The Economic impact of the global uncertainty on the Moroccan exchange rate

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Abstract

As the world becomes more connected, Morocco's economy is affected by the uncertainties happening globally. This research focuses on how this economic instability impacts Morocco's exchange rate. The study aims to understand why exchange rates fluctuate and how it affects Morocco's overall economic performance. To achieve this, the research uses detailed analysis of economic indicators and global events, using advanced models to study past exchange rate data. It specifically looks at periods when global uncertainty was high, like financial crises, conflicts, and trade disruptions, to see how they influence Morocco's currency, the dirham.
This research not only helps us understand the relationship between global uncertainty and Morocco's exchange rate but also offers valuable insights for policymakers and economic decision-makers. They can use this knowledge to manage the economy better during challenging times. By understanding how global events affect the country's currency, policymakers can create more effective measures to protect Morocco's economy from external shocks and encourage sustainable growth.

Keywords: *Economic Impact, Global Uncertainty, Moroccan Exchange Rate, Financial Crises, Macroeconomic Indicators.*

Résumé :
À mesure que le monde devient de plus en plus connecté, l'économie du Maroc est influencée par les incertitudes qui se produisent à l'échelle mondiale. Cette recherche se concentre sur la manière dont cette instabilité économique affecte le taux de change du Maroc. L'étude vise à comprendre pourquoi les taux de change fluctuent et comment cela affecte la performance économique globale du Maroc. Pour y parvenir, la recherche utilise une analyse détaillée des indicateurs économiques et des événements mondiaux, en utilisant des modèles avancés pour étudier les données passées sur les taux de change. Elle examine spécifiquement les périodes où l'incertitude mondiale était élevée, comme les crises financières, les conflits et les perturbations commerciales, pour voir comment elles influencent la monnaie marocaine, le dirham. Cette recherche nous aide non seulement à comprendre la relation entre l'incertitude mondiale et le taux de change du Maroc, mais elle offre également des informations précieuses aux décideurs politiques et économiques. Ils peuvent utiliser cette connaissance pour mieux gérer l'économie en période difficile. En comprenant comment les événements mondiaux affectent la monnaie du pays, les décideurs politiques peuvent élaborer des mesures plus efficaces pour protéger l'économie marocaine des chocs externes et favoriser une croissance durable.

Mots clés : *Impact économique, Incertitude mondiale, Taux de change marocain, Crises financières, Indicateurs macroéconomiques.*

INTRODUCTION

Economic uncertainty is a term used to describe the unpredictable nature of events that can impact the economy, such as political events or changes in the stock market. (Corinna Ghirelli, 2019) Uncertainty can have a significant impact on economic outcomes like investment, consumption, and credit. Since the financial crisis in 2008-2009, there has been a growing interest in studying economic uncertainty in economics research. Researchers use different methods to measure uncertainty, such as looking at stock market volatility or economic and political events. Understanding the effects of uncertainty on the economy is important for policymakers, businesses, and individuals to make informed decisions. (SA Al-Thaqeb, 2019) Moreover, Global uncertainty refers to the prevailing sense of unpredictability and risk in the international economic landscape. It encompasses various factors such as geopolitical tensions, trade disputes, financial market volatility, and changes in investor sentiment. These factors can disrupt global economic stability and have far-reaching implications for countries with open economies like Morocco. (PW Liesch, 2011)

The impact of global uncertainty on exchange rates has been a subject of extensive research. Scholars have examined the relationship between uncertainty and exchange rates in various contexts, including developed and emerging economies. While some studies have focused on the impact of specific sources of uncertainty, such as political events or financial crises, a comprehensive analysis of the economic consequences of overall global uncertainty on the Moroccan exchange rate is lacking.

Understanding how global uncertainty influences the Moroccan exchange rate is of paramount importance due to its implications for the country's economic performance. (Oshikoya, 1994) Fluctuations in the exchange rate can affect import and export competitiveness, inflation, foreign direct investment, and the overall business environment. Consequently, accurately assessing the economic impact of global uncertainty on the Moroccan exchange rate will provide policymakers with valuable insights to implement effective measures to mitigate potential risks and enhance economic stability.

This research thesis aims to fill the existing gap in the literature by examining the economic impact of global uncertainty on the Moroccan exchange rate. It will employ an empirical approach, analyzing relevant macroeconomic data and employing econometric techniques to quantify the relationship between global uncertainty and the exchange rate. By incorporating case studies and comparative analyses, this study will provide a broader perspective on the topic and enhance the robustness of the findings. This leads us to identify our research question **How does global uncertainty affect Morocco's economy through its exchange rate?**

In general, this work seeks to explore the joint effects of multiple variables on the exchange rate: Examine how different factors, including global uncertainty and other relevant variables, collectively contribute to the changes in the Moroccan exchange rate.

In order to verify the achievement of our general objective, we can break it down into the Following operational objectives:

- Conducting a multiple regression analysis, in order to evaluate the combined influence of these variables and identify their relative importance.
- Identify the most significant variables that best explains the fluctuation of the Moroccan exchange rate

To conduct this research and answer the above questions, we have adopted the following Methodological methods:

On the theoretical level, we conducted bibliographic research (consultation of books, official Documents, memoirs)

For the analytical framework, we choose to conduct a multiple regression to explain more the effect of the global uncertainty on the Moroccan exchange rate.

I- Fundamental concepts

1.1.The global uncertainty:

- **The definition of the uncertainty:**

Uncertainty is the absence of certainty or sureness in an occurrence. Uncertainty in accounting refers to the inability to forecast outcomes or effects due to a lack of information or a foundation upon which to establish such predictions. (Wheaton, 2008)

Uncertainty is the mental condition of uncertainty; a feeling of unease; a lack of assurance or confidence; hesitancy or irresolution. (Oxford English Dictionary n. [.-1.)

Indeed we can say that uncertainty is essentially the lack of information while making decisions. Through Making poor or incorrect judgments and this might be the outcome of uncertainty.

We must learn to deal with uncertainty if we are to survive as living things. It takes a lot of common sense and the ability to reason under ambiguity to deal with uncertainty.

- **The global uncertainty**

Global uncertainty refers to the state of unpredictability or instability that affects the world as a whole or a significant part of it. It is a situation in which the future course of events, trends or

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relationships between countries and regions is uncertain. (B Prideaux, 2007)

Global uncertainty can arise from a variety of factors such as political instability, economic crises, social upheaval, environmental disasters, technological changes, and global pandemics. It can affect the decisions of individuals, businesses, and governments, and have significant implications for the global economy, trade, and security. In short, global uncertainty is a complex and multifaceted phenomenon that poses significant challenges to decision-makers in all sectors of society.

- **The causes of the global uncertainty**

Overall uncertainty can result from a variety of factors, including the following

- Political instability:

Political instability, conflict and regime change can create uncertainty in international relations and impact trade and investment decisions. The main sources of political instability are:

- The absence of democracy as a potential determinant of political instability

Several authors have shown, through theoretical and empirical studies, that democratic institutions play a very important role in the economic growth process.

Indeed, Wittmann (1989) predicts that, in democratic countries, markets are structured to minimize the divergence between private and social costs. By promoting civil liberties and political rights, democracy creates the appropriate conditions for sustainable growth and development.

- Poor governance and corruption, potential sources of instability political instability

According to Shleifer and Vishny (1993), socio-political unrest, such as coups d'état and political assassinations, can be attributed to inadequate governance practices. Poor governance is characterized by violence and a lack of respect for property rights.

Similarly, Kew (2006) supports this perspective by highlighting that inadequate governance by the political class can lead to political instability. Among the primary causes of poor governance is the failure to uphold the fundamental principles of democracy and the constitution.

- Adverse macroeconomic conditions increase political instability.

Adverse economic conditions create dissatisfaction among the population, leading to a higher level of political unrest. Economic crises can serve as catalysts for protests and even revolutions, as people express their discontent with the prevailing economic situation.

- Economic instability:

Economic instability can be defined as a situation where the economy experiences significant and unpredictable fluctuations in key economic indicators such as growth rate.

The main sources of the economic instability are:

- External shocks

External shocks are economic factors that are largely beyond the control of national governments and financial institutions.

Fluctuations in commodity prices, financial crises, wars and natural disasters are all examples of external shocks that can cause economic instability.

- Fiscal policy

Fiscal policy refers to the actions taken by governments to regulate government revenues and expenditures. It can include raising or lowering taxes, changing government spending, increasing or reducing subsidies, etc. If fiscal policy is poorly designed, it can lead to economic instability.

- Social and political tensions

Social and political tensions can cause significant disruptions in the economy, including disrupting production, trade and services. Political tensions such as elections, changes in government, coups, etc., can also cause disruptions in the economy by creating uncertainty and disrupting economic policies.

- Social upheaval:

Social unrest, protests, and demographic changes can also create uncertainty by disrupting traditional power structures and institutions.

The main sources of the Social upheaval are:

- Socio-economic inequalities:

Socio-economic inequalities can include inadequate wages, unfair working conditions, lack of access to education, health care and other public services, and barriers to social mobility.

- Corruption and poor governance:

When governments are not accountable and responsive to the needs of their people, it can lead to social upheaval. Corruption, abuse of power, lack of transparency and mismanagement of public resources can cause frustration and anger among citizens.

- Structural economic changes:

When economies undergo structural changes, such as globalization, automation, or deindustrialization, it can cause economic disruption and social upheaval.

- Technological disruption:

Rapidly changing and disruptive technologies can impact entire sectors and create uncertainty

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in the labor market, as workers may need to learn new skills to remain employable.

Technological norms and standards are constantly evolving, which can disrupt existing industries.

- Environmental change:

Climate change, natural disasters, and resource scarcity can create uncertainty about the availability and accessibility of natural resources, which can impact businesses and societies.

The main sources of climate change are related to human activity which are:

- Agriculture:

Agriculture is a major source of greenhouse gas emissions, particularly methane and nitrous oxide, which are emitted from crops, livestock and agricultural waste.

- Industry:

Manufacturing, transportation, construction and other industrial activities also emit greenhouse gases, such as carbon dioxide, methane and fluorinated gases.

- Waste:

Waste, such as landfills, incinerators, and wastewater treatment, can also be a significant source of greenhouse gas emissions, particularly methane.

- Geopolitical tensions:

Geopolitical tensions between countries or regions can also create uncertainty by increasing the risk of conflict or disrupting trade relations. The geopolitical tensions can be caused by several factors such as Territorial disputes, Economic competition Divergent ideologies and values Power and influence and so on.

1.2. The exchange rate

- **The definition of the exchange rate**

(Copeland) Defines the exchange rate as the price of one currency expressed in terms of another currency. Specifically, it is the number of units of one currency it takes to buy one unit of the other currency. (Taylor) define the exchange rate as the relative price of one currency to another. Specifically, they explain that the exchange rate indicates how many units of one currency are needed to buy one unit of another currency.

Sarno and Taylor point out that the exchange rate is a key concept in international finance and has a significant impact on trade, capital flows and investment.

They also note that exchange rates are influenced by a number of factors, such as monetary and fiscal policies, economic and political events, capital flows, and supply and demand patterns in currency markets.

(W Breuer) Point out that the exchange rate is a fundamental concept in international finance, as it affects trade, capital flows, and investment across borders.

They also note that exchange rates are influenced by a number of factors, such as monetary and fiscal policies, economic and political events, supply and demand trends in currency markets, and interest rates.

- **Factors that affect the exchange rate**

The exchange rate is influenced by a variety of factors, which can be grouped into three broad categories: economic factors, political factors and psychological factors. The following is a brief description of these factors:

- **Economic factors:**

Economic factors that affect the exchange rate include inflation, economic growth, trade balance, interest rates, debt levels, and commodity price fluctuations.

For example, if a country is experiencing high inflation, this can cause its currency to depreciate, as investors tend to avoid currencies that are rapidly losing value.

Similarly, if a country has strong economic growth and a trade surplus, its currency may strengthen, as there is a strong demand for the currency to conduct trade transactions.

- **Political factors:**

Political factors that influence the exchange rate include monetary and fiscal policies, changes in trade regulations and laws, elections, international conflicts and political crises.

For example, if a country adopts an expansionary monetary policy (increasing the money supply), this may cause its currency to depreciate due to the increased supply of the currency in the market.

- **Psychological factors:**

Psychological factors that affect the exchange rate include investor expectations, rumors and speculation. For example, if investors expect a currency to depreciate in the future, they may sell that currency, which may cause its value to decline. Similarly, if there are rumors of a possible geopolitical conflict, this may lead to an increase in demand for a currency that is considered safer (e.g., the U.S. dollar or Japanese yen).

II- Material and methods

2.1.The methodology

In order to answer the previous problematic, we will begin by extracting the data concerning The Moroccan exchange rate USD/MAD from 2000 to 2022, from official sources such as yahoo finance, indeed we will do the same thing for the global uncertainty index and the macroeconomic factors that we choose to work on it "inflation rate, unemployment rate, unemployment rate, the price of gold and the price of oil".

Then we will process the data using a multiple regression model to attempts to model the relationship between two or more features by fitting a linear equation to observe data using the software SPSS. This research will allow us to know and to find out which factor has the highest impact on the predicted output and how different variable relate to each other.

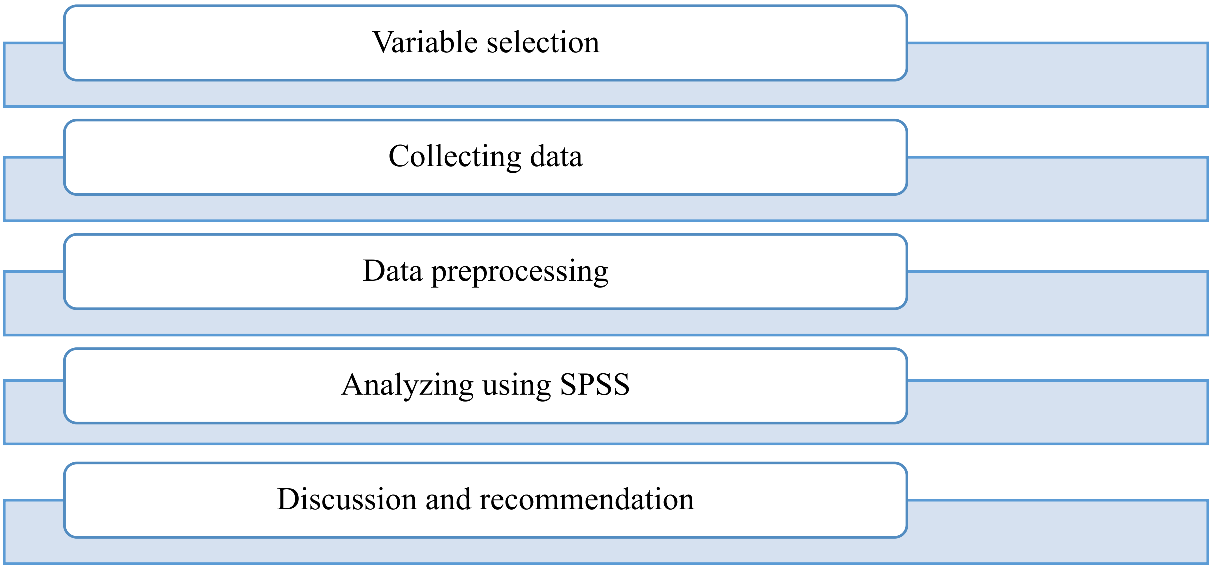

Figure 1: Methodological figure:

Source: Established by us

2.2. Material

In this study, all the data used for the multiple regression analysis were extracted from reliable sources, including the World Bank website, Yahoo Finance, and the Bank Al-Maghrib website. These sources were chosen for their credibility and availability of relevant economic and financial data. For the tool that we choose to work on is the software SPSS

- Statistical package for the social sciences (SPSS software):

SPSS Statistics is the leading statistical software. It allows you to explore your data more deeply and quickly, offering a much more powerful tool than standard spreadsheets, databases or multidimensional tools for analysts

- **The variables:**

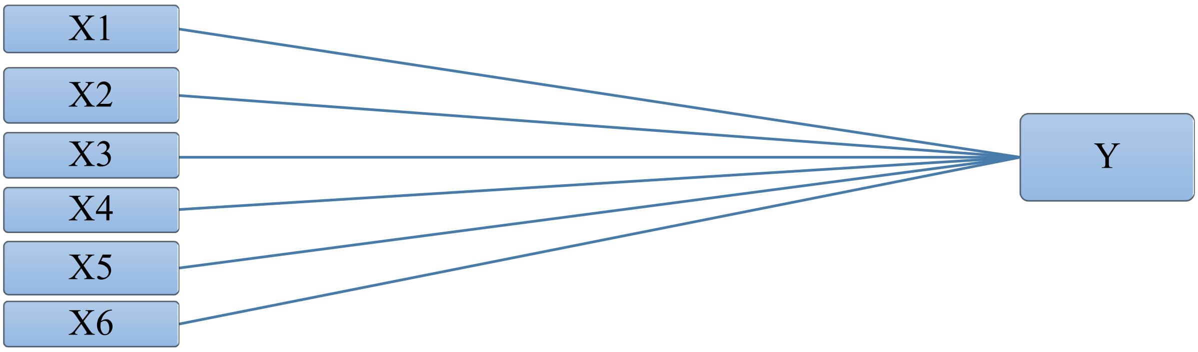

Figure 2: The variables

Source: Established by us

Touching upon the figure, we are trying to prove the existence of an impact between the independent variables represented by "X1, X2, X3, X4, etc." and "Y." The figure visually shows the relationships between these variables, providing a graphical representation of their associations.

Table 1: The variables table:

Dependent variable	Y	The Moroccan exchange rate
Independent variables	X1	The world uncertainty index
	X2	Inflation
	X3	GDP growth
	X4	The unemployment rate
	X5	The price of Oil
	X6	The price of Gold

Source: Established by us

- The choice of the variables

The choice of working on this variables that we mentioned before comes based on the research papers of (ODJOUMANI, 2020) , this researcher conducted an analysis of Essays on the macroeconomic impact of global uncertainty. This study explores the economic impact of the global uncertainty on the exchange rate of 21 advanced countries. The insights from this research helped us understand the potential influence of the global uncertainty on the changes of the Moroccan exchange rate.

(Davis, 2016) Introduced an index of global economic policy uncertainty, which serves as a measure of uncertainty related to economic policies on a global scale.

By referencing this work, we aimed to capture the impact of global uncertainty on the Moroccan exchange rate, considering the potential repercussions of economic policy uncertainty on currency markets.

These research papers were valuable resources that guided our choice of variables and contributed to the theoretical framework of our study. By drawing upon these studies, and work on them in Moroccan context, ensure that our research aligns with established literature and incorporates relevant insights into the economic impact of global uncertainty on exchange rates.

- **The dependent variable**:
  - MAD/USD Exchange Rate:

The exchange rate represents the value of the Moroccan Dirham (MAD) relative to the US Dollar (USD). It indicates the rate at which one currency can be exchanged for another.

Exchange rates can fluctuate due to various factors such as economic conditions, international trade, interest rates, and investor sentiment.

- The independent variables
  - **The world Uncertainty Index (WUI):**

The global uncertainty refers to the lack of clarity or unpredictability regarding government policies and regulations. The Global Uncertainty Index refers to an index that measures global economic and political uncertainty on a quarterly basis in 143 countries.

- **GDP Growth:**

Gross Domestic Product (GDP) growth is a measure of the economic performance and expansion of a country's economy over a specific period. It represents the rate at which the total value of goods and services produced within a country increases.

- **Inflation Rate:**

The inflation rate represents the rate of change in the average price level of goods and services in an economy over time. It indicates the erosion of purchasing power as prices increase.

- **Unemployment Rate:**

The unemployment rate is a measure of the proportion of the labor force that is unemployed and actively seeking employment. It represents the percentage of people without jobs in relation to the total labor force.

- **Oil Price:**

Oil price refers to the cost of a barrel of crude oil on the global market. Oil prices are influenced by factors such as global supply and demand dynamics, geopolitical events, production decisions by oil-producing countries, and market speculation.

- Gold Price:

Gold price represents the value of an ounce of gold in the global market. Gold is considered a safe-haven asset and is often used as a store of value or hedge against economic uncertainty.

III- Results and Analysis

3.1. Presentation of the results

Table 2: Variable Entered and removed table:

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PriceofGold, WUI, Inflation, GDPgrowth, Unemploymentrate, PriceofOil[b]	.	Enter

a. Dependent Variable: EXrate

b. All requested variables entered.

Source : SPSS

This table shows the dependent variable "The Moroccan Exchange rate" and the independent variables which are: "the price of gold, the price of Oil, inflation, the World uncertainty index, the GDP growth, and the Unemployment rate"

Table 3: The Model summary table:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,741[a]	,548	,548	,193247940588833	,548	1819,554	6	5993	,000

a. Predictors: (Constant), GDPgrowth, WUI, inflation, Unemploymentrate, PriceofGold,price of oil,

Source: SPSS

Concerning the model summary we observed that overall the model is accurate, as we have in the table the R-squared value of 0.548, which means that approximately 54, 8% of the variability in the Moroccan exchange rate can be explained by the independent variables included in the regression model. This indicates a moderately strong relationship between the independent variables and the dependent variable.

Indeed the Adjusted R-squared value, which is 0.548, shows a more conservative measure especially that Both R-squared and Adjusted R-squared values range from 0 to 1, with higher values indicating a better fit of the model to the data.

The Adjusted R-squared value being very close to the R-squared value suggests that the independent variables in the model are providing meaningful explanatory power.

In the case of Std. Error of the Estimate of 0, 193247940588833 means that, on average, the actual values of the Moroccan exchange rate deviate from the predicted values by approximately 0.193247940588833 units. This measure provides an indication of the accuracy of the regression model's predictions.

Table 4: The correlations table:

Correlations								
		EXrate	WUI	Inflation	GDPgrowth	Unemployment rate	PriceofOil	Price of Gold
Pearson Correlation	EXrate	1,000	-,297	,005	-,218	-,273	-,205	-,733
	WUI	-,297	1,000	,009	-,150	,212	,250	,403
	Inflation	,005	,009	1,000	,014	,003	,021	,014
	GDPgrowth	,218	-,150	,014	1,000	-,147	,255	-,162
	Unemployment rate	-,273	,212	,003	-,147	1,000	-,558	-,428
	PriceofOil	-,205	,250	,021	,255	-,558	1,000	,610
	PriceofGold	-,733	,403	,014	-,162	-,428	,610	1,000
Sig. (1-tailed)	EXrate	.	,000	,002	,000	,000	,000	,000
	WUI	,000	.	,000	,000	,000	,000	,000
	Inflation	,002	,000	.	,000	,000	,000	,000
	GDPgrowth	,000	,000	,000	.	,000	,000	,000
	Unemployment rate	,000	,000	,000	,000	.	,000	,000
	PriceofOil	,000	,000	,000	,000	,000	.	,000
	PriceofGold	,000	,000	,000	,000	,000	,000	.

Source: SPSS

In our case, we noticed that the correlation coefficient of the variables indicates roughly a moderate correlation (negative and positive) between all the variables which shows that the world uncertainty index and the other macroeconomic variables have a moderate impact on the Moroccan exchange rate, nevertheless in the case of the independent variable inflation we took notice of a very weak correlation coefficient between inflation and all the variables. Indeed the price of gold indicates a Strong positive correlation which shows that the price of gold have a significant impact of the Moroccan exchange rate.

In summary, the multiple regression analysis suggests that variables such as GDP growth, unemployment rate, price of oil, and price of gold have significant effects on the Moroccan Exchange Rate.

Despite the results that shows the low impact of the variable inflation regarding the multiple linear regression, the regression model can yield more accurate and reliable results.

Outliers can distort the relationship between the predictor variables and the response variable, leading to biased parameter estimates. Deleting them helps to ensure that the estimated coefficients represent the true relationship between the variables under investigation.

- **Results after deleting the outliers:**

Table 5: Variable Entered and removed table:

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GDPgrowth, WUI, Unemployment rate, priceofoil ,PriceofGold[b]		Enter
		Inflation	Enter

a. Dependent Variable: EXrate

b. All requested variables entered.

Source: SPSS

The table present the variables entered and removed, in this case we removed the variable inflation.

Table 6: The model summary table:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,801[a]	,641	,640	,172374291410649	,641	1781,497	5	5991	,000

a. Predictors: (Constant), PriceofGold, WUI, GDPgrowth, Unemploymentrate, PriceofOil

Source: SPSS

The table below shows the results after deleting the variable inflation so as we can see we have an R-squared value of 0.641, which means that approximately 64.1% of the variability in the Moroccan exchange rate can be explained by the independent variables included in the regression model. Comparing to the results before deleting the outliers, we can say that the model is being more accurate and more significant.

As well as the Std. Error of the Estimate changed from 0,193247940588833 to 0.172374291410649 and this means that, on average, the actual values of the Moroccan exchange rate deviate from the predicted values by approximately 0.172374291410649 units.

This measure provides an indication of the accuracy of the regression model's predictions, as the value of the Std.Error moved to be less than the value before deleting the outliers as well as the model suggest that A lower value of the Std. Error of the Estimate suggests that the model's predictions are more accurate, while a higher value indicates a greater amount of variability or error in the predictions.

Table 7: The coefficients table:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9,765	,026		38,942	,000		
	WUI	-,220	,005	,211	-2,073	,000	,803	1,001
	GDPgrowth	,303	,001	,040	4,591	,000	,771	1,296
	Unemploymentrate	-,423	,002	-,107	-2,285	,000	,673	1,486
	PriceofOil	-,195	,000	-,460	-3,251	,000	,437	2,288
	PriceofGold	-,211	,000	,975	-8,788	,000	,509	1,966

a. Dependent Variable: Exrate

Source : SPSS

Relating to the model, we noted that all the independent variables have tolerance values close to 1, indicating that there is low Multicollinearity present. This means that each independent variable contributes unique information and is not strongly predicted by the other independent variables in the model. Tolerance values above 0.1 are generally considered acceptable.

We realized also that all the independent variables have VIF values below 5, which is another indication of low multicollinearity. VIF values below 5 are generally considered acceptable.

Based on our results, it appears that there is no significant multicollinearity among the independent variables in the regression model.

So here and after deleting the outliers we can conclude the equation that represent the linear multiple relationship between the Moroccan exchange rate and the independent variables including the world uncertainty index and the other macroeconomic factors

The Moroccan Exchange rate = 9,765 -0, 22 *Wui + 0,303*GDP growth – 0,423*Unemployment rate – 0,195*Price of oil -0,211 *Price of gold

3.2.The analysis of the results:

- **Discussion**

The results of the multiple regression analysis provide valuable information on the economic impact of global uncertainty on the Moroccan exchange rate. The results indicate that most of the variables have a significant impact on the Moroccan exchange rate. Firstly, Moroccan GDP

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Vol 4 N°3
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growth showed a strong positive relationship with the exchange rate. This suggests that when the economy is growing, the value of the Moroccan currency strengthens relative to other currencies. This result is in line with economic theory, which suggests that a robust economy attracts foreign investors and increases demand for the national currency.

Secondly, the unemployment rate also had a significant influence on the exchange rate. Higher unemployment rates were associated with a depreciation of the Moroccan currency.

This can be attributed to the negative impact of unemployment on consumer spending and investment, leading to reduced demand for the currency and subsequent depreciation.

In addition, the global uncertainty index showed a significant negative relationship with the Moroccan exchange rate. This means that increased global uncertainty is associated with currency depreciation. Uncertainty on world markets prompts investors to seek safe havens, leading to a reduction in demand for the Moroccan currency and its devaluation.

In addition, gold and oil prices have a significant impact on the Moroccan exchange rate. Higher gold and oil prices were associated with currency depreciation.

This can be explained by the fact that Morocco is a net importer of oil and gold.

Consequently, when the prices of these commodities rise, the country's import costs increase, leading to a lower exchange rate.

Interestingly, the inflation variable had no significant impact on the Moroccan exchange rate in our analysis. This may be due to various factors, such as the central bank's effective monetary policy measures to manage inflation or other external factors that overshadowed the influence of inflation on the exchange rate.

However, it is important to note that the analysis was carried out after removing outliers, thereby improving the accuracy of the results.

Overall, the results suggest that the Moroccan exchange rate is influenced by a variety of economic factors, including GDP growth, the unemployment rate, the global uncertainty index, the price of gold and the price of oil.

- **Recommendations**

We can divide the recommendation in two part, recommendation for the policymakers and other recommendation for the investors. So the main recommendations for the policy makers that we could highlight are:

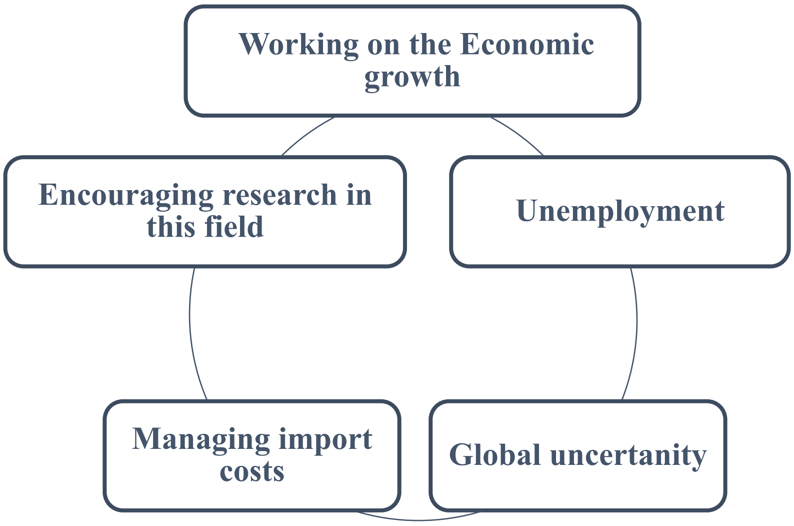

Figure 3: Recommendations for the policymakers

- Economic growth:

Policymakers should focus on implementing strategies to promote economic growth in Morocco. This can include initiatives such as attracting investment, improving the business environment, and supporting sectors with high growth potential.

- Unemployment:

Morocco's unemployment problem should be tackled as a priority by policymakers. This can be done by implementing measures that encourage job creation.

- Global uncertainty:

Given the impact of global uncertainty on the Moroccan exchange rate, policymakers should keep a close eye on global economic and political developments.

- Managing import costs:

To address the negative impact of rising gold and oil prices on the exchange rate, policymakers should focus on effectively managing import costs.

- Encouraging ongoing research and analysis:

Given the complexity of the factors influencing the exchange rate, policymakers need to encourage ongoing research and analysis in this area.

So the main recommendations for the investors that we could highlight are:

Figure 4: Recommendations for the Investors

Source: Established by us

- Consider Global Uncertainty:

Investors should take into account the global uncertainty index when making investment decisions related to the Moroccan exchange rate.

- Track Commodity Prices:

Given the observed impact of the price of gold and oil on the Moroccan exchange rate, investors should keep a close eye on these commodity prices.

- Diversify Investment Portfolio:

In light of the findings, investors should consider diversifying their portfolios to mitigate the risks associated with the Moroccan exchange rate.

- Hedging strategies:

Hedging strategies can help also to protect investments from adverse currency movements and provide a level of certainty in uncertain currency markets. Such as: forward contracts, currency options, currency swaps…

- Seek Professional Advice:

Given the complexity of currency markets and the various factors influencing the Moroccan exchange rate, investors should consider seeking advice from financial professionals or currency specialists.

CONCLUSION

To conclude, this research project examined the economic impact of global uncertainty on the Moroccan exchange rate. By conducting a multiple regression analysis, incorporating relevant variables, and referencing influential studies in the field, valuable insights have been obtained. The findings reveal that several factors have a significant impact on the Moroccan exchange rate. Variables such as GDP growth, the unemployment rate, the world uncertainty index, the price of oil, and the price of gold demonstrate notable relationships with the exchange rate.

These results align with previous research in the field, highlighting the relevance and validity of the analysis.

The regression model employed provides a statistical framework for understanding the interplay between these variables and their collective impact on the Moroccan exchange rate. The model highlights the importance of considering global uncertainty and its various manifestations in influencing currency markets.

Indeed, the research contributes to the understanding of the economic dynamics affecting the Moroccan exchange rate. The results offer insights for policymakers, investors, and other stakeholders, highlighting the significance of factors such as economic growth, unemployment, global uncertainty, import costs, inflation, and the importance of research in this field.

Moving forward, further research can explore additional variables, refine the model, and consider the evolving nature of global uncertainty.

Additionally, employing more sophisticated econometric techniques and incorporating qualitative analysis could provide a deeper understanding of the underlying mechanisms and dynamics influencing the Moroccan exchange rate.

Overall, this research advances our knowledge of the economic impact of global uncertainty on the Moroccan exchange rate and provides valuable implications for policymakers and investors seeking to navigate currency markets effectively. By addressing the limitations, building upon these findings, and engaging in continued research, we can enhance our understanding of the complex interactions between economic factors and exchange rate dynamics in a globalized context.

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