reason returns to the specificity of the Algerian economy and its reliance on hydrocarbons revenues as main and almost sole source of foreign currencies in light of weakness and stagnation of the production apparatus waiting to achieve economic diversification to provide new financing alternatives;
- Study by Marzouq Omar: PhD thesis in Finance and International Trade specialty, Faculty of Economic Sciences and Commercial Sciences and Management Sciences, Ziane Achour University in El Golea, the study came titled "Impact of Exchange Rate Fluctuations on Balance of Payments Comparative Study Algeria Tunisia 2003-2023", quantitative study using Eviews 12 program to test time series stability concluded to existence of direct relationship and several methods and ways that treat the imbalance in balance of payments and return it to equilibrium position through foreign exchange rate

policies or changing currency value in addition to exchange control and impact on variables among them government spending and inflation rate;

- Study by Mamoun Faisal and Badis Nabila titled: Impact of Exchange Rate Devaluation on Balance of Payments and Exchange Reserves was with objective measuring the ability of exchange rate change in alleviating hydrocarbons price fluctuations on Algerian economy, the study concluded to existence of inverse relationship between exchange rate change and trade balance position so whenever exchange rate declines competitiveness of local products increases and their price decreases compared to foreign products so imports decrease with increase in exports thus improving trade balance position and hence balance of payments position which increases opportunities of preserving exchange reserves level.

## **2- The Conceptual Aspect of Financial Stability and Its Overall Indicators**

Exchange operations prediction and precaution against financial crises remain among the most important pillars on which financial stability for a specific sector or for the economy as a whole rests and this requires tight coordination between various financial and monetary policies and others, and between legislative and supervisory and executive bodies also belonging to various governments and international organizations and central banks, the supporting environment for financial stability contributes to enhancing performance and productivity capacities of the economy and its ability to confront various crises and contain them and deal with them efficiently and relies on an important group of indicators that must be taken into consideration and account.

**2-1- Definition of Financial Stability and Its Importance:** The follower of financial stability issues finds that most definitions and interpretations despite their branching and some focusing on elements of it at the expense of others but in our current time have exceeded absence of failure and financial instability to the extent of ability and flexibility in dealing with these imbalances and shocks that the financial system is exposed to in particular, among the most important economists who addressed the topic of financial stability we find the economist Garry J. Schinasi who defines it as the ability of the financial system in maintaining its main functions from collecting financial and economic resources to managing them and allocating them efficiently and effectively then distributing them and investing them in priority sectors within government policy and monetary policy and general economic policy and has the ability to correct and settle imbalances and confront risks and fluctuations without disrupting means of payment or financial flows or various transactions and dealings (Schinasi, 2006, page 77).

**2-2- Importance of Financial Stability:** This importance appears through appointing Basel Committees and financial stability committees at the level of central banks and at the level of financial international bodies and organizations such as World Bank and IMF and what they organize of meetings and study days that issue reports and studies to unify efforts and strengthen precautionary systems, as the importance of financial stability also emerges in (Marc Quintyn, 2003, pp. 259-294):

- Preserving financial and economic balance locally and globally alike and reducing transmission of contagion and crises;
- Raising the degree of confidence and credibility for local institutions and local economy and financial market;
- Providing appropriate and stable investment environment for local and foreign investors increases investment opportunities especially foreign ones;
- Preserving various channels of bank credit and reducing borrowing cost;
- Raising efficiency in allocating resources and ensuring financing of projects and investments with priority and vital sectors;
- Evaluating the financial system's ability and reducing severity of risks or confronting them or diverting them and setting rules and preventive procedures;
- Preserving value and stability of local currency against foreign currencies and lowering inflation rates;

**2-3- Overall Indicators of Financial Stability:** They have great importance for indicating the level of financial safety and stability for the financial system and its strong connection with it as they can be used within early warning tools and caution and vigilance (Jubr, 2022, pages 28-32), the process of maintaining financial stability or achieving it represents a real challenge for it is related to the nature and structure of the economic system and closely connected with various financial and economic and monetary policies and others and analytical elements of financial stability and this allows makers of these policies the real evaluation and identifying points of weakness to confront them and points of strength to preserve them and strengthen them then coming out with decisions based on overall economic elements and precautionary measures and therapeutic policies for imbalances and shocks (Schinasi, Maintaining financial stability: Economic issues, 2005, pp. 1-29).

**2-3-1- Reserves:** Reserves are considered an indicator of economy strength and financial stability and the first safety valve against external financial shocks, the inverse relationship can be clarified between reserves of currencies and foreign cash at the central bank and the volume of money supply in the economy through determining the obligatory reserve or open

market operations for example by the central bank selling various financial papers such as treasury bills or bonds or others with appropriate interest rates that are usually short-term exchange rate in exchange obtains financial amounts that remain in its possession so the volume of money supply decreases and lending capacity of commercial banks and financial institutions weakens for rising cost and vice versa (Al-Musawi, 2017, pages 28-36), exchange reserves are formed from available assets that monetary authorities can act upon and direct them according to the policy they follow and objectives they want to achieve to cover financing needs of various actors in the money market from financial institutions and commercial banks and others and also to correct imbalances and provide necessary support for other elements such as balance of payments, public budget, domestic and external public debt and others, and also represent an important factor in raising confidence in local currency and its value against other currencies (Mamm, 2023, pages 1046-1047).

**2-3-2- Balance of Payments:** Balance of payments relates to recording in a special financial register all various financial and economic transactions that take place between two parties representing natural or legal persons for institutions or companies or governments of one country with their counterparts from another country during a specific time period that is usually one year duration, in the double entry of this register values are recorded accurately for all goods and services and various material and financial aids and precious metals and movement of foreign cash and capital and financial papers and special drawing rights to determine what the country has of rights and what is on it of obligations toward other countries or various international organizations (Al-Jamil, 2014, pages 159-160) from the definition of balance of payments we conclude its importance as an indicator of country economy strength and financial stability and considering its balance and all its accounts as a standard for its ability to withstand transmission of international financial contagion and various crises as it shows real forces determining the exchange rate of local currency and its importance and volume of demand on it. Some countries deliberately conduct devaluation of local currency value and thus rising prices of foreign currencies to reduce excess demand on foreign currencies arising from deficit in balance of payments or treating trade balance deficit by stimulating exports and limiting imports value (Al-Surayti, 2009, page 269)

**2-3-3- Economic Growth:** Economic growth represents the continuous increase in income resulting from factors constituting national income and producing goods and services and also resulting from using advanced technology during a specific time period and may be accompanied or not accompanied with real increase in number or size of these factors meaning not linked to increase or decrease in economic and non-economic structures and forces related to economic activity, meaning it is the rate of increase in production or increase in real income in some economy during a specific time period and resulting from quantitative increase in volume of real output, this indicator reflects the real capacities of the economy and extent of its expansion and volume of developments in various economic sectors of some country and volume of its GDP, therefore rising economic growth rate means increase in output and increase in demand on local currency and raises its value and reduces foreign exchange rate value but its decline may lead to contraction in volume and number of financial mediation operations and investments and hence negative impact on bank credit channels and weakening ability of local borrowers on servicing debts.

**2-3-4- Inflation:** Inflation is defined as the continuous rise in general price level in a certain country during a specific time period and thus it weakens purchasing power of monetary unit and disrupts the principle of considering it a unit of measure and standard for value of goods and services between various markets especially between two different countries, and we notice here existence of mutual impact relationship between exchange rate and inflation rate when changing exchange value from its real value general price level is affected by change in prices of goods and services and their competitiveness with counterparts between the two countries, for example deterioration of currency value meaning rise in exchange rate may lead to increasing imports cost and this may lead to imported inflation while in the opposite case it may lead to stimulating non-hydrocarbons exports despite that it needs flexibility in production and economic diversification and other factors (Al-Hajar, 2009, page 122), several studies confirm that fixed exchange rate system definitively eliminates inflation problem by restricting monetary policymakers to maintain low inflation rate and increasing confidence in holding local currency but in case of free system rising local inflation rate results in balance of payments deficit where exchange rate change works to correct it with more independent monetary policy targeting inflation (Makahlia, 2022, page 6).

**2-3-5- External Debt:** External borrowing represents one of financing alternatives that countries and organizations resort to in case of followed strategy or insufficiency of own or available financial resources and it is obtaining funds from others and in our case here we talk about borrowing between countries in exchange for obtaining privileges or agreed interests within specific deadlines, debt sizes vary from one country to another in terms of amounts and time periods and sources and also their growth rates or decline also differ and vary, for this countries attach great importance to developments in size of public debt and its impact on other variables such as economic growth, where confronting it must not limit state's financial ability or negatively affect growth and its increase must not be cause for rising cost or increasing risks and falling into crises, financial tightening operations to confront public debt requires according to numerous studies necessity of

lowering exchange rates with following expansionary monetary policy that stimulates effective aggregate demand (Al-Musawi, 2017, pages 11-14).

### 3- The Conceptual Aspect of Exchange Rate System:

The global financial system defined several changes many of which related to currency changes and emergence of digital currencies and transactions and banks and with changing exchange systems increased importance of exchange rate policy considering it an important branch of general economic policy tools and all of which seek to achieve general economic stability and achieve stability at various financial and monetary levels and others.

Exchange rate systems followed differ from one country to another for several reasons among them difference in management and organization operations of foreign exchange markets and diversity of legislative laws and control procedures and systems defined for it, in what follows we will try to present exchange rate concept and different systems for determining it then shedding light on its reality in Algeria.

**3-1- Exchange Rate Concept:** The essence of exchange rate represents the process through which evaluation is made between two monetary currencies of two different countries to conduct exchange of one monetary unit or group of units of one country to obtain one monetary unit or group of units of another country and thus can present simple and clear concept for exchange rate as number of units or parts of monetary unit of one country against obtaining units or parts of monetary unit of another country meaning taking value standard so it is value of monetary unit against units of foreign currency or parts of it, and we say direct pricing in case we have one unit of local currency and want to obtain units or parts of foreign unit and indirect pricing in case of one unit of foreign currency (DOHNI & HAINAUT, 2004, pp. 16-17). And these systems and arrangements defined several types which are (Umar, 2023/2024, pages 16-22):

**3-1-1- Fixed Exchange Rate System:** With objective achieving stability in exchange rate of local currency against foreign currencies and alleviating impact of monetary shocks in long term value of currency is determined administratively by central bank or monetary authorities to protect production operations and purchasing power of wages and currency with raising real value of achieved and expected profits and this contributes to stimulating local and foreign investments and thus accumulation of capitals and increasing economic activity and its growth rates (Knaze, 2017, pp. 3-6), this system achieves several advantages among them:

- Facilitating government work in setting various economic policies and achieving specified objectives;
- Instilling confidence in local currency and supporting it to achieve some stability amid fluctuations against foreign currencies;
- Facilitating exchange operations and foreign trade and export and import operations;
- Weakening currency speculation operations due to reducing profit margins resulting from change in differences between currency prices.

**3-1-2- Free Exchange Rate System:** In countries that follow this system exchange rate of their currency is determined according to interaction of supply and demand forces on local currency with complete freedom and without mediation or intervention in determining this rate value, and from here came naming free exchange rate or currency floating system where numerous forces interact in it in case of its imbalance to return it to equilibrium state using various policies related to movement of capitals and exports and imports and international trade transactions, using this system results in the following:

- Currency floating makes it in free and real competition and reaches it to its real value equal or close to equilibrium price;
- Value that currency acquires expresses reality and strength of economy and quality of local goods and services and their competitiveness ability;
- Freedom of exchange and movement of capitals between countries without imposing strict restrictions and encouraging foreign trade operations;
- This system allows more than others transmission of financial contagion such as imported inflation and various financial and monetary crises;
- Fluctuations in exchange rates increase state of uncertainty and instability and directly affect local prices.

**3-1-3- Managed or Crawling Exchange Rate System:** This system mixes between the previous two exchange rate systems by imposing currency value and exchange rate administratively to instill stability attribute for currency and in other times takes the flexible system way by interaction of supply and demand forces on currency, transition operations in this system are to protect currency value from excessive rise or deterioration and to achieve various monetary policy objectives and to avoid shocks and financial imbalances and preserve financial and monetary stability.

In case of recorded deficit in trade balance meaning imports value exceeds exports value then central bank here or competent monetary authorities conduct lowering local currency rate so prices of local goods and services become cheaper



and lower price than counterparts in other countries, and thus demand on them increases from residents and non-residents alike and hence rise in aggregate demand level and also improvement in all other economic indicators such as production and employment and general price level and others. Administrative intervention operations in lowering or raising currency value with objective impacting foreign trade policies and trade balance position and exports and imports value is not this simple or flexible for it is linked and dependent on other factors such as flexibility of local demand on imports, flexibility of external demand on exports and flexibility of local production apparatus (Ali Abd al-Wahab Naja, 2019, pages 29-31).

**3-1-4- Electronic Banking:** This type of operations requires digital and electronic equipment such as computers and advanced phones then creating specialized electronic website on web pages or internet network and does not require fixed headquarters for bank or financial institution, and regarding operations and services provided it combines traditional banking operations using innovative methods and digital communication networks in addition to exclusive services using modern and innovative technology and digital currencies, contributed to its development change in needs in speed and globalization era in addition to diversity and multitude of alternatives and derivatives with lowering costs and saving effort and time (Al-Sayyari, 2016, pages 213-219).

**3-2- Exchange Rate System Applied in Algeria:** To know present of exchange rate system in Algeria it is necessary to know its history since establishment of Algerian Central Bank creating Algerian Dinar as official currency pursuant to Law 64-111 dated April 10, 1964 with gold cover of 0.18 gram and remaining its value fixed and equivalent to French Franc until 1969, after that French Franc value deteriorated against currencies especially US Dollar so value of one Dinar exceeded 1.25 Francs to end of 1973, following this period and as repercussions of Bretton Woods system collapse in 1971 Central Bank abandoned fixed exchange rate system linked to French Franc and adopted exchange rate linked to basket of fourteen currencies most important US Dollar to support stability of nominal real exchange rate until issuance of Law No. 86-12 dated August 19, 1986 related to banks and credit system as real beginning of banking system reform then amending it by Law 88-06 dated January 12, 1988 paving way for Algeria adopting market economy and achieving internal and external stability alike, this stage allowed free movement management of Dinar and continuous decline in its value due to global financial and economic crises and pressures of international organizations among them World Trade Organization and IMF and World Bank. In 1991 monetary authorities conducted first official devaluation of Dinar by 22% according to agreement with IMF and obtaining conditional financial aids to confront structural deterioration of trade balance and imbalance in balance of payments and preventing rise in real exchange rate and approximating it from parallel market exchange rate, during following period meaning after 1994 followed managed exchange rate system with direct interventions by Central Bank to adjust exchange rate according to changes in exchange rates of main currencies in international markets, and it is the system relied on until today.

Issuance of Ordinance 03-11 dated August 26, 2003 related to money and credit to reinforce supervision and regulation of banking apparatus and money market and risks management and exchange rate policy and supervising it to expand public budget means and public debt and external balances and combating fraud and money laundering and currency smuggling (Ordinance 03-11, 2003, pages 03-21) and it was beginning of new naming for Algerian Central Bank as "Bank of Algeria" and its new tasks; as for Ordinance 10-04 dated August 26, 2010 amending and complementing Ordinance 03-11 dated August 26, 2003 related to money and credit it granted greater independence to Bank of Algeria and new tasks in exchange management with charging it preserving price stability and financial and monetary stability and maintaining acceptable rates for economic growth and inflation and came Instruction 04-07 thereof creating Financial Stability Committee.

Nominal Dinar value declined against Dollar by 2.1% annually between 2010-2013 to limit deviation of actual real exchange rate, with beginning of 2014 and decline in hydrocarbons prices continued currency decline with annual average with 2015 of 19.8% against Dollar and 4.07% against Euro to contribute in reducing budget deficit and financing needs to support growth and confront inflation for exchange rate to play important role in absorbing shocks and approximating real exchange rate from its equilibrium level and limiting crisis repercussions on national economy, following period was characterized by Euro rise against Dollar by 12.4% between 2016 and 2018 with some stability in exchange rate despite devaluing Dinar by 20% to come two main settlement operations from Euro to most currencies and from Dollar to some partner countries to treat numerous imbalances and improve evaluation of reserves from Dollar and Euro especially (BANK OF ALGERIA, 2024, pages 1-5).

Law 23-09 was issued which expanded powers of Money and Credit Council and defining exchange rate policy objectives and introducing reforms regulating exchange offices and enhancing transparency and combating parallel market, also 2024 saw opening more exchange offices and regulating their work as mechanism to improve currency value and strengthen it and combat parallel market and attract investments to support development with attempting to keep pace with digital and technological developments in banking field among them issuance of Order 24-05 dated October 13, 2024 amending and complementing Order 16-02 dated April 21, 2016 which determines ceiling for authorization of importing and exporting

banknotes and/or negotiable instruments issued in freely convertible foreign currencies between residents and non-residents and raising amount to 7500 Euros or equivalent in foreign currency.

**3-3- Gap Between Official Dinar Price and Parallel Market Price:** Official exchange rate means the rate adopted by state and announced through its official channels and operated with in all transactions between various parties, but parallel exchange rate is that rate operated with in non-official markets and differs by market or dealing parties and thus there are several parallel rates, Dinar exchange rates against most traded currencies recorded record levels between official rate operated with at various banks and financial institutions and rate in non-official market, following shape shows value of difference between official and non-official rate for European Euro which represents import currency:

**Table 01: Comparison of European Euro Exchange Rate in Official and Parallel Markets in Algeria for Period 2010-2024**

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Exchange rates against 1 Euro	99.10	102.21	102.16	105.43	106.90	111.44	121.17	125.32	137.68	133.70	144.88	159.75	149.60	146.90	143.20
Exchange rates against 1 Euro in the parallel market	127	142	150	141	150	160	180	185	190	200	207	216	218	227	242
Value of the difference between the two rates	27.90	39.79	47.84	35.57	43.10	48.56	58.83	59.68	52.32	66.30	62.12	56.25	68.40	80.10	98.80

**Source:** Authors' own calculations based on data from the Bank of Algeria website and its statistical bulletins

<https://www.bank-of-algeria.dz>, and on the parallel market exchange rate from Investing.com <https://www.investing.com>

During 2010-2014 financial situation knew stability after recording average oil price of 100\$ per barrel and increase in foreign reserves with direct subsidies to support imports, but after hydrocarbons prices collapse then with devaluing Dinar by ratios equal or exceeding 20% every year government resorted to austerity policy and expenses pressure with issuing decrees imposing major restrictions on lists of importable goods and materials and imposing restrictions on financial transfers in hard currency abroad and adopting LORS bank correspondence system to monitor transfers, despite that increased reliance on parallel or non-official imports and parallel market growth and with Dinar exchange rate decline and its continuation in deterioration during entire study period parallel market exchange rate value knew increase from one year to another and this shows difference between the two values shown in previous table, and as example for 2017 recorded 18.80% ratio as parallel economy size after tax increases approved by government on some sectors what pushed some economic agents to parallel market and tax evasion, this ratio represents approximately average ratios for study period but tax evasion volume represents approximately double value of tax revenues for most years of this period (Hajira, 2024, pages 138-140).

**Addressing Parallel Market Reliance:** With continuation of Dinar exchange rate decline against foreign currencies it was necessary for state to reduce reliance on parallel market and attempt integrating it into official economy by preparing suitable conditions for activity and investment and providing transparent exchange market and facilitating licenses and administrative and technical facilitations with tax incentives, among taken measures encouraging official currency trading and limiting illegal speculations creating national network of exchange offices and raising travel grant value for residents with setting mechanisms limiting illegitimate transfers but cash trading outside banks recorded growth exceeding 8.6%. In this context IMF reports such as 18/168 and 23/68 point to necessity enhancing interbank exchange market and increasing

exchange rate flexibility as basic measures to support monetary policy effectiveness and improving resource allocation efficiency and attracting investments and enhancing confidence in Algerian Dinar.

Weak banking sector in attracting investments and limited official supply of foreign currencies and tightened restrictions on financial transfers and capital movement and inability of residents and non-residents and dealers obtaining foreign currencies for travel or business pushed them to resort to parallel market what increased demand on it and rising its prices and contributed in increasing gap size and price difference between official rate and parallel market rate, here we reach necessity continuing banking system reforms concerning supervision and management and increasing coordination between various policies to provide suitable business and investment environment.

#### 4- Analysis of Exchange Rate Changes Impact on Indicators:

Relationship between exchange rate changes and financial stability indicators in Algeria is among topics difficult to grasp from all its aspects and enumerating all variables entering study of this relationship for their overlap with other factors related to economy structure and nature and financial system and government interventions in monetary policy and Bank of Algeria policy and extent of its independence and other political and social and cultural considerations and others, based on previous studies we will try in what follows shedding light perhaps from another angle to analyze and study relationship between exchange rate and following financial stability indicators:

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Exchange Rate per 1 USD (DZD)	74.4	72.85	77.55	79.38	80.56	100.46	109.46	110.96	116.61	119.36	126.82	135.10	142.00	135.85	133.96
Exchange Rate per 1 EUR (DZD)	99.1	102.21	102.16	105.43	106.90	111.44	121.17	125.32	137.68	133.70	144.88	159.75	149.58	146.85	143.17
Official Reserves (Billion DZD)	464.7	538.60	717.80	899.80	1003.50	1091.20	888.50	1475.50	1239.20	1156.60	694.90	1019.50	1683.60	1431.20	1686.30
Foreign Exchange Reserves (Billion USD)	162.22	182.22	190.66	191.01	178.93	144.13	114.13	97.33	79.88	62.75	48.16	45.29	60.99	68.99	72.00
Oil Price per Barrel (USD)	82.38	107.46	111.00	109.50	100.20	53.10	45.00	54.05	71.27	64.44	42.06	72.74	103.70	83.70	79.86
Total Hydrocarbon Revenues (Billion USD)	56.14	71.46	70.75	63.66	58.36	33.08	27.92	33.20	38.94	33.17	20.23	35.19	59.55	49.66	11.11*
Balance of Payments (Billion USD)	15.58	20.14	12.05	0.13	-5.88	-27.53	-26.03	-21.76	-15.82	-16.93	-16.37	-1.48	18.47	6.35	1.03
Balance of Payments (Billion DZD)	115.91	146.71	933.81	8.56	-478.77	-2763.43	-2824.34	-2414.48	-1844.63	-2020.25	-2085.83	-199.71	2622.36	862.83	138.02
Economic Growth Rate (%)	3.6	2.9	3.3	2.8	3.3	3.8	3.5	1.6	1.4	1.0	-5.1	3.8	3.6	4.1	3.6
Inflation Rate (%)	3.91	4.52	8.89	3.26	2.92	4.78	6.40	5.59	4.27	2.30	2.42	7.23	9.27	9.10	4.47
Total Public Debt (Million USD)	5800	4442.60	3741.52	3458.36	3796.37	3003.42	3817.71	3954.15	3992.80	3829.87	3449.38	3070.40	3040.00	3190.00	920.00

Table 02: Changes in the values of the overall financial stability indicators and the exchange rates in Algeria for the period 2010-2024

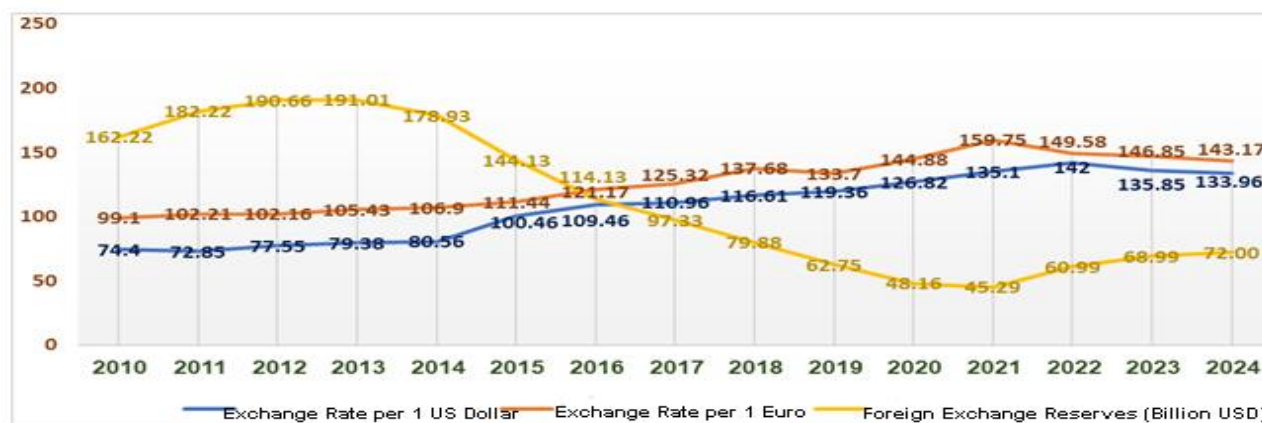


**Source:** Authors' own calculations based on data from the Bank of Algeria website and its statistical bulletins.

\*: Average of the first quarter of 2024.

**4-1- The evolution of foreign exchange reserves and its relation with financial stability:** The figure below shows the strong correlation between the prices and revenues of hydrocarbons in the international markets and the size of the reserves of foreign currencies, especially the US dollar, and as is the case for all currencies that are subject in their valuation to the free exchange rate system, the prices of the US dollar and the European euro know in many times fluctuations that Bank of Algeria must hedge against them and, when possible, benefit from them, because the non-stability of the size of these financial reserves may create a state of financial instability and hence a negative effect on the stability of the general economic equilibrium, however the sharp fluctuations in the exchange rate affect in many cases, and with different proportions, the liquidity of banks because of its link with the transfers of foreign currencies and the payments from them for import bills, especially that the domestic economy relies on the US dollar in its hydrocarbon exports and on the European euro in the case of imports. The increases in net foreign assets, which are considered the first and main source of money creation and monetary expansion, that is, the increase of the money supply M2, require Bank of Algeria to intervene in the money market to control it and to preserve financial stability by using monetary tools and specific procedures, among them sterilization policy in order to avoid inflation and the decline of the value of the local currency, relying on the sterilization policy, Bank of Algeria avoids the external financial shocks resulting from the movement of capital inflows and outflows by reducing or raising its net assets according to what the situation requires to face the negative effects that may be reflected on the monetary base, and this is done by using assisting tools such as open market operations by selling or buying bonds to tighten the monetary base and selling foreign currencies and recovering local liquidity or to widen it by the reverse of the previous procedures, with a big importance for the stability of the banking sector and the degree of its response to these tools and procedures (Boudiar, 2022-2023, pp. 231-236).

**Figure 01: Changes in the reserves and the Algerian dinar exchange rate against the dollar and the euro for the period 2010–2024**



**Source:** Prepared by the researcher based on the data of Table 02 and the Excel 2021 program

Foreign exchange reserves represent the available assets to meet the financing needs of the balance of payments or to cover the needs of the public Treasury, as they are the basic element in the path of monetary creation, and they are also used to intervene in the exchange market to buy and sell the different currencies and to take advantage of the price differences between them or to influence the competitiveness of the local currency and the demand on it and the level of confidence in it, and through monitoring the response of the size of the exchange reserves and the balance of payments it became clear that, after the period of the positive balance of the balance of payments which was positively reflected in an increase of the foreign exchange reserves, during which they rose from 162.22 billion dollars at the beginning of the period to 191.01 billion dollars in 2013, these reserves began to erode gradually until they reached 45.29 billion dollars in 2021, Bank of Algeria used 60% of its reserves to support the Algerian dinar during that period, and this led to the draining of these reserves and to the devaluation of the dinar by 30%, with tightening the exchange policy and the movement of capital in hard currency to abroad while the import bill remained high, using more than 45 billion dollars of the reserves.

With the decline of the value of the dinar against the other currencies and the continuous erosion of these reserves and their decrease from one year to another, and with the drying up of the resources of the Revenue Regulation Fund, Bank of Algeria used the mechanisms of the monetary policy in an attempt to protect the monetary reserves and to control the volume of liquidity, in parallel with an adjustment in the exchange rate of the dinar during the period 2014–2019, in which

its value fell against the main traded currencies, including a decrease of 32.5% against the dollar and 20% against the euro. In this period Bank of Algeria tried to benefit from the price differences between the currencies and the exchange operations, and after the sterilization operations it was able to provide an amount of 37 million dollars in 2019 alone.

The continued decline of the foreign exchange reserves until 2021, when they reached 45.29 billion dollars as the lowest value recorded during the whole study period, came after a deficit was registered in the overall budget and in the balance of payments position, accompanied by the large changes and divergent trends that the foreign exchange markets knew, with record figures including the fall of the dollar against the euro, reaching 0.84 euro for one dollar, after having decreased from 0.87 euro in the previous year. These figures coincided with a continuous decline in the value of the dinar, which reached its lowest value against the dollar at 159.75 dinars for one dollar, and this also represents the lowest value of the dinar during the whole period of the study.

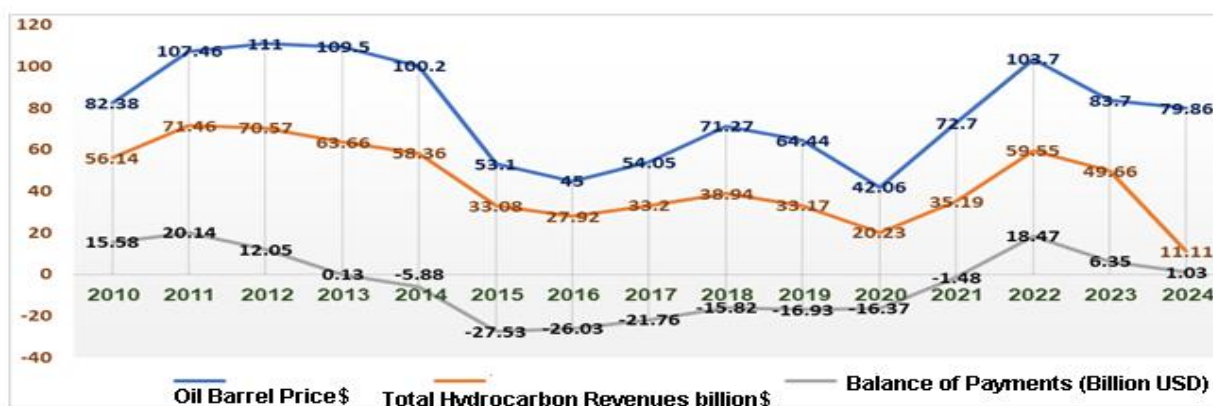
With the beginning of the improvement in hydrocarbons prices and the revenues achieved from them for the period 2020–2022, and the reduction of the budget deficit and the rise of tax revenues and the increase of the profits of Bank of Algeria, the signs of recovery and the gradual improvement of the value of the foreign exchange reserves appeared, rising from 45.29 billion dollars in 2021 to an increase of 15.70 billion dollars at the beginning of 2022 alone, continuing its rise by reaching 68.99 billion dollars in 2023 and then 72 billion dollars in 2024, most of it thanks to the surplus registered in the balance of payments, accompanied by the raise of the required reserve ratio to 3%, the strengthening of the recovery of excess liquidity, and the support of the banking system in financing the national economy.

Despite the efforts of Bank of Algeria to improve the management and administration of the foreign exchange reserves, it still lacks transparency in the management and use of these reserves, with complicated and strict procedures for transfer operations, which pushes many people to resort to the parallel market as an alternative.

**4-2- Balance of payments indicator:** This indicator is more sensitive to the fluctuations of the exchange rates than the economic growth indicator, since all the changes in the exchange rate lead to a direct effect on the balance of payments, although the response is not immediate. For example, a decrease in the exchange rate leads to an increase in the cost of imports of materials, goods, services and others, and in the case of non-flexibility or weakness of the local manufacturing and production, this in turn leads to a deficit in the trade balance, which represents one of the important elements constituting the balance of payments. But in the case of flexibility, the prices of foreign goods and services become more expensive than their local counterparts, and consequently the trade balance improves gradually, and in the medium and long term the economic growth rate also improves. In other words, the state deliberately devalues the currency to stimulate exports and limit imports, and by this it corrects the imbalance in its trade balance and reduces the outflow of capitals abroad and encourages their transfer inward, and hence restores the external balance and corrects the imbalance in the balance of payments (Mamen, 2023, pp. 1041-1045).

The following figure represents the changes in the balance of payments position in Algeria with hydrocarbons revenues and the price of the oil barrel:

**Figure 02: Changes in the Algerian balance of payments position and oil revenues for the period 2010–2024**



**Source:** Prepared by the researcher based on the data of Table 02 and the Excel 2021 program

Despite recording positive balance of payments positions during the first four years, it experienced a decline from 15.58 billion\$ to 0.13 billion\$ due to the structural weakness of exports despite the price of oil barrel remaining above the 100\$ threshold. As for the period 2014–2021, it represented a deficit period with the lowest historical value recorded in 2015 at -27.53 billion\$, which began to contract until 2021 at -1.48 billion\$. Bank of Algeria affirms here through its reports and financial, monetary and economic bulletins that the adoption of a managed floating exchange rate system works as a tool

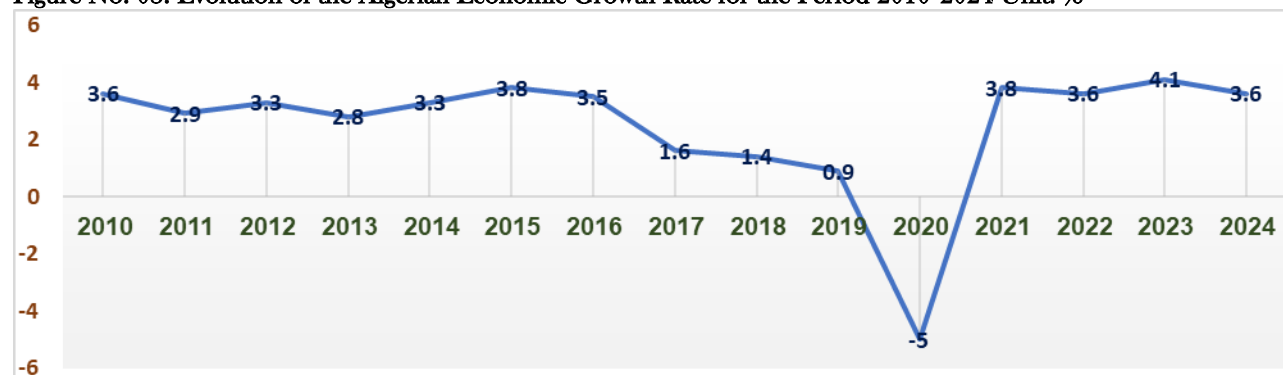
to face external shocks resulting from the fluctuation of hydrocarbon prices and the rise in global prices and to adapt to them in the best way to absorb the negative impact and if possible to hedge them or even benefit from them.

Following the collapse of oil prices in 2014 and their continued decline and the registration of the first deficit in the balance of payments during the period under study estimated at -5.88 billion\$, then -27.53 billion\$ in 2015 as the largest deficit recorded, Bank of Algeria proceeded to reduce the nominal exchange rate by 24% against the dollar and 4% against the euro to reduce the impact of the decline in oil revenues, and adopted a currency devaluation policy until 2022. This process aimed at attempting to benefit from inflating the value of revenues from the dollar into dinars as much as possible, considering it the export currency and from there increasing the money supply of the national currency and issuing legal money in return. As for the imports side, the value of prices rises in order for import operations and bills to decrease, these measures contributed to a gradual contraction of the deficit in the balance of payments balance despite fluctuations in hydrocarbon prices and the value of exports from them, and despite the positive balance of the capital account and financial operations, a structural deficit was recorded in most items and was financed through foreign exchange reserves during the aforementioned period, which led to a sharp erosion of these reserves.

In the framework of tightening the movement of capital and combating its smuggling or transfer abroad, a list was imposed on a group of goods and products allowed to be imported within the framework of encouraging local production and addressing the structural problem of the fragility of the local economy. With sterilization operations, the cost and prices of imports of various goods and products decreased, which contributed to achieving a surplus in the trade balance of 1.15 billion\$ in 2021. The rise in hydrocarbon prices and the volume of revenues from them contributed to an improvement in indicators to the positive side by recording the second highest surplus in the balance of payments at 18.47 billion\$ during the entire study period, but not for a long time as it began to contract reaching 1.03 billion\$ in 2024 due to the deterioration of the balance of current and capital transactions and the decline of the trade balance surplus by -14.246 billion\$ alone and the services item by -453 million\$, and despite this decline, it contributed to rebuilding the reserve and facing external shocks at a rate that far exceeds the minimum threshold of global standards.

**4-3- Economic Growth Indicator:** The Gross Domestic Product with hydrocarbons is used at constant prices, considering the latter as the first and main source of exports and the financial resources it generates in foreign currencies that go first to cover government needs and its budget, and second to monitor reserves and address balance of payments imbalances. These variables affect the exchange rate by changing the volume and value of exports and changing the value of the foreign currency reserve to meet imports, which supports the stability of exchange rates and general financial stability. In order for the financial system to be able to support economic growth, there was a need for continuous updating of the financial and banking sector through the governance of banks and financial institutions and the strengthening of their financial stability to face cases of insolvency and bankruptcy. It is also necessary to exploit hydrocarbon revenues wisely and settle them using a revenue smoothing fund and to expand and develop the financial market and increase the number of active participants in it (L'équipe des services du FMI, 2014, pp. 5-7). The adoption of various objectives and work on achieving them is carried out through the development of specific programs, including the five-year development program 2010-2014 and the new growth model for the period 2016-2030, which are based on correction measures and economic diversification and rationalization of expenses to achieve stable growth rates for the Gross Domestic Product. The following figure shows the evolution of the economic growth rate:

**Figure No. 03: Evolution of the Algerian Economic Growth Rate for the Period 2010-2024 Unit: %**



**Source:** Prepared by the researcher based on the data of Table No. 02 and Excel 2021 program.

Despite all the challenges and disturbances witnessed by the world, monetary and financial authorities strive hard to maintain financial and economic stability to drive the wheels of the economy and the judicious exploitation of resources and liquidity and direct them in stimulating investments in vital and priority sectors and from there improving growth rates

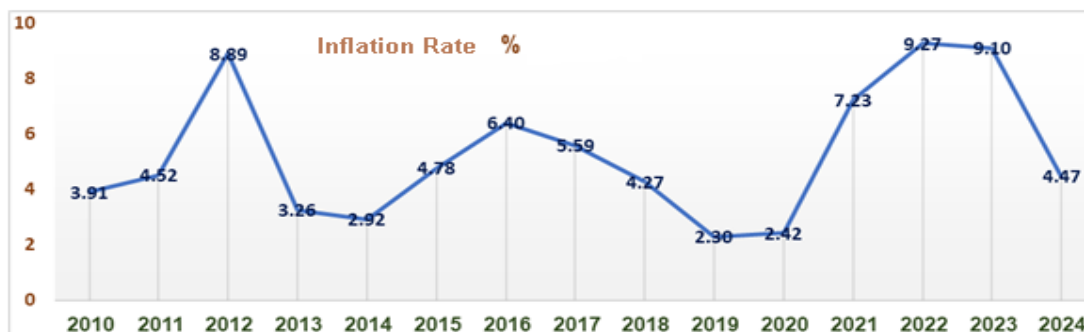
and maintaining them within acceptable ranges to stimulate the economy and avoid inflation and other negative effects. From the figure above we observe a fluctuating decline in the growth rate from 3.6% in 2010 to 2.8% in 2013 despite the expansionist monetary policy and the contribution of Bank of Algeria by financing it in addition to its profits achieved in reducing the fiscal deficit of the state and from there improving the domestic product and raising the pace of growth. As for the period after the oil crisis in 2014, it experienced a decline in hydrocarbon prices and a stagnation in demand for them but the authorities also had attempts to accelerate the pace of growth by attracting domestic and foreign investments and attempting to revive economic activity which gradually increased from 3.3% to 3.8% in 2015 then 3.5% for the following year.

The period from 2017 to 2020 was the most difficult period with the deterioration of growth rates from 1.6% to the lowest growth rate during the entire study period with a negative value of -5% recorded in 2022, and the reason was the decline in financial revenues and the pace of work and large investments, most of which were stopped and the rest were postponed to a later time, the global situation compounded it with the decline in global growth rates affected by the COVID-19 pandemic and the bankruptcy of many companies and the closure of some or the reduction of the size of their activity along with the decline in production and consumption and investment spending and demand for goods and services. Also, the restrictions imposed on the transfer and trading of foreign currencies in order to preserve them and limit their scarcity and the strict control on the movement of capital hindered the achievement of the objectives set such as encouraging foreign investment as one of the elements of economic growth. The authorities used public treasury savings and the liquidity of major companies.

The year 2021 witnessed stability in the prices of widely consumed basic materials and an increase in hydrocarbon prices which represented a support for the growth rate which jumped from -5% to 3.8% in the following year, but soon after it recorded a decline to a growth rate recorded in 2022 of 3.6%, which was contributed to by the global economic conditions and what accompanied them during the Russian-Ukrainian war. With the continued decline in hydrocarbon prices, the authorities attempted to support the policy of economic diversification outside hydrocarbons and support for the private sector, which contributed to recording a growth rate that reached 4.1% in 2023, which represents the highest economic activity growth rate during the entire study period with an increase of 1.5% from the previous year, and the reason is a noticeable revival in extractive industries contributing 22.9% to overall growth, then agriculture and construction sectors. The exchange rate mechanism works to contribute to both internal and external financing for all sectors participating in the activation and increase of economic activity, especially in light of export and import operations of various materials, goods and services and domestic investment operations and attracting foreign investment. For this reason, its impact is not direct and immediate on growth rates, but rather is indirect through the helping and contributing factors to it.

**4-4- Inflation Indicator:** The accumulation of foreign currency reserves and arising mainly from hydrocarbon revenues led to a large increase in the volume of imports and net foreign assets and the rise in inflation rates, which prompted Bank of Algeria to take measures and steps within monetary policy to contribute to sterilizing the continuous accumulation of these reserves to preserve financial stability in the medium and long terms and to meet the financial obligations that fall on the shoulders of the state especially in the short term and to hedge against the fluctuations occurring in hydrocarbon prices. The fluctuation in the prices of the latter leads to reducing the impact of exchange rate fluctuations on non-oil productive sectors which gives them the characteristic of relative rigidity, unlike the impact on the inflation indicator which is in a direct manner. The following figure represents the changes in the inflation rate during the study period:

**Figure No. 04: Changes in the Inflation Rate in Algeria for the Period 2010-2024**



**Source:** Prepared by the researcher based on the data of Table No. 02 and Excel 2021 program.

The process of devaluing the dinar in one of its aspects aims to limit the circulation of currency but it may be imposed by external factors such as the repercussions of the 2008 global crisis on global commercial, financial and monetary



transactions and among them imported inflation that raised the local inflation rate from 3.91% to 8.89% between 2010 and 2012. This increase was accompanied by a reduction in the value of the dinar against the dollar from 74.4DA in 2010 to 77.55DA during this period with the adoption of a monetary policy that contributed to the return of stability to macroeconomic indicators and a gradual decline in the prices of various goods and services with the adoption of an inflation targeting policy beginning in 2011 which actually contributed to the decline of the inflation rate in 2013 to 3.26% (Tawir, 2025, pp. 85-87).

Bank of Algeria confirmed that the most important determinants of inflation during the period 2011-2021 were represented in the money supply M2 and the nominal effective exchange rate and the import price index, which necessitates the adoption of a real economic diversification policy and attraction of foreign investments. Therefore, Bank of Algeria seeks through operations of reserve revaluation and devaluation of the dinar against major currencies after the oil crisis of 2014 to attempt to avoid excessive deviations of the real exchange rate from the equilibrium level and to improve the benefit from hydrocarbon prices and avoid harming macro financial stability indicators which resulted in 2014 the registration of the lowest inflation rate at 2.92% during the entire study period. In this context, Bank of Algeria used different tools of monetary policy including exchange rates in facing large banking liquidity expansion through sterilization operations and recovery of excess liquidity and reduction of the exchange rate so that inflation rates declined from 6.40% in 2016 to 4.27% in 2018 then 2.30% for the following year as a response to attempts to reduce inflationary pressures resulting from unconventional monetary financing and attempt to stimulate economic activity and face the decline in aggregate demand (Banque d'Algerie, November 2022, pp. 1-15).

With the slowdown of the global economy by 4.4% especially in the strongest economies in the world such as the Eurozone, the United States and Russia, global aggregate demand declined along with it with inflation of consumption prices. The years following 2019 in Algeria witnessed a large increase in the inflation rate and its remaining high for reasons such as the increase in public spending especially the consumptive one and the increase in the money supply in circulation and significant increases in wages from year to year, and also added imported inflation as a result of the increase in the level of prices globally and changes in exchange rates and the repercussions of the COVID-19 pandemic without strengthening national absorption capacities, all factors that contributed to raising the inflation rate from 2.30% in 2019 to 9.27% in 2022 as the highest rate for the study period. Those in charge of the economy attempted to enhance local production to meet needs and the rise in prices of local materials and raise export capacities and reduce the value of imports to face financial pressures and the decline in hydrocarbon revenues and from there raising the exchange rate, but it led to the deterioration of the value of the dinar and the purchasing power of consumers with the rise in prices of various goods, materials and services as a result of scarcity and lack of supply in the face of increased demand which resulted as a consequence in an increase in the inflation rate.

The directing of the banking sector to increase the volume of circulating liquidity increased the rise in prices and inflation rates without having the required effectiveness in stimulating domestic production or improving the overall economic environment, which is translated in the increase in the inflation rate between 2020 at a rate of 2.42% and 2022 at a rate of 9.27%. During 2022, the price of the dinar reached its lowest level against the US dollar at 142DA as a result of the devaluation policy adopted by the state to face the shocks resulting from the continuous increase in price levels and global inflation rates to contribute to a relative decline in the inflation rate in 2023 at a rate of 9.10% then a noticeable decline in 2024 to 4.47%.

**4-5- Public Debt Indicator:** It is considered one of the important indicators in measuring the strength and stability of the economic system and the financial sustainability of financing sources. In the case of the rentier Algerian economy, fluctuations in oil revenues may lead to resorting to financing through domestic or external debt as the sustainability of reliance on debt and its services and associated obligations is pledged. Noting that external short-term debt is valued in two main currencies at rates of 58% for the dollar and 41% for the euro and 1% for other currencies held in reserves, and here Bank of Algeria can revalue between them and benefit from changes and price differences between them to achieve gains or reductions especially in light of economic and political changes and events affecting changes and fluctuations in exchange rates (Banque d'Algerie, June 2024, pp. 1-130). The following figure clarifies the total public debt of Algeria during the years from 2010 to 2024:

**Figure No. 05: Changes in Total Algerian Public Debt for the Period 2010-2024**





**Source:** Prepared by the researcher based on the data of Table No. 02 and Excel 2021 program.

As a general observation of the graph curve, it appears that there is almost stability in the size of public debt at similar levels between 3 and 4 billion\$ in most years. These values represent real indicators of the independence and stability of the Algerian economy from the consequences of public debt and the state's insistence on the necessity of getting rid of it and combating it, and in many cases requesting early repayment of rights and services resulting from it or repurchasing and converting it. After recording the highest value at 5.8 billion\$ in 2010 and 4.44 billion\$ in 2011, part of it was transferred to public institutions in the amount of 125.83 billion dinars in the form of treasury bonds and repurchase of public debt so that the outstanding debt declined to 3.46 billion\$ in 2013. After that, this outstanding declined to 3 billion\$ in 2015 which is the beginning of its gradual increase.

Non-conventional financing mechanism was adopted in 2016 followed by the issuance of Law 17-10 amending Order 03-11 relating to money and credit, imposing on Bank of Algeria the implementation of non-conventional financing of the public treasury according to specific mechanisms with the relaxation of precautionary provisions and financial stability related to liquidity and loans to meet the pressing need for financing and cover the deficit recorded in the state's general budget as well as to finance public debt despite the inflationary risks associated with it by resorting to internal borrowing valued at 6556.2 billion dinars of monetary liquidity until January 2019, of which 1813 billion dinars were allocated to repurchase treasury bonds held by Sonatrach institution and 545 billion dinars debts on it and 264 billion dinars to pay the first installment of the bond loan, which represents the beginning of a slight decline in the outstanding debt.

Decree 18-86 dated March 5, 2018 containing the mechanism for monitoring measures and structural reforms within the same framework of Law 17-10 for a five-year period was issued, allowing the treasury to borrow directly from Bank of Algeria and convert some debts contracted with commercial banks and public institutions so that the outstanding external debt at medium and long term declined to 1.66 billion\$ after paying 119 million\$ principal debt and 33 million\$ cash advances.

In 2021 the state continued to combat external public debt with the improvement of the exchange rate and its positive effects with the decline in the value of the euro against the dollar, the principal of external debt at medium and long term estimated at 1.47 billion\$ was repaid and new credit lines mobilized at 70 million\$ and the decline in the size of interest to 22 million\$ with financing from Bank of Algeria to the public treasury and the issuance of treasury bonds to repurchase debts, which contributed to their decline to 3.04 billion\$ in 2022.

Between 2022-2023, the outstanding external debt moved from 3.04 to 3.19 billion\$ after repaying the principal loan of 173 million\$ and mobilizing another 137 million\$ then revaluation of 17 million\$ after the decline in the value of the dollar compared to currencies held, mainly the euro. The outstanding external public debt declined to 0.93 billion\$ in 2024. The value of external debt represented only 1% of GDP, which reflects financial stability and the weakness of risks associated with external debt and the overall success of the state's efforts aimed at getting rid of it.

### 5- Conclusion:

The monetary policy and exchange rate management in Algeria demonstrate a noticeable capacity for adaptation following the transition from a fixed exchange rate system to a managed floating arrangement which helped its economy deal with external shocks without losing stability. This is as a result of several factors including scientific and legislative developments in the exchange rate system despite its continuous and permanent confrontation with structural challenges such as almost complete reliance on oil revenues and also the parallel market, which increases the pressing need to promote transparency and strengthen economic diversification operations to ensure system sustainability in light of accelerating global transformations. The results reached can be summarized as follows:

- The transition of monetary authorities in the type and use of the adopted exchange rate system from the fixed system through linking to the franc currency to reliance on a basket of currencies followed by the gradual transition to a managed floating system that takes into account the economic situation of the country and the characteristics of the economy and

attempts to make it more dynamic in attracting investments and achieving various economic and financial objectives and improving their indicators.

- Work to achieve general economic stability and financial stability requires coordination and compatibility between the various adopted policies including exchange rate policy to achieve acceptable rates in the macro indicators of financial stability.
- After analyzing the above, we record a response of financial stability indicators in Algeria during the study period to changes in exchange rates but to varying degrees, where it is more evident on inflation indicators, foreign exchange reserves and balance of payments while remaining less responsive and indirect on economic growth indicators and public debt due to the single-sector structure of the economy, which only partially corresponds with the study hypotheses.
- Exchange rate policy through revaluation can contribute to sterilizing reserves and affecting the volume of liquidity in the economy and from there in the inflation rate, which in turn affects spending and purchasing power and costs and profitability and therefore on growth and balance of payments and public debt.
- Foreign exchange rate policy can contribute to settling balance of payments imbalances by adopting several measures such as currency devaluation, exchange control and management and monetary policies supporting exchange rate policies despite being affected by other factors such as inflation rate.

**6- Recommendations:** Based on the results we reached, the following recommendations can be proposed:

- Heavy reliance on hydrocarbon revenues in domestic income makes the economy's responsiveness to exchange rate policies weak, which makes financial stability hostage to fluctuations in global hydrocarbon prices.
- Reduce sensitivity to global market fluctuations by diversifying the economy and sources of national income and improving productive capacities through supporting non-oil industries to avoid the negative impact of oil price fluctuations.
- Promote transparency and flexibility in the management and administration of financial reserves of foreign currency and its diversification to benefit from price differences between different currencies and improve the investment environment.
- Promote the independence of Bank of Algeria to reduce direct interventions that weaken investor confidence and promote legislative reforms and transparency and invest the revenues achieved from exchange rate changes and benefit from them in the best way.
- Integrate market mechanisms to achieve real flexibility that absorbs shocks without costly interventions.

#### Ethical Considerations

This study adheres to established academic and research ethics. The research is based exclusively on secondary data obtained from official national and international sources, including macroeconomic statistics and publicly available financial indicators. No human participants, personal data, surveys, interviews, or experimental procedures were involved. The analysis was conducted objectively, with due acknowledgment of all data sources, ensuring transparency, integrity, and reproducibility of the research findings.

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#### Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted without any financial, institutional, or personal relationships that could inappropriately influence the results or interpretations presented.

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