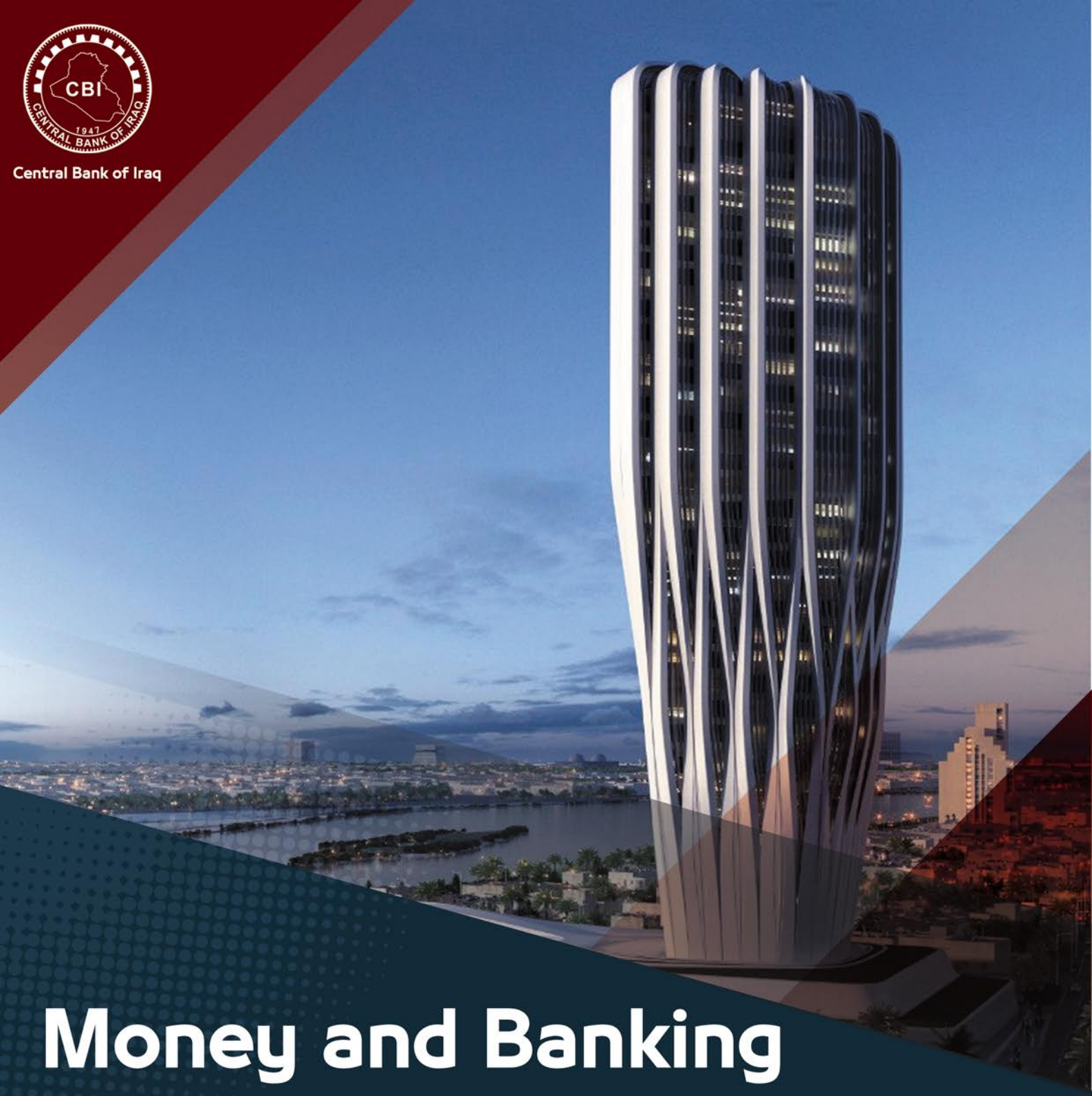
Central Bank of Iraq



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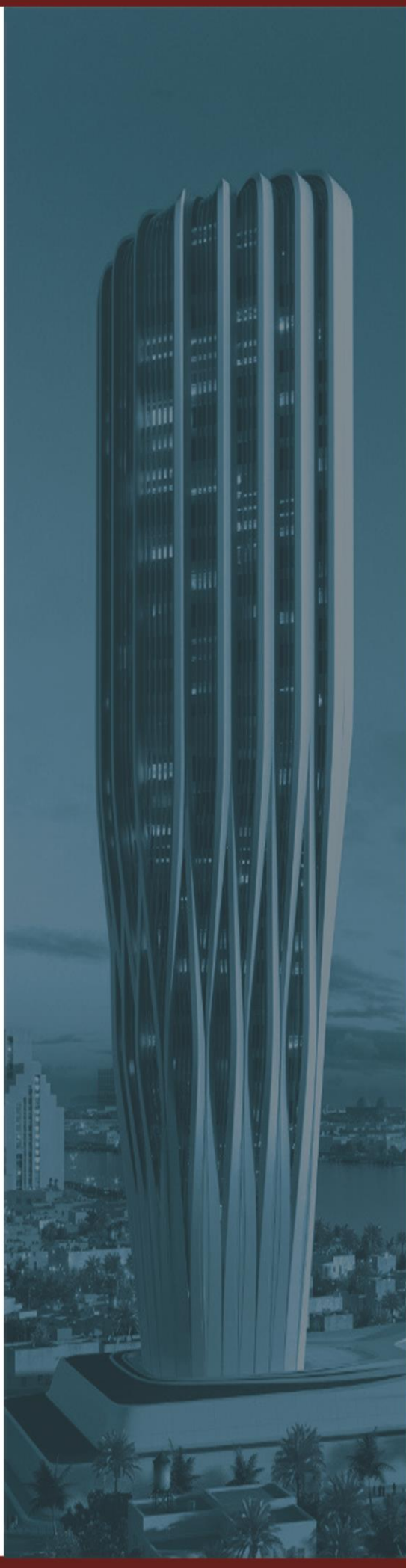

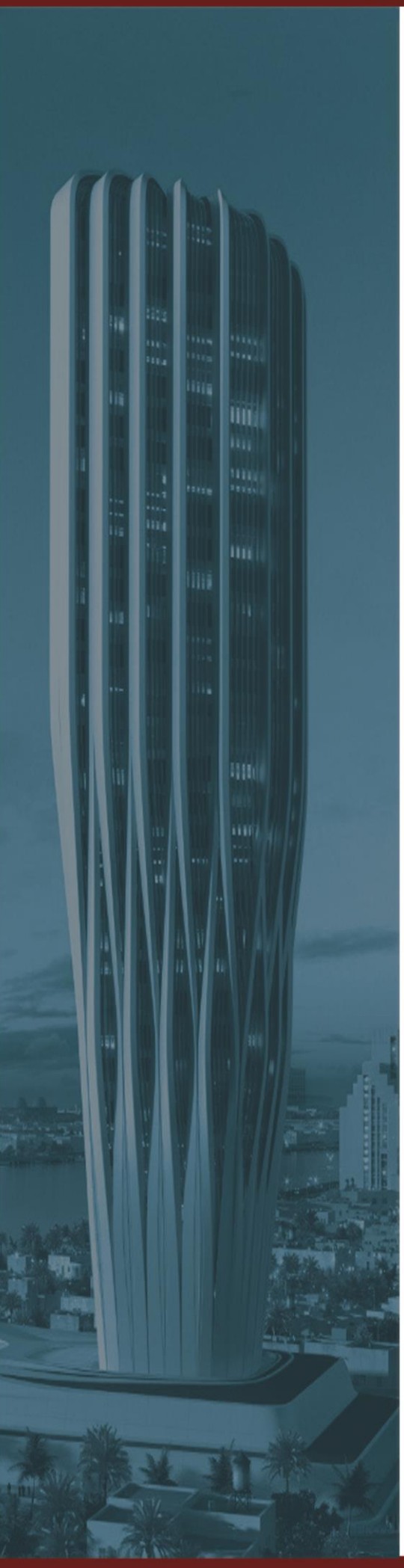

Contents

"The Exchange Rate in Iraq: Between Nominal and Real Effective Values"

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Introduction:

The exchange rate is an important channel for monetary policy to convey the impact of its measures aimed at directing monetary aggregates in the economy. Therefore, the process of controlling it requires full knowledge of all its nominal and real contents, as well as its current and future effects. Any neglect of any of these contents and effects could lead to the adoption of a suboptimal exchange rate, which would have harmful reflections on the real variables of the economy.

The process of controlling the exchange rate is usually of gradual difficulty from a flexible system to a fixed system. The requirements of economic theory often impose on rentier countries exchange rate systems that tend to be stable, which require adopting two basic conditions to ensure this stability. The first relates to choosing and adopting an appropriate value for the exchange rate that does not exceed reasonable limits of available resources for the country concerned. The second is that the said value must be appropriate to the requirements of economic development that need economic competitiveness towards the outside world. Therefore, it becomes necessary for those who determine the exchange rate to consider the ability of a country current and future financial resources to defend this rate, as well as its real effects, especially regarding the economy competitiveness linked to prices behavior, whether within the country or among trading partners.

In fact, monetary theory developers and policymakers have begun, for the last two decades, to introduce new exchange rate frameworks that include insights on price interactions, the volume of trade between countries, and its role in determining it. Therefore, new names for the exchange rate have emerged from these frameworks, like **the real exchange rate (RER) and the effective exchange rate (EER)**, which are currently seen as more accurate and consistent in expressing the true level of the exchange rate in any country. As for the Iraqi economy, no crystallization or reflection of these names has yet been seen in the country's monetary policy. Within this context, the current study represents an attempt to extrapolate the exchange rate in Iraq under the above-mentioned names and compare it with the official and parallel rates in an attempt to build a new framework that monetary policy in Iraq can adopt, based on adopting the real and effective contents of the exchange rate. To cover the study requirements, it will be divided into the following axes:

First: What is the real exchange rate and the mechanisms for calculating it.

Second: Definition of the effective exchange rate, its calculation mechanisms, and its development in Iraq.

Third: Conclusions and recommendations.

First: **What is the Real Exchange Rate and the Mechanisms for Calculating It**

1. **Definition of the Real Exchange Rate and Its Calculation Mechanisms**

The RER is a measure of the relative value of goods between two countries. It is an expression of the purchasing power of a country measured to the country of pricing currency. This rate takes inflation into account in both countries, making it a determinant of competitiveness in any economy, that distinguishes it from the Nominal Exchange Rate (NER), which only considers the number of units of foreign currency needed to purchase a single national currency. The real exchange rate can be calculated using the following laws:

1. $$\mathbf{RER = NER \frac{Foreign\ Prices\ Index}{Domestic\ Prices\ Index}}$$

As:

RER = Real Exchange Rate

NER = Nominal Exchange Rate

This law for calculating RER is the most common and widely used because it expresses the quantity of goods & services that the national currency can obtain from abroad in exchange for the goods it obtains from within. It is worth mentioning here that the price index includes goods & services that are tradable and non-tradable.

2. $$RER = NER \frac{\text{Index of Imports Prices in Foreign Currency}}{\text{Index of Exports Prices}}$$

This law expresses the relative price between imports denominated in foreign currency and exports prices; it represents an inverse expression of international exchange terms.

3. $$RER = ER \frac{\text{Index of Tradable Goods in Foreign Currency}}{\text{Index of Non Tradable Goods Prices}}$$

This index is an expression of the internal exchange terms and is one of the indices that are relied upon in distributing resources between the commodity sector exposed to external competition (tradable goods) and goods protected from external competition (non-tradable goods).

Based on the laws of determining RER, when RER rises above the NER, it means that inflation of the trading partner country is less than domestic inflation, and that the national currency is nominally valued at less than its real value. The fact that the NER is higher than RER indicates that the inflation of the trading partner is higher than the domestic inflation and that the currency is nominally valued higher than its real value. It has become common knowledge at the present time that countries set high NER to ensure a greater share of international trade.

2. Calculating the Real Exchange Rate in the Iraqi Economy

Accurate calculation of RER requires access to price level indices of the country for which the exchange rate is calculated and of the country of the pricing currency. In the case of Iraq, the exchange rate of the Iraqi dinar is determined as the basic currency by pricing it in US dollars. It is customary in Iraq to deal with the exchange rate of the dollar against the dinar, which is officially determined by the Central Bank of Iraq (CBI) at about IQD 1300 per USD 1. While the exchange rate of the dinar against the dollar is estimated at about USD 0.00078 per IQD 1. For accuracy in the process of calculating RER, data expressing the price index, whether in Iraq or the United States of America (USA), must have the same base year, because the law of calculating RER implies a division relationship between price indices in the two countries.

Table 1 shows the official and parallel exchange rates of the Iraqi dinar against US dollar and US dollar against the Iraqi dinar for the period (2004-2024).

It is noted from table 1 that the highest price of the Iraqi dinar against US dollar in the official market was IQD 0.000858 for the period (2012-2014), against an exchange rate of US dollar of about IQD 1166 per USD 1. While the lowest exchange rate was IQD 0.000679 in 2005, against an exchange rate of about IQD 1472 per USD 1. It is also noted from the table that the official exchange rate was stable within the limits of IQD 1166-1192 per USD 1 for the period (2008-2020). Then it moved to a ceiling of IQD 1450 per USD 1 for (2021, 2022). Then it was reduced to the ceiling IQD 1130 per USD 1 until the study is prepared.

As for the exchange rate in the parallel market, it has witnessed severe fluctuations, especially in recent years, as the gap between official and parallel exchange rates has increased significantly. In general, the highest recorded exchange rate was about IQD 1550 per USD 1 in 2023 under the pressure of anti-money laundering measures, the suspension of several banks, and moving towards an electronic platform mechanism for selling US dollars. All of which contributed to the said increase. In 2024, this exchange rate began to decline and break the ceiling of IQD 1500 per USD 1. The lowest exchange rate for the parallel market was in 2009, when it recorded about IQD 1182 per USD 1.

To calculate RER, it will be resorted to use the first law that was presented in the previous pages, which expresses RER in terms of the general level of prices in the two countries of the two currencies weighted by each other (the Iraqi dinar and US dollar). The consumer price index (CPI) will be used as an expression of the general level of prices in the two countries, with emphasis on the use of one base year (2010 was used as the base year) to ensure the accuracy of the calculation. Table 2 shows RER, with using US dollar as the pricing currency one time and the Iraqi dinar as the pricing currency at other.

According to table 2, it is noted that the highest level of RER between the Iraqi dinar and the US dollar reached IQD 2943.37 per USD 1 in 2004. While the lowest level of the exchange rate was achieved in 2015 reaching IQD 1070.40 per USD 1. The period (2009-2020) witnessed a state of near stability for RER, which continued to move in the range of IQD 1184-1070 per USD 1. The last four years witnessed high exchange rates and a state of fluctuation due to the processes of reducing and raising the exchange rate of the Iraqi dinar that was witnessed in 2021and 2023. The year 2024 ended with a significant increase that reached IQD 11502 per USD 1.

Table 1: Official and Parallel Exchange Rates of the US Dollar and the Iraqi Dinar for the Period (2004-2024)				
Years	Exchange Rate of the Iraqi Dinar Against the US Dollar		Exchange Rate of the US Dollar Against the Iraqi Dinar	
Years	Official	Parallel	Official	Parallel
2004	0.000688	0.00069	1453.42	1454.0
2005	0.000679	0.00068	1472.00	1472.4
2006	0.000681	0.00068	1467.42	1474.9
2007	0.000797	0.00079	1254.57	1266.2
2008	0.000838	0.00083	1193.08	1203.3
2009	0.000855	0.00085	1170.00	1181.8
2010	0.000855	0.00084	1170.00	1185.0
2011	0.000855	0.00084	1170.00	1195.7
2012	0.000858	0.00081	1166.17	1232.7
2013	0.000858	0.00081	1166.00	1231.9
2014	0.000858	0.00082	1166.00	1213.7
2015	0.000857	0.00080	1167.33	1247.4
2016	0.000846	0.00078	1182.00	1275.3
2017	0.000845	0.00079	1184.00	1258.1
2018	0.000845	0.00083	1182.75	1208.9
2019	0.000846	0.00084	1182.00	1196.1
2020	0.000839	0.00081	1192.00	1234.0
2021	0.000690	0.00068	1450.00	1474.1
2022	0.000690	0.00067	1450.00	1482.2
2023	0.000762	0.00065	1312.50	1549.8
2024	0.000769	0.000667	1300.00	1499.2

Source: Central Bank of Iraq, Statistics and Research Department, Monetary and Financial Statistics Division.

Table 2: Real Exchange Rate with Base Currency Change Between US Dollar and Iraqi Dinar for the Period (2004-2024)				
Years	CPI of USA	CPI of Iraq	RER of USD	RER of IQD
2004	86.6	42.8	2943.37	0.00034
2005	89.6	58.6	2250.40	0.00044
2006	92.4	89.8	1511.29	0.00066
2007	95.1	80.7	1477.70	0.00068
2008	98.7	91.0	1295.22	0.00077
2009	98.4	97.2	1184.25	0.00084
2010	100.0	100.0	1170.00	0.00085
2011	103.2	105.8	1140.75	0.00088
2012	105.3	112.2	1093.94	0.00091
2013	106.8	114.4	1089.33	0.00092
2014	108.6	116.9	1082.79	0.00092
2015	108.7	118.5	1070.40	0.00093
2016	110.1	119.2	1091.45	0.00092
2017	112.4	119.4	1114.53	0.00090
2018	115.2	119.9	1136.37	0.00088
2019	117.2	119.6	1158.54	0.00086
2020	118.7	120.3	1176.00	0.00085
2021	124.3	127.6	1412.40	0.00071
2022	134.2	133.9	1452.87	0.00069
2023	139.7	139.7	1312.28	0.00076
2024	143.4	124.2	1502.07	0.00067

Source: International Monetary Fund Data.

As regards comparing the real, official and parallel nominal exchange rates, it is noted from table 3 that RER was lower than the official one for most of the years of study, reaching 13 years out of 21 years, and that the highest positive difference between the two was IQD 1489.95 in 2004, which was one of the unstable years in Iraq. In fact, the reason for this large difference is due to the rise of RER of US dollar because of the difference between CPI in Iraq and that in USA by 44 points as shown in table 1. Meaning that the general level of prices in Iraq was higher than that in America by 44 points. It is worth noting that CBI raised the dollar exchange rate from IQD 1167 to IQD 1182 in 2016. The smallest negative difference between the two was IQD -96.93 in 2015 due to the difference between price indices of the two countries, as the difference was 10 points, meaning that prices in USA were higher than in Iraq as shown in table 2.

As for comparing RER and parallel exchange rate, it is noted that the parallel exchange rate has outperformed the RER for more than two-thirds of the years of study, reaching 14 years. The highest positive difference amounted to about IQD 1489.37 in 2004 that witnessed a decline in the parallel exchange rate due to the rise of RER, with CPI in Iraq outperforming that of USA by 42 points.

The lowest negative value of -237.52 was recorded in 2023, for the same reason as previously mentioned, as prices in USA were much higher than prices in Iraq, with a difference of about 20 points.

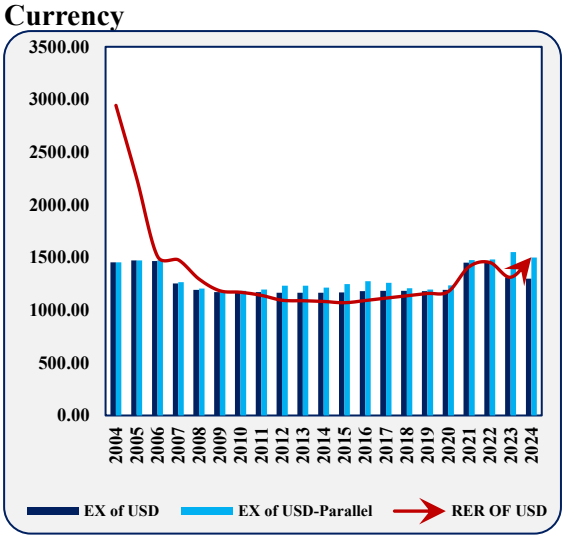
Table 3: The Difference Between Real and Nominal Official and Parallel Exchange Rates for (2004-2024)

Years	Official Exchange Rate	Parallel Exchange Rate	RER of IQD	Difference Between Official Exchange Rate and RER	Difference Between Parallel Exchange Rate and RER
2004	1453.42	1454.0	2943.37	1489.95	1489.37
2005	1472.00	1472.4	2250.40	778.40	778
2006	1467.42	1474.9	1511.29	43.87	36.39
2007	1254.57	1266.2	1477.70	223.13	211.5
2008	1193.08	1203.3	1295.22	102.14	91.92
2009	1170.00	1181.8	1184.25	14.25	2.45
2010	1170.00	1185.0	1170.00	0.00	-15
2011	1170.00	1195.7	1140.75	-29.25	-54.95
2012	1166.17	1232.7	1093.94	-72.23	-138.76
2013	1166.00	1231.9	1089.33	-76.67	-142.57
2014	1166.00	1213.7	1082.79	-83.21	-130.91
2015	1167.33	1247.4	1070.40	-96.93	-177
2016	1182.00	1275.3	1091.45	-90.55	-183.85
2017	1184.00	1258.1	1114.53	-69.47	-143.57
2018	1182.75	1208.9	1136.37	-46.38	-72.53
2019	1182.00	1196.1	1158.54	-23.46	-37.56
2020	1192.00	1234.0	1176.00	-16.00	-58
2021	1450.00	1474.1	1412.40	-37.60	-61.7
2022	1450.00	1482.2	1452.87	2.87	-29.33
2023	1312.50	1549.8	1312.28	-0.22	-237.52
2024	1300.00	1499.2	1502.07	202.07	2.87

Source: Data Based on Table 1 and Table 2.

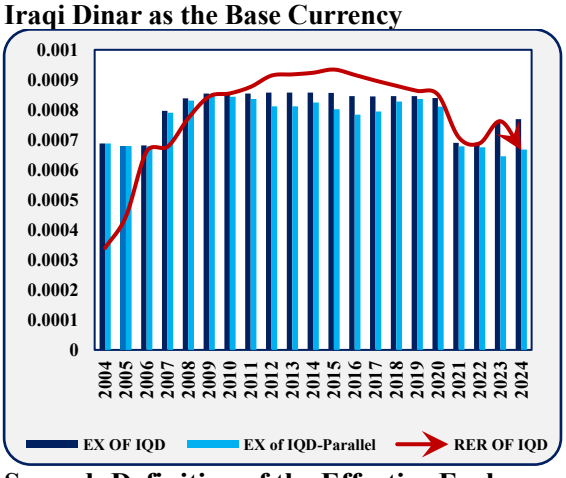
Figure 1 shows the relationship between the official, real and parallel exchange rates for the period (2004-2024) **with the use of the US dollar as the base currency**. Accordingly, it is noted that the RER was higher than the official and parallel exchange rates for the period (2004-2010). As for the remaining years, RER was less than the official and parallel for all years of study, except for 2024, in which RER rose again over the official and parallel due to the rise of prices in USA in a manner greater than that happened in Iraq. It's worth noting that the years 2022 and 2023 witnessed a significant convergence between RER and the official exchange rate, as the exchange rate adjustment for 2023 contributed to this convergence.

Figure 1: Real, Official and Parallel Exchange Rates for the Period (2004-2024) with Adopting US Dollar as the Base Currency



As for representing the relationship between the real, official and parallel exchange rates by adopting the Iraqi dinar as the base currency and the US dollar as the pricing currency, it is noted from figure 2 that RER was less than the official and parallel exchange rates for the period (2004-2009), as it took the superiority extent over the two exchange rates for all subsequent years of study except for 2024, in which it began to decline below the official exchange rate. The highest level of superiority of RER over the two exchange rates was recorded in 2016.

Figure 2: Real, Official and Parallel Exchange Rates for the Period (2004-2024) with Adopting Iraqi Dinar as the Base Currency



Second: Definition of the Effective Exchange Rate, Mechanisms for Calculating It, and Its Development in Iraq

1. Definition of the Effective Exchange Rate

The Effective Exchange Rate (EER) is a measure of the currency value based on a basket of foreign currencies. It is a measure to determine domestic exchange rate that considers differences in inflation levels and trade ratios between a country and its trading partners. EER could be considered with its nominal content, the Nominal Effective Exchange Rate (NEER), or its real content, the Real Effective Exchange Rate (REER). The difference between the two is that the first does not consider fluctuations in general price levels between the national currency and its trading partners. While the second (RER) considers that. As for the economic indication of the change in these two exchange rates, their rise means an increase in the national currency value, leading to a weakness in the competitiveness of the economy. Meaning that country's exports become more expensive for non-residents, while imports are cheaper for residents. It should be considered that the reflection of the rise and fall in these two exchange rates depends on the country's specificity in this context, especially in terms of the structure of its imports and exports. It is worth noting here that these two exchange rates are standard numbers and not absolute value, and they contribute to analyzing the role of monetary policy in influencing the country's trade. The following is an explanation of the methods for measuring EER and its development in Iraq during the previous period.

2. Methods of Measuring the Effective Exchange Rate

a. Calculating the Nominal Effective Exchange Rate in Iraq

The process of calculating EER requires identifying a country's main trading partners and then giving weight to each partner based on its contribution ratio to total trade with that country. As trade means (exports + imports). This exchange rate does not consider the differences in inflation between the US dollar as it is limited to nominal exchange rates, and the following law expresses the calculation method for NEER.

$$\mathbf{NEER} = \sum_{i=1}^{n} \left(\frac{E_i}{E_{i\,base}} \right)^{wi}$$

As:

E_i= current exchange rate of currency i.

$E_{i\,base}$= exchange rate of the base year.

wi = weight of a currency in the basket

b. Calculating the Real Effective Exchange Rate

This exchange rate is calculated by multiplying NEER by the quotient of the index of general

domestic prices level on the average prices indices of the partner countries, weighted by their weights, as shown in the following law:

$$\mathbf{REER} = \mathbf{NEER} \times \left(\frac{\mathbf{Domestic\ CPI}}{\mathbf{Foregin\ Inflation}} \right)$$

Foreign inflation could be calculated according to the following equation:

$$\mathbf{Foregin\ Inflation} = \sum_{i=1}^{n} \mathbf{W_i} \times \left(\frac{\mathbf{CPI_i}}{\mathbf{CPI_{i\ base}}} \right)$$

In fact, a higher REER means strengthening the national currency as well as the level of domestic prices is higher than the price levels of trading partners, which means a decrease in the competitiveness of the country and vice versa.

c. The Relationship Between Nominal Effective Exchange Rate and Real Effective Exchange Rate

- When NEER > REER: Then the national currency is quite weak against the currencies of its trading partners, which means that the country's exports have become cheaper due to the relative decline of its inflation.
- When NEER < REER: Then the national currency has a higher value against its trading partners, so it loses its competitiveness due to the relative rise of domestic inflation.

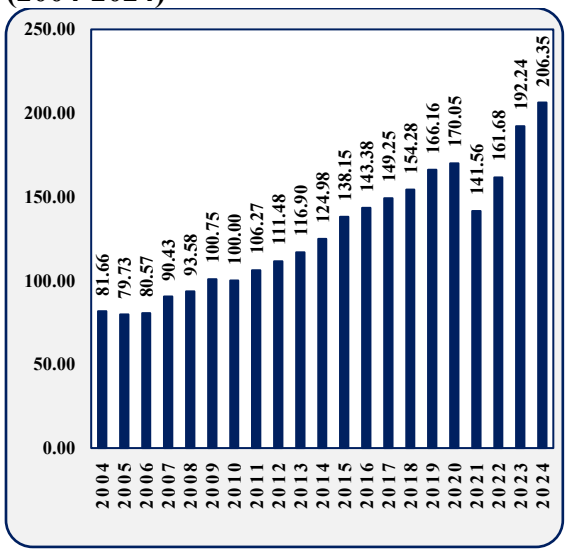
3. Calculating The Effective Exchange Rate in Iraq and Analyzing Its Development

a. Calculating the Nominal Effective Exchange Rate

The International Monetary Fund (IMF) prepares NEER for most countries of the world and for different time periods. Iraq is among the countries for which this index is prepared and published by IMF. The data of annex table 1 and figure 3 show the developments of this index for the period (2004-2024). It is noted from the table that the general trend of NEER in Iraq is towards increasing, as it moved from its lowest value of IQD 79.73 in 2005 to its highest level of IQD 206.35 in 2024. This exchange rate did not witness a decline until 2021, when it fell to IQD 141.56 after it was IQD 170.05 for the previous year 2020. The impact of the reduction of dinar value that this year witnessed is clear here, which moved the official dollar exchange rate from IQD 1182 per USD 1 to IQD 1145 per USD 1. The index rose again in 2022 and had risen significantly in 2023 and 2024, reaching IQD 192.24 and IQD 206.35, respectively. It seems that raising the official exchange rate of the dinar against the dollar played a prominent role for the upward trend return of NEER in Iraq.

In fact, the previous development of NEER in Iraq within the previous period reflects the fact that the Iraqi currency remained stronger and more cohesive against trading partners, meaning that the currencies of trading partners lost a lot of their value compared to what the Iraqi currency lost. This is an unambiguous issue, especially if we look at what the Turkish lira, the Chinese yuan, the Indian rupee, and even the USD lost in the previous period. The annex table 2 shows Iraq's main trading partners and the contribution ratio of each of them to trade with Iraq for the period (2018-2023).

Figure 3: Nominal Effective Exchange Rate of the Iraqi Dinar for the Period (2004-2024)



b. Calculating the Real Effective Exchange Rate

Table (4) shows RER of the Iraqi dinar for the period (2018-2024), CPI for the same period, as well as foreign inflation, which was extracted from taking the weighted rate of CPI of trading partners. It is noted from the table that REER until 2021, reached its highest levels of 113.42, then tended towards decline for the subsequent years until reaching 45.83 in 2024. In fact, foreign inflation is what caused this fluctuation, as it rose for the first two years and declined for 2020 and 2021. Then it took an upward trend for the last three years because of the extreme volatility in prices of some trading partners, especially for Turkey, which has recently witnessed unprecedented inflation rates. It is also noted from the table that NEER > REER for the entire period of (2018-2024), which means that inflation rates with trading partners were greater throughout the period than inflation rates within Iraq.

Table 4: Real Effective Exchange Rate and Its Implications in Iraq for the Period (2004-2024)				
Years	CPI of Iraq	Foreign Inflation	NEER	REER
2018	104.72	161.91	154.28	99.78
2019	104.49	174.29	166.16	99.61
2020	104.83	157.16	170.05	113.42
2021	110.98	139.21	141.56	112.85
2022	116.60	188.86	161.68	99.82
2023	121.78	270.97	192.24	86.40
2024	107.10	482.21	206.35	45.83

Source: Central Bank of Iraq, Statistics and Research Department, Monetary and Financial Statistics Division.

Third: Conclusions and Recommendations

Conclusions:

1. With the adoption of the US dollar as the base currency and the Iraqi dinar as the pricing currency, it is noted that RER recorded values lower than the official and parallel rates for about 14 years, specifically for the period (2010-2023). Meaning that monetary policy in Iraq was pricing the US dollar higher than its real value throughout the above-mentioned period. While during the first six years of the study, specifically for the period (2004-2009), RER was higher than the official and parallel rates. Monetary policy appears to have been, in the early years, aiming at maintaining income levels, particularly fixed ones, and in later years another goal was added: ensuring better financing of public finance.
2. The rise of RER, with the adoption of the US dollar as the base currency, over the official and parallel rates in 2024 came as a reflection of CBI new approach to reduce the impact of the exchange rate on the general level of prices (which has been upward for the last two years all over the world), so that the process of controlling prices in Iraq has led to the dollar being undervalued.
3. With the adoption of the dinar as the base currency and the dollar as the pricing currency, it is noted that RER recorded values higher than the official and parallel rates for the period (2010-2023), meaning that the Iraqi dinar is priced in the official and the parallel market at less than its real value (knowing that the prevailing trend globally is for countries to price their currencies at less than their real values to increase their exports). It seems that financial dominance is what imposed this pricing in Iraq.
4. EER is an important instrument to express the real value of the national currency considering fluctuations in general price levels, whether at home or in partner trading countries. It is noted that this index had not received sufficient attention in the financial reports in Iraq, although IMF has been presenting it to many countries in international financial reports since 2022.
5. NEER took an upward trend in Iraq for the period (2004-2024), indicating the fact that the value of the Iraqi dinar has been stronger against other currencies since the base year adopted for all trading partners (2010). Meaning that the value of the Iraqi dinar increased towards trading partners by 106% since 2010, which explains a large part of the fact that Iraq has been a net importer for the previous years until now.
6. Iraqi trade with China and India dominates Iraq's total foreign trade, as trade with these two countries constitutes about 50% of Iraq's total foreign trade.
7. There are two countries that are considered an important trading partner of Iraq that witnessed a sharp decline in the values of their currencies, namely: Turkey with a sharp decline and India with less sharply decline, in addition to the significant rise of price level in USA since 2010, which contributed to raising the NEER in Iraq.
8. Presenting REER at a value lower than that of NEER confirms the role played by monetary policy in Iraq in targeting inflation and keeping it within the lowest possible level, meaning that maintaining the value of the Iraqi dinar was a major priority of monetary policy in Iraq.
9. In the theoretical analysis of the relationship between REER and NEER mentioned above, the theoretical literature indicates the fact that (NEER>REER) means that a low-priced country can export more to its high-priced trading partners. But why it doesn't apply to Iraq? In fact, the process of pricing in Iraq being lower than those of trading partners is a reality, but trade restrictions of the partners, their monetary practices, the weakness of the productive sector in Iraq, and the amount of financial support it receives, all these factors prevent the country from exploiting the previous situation. It should be noted that theoretical relationships between economic variables assume the freedom to buy & sell and enter & exit, such matters that are not often available in the actual economy.

Recommendations:

1. It is necessary to work on expanding the scope of use of RER, NEER and REER indices, whether by monetary policy makers in Iraq or in terms of official, semi-official, and academic reports, to identify the true level of power possessed by the Iraqi currency.
2. Any decision to devalue or raise the value of the Iraqi currency must be based on the real indices mentioned above to avoid deviations that may occur later. Also to convey a real picture to the decision maker in order not to overestimate the exchange rate in both directions.

Annex Table 1: Nominal Effective Exchange Rate in Iraq for the Period (2004-2024)						
Years	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
NEER	81.66	79.73	80.57	90.43	93.58	100.75
Years	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
NEER	100.00	106.27	111.48	116.90	124.98	138.15
Years	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
NEER	143.38	149.25	154.28	166.16	170.05	141.56
Years	**2022**	**2023**	**2024**			
NEER	161.68	192.24	206.35			

Source: IMF/Database.

Annex Table 2: Trade Exchange Values Between Iraq and Its Main Partners for the Period (2018-2024)

2018			2019		
Trade Partner	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**	**Trade Partner**	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**
Turkey	11571	8.7	Turkey	16309	11.8
PRC	31028	23.4	PRC	36156	26.2
South Korea	11303	8.5	India	23149	16.8
India	23335	17.6	South Korea	10167	7.4
USA	12596	9.5	USA	8248	6.0
KSA	1781	1.3	Germany	1763	1.3
Greece	4860	3.7	Italy	4725	3.4
Italy	4079	3.1	Greece	4509	3.3

2020			2021		
Trade Partner	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**	**Trade Partner**	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**
PRC	28631	30.1	Turkey	11846	10.4
Turkey	18981	19.9	PRC	33950	29.8
India	13844	14.5	India	24671	21.7
Germany	1492	1.6	Germany	1120	1.0
KSA	1362	1.4	KSA	1086	1.0
South Korea	1106	1.2	South Korea	5574	4.9
Singapore	3168	3.3	Greece	4144	3.6
USA	2254	2.4	Italy	3362	3.0
Italy	1841	1.9	USA	3216	2.8

2022			2023		
Trade Partner	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**	**Trade Partner**	**Trade Exchange Value (USD million)**	**Ratio to Total Trade %**
Turkey	15852	9.2	Turkey	18905	11.5
PRC	51076	29.5	PRC	48611	29.5
India	37654	21.7	India	32626	19.8
Germany	1292	0.7	Germany	1540	0.9
KSA	1739	1.0	KSA	2074	1.3
South Korea	9753	5.6	South Korea	8659	5.2
Greece	6339	3.7	Greece	5324	3.2
Italy	4734	2.7	Italy	3976	2.4
USA	8936	5.2	USA	7506	4.5

2024		
Turkey	20786	14.61
PRC	58035	40.80
India	31102	21.86
KSA	2771	1.95
South Korea	7661	5.39
USA	8952	6.29
Greece	4599	3.23
UAE	5307	3.73

Source: Central Bank of Iraq, Statistics and Research Department, Balance of Payments and Foreign Trade Division.

"The China-US Monetary Divergence and its Impact on Central Bank's Independence in Developing countries"

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Introduction:

Since late 2019, the global economy has faced a succession of multifaceted crises, beginning with the COVID-19 pandemic. This was followed by heightened geopolitical polarization between East and West, exacerbated by the Russia-Ukraine war, which severely disrupted global supply chains. More recently, the conflict in Gaza has triggered a shipping crisis in the Red Sea. These events have led to adverse economic outcomes, most notably a surge in global inflation that compelled central banks to adopt contractionary monetary policies and raise interest rates.

Simultaneously, the Far East remained largely insulated from these inflationary pressures, experiencing very low or even negative inflation rates. This prompted regional central banks to implement expansionary monetary policies to prevent growth from slowing.

Positioned between these two extremes are developing countries, whose ability to manage independent economic policies is constrained by their reliance on developed economies—particularly the U.S, due to pegging their currencies to the dollar. Hence, we are seeing a strong resurgence of the state's role in protecting monetary systems from currency speculation on one hand, and on the other hand to distance itself from American sanctions.

Keywords: Monetary Policy, Inflation, Monetary Dependency, Monetary Policy Divergence, Monetary Independence.

First Requirement: Inflation Between Demand-Pull and Cost-Push

In recent years, the world has witnessed a convergence of inflationary drivers fueled by extraordinary circumstances, ranging from natural disasters or geopolitical developments. These factors have exerted significant pressure on monetary policy, initially manifesting as an economic contraction, followed by high inflation rates resulting from package of measures implemented to mitigate the crises. In this context, inflation can be described as evolving from demand-pull to cost-push inflation.

A) Demand-Pull Inflation:

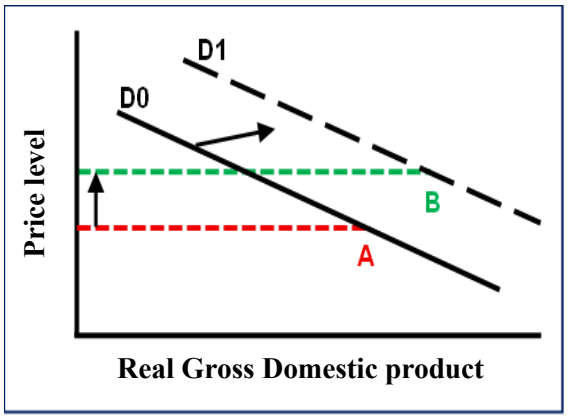
Countries sought to address the COVID-19 crisis by providing the liquidity necessary to support the healthcare sector in particular and the economy in general. Due to this massive support provided by economic policies, the global financial system remained resilient during the pandemic, and financial conditions loosened significantly. This helped maintain the flow of credit to the household and corporate sectors, facilitated recovery, and averted systemic financial risks. While improved economic prospects narrowed the range of negative outcomes, GDP growth remained vulnerable to risks.

However, this unprecedented policy support led to unintended consequences. Equity markets experienced a sharp rebound starting in the third quarter of 2020, driven by expectations of a rapid economic recovery and continued policy support[1]. Furthermore, the pandemic prompted several central banks to slash benchmark interest rates to near-zero levels, while fiscal authorities implemented massive expansionary fiscal measures, leading to a sharp rise in public debt levels.

Asset purchases conducted by central banks are typically financed through the expansion of the monetary base. These operations, to some extent, blurred the lines between monetary and fiscal policy, raising concerns regarding fiscal dominance. All these factors pushed inflation above target levels due to the expansion of the monetary base. However, the correlation between money supply growth and inflation was heavily influenced by economic conditions and institutional factors, particularly in the initial years following monetary expansion. All the aforementioned measures, combined with the release of pent-up demand and accumulated savings, culminated in a rise in demand side inflation.

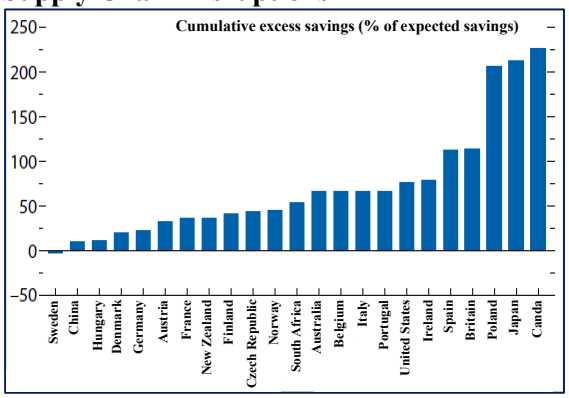
(1) International Monetary Fund (IMF), Global Financial Stability Report, 4April 2021: Avoid a legacy of fragile situations.

Figure 1: Inflation Driven by Demand-Pull Factors



Source: www.rba.Gov.au

Figure 2: Surging Inflation Amidst Pent-Up Demand, Commodity Price Pressures, and Supply Chain Disruptions



Source: International Monetary Fund, World Economic Outlook, October 2021, p. 47.

B) Cost-Push Inflation: The rise in core inflation reflects several factors, beyond a strong recovery in demand supported by extraordinary fiscal and monetary measures, particularly in advanced economies. Prolonged supply disruptions due to the pandemic and climate change, coupled with a shift in spending toward goods rather than services, increased price pressures. Wage pressures are also evident in specific labor market sectors. The United States has experienced a longer period of declining labor force participation compared to other advanced economies, further exacerbating both wage and inflationary pressures.

Supply disruptions pose another challenge for policymakers. On one hand, pandemic outbreaks and adverse weather conditions have resulted in shortages of key production inputs and a slowdown in manufacturing activity across several countries. The pandemic exerted two distinct effects on global supply chains: in the initial phase, lockdown measures and mobility restrictions led to severe disruptions across various supply chains, causing short-term supply shortages. In the later stages of the pandemic, supply chains faced new bottlenecks, the most severe of which affected raw materials and intermediate manufactured goods[2]. On the other hand, these supply shortages, combined with the release of pent-up demand and the rebound in commodity prices, have caused consumer price inflation to rise rapidly[3] .

The pandemic exerted two distinct effects on global supply chains. In the initial phase, lockdown measures and mobility restrictions resulted in severe disruptions across various supply chains, causing short-term supply shortages. While many of these disruptions eventually subsided, the subsequent surge in infections—driven by the Omicron variant in China and elsewhere—reignited pressures on certain supply networks. In the latter stage of the pandemic, global supply chains encountered emerging bottlenecks[4].

Energy and food supply shocks resulting from the Russia-Ukraine war have, in turn, driven up energy and food prices, contributing to a global surge in inflation. Russia and Ukraine are major exporters of primary commodities, and disruptions caused by the war and subsequent sanctions have led to a sharp spike in global prices, particularly for oil and natural gas.

Food prices also experienced a sudden hike; wheat prices rose to unprecedented levels, as Ukraine and Russia account for 30% of global wheat exports. These repercussions are likely to cause inflation to persist for longer than previously anticipated.

The impact is expected to be most severe in low-income countries and emerging market economies, where food and energy constitute the largest share of consumption—reaching as high as 50% in Africa[5].

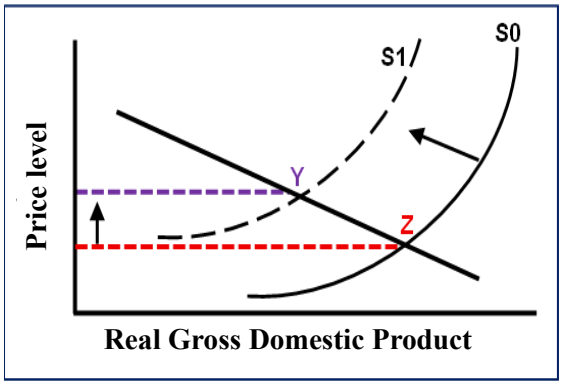
On the other hand, container shipping costs from China have risen to their highest levels since 2022, having more than tripled since the beginning of 2024. The cost of shipping a 40-

(2) Ruchir Agarwal and Miles Kimball, Will Inflation Remain High? Finance & Development Magazine, June 2022, p. 24
(3) International Monetary Fund (IMF), World Economic Outlook, October 2021, p.
(4) Rocher Agarwal, Miles Kimball, Does Inflation Remain High? Finance and Development Magazine, June 2022
(5) Rocher Agarwal, Miles Kimball, Will Inflation Remain High? Finance and Development Magazine, June 2022

foot container from Shanghai to New York has now reached approximately USD 9,000, and about USD 8,000 to Los Angeles.

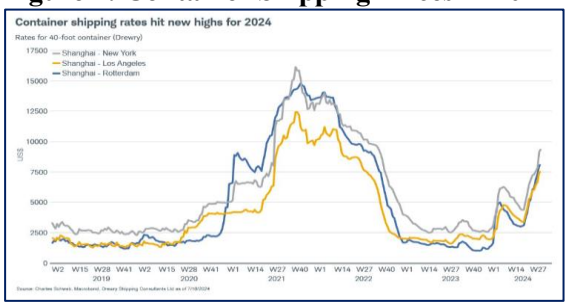
This increase was driven by a sharp decline in Suez Canal traffic, disruptions at some ports in Asia, and increased demand due to restocking of inventory. The company raised its full-year forecast given the strong demand in the container market and the crisis in the Red Sea. However, the outlook for Q4 of 2024 is uncertain. Among these costs rising shipping costs would fuel inflation, which in turn could directly affect the monetary policies followed by central banks[6].

Figure 3: Inflation Driven by Cost-Push Factors



Source: www.rba.Gov.au

Figure 4: Container Shipping Prices in 2024



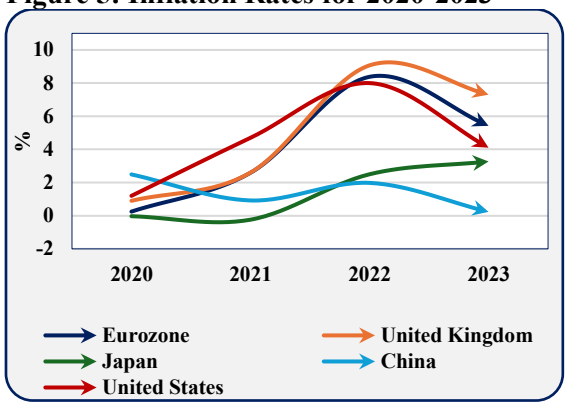
https://www.cnbcarabia.c

Second Requirement: Monetary Policy Between Two Extremes (East and West)

In the post-COVID-19 era, the world's major economic poles—represented by the United States and the European Union on one side, and China and Japan on the other—have witnessed two contrasting types of monetary policy: hawkish (tightening) dovish (accommodative/ expansionary). These policies were shaped by their respective economic conditions. Consequently, emerging and developing economies adopted monetary paths influenced by the nature of their economic ties to these powers, further compounded by the fact that the US Dollar remains the dominant currency in global trade. Several key factors have driven this divergence in monetary policy, including:

- **Reasons related to inflation rates:** Western developed countries witnessed an unprecedented rise in inflation rates, reaching 8.0% in the United States of America, 8.8% in the European Union and 9.07% in the United Kingdom, while in Japan and China it reached 1.98% and 2.5% in 2022 respectively.

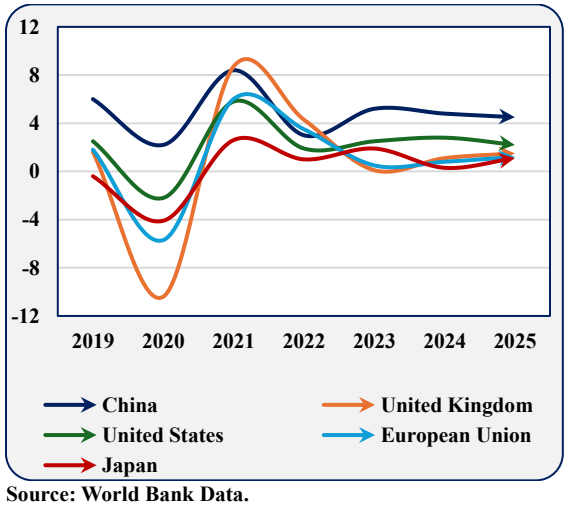
Figure 5: Inflation Rates for 2020-2023



Sours: https://www.statista.com/statistics/256598/globa

- **Reasons related to economic growth**: Growth rates reached their highest levels in 2023 over the past five years, after recording negative growth rates in 2020 as a result of the outbreak of the pandemic, apart from China, which recorded a positive growth rate. However, trends in economic growth forecasts have been rising in the European Union, the United Kingdom, and the United States, while growth is expected to slow down in both China and Japan in 2024 and 2025, as shown in the figure below.

Figure 6: Growth Rates in Selected Countries for 2019–2025



Source: World Bank Data.

(6) Container shipping costs from China rise to their highest levels in two years, https://www.cnbcarabia.com/

- **Reason related to Supply Chains**: The world experienced supply chain disruptions between 2019 and 2024 for various reasons, beginning with the COVID-19 pandemic lockdowns, followed by the US-China trade war and its impact on shipping costs. The situation was further complicated by the Russian-Ukrainian conflict, which affected primary commodities, particularly grain, for which Russia and Ukraine are major exporters. Tensions in the Middle East also significantly impacted supply chains, especially in the Red Sea region, forcing many commercial vessels to reroute, thus increasing shipping costs and insurance costs. Therefore, to understand the reasons behind the divergent monetary policies worldwide, it is essential to examine the case of most prominent opposing powers: the United States and China.

First: The United States of America

The United States recorded a negative GDP growth rate of -3.4% in 2020, resulting from measures taken to curb the spread of the pandemic and the subsequent total and partial lockdowns. All these procedures directly and indirectly impacted economic activity[7].

On March 6, 2020, the Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020 provided approximately USD8.3 billion to combat the pandemic. On March 18, another bill, the First Coronavirus Response for Families Act, was passed. This bill provided paid emergency leave, food assistance for affected employees, and free coronavirus testing.

On April 21 and 23, respectively, the Senate and the House of Representatives passed a USD 484 billion bill to help fund the Paycheck Protection Program (PPP)—originally established under the CARES Act—while providing USD75 billion in funding for hospitals and implementing nationwide virus testing. The President signed the bill into law on April 24.

On August 8, Trump signed four executive orders allocating USD400 per week for unemployment insurance, halting evictions, postponing payroll taxes and student loan repayments, and waiving interest on those loans.

On the monetary policy front, the Federal Reserve cut its target interest rate on March 3, 2020, from 1.75% to 1.25%, the largest emergency rate cut since the 2008 global financial crisis—to counter the impact of the outbreak on the US economy.

On March 15, the Federal Reserve lowered its target interest rate again to a range of 0.0% to 0.25% and announced a USD 700 billion quantitative easing program, similar to the one initiated during the 2007-2008 financial crisis. Despite these moves, stock index futures tumbled, triggering trading curbs to prevent panic. The Dow Jones Industrial Average plunged nearly 13% the following day, marking the third-largest single-day drop in the index's 124-year history. That day, the VIX closed at its highest level since its inception in 1990.

On March 17, the Federal Reserve announced a program to purchase up to USD1 trillion in corporate commercial paper to ensure the continued flow of credit in the economy, backed by approximately USD 10 billion in Treasury funds. At this stage, the federal government neared an agreement on a stimulus proposal, including direct cash payments to Americans. Trump also announced that the Small Business Administration (SBA) would provide disaster loans of up to USD 2 million for affected businesses. During the week of March 19, the Federal Housing Finance Agency (FHFA) ordered federally backed lenders to grant forbearance for up to one year on mortgage payments for those who lost income due to the pandemic. Furthermore, the FHFA encouraged non-federal lenders to follow suit and worked on a provision to ensure landlords were lenient with tenants facing financial hardship due to the virus.

On March 23, the Federal Reserve announced a major expansion of Quantitative Easing (QE) with no predefined limit, along with the Term Asset-Backed Securities Loan Facility (TALF). The objective was to inject fresh liquidity into a wide range of financial markets, including corporate bonds, Exchange-Traded Funds (ETFs), small business loans, Mortgage-Backed Securities (MBS), student loans, auto loans, and credit card loans. Additionally, the Federal Reserve reduced the interest rate on its

(7) International Monetary Fund (IMF), World Economic Outlook, October 2021, p. 39.

Repurchase Agreement (Repo) facility from 0.1% to 0.0%[8].

The second point to consider is that the recovery achieved may represent the full extent of the U.S. recovery for the time being. A mere 60% economic recovery does not guarantee a return to 100%. This is because the post-COVID recovery occurred in the shadow of the recovery from the 2008 financial crisis and the Great Recession, which also witnessed a period of interest rates at the Zero Lower Bound (ZLB).

While labor demand rebounded strongly throughout 2021, the recovery of labor supply was much slower, leading to a tight labor market and significant wage increases, particularly for workers in low-wage jobs and industries. Consumer prices recorded substantial increases in the second half of 2021. The average monthly increases in Personal Consumption Expenditures (PCE) prices in the second half were nearly the same as in the first half, causing inflation to rise to 5.8%, well above the Federal Open Market Committee (FOMC) long-term target of 2%.

Similarly, the Core PCE price index, which excludes the more volatile food and energy price categories, rose by 4.9%. Supply chain bottlenecks, hiring difficulties, and other capacity constraints, amid robust demand, exerted broad-based upward pressure on prices. Notably, these were the largest price increases since the early 1980s[9].

The Russian-Ukrainian war has also triggered economic consequences in the United States and globally. It has exacerbated uncertainty and destabilized commodity markets, fueling inflation as the world grapples with rising gas and food prices. Since Russia is a major producer of oil and natural gas, geopolitical conflicts have caused global prices to surge in recent weeks. Moreover, Russia is the world's largest wheat exporter and a key food supplier to Europe. Although the United States imports relatively little directly from Russia, the war-induced recession can have devastating effects, temporarily driving up the prices of raw materials and finished goods—a trend being witnessed as most countries in the world, including the United States. Higher inflation and global turmoil could also weigh on American consumer sentiment, potentially leading to force them to reduce costs and other economic activities. While businesses strive to mend disrupted supply chains, public pessimism regarding financial futures persists despite strong economic growth. Given that energy commodity markets are globally interconnected, price fluctuations in one region inevitably impact energy costs elsewhere.

Ukraine is also a significant producer of uranium, titanium, iron ore, steel, and ammonia, as well as a major source of arable land. The invasion of Ukraine has led to a surge in global food prices, which were expected to stabilize after last year's significant increase. Together, Russia and Ukraine account for approximately 30% of global wheat exports, while Ukraine alone exports more than 15% of the world's corn—many of its wheat and corn fields are located near the Russian border. Rising prices for gas and fertilizers, coupled with droughts and unfavorable weather in certain regions, have driven up global prices for wheat and other commodities. Furthermore, the spike in gasoline prices at the pump and rising energy costs have led to consumer dissatisfaction in the United States as prices soar and economic growth slows. Some of the most significant impacts of the Russia-Ukraine war on the United States include[10]:

Rising Energy and Oil Prices: According to the U.S. Energy Information Administration (EIA), Russia was the third-largest foreign oil supplier to the United States in 2020, accounting for 7% of imported oil. Furthermore, Russia exported USD13 billion worth of mineral fuels to the United States in 2019, representing more than half of U.S. imports from. It is noteworthy that prices have been rising even though the sanctions imposed on Russia have, so far, excluded the energy sector.

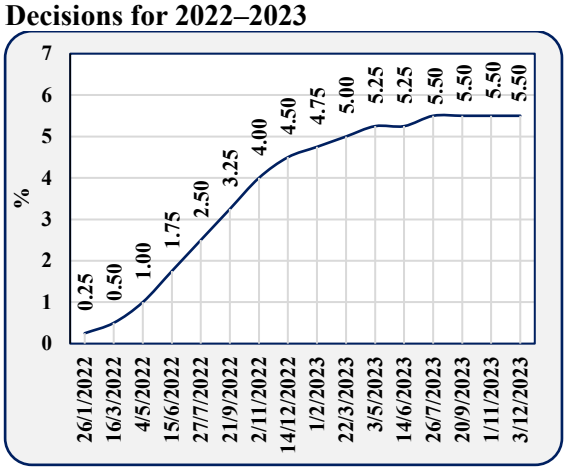
Supply Chain Issues for Farmers and Rising Food Prices: U.S. farmers are bracing for a surge in fertilizer prices, which were already high prior to the war. Russia is the world's largest producer of low-cost, high-volume fertilizers and the second-largest producer of potash (after Canada), a vital nutrient used in agricultural crops worldwide. The direct impacts of increased fertilizer prices are reflected in the surging inflation of agricultural

(8) https://ar.wikipedia.org
(9) https://www.federalreserve.gov/Monetary Policy Report – February 2022
(10) The Negative Impact of the Ukraine War on the US Economy. Journal of Environmental Science and Public Health, ISSN: 2575-9612.

commodities and, ultimately, food prices. Americans should expect to pay more for food in the coming years.

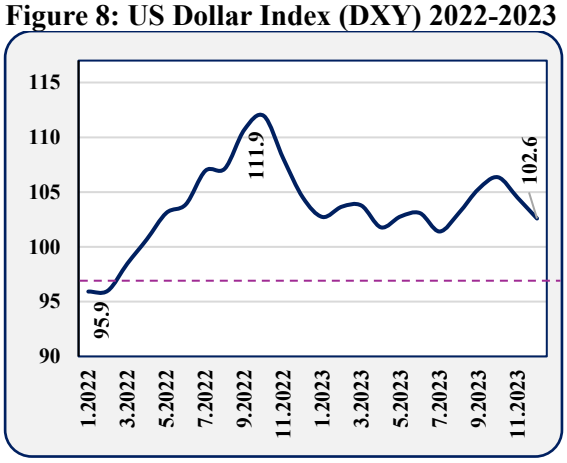
These events and their resulting outcomes led to a shift in the Federal Reserve's monetary policy—moving from an accommodative (expansionary) policy to a contractionary one through a series of interest rate hikes. The federal funds rate reached 5.5% in December 2023. This persistent hawkish stance drove the U.S. Dollar Index (DXY) to its highest value in October 2022, reaching 111.9. However, its value slightly declined after several central banks represented in the DXY index—most notably the Euro, which holds the highest relative weight among the currencies used in this indicator —also raised their interest rates.

Figure 7: Federal Reserve Interest Rate Decisions for 2022–2023



Source: Central Bank of Iraq, Statistics & Research Department, Monetary Policy Report 2023, p.3.

Figure 8: US Dollar Index (DXY) 2022-2023



Source: Central Bank of Iraq, Statistics & Research Department, Monetary Policy Report 2023, p. 3.

Second : China

After facing its greatest crisis of the last decade—the outbreak of the COVID-19 pandemic in a highly populated nation—China's natural economic growth plummeted from 6% to 2.2% in 2020, directly impacting its economy. This unprecedented pandemic hindered consumer demand, production, investment, and international trade. Consequently, authorities were prompted to implement a series of measures and fiscal support.

In February 2020, the People's Republic of China launched targeted fiscal and monetary stimulus policies to mitigate the negative impact of COVID-19 on the economy. By the end of May 2021, these measures reached a total value of USD 2.3 trillion, or 16.1% of GDP. Special policies were deployed to support Micro, Small, and Medium Enterprises (MSMEs), aimed at reducing their operating costs by expanding their access to affordable credit, extending repayment deadlines for eligible loans, and preserving employment. This fiscal stimulus was multi-faceted, encompassing tax cuts, exemptions from social security contributions, support for infrastructure investment, industry-specific programs, and consumer subsidies. The details are outlined below.

In 2021, growth recovered to 8.4%, at a relatively low level in 2020. However, in 2022, following the resurgence of the COVID-19 pandemic and the enforcement of the strict 'Zero-COVID' policy, growth declined to around 3%. Large fluctuations in GDP growth continued during the COVID-19 period, by calculating a moving average of economic growth for a period of three years. As shown in Figure 7, growth shows a continuous downward trend in the pre-pandemic phase, followed by a sharp decline in the pandemic (2019-2022).

The contribution of consumption to growth amounted, on average, from 2010 to 2019, to about 60% annually. However, the contribution of consumption became negative and fell sharply to 6.8% in 2020. Most analysts believe that domestic consumption in China is excessively low, making the economy heavily reliant on investment—particularly government investment. Consequently, if China seeks to bolster economic growth, stimulating consumption is key. While over-investment negatively impacts productivity, consumption-led growth is more likely to meet societal needs. Nevertheless, given the decline in income and waning confidence in the future, raising domestic consumption remains a major challenge for the government.

In general, the impact of the pandemic and the "Zero-COVID" policy on foreign-invested

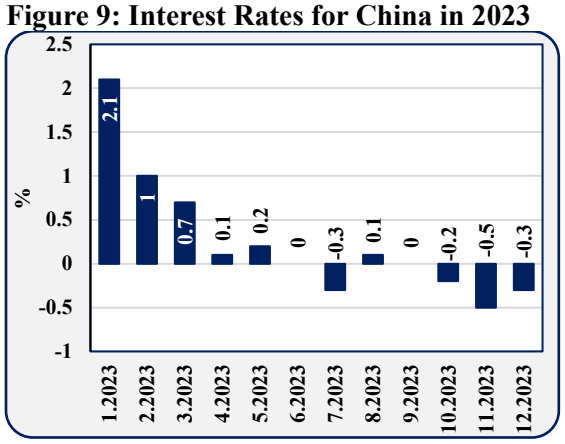
companies across China has been immense. The COVID-19 pandemic, coupled with stringent restrictive measures and other changes in China, accelerated the closure of foreign-invested companies such as Toshiba, Nikon, and Samsung. Inevitably, the withdrawal of foreign companies and the closure of domestic companies exacerbated the unemployment problem. This phenomenon—particularly among the youth workforce—emerged in China during the pandemic. According to national data, the surveyed urban unemployment rate has risen since 2018, from less than 5% to 6.2%. By the end of 2022, China's surveyed urban unemployment rate remained at approximately 5.5%.

The COVID-19 pandemic caused a decline in consumption, production, and all economic activities, leading to a slowdown in China's economic growth. As a result of stringent public health measures, there was a decelerated growth in the formation of new foreign-invested companies and an accelerated closure of existing companies. Furthermore, unemployment rates rose during the pandemic, particularly among young workers. Moreover, the waning entrepreneurial drive and risk-taking spirit among the youth, combined with the shift to online education due to school closures, may significantly contribute to the slowing of human capital accumulation for the younger generation[11].

In a significant move to revitalize the economy and stimulate private consumption, the People's Bank of China (PBOC) lowered the Reserve Requirement Ratio (RRR) on September 14, 2023, for the second time that same year. This measure aims to maintain ample market liquidity, as the RRR cut will provide low-cost, long-term cash for banks. This, in turn, allows them to extend more loans to companies and consumers, especially after data showed weakness in consumer spending growth, declining investment, and rising unemployment. Although recent indicators, including inflation and exports, suggest a potential stabilization of the economy, the primary challenge lies in whether this momentum can be sustained[12].

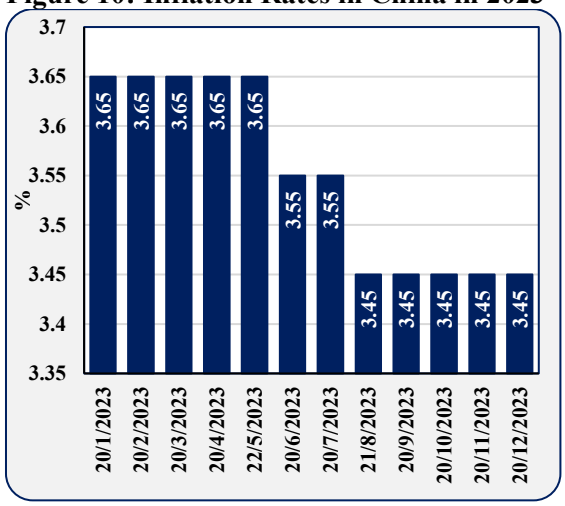
China benefited from its low domestic inflation; unlike other central banks, the People's Bank of China (PBOC) moved toward cutting interest rates twice in 2023. This supported the stability of the Yuan's exchange rate, as the Yuan's value appreciated by 5.4%, moving from 7.16 CNY/USD in July 2023 to 6.79 CNY/USD in December of the same year. However, it is noted that interest rates remained unchanged for the final five consecutive sessions of 2023[13].

Figure 9: Interest Rates for China in 2023



Source: Central Bank of Iraq, Statistics and Research Department, Monetary Policy Report 2023

Figure 10: Inflation Rates in China in 2023



Source: Central Bank of Iraq, Statistics and Research Department, Monetary Policy Report 2023

Third Requirement: Developing Countries Amidst Divergent Monetary Policies

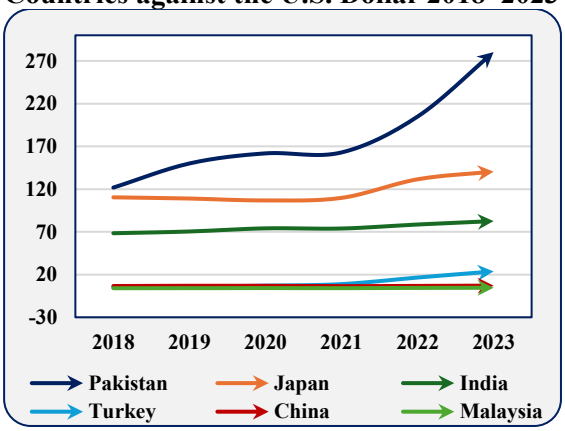
The global crisis triggered by the COVID-19 pandemic has posed new challenges to the world order, regarding patterns of cooperation and conflict at both regional and international levels. This shift stems from the pandemic's profound repercussions on domestic and

(11) The COVID-19 Pandemic's Impact on the Chinese Economy, Issue: 2023: Vol. 22, No. 1, A Center for Collaborative Research & Education on Greater China.
(12) Iraqi Ministry of Foreign Affairs, Economic Department, China reduces the mandatory reserve rate for the second time in 2023, 2023
(13) Central Bank of Iraq, Department of Statistics and Research, Monetary Policy Report 2023, p.6.

foreign policies across political, economic, and security dimensions. As most nations reordered their priorities to confront these risks, such major crises may shift the leadership, hegemony, and status of superpowers within the global system; some may decline while others advance, depending on their resilience and crisis management capacity. Given that hegemony and leadership are defining features of the global struggle, the system is naturally undergoing shifts in centers of control. These changes reflect the pandemic's impact on a global order already in transition since the trade war, questioning the continued extent of U.S. global leadership

Most of the world's nations adopted tight monetary policies following the COVID-19 pandemic to curb inflationary waves. Other countries, even those not experiencing excessive inflation, utilized contractionary monetary policies to prevent capital flight (investor migration), which negatively impacts their markets; this was evident in the Gulf Cooperation Council (GCC) countries and others. On the other hand, several nations raised interest rates to counter the appreciation of the U.S. Dollar against their local currencies, driven by the Federal Reserve's rate hikes aimed at absorbing excess liquidity. It is observed that many countries, particularly developing ones, have seen their currencies depreciate against the U.S. Dollar since 2022, a trend that persisted throughout 2023. Furthermore, the U.S. Dollar Index (DXY) reached its highest peak on September 1, 2022, coinciding with the Federal Reserve's decisions to raise interest rates, which commenced in the second quarter of 2022.

Figure 11: Exchange Rates of Selected Countries against the U.S. Dollar 2018–2023



Source: World Bank Data.

The Federal Reserve's interest rate hikes may seem insignificant to those not directly involved in finance and economics, or of little consequence to those outside the United States. However, in today's reality of globalized financial and economic relations, a "Fed rate hike" exerts powerful and far-reaching effects worldwide. It directly impacts several macroeconomic variables both within the United States and across the globe, significantly affecting the overall performance of economies and people's living conditions.

Foremost among the variables affected by Federal interest rate hikes are short-term and long-term interest rates, foreign exchange rates (the value of global currencies against the U.S. Dollar), and consequently, the debt burden of many nations. It also influences the volume and cost of credit provided by financial institutions, which in turn affects investment and employment rates, output the quantity of goods and services produced in the economy, and general price levels.

Historically, Federal Reserve interest rate hikes have triggered capital flight toward U.S. banks in pursuit of higher yields and safe-haven status. This is particularly significant as these hikes often coincide with major regional crises—such as the Latin American debt crisis in the 1980s, the East Asian financial crisis in the 1990s, and currently, the conflict in Eastern Europe. This exacerbates capital flight, forcing central banks—especially in unstable regions—to raise their own rates to curb outflows, thereby hindering growth or even inducing developmental regression as domestic firms face bankruptcy and assets are sold at distressed prices.

Some developing countries have attempted to break their economies' dependence on hot money and limit speculation through the significant role played by the state in supporting local currencies. Given the high risks and costs inherent in the prevailing global monetary system, China and several emerging economies—most notably Russia and India—have sought for years to build an alternative monetary architecture that better accommodates their mutual interests.

Perhaps most significant are the bilateral trade agreements, particularly those concerning strategic commodities like oil and gas, settled in the national currencies of these trading partners. This is accompanied by the accumulation of physical gold, primarily by China, and the convertibility of the Yuan into gold on at least

two Chinese platforms, including the Shanghai Gold Exchange[14].

Furthermore, a new global system for financial transfers from China has been utilized, namely the Cross-Border Interbank Payment System (CIPS), alongside the SWIFT system.

Conclusion:

Deciding on the optimal timing to shift interest rate trends is extremely sensitive. Increased expectations of 'higher for longer' interest rates carry the risk of fueling inflation, which in turn heightens external, fiscal, and financial sector risks. If the dollar's appreciation—driven by price disparities—persists, it could disrupt capital flows and hinder the planned easing of monetary policy, thereby negatively impacting growth.

Furthermore, a sustained rise in interest rates could increase borrowing costs and jeopardize financial stability if improved public finances (fiscal consolidation) fail to offset higher real interest rates amid low potential growth. While bilateral trade treaties in local currencies may grant trading partners' currencies some stability by increasing demand, their overall stability remains influenced by external factors: a surging dollar will still result in an automatic relative decline in the value of these partners' currencies.

In summary, monetary policies in advanced and emerging economies are driven by domestic economic models and the strength of their fundamental indicators. Conversely, developing nations act as passive recipients due to their dependency on advanced economies; as a result, they are directly and indirectly susceptible to the economic policies—particularly monetary shifts—of the developed world.

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“ Analysis of Ministry of Finance Debt Obligations and Interest based on 2024 Preliminary Operating Results”

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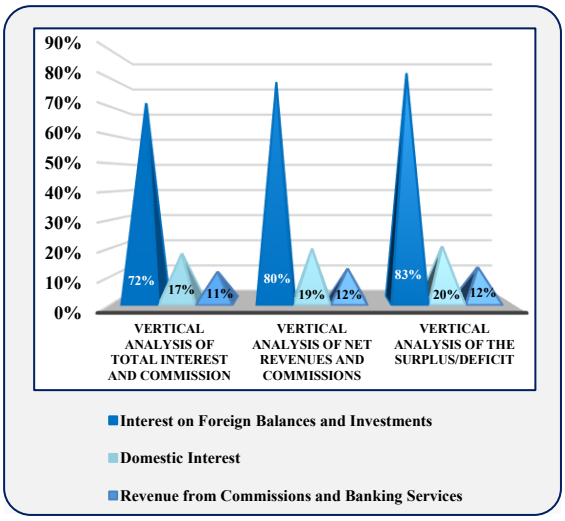
Introduction:

The Ministry of Finance's (MoF) obligations to the Central Bank of Iraq (CBI), categorized as internal debt, represent a structural feature of global financial systems. This mechanism allows monetary policy to provide essential liquidity support to fiscal policy, particularly during periods of fiscal pressure or transition.

This paper aims to highlight the outcome of the MoF’s obligations to the CBI, specifically regarding the interest accrued on debt. This serves as a preliminary step for potential future measures, such as debt restructuring under mutually agreed-upon terms. Regarding the Iraqi MoF's debt to the CBI, the operating results1 reflected in the CBI’s balance sheet reached IQD 6,286,590 million, accounting for 3.3% of total liabilities. Figure 1 illustrates the proportions of the three types of interest relative to total interest income, net income and commissions, and the surplus/deficit (operating results) within the CBI’s Financial Position Statement.

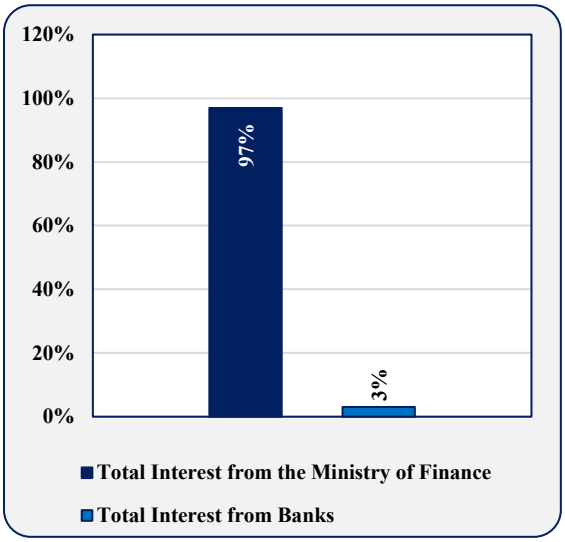
Figure 1: Analysis of Operating Results (Profit and Loss Statement) for 2024



It is observed that domestic interest income derived from the Ministry of Finance and banks, totaling IQD 1,250,964 million, represents 17% of total interest and commission revenues, 19% of net income and commissions, and 20% of the net result of activity. This indicates that it exerts a relatively significant influence on the CBI’s overall financial performance.

Since total domestic interest reflects the aggregate interest accounts from the Ministry of Finance, which accounts for 97% of total domestic interest, in addition to interest from banks, representing 3% of the total, Figure 2 illustrates the respective proportions of each relative to the final aggregate of domestic interest.

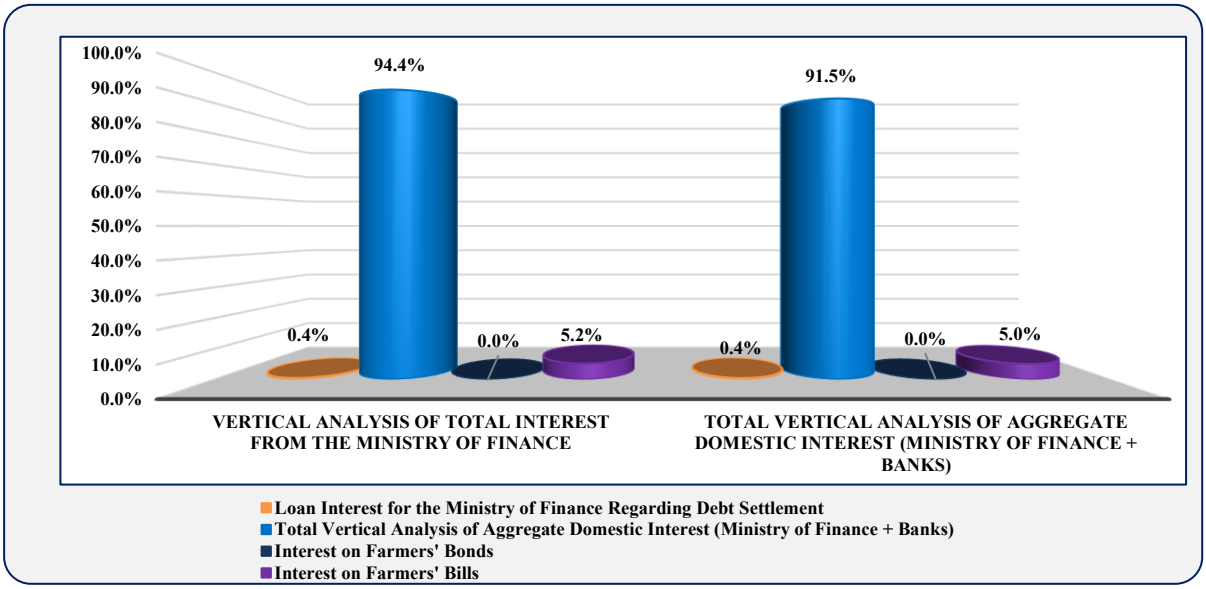
Figure 2: Analysis of Interest Income from the Ministry of Finance and Banks as a Share of Total Domestic Interest



Regarding the types of interest derived from the MoF, which amounted to IQD 1,212,626 million, Figure 3 illustrates that interest on Treasury Bills (T-Bills) for debt settlement accounts for 91.5% of total domestic interest and 94.4% of total interest from the MoF, amounting to IQD 1,144,597 million. Meanwhile, interest on Farmers' Bills represents 5% of total domestic interest and 5.2% of total interest from the MoF, totaling IQD 63,013 million. Finally, interest on loans to the MoF for debt settlement constitutes 0.4% of both total domestic interest and total interest from the MoF, amounting to IQD 5,017 million.

(1) Data are preliminary and subject to revision.

Figure 3: Analysis of Total Domestic Interest on Ministry of Finance Debt



A comparison can be made between 2023 and 2024 regarding the MoF's obligations and interest, as illustrated in the table below:

Comparison Table for December (2023-2024)					
Accounts	**Amount 2023**	**Amount 2024**	**Ratios 2023**	**Ratios 2024**	**Details**
Ministry of Finance Obligations	45,207,878,401,781	43,998,967,108,690	22%	23%	Ratio of Ministry of Finance Obligations to Total Assets
Total Assets	205,258,214,777,875	189,895,878,923,949			
Operating Results for the Current Year	-4,968,607,751,854	6,286,589,929,367	-2%	3%	Ratio of Operating Results to Total Liabilities
Total Liabilities	205,258,214,777,875	189,895,878,923,949			
Total Interest from Ministry of Finance	1,315,504,042,086	1,212,626,732,826	-26%	19%	Total Interest Ratio from Ministry of Finance to Operating Results.

Source: Central Bank of Iraq, Statistics and Research Department, Monetary and Financial Statistics Division, please note that the data is preliminary, and may be subject to adjustment.

Conclusions:

1. MoF obligations, including accrued interest, accounted for 23% of CBI's total assets. The settlement of these obligations would lead to a contraction of the balance sheet by the same percentage on the assets' side.
2. The operating results accounts for 3% of total liabilities, which is a low ratio. Meanwhile, the ratio of interest on MoF obligations represents 19% of operating results. The largest share of this interest is attributed to Treasury Bills interest related to debt settlement, which, if not paid, is added to the MoF's obligations.
3. In the event of debt rescheduling and resorting to write off these interest payments (financial revenues), whether in part or in full, it will not affect the operating results, which is only 19%.
4. Debt rescheduling processes are generally built on terms involving mutual commitment from both parties. This typically entails the creditor waiving a portion of their financial or temporal entitlements, while the debtor guarantees the repayment of the remaining balance according to specific timelines.

"Forecasting Issued Currency: An Analysis Based on Public Expenditure Estimates for 2025"

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Introduction:

The topic of issued currency is significant importance to countries' economies due to its significant impact on overall economic variables. A precise assessment of the issued currency's value in the economy is needed, balancing it with available economic transactions. This report discusses the topic of issued currency in Iraq and tries to predict its demand in 2025 by considering the most key factor affecting its value: public expenditure. A standard predictive model was developed to understand the impact of expenditure on the currency, and simulation methods were employed to reach conclusions. The report discusses the currency situation in Iraq and forecast the currency needs in 2025, taking into account the most important variable affecting its value: public expenditure. A standard estimation model was constructed to find the impact of expenditure on the currency, and a simulation method was adopted to predict the expected increase in public expenditure on current and investment activities. The report concludes with several findings, the most notable of which is that the issued currency could increase by IQD 5 to 5.7 trillion in 2025 due to public finance pressure.

First: Analysis of Public Expenditure for 2024 and forecast for 2025:

To achieve the goals of the 2025 annual budget, the following two methodologies will be employed:

Methodology 1:

In this method, we will use a simulation model to predict public expenditure for 2025, including both current and investment expenditure. In January 2024, current expenditures totaled to IQD 8.14 trillion, while investment expenditure totaled to IQD 0.65 trillion. Total public expenditure amounted to IQD 8.79 trillion. As a result of government policies on employment and the completion of infrastructure projects, current and investment expenditure gradually increased in the same year. Current expenditure was recorded at IQD 15.29 trillion in February 2024, contributing 92% of total expenditure. Investment expenditure was recorded at IQD 1.27 trillion, contributing 8%. Public expenditure in February 2024 was recorded at IQD 16.56 trillion, which means that current expenditure dominated. Total expenditure, current and investment expenditure continued to rise in the months that followed until November of that year, when public expenditure reached IQD 136.43 trillion. This consisted of IQD 22.87 trillion in investment expenditure and IQD 113.56 trillion in current expenditures, with a contribution rate of 83.2% to total expenditure. The ARIMA model was used to forecast public expenditure for December.

Table 1 shows the increase in public expenditure, which reached IQD 149.38 trillion by December 2024, due to the payments to contractors and farmers, as well as government expenditure. In 2025, the paper used a simulation method to forecast public expenditure for the months of 2025, based on the assumption that current expenditures would increase by 5% and investment expenditure by 1%. As seen in Table 1, there was a significant increase in the investment and current components of public expenditure from January 2025 to December 2025. The increase in public expenditure is attributed to the continuous rise in current expenditure, which reached IQD 131.02 trillion by December of the same year, constituting 84.1% of total public expenditure. This is due to increased current expenditure, which is keeping up with 2024 levels. This is driven by rising current expenditures, especially salaries, wages, and social welfare.

Table 1: Public Expenditure, Investment Expenditures, Actual and Projected Current Expenditures for 2024-2025 (ARIMA Model + Simulation) (IQD trillion)			
Period	**Total Public Expenditure**	**Total Investment Expenditures**	**Total Current Expenditures**
Jan-24	8.79	0.65	8.14
Feb-24	16.56	1.27	15.29
Mar-24	25.08	1.90	23.18
Apr-24	37.14	3.42	33.72
May-24	47.83	4.95	42.88
Jun-24	58.25	5.85	52.40
Jul-24	73.85	7.22	66.63
Aug-24	83.27	8.02	75.26
Sep-24	94.88	9.57	85.31
Oct-24	122.72	22.08	100.64
Nov-24	136.43	22.87	113.56
Dec-24	149.38	24.59	124.78
Jan-25	9.20	0.65	8.55
Feb-25	17.34	1.28	16.06
Mar-25	26.25	1.92	24.34
Apr-25	38.86	3.46	35.40
May-25	50.02	5.00	45.02
Jun-25	60.93	5.91	55.02
Jul-25	77.25	7.29	69.96
Aug-25	87.12	8.10	79.02
Sep-25	99.24	9.66	89.58
Oct-25	127.97	22.30	105.67
Nov-25	142.34	23.10	119.24
Dec-25	155.86	24.84	131.02

Figure 1 below shows actual current and investment public expenditure for 2024 up to November of that year, as well as the forecast for December 2024, calculated using the ARIMA model. Public expenditure for January 2024 amounted to IQD 8.79 trillion and continued to rise, whether current or investment expenditure, until November of the same year, reaching IQD 136.43 trillion in actual terms. This is attributed to the increase in employment, which had a significant impact on the country's balance sheet, as well as the increase in the number of social welfare recipients registered with the Ministry of Labor and Social Affairs. As for December of the same year, expenditure continued to rise according under the model used to estimate it.

Figure 1: Public Expenditures, Investment Expenditures, Actual and Forecast Current Expenditures for 2024 (ARIMA Model)

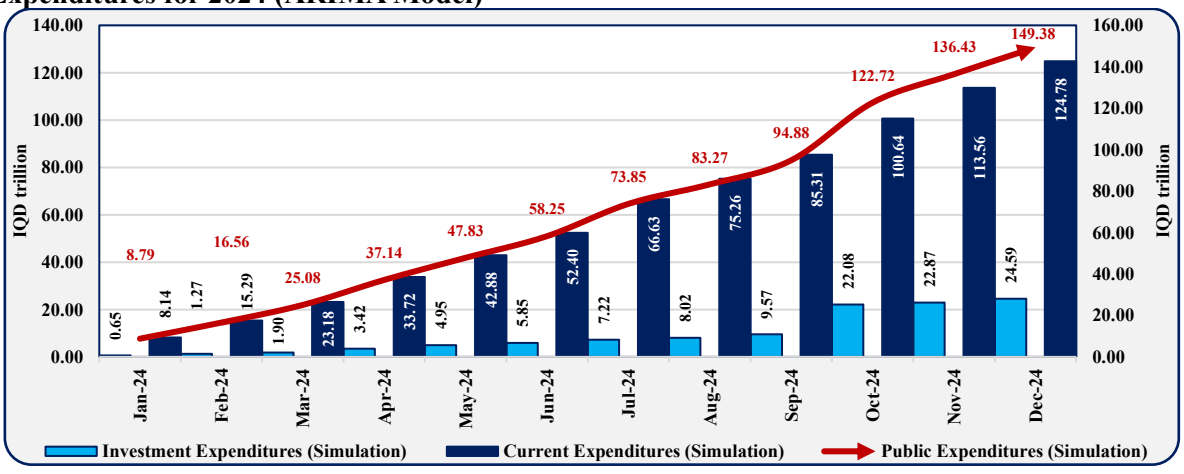
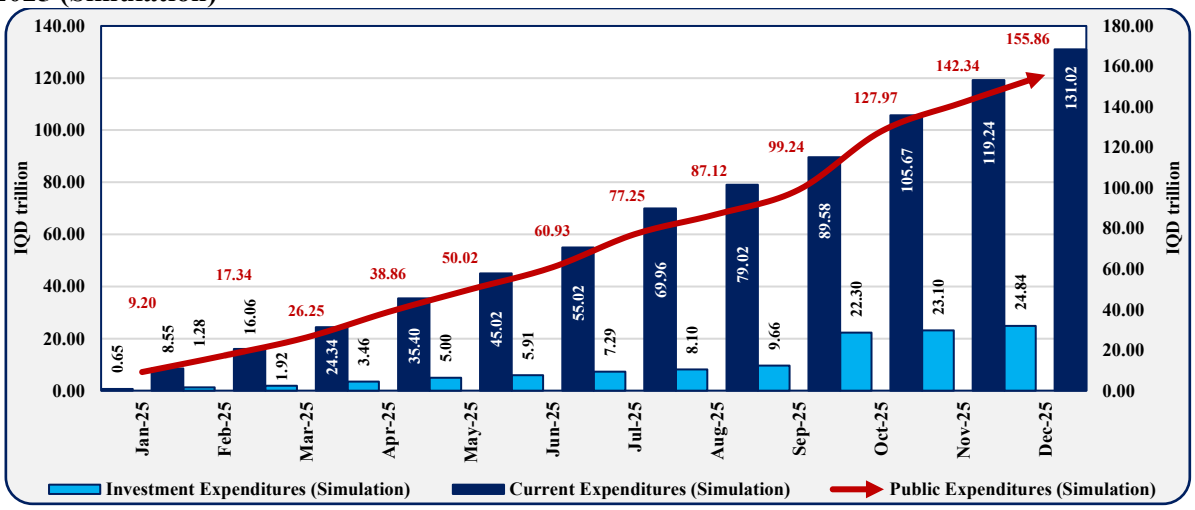


Figure 2 shows public expenditure in both current and investment terms using a simulation model for 2025, by identifying an increase in current 5% and investment 1% expenditures compared to 2024, this simulation was built on the assumption that public finances will

continue to be dominated by operational and governing expenditure by ministries, as well as heavy reliance on oil revenues to cover expenditure , with only a slight increase in non-oil revenues. Public expenditure for January 2025 is projected at IQD 9.20 trillion and rise to IQD 17.34 trillion in February due to the continued trend of public finance to exert pressure on expenditure units in public sector, especially since the budget was approved for three years (2023-2025). Public expenditure continued to rise until December 2025, reaching IQD 155.86 trillion. The difference from 2024 expenditure is due to the assumption of a 5% increase in current expenditure offset by a 1% increase in investment expenditure 2025.

Figure 2: Public Expenditure, Investment Expenditures, and Forecast Current Expenditures for 2025 (Simulation)



Methodology 2:

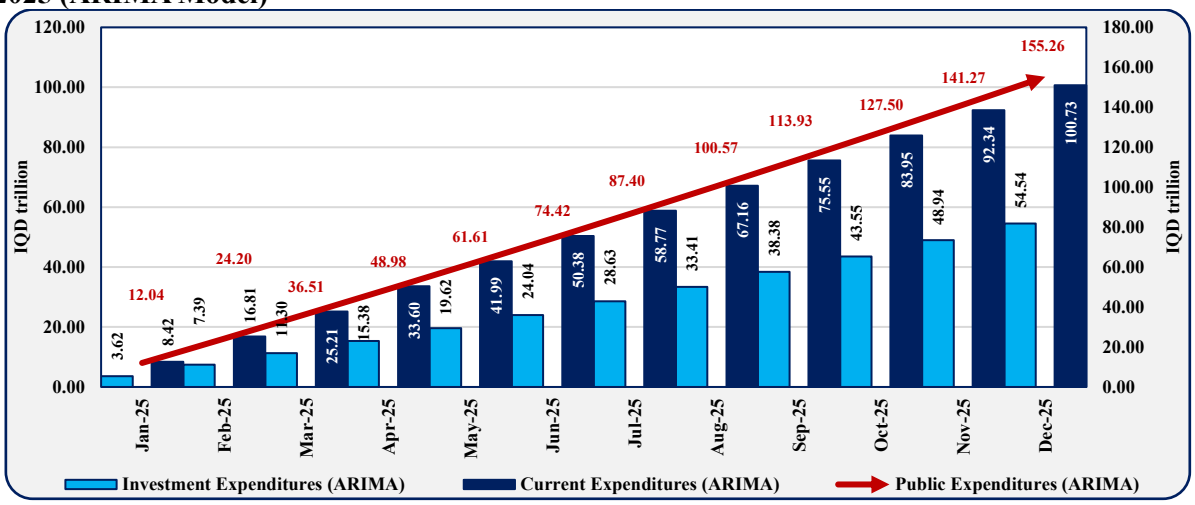
This method relied on the ARIMA model to forecast public expenditure, including current expenditure and investment for 2025. Table 2 shows the projected values for public expenditure and current and investment expenditures for 2025.

Table 2: Public Expenditures, Investment Expenditure, Actual and Projected Current Expenditures for 2025 (ARIMA Model) (IQD trillion)

Period	Total Public Expenditure	Total Investment Expenditures	Total Current Expenditures
Jan-25	12.04	3.62	8.42
Feb-25	24.20	7.39	16.81
Mar-25	36.51	11.30	25.21
Apr-25	48.98	15.38	33.60
May-25	61.61	19.62	41.99
Jun-25	74.42	24.04	50.38
Jul-25	87.40	28.63	58.77
Aug-25	100.57	33.41	67.16
Sep-25	113.93	38.38	75.55
Oct-25	127.50	43.55	83.95
Nov-25	141.27	48.94	92.34
Dec-25	155.26	54.54	100.73

Figure 3 shows public expenditure, both current and investment, using the ARIMA model for 2025. Public expenditure for 2025 recorded IQD 12.04 trillion for January and rose to IQD 24.20 trillion for February. Public expenditure continued to rise until December 2025 to reach IQD 155.26 trillion. It should be noted here that there is a close convergence between public expenditure estimated according to the first and second methodologies, which indicates the accuracy of the methodologies used in the paper, whether in terms of the simulation model or the ARIMA model.

Figure 3: Public Expenditures, Investment Expenditures, and Forecast Current Expenditures for 2025 (ARIMA Model)



Second: Forecasting The Issued Value of Currency for 2025 in Light of Public Expenditure Estimates:

The value of issued currency is subject to a set of variables that vary in their levels of impact depending on the level of financial development in any country. Gross domestic product, expenditure, and foreign reserves are among the most significant factors affecting the value of issued currency. In this paper, given the specific nature of the Iraqi economy and the purpose of this report, we will rely on the expected changes in expenditure (analyzed in the previous paragraph) in order to arrive at an acceptable forecast of the issued currency requirements for 2025. To this end, this paper has adopted two methods for forecasting the value of the issued currency, as follows:

Method 1:

This method adopts using the public expenditure for 2025, predicted the first methodology (simulation) in order to arrive at predictions about the issued currency for 2025. The predictive currency data for 2025 according to this model is shown in Table 3 and Figures 4 and 5.

Table 3: Actual and Forecast Issued Currency for the Years 2024-2025 (Simulation) (IQD trillion)

Period	Issued Currency
Jan-24	101.32
Feb-24	99.24
Mar-24	98.33
Apr-24	99.33
May-24	100.79
Jun-24	102.31
Jul-24	104.39
Aug-24	104.10
Sep-24	104.13
Oct-24	104.16
Nov-24	101.34
Dec-24	100.54
Jan-25	100.37
Feb-25	100.82
Mar-25	101.26
Apr-25	101.71
May-25	102.16
Jun-25	102.60
Jul-25	103.05
Aug-25	103.49
Sep-25	103.94
Oct-25	104.38
Nov-25	104.83
Dec-25	105.27

As shown in Table 3, the issued currency increased from IQD 101.32 trillion in January 2024 to IQD 104.16 trillion in October of the same year. Then, it dropped again in the last two months of the same year, reaching around IQD 100.54 trillion by December. In fact, this decline was offset by a decrease in foreign reserves despite increased public expenditure for that month. It appears that monetary policy sacrificed part of the foreign reserves in order to sterilize the economy, thereby ensuring financing for the public budget and maintaining monetary stability and keeping the general price level within the limits set by decree. This is achieved by influencing liquidity levels in the banking system, thereby keeping inflation rates. This is confirmed by the decline in foreign reserves to around IQD 130.35 trillion in December 2024, as shown in figure 4.

Nevertheless, forecasts show an expected increase in the issued currency, which is projected to reach IQD105.27 trillion by the end of 2025. This figure is quite acceptable, especially if the monetary policy is to strengthen foreign reserves at the expense of currency exports or to keep a balance between the two depending on the price of crude oil exports, as shown in Figure 5.

Figure 4: Issued Currency for 2024 (Actual Values) (IQD trillion)

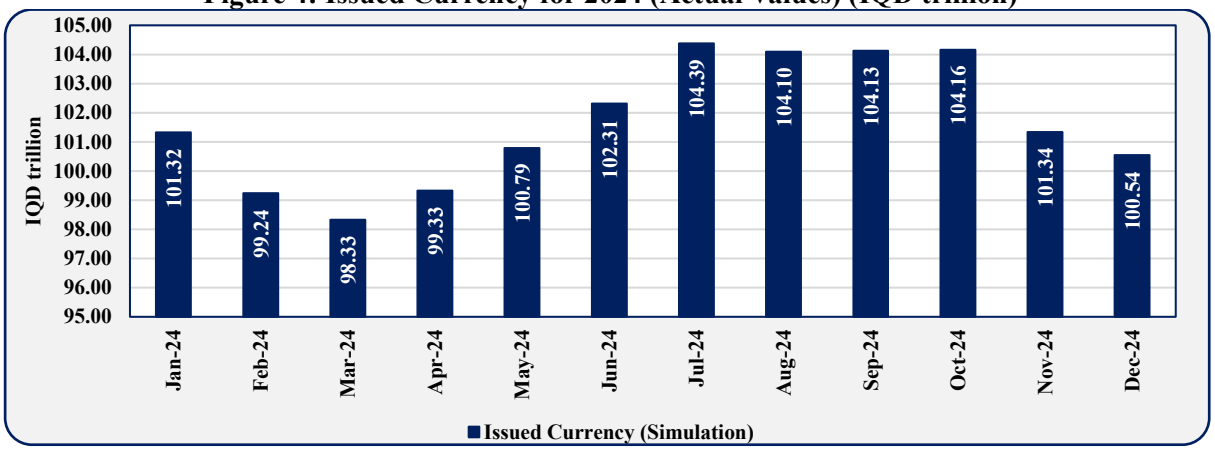
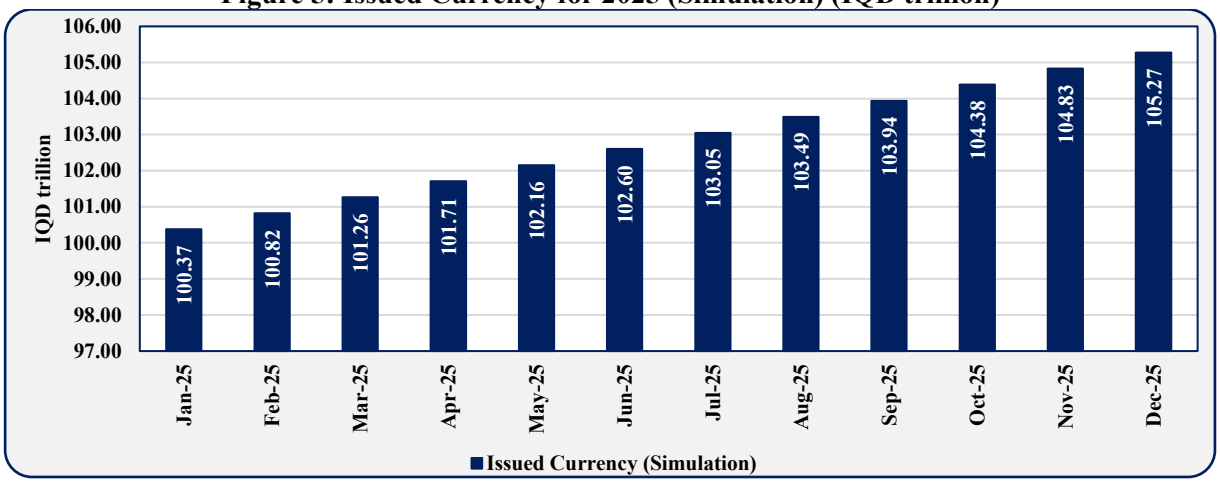


Figure 5: Issued Currency for 2025 (Simulation) (IQD trillion)



Method 2:

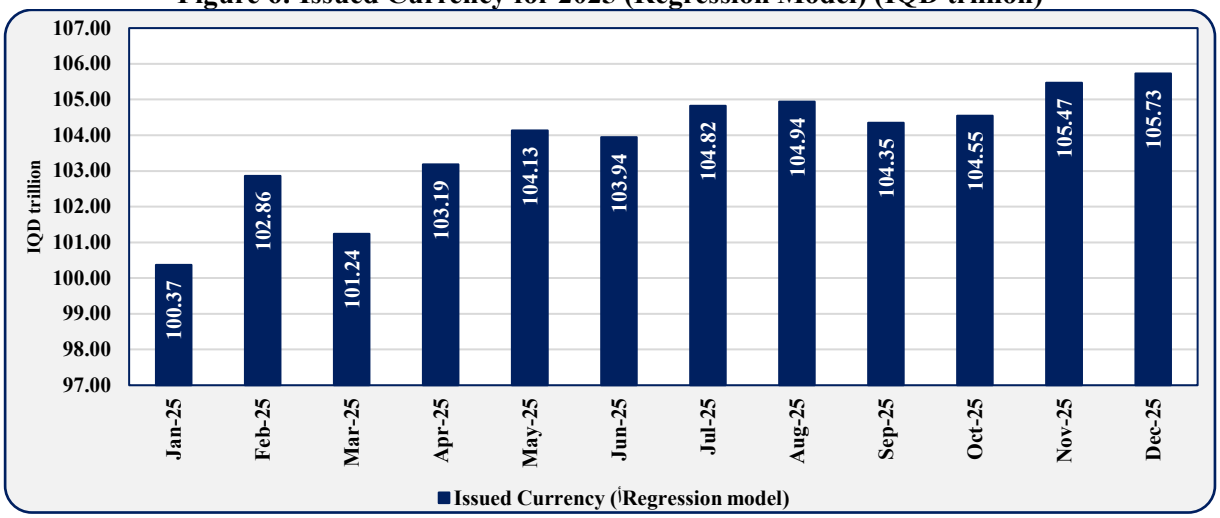
This method adopts the second method (ARIMA model) in forecasting public expenditure to predict the issued currency for 2025. This paper predicts the issued currency for 2025 by using a regression analysis of expenditure on the issued currency for monthly historical data on the two variables for 2024. Table 4 shows the predicted values for the issued currency for 2025.

Table 4: Issued Currency (Regression Model) (IQD trillion)

Period	Issued Currency
Jan-25	100.37
Feb-25	102.86
Mar-25	101.24
Apr-25	103.19
May-25	104.13
Jun-25	103.94
Jul-25	104.82
Aug-25	104.94
Sep-25	104.35
Oct-25	104.55
Nov-25	105.47
Dec-25	105.73

As shown in Table 4, the predictive values according to the regression method shifted the value of the issued currency from IQD 100.37 trillion in January 2025 to IQD 105.73 trillion in December 2025. As seen in Figure 6, the second method produced higher values for the currency in its predictive results. However, both methods' values were close, showing the index's intended prediction level.

Figure 6: Issued Currency for 2025 (Regression Model) (IQD trillion)



Third: Scenarios for Currency Estimates with Varying Degrees of Severity for 2025:

In this section, we will try to construct scenarios ranging from high to low severity based on oil prices, which form the backbone of Iraq's revenues, and which may experience various fluctuations over the coming year. What concerns us about these fluctuations is the downward trend. In these scenarios, we will focus on operating expenses rather than public expenses, as earlier experience has shown that Iraq's public finances often use investment expenses to keep pace with the economic cycle. Operating expenditures, on the other hand, are mandatory because they include wages and salaries under various names, as well as the funds necessary for the state to perform its duties. The following is an explanation of the three selected scenarios:

1. High-Intensity Scenario:

In this scenario, we assume that oil prices will fall to USD 50 per barrel and that Iraqi oil exports will continue in align with the OPEC+ cut of 3.3 million barrels per day. Table 5 shows the total revenues generated based on this price, which amounted to IQD 77.22 trillion after being valued at the official exchange rate of the USD against the Iraqi dinar. The third column of the table shows the expected non-oil revenues, which were estimated based on their value in 2024 and amounted to IQD 18 trillion. The fourth column shows the expected operating expenditures for 2025. It is assumed that, in exceptional circumstances, public finances focus on operating expenditures while using investment expenditures to keep pace with the economic cycle. The fifth column of the table shows the resulting deficit, which totalling approximately IQD 33.80 trillion. We will assume that the Ministry of Finance will finance 50% of this deficit through the following sources:

- Public debt (domestic and external).
- Pressure on operating expenses, especially since the report assumed a 5% increase by 2025).

The remaining 50% of the deficit will be financed by central bank transfers, which represent part of the domestic public debt. Here the central bank will be forced to issue more currency, thereby increasing the amount in circulation. However, the Central Bank's ongoing sterilization operations to keep the value of the currency use foreign reserves as a line of defence. This leads to the withdrawal of part of this issued currency. We assume that the reserves' capacity will enable them to withdraw half of the increase in issued currency. Therefore, the expected issued currency will appear as shown in the last column of Table 5. The total issued currency for 2025 will be approximately IQD 116.59 trillion.

Table 5: Oil and Non-Oil Revenues, Current Expenditures, Fiscal Deficit, and Issued Currency (Simulation) (IQD trillion)						
Period	**Oil Revenues**	**Non-Oil Revenues**	**Operating Expenditures**	**Fiscal Deficit**	**Sterilization Foreign Reserves**	**Issued Currency**
Jan-25	6.44	1.50	8.55	-0.62	0.31	100.37
Feb-25	12.87	3.00	16.06	-0.19	0.31	100.25
Mar-25	19.31	4.50	24.34	-0.53	0.48	100.43
Apr-25	25.74	6.00	35.40	-3.66	2.05	101.99
May-25	32.18	7.50	45.02	-5.35	2.89	102.83
Jun-25	38.61	9.00	55.02	-7.41	3.92	103.87
Jul-25	45.05	10.50	69.96	-14.41	7.42	107.37
Aug-25	51.48	12.00	79.02	-15.54	7.98	107.93
Sep-25	57.92	13.50	89.58	-18.16	9.30	109.24
Oct-25	64.35	15.00	105.67	-26.32	13.37	113.32
Nov-25	70.79	16.50	119.24	-31.96	16.19	116.14
Dec-25	77.22	18.00	131.02	-35.80	18.12	118.06

2. Medium Severity Scenario:

In this scenario, we will assume that oil prices will fall to USD 60 per barrel and that Iraqi oil exports will align with the OPEC+ cut of 3.3 million barrels per day. Table 6 shows the total revenues achieved based on this price, amounting to IQD 92.66 trillion after being weighted by the official exchange rate of the USD against the Iraqi dinar. The third column of the table shows the expected non-oil revenues, which were estimated based on their 2024 value, amounting to approximately IQD 18 trillion. The fourth column of the table shows the projected operating expenditures for 2025. The fourth column shows the projected operating expenditures for 2025, noting that public finance in exceptional circumstances would focus on financing operating expenditures and use investment expenditures to keep pace with the economic cycle. The fifth column shows the resulting deficit of IQD 17.09 trillion. We will then assume that 50% of this deficit will be financed by public debt (both domestic and foreign), which will put pressure on operating expenditures, especially since the report assumes that they will increase by 5% in 2025.

The remaining 50% of the deficit will be financed by the Central Bank (discounted transfers), Here, the Central Bank will be forced to issue more currency (increase the currency supply), but the Central Bank's continuous sterilization operations and use of foreign reserves as a line of defence will lead to the withdrawal of part of this currency supply, assuming that the reserves' capacity will enable it to withdraw half of the increase in the currency supply. Therefore, the expected issued currency will appear as shown in the last column of Table 6, at which point the total issued currency for 2025 will be IQD 107.17 trillion, as shown in Table 6.

Table 6: Oil and Non-Oil Revenues, Current Expenditures, Fiscal Deficit, and Issued Currency (Simulation) (IQD trillion)						
Period	**Oil Revenues**	**Non-Oil Revenues**	**Operating Expenditures**	**Fiscal Deficit**	**Sterilization Foreign Reserves**	**Issued Currency**
Jan-25	7.72	1.50	8.55	0.67	0.00	100.37
Feb-25	15.44	3.00	16.06	2.39	0.00	97.99
Mar-25	23.17	4.50	24.34	3.33	0.00	97.05
Apr-25	30.89	6.00	35.40	1.48	0.92	97.97
May-25	38.61	7.50	45.02	1.09	1.12	98.16
Jun-25	46.33	9.00	55.02	0.31	1.51	98.55
Jul-25	54.05	10.50	69.96	-5.41	4.37	101.41
Aug-25	61.78	12.00	79.02	-5.24	4.37	101.25
Sep-25	69.50	13.50	89.58	-6.58	5.04	101.92
Oct-25	77.22	15.00	105.67	-13.45	8.47	105.35
Nov-25	84.94	16.50	116.07	-14.63	9.06	105.94
Dec-25	92.66	18.00	127.75	-17.09	10.29	107.17

3. Low Severity Scenario:

In this scenario, we will take a different approach, if investment and operating expenses will increase by 1% for 2025 compared to the previous year, and by 5% for the same year, respectively. We will also assume that oil prices will fall to USD 70 per barrel and that Iraqi oil exports will be align with the OPEC+ cut of 3.3 million barrels per day. Table 7 shows, in the second and third columns, the expected monthly oil and non-oil revenues for 2025 according to the scenario, which recorded IQD 18. ,108.11 trillion, respectively, after weighting oil revenues at the official exchange rate of the USD against the Iraqi dinar. The fourth and fifth columns of the table show the projected operating and investment expenditures for 2025. Investment expenditure was included on the assumption that the financial situation would allow it. The fifth column shows the resulting deficit, totalling IQD 29.63 trillion. We will assume that the Ministry of Finance will finance 50% of this deficit through the sources mentioned above (in the second scenario).

The remaining 50% of the deficit will be financed by the central bank through transfers that from part of the internal public debt. Here, the central bank will be forced to issue more currency and increase the money supply. However, the central bank's ongoing sterilisation operations and use of foreign reserves as a defence operation will lead to the withdrawal of part of the money supply. If the reserves' capacity enables to withdrawal of half of the increase in the money supply, the expected issued currency will be as shown in the last column of Table 7. At that point, the total issued currency for 2025 will be IQD 112.23 trillion, as shown in Table 7.

Table 7: Oil and Non-Oil Revenues, Current Expenditures, Fiscal Deficit, and Issued Currency (Simulation) (IQD trillion)

Period	Oil Revenues	Non-Oil Revenues	Operating Expenditures	Fiscal Deficit	Sterilization Foreign Reserves	Issued Currency
Jan-25	1.50	8.55	0.65	1.30	0.00	100.37
Feb-25	3.00	16.06	1.28	3.68	0.00	96.69
Mar-25	4.50	24.34	1.92	5.27	0.00	95.10
Apr-25	6.00	35.40	3.46	3.17	1.05	96.15
May-25	7.50	45.02	5.00	2.52	1.37	96.47
Jun-25	9.00	55.02	5.91	2.12	1.58	96.68
Jul-25	10.50	69.96	7.29	-3.69	4.48	99.58
Aug-25	12.00	79.02	8.10	-3.04	4.48	98.94
Sep-25	13.50	89.58	9.66	-4.66	5.29	99.74
Oct-25	15.00	105.67	22.30	-22.88	14.40	108.86
Nov-25	16.50	116.07	25.11	-25.59	15.75	110.21
Dec-25	18.00	127.75	27.99	-29.63	17.78	112.23

Fourth: Conclusions:

1. The two methods used to predict the currency issued for 2025 showed that it will increase by between IQD 5-5.7 trillion. This prediction has a high probability supported by expectations of continued growth in public expenditure in the coming year, and the possibility of a decline in oil prices and production.
2. The limits of the increase mentioned in paragraph 1 mean that the Central Bank of Iraq will not be required to cover additional expenses for printing Iraqi currency when compared to the Central Bank of Iraq's assets of printed currency in its vaults, provided that oil prices are close to the dynamic fixed rate.
3. The different scenarios set out in paragraph 3 suggest that the issued currency will reach IQD 118.06 trillion if oil prices stay at USD 50 per barrel, a figure confirmed by the Central Bank of Iraq.
4. The third scenario in paragraph 3 shows that oil prices are expected to reach USD 70 per barrel, and this scenario incorporates adjusted operating and investment expenses in its forecasts. Consequently, the currency is expected to rise to around IQD 112.23 trillion, which is still within the Central Bank of Iraq 's current capacity.
5. In December 2024, it was seen that the issued currency began to decline. The expansion in domestic currency receipts resulting from the increase in demand for

foreign currency exceeding government payments in domestic currency, played the biggest role in the decline. This reflects the sterilization policy pursued by the Central Bank of Iraq. It should be noted that the rate of change for each variable corrects the policy.

6. If the Ministry of Finance can adopt a programme to repay or reschedule the debts of the Central Bank of Iraq, the issued currency could decline further.
7. The continued rise in public expenditure has a significant impact on the issued currency and, so, public finance. The Central Bank of Iraq faces difficulties in balancing the sterilization of the domestic currency and the preservation of foreign reserves, and it is important to understand these challenges. Therefore, serious efforts must be made to reduce unjustified expenditures and boost non-oil revenues.

"The Consensus-Based Foreign Exchange Market and Digital Currency Activation Between Iran and Russia"

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Introduction:

This research paper reviews the development of banking transactions, specifically focusing on the diversification of financial transfer methods between Iran and Russia. The primary objective is to mitigate the impact of U.S. economic sanctions, which prohibit dollar-based transactions and SWIFT transfers. This is achieved through the activation of Central Bank Digital Currencies (CBDCs) and the establishment of a consensus-based foreign exchange market between the two countries.

First: The Consensus- Based Foreign Exchange Market

In this context, "price consensus" refers to exchange rate between the Russian Ruble and the Iranian Rial. The term "consensus" implies mutual consent between both parties and does not necessarily reflect the fair market value of exchange. To ensure equity, this agreement must be based on specific rules or mechanisms that align the rate with macroeconomic variables. Purchasing (PPP) approach can serve as a foundation for a consensus exchange rate between the two countries, if this principle is adopted the options available for this consensus exchange rate.

Adopting a real exchange rate is practical, as it accounts for the differences in price levels between the two countries. However, challenges remain regarding the timeframe for price adjustments: will the rate be fully floating, or managed within a specific band? Another option is the effective exchange rate, which links the currency to trading partners, trade ratios, and price levels.

The core objective of creating a "consensus-based foreign exchange market" is to establish an agreed-upon declared price through banks and stock exchanges. This is done as part of an agreement between traders based on market references. This ensures that the interests of both parties benefiting from this market are protected, especially since short-term exchange rates are subject to continuance changes due to political events and unexpected fluctuations. Price movements can be specified using harmonic patterns, which are technical analysis instruments used in forex markets to identify potential trend reversals or continuation points based on market momentum and trend (bearish vs. bullis).

Bullish traders believe their market is about to experience high price movement, while bears operate based on their belief that the market is on a downward path. Traders use coordination patterns to help predict future market movements because they are particularly well suited to the dynamics of real-time foreign exchange markets[1]. These are advanced technical analysis instruments used to identify potential reversal or continuation points in the foreign exchange market. The aim of these patterns is to detect potential trend correction or reversal points in the market [2]. Based on this, the governor of the Iranian Central Bank (Farzin) stated that they created a new market called the **"Consensus-Based Foreign Exchange Market," in which the price is determined by an agreement between the exporter and the importer. The exchange rate in this market is close to the unofficial or market price at which some goods are priced to serve as a reference base for determining the exchange rate of the Ruble based on an agreement between the traders**. A Ruble price dashboard was created at the currency exchange market. However, there are multiple steps and a financial agreement that were prepared before entering this coordination market to facilitate payments and financial settlements between the two countries, as outlined in the following items:

1. The project aims to integrate the Russian (MIR) and Iranian (SHETAB) payment networks to facilitate financial transactions between the two countries and promote

(1)https://www.ig.com/en/trading-strategies/top-7-harmonic-patterns-every-trader-should-know-210608
(2)https://bitarabi.com/%d8%a7%d9%84%d8%a3%d9%86%d9%85%d8%a7%d8%b7-%d8%a

economic and trade cooperation in three stages:

- **The first stage**: Tourists from Iran will be able to use their bank cards at ATMs in Russia to withdraw Russian currency using their Iranian currency balance on their (SHETAB) cards.
- **The second stage**: Russian citizens will be able to withdraw cash in Iran using their bank cards (MIR).
- **The third stage**: Iranian (SHETAB) cards will be accepted in devices installed in Russian stores[3].

2. Banking relations between Iran and Russia were established without SWIFT system, relying on domestic networks, due to international sanctions[4]
3. RUB 1 billion was deposited in a Russian bank (VTB) account from the Iranian Central Bank, involving the Iranian Export Bank, as well as the National Bank (Melli) in this project. There is a plan to increase the number of bank branches in Iran and Russia, which is on the agenda in order to facilitate economic relations and exchanges.
4. The digital currency will be activated between Iran and Russia in economic transactions[5].
5. The joint working paper between the Iranian and Russian central banks includes three main points: "the use of national currencies in bilateral trade," the possibility of linking the domestic banking payment systems in both countries, known as SEPAM and SPFS[6], and the possibility of linking the card payment systems in both countries[7].

Second: Activating Digital Currencies Between Russia and Iran:

- The Russian Digital Ruble: Launched on August 1, 2023, as another means of payment and transfer on a trial basis, and as a third form of national currency alongside the (cash Ruble and the Digital Ruble). It is defined as a special code stored in an electronic wallet that users must create via a special platform launched and managed by the Russian Central Bank. The digital Ruble cannot be used to open deposits or earn interest on balances in the digital wallet, or obtaining a loan, as it contributes to increasing transparency and reducing illegal operations. Commissions are free for citizens, while businesses are charged a fee of 0.3% of the value of payments or transfers on business[8]. Some Russian economists have identified the following shortcomings:

1. The introduction of the digital ruble will not increase the total amount of money in circulation. In fact, commercial banks may lose funds when customers start transferring money digitally to their wallets on the Russian Central Bank's platform. This will decrease banks' income from commissions.
2. The initial phase of using the digital ruble in the public sector of the Russian economy may take three to six years, in addition to the need for a technological foundation.

The most notable advantages of the digital Ruble are as follows:

1. Cash and digital Ruble will have the same purchasing power in terms of economic content, and there will be no obstacles to converting them into cash.
2. The new algorithms are better suited to modern information technologies. As a result, payments will be faster and more convenient for everyone. The new digital wallet will remain optional.
3. Significantly speed up electronic payments and reduce transaction costs.
4. The digital Ruble could be a means of international settlement under sanctions, especially after the suspension of Visa and Mastercard cards in Russia[9].

We would like to note the February 27, 2025, announcement by Elvira Nabiullina, the Governor of the Central Bank of Russia, to postpone the expanded launch of the digital ruble from July 1, 2025, to a later date. This decision was made to complete the pilot phase, test all technical details, and finalize consultations with banks on the most

(3)https://arabic.rt.com/business/1618648-%D8%AE%D8%B7%D9%88%D8%A9-%D8
(4) https://www.sharghdaily.com/%D9%82%D8%B3%D9%85
(5)https://mdeast.news/ar/2025/01/18/%D9%85%D8%AD%D8%A7%D9%81%D8%B8-%D
(6)https://www.cbr.ru/eng/development/mcirabis/fin_msg_transfer_system/
(7)https://ar.irna.ir/news/85755628/%D9%85%D8%AD%D8%A7%D9%81%D8%B8
(8) https://www.skynewsarabia.com/business/1641779
(9)https://www.aljazeera.net/ebusiness/2023/8/11/%D9%85%D8%A7%D8%B0%D8%A7

appropriate economic model for customers. The new launch date will be determined at a later stage.

- The Iranian Digital Rial: Launched in June 2024 as initial a pilot phase on Kish Island. The digital Rial is used for all transactions where banknotes are used, via a digital wallet. Users scan a dedicated barcode from the provided program to facilitate small domestic payments within the country. Unlike traditional banking systems, the digital rial does not require settlement between banks to transfer funds between the seller and buyer. Rather, upon completing a purchase, the seller receives the funds immediately.

Summary:

1. The activation of the agreed foreign exchange rate between Russia and Iran came about due to international sanctions imposed by the United States of America and their isolation from the global financial transfer system (SWIFT) for the purpose of international settlements, in order to guarantee the interests of traders between the two countries.
2. Access to this foreign transfer mechanism between the two countries is based on linking their domestic payment networks. This represents a new financing method for bilateral trade and payments between the two countries.
3. The shift towards digital currencies introduces a new mechanism for countering sanctions and diversifying transfer, payment, and foreign trade financing processes. Several countries around the world are seeking to expand in this field for reasons beyond countering sanctions. This is especially true given the significant development of digital platforms and currencies worldwide and the rapid pace of technological advancement.

"Protecting the Dollar by Imposing Tariffs"

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In 2023, leaders of the BRICS nations (China, India, Russia, Brazil, and South Africa) initiated discussions regarding cooperation on a new common currency. This move was strongly advocated by Brazilian President Luiz Inácio Lula da Silva, who sought a viable alternative to the US dollar—the world's dominant reserve currency for the past 75 years. Similarly, Russian President Vladimir Putin promoted the concept during the October 2023 BRICS summit, symbolically highlighting the group's intent to challenge dollar hegemony[1].

This proposed shift provoked a sharp response from the US administration, specifically from Donald Trump, who threatened to impose punitive 100% tariffs on countries seeking to distance themselves from the dollar. Declaring his position on Truth Social, he demanded a commitment from these nations to refrain from creating a BRICS currency or supporting any alternative to the "strong US dollar," or they will face 100% tariffs.

First: Customs Tariffs as a Source of Revenue:

On May 14, 2024, U.S. President Joe Biden announced the introduction of new tariffs and the escalation of existing ones on a specific range of Chinese imports. This decision followed a comprehensive review by the Office of the United States Trade Representative (USTR) regarding tariffs initially imposed on Chinese goods during the Trump administration. These customs tariffs are imposed under Section 301 of the Trade Act of 1974, which requires a review every four years[2]. The details are illustrated in Table 1.

Table 1: Previous and New US Tariffs on Chinese Goods

Category	Previous Tariff (Article 301)	New Tariff (Article 301)	Effective Year
Battery Parts (Non-Lithium Ion)	7.5%	25%	2024
Electric Vehicles	25%	100%	2024
Face Masks	0-7.5%	25%	2024
Lithium-Ion Batteries for Electric Vehicles	7.5%	25%	2024
Lithium-Ion Batteries (Non-Electric Vehicles)	7.5%	25%	2026
Medical Gloves	7.5%	25%	2026
Natural Graphite	–	25%	2026
Other Critical Metals	–	25%	2024
Permanent Magnet	–	25%	2026
Semiconductors	25%	50%	2025
Ship-to-Shore Cranes	–	25%	2024
Solar Cells (assembled into modules or not)	25%	50%	2024
Steel & Aluminum Products	0-7.5%	25%	2024
Injections & Needles	–	50%	2024

https://www.skadden.com/insights/publications/2024/05/us-announces-new-tariffs

President-elect Trump promised to implement sweeping new tariffs aimed at protecting American industries, boosting domestic manufacturing, and reducing reliance on imports. He expressed intentions to impose tariffs of 60% on Chinese imports and 10-20% on products from other countries, arguing that these measures would create more factory jobs, reduce the federal deficit, and lower the prices of American-made goods by making foreign goods more expensive. However, the tariffs imposed during Trump's first term— which were largely continued and extended under Biden—did not achieve all their promised results[3].

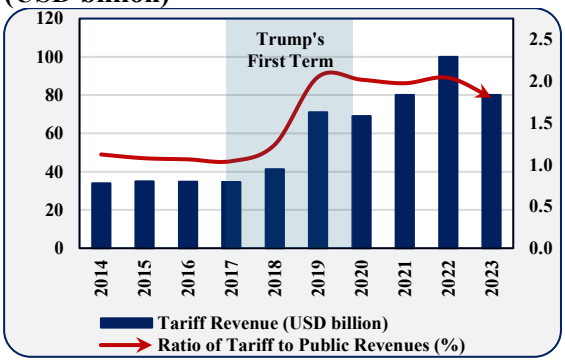
(1) Brazil, the rotating president of the BRICS group for 2025, announced that Indonesia has officially joined the group as a full member, and the Kremlin announced that the Kingdom of Saudi Arabia has frozen its accession to the BRICS group as a full member

(2)https://www.skadden.com/insights/publications/2024/05/us-announces-new-tariffs

(3)https://think.ing.com/articles/revealed-how-american-consumers-will-bear-the-burden-of-trumps-tariffs/

The US trade deficit increased by 51.8% between 2017 and 2023, rising from USD 516.9 billion in 2017 to USD 784.9 billion in 2023. This suggests that the tariffs imposed during Trump's first term (2017-2020), as shown in Figure 1, and which continued afterward, significantly increased the US trade deficit. The trade deficit widened by 13% by November 2024, reaching USD 813.9 billion, compared to USD 720.0 billion during the same period in 2023[4]. Despite these tariffs, inflation remained relatively low during Trump's first term, ranging between 0.1% and 2.9%.

Figure 1: US Tariff Revenue for 2014-2023 (USD billion)



https://www.statista.com/statistics/217526/revenues-from-customs-duty-and-forecast-in-the-us/

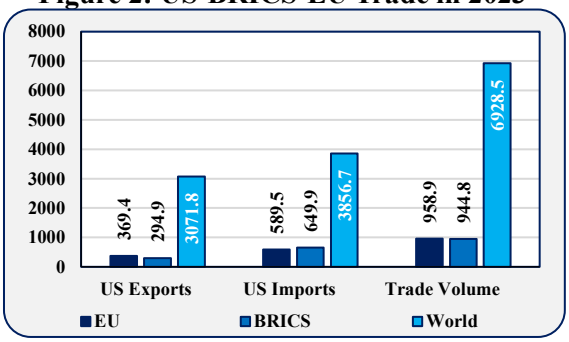
Second: US-BRICS-EU Trade[5]:

The United States maintains a significant trade relationship with the BRICS group, with total trade volume reaching USD944.8 billion in 2023. US exports to BRICS group amounted to USD294.9 billion, representing 9.6% of total US global exports, Meanwhile, imports from the BRICS group totaled USD649.9 billion, accounting for 16.9% of total US imports in 2023.

China remains the largest trading partner of the United States within the BRICS group, US exports to China reaching USD147.81 billion. According to data from Trading Economics website, China accounted for 7.5% of total US exports in 2023, while US imports from China totaled USD448.02 billion, representing 15% of total US imports. China is also the second largest source of US imports and the third largest of US exports globally.

The United States also has a robust trade relationship with the European Union, with total trade reaching USD958.9 billion in 2023. US exports to the EU amounted to USD369.4 billion in 2023, (12% of total US exports), while imports from the EU reached USD589.5 billion (15.3% of total US imports). This data is summarized in **Figure 2**.

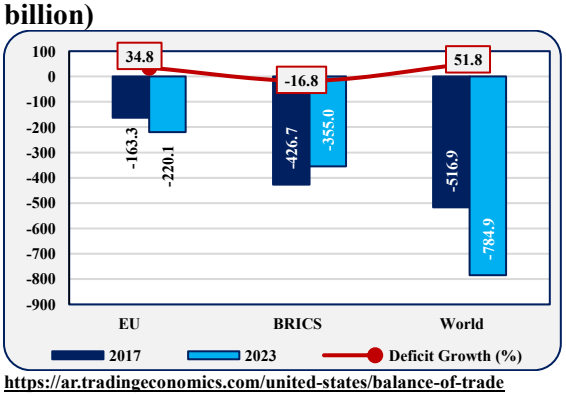
Figure 2: US-BRICS-EU Trade in 2023



The US trade deficit with the European Union has risen sharply since Trump's first term and is projected to reach a new record in 2024 at approximately USD 230 billion, This increase occurs despite the agreement reached between Trump and then-European Commission President Jean-Claude Juncker to avert a previous threat of imposing tariffs on European automobiles [6].

The US trade deficit with the European Union grew from USD163.3 billion in 2017 to USD220.1 billion in 2023, a 34.8% increase. This trend suggests that the tariffs imposed during Trump's first term, and their subsequent continuation or escalation, have led to a further with a widening trade deficit as shown in Figure 3.

Figure 3: US Trade Balance 2017-2023 (USD billion)



https://ar.tradingeconomics.com/united-states/balance-of-trade
https://tradingeconomics.com/united-states/exports-by-country
https://tradingeconomics.com/united-states/imports-by-country

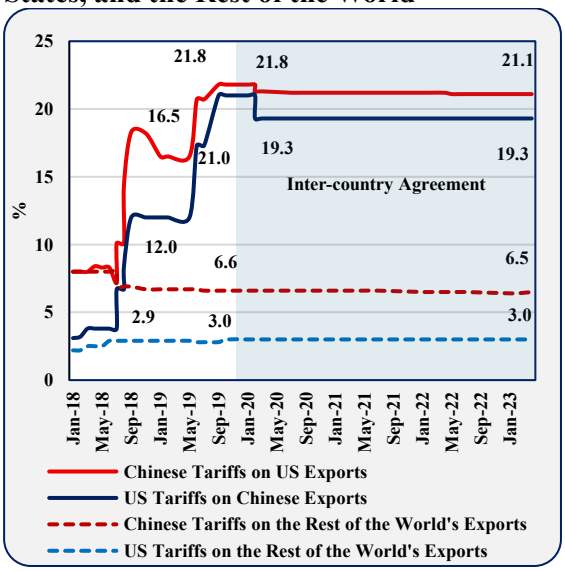
According to the World Trade Organization (WTO), the average US tariff rate was 3.3% in 2023, even after the tariffs imposed by Trump during his first term on over USD 300 billion

(4) Based on data: https://tradingeconomics.com/united-states/balance-of-trade
(5) For more information: see the index.
(6) https://www.politico.eu/article/eu-warned-to-prepare-for-early-donald-trump-tariff-action-us/

worth of Chinese goods and tens of billions of dollars' worth of steel and aluminum. In contrast, the average tariff rate in the European Union was 5.0% in 2023.

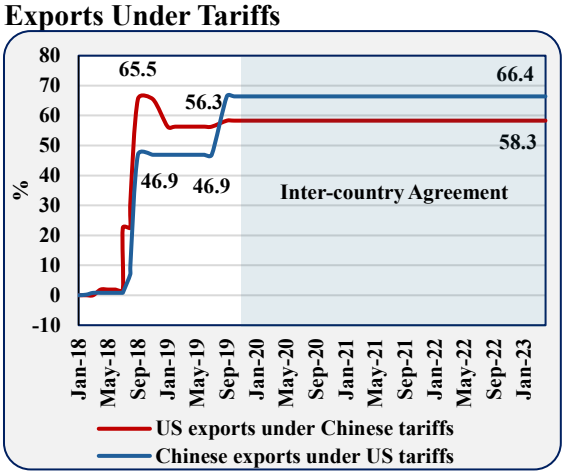
Regarding the US-China trade war, data from the Peterson Institute for International Economics (PIIE)[7] shows that by April 2023, Chinese tariffs on US exports averaged 21.1%, while US tariffs on Chinese exports averaged 19.3%, These rates have remained relatively stable since the early 2020 agreement. Tariffs between the two countries have remained stable since then. In contrast, the period between mid-2018 and early 2020 saw significant volatility; Chinese tariffs fluctuated between 7.2% and 21.8%, while US tariffs ranged from 6.7% to 21.1%. For comparison, tariffs applied by China and the US to the rest of the world stood at 6.5% and 3.0% respectively in April 2023, as **Figure 4.**

Figure 4: Tariffs between China, the United States, and the Rest of the World



As of April 2023, 66.4% of Chinese exports to the US were subject to tariffs, while 58.3% of US exports to China, according to the agreement between the two countries. This contrasts with the situation before mid-2019, when Chinese tariffs were higher than US tariffs, as illustrated in **Figure 5**.

Figure 5: Percentage of Chinese and US Exports Under Tariffs



Third: The Dollar's Dominance of Foreign Reserves and Payment Systems:

According to the International Monetary Fund's April 2023 report, the US dollar's share of global foreign exchange reserves reached 58.3%, marking its lowest level in years. The Euro ranked second at 20.4%, followed by the Japanese yen at 5.5%, and the Chinese yuan (Renminbi) at 2.6%[8].

Notably, the share of US dollar reserves held by central banks in 2020 was 58.9%[9], the lowest in 25 years according to the IMF's Currency Composition of Official Foreign Exchange Reserves (COFER) survey. Some analysts argue that this partially reflects diminishing role of the US dollar in the global economy, as it faces growing competition from other currencies used by central banks in international transactions. Significant shifts in central bank reserves can impact both currency and bond markets[10].

Figure 6 shows a decrease in the share of the Chinese renminbi (Yuan) in total reserves from 2.3% in 2020 to 2.1% by Q2 2024, Conversely, the share of "other currencies" rose from 2.7% in 2020 to 4.3% during the same period. Meanwhile, the US dollar's share slightly decreased from 58.9% in 2020 to 58.2% by Q2

(7)Data received based onhttps://www.piie.com/research/piie-charts/2019/us-china-trade-war-tariffs-date-chart?__cf_chl_tk=mqVemQrxXdsgDHnIok8zCHBgDZOBnrhaJJcGsatYKMk-1737532438-1.0.1.1-7OxBdT1YIc77UlWM_Vq1VSFnTwPStSIXzm7YZ0RxY_w

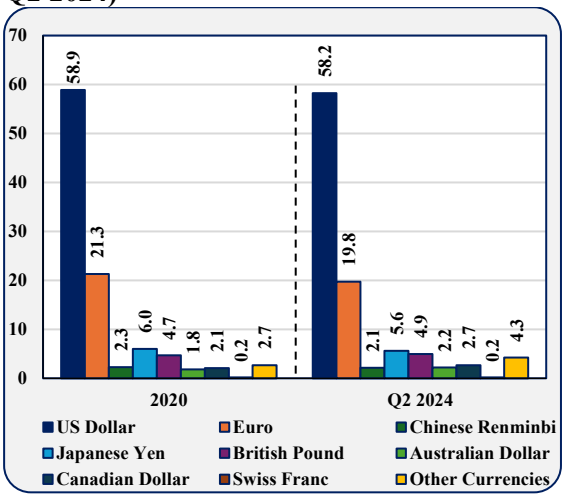
(8)https://www.aljazeera.net/ebusiness/2023/8/25/%D9%87%D9%84-%D8%AA%D8%B3%D8%AA%D8%AE%D8%AF%D9%85-%D8%A8%D8%B1%D9%8A%D9%83%D8%B3-%D8%A7%D9%84%D9%86%D9%81%D8%B7-%D9%88%D8%B1%D9%82%D8%A9-%D8%B6%D8%BA%D8%B7

(9)https://data.imf.org/?sk=e6a5f467-c14b-4aa8-9f6d-5a09ec4e62a4&sid=1408206195757

(10)https://www.imf.org/en/Blogs/Articles/2021/05/05/blog-us-dollar-share-of-global-foreign-exchange-reserves-drops-to-25-year-low

2024. These shifts followed the onset of the Russian-Ukrainian war and an increased reliance on other currencies in trade exchanges between China and other countries.

Figure 6: Currency Composition Ratio of Official Foreign Exchange Reserves (2020-Q2 2024)



https://data.imf.org/?sk=e6a5f467-c14b-4aa8-9f6d-5a09ec4e62a4&sid=140820619575

Regarding SWIFT[11], the US dollar and the Euro maintained the largest share of global payments as of September 2024. Despite China holding the world's largest foreign exchange reserves, the Yuan ranked sixth in international payments, accounting for 2.57% of SWIFT transactions.

Figure 7 shows a significant decline in the Euro's share of SWIFT payments, dropping from 33.1% in September 2022 to 12.96% in September 2024. This sharp decrease is likely attributed to Europe's transition to the new ISO 20022 payment standard in March 2023, which may have caused temporary underreporting of European data compared to other regions. The shift in invoicing currencies for energy commodities, resulting from the cessation of Russian energy purchases following the war in Ukraine, may have also impacted SWIFT payment data. Most transactions in the euro within the EU system are conducted within the SWIFT system, and available data does not indicate any shift away from the dollar in SWIFT transactions since the imposition of sanctions on Russia[12].

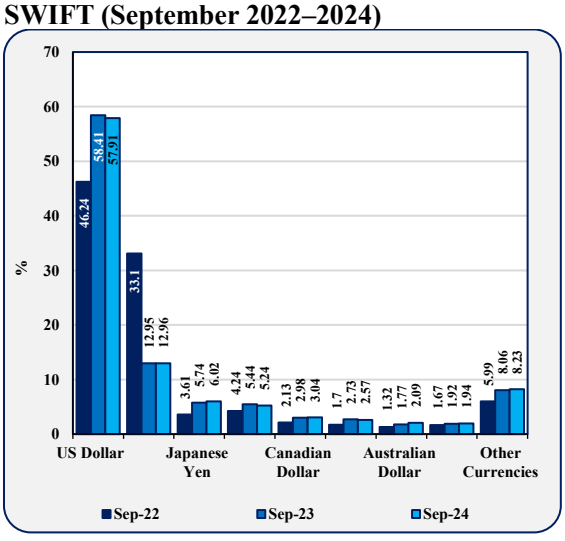
the Chinese Yuan's share rose from 1.7% in September 2022 to 2.57% in September 2024, driven by increased reliance on the Yuan in trade with several trading partners and a decline in the euro's contribution to trade.

Regarding the Cross-Border Interbank Payments System (CIPS), launched in October 2015 to promote the international use of the Chinese currency in trade settlements, the yuan's use increased after its inclusion in the International Monetary Fund's Special Drawing Rights basket in 2015[13]. As of July 2024, the system had 150 direct participants and 1,401 indirect participants, located in 117 countries and regions worldwide.

The system covers more than 4,700 banking institutions in 184 countries and territories worldwide[14].

The increased use of this system is attributed to US sanctions imposed through the international payments system, which have prompted countries to seek alternatives, particularly after China strengthened the use of its currency in international settlements for trade transactions. The growth of this system aligns with the BRICS countries' trend toward using local currencies in their trade dealings.

Figure 7: Share of International Payments via SWIFT (September 2022–2024)



https://www.statista.com/statistics/1189498/share-of-global-payments-by-currency/

(11)SWIFT is a messaging system that allows banks to send and receive messages about financial transactions.

(12)https://archive.ph/20220228151057/https://www.scmp.com/economy/china-economy/article/3168684/what-chinas-swift-equivalent-and-could-it-help-beijing-reduce#selection-1175.0-1197.277

(13)https://archive.ph/20220228151057/https://www.scmp.com/economy/china-economy/article/3168684/what-chinas-swift-equivalent-and-could-it-help-beijing-reduce#selection-1175.0-1197.277l

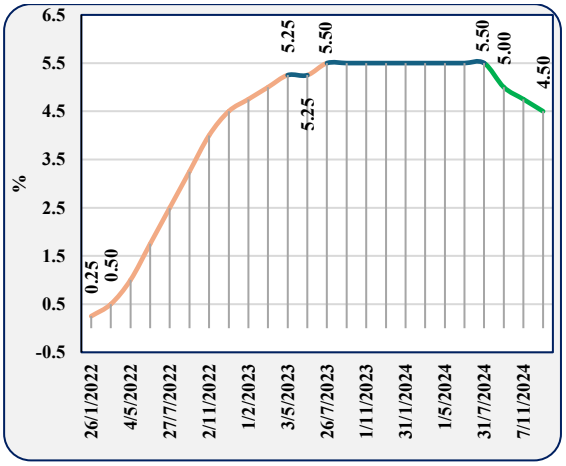
(14)https://web.archive.org/web/20240917140331/https://www.cips.com.cn/en/2024-08/01/article_2024080115043180408.html

Fourth: The Impact of Raising Tariffs on Consumers and Inflation Rates in the United States:

With the beginning of the Russian-Ukrainian war, the US Federal Reserve moved to raise interest rates, as the US Federal Reserve raised the interest rate by about (11) times, which began on March 16, 2022, when the interest rate was raised from 0.25% to 0.50% until July 26, 2023, when the interest rate was raised from 5.25% to 5.50%, before the Federal Reserve fixed the interest rate at 5.50% nine times.

On December 18, 2024, the US Federal Reserve announced another interest rate cut of 25 basis points, the third consecutive cut this year, bringing borrowing costs into the range of 4.25%–4.5%[15], as illustrated in Figure 8.

Figure 8: US Federal Reserve Interest Rate Decisions



As a result of the monetary policy adopted by the US Federal Reserve to control inflation rates that rose with the start of the Russian-Ukrainian war, the inflation rate decreased from 8.5% in March 2022 to 2.7% in November 2024[16]. This trend indicates that the Federal Reserve's restrictive policy was largely successful in curbing post-war inflationary pressures.

Regarding the impact of tariffs, a study by ING Group published on November 25, 2024, titled "How American Consumers will bear the burden of Tariffs Imposed by Trump," highlights that while tariffs function as a tax on consumers, it is highly probable that President-elect Trump will implement new tariffs.

In 2023, the United States imported approximately USD3.1 trillion worth of goods, including USD 427 billion from China. Implementing a 60% tariff on Chinese imports and a 10%–20% tariff on goods from the rest of the world would generate an estimated USD523 billion to USD 790 billion in revenue—assuming no change in consumer behavior. Given that US personal disposable income was USD 20.547 trillion in 2023, these tariffs would represent 2.6% to 3.9% of total disposable income. If passed on entirely to consumers, this would amount to USD1,500 to USD2,400 per person. This is significant in an economy where spending is a key factor. Consumer spending accounts for 70% of total activity. The study suggests that the increase in the cost of goods, coupled with potential supply-side constraints in the labor market resulting from Trump's proposed immigration policies, could also lead to an increase in inflation of one percentage point.

Conclusion:

The United States' use of the dollar as a tool of power against unfriendly nations has led these countries to seek alternatives, including a partial abandonment of the dollar in trade transactions. For example, by the end of August 2024, the Russian ruble had become the primary currency in trade between Russia and Asian countries for the first time in its history. This is coupled with the possibility of creating a new currency for trade, as seen in the BRICS group's approach.

The imposition of sanctions by the United States, such as asset freezes and the exclusion of banks from the SWIFT system, is pushing countries to find solutions that circumvent US and European sanctions. Russia, for instance, developed the Special Financial Message Service (SPFS), a specialized financial messaging service created by the Central Bank of Russia to mitigate the impact of restrictive measures imposed on it. Russia has also proposed to the BRICS group the use of alternative systems for trade transactions.

(15) https://ar.tradingeconomics.com/united-states/interest-rate
(16) data based on: https://ar.tradingeconomics.com/united-states/inflation-cpi

Annex

US Exports and Imports with BRICS in 2017-2023 (USD billion)							
Country		2017			2023		
		US Exports to BRICS	US Imports from BRICS	Trade Surplus/ Deficit	US Exports to BRICS	US Imports from BRICS	Trade Surplus/ Deficit
1	China	130	526	-396	147.81	448.02	-300.21
2	Brazil	37.3	30.6	6.7	44.81	41.0	3.81
3	India	25.6	50.5	-24.9	40.12	87.28	-47.16
4	UAE	20.1	4.47	15.63	24.86	6.87	17.99
5	Saudi Arabia	16.4	19.6	-3.2	13.87	16.51	-2.64
6	Indonesia	6.86	21.1	-14.24	9.94	28.10	-18.16
7	South Africa	5.05	7.89	-2.84	7.16	14.17	-7.01
8	Egypt	3.99	1.72	2.27	4.49	2.54	1.95
9	Iran	0.136	0.0118	0.1242	0.059	0.002	0.057
10	Ethiopia	0.877	0.303	0.574	1.21	0.516	0.694
11	Russia	7.0	17.8	-10.8	0.597	4.90	-4.303
	The total	253.3	680.0	-426.7	294.9	649.9	-355

Exports: https://tradingeconomics.com/united-states/exports-by-country
Imports: https://tradingeconomics.com/united-states/imports-by-country
Trade balance: based on data from the previous two links.

"The Development of the Chinese Yuan as a Global Payment Currency"

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The yuan remained the fourth most active currency for global payments, as China worked to sign bilateral agreements with many countries to settle payments in the yuan rather than USD. This supports the yuan's position in the global economy scene. In response to market demand, the People's Bank of China took a series of immediate measures to promote cross-border yuan usage. Various indicators of international yuan usage have grown steadily, and China's ability to use the yuan abroad and its ability to use the yuan in international transactions to serve the real economy have improved.

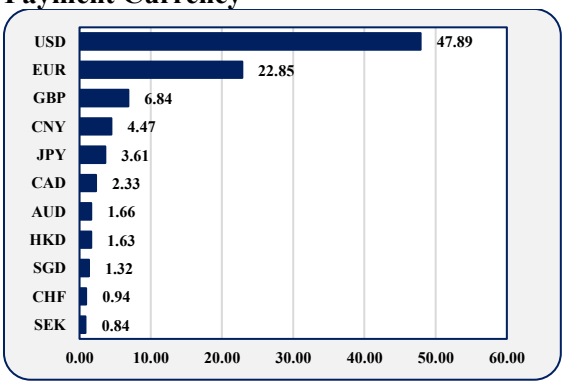
The demand for diversifying reserves as an alternative to the USD remains strong worldwide, driven by geopolitical, economic, and financial dynamics in light of the slow performance of the US economy and its currency. As the world gradually shifts towards a multipolar system, by diversifying the currency basket in the future at a time when the Chinese yuan is part of this basket, which will make it continue its steady rise in global foreign exchange reserves, especially if it is supported, which will continue to increase its share of global foreign exchange reserves. Especially if it is supported with an increase in the use of the yuan in cross-border payments and the wider use of digital renminbi[1].

First: The Chinese Yuan in Global Markets:

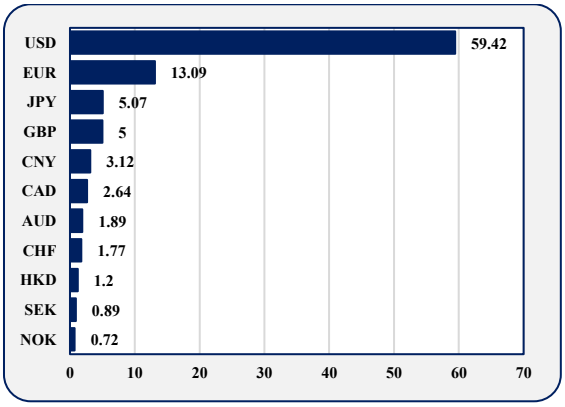
At the beginning of 2025, the Chinese yuan reached the fourth largest payment currency in the world. The volume of cross-border payments and receipts in yuan reached CNY 64 trillion last year, with an annual increase marking 23%. The yuan became the third largest currency in global trade financing, with financial institutions and foreign companies issuing nearly CNY 200 billion in Panda bonds* in China in 2024, with an annual increase marking a 32%. Meanwhile, the issuance of offshore yuan bonds increased by 150 % year over year, and more than 80 central banks and monetary authorities have adopted the yuan in their foreign exchange reserves. In the foreign yuan market, the yuan deposit balance in Hong Kong exceeded CNY 1 trillion, and the yuan loan balance reached CNY 700 billion, successively achieving high historical levels.

Figure 1: Share of Global Payments and External Financing in May 2024

A- Share of the Chinese Yuan as a Global Payment Currency



B- Share of the Chinese Yuan as an International Payment Currency Excluding Those Within the Eurozone



Source: RMB Tracker Monthly Reporting and Statistics on Renminbi (RMB) Progress Towards Becoming an International Currency, June 2024, Swift.

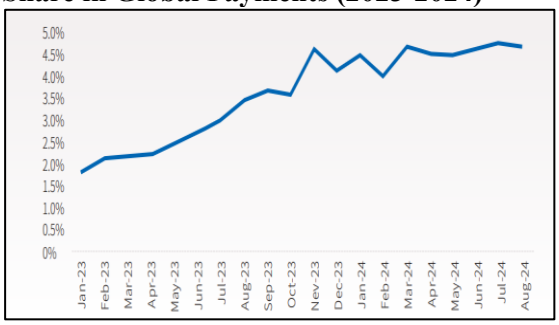
(1)https://www.chinadaily.com.cn/a/202409/23/WS66f0c432a3103711928a92c5.html

* A panda bond is a financial bond denominated in Chinese renminbi issued by a foreign entity and traded and sold within the People's Republic of China. Its first issuance was in October 2005 by the International Finance Corporation and the Asian Development Bank. Panda bonds are among the international bonds denominated in Chinese yuan, which Exporters from outside China offer and sell them in the market in the Chinese currency, and the trading period of panda bonds ranges on average from 1 to 10 years.

Figure 1 shows an increase in the value of the Chinese yuan by 4.47% in May 2024, followed by a decline of 1.43% compared to April 2024, while the value of all payment currencies decreased by 0.18% on average. In May 2024, the Chinese yuan ranked fifth with a share of 3.12% in international payments, excluding those within the eurozone.

According to SWIFT, the yuan's share of global payments increased to 4.7% in August 2024. This reflects its increasing appeal, especially in emerging markets, despite the fact that growth is still lagging behind dominant currencies such as the USD and the Euro. In emerging markets, countries facing currency volatility are turning to the yuan as a more stable alternative, as shown in Figure 2. Emerging markets and BRICS countries are increasingly favouring the yuan as an alternative to the USD. The use of Chinese yuan in cross-border trade has also increased, accounting for more than half of China's cross-border payments due to the facilitation of extensive Chinese currency swap agreements in the financial sector. The Chinese yuan is increasingly being held in reserves by central banks.

Figure 2: Development of the Chinese Yuan Share in Global Payments (2023-2024)



Source: RMB-Internationalisation-Report-compressed.pdf -2024, China Construction Bank.

Second: The Chinese Yuan in Central Bank Reserves:

According to a report issued by the International Monetary Fund, the yuan has become one of the world's major reserve currencies and constitutes a growing portion of central banks' foreign exchange reserves, although the US dollar remains the main currency for global reserves. However, the yuan has experienced continuous growth in recent years, driven by China's economic policies and the increasing importance of the Chinese economy in the global financial system, especially after the yuan was included in the IMF's Special Drawing Rights basket in 2016.

Despite the economic challenges that China faced in 2025, such as slowing economic growth, trade tensions, and global market volatility, the yuan managed to maintain relative stability, thanks to the Chinese government's efforts to support the stability of the yuan. These efforts helped mitigate the impact of these difficulties by closely monitoring the yuan's value to prevent significant fluctuations in its future value. This reflects China's thoughtful monetary policy. According to a 2024 report by the People's Bank of China (PBOC), the Chinese yuan was used more frequently in cross-border trade during the first eight months of 2024.There was an increase in the global market and an increase in the volume of payments and receipts in yuan across borders by 21.1% year over year, reaching CNY 41.6 trillion (USD 5.94 trillion) within the same period. In terms of investment and financing, foreign investors held approximately CNY 4.6 trillion of Chinese bonds, accounting for 2.7% of the total domestic bonds holdings until the end of August 2024. The volume of cross-border yuan settlements for basic commodities was CNY 1.5 trillion in the same period, an increase of 22.7% year over year[2].

Third: The Outlook for the Rise of the Chinese Yuan:

China plans to release the digital yuan (e-CNY) in 2025, which would be a revolution in the financial system. With the growing use of financial technology and digital innovations, the digital yuan is expected to increase the use of China's currency worldwide. This step opens opportunities for China to improve its payment system and expand its users base in global trade.

1. It is expected that the liberalization of the capital market, including improvements to the Panda Bond Framework, will also strengthen the adoption of products based on the Chinese yuan. It is also expected that the introduction of Mastercard and AMEX Chinese yuan card settlement will increase usage, as 59% of foreign companies and 52% of foreign investors (FIs) plan to increase their participation[3].

(2) Cross-border RMB use up over 20 pct in first eight months of 2024, https://english.www.gov.cn/archive/statistics/202410/05/content

(3) Hugh Zeng Dashboard ,RMB internationalization gains strong momentum despite uncertainties, https://tabinsights.com/article/rmb-internationalisation-gains-strong-momentum-despite-uncertainties

2. It is expected that the use of the yuan in Arab countries will increase significantly in the coming years, driven by growing economic relations with China and the expansion of digital financial technologies, especially digital yuan. Cooperation in infrastructure projects and trade has also contributed to strengthening the yuan's role as a settlement currency in commercial transactions between China and Arab countries. Furthermore, the expansion of trade between China and its international partners, particularly within the framework of the "Belt and Road Initiative,", has led to increased demand for the yuan as a payment means. As interest in the Chinese Belt and Road Initiative has grown, many central banks in the region have begun to reduce their dependence on the dollar in favour of the yuan.

Fourth: The Mechanism of Strengthening the Chinese Yuan for Commercial Demand Purposes:

The expansion of the use of the Chinese yuan limits the dominance of the USD in commercial transactions due to the sanctions imposed by the United States on the economies of some countries. The yuan has become an alternative to the US dollar in trade with Asian and African partners. Countries that import most of their goods from China have found that using the Chinese yuan is more convenient and less costly than currency exchange, making China safer from foreign exchange market fluctuations and US sanctions. The Chinese yuan is strengthened for commercial demand purposes through several mechanisms, including:

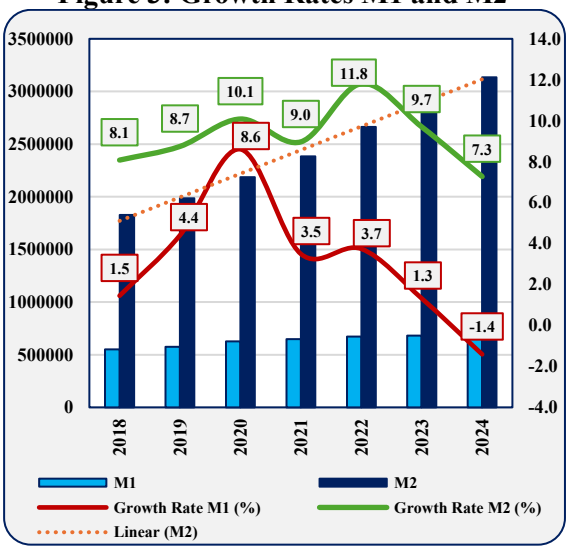
1. Internationalization of the Chinese yuan (global spread) by increasing its use in international trade, as China encourages foreign companies to use the yuan in transactions between Chinese and foreign companies.
2. Establishing offshore Chinese Yuan (CNY) Financial Markets such as (Hong Kong, Singapore, and London Serves as a primary hubs for ruan trading.
   These Markets enable foreign Companies to buy and sell the Yuan with ease, these by boosting Commercial demand for the currency.
3. Encourage foreign companies that want to invest in China or conduct business there to issue yuan bonds to finance their operations, which increases the commercial demand for yuan and promotes the use of the currency in commercial investments.
4. Developing digital payment platforms that allow consumers and businesses in other countries to easily pay in yuan for Chinese goods and services.
5. Promote the use of the yuan through digital payments, which have contributed to the growth of Chinese cross-border e-commerce, such as Alibaba and JD.com, which do business with foreign consumers in Chinese yuan, making it easier for international companies to pay in yuan to purchase Chinese products.
6. Facilitating yuan settlement of trade transactions between Chinese and foreign banks.
7. Provide financing facilities in yuan for foreign companies that want to enter the Chinese market or work with Chinese partners.

Fifth: The People's Bank of China's Measures to Maintain the Yuan's Exchange Rate:

The People's Bank of China has worked to correct the behaviour of the foreign exchange market in favour of periodic fluctuations and prevent the risk of an increase in the exchange rate, ensuring the stability of the yuan's exchange rate. Previously, the yuan was directly linked to the USD (currency pegging regime), but in 2005, the yuan has adopted a managed exchange rate regime, allowing a degree of flexibility (Chinese regulations permit the yuan to rise or fall by up to 2%). This regime aims to ensure currency stability and prevent sharp fluctuations. The issue facing the Chinese yuan is internal, which involves a depreciation of the yuan value against the USD.

An increase in demand for any commodity leads to an increase in its price. The same applies to currency: an increase in demand for a currency leads to an increase in its value. As is well known, an increase in the value of a currency is inversely related to exports, as the prices of exported goods rise and the prices of imported goods fall. This has a negative impact on the competitiveness of domestic industries. China is a country that depends on exports to support economic growth. It benefits from price competition due to low costs and adoption of export-supporting policies. Therefore, an increase in the value of its currency due to increased global demand will undoubtedly affect its competitiveness.

Figure 3: Growth Rates M1 and M2



Based on the People's Bank of China website http://www.pbc.gov.cn/eportal/fileDir/diaochatongjisi/resource

As shown in Figure 3, the broad money supply continued to rise due to increased demand for the Chinese yuan. To maintain a stable exchange rate, the government adopted several measures, particularly through the central bank, to maintain the value of its currency at the levels it has long sought to maintain and protect it from the rise that would not serve its economic model. The following are the most important measures adopted by the People's Bank of China.

1. The central bank and the State Administration of Foreign Exchange raised the macro- prudential adjustment parameter for cross-border financing for Chinese companies and financial institutions to 1.75% from 1.5%. This ratio is the maximum limit for them to benefit from cross-border financing, including foreign loans or investments that contribute to the inflow of foreign capital to China. This ratio provides greater flexibility in attracting investments or financing from abroad, and it contributes to greater financial stability by implementing precautionary tools to regulate cross-border cash flows.
2. Increasing external borrowing is one of the strategies that China relies on to boost domestic liquidity and support the yuan against the USD.
3. Offering incentives to exporting companies by reducing taxes and providing financial facilities.
4. In December 2024, the People's Bank of China (PBOC) injected CNY 1.7 trillion (USD 233 billion) into the economy through reverse repurchase operations (outright Reverse Repos) CNY 1.4 trillion, as well as by purchasing government bonds worth CNY 300 billion. These policies aim to address global trade tensions and ensure financial system stability.
5. Adjusting the path of economic growth using different monetary instruments (reverse repurchase agreements, diversification of open market operations, and supporting non-traditional sectors such as small and medium enterprises or technological innovation, according to the financing allocation in these sectors) to maintain a conducive financing environment and support the market in forming the exchange rate, which is a stabilizing factor for the macroeconomy and the balance of payments. In 2025, the People's Bank of China implemented a monetary policy characterized by "moderate flexibility" based on internal and external conditions that aims to boost domestic demand to create a monetary and financial environment conducive to promoting sustainable economic recovery.
6. The People's Bank of China lowered the required reserve ratio for financial institutions by 0.5%, which releases long-term liquidity for banks, allowing them to provide more loans to companies and consumers after a decline in consumer spending and investment and an increase in unemployment.
7. The Chinese bank lowered the interbank interest rate (NIFC) to the main lending rate (LPR) for one year to 3.1% and for more than five years to 3.6% on March 20, 2025, compared to previous years, with the aim of promoting financial system stability.

Conclusion:

1. Controlling the exchange rate is an important instrument for any country, especially those that rely on exports or encourage domestic production. Despite the increased demand for the Chinese yuan, which puts pressure on the government to address its fluctuations, it has maintained the same level set by the government.
2. In reality, China does not fix the exchange rate but rather manages it carefully to create a balance between flexibility and stability, and to avoid shocks. Currently, China is facing pressure to lower the exchange rate

due to slowing growth and interest rate differences with the United States. It is trying to balance this by stimulating domestic demand and managing expectations.

3. Following developments in the Chinese yuan is extremely important, as Iraq imports large quantities of Chinese goods, especially since it has recently begun to import directly in Chinese currency. On the other hand, it is possible to monitor imported inflation from China if prices of goods increase due to changes in exchange rates. Therefore, it is important to continue to monitor the latest global developments that have direct and indirect impacts on the Iraqi economy.

"Climate Shocks and their Impact on Economic Growth and Inflation: An Analysis via Monetary and Fiscal Policy Space Measures" (Impact and Proposed Strategy)

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Abstract:

Climate change studies currently occupy a prominent position across various disciplines. These studies focus on analyzing impacts and mitigating shocks across social, health, livelihood, and economic dimensions. Within the scope of economic impact analysis, this study examines the Iraqi economy from 2004 to 2023 to identify the effects of climate shocks on key growth variables, specifically Gross Domestic Product (GDP) and Inflation Rates.

The study estimates Fiscal Policy Space and Monetary Policy Space as integral variables within the econometric model, alongside Trade Openness. To measure the impact of climate change shocks, the study employs Impulse Response Functions (IRF), which allow for the measurement of shocks affecting endogenous variables. Fiscal Policy Space has a negligible positive impact on economic growth. Monetary Policy possesses greater latitude to stimulate growth, provided interest and inflation rates remain within a range that allows for the utilization of tools to lower rates—up to an inflation threshold of 7%. Climate Change Shocks have a positive correlation with inflation leading to higher prices and a negative impact on the overall economic growth rate.

Introduction:

Climate and climate change studies have gained critical importance today. Their scope extends beyond mere forecasting to a holistic examination of the social, health, and economic consequences of environmental shifts. Although climate changes do not follow a linear progression, this does not preclude the study of their impacts, particularly economic ones. These changes now exert both direct and indirect influence on human life patterns, behavior, and individual productivity compared to the pre-industrial era.

While the Industrial Revolution bolstered production and productivity through mechanization and the replacement of manual labor—leading to industrial advancement and the discovery of petroleum and coal—it also resulted in Carbon Dioxide emissions that far exceed the Earth's natural sequestration capacity forests and green spaces. This imbalance has led to global warming and the depletion of the ozone layer, subsequently causing decreased precipitation levels and rising global temperatures.

In the context of this study, we examine the impact of climate change shocks on the economic growth rate and their influence on aggregate demand, which is reflected in the general price level (inflation). The study utilizes data to calculate Monetary Policy Space, Fiscal Policy Space, and the Trade Openness Index for the Iraqi economy from 2004 to 2023. This is achieved using shock modeling, specifically the Impulse Response Function (IRF).

The study is structured into four main pillars:

- The first pillar establishes the theoretical foundation of climate change and its socio-economic impacts.
- The second pillar focuses on calculating Monetary and Fiscal Policy Spaces as key variables in the econometric model.
- The third pillar analyzes the model results and their alignment with economic reality.
- The fourth pillar proposes adaptation policies designed to mitigate climate change shocks on monetary policy and public debt management represented by fiscal policy, aiming to reduce the severity of these shocks or redirect their negative trajectories.

Section One: The Concept of Climate Change and its Socio-Economic Impacts:

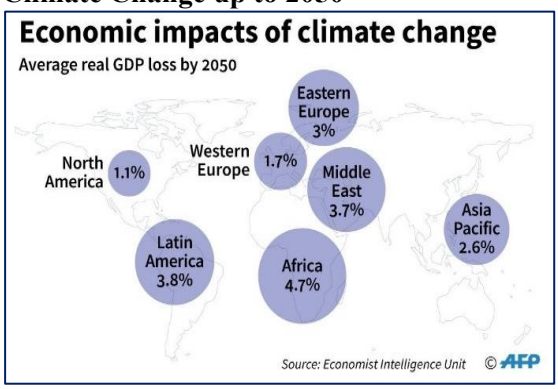
Economic Impacts, A Global Perspective:

Numerous recent studies have extensively addressed climate change, particularly within the field of economics. Some have focused on the shifts in socio-economic strategies and life patterns, while others have explored changes in the geographical distribution of natural resources. For instance, a study by Dr. Sarhan (2015) indicates that climate change could

result in the loss of 12% to 15% of high-quality agricultural land. Other research has emphasized proposing mitigation and adaptation policies to counteract negative impacts on general economic indicators, specifically economic growth.

On the level of global economic growth, the negative impact of climate change varies depending on the nature of the economies and their capacity to withstand and absorb adverse environmental shocks. The severity of the impact on GDP growth differs based on an economy's resilience (see Figure1). This resilience is closely linked to the availability of resources to confront climate change, such as Fiscal and Monetary Policy Space. These spaces are largely determined by an economy's public debt-to-GDP ratio and its classification as either a developed or developing economy.

Figure 1: Percentage of GDP Loss Due to Climate Change up to 2050

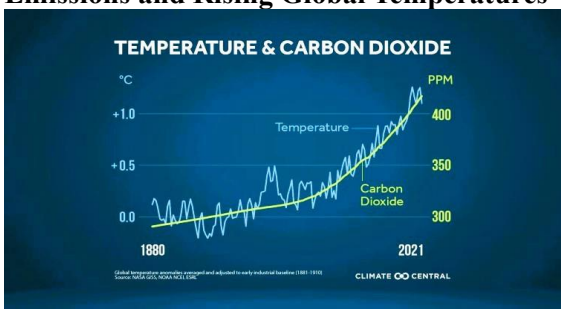


Source: Economist Intelligence Unit

Examining the concept of climate change through the dimension of temporal impact, it is defined as a long-term shift in average weather patterns. According to NASA, the changes observed in Earth's climate since the mid-20th century are primarily driven by human activities—particularly the consumption of fossil fuels (see Figure 2). This has led to an increase in carbon emission levels, which in turn has intensified greenhouse gas activity.

Furthermore, predicting the impact of climate change is exceptionally challenging due to the non-linear nature of these shifts, often following (an exponential) functional form. In this regard, (Serhan Cevik and João Tovar Jalles 2023) pointed out that the impact of climate change (climate disasters) on inflation and economic growth follows a non-linear path, which varies depending on the economic level and the available fiscal and monetary space.

Figure 2: The Correlation Between Carbon Emissions and Rising Global Temperatures



Source: NASA GIS, NOUA NCELES R AL

Social Impacts:

Just as global climate change entails economic consequences and has given its wide-ranging effects, including those on individual and societal well-being, it is essential to address the Social Cost of Carbon (SCC). SCC is directly proportional to global warming and is defined as an estimate of the intensity or stringency of climate-related policies (Nota Di Lavora, 2013). From another perspective, the social cost of carbon represents a monetary estimate of the damage resulting from emitting one ton of carbon dioxide into the atmosphere. This cost encompasses impacts on public health, agriculture, environmental degradation, and broader climate shifts.

Accordingly, it can be argued that if carbon emissions were at an optimal level, the social cost of carbon would equal the tax rate imposed on carbon emission sources responsible for global warming (provided the economy follows a policy aimed at maximizing social welfare) (Richard S.J., 2023).

Furthermore, calculating the social cost of carbon serves as a foundation for formulating carbon reduction policies and adopting Green Policies by transitioning toward supporting carbon-reduction technologies.

Section Two:

Conceptual Framework of Economic Indicators under Climate Change

As previously noted, climate change exerts impacts on economic variables that lead to deviations in the developmental trajectory of certain macroeconomic indicators, particularly economic growth. Within the scope of this study, and to measure or determine the trends of economic variables such as growth, inflation, and unemployment, it is necessary to define the model's variables. This section will address the primary variables: Monetary and Fiscal Policy Space, given their role in determining the path of macroeconomic variables and economic

growth trends, as well as identifying which policy possesses the sufficient capacity to withstand climate change shocks.

First. Monetary Policy Space:

Various studies have addressed the measurement of monetary policy space, which is defined as "the room available for central banks to increase the inflation rate" (Romer & Romer, 2017). In other words, monetary policy space refers to the margin available for monetary policy to achieve economic growth objectives without compromising the general price level.

As long as the objective of monetary policy is to maintain price stability, defined as keeping prices at consistent averages over the longest possible duration, monetary policy may utilize its available Space, even if associated with a rise in the general price level, provided it is coupled with an increase in the economic growth rate. Therefore, monetary policy space is represented by the central bank's ability to adjust interest rates if they have not approached the Zero Lower Bound (ZLB).

In the same context, although many central banks strive to maintain inflation stability expressed by keeping the general price level at or below the target inflation rate, this may not always align with a favorable trajectory for these institutions. As observed following the 2008 financial crisis, many economies became severely constrained in their ability to address declining economic activity. Most central banks were unable to utilize conventional tools, such as interest rates, to control the money supply due to their proximity to the Zero Lower Bound (ZLB). This situation prompted central banks to employ unconventional monetary policies to stimulate economic activity, reduce unemployment rates, and boost demand, despite their marginal impact on economic growth (Carl E.Walsh, 2017).

Accordingly, monetary policy space can be measured as one of the variables in the econometric model used in this study. We have utilized data from the Iraqi economy for the period (2004–2023), summarized as follows:

Numerous studies have employed measures of monetary policy space within the broader framework of determining economic policy space. Monetary policy space is described as the relationship between the inflation threshold and the policy rate, as demonstrated in Table (1) of this research. In this regard, the inflation threshold is defined as 'the optimal inflation level that maximizes economic growth rates' (Dholakia & others). That is, it represents the maximum inflation limit within which monetary policy retains the flexibility to use both conventional and unconventional tools to positively influence economic growth. To calculate the monetary policy space, the following formula is used:

$$\mathbf{EMS_i} = \left[\frac{\mathbf{E[\Delta\pi_j]}}{\boldsymbol{\psi}_{\mathbf{cpi}}} \times \boldsymbol{\psi}_{\mathbf{gdp}}\right]\left(\mathbf{1} - \mathbf{1}_{(\mathbf{hard})}\right) \ldots . (\mathbf{1})$$

- $E(\Delta\pi_j)$: Represents the additional actual inflation space.
- ψ_{cpi}, ψ_{gdp}: Represents the calculated average elasticity of inflation relative to GDP.
- $1_{(hard)}$: A dummy variable that takes the value (1) if the country follows a pegged exchange rate, and (0) if it follows a flexible rate.

To calculate the estimates for the variables in the formula, we begin by estimating the inflation threshold, which remains constant throughout the time series used in this study. The optimal inflation threshold has been estimated at 7%. This indicates that under a policy supporting economic growth, there is a positive correlation between the inflation rate and the growth rate up to the 7% threshold. Beyond this limit, the relationship between inflation and GDP growth becomes inverse.

After calculating the Inflation Threshold (Maximum Inflation), the Actual Inflation Space, one of the variables used in Formula (1) above, is determined. The actual inflation space is defined as the margin available to monetary policy to exceed the target inflation without adversely affecting economic growth. In other words, it indicates the economy's capacity to tolerate certain inflation levels without triggering significant negative impacts on economic growth or financial stability. This concept depends on several factors, including:

1. Target Inflation Level: Central banks typically set a target inflation rate deemed suitable for achieving sustainable economic growth. For instance, many central bank's target an inflation rate of approximately 2%.
2. Inflation Control Capability: Actual inflation space depends on the monetary authorities' ability to manage inflation using monetary policy instruments, such as interest rates.
3. General Economic Conditions: These include economic growth rates, unemployment, and price stability. Occasionally, an economy may be able to

sustain higher inflation levels if economic growth is robust.

The general formula for calculating the actual inflation space is (Jose Ferrer, 2022)

$$\mathbf{E}(\Delta\pi_j) = \frac{(\pi_j^{max} - \pi_j)}{\sigma_\tau} \times \Phi[\mu_\pi(I_j); \sigma_\pi(I_j)] \ldots . (2)$$

Where:

- $E(\Delta\pi_j)$: Represents the additional actual inflation space.
- π_j^{max}: Represents the maximum inflation rate (Threshold).
- σ_τ :Represents the rate by which monetary policy can exceed target inflation in the short term.

Within the context of the time series utilized, we can calculate the value of (σ_τ), which reflects the rate at which central banks can exceed target inflation in the short term. Here, it provides the long-term inflation level, which is equivalent to the value of (sigma) relative to target inflation. Furthermore, it constitutes part of the inflation threshold that defines the maximum inflation limit, through which central banks can determine long-term inflation levels.

To calculate the value of (sigma), we use the following formula:

$$\sigma_\tau = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(\pi_i - \tau_j^{\pi})^2} \ldots . . (3)$$

Where:

- π_i: Represents the target inflation rate, which is assumed at a threshold of 3%.
- τ_j^{π} :Represents the actual inflation rate.

By applying the formula for calculating the Actual Inflation Space and referring to Table 1, we observe that the actual inflation space expands as actual inflation rates decline. This indicates that monetary policy possesses a larger buffer or space to maneuver when facing shocks resulting from financial crises or climate change. Such scenarios necessitate a monetary policy with broader scope to employ expansionary measures, such as lowering interest rates or implementing quantitative and credit easing (unconventional monetary policy).

As a subsequent step to determine Monetary Policy Space and to fulfill the requirements of Formula (1) mentioned above, we calculate the second variable: the elasticity estimates for both the inflation rate and Gross Domestic Product (GDP). This is conducted via two autoregressive processes, as illustrated by the two functions below:

CPit = C1+A(L) Xit + Y1R + δDt + ui1+E

GDPit = C2+B(L) Xit + Y2R + δDt + ui2+E

Where:

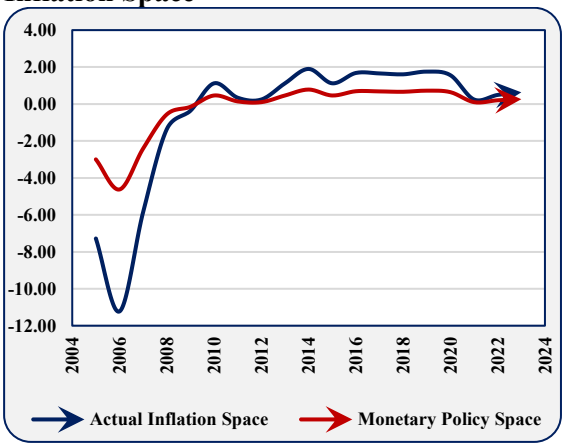
- A(L), B(L) :Represent the lag operator terms.
- CPI, GDP, R (Policy Rate) :Represent the logarithms of the variables.
- Dt: Represents a dummy variable added during recessionary periods to control for significant fluctuations in variables. (Note: This was excluded from the model due to the volatile fluctuations of economic variables stemming from the nature of the Iraqi economy and its global linkages).

After estimating the two equations above and based on the mean results of inflation and GDP elasticity, which demonstrated a statistically significant relationship for both variables we utilize these results in Formulas 2, 3, and 4 to estimate the value of Monetary Space (MS) using Formula (1).

The calculation results Table 1 indicate that the available monetary policy space is influenced by both inflation and GDP, representing the intersection of these two variables. As evidenced by the results, monetary policy lacked "space" during periods of high inflation, particularly in the early years of the study period. Conversely, we find that monetary policy possessed a positive space of 26% toward the end of the period. This implies that the monetary authority can reduce interest rates within the inflation threshold without adversely affecting GDP growth rates. In short, there is sufficient latitude for monetary policy to absorb shocks within the calculated space limits See Figure 3.

Table 1: Results of Calculating the Monetary Policy Space Using the (VAR) Model					
Year	Inflation	GDP Growth Rate	Additionally Inflation Space	Monetary policy Space (MS)	Policy Rate
2005	36.9	4.4	-7.28	-3.00	7
2006	53.1	10.2	-11.23	-4.62	12
2007	31	1.4	-5.84	-2.41	20
2008	12.6	6.6	-1.36	-0.56	15
2009	8.5	5.8	-0.37	-0.15	7
2010	2.4	5.5	1.12	0.46	6
2011	5.6	10.2	0.34	0.14	6
2012	6	12.6	0.24	0.10	6
2013	2.4	5.6	1.12	0.46	6
2014	-0.8	-3.9	1.90	0.78	6
2015	2.4	-2.4	1.12	0.46	6
2016	0.1	14.8	1.68	0.69	4
2017	0.2	-1.8	1.66	0.68	4
2018	0.4	2.6	1.61	0.66	4
2019	-0.2	6	1.75	0.72	4
2020	0.6	-15.7	1.56	0.64	4
2021	6	2.8	0.24	0.10	4
2022	4.98	7	0.49	0.20	4
2023	4.4	-2.9	0.63	0.26	7.5

Figure 3: Monetary Policy Space and Actual Inflation Space



Source: Researcher's work based on calculation results.

Second: Fiscal Policy Space:

Just as we proceeded in the previous section regarding the estimation of monetary policy space, this section focuses on determining the Fiscal Policy Space. This term refers to the government's ability to increase spending or reduce taxes without negatively impacting fiscal sustainability or losing access to financial markets. The World Bank defines it as "the space available for a government to temporarily increase the budget deficit without affecting its borrowing capacity or the sustainability of public debt" (Vikram Haksar, IMF, 2018).

In the same context, it has also been defined as the scope for exercising discretionary fiscal policy through increased government expenditure or tax cuts without compromising market access and debt sustainability. Among the various conceptualizations of fiscal space, most studies define it as the difference between the government's actual debt and its theoretical debt limit, providing a framework for policymakers to determine debt thresholds and fiscal space.

Regarding the estimation and calculation of fiscal space, we begin by identifying the key variables that influence its determination in any economy. Fiscal space is primarily affected by the Economic Growth Rate (GDP Growth) and the interest rate on sovereign debt. Consequently, any economy experiencing significant or rising economic growth is initially considered to have substantial fiscal space.

On the other hand, interest payments on sovereign debt play a crucial role in determining the available fiscal space. These interest rates represent the cost of servicing sovereign debt; ideally, these rates should remain lower than the GDP growth rate to ensure a surplus that can fund future debt issuances and service existing debt. This condition is essential for an economy to remain resilient when facing shocks, whether they are short-term, such as the COVID-19 pandemic, or long-term, such as climate change impacts.

When examining fiscal space from the perspective of its interpretation of the debt ceiling, it becomes evident that this ceiling does

not necessarily represent the optimal level of public debt. Since the debt ceiling reflects the limits of a government's capacity to meet its debt service obligations beyond which the government enters a "risk-tolerance zone", debt burdens must remain below this maximum threshold. Conversely, exceeding this limit exerts upward pressure on interest rates, subsequently triggering a liquidity crisis or what is known as a market access crisis, necessitating a forced reinforcement of debt levels.

Measuring Fiscal Space (Moody's Analytics, 2011; Ostry.Jonathan IMF, 2010)

To provide the concept of fiscal space with a quantitative dimension, and acknowledge that its determinants rely on economic growth on one hand and sovereign debt interest rates on the other, we will measure fiscal space using a mathematical formula based on the following premise:

"Fiscal Space is the difference between a government's actual debt and the theoretical debt limit, which is based on the historical behavior of policymakers".

This assumes that any economy relies on issuing new debt equivalent to the difference between interest payments on current debt and the fiscal primary balance the difference between public revenues and expenditures, excluding debt service. This is calculated using the following formula:

$$\mathbf{Dt = Dt\ rt - PBt}$$

Where:

- Dt: Represents the total volume of government debt.
- rt: Represents the nominal interest rate on sovereign debt.
- PBt: Represents the primary budget balance.

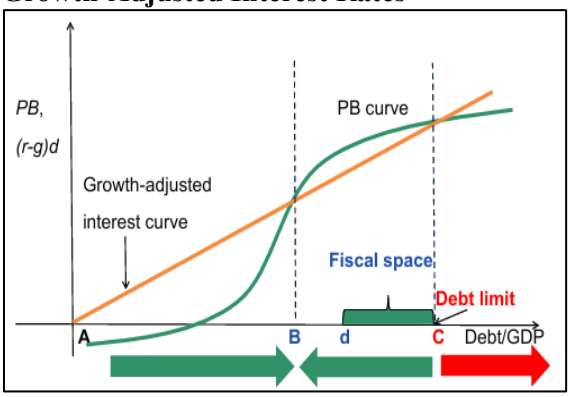
By scaling these variables to Gross Domestic Product (GDP), the formula is expressed as follows:

$$\mathbf{d = (rt - gt)dt - Pbt}$$

Where:

- Dt: Represents the change in the public debt-to-GDP ratio.
- Pbt : Represents the primary balance-to-GDP ratio.
- gt: Represents the GDP growth rate.
- (rt-gt)dt: Represents the interest-growth differential (growth-adjusted interest payments).

Figure 4: Theoretical Framework for Fiscal Space Using the Primary Balance and Growth-Adjusted Interest Rates



Source: Moody's Agency Report (Moody's Analytics 2011)

As illustrated in Figure :4, which serves as the conceptual foundation for presenting the fiscal space calculations in this paper by linking the variables of Equation 5 the vertical axis represents the Primary Balance (PBt) and the Growth-Adjusted Interest Payments (rt-gt) dt, while the horizontal axis represents the Debt-to-GDP ratio.

We observe that within the range between points (B, C), the Primary Balance (PB) exceeds interest payments (meaning the PB curve sits above the interest payment curve). This indicates that the primary budget balance is sufficient to cover sovereign debt interest payments (reflecting a Primary Surplus). This surplus is utilized for debt amortization until the debt-to-GDP ratio returns to its steady-state equilibrium at point (B), where the PB curve intersects the (rt-gt)dt curve.

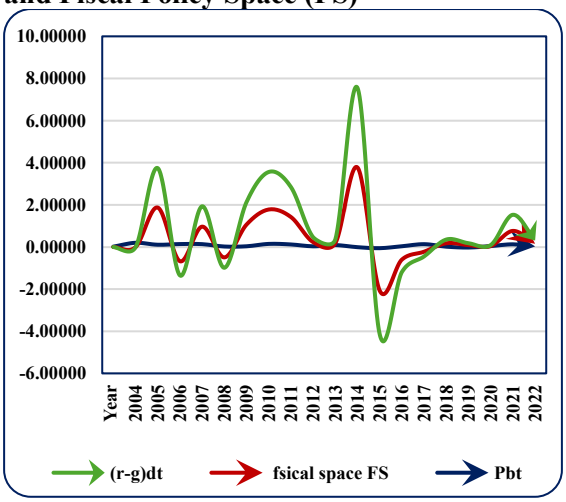
Conversely, if the debt-to-GDP ratio rises to a level beyond point (C), the primary balance falls below interest payments. In this scenario, the government is faced with two choices: either implementing drastic austerity measures or resorting to new borrowing. In both cases, the government risks entering a vicious cycle of debt financing.

Regarding the empirical framework of this study, Table 2 demonstrates the practical application of Figure (5) based on the results of the fiscal space calculations.

Table 2: Results of Calculating Fiscal Space and its Main Variables			
Year	Fiscal space	(r-g) dt Growth-Adjusted Interest Rate	Pbt Primary Budget Balance
2004	-0.02	-	0.02
2005	-0.21	-0.01	0.20
2006	1.76	1.87	0.11
2007	-0.81	-0.67	0.14
2008	0.83	0.97	0.14
2009	-0.52	-0.49	0.02
2010	1.03	1.07	0.03
2011	1.63	1.78	0.15
2012	1.30	1.42	0.12
2013	0.20	0.23	0.03
2014	0.09	0.18	0.09
2015	3.78	3.77	-0.01
2016	-2.02	-2.07	-0.06
2017	-0.63	-0.60	0.04
2018	-0.36	-0.22	0.13
2019	0.16	0.18	0.02
2020	0.11	0.09	-0.03
2021	0.002	0.05	0.04
2022	0.64	0.76	0.13
2023	0.12	0.15	0.03

Source: Researcher's work

Figure 5: Shows the Trend Trajectory of Economic Growth-Adjusted Debt Interest (rt-gt) dt, the Primary Budget Balance (Pbt), and Fiscal Policy Space (FS)



Source: Researcher's work

Based on the calculation results, it is evident that fiscal space is influenced by two primary variables: the primary budget balance and growth-adjusted interest payments. Consequently, we observe a marginal fiscal space, nearly approaching zero. However, for the year 2023, it can be concluded that fiscal space exists as long as the value remains positive. A positive fiscal space indicates that the government possesses the capacity to implement expansionary fiscal policies without facing significant debt-related risks or adverse reactions from financial markets. Furthermore, a high sovereign debt ratio in any country, when accompanied by even a narrow fiscal space, implies a degree of flexibility to absorb unforeseen shocks. Thus, an economy can expand its fiscal space through credible adjustment plans (Ostry Jonathan, IMF 2010).

Section Three: Determining the Impact of Climate Change Shocks on Inflation and Economic Growth:

Following the estimation of both monetary policy space and fiscal space for the Iraqi economy during the study period (2004–2023) and incorporating the Trade Openness variable which represents the model's variables alongside inflation and economic growth (GDP growth) a dummy variable was introduced to represent climate change shocks related to rising temperatures. This variable was assigned a value of (1) for years when temperatures rose above normal averages and (0) for years when temperatures remained within or below normal levels.

Accordingly, the Impulse Response Functions (IRF) model was employed. This model allows for the measurement of shocks affecting endogenous variables based on current and future values of the model variables. The trends for both the Inflation Rate and GDP Growth Rate were identified by introducing the climate

change shock as a dummy variable, alongside the other model variables: monetary policy space, fiscal space, and trade openness, as detailed in Table 3.

Table 3: Variables of the Impulse Response Functions Model

Year	Fiscal Space FS	Monetary Space	Inflation	GDP Growth Rate	Trade Openness %	Climate Change Temp
2004	-0.02					
2005	-0.21	-0.02	36.9	4.4	94.60748	0
2006	1.76	-0.21	53.1	10.2	80.63071	0
2007	-0.81	1.76	31	1.4	67.1791	0
2008	0.83	-0.81	12.6	6.6	75.83331	1
2009	-0.52	0.83	8.5	5.8	72.48912	0
2010	1.03	-0.52	2.4	5.5	69.07398	1
2011	1.63	1.03	5.6	10.2	68.63214	0
2012	1.30	1.63	6	12.6	70.27173	0
2013	0.20	1.30	2.4	5.6	65.59347	1
2014	0.09	0.20	-0.8	-3.9	63.03069	1
2015	3.78	0.09	2.4	-2.4	59.98918	0
2016	-2.02	3.78	0.1	14.8	47.84311	0
2017	-0.63	-2.02	0.2	-1.8	54.44003	0
2018	-0.36	-0.63	0.4	2.6	62.8835	1
2019	0.16	-0.36	-0.2	6	58.97719	1
2020	0.11	0.16	0.6	-15.7	52.15319	1
2021	0.002	0.11	6	2.8	54.85682	1
2022	0.64	0.002	4.98	7	54.18558	1
2023	0.12	0.64	4.4	-2.9	56.28052	1

Source: Researcher's work

Part I: The Climate Change Shock and its Impact on Inflation Rates

Starting Point for our empirical analysis, we estimated the impact of climate shocks on inflation in Iraq using 76 observations. This was achieved by converting annual data for the period (2005–2023) into quarterly frequency and applying a natural logarithm transformation. The study utilizes Impulse Response Functions (IRF) based on a Vector Autoregression (VAR) model.

As illustrated in Figure 8, we examine the response of inflation to climate shocks resulting from temperature fluctuations in Iraq throughout the study period. The model incorporates key economic variables, namely, Real GDP (at constant prices), Fiscal Space (FS), Monetary Space (MS), Trade Openness (TO) levels. The analysis employs a 90% confidence interval over a 10-year projection horizon. The results are as follows:

Figure 6 :The Impact of Climate Shocks and Some Economic Variables on Inflation in Iraq

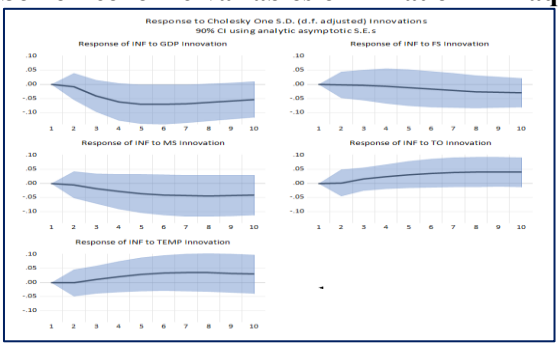


Figure 6 indicates that inflation in Iraq responds positively to a climate shock represented by a one-unit increase in temperatures (Temp). This upward trend begins after the second year of the shock's occurrence, followed by a relative decline starting after the seventh year. The rise in inflation due to climate shocks may be attributed to the increased demand for electricity and fuel consumption. Additionally, rising temperatures lead to a decline in agricultural productivity, which in turn necessitates greater reliance on imported agricultural products and their industrial derivatives.

Furthermore, inflation shows a negative response to an increase in Real Gross Domestic Product (GDP) in the second year following a one-unit standard deviation shock. This implies that an increase in real output leads to lower inflation rates in Iraq, resulting from a relative equilibrium between monetary and commodity flows. Subsequently, inflation rises by the eighth year of the deviation, a finding that aligns with established economic theory.

Inflation responds **negatively** to a one-standard-deviation change in **Fiscal Policy Space (FS)**. This response manifests after the third year of the shock, with the decline in inflation rates persisting through the tenth year. This trend may be attributed to the relative reduction in available fiscal policy instruments, specifically the decline in public debt levels and government expenditure.

Similarly, **Inflation** responds **negatively** to a one-standard-deviation change in **Monetary Policy Space (MS)** starting after the second year of the shock. This relative decline in inflation rates continues until the tenth year. This behavior can be explained by the relative decrease in the utilization of traditional monetary policy tools notably the diminishing impact of interest rate changes and their replacement by foreign exchange rate adjustments to influence the economic and monetary conditions in Iraq.

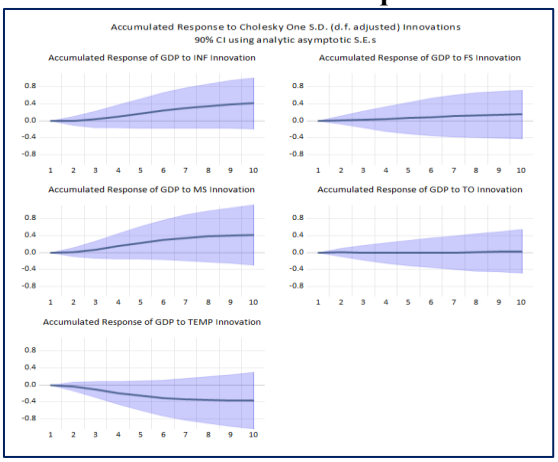
Regarding the response of **Inflation** to a one-standard-deviation change in **Trade Openness (TO)**, the impact was **positive**. Inflation begins to rise after the second year of the shock, and this relative increase continues until the seventh year before starting to decline thereafter. This is likely due to the Iraqi economy's high integration with the global market; on one hand, most Iraq's exports consist of crude oil, linking domestic economic and monetary conditions to global oil price fluctuations. On the other hand, the Iraqi economy relies heavily on importing most of its local requirements for industrial and consumer goods from abroad.

Second. Climate Change Shock and its Impact on Real Economic Growth:

Using the same methodology employed to estimate the climate change shock on the inflation rate, we estimate the impact of climate shocks on Iraq's real economic growth. **Figure 7** illustrates the response of **Real Economic Growth** (represented by the Real Gross Domestic Product (GDP) growth rate at constant prices) to climate shocks resulting from **Temperature (Temp)** fluctuations in Iraq during the study period.

This analysis incorporates several economic variables, namely: (**Inflation rate**, **Fiscal Policy Space (FS)**, **Monetary Policy Space (MS)**, and **Trade Openness (TO) levels**), alongside **90% confidence intervals** for a forecast horizon extending up to **10 years**. The results are as follows:

Figure 7: The Impact of Climate Change Shocks and Selected Economic Variables on Real Economic Growth in Iraq



Source: Prepared by the Researcher Based on the Outputs of the EViews13 program.

Figure 7 reveals that **Real Economic Growth (GDP)** in Iraq responds **negatively** to a climate shock represented by a one-standard-deviation change in **Temperature (Temp)**. Following the second year of the shock, real growth begins a relative decline that persists through the end of the tenth year. This adverse impact of climate shocks on Iraq's GDP growth can be attributed to rising temperatures, which lead to a relative contraction in agricultural output. High temperatures exacerbate land degradation through desertification and increased water evaporation, resulting in dwindling water levels in Iraq's primary rivers, the Tigris and Euphrates. Collectively, these factors diminish agricultural yield; furthermore, climate change hampers productivity across other economic sectors due to their forward and backward linkages.

Conversely, **Real Economic Growth (GDP)** in Iraq exhibits a **positive** response to rising **Inflation (Inf)** rates. Starting from the third year following a one-standard deviation shock in inflation, the growth rate trends upward through the tenth year. This indicates that an increase in the general price level (Inflation) correlates with a rise in real GDP growth in Iraq. This phenomenon is driven by a relative

increase in real demand for goods, which stimulates aggregate supply and subsequently boosts the real growth rate, a result consistent with established economic theory.

Finally, **Real Economic Growth (GDP)** responds **positively** to a one-standard-deviation change in **Fiscal Policy Space (FS)**, albeit at a rate relatively close to the baseline in Figure 7. This positive response begins after the third year and continues through the tenth year of the shock. This trend is likely due to the relative influence of fiscal policy instruments on the Iraqi economy, as it is heavily tethered to government spending and revenues (particularly oil revenues). Furthermore, maintaining a positive fiscal space implies the capacity to increase public expenditure without resorting to tax-financed funding.

Real economic growth (GDP) also responds positively to a one-standard-deviation change in Monetary **Policy Space (MS)**. This response exhibits relatively ascending rates that move away from the baseline in Figure 2 after the second year of the deviation. This relative increase in real GDP growth rates persists through the tenth year following the shock. This trend may be attributed to the relative impact of monetary policy instruments specifically foreign exchange rate fluctuations on the overall economic and monetary conditions in Iraq. Furthermore, the presence of positive monetary policy space allows policymakers to implement expansionary monetary policies, provided that the available space remains within inflation limits below the **Inflation Threshold**.

Regarding the response of real economic growth (GDP) to a one-standard-deviation change in **Trade Openness (TO)**, the impact was found to be very close to the baseline in Figure 2. This indicates that real GDP growth in Iraq is not significantly affected by trade shocks. This stems from the nature of the Iraqi economy as an economy linked to the external world; on one hand, oil output does not fluctuate significantly as it is tied to external economic variables. Moreover, changes in this output are linked to advancements in modern technology, which remain relatively static in Iraq due to the requirement for massive financial and investment resources. On the other hand, the Iraqi economy imports most of its domestic needs for industrial and consumer goods; thus, any sudden change in import prices has a negligible relative impact on Iraq's GDP volume.

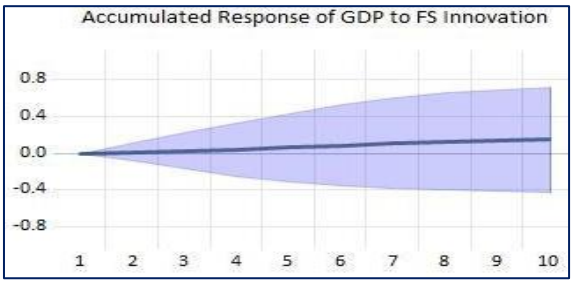
Section Four. Adaptation Policies under Climate Change

Given that the variables used in the model in the third part of this study specifically **Monetary Policy Space, Fiscal Policy Space, and Trade Openness** have had a direct, albeit varying, impact on economic growth and inflation rates, we can formulate an **adaptation strategy** against the negative effects of climate change. This can be achieved by establishing green growth stimulus policies capable of absorbing the adverse impacts of climate change.

First. Adaptation Strategy within the Available Fiscal Policy Space

Based on the calculations of the available **Fiscal Policy Space**, which was found to be marginal (albeit positive) during 2023, the fiscal authority nonetheless retains the capacity to manage its expenditures. It can expand the government's balance sheet spending in a manner that mitigates the future risks of climate change. Although the primary priorities of fiscal policy following the achievement of economic growth center on enhancing government spending and ensuring **public debt sustainability**, this does not preclude directing a portion of that spending toward **green financing** for corporations or green projects. In this framework, the government assumes the full **credit risk** associated with green projects, rendering these assets largely risk-free for the financing entity. Consequently, this leads to an increase in **green credit** as it becomes fully government-guaranteed (Francesco Lamperti and others, 2021).

Figure 8: The Impact of Fiscal Space on Economic Growth



When examining adaptation policies for the economic impacts of climate change alongside the model's results regarding the trajectory of economic growth contingent upon the **Fiscal Policy Space** (which, as previously noted, was marginal); see Figure 8 it becomes evident that adaptation measures entail significant economic and social costs. These are summarized in the implementation of a credible **medium-term**

fiscal framework focused on enhancing **revenue mobilization**. This includes measures such as curbing tax evasion, increasing tax progressivity in certain cases, implementing **carbon pricing**, and improving spending efficiency by phasing out fossil fuel subsidies (Vitor Gaspar, IMF 2020).

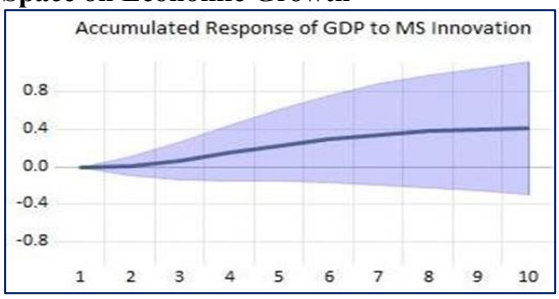
Accordingly, the ability of fiscal policy to bolster resilience against climate change remains constrained by two factors: the narrowness of the available fiscal space on one hand, and the high costs of adaptation on the other. Consequently, maintaining **public debt sustainability** remains the paramount priority for public finance management amidst climate change risks.

Second: Adaptation Strategy within the Monetary Policy Space

Based on the results of the model utilized in this study specifically the relationship between economic growth and **Monetary Policy Space (MS), we** find that economic growth is positively correlated with the available monetary space. Therefore, the capacity of monetary policy to stimulate economic growth exceeds that of fiscal policy (from the perspective of the available space for both policies).

While fiscal policy, despite its limited calculated space, can support economic growth under climate change risks, it must bear the associated **adaptation costs**. These costs involve enhancing public revenues through methods that may strain individual welfare, even if framed within a medium-term perspective.

Figure 9: The Impact of Monetary Policy Space on Economic Growth



In this section of the study, we can provide a clarification of monetary policies in adapting to climate change shocks within the limits of the available monetary space during the study period. This is achieved through the results of the climate shock analysis, particularly concerning the trajectory of economic growth within the monetary space (see Figure 9).

As long as the space available for monetary policy appears to have a greater impact than fiscal policy, we can assert that monetary policy possesses a broader capacity and a more significant influence on promoting economic growth. This assertion stems from the results of the monetary policy space calculation in the second part of this study. These results indicate the existence of a monetary policy space through the possibility of inflation rates reaching a threshold of 7% without negatively impacting economic growth due to high domestic interest rates. Consequently, monetary policy can bolster economic growth within an inflation rate limit of up to 7%. Given that interest rates are not near the Zero Lower Bound (ZLB), the available space reflects the capability of monetary policy to contribute to fostering economic growth.

Here, the question arises: how can monetary policy enhance economic growth? The answer may carry negative implications for inflation and the general price level; however, if the positive impact is larger in scale and longer-term, it becomes necessary. In this context, monetary policy will play the primary role in transmitting climate change shocks by utilizing unconventional monetary tools. This involves adopting unconventional monetary policies like those implemented by many central banks during the 2018 global financial crisis. Nevertheless, the optimal choice for transmitting climate change shocks remains available through:

1. **Adopting quantitative and credit easing policies** specifically targeted toward purchasing green bonds or injecting the required liquidity to cover the green financing deficit. This would ensure alignment between fiscal and monetary policies, where both share the costs of promoting green finance within their respective capacities.
2. **Remaining within the path of conventional monetary policy** by lowering interest rates to a level that keeps inflation rates below the threshold.

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"Gold in the Spotlight"

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Introduction:

In a world characterized by escalating economic and political fluctuations, investors are increasingly turning toward assets that possess immunity and stability to protect their savings. At the forefront of these safe havens stands gold, the precious yellow metal that has long been synonymous with value and stability throughout the ages.

Despite its allure as a safe haven, experts emphasize the importance of not relying solely on gold within investment portfolios. Diversification remains a prudent strategy for risk distribution and the mitigation of potential losses. Gold can play a vital role in this diversification by adding an element of stability and hedging against the volatility of other assets, such as stocks and bonds.

During times of crisis, when traditional assets may decline in value, gold tends to maintain its worth or even appreciate it. This helps balance overall portfolio performance and lessens the impact of economic shocks. Consequently, it is recommended to include a specific allocation of gold within a comprehensive strategic diversification framework that aligns with the investment objectives and risk tolerance of each investor. This raises several pivotal questions: What makes gold a safe haven? What factors influence its price? And why is the world witnessing an increasing appetite among central banks to bolster their gold reserves? We will attempt to clarify the answers to these questions in the following sections.

First. A Historical Overview of Gold Trading:

In 1694, the Bank of England established a system known as the **"Gold Standard."** Under this regime, any individual could exchange paper currency for gold upon request, as the value of the banknote was backed by gold. However, rising inflation rates led citizens to doubt the ability of central banks to cover the value of their notes with physical gold.

As a result, speculators began selling currencies in exchange for gold, a practice that depleted the gold reserves of central banks, most notably the Bank of England. Meanwhile, smaller countries were forced to raise domestic interest rates following rate hikes abroad to avoid catastrophic losses. Over the decades, the gold standard was gradually phased out, culminating in the landmark event of 1971, when the United States—as the architect of the **Bretton Woods system**—decided to sever the link between the US Dollar and gold.

Reasons for the Declining Role of Gold and the Abolition of the Gold Standard:

1. **World War II:** The war led to the depletion of gold reserves in many countries, making the maintenance of the Gold Standard increasingly difficult.
2. **Surging Demand for the Dollar:** With the growth of the U.S. economy and the rising demand for the Dollar as a global reserve currency, maintaining a fixed parity between the Dollar and gold became unsustainable.
3. **Constraints on Economic Growth:** Linking currency to gold restricted the ability of governments to expand the money supply during economic recessions, thereby hindering the achievement of economic growth.
4. **Persistent Inflation:** Following World War II, many nations experienced periods of high inflation, which exerted immense pressure on the Gold Standard system.

Second. Factors Influencing Global Gold Prices:

Several key factors drive the fluctuations in global gold prices:

1. **The Dollar Exchange Rate:** This is a primary driver of gold price volatility. Gold prices typically fall when the Dollar strengthens and rise when the Dollar weakens. A strong U.S. Dollar generally reflects a robust domestic economy, making the Dollar a more attractive reserve asset.
2. **The Impact of Inflation:** Inflation erodes the real value of money; as prices rise, purchasing power declines. Gold, as a tangible asset, tends to retain its intrinsic value. Furthermore, gold prices are significantly determined by extraction costs, which generally rise faster than inflation due to machinery and labor costs. The global inflationary wave since 2022 has led to a general increase in production costs for mining companies, subsequently driving gold prices higher.

3. **International Political Unrest, Wars, and Terrorist Events:** Major geopolitical conflicts significantly impact gold prices. Governments often finance wars through debt or money printing, and investors flee to gold to preserve capital. This surge in "Safe Haven" demand acts as a catalyst for price increases.
4. **Stock Market Performance:** Generally, there is an inverse relationship; when stock markets decline, gold prices rise. This primarily reflects investor sentiment regarding the economic outlook. If there is widespread optimism about economic prospects, capital flows into the stock market, increasing equity investment and causing gold prices to soften.
5. **Activities of International Financial Organizations:** The policies and regulations of national and regional central banks, along with the activities of international financial institutions, have a substantial impact on shifts in the global price of gold.

Third: Countries' Gold Reserves:

Table 1: World Countries' Gold Reserves		
No.	**Country**	**Quantity in**
1	USA	8133.5
2	Germany	3355.1
3	Italy	2451.8
4	France	2436.6
5	Russia	2298.5
6	China	1948.3
7	Switzerland	1040.0
8	Japan	846.0
9	India	768
10	Netherlands	612

Source: www.ar.tradingeconomics.com

Based on Table 1, it is evident that the United States holds the top position in gold reserves, controlling approximately 25% of the global total, which is estimated at 32,772 tons. This dominance traces back to the Gold Reserve Act of 1934, which mandated that individuals and corporations surrender their gold holdings exceeding US$100 to the government. This gold was subsequently melted down and converted into bullion, a policy that remained in effect until 1971. Following the United States, Germany ranks second, holding 10.2% of global gold reserves, while Italy occupies the third position with a share of 7.4%.

Regarding the gold reserves of Arab countries, Table 2 provides a detailed overview.

Table 2: Arab Countries' Gold Reserves			
No.	**Country**	**Quantity in Tons**	**World Ranking**
1	Saudi Arabia	323	13
2	Lebanon	287	20
3	Algeria	174	26
4	Iraq	162	24
5	Libya	147	26
6	Egypt	127	32
7	Qatar	110	38
8	Kuwait	78.97	42
9	United Arab Emirates	74.5	44
10	Jordan	70.07	45

As illustrated in **Table 2**, the Kingdom of Saudi Arabia holds the top position in gold reserves, accounting for **20.1%** of the total gold reserves in Arab countries, which are estimated at **1,606.91 tons**. Lebanon follows in second place with **17.8%**, while Algeria ranks third, controlling **10.8%** of the Arab world's gold reserves. Consequently, the total contribution of Arab countries to global gold reserves stands at **4.9%**.

Regarding the countries with the highest consumption of gold in the third quarter of 2024, Table 3 provides the details:

Table 3: Top Gold-Consuming Countries		
No.	**Country**	**Consumption**
1	India	248.3
2	China	173.4
3	USA	47.8
4	Turkey	22.1
5	Russia	20.8

From Table 3, it is evident that India is the world's largest consumer of gold. This is attributed to local customs and traditions, as gold is an essential pillar of Indian culture, particularly during social occasions. China follows in second place, where Chinese consumers purchase gold for various purposes, including investment, jewelry, and other cultural reasons.

Fourth. Why Central Banks Are Increasing Gold Reserves:

There are several reasons driving central banks to expand their gold reserves:

1. **Currency Strength:** Central bank investment in gold can influence the strength of the national currency. While increasing gold reserves bolster currency stability, it may also impact on the currency's liquidity in international markets.

2. **Safe Haven Asset:** Gold typically serves as a "safe haven" during periods of turmoil, uncertainty, or instability. This is especially true amidst rising global inflation and geopolitical crises—such as the Russia-Ukraine conflict—prompting central banks to increase their holdings.
3. **De-dollarization:** Certain countries with strained relations with the United States, such as Russia and China, seek to increase their gold reserves as a means of reducing their reliance on the U.S. Dollar.
4. **Portfolio Diversification:** Central banks aim to build diversified asset portfolios. Gold is regarded as a secure store of value over the long term, particularly in the face of currency exchange rate fluctuations.

Fifth. Risks of Investing in Gold:

The following are considered the primary risks associated with gold investment:

1. **Lack of Periodic Income:** Unlike investments in stocks and bonds which generate recurring returns such as dividends or interest in gold and precious metals, they do not provide a fixed income. Investors rely almost exclusively on capital appreciation for the increase in market value over time to realize gains.
2. **Storage and Insurance Costs:** Investing in physical gold entails additional overhead costs. Due to its high value, gold requires secure storage solutions, such as bank vaults or specialized depositories, which can be expensive. Furthermore, insurance is necessary to protect against theft or loss. These ongoing financial burdens can erode net returns, particularly over long-term holding periods.
3. **Liquidity and Market Impact:** While gold is generally a liquid asset, selling significant quantities rapidly without triggering a price drop can be challenging. This is especially true in unstable markets or during periods of high supply and low demand. Such conditions can pose a hurdle for investors requiring urgent liquidity or those seeking to adjust their investment strategies based on market shifts.
4. **Counterfeiting Risks:** Forgery techniques have become increasingly sophisticated, making it difficult at times to distinguish between genuine and counterfeit precious metals. The market contains fraudulent products that can lead to substantial financial losses for unsuspecting investors.

Sixth. Conclusion:

The role of gold has evolved significantly from being the foundation of the monetary system (the "Gold Standard," which was abolished in 1971) to its status as a safe haven during economic and political crises. Gold prices are influenced by several variables, including the U.S. Dollar exchange rate, inflation levels, political unrest, and stock market performance. Central banks continue to increase their gold reserves to bolster national currencies, hedge against inflation and geopolitical crises, reduce reliance on the U.S. Dollar, and diversify their portfolios. However, gold investment carries specific risks, including the absence of fixed yields, high storage and insurance costs, potential liquidity issues for large volumes, and the risk of fraud.

Globally, the United States holds the largest gold reserve, estimated at **8,133.5** tons. Meanwhile, Iraq currently holds 162 tons of gold, ranking 4th in the Arab world and 24th globally in terms of gold reserves.

" Inflation Analysis Report in Iraq for 2024[1]"

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Introduction:

Inflation rates are one of the most important variables that are constantly considered by economic policy makers and the monetary policy of central banks. It is the dependence of consumer's cost of living on the prices of consumer's basket of goods & services with the proportion of each in the family budget. The cost of this basket at a given time compared to the base year is expressed in Consumer Price Index (CPI), as the percentage change in CPI over a given period represents consumer price inflation, which is the most used measure of inflation.

The CPI basket remains mostly constant over time but is occasionally adjusted to reflect changing consumption patterns - for example, to include new high-tech goods and replace goods that are no longer widely purchased.

Although high inflation harms the economy, deflation or falling prices is also undesirable. When prices fall, consumers postpone purchases as much as possible, expecting them to fall in the future.

Pressures on both supply and demand sides of an economy can also be inflationary. Supply shocks that disrupt production, such as natural disasters, or higher production costs, such as rising oil prices, can reduce total supply and lead to cost-pull inflation. Conversely, demand shocks, such as surging stock market or expansionary measures, like central bank interest rate cuts and increased government spending, can provide a temporary boost to economic growth. However, if this increase in demand surpasses the economy's productive capacity, it leads to an unsustainable peak followed by a sharp contraction in spending.

Expectations also play a major role in determining inflation. If individuals or companies expect prices to rise, they incorporate these expectations into wage negotiations and contractual price adjustments (such as automatic rent increases). This behavior partly determines inflation rate for the following period: once contracts are executed and wages or prices rise as agreed upon, expectations become self-fulfilled, to the extent that individuals base their expectations on the recent past. Inflation will follow similar patterns over time, causing inflation inertia. Central banks` governors increasingly rely on their ability to influence inflation expectations as an instrument to reduce it, while policymakers announce their intention to keep economic activity temporarily low to reduce inflation, hoping to influence expectations and inflation component embedded in contracts.

Most economists now believe that low, stable, and most importantly, predictable inflation is good for the economy. If inflation is low and predictable, it is easier to monitor for price and interest rate adjustment contracts, reducing its distorting effect. Moreover, knowing that prices will rise slightly in the future motivates consumers to buy earlier, which boosts economic activity. Many central banks` governors have made it their main policy goal to maintain a low and stable inflation rate; a policy called inflation targeting.

This report discusses inflation details and indices in Iraq, as follows:

1. Inflation Drivers in Iraq.
2. Consumer Price Index.
3. Inflation of Tradable and Non-Tradable Goods.
4. Annual and Monthly Inflation of Flexible and Inflexible Groups.
5. Reduced Average of CPI.
6. Cost of Living Index.
7. Real Estate Price Index.

1. Inflation Drivers in Iraq:

The general level of consumer prices (inflation rate) is affected by several factors called inflation drivers according to the development degree of the economy. Since Iraq is a rentier country that relies heavily on the export of crude oil to generate incomes with weak production flexibility, the most important factors driving inflation are:

1-1 Public Spending:

Disposable personal income depends on oil revenues, which are distributed through spending to the largest segment of society, namely employees and their dependents, who in turn re-spend them in the economy, increasing total demand. That in turn leads to higher prices because of the weak flexibility of the productive

(1) For more information, see: https://cbi.iq/static/uploads/up/file-175249065461397.pd

system in increasing supply. Public spending recorded an increase of 5.7% this year.

1-2 Gross Domestic Credit:

Credit is one of the pumping elements in the economy as it will provide additional liquidity to both individuals and the government, providing an increase to total consumer or investment demand while reducing domestic supply that generate inflationary pressures. Total domestic credit in 2024 recorded an increase of 6.1% compared to the previous year.

1-3 Exports:

Exports provide a country with foreign currency, as they are primary sources of income, especially in rentier countries that rely primarily on rentier revenues. Therefore, higher exports lead to increased incomes. Consequently, increased total demand, which is reflected in higher prices. Exports recorded a slight increase of 1.9% in 2024 compared to 2023.

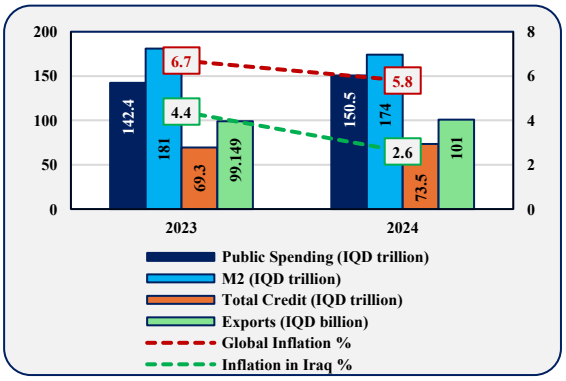
1-4 Higher Global Prices:

Although Iraq follows a fixed exchange rate policy, yet higher global prices greatly affect inflation in Iraq as it depends heavily on imports, which will affect the general level of prices within the country. According to data from Stata website, global annual inflation recorded a decline from 6.7% in 2023 to 5.8% in 2024, because of the central banks' trend towards monetary tightening in accordance with interest rate rise. In addition to absorbing the consequences of the Russian Ukrainian war.

1-5 Broad Money Supply (M2):

Increased broad money supply in an economy typically results in greater liquidity with individuals and businesses, which stimulates consumption. Unless this increase in money supply is accompanied by a similar increase in production, excessive demand for goods & services leads to higher prices, meaning inflation. M2 decreased by 3.8% in 2024 compared to 2023.

Figure 1: Developments of Inflation Driving Factors in Iraq for 2024



2. Consumer Price Index:

CPI is calculated as a weighted average of the relative changes of goods & services prices covered by the index, as weights assigned to each good or service reflect its relative importance and measured by its share to total household consumption. This weight determines the impact of price change on the general index, as it measures price increases in the economy but it's not an index of the cost of living. Meaning that CPI does not measure the cost of living.

In 2024, Ministry of Planning/ Statistics and Geographic Information Systems Authority changed the base year from 2012 to 2022, as it changed the basket weights to represent actual consumer spending.

The new CPI for 2022 was calculated since it was the year in which the Iraq Household Socio- Economic Survey (IHSES) was carried out. Accordingly, 2022 was considered as the base year for pricing goods & services included in CPI composition.

CPI recorded 107.1 points in 2024, compared to 104.4 points in 2023. While CPI recorded 107.5 points after exclusion in 2024 compared to 104.6 points in 2023.

2-1 Headline and Core Inflation (y-o-y):

The headline inflation rate is affected by changes in the consumer basket items that carry different weights. The headline inflation rate is also affected by changes of its own items, after excluding fluctuating goods such as Food and Fuel. If inflation rate of volatile goods (Food and Fuel) is high and at a greater rate than the rest of its items, the core inflation rate will decrease because it does not include volatile goods, which can be observed from figure 2 and 3.

The decline of inflation rates in 2024 is remarkable compared to 2023, as inflation rates in 2024 witnessed a decline because of the clear stability of monthly goods & services prices. Also, curves changes of headline and core inflation in 2023 and 2024 are observed resulting from fluctuations of excluded goods from core inflation.

Annual headline inflation in 2023 reached 4.4%, as January 2023 witnessed the highest inflation rate of 7.5%. While annual core inflation rate reached 4.6%, as it recorded the highest rate for the same month mentioned above, reaching 7.3%.

As for 2024, inflation rates decreased compared to 2023. Annual headline inflation recorded 2.6%, as July and August 2024 witnessed the

highest inflation rate, reaching 3.7% for each. whereas annual core inflation reached 2.8% in 2024, as April 2024 witnessed the highest rate, reaching 4.2%.

Figure 2: Annual Headline and Core Inflation Rates in 2023

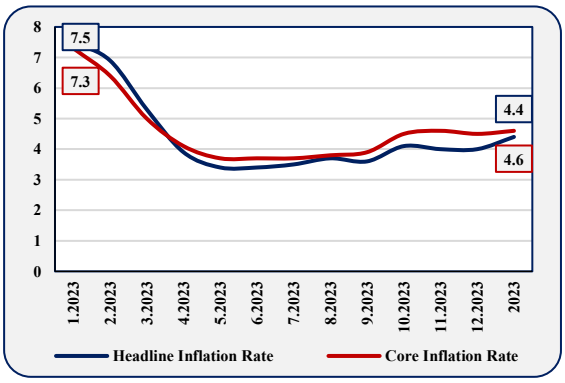
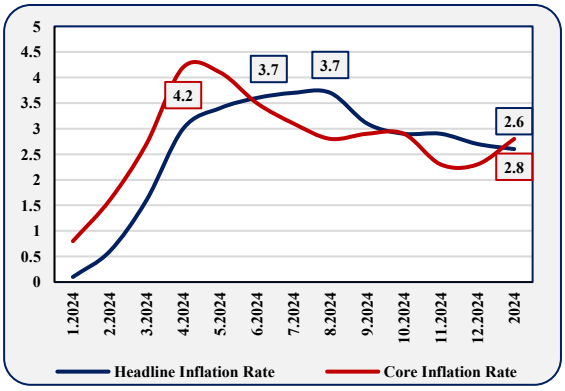


Figure 3: Annual Headline and Core Inflation Rates in 2024



2-2 Impact of Excluded Groups on Core Inflation 2024:

Core inflation focuses on persistent trends of inflation, excluding the prices of more volatile products, such as food and energy that are more influenced by seasonal factors or temporary supply circumstances, which is monitored by monetary policymakers. Core inflation is calculated in Iraq after excluding some goods with fluctuating prices, namely Vegetables & Fruits group in Food & Non-Alcoholic Beverages section, in addition to Oil & Cooking Gas in Housing & Water section[2].

It is noted from figure 4 that headline inflation curve is similar to inflation curve of Fruits, Vegetables, and Fuels, and that core inflation curve rises and falls in the opposite way to the inflation curve of Fruits, Vegetables, and Fuels, which explains the effect of excluding (Fruits, Vegetables, and Gas) on core inflation curve. It explains why core inflation is often higher than headline inflation, because of government support to Fuel item, which is relatively stable. As well as government intervention in reducing goods prices during high seasons in accordance with increased imports during scarce seasons as shown in figure 5.

The fluctuation of Fruits, Vegetables and Fuel item is mainly caused by the fluctuation of vegetables and fruits prices. The effect of fuel fluctuation is weak, due to subsidies of the government. Also, fluctuation of vegetables is greater due to their seasonality and the inability to store them as in fruits.

Figure 4: Headline and Core Inflation in 2024

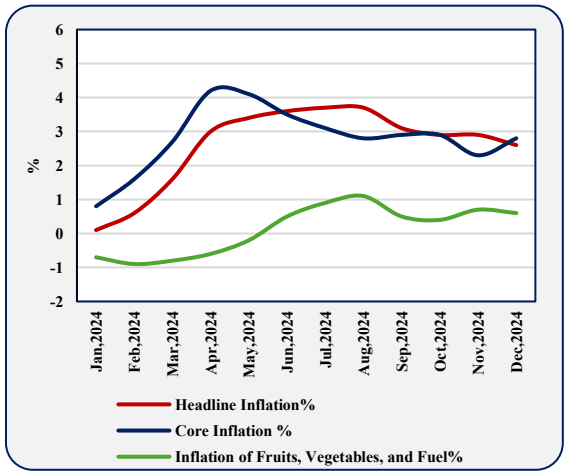
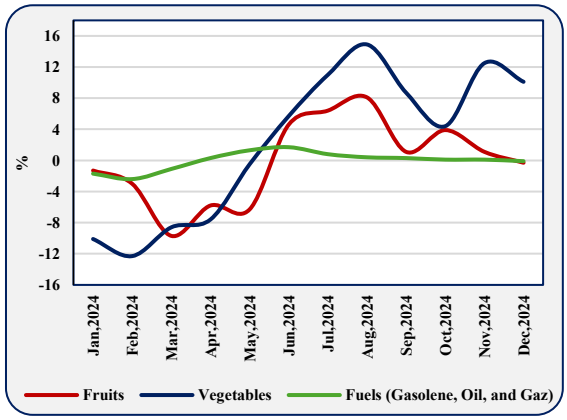


Figure 5: Inflation of Fruits, Vegetables, and Fuels in 2024



2.3 Annual Inflation by Commodity Groups

This item explains which groups in the consumer basket have the greatest influence on the inflation rate and, in turn, on the consumer. Weights greatly influence determining the ultimate impact on the consumer. It is noted that contribution rates to annual inflation in 2024 differ from those in 2023. They are as follows:

(2) Ministry of Planning, Statistics and Geographic Information Systems Authority, Consumer Price Index Report on September 2024 adopting the new methodology.

- **Food and Non-Alcoholic Beverages** section recorded a contribution rate of 32.8% to annual inflation rate in 2024. It represents the largest weight in the consumer basket reaching 31.633%, while its contribution rate amounted to 39.7% in 2023.
- **Housing, Water, Electricity, and Gas** section recorded a contribution rate of 29.1% to annual inflation rate in 2024. It constitutes 24.386% of the consumer basket, while its contribution rate reached -1.7% in 2023.
- As for **Tobacco** section, it contributed to 7.1% of inflation rate, although it constitutes a weight of 1.626% of the consumer basket, while its contribution rate reached 0.6% in 2023.
- While the **rest of the sections** contributed 31% to inflation rate, with a weight of 42.355% to the consumer basket.

Figure 6: Sections Contribution to Annual Inflation in 2023

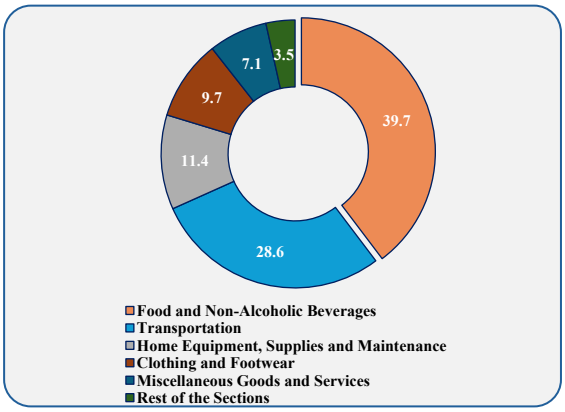
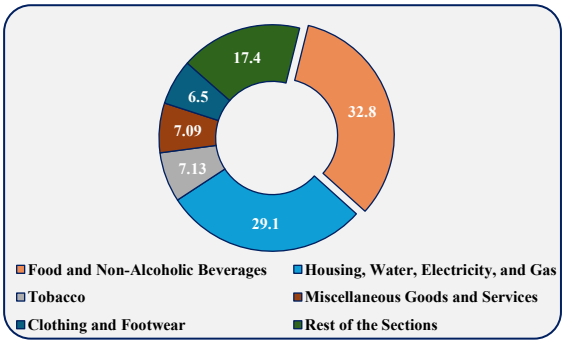


Figure 7: Sections Contribution to Annual Inflation in 2024



3. Inflation of Tradable and Non-Tradable Goods:

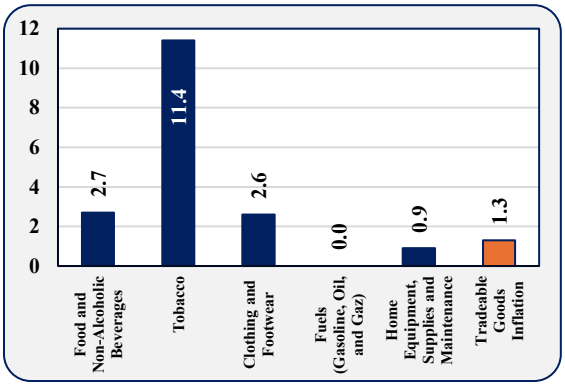
Dividing goods & services into tradable and non-tradable groups is very important, as it determines which goods can be imported that affect the domestic inflation rate. Moreover, inflation in certain goods can affect non-tradable goods, as they overlap in tradable goods.

3.1 Tradable Goods:

Inflation of tradable goods in any country is affected by imported inflation, depending on the degree of production development. In Iraq its impact is significant because Iraq meets its goods needs through imports, due to supply shortage of domestic goods.

Annual inflation of tradable goods reached 1.3% in 2024, as it contributed 50% to annual inflation in 2024. These goods constitute a weight of 48.912% of the consumer basket. Tobacco section ranked first with an increase of CPI reaching 11.4%, while the Fuel section recorded no change in 2024.

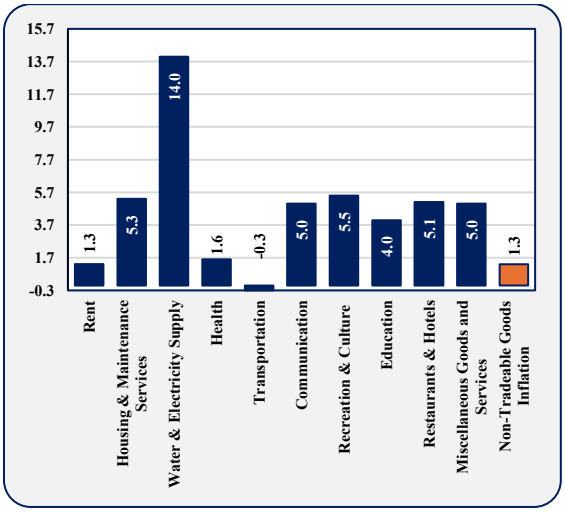
Figure 8: Tradeable Goods Inflation in 2024



3.2 Non-Tradable Goods:

Annual inflation of non-tradeable goods reached 1.3% in 2024, contributing 50% to annual inflation in 2024, as these goods constitute a weight of 51.088% of the consumer basket. Water & Electricity Supply item ranked first with a contribution rate of 14.0%, while Rent item recorded the lowest increase of 1.3%. On the other hand, Transportation item decreased by 0.3% in 2024.

Figure 9: Non-Tradeable Goods Inflation in 2024



4. Annual and Monthly Inflation of Flexible and Inflexible Groups:

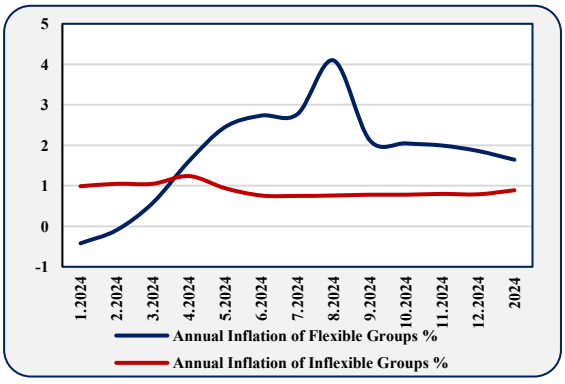
According to this index, the consumer basket is separated into goods groups whose prices change slowly (inflexible) and goods groups that change at a constant pace (flexible), as inflexible inflation refers to a phenomenon in which prices do not adapt quickly to changes in supply and demand.

4.1 Annual Inflation of Flexible and Inflexible Groups

Some inflexible goods groups in Iraq receive government support, as is evident in the Fuel group (Gasoline, Oil, and Gas), which was characterized by stability despite its global prices changes. If their supply or demand increases domestically, prices do not respond to them. On the other hand, some goods groups are characterized by stable demand for them, which leads to stable prices, compared to groups characterized by stable supply, such as ration card items. According to reports, annual inflation of inflexible groups reached 0.9% in 2024.

As for inflation of flexible groups, the prices of their goods groups respond to changes of supply and demand, such as Meat, Vegetables and Fruits group, which are usually not government-subsidized, as annual inflation of flexible groups reached 1.6% in 2024.

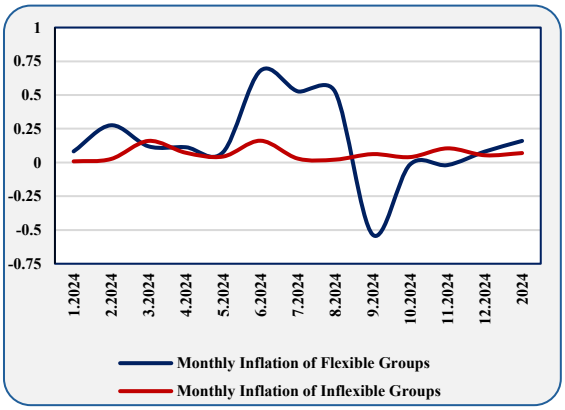
Figure 10: Annual Inflation of Flexible and Inflexible Groups in 2024



4.2 Monthly Inflation of Flexible and Inflexible Groups:

Flexible groups fluctuate, as average inflation rate of flexible groups reached 0.16%, with its highest value reaching 0.68% in June 2024, while its lowest value reached -0.53% in September 2024. In contrast, average inflation rate of inflexible groups was 0.07%, reaching its highest value of 0.16% in June 2024, while it reached its lowest value of 0.01% in January 2024.

Figure 11: Monthly Inflation of Flexible and Inflexible Groups in 2024



5. Reduced Average CPI:

It is a weighted average of monthly inflation rates for components whose expenditure weight falls below the 92nd percentage and above the 8th percentage of price changes.

A reduced CPI of 16% can provide a better indication of core inflation trend than the CPI of all components or CPI excluding food and energy (also known as the core CPI).

Reduced inflation reached 1.8% in 2024 out of the remaining total weights amounted to 74.946%. Thus, the excluded weights of 25.054% constituted an inflation of 0.8%, that contributed 30.8% to total inflation in 2024.

6. Cost of Living Index:

Cost of living index is an important economic index that helps estimate the relative costs needed to maintain a given standard of living in several regions. Cost of living is affected by the average income and prices in a country. This index considers a range of goods & services, including Housing, Healthcare, Food, Transportation, and Entertainment to provide a comprehensive picture of the cost of living in one country compared to another in terms of cost-of-living level.

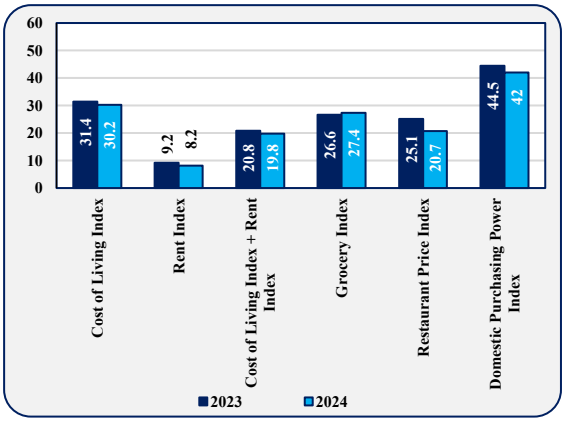
Cost of living index is based on a set of factors that affect individuals' purchasing power in exchange of goods & services such as Food, Beverages, Clothing, Rent, Gas, Electricity, Education, and Health Care.

Data published on Numbeo Global Database indicates that the monthly cost of living for Iraq in 2024 recorded IQD 2,381,650.8 million for a family of four individuals, excluding rent. While the estimated monthly costs per person amounted to IQD 693,825.2, excluding rent. The average cost of living in Iraq was 58.9%, which is lower than the cost of living compared

to that of the United States of America[3]. The average cost of rent in Iraq was 82.7%, which is also lower compared to that of the United States of America.

Figure 12 shows the most important cost of living indices that indicate the expenses incurred by individuals or families to maintain their daily lifestyle. Cost of living index in Iraq recorded a decrease of 30.2 points in 2024 compared to the previous year, as most of its indices recorded a decline, including the decline of Purchasing Power Index to 42 points. Also, Restaurant Price Index decreased by 20.7 points and the Rent Index by 8.2 points, while the Grocery Index recorded an increase of 27.4 points. As for the rate of Cost of Living to Rent Index, it recorded a decrease of 19.8 points in 2024 compared to the previous year.

Figure 12: Cost of Living Index in Iraq



Website:Data:https://www.numbeo.com/property-investment/rankings_by_country.jsp?title=2024

7. Real Estate Price Index:

The residential real estate market in Iraq witnessed remarkable developments in recent years. Customer preferences, market trends, specific domestic circumstances, and macroeconomic factors have contributed to this growth. Customer preference of Iraqi residential real estate market had shifted towards modern amenities and high-quality construction. Customers are increasingly looking for properties that offer a range of amenities such as swimming pools, gyms, and green spaces.

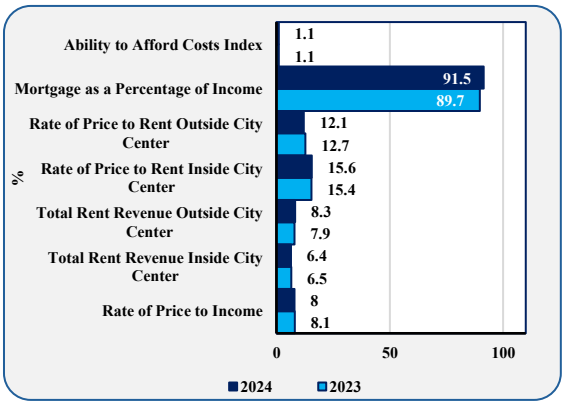
Market trends indicate a shift towards vertical housing. With limited land available in urban areas, real estate developers are building taller buildings to accommodate population growth.

The real estate price index is used to determine changes in real estate prices separately from the consumer basket. Since real estate prices are not the price of consumed goods, it includes not only the value of current residential consumption, but also the capital value of future residential consumption. Therefore, including housing prices would make CPI a mix of consumption at different times. Thus, it's not suitable to compare prices of consumption groups at different times. However, real estate or housing prices can be reflected in the consumer basket according to Rent item, which in turn is reflected in a large group of goods & services included in the consumer basket.

The Real Estate Price Index aims to measure and analyze changes of these groups to understand trends and fluctuations in the economy. It is a measure used to track changes of real estate prices over time, whether for sale or rent.

This index calculates the difference between real estate prices and rents within city center and outside city center (suburban areas or neighborhoods far from city center) due to the difference in real estate prices in terms of purchase and rent costs. The rate of real estate prices to income in 2024 recorded 8%, while the rate of mortgage to income reached 91.5% compared to the previous year, according to Numbeo Global database. The total return achieved from rent in city center recorded 6.4% and 8.3% outside city center. The rate of rented real estate in city center reached 15.6%, to record a higher increase compared to the rate of rented real estate outside the city center reaching 12.1% in 2024.

Figure 13: Real Estate Price Index for 2023-2024



(3) Numbeo Global Database relies on the cost-of-living level of USA-New York city as a basis (New York standard of living level = 100) in calculating the cost of living for countries and cities, which are considered as comparative countries and cities.

"Summary of Central Bank of Iraq's Monetary Policy Report 2024[1]"

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Introduction:

The year 2024 witnessed relative economic stability, especially due to low inflation in major economies. This was largely driven by the stability of energy and food prices following fluctuations in previous years, which helped ease inflationary pressures. On the other hand, global supply chains continue to recover, energy prices stabilize, and the technology and renewable energy sectors are growing.

This, in turn, led the Federal Reserve to cut interest rates several times throughout 2024. The Federal Reserve is expected fixed and then reduce interest rates, depending maintain on changes in inflation rates.

The above factors directly and indirectly affected the Iraqi economy and its monetary policy. During 2024, the Central Bank of Iraq adopted a less restrictive policy as a result of the decrease inflation experienced throughout the year, as the Central Bank cut the policy rate.

Monetary indicators witnessed several developments during 2024, as follows:

- The **monetary base** (M0) recorded a 13.9% decrease at the end of 2024 compared to the previous year. Similarly, the narrow money supply (M1) and the broad money supply (M2) saw a decrease of 4.6% and 3.8% at the end of 2024, respectively, compared to the previous year. This decline is attributed to a decrease in the components of the monetary base on both the sources and uses sides for 2024. Additionally, foreign reserves decreased by 10.3% at the end of 2024 compared to the previous year to record IQD 130.3 trillion, compared to IQD 145.3 trillion at the end of 2023.
- The general inflation rate at the end of 2024 recorded 2.6%, and the base inflation rate after excluding both petroleum derivatives (oil and gas) and the two groups (fruits and vegetables) was 2.8%.
- At the level of monetary policy, the Central Bank moved towards reducing the interest rate (policy rate) from 7.5% to 5.5%, while the reserve requirement ratio on government deposits of both types (current and time) in the banking sector was raised to be 22% instead of the ratios of 18% for current deposits and 13% for time deposits in Iraqi dinars only.
- The Central Bank has reactivated its securities (Islamic certificates of deposit and traditional transfers), as part of an annual plan with two maturities the first: a term of 14 days with a return of 4%, and the other a term of 182 days with a return of 5.5%.
- Regarding the effectiveness of monetary policy indicators, the monetary stability coefficient reached 2.5%, and the money multiplier registered 1.22 units in 2024. Additionally, foreign reserve adequacy indicators recorded ratios higher than the benchmark levels, demonstrating the effectiveness of the monetary policy.

Chapter One: Global Developments of Monetary Policy

First: Global Monetary Policy Developments

The world witnessed a noticeable decline in inflation rates in 2024, even if price pressures continued in some countries. This is what prompted many central banks to reduce their interest rates. Five out of nine central banks that supervise the world's ten most traded currencies held several meetings in December to cut (reduce) interest rates. The Central Banks of Switzerland and Canada reduced interest rates by 50 basis points alike, while the Federal Reserve, the European Central Bank, and the Swedish Central Bank reduced interest rates by 25 basis points. In contrast, the Central Banks of Australia, Norway, Japan and Britain kept interest rates unchanged, while the Central Bank of New Zealand did not hold a meeting.

On the other hand, China continued to pursue an accommodative monetary policy to support economic growth, relying on low inflation rates.

Second: Global Monetary Policy Outlook

Considering the complexities and instability of the current year, the rapid escalation of trade tensions and the sharp rise in policy uncertainty are expected to have a tremendous impact on global economic activity. Global growth is projected to decline to 2.8% in 2025 and 3% in 2026.

Diverging policy stances, rapid policy shifts, or deteriorating sentiment could lead to a new wave of asset repricing after the first wave that followed the announcement of sweeping US tariffs on April 2, 2024, and the sharp adjustments in exchange rates and capital flows,

(1) For more information, see: https://cbi.iq/static/uploads/up/file-175560156280350.pdf

particularly in economies that have already reached a critical debt point. This could lead to a broader scope of financial instability and harm the international monetary system.

Global aggregate inflation is expected to decline at a slightly lower pace than expected in January, reaching 4.3% in 2025 and 3.6% in 2026, with a noticeable rise in the expectations of advanced economies and a slight decline in the expectations of emerging market economies and developing economies in 2025.

In the **United States**, the US Federal Reserve is moving towards reducing interest rates during 2025. The US Federal Reserve moved towards reducing interest rates after its success in curbing inflation rates, as inflation reached 2.9% in December 2024, following its unprecedented measures to raise interest rates. The Federal Reserve faces a challenge in interest rate trends, because lowering the interest rate too early risks keeping inflation above the 2% target, and if it moves too slowly to lower interest rates, it risks economic activity through high interest rates and may lead to economic contraction, especially after raising customs duties on imported goods, which could lead to a reduction in economic activity after the rise in the cost of imported raw materials that are included in the GDP.

In the **Eurozone**, inflation is expected to reach an average of 2.4% in 2025. According to the European Central Bank's website, the risks of rising inflation stem primarily from geopolitical tensions, in addition to potential changes in trade policy in the United States, although there is an indication of downside risks associated with weak economic growth prospects. The above forecast is close to the European Central Bank's target inflation rate of 2%.

Regarding deposit interest rates (the European Central Bank's reference rate), the International Monetary Fund urges the European Central Bank to keep interest rates on deposits at their current level of (2%) unless new shocks occur.

In **emerging and developing countries in Asia**, the International Monetary Fund expects inflation to record a rate of 1.7% in 2025. After a series of downward surprises, inflation in China is expected to remain low. According to the International Monetary Fund, emerging and developing countries in Asia have a wide range of interest rate cuts to mitigate the effects of US tariffs. In addition to the low inflation rates of these countries.

Chapter Two: Developments of Monetary Policy Indicators and Instruments in Iraq

First: Developments of the Most Important Monetary Indicators

1. Monetary Base (M0)

The monetary base balance witnessed a decrease of 13.9%, recording an amount of IQD 142.3 trillion in 2024 compared to IQD 165.2 trillion in 2023. This decrease is attributed to a decrease in net foreign assets and net domestic assets at the Central Bank by 10.2% and 41.0% respectively on the sources side, in addition to a decrease in both currency outside banks by 1.3% and banks' reserves by 30.6% as a result of a decrease in deposits entering the monetary base despite the increase of cash assets on the uses side.

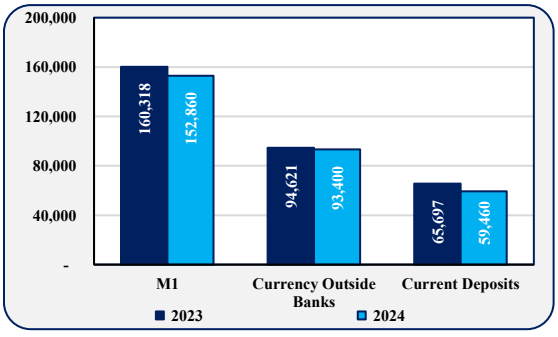
Table 1: Monetary Base (M0) for 2023-2024

Components	2023	2024	Growth Rate %
Net Foreign Assets at CBI	145.6	130.8	-10.2
Net Domestic Assets at CBI	19.5	11.5	-41.0
Currency Outside Banks	94.6	93.4	-1.3
CBI Reserves	70.5	48.9	-30.6
M0	165.2	142.3	-13.9

2. Narrow Money Supply (M1)

Narrow money supply (M1) recorded a decrease of 4.7% at the end of 2024 compared to 2023, reaching IQD 153.0 trillion compared to IQD 160.3 trillion for the last year, which is mainly attributed to the decrease of currency outside banks by 1.3%, which recorded IQD 93.4 trillion compared to IQD 94.6 trillion in 2023, constituting a contribution rate of 61.1% of M1 in 2024 compared to 59% in 2023. Current deposits recorded a decrease of 9.5%, reaching IQD 59.4 trillion compared to IQD 65.7 trillion in 2023, which constituted a contribution rate of 38.9% of M1 in 2024 compared to 41% in 2023. As the continued high contribution of the currency outside banks at the expense of current deposits is noted.

Figure 1: Narrow Money Supply (M1) and its Components for 2023-2024

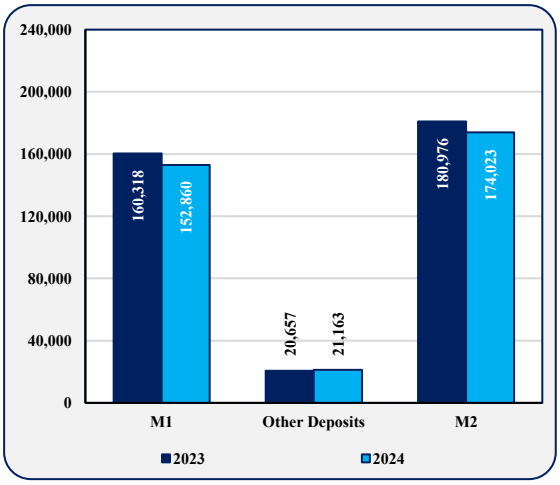


3. Broad Money Supply (M2) (Domestic Liquidity)

At the end of 2024, broad money supply (M2) (domestic liquidity) recorded a decrease of 3.8% compared to 2023, recording IQD 174.0 trillion compared to IQD 181.0 trillion for 2023, and constituted 47.9% of GDP at current prices, reaching IQD 363.5 trillion.

The decrease in domestic liquidity (M2) came as a result of the decrease in the growth of M1 by 4.7%, despite the increase in other deposits (savings, postal and insurance deposits) by 2.4% recording IQD 21.2 trillion in 2024 compared to IQD 20.7 trillion in 2023. The increase in the contribution of other deposits to M2, reaching 12.1% in 2024 compared to 11.4% in 2023, is noted.

Figure 2: Broad Money Supply (M2) for 2023-2024 (IQD billion)

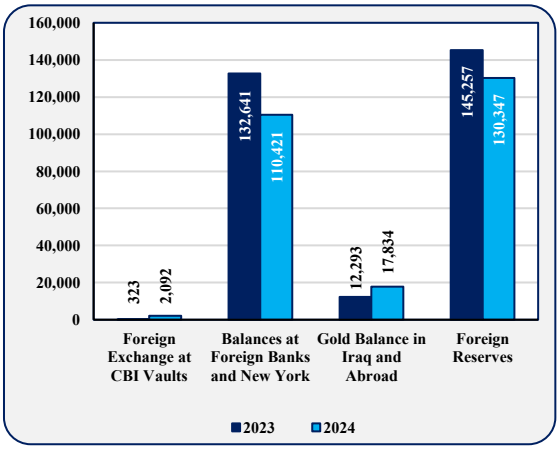


4. Foreign Reserves at The Central Bank of Iraq

At the end of 2024, balance of foreign reserves recorded a decrease of 10.3% compared to the previous year, reaching IQD 130.3 trillion compared to IQD 145.3 trillion at the end of 2023.

This decrease is attributed to a decline in balances at foreign banks and New York by 16.8% reaching IQD 110.4 trillion in 2024, compared to IQD 132.6 trillion for the previous year, which constituted a contribution rate of 84.7% of reserves. The decline is attributed to the increase in dollar sales for the purposes of enhancing banks' accounts for transfers abroad by 56% despite the increase in the gold balance in Iraq and abroad by 45.1%, which amounted to approximately IQD 17.8 trillion at the end of 2024 compared to IQD 12.3 trillion at the end of 2023.

Figure 3: Main Components of Foreign Reserves at the End of (2023-2024) (IQD Billion)



Second: Developments of Indirect Monetary Policy Instruments

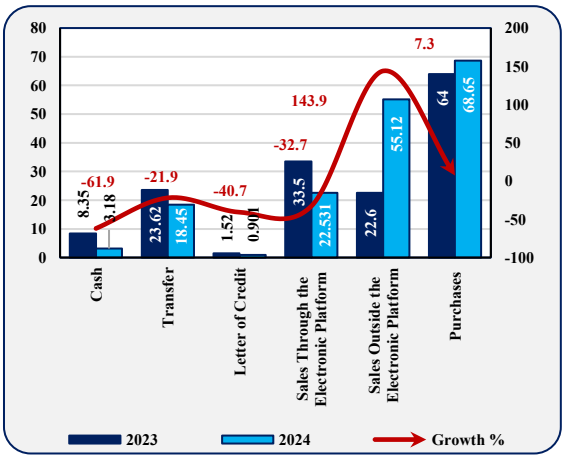
1. Foreign Currency Selling Platform

The Central Bank of Iraq has worked to stabilize the official exchange rate of the Iraqi dinar against the US dollar through the platform during 2024 at a rate of IQD 1320 per US dollar. Total sales recorded an increase of 38.4% during this year, reaching USD 77.65 billion during 2024, compared to USD 56.1 billion during 2023.

As for the Central Bank's purchases of US dollars from the Ministry of Finance, they recorded an increase of 7.3%, reaching USD 68.7 billion during 2024, compared to USD 64 billion in 2023.

It is noted that the Central Bank's dollar sales increased during 2024 compared to its purchases from the Ministry of Finance by USD 9 billion compared to the previous year, which led to a decrease in the Central Bank's foreign reserves during this year.

Figure 4: Sales and Purchases of US Dollars for 2023-2024 (USD billion)



2. Outstanding Facilities

The sold amount of CBI transfers for a period of 14 days during 2024 recorded IQD 54,843 billion, which was paid in full.

One auction was held for CBI transfers at the end of 2024 for a period of 182 days with an amount of IQD 155.9 billion, and an amount of IQD 150 billion was paid for the transfers issued during 2023 for a period of 365 days.

Regarding the outstanding lending facilities, the CBI continued to utilize this instrument to implement the objectives of its monetary policy. With the aim of extending credit to banks in a manner that ensures control and influence over the banking liquidity the through interest rates (price signals), that were set for each type according to the following:

- Primary credit (7.5%) annually.
- Secondary credit (8.5%) annually.
- Loan of last resort (9%) annually.

However, no bank has taken any of these facilities.

3. Reserve Requirement

The balance of reserve requirement recorded an increase of 12.0% reaching IQD 20.9 trillion in 2024 compared to IQD 18.7 trillion in 2023. This is attributed to the increase of reserve requirement on State-Owned Banks (SOBs) deposits by (10.6%) to record IQD 17.8 trillion compared to IQD 16.1 trillion in 2023 and the rise of reserve requirement on deposits at private banks by 15.4% to record IQD 3.1 trillion compared to IQD 2.6 trillion in 2023, due to the increase of reserve requirement on government deposits from 18% to 22% in 2024.

Third Chapter: Price Indicators in Iraq

First: Trends of Consumer Price Index

The 2024 Consumer Price Index saw the base year changed to (100=2022) instead of (100=2012), which resulted in updating consumer basket weights to reflect current changes in consumption patterns and improve the accuracy of this indicator.

The consumer price index in Iraq this year as an index of inflation showed a decrease in its growth rate to reach 2.6% compared to 4.4% for the previous year. Accordingly, it recorded 107.1 points in 2024 compared to 104.4 points in 2023. While the consumer prices index after excluding (oil derivatives (oil and gas) and the group of vegetables and fruits) recorded 107.5 points in 2024 compared to 104.6 points in 2023. Subsequently, the core inflation decreased from 4.6% in 2023 to 2.8% in 2024, this is partially attributed to the tight monetary policy of the Central Bank of Iraq (CBI). In addition to the decline in global food prices, as the Food and Agriculture Organization's Food Price Index for 2023 decreased from 124.5 points in 2023 to 122.0 points in 2024, i.e. a decrease of 2.0%, as Iraq is affected by price movements (decline and increase) with trading partners and external shocks, which are resulting from the fluctuations in oil prices and the rise in some basic commodities, especially (food, iron and transportation costs) in global markets.

When comparing the main components of the consumer basket for 2024 with the previous year, it is noted that an increase was observed across all index groups, with the exception of the transport group.

Second: Developments of Inflation Rates According to Commodity Groups in 2024 Compared to 2023

The food and non-alcoholic beverages group recorded an increase of 2.6% as a result of the rise in all items of this group, which includes (Meat, fish, vegetables, sugar and sugar products, other food products), which constitute the highest relative weight, accounting for 31.633% of the consumer basket.

The housing, water, electricity and gas group increased by 3.1%, as a result of the increase in all its items (rent, housing maintenance and services, water and electricity supplies) with the exception of the fuel item (gasoline, oil and gas), which did not witness any change during this year. This group comes in second place in the relative weight that constitutes 24.386% of the consumer basket. The above two groups constitute approximately more than half of the consumer basket.

The details of the other half, representing a weight of 43.981% of the consumer basket, are as follows:

- The **clothing and footwear** group increased by 2.6%, as a result of the increase in all its items.
- The **health** group also increased by 1.5%, as a result of the rise in drug prices.
- The **household appliances, equipment and maintenance** group increased by (0.9%) as a result of the increase in the (Furniture and Equipment) and (Home Appliances) segments.
- The (**miscellaneous goods and services**) and (**communication**) groups increased by 5.0% each.

- **Entertainment and culture, restaurants and hotels, tobacco, and education** groups recorded an increase by 5.5%, 5.1%, 11.4% and 4.0% respectively.

While the transportation group recorded a decrease of 0.3%, this group accounts for a weight of 12.467% of the consumer basket.

Third: General Inflation (monthly)

Monthly inflation rates recorded slight fluctuations during 2024, ranging between 0.85% in June 2024 and -0.55% in September 2024, as the consumer price index continued to rise until August 2024 before declining during September and October 2024, and rising again during the last two months of 2024.

The groups (food and non-alcoholic beverages), (housing, water, electricity, gas), and (transportation) affected the inflation path for the year 2024, as these aforementioned groups represent a relative weight of 68.486% of the total consumer basket.

As for the monthly core inflation rates, they fluctuated between 0.84% in June 2024 and -0.28% in October 2024.

Fourth: The Implicit Price Deflator of GDP (Implicit Index) for 2024 Compared To 2023

Implicit deflator is a measure of the extent of change in GDP based on changes in prices. This indicator is more comprehensive because it is based on everything produced within the country, not just a basket of goods and services. The GDP deflator witnessed an increase of 4.4% this year to reach 171.6% compared to 164.4% in 2023, which indicates that the GDP at current prices has increased at a higher rate than GDP at constant prices, which indicates that there is an increase in the prices of goods and services produced internally.

While the implicit deflator on non-oil GDP increased by 7.1% from 213.8% to 228.9%, this indicates that GDP had a greater impact on prices.

Table 2: Implicit Deflator for 2023-2024

	2023	2024
GDP (IQD billion)		
At Current Prices	353,780.2	363,533.6
At Constant Prices	215,232.2	211,906.3
GDP Deflator (%)	164.4	171.6
Non-Oil GDP (IQD billion)		
At Current Prices	204,275.5	228,100.0
At Constant Prices	95,544.3	99,668.9
Non-Oil GDP Deflator (%)	213.8	228.9

Implicit Deflator = GDP At Current Prices \ GDP At Constant Prices *100

Fifth: Imported Inflation

Changes in a country's exchange rate can affect the prices of goods and services, which is reflected in the inflation rate, as a currency decline, i.e. a decrease in its value, leads to increased inflation through higher prices of goods and services produced abroad compared to those produced domestically. Therefore, consumers pay more to buy the same imported products, and on the other hand, production in a country depends on the imported raw materials products are used in their production processes, as they are paid more to purchase these materials, which contributes to increasing the prices of goods and services and directly affects inflation through the cost-paying channel. Imported inflation is also affected by shipping costs and new customs tariffs imposed on goods. Import inflation rose from 1.6% in 2023 to 1.8% in 2024, due to a significant increase in imports despite the decline in global inflation.

Table 3: Import Price Index for the Years 2023-2024

	2023	2024
Global Inflation (%)	6.66	5.76
Imports (USD Billion)	65.8	87.4
GDP At Current Prices (USD Billion)	268.0	275.4
Imported Inflation (%)	1.6	1.8

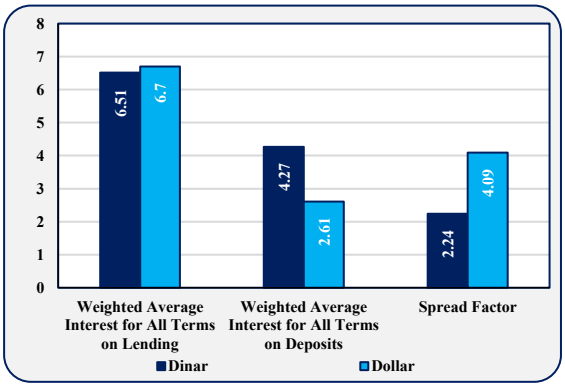
Imported Inflation = Imports \ GDP At Current Prices * Global Inflation.

Sixth: The Weighted Interest Rate On (Deposits and Credit)

The weighted interest rate indicator on deposits and credit during 2024 was created for the first time in monetary statistics, and it is a standard interest rate that expresses the cost of money in the banking sector and is calculated by giving relative weights to banks' contribution to attracting deposits and granting loans through the interest rates they determine. The data illustrated in Figure 5 indicate that the average weighted interest rate on deposits in 2024 recorded 4.27% in Iraqi dinars, compared to 2.61% in US dollars, while the real interest rate on deposits in Iraqi dinars recorded 1.67% in 2024, which is low compared to the opportunity cost.

The average weighted interest on lending in 2024 was recorded at 6.51% in Iraqi dinars, compared to 6.7% in US dollars. The average real lending interest rate was recorded at 3.91% in Iraqi dinars. The domestic and foreign interest spread coefficient recorded 2.24% and 4.09%, respectively, and is within the standard ratio of 2-4%.

Figure 5: Weighted Interest Rate on Lending and Deposits in 2024 (%)



Chapter Four

Developments in Iraq's Monetary Policy Performance

First: Analysis of CBI's Foreign Reserve Adequacy Indicators

Foreign reserve adequacy indicators serve as a measure of both the optimal utilization of reserves on one hand and the overall state of the economy on the other.

Data indicates a decrease in the ratio of reserves to issued currency from 143.2% in 2023 to 129.7% in 2024. This is due to a larger percentage decrease in foreign reserves than in issued currency. Issued currency amounted to IQD 100.5 trillion in 2024, compared to IQD 101.5 trillion in 2023, a decrease of 1.0%. Meanwhile, reserves recorded a 10.3% decrease, reaching IQD 130.3 trillion this year compared to IQD 145.3 trillion in 2023. Despite this decline, the ratio remains above the standard ratio of (100%), meaning the Iraqi Dinar is fully covered.

Table 4: Foreign Reserves Adequacy Indicators 2023-2024 (IQD trillion)

	2023	2024
Foreign Reserves	145.3	130.3
M2	181.0	174.0
Issued Currency	101.5	100.5
Foreign Reserves/ M2 (%)	80.3	74.9
Foreign Reserves/ Issued Currency (%)	143.2	129.7
Reserves /Months of Imports Coverage (Month)	18.3	15.3

Second: Velocity of Money Circulation

Data indicates an increase in the velocity of money circulation from 2.2 times in 2023 to 2.4 times in 2024. This points to an increase in the number of times a single Iraqi Dinar is spent during the year, resulting from a rise in GDP at current prices, despite the continued decrease in narrow money supply (M1). This indicates a recovery in economic activity.

Table 5: Velocity of Money Circulation and Its Influencing Factors, 2023-2024 (IQD billion)

Year	GDP at Current Prices (1)	Narrow Money Supply (M1) (2)	Velocity of Money Circulation (1/2)
2023	2.780,353	160,318	2.2
2024	363,533.6	152,906	2.4

Third: Monetary Stability Coefficient (A Measure of Inflationary Pressure)

The monetary stability coefficient registered (2.5) in 2024, compared to (14.6) in 2023. This change resulted from a (1.5%) decrease in the growth rate of GDP at constant prices in 2024 compared to 2023. The coefficient value indicates a trend toward economic contraction due to a decrease in monetary liquidity.

Fourth: Monetary Excess Ratio

Achieving long-term stability in the general price level is only achieved determining the optimal size of the money supply. That is, any change in the share of the productive unit causes changes in the prices level. This means that inflationary forces are attributed to the increase in the share of the productive unit in the amount of money above its optimal size, which results in a monetary excess that leads to a rise in prices.

The monetary excess ratio decreased from 5.5% in 2023 to 2.0% in 2024. This was a result of a larger decrease in broad money supply (M2) than in GDP at constant prices, which led to lower inflation compared to the previous year.

Fifth: The Purchasing Power of Money

The purchasing power of the Dinar saw a slight decrease, falling from a level of 0.96 in 2023 to 0.93 in 2024. This was driven by a 2.6% increase in the Consumer Price Index (CPI) during 2024. This decline would have been more significant if not for CBI's policy to support the Dinar's value, coupled with the cabinet's decision to increase the provision of goods to those covered by social welfare programs.

A similar slight decrease in the Dinar's purchasing power is also noted when using the core Consumer Price Index (core inflation). It dropped from 0.96 in 2023 to 0.93 in 2024, reflecting a 2.8% increase in the core CPI. Despite the slight increase in the country's overall price level, the purchasing power of the currency remains at acceptable levels.

Sixth: The Money Multiplier (m)

The money multiplier measures the ability of banks to create money and influence its volume within the national economy.

In 2024, the money multiplier was 1.22, up from 1.10 in 2023, an increase of 11.6%. This rise is attributed to a 13.8% decrease in the growth of the monetary base, which exceeded the 3.8% decline in M2. This was a result of a decrease in CBI's net foreign assets and net domestic assets by 10.3% and 41%, respectively.

Seventh: Monetary Sterilization

The CBI employs monetary sterilization policies to nullify the harmful effects of foreign flows by drawing down from foreign reserves to keep the monetary base stable, which helps to improve certain indicators of domestic and external economic stability and balance in the short term. It works by withdrawing excess liquidity from the economy, which is a consequence of the state's heavy reliance on oil revenues to cover its expenses.

The degree of sterilization increased from 0.88 in 2023 to 0.92 in 2024, indicating a rise in the activity of the sterilization process. This is a result of CBI's net foreign assets increasing at a higher rate than its net domestic assets.

"Summary of the Financial Stability Report 2024"

Monetary and Financial Stability Division - Statistics and Research Department – mfs.dept@cbi.iq

The Central Bank of Iraq (CBI) has implemented a series of policies and initiatives aimed at enhancing the efficiency and stability of the financial system. These measures focus on strengthening bank solvency, expanding financial inclusion, deepening the use of electronic payment tools, and modernizing financial and digital infrastructure. These efforts have enabled financial institutions to provide more efficient and inclusive services to both projects and individuals, thereby enhancing financial depth and facilitating transaction settlements across the public and private sectors.

Progress in digital transformation, payment system development, and credit support for productive sectors reflects the CBI's commitment to building a resilient, modern financial sector capable of navigating challenges. These efforts underscore the CBI's vision of achieving sustainable financial stability as a cornerstone for effective monetary policy and comprehensive economic development in Iraq.

Chapter One: Financial Sector Developments in Iraq

The Iraqi financial sector, comprising both banking and non-banking components, continues to make significant strides toward development and stability. In 2024, the banking sector saw positive growth in total capital, rising from IQD 19.07 trillion in 2023 to IQD 20.54 trillion in 2024, a growth rate of 7.74%. This increase is attributed to CBI strategic directives to enhance financial resilience by raising the minimum capital requirement to IQD 400 billion, implemented in three installments of IQD 50 billion each.

While total assets saw a slight decline of 0.94% (from IQD 205.25 trillion to IQD 203.33 trillion), this was primarily due to a decrease in the assets of state-owned banks. Nonetheless, state-owned banks maintain their leading role, accounting for 76.71% of total banking sector assets in 2024.

Credit indicators remained positive, rising from IQD 95.66 trillion to IQD 102.24 trillion (+6.87%), driven by CBI initiatives to fund vital economic sectors. Cash credit also grew by 6.08% reaching IQD 73.46 trillion, reflecting the CBI's pivotal role in stimulating economic activity. The non-banking financial sector, which encompasses financial institutions both under and outside the supervision of the Central Bank of Iraq (CBI), is playing an increasingly vital role in supporting development and financial stability. It achieves this by financing economic activities and directing investments toward productive sectors.

Consequently, the CBI is committed to monitoring this sector and enhancing its regulatory frameworks to ensure the sustainability of its contribution to achieving broader macroeconomic objectives.

Chapter Two: Macroprudential Policy in the Iraqi Financial System

The importance of macroprudential policy became prominently clear following the 2008 global financial crisis. It is considered one of the primary tools employed by central banks and monetary authorities to enhance financial stability across the system. Following the Basel Committee on Banking Supervision classifications, these tools are divided into capital-based, liquidity-based, and asset-based instruments.

Iraqi banks achieved a high Liquidity Coverage Ratio (LCR) of 121.16% and a Net Stable Funding Ratio (NSFR) of 130.52%, both comfortably exceeding the 100% regulatory minimum. Although the Capital Adequacy Ratio (CAR) decreased to 39% by the end of 2024, it remains significantly above the 12.5% minimum requirement.

Furthermore, risk-weighted assets (RWA) of state-owned banks accounted for 51.55% of the sector's total, while private banks accounted for 48.45%. The ratio of the Net Open Position (NOP) in foreign currencies to capital rose to 49.30% by the end of 2024.

Chapter Three: Domestic Systemically Important Banks (D-SIBs)

D-SIBs are banks whose failure would significantly impact domestic financial stability. In 2024, nine banks were identified as systemically important, representing 20.44% of the total banking sector. These banks accounted for:

- 84.64% of total cash credit.
- 12.59% of total bank deposits.
- 31.72% of total banking sector capital.

The LCR and NSFR for these banks stood at 108.68% and 127.65%, respectively. Credit granted to the private sector by D-SIBs reached 75.37% of the total private sector credit. The Non-Performing Loan (NPL) ratio for these banks was 4.69%, while the NPL ratio for household credit stood at 2.96% (of private credit) and 1.59% (of total systemic bank credit).

Chapter Four: Household and Corporate Sector Indebtedness

The ratio of cash credit to the private sector relative to GDP rose to 12% in 2024, up from 6.04% in 2022. Household credit reached 8.27% of GDP, while corporate credit stood at 3.78%.

From a financial stability perspective, household credit—representing 40.91% of total credit and 68.39% of total private credit—does not pose high systemic risks and has room for expansion. Household NPLs remain low at 3.44% of total credit and 5.75% of private credit, ensuring they do not adversely affect financial stability.

Chapter Five: Financial Infrastructure Developments

Iraq's financial infrastructure underwent a qualitative transformation in 2024, driven by strategic initiatives launched by the Central Bank of Iraq (CBI) to enhance financial system efficiency, support monetary and financial stability, and expand financial inclusion nationwide. A cornerstone of these efforts was the launch of the National Strategy for Bank Lending (2024–2029), developed in collaboration with the German Agency for International Cooperation (GIZ). This strategy aims to bolster private sector financing—specifically for Small and Medium Enterprises (SMEs)—to achieve economic diversification and reduce oil dependency. The strategy outlines clear objectives and Key Performance Indicators (KPIs) to monitor progress while accounting for potential challenges.

Digital transformation efforts included upgrading the Real-Time Gross Settlement (RTGS) system, the Iraq Retail Payment System (IRPS), the Electronic Clearing House (ACH), and the Internal Clearing System (ON-US). Additionally, the CBI issued regulations for establishing Digital Banks and advanced its cybersecurity and regulatory automation frameworks.

Collectively, these developments represent the fundamental pillars for building a more efficient, transparent, and inclusive financial system. Such a system contributes to bolstering economic growth and achieving sustainable financial stability in Iraq.

Chapter Six: Macro Stress Testing

The macro stress tests analyzed results based on two models:

Model 1: Analyzed the impact of shocks in specific variables—including growth rates of Non-Performing Loans (NPLs), Risk-Weighted Assets (RWA), deposits, credit, the market exchange rate, and public revenue and expenditure—on the growth rate of liquid assets. This model concluded that an inverse relationship exists between the growth rate of liquid assets and the growth rates of both NPLs and RWA, while the remaining variables exhibited a direct (positive) relationship with liquid asset growth.

Model 2: Analyzed the impact of shocks in variables such as deposits, credit, public revenue, public expenditure, the market exchange rate, and inflation on the NPL ratio. This model demonstrated an inverse relationship between all variables and the NPL ratio.

Overall, the stress test analysis illustrates how these factors influence the sustainability and stability of the financial system. It demonstrates how such shocks can lead to fluctuations in liquid asset growth and NPL ratios, thereby affecting the volume of credit provided to the private sector, which in turn reflects on macroeconomic variables. It is noted that the exchange rate is no longer considered a dynamic anchor for inflation following the implementation of the electronic platform for foreign transfers.

Chapter Seven: Financial Stability Index

The Financial Stability Index remained stable, with a slight decrease to 0.504 in 2024 compared to 0.521 in late 2023, indicating a system resilient to potential risks.

Improvement was recorded in several stability indicators: the Macroeconomic Index, Capital Market Index, Global Economic Index, and the Financial Cycle Index rose to 0.175, 0.093, 0.024, and 0.030, respectively, in 2024. Conversely, the Banking Sector Index declined to 0.182 during the same period.

"Summary of Iraqi Balance of Payments Report 2024"

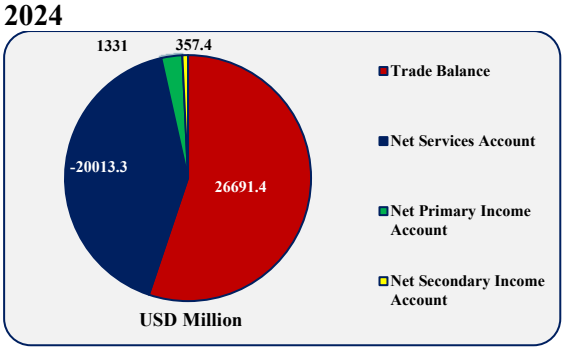
Balance of Payments and Foreign Trade Division - Statistics and Research Department – bop.stat@cbi.iq

In the light of available data, the results of Iraqi balance of payments through 2024 showed a deficit of USD 12754.4 million. Several factors contributed to this deficit, reflected in the review of the Iraqi balance of payments components as the following:

First: Current Account

The Current Account in the Balance of Payments reflects the economic behavior of both the public sector, as dictated by the state budget, and the private sector. According to available data, the Current Account recorded a net surplus of USD 8366.5 million in 2024. The following section outlines the detailed components of this account, as illustrated in Figure 1.

Figure 1: Components of Current Account 2024



1. Balance of Trade

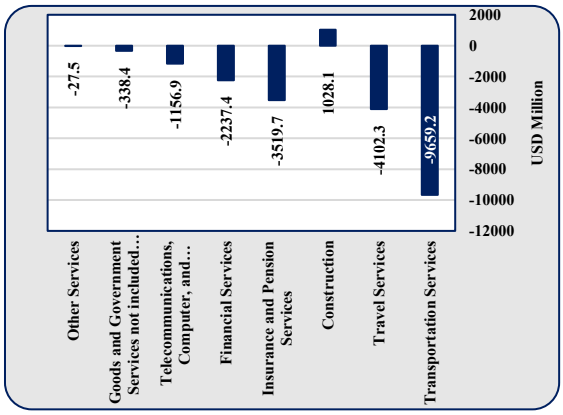
In 2024, the Trade Balance recorded a surplus of USD 26691.4 million. Total exports reached USD 100989.9 million, which includes the value of crude oil in-kind payments to foreign oil companies amounting to USD 13342.6 million. On the other hand, total imports reached USD 87410.0 million on a CIF (Cost, Insurance, and Freight) basis and USD 74298.5 million on a FOB (Free on Board) basis. A deduction of 15% was applied to total imports to account for shipping and insurance costs, facilitating the conversion from CIF to FOB.

2. Net Services Account

The Services Account recorded a net deficit of USD 20013.3 million in 2024. This deficit was driven by a significant increase in total payments (outflows), which amounted to USD 30218.6 million. These payments primarily consisted of freight and insurance premiums associated with the conversion of imports from a CIF to an FOB basis, in addition to travel-related expenditures.

On the other hand, total receipts amounted to USD 10205.3 million. The majority of these inflows were generated under the travel item, which included Arab and foreign nationals coming to Iraq for tourism and visiting the holy shrines as illustrated in Figure 2.

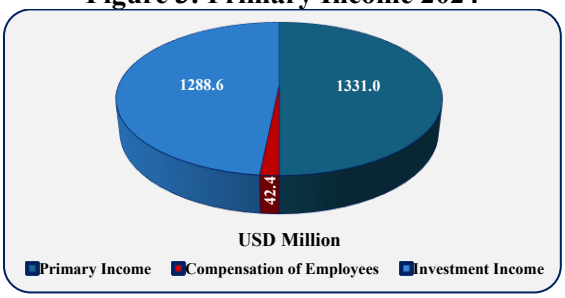
Figure 2: Net Services 2024



3. Primary Income Account

The Primary Income Account recorded a net surplus of USD 1331.0 million in 2024. A detailed breakdown of this account is presented below in Figure 3.

Figure 3: Primary Income 2024



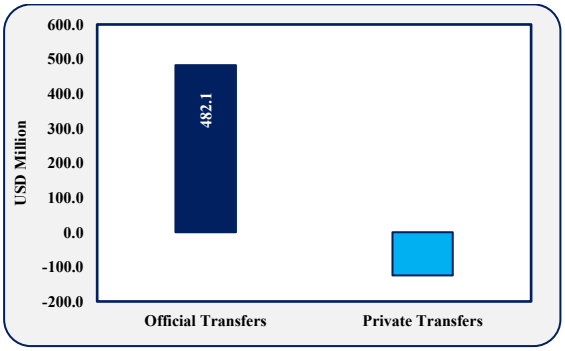
A. Compensation for Employees: This item represents the remittances sent by employees working abroad for less than a year. Net compensation of employees achieved a surplus of USD 42.2 million in 2024.

B. Investment Income: The net investment income account recorded a surplus of USD 1288.6 million, driven by an increase in total receipts to USD 4563.1 million. These receipts primarily comprise interest earned on foreign currency deposits, foreign treasury bills, and increased returns on European investment in foreign banks, in addition to overnight investment interest. Conversely, total payments amounted to USD 3274.5 million, the majority of which consisted of repatriated profits from foreign oil and non-oil companies operating in Iraq.

4. Secondary Income Account

The net secondary income account recorded a surplus of USD 357.4 million in 2024. This resulted from an increase in total receipts, reaching USD 566.5 million, primarily comprising humanitarian aid provided to Iraq by international organizations for internally displaced persons (IDPs) from conflict-affected areas. On the other hand, total payments were recorded at USD 84.4 million. Meanwhile, net private transfers recorded a deficit of USD 124.7 million, representing family assistance provided by non-residents to their relatives and remittances from workers residing outside their home countries for more than one year as illustrated in Figure 4.

Figure 4: Components of the Secondary Income Account 2024



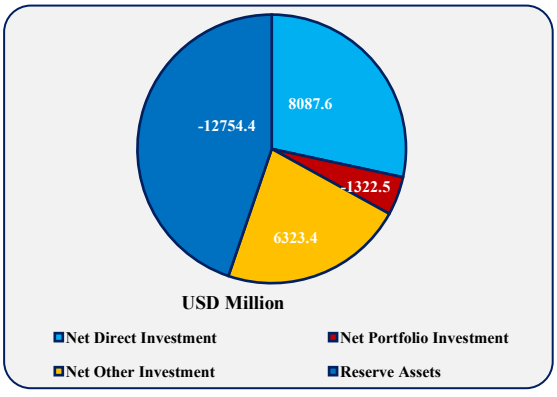
Second: Capital Account

The Capital account for 2024 recorded a deficit of USD 11 million. This account primarily records capital transfers resulting from disposal of fixed assets.

Third: Financial Account

The Net Financial Account recorded a value of USD 334.1 million in 2024. This account appeared with a positive sign as a result of changes in both external financial assets and liabilities. A detailed review of this account's components is presented below, as illustrated in Figure 5.

Figure 5: Components of the Financial Account 2024



1. Net Direct Investment

The net balance of this account reached USD 8,087.6 million in 2024. This was driven by a USD 438.7 million increase in external financial assets, alongside a USD 7648.9 million decrease in financial liabilities. The latter resulted from the repayment of capital costs for oil fields submitted by service contract operators to foreign oil companies operating in Iraq, as well as payments made under the Sino-Iraqi Agreement.

2. Net Portfolio Investment

Net Portfolio Investment recorded a deficit of USD 1322.5 million in 2024. This was driven by a decrease in assets due to a USD 1671.3 million increase in the Ministry of Defense's securities portfolio. Additionally, general government financial liabilities decreased by USD 348.0 million, resulting from the redemption of government bonds.

3. Net Other Investment

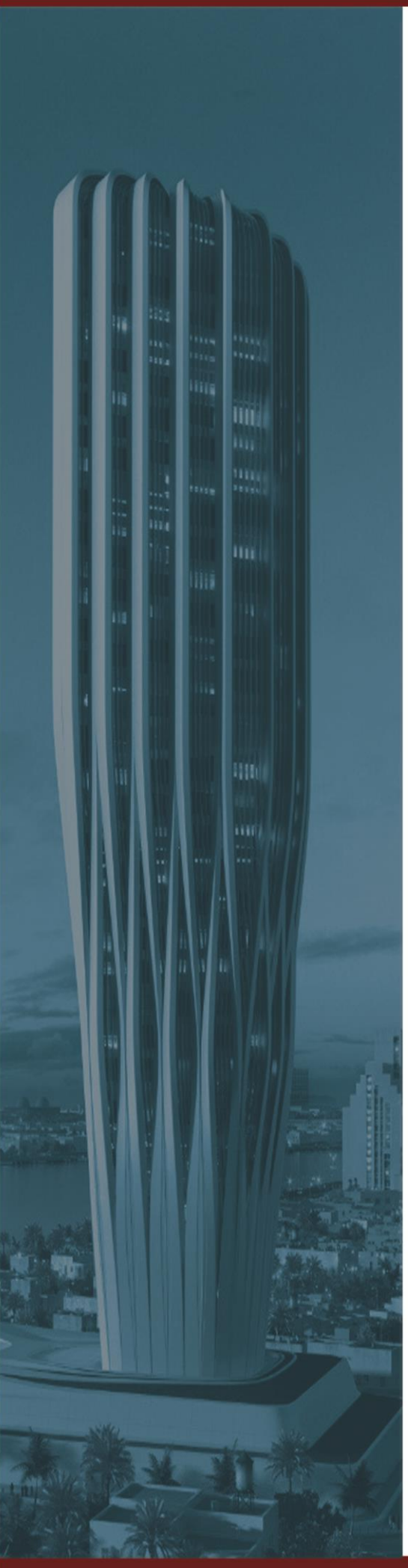
Net Other Investment reached USD 6323.4 million in 2024. This was driven by an increase in the financial assets of deposit-taking corporations and net foreign deposits, amounting to USD 2682.0 million and USD 878.9 million, respectively. On the liabilities side, the official investment account recorded a decrease of USD 5149.7 million, resulting from a reduction in government obligations in addition to loan repayments.

4. Reserve Assets (Official Reserves)

The Central Bank's reserve assets recorded a decrease of USD 12754.4 million in 2024. This decline resulted from a reduction in foreign assets comprising currency, deposits, and financial derivatives.

Fourth: Net Errors and Omissions

The Net Errors and Omissions recorded an amount of USD 8021.4 million in 2024. This item appeared with a negative sign, indicating either the presence of debit transactions that were not recorded in the Balance of Payments or were not fully covered due to lack of source data, or credit entries that may have been overestimated.



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1) Reports and working papers must meet the following drafting (formatting) requirements:

- Margins should be (2.5) cm from all sides, and line spacing should be (1.0) cm.
- The report or working paper title should be enclosed in quotation marks, like this: "...".
- The title should be written in font size (18) with Bold formatting, and it must accurately reflect the content of the report or working paper.
- For Arabic text: font size should be (14) and font type should be (Simplified Arabic).
- For English text: font size should be (11) and font type should be (Times New Roman).
- Figure and table titles should be in Bold font.
- Figures, illustrations, photographs, and maps should be clear and easy to read.
- All pages of the report or working paper, including figure pages, appendices, tables, and footnotes, should be numbered consecutively.
- The total length of the report or working paper including figures, charts and appendices shall not exceed 25 pages except in necessary cases as determined by the editorial board.
- For References Documentation: the journal adopts the American Psychological Association (APA) style for scientific publication, which is commonly used in all universities and research centers, or any other reference system, provided that the reference formatting style is consistent throughout the report or working paper.

2) Sections that must be included in Reports and Working Papers Submitted for Publication:

- The report or working paper title must be provided in both Arabic and English.
- Researcher (s) name, institutional affiliation, and email address.
- Abstract in Arabic, limited to (150) words.
- Abstract in English, limited to (150) words.
- Introduction.
- Conclusions and recommendations.

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