# The International Fisher Effect on Accounting and Technology Between, Theory and Application of Empirical Testing of International Fisher Effect in (Libya, and Euro Countries)

**Dr, Husein El Hadi Sherif and Mr, Akram Abdulla Eldawi**

Libya State - Ministry of education
Libyan center for biotechnology research
Email box: 30313 - Tajoura
email: info@btc.org.ly

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Abstract: In a simplified statistical test of the International Fisher Effect (IFE), a regression analysis was applied to historical exchange rates and interest differential data for some selected countries; namely, Libya and the Euro countries. Also, Fisher's international impact on accounting and technology has been somewhat positive and good in some years in terms of impact. Each of these countries was interchangeably used as the home country, and foreign country to track the trail of the effect. While caution must be exercised in applying and assessing the theory, the IFE model may not be realistic to put into practice in daily currency transactions, but its value lies in its ability to illustrate the expected relationship between interest rates, inflation and exchange rates. This information is helpful in appraising the price competitiveness of foreign imports and in exploring export opportunities for countries.

**Key Words**: Accounting and Technology, IEF, Inflation, Interest Rates, Exchange Rates, Regression Analysis.

## Introduction

The appreciation or depreciation of currency prices is proportionally related to differences in nominal rates of interest. The International Fisher Effect (IFE) theory is an important concept in the fields of economics and finance that links interest rates, inflation and exchange rates. Similar to the Purchasing Power Parity (PPP) theory, IFE attributes change in the exchange rate to interest rate differentials, rather than inflation rate differentials among countries. Nominal interest rates would automatically reflect differences in inflation by a purchasing power parity or no-arbitrage system. The two theories are closely related because of the high correlation between interest and inflation rates. The IFE theory suggests that the currency of any country with a relatively higher interest rate will depreciate because high nominal interest rates reflect expected inflation.

Assuming that the real rate of return is the same across the study's selected countries, differences in interest rates between countries may be attributed to differences in expected inflation rates. For example, between the Libyan and the Euro Countries' currencies, the LBY/EU spot exchange rate of 2022 was 1.6438. The interest rate at that time was 3.4% in Libya and 2.5% in Euro countries. The IFE predicts that the country with the higher nominal interest rate (Libya in this case) will see its currency depreciate. The expected future spot rate is calculated by multiplying the spot rate by a ratio of the foreign interest rate of domestic interest rate: (1.6438 × (1.034/1.025)) = 1.6582. The IFE expects the LBY/EU to appreciate to 1.6582. The IFE expects the LBY to depreciate against EU (it will only cost 1.6582 to purchase one LBY compared to 1.6582 before) so that investors in

either currency will achieve the same average return; i.e. an investor in the EU will earn a lower interest rate of 3.40%, but will also gain from appreciation of the EU.

**A final example** Interchangeably the EUROC/LBY spot exchange rate of 2022 was 1.7290. The interest rate at that time in Libya was 3.4% and 2.5% in Euro countries. The IFE predicts that the country with the lower nominal interest rate (Euro countries, in this case) will see its currency to appreciate. The expected future spot rate is calculated by multiplying the spot rate by a ratio of the foreign interest rate of the domestic interest rate: (1.7290 × (1.025/1.034)) = 1.7139. The IFE expects the EU/LBY to depreciate to 1.7139. In the end, investors in either currency will achieve the same average return, i.e. an investor in the EU will earn a lower interest rate of 2.5%, but will also gain from appreciation of the EU.

(LBY= Libya. EU= Euro Countries)

Also, changes in the exchange rate can have a powerful effect on the macro-economy, affecting variables such as the demand for exports and imports, real Gross Domestic Product (GDP) growth, inflation and unemployment, but as with most variables in economics, there are time lags involved. For the shorter term, the IFE has proven to be unpredictable because of the various short-term factors that affect exchange rates and the predictions of nominal rates and inflation. Longer-term International Fisher Effects have on the other hand appeared to be better, but not by very much. Exchange rates eventually offset interest rate differentials, but prediction errors often occur when the objective is to try to predict the spot rate in the future.

One of the problems affecting consumers and the world economy is exchange rate fluctuations and interest rate disparities. Among others, exchange rate fluctuations can create inefficiency and distort world prices. Moreover, the long-term profitability of investment, export opportunities and price competitiveness imports are all impacted by long-term movements in exchange rates; hence, international investors/companies usually have to pay very close attention to countries' inflation. International businesses engaging in foreign exchange transactions on a daily basis could benefit from knowing some short-term foreign exchange movements. Those that rely on exports can find their products suddenly competitive - or prohibitively expensive – in overseas markets as exchange rates fluctuate. Similarly, companies that rely on imports can see the costs of these imports rise and fall with the exchange rate. In an extension of capital preservation, companies may use information at hand to decide how much more derivative securities such as options, forwards, and futures to hedge in order to mitigate risk arising from exchange rate movements. In addition, investors and fund managers often use these very tools to speculate as well, hoping to profit from fluctuations in exchange rates. Also, exchange rates directly affect the realised return on an investment portfolio with overseas holdings. If you own stock in a foreign company and the local currency goes up a percentage, the value of your investment goes up the same percentage even if the stock price does not change at all. The IFE theory is very attractive because it focuses on the interest-exchange rates relationship.

## Literature Review

The International Fisher Effect (IFE) theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because higher nominal interest rates reflect expected rate of inflation (Madura, 2016). Does the interest rate differential actually help predict future currency movement? Available evidence is mixed as in the case of PPP theory. In the long run, a relationship between interest rate differentials and subsequent changes in the spot exchange rate seems to exist but with considerable deviations in the short run (Hill, 2004). The International Fisher Effect is known not to be a good predictor of short-run changes in spot exchange rates. Using quarterly and yearly data for the interest rates, inflation rate differentials, and changes in exchange rates over a five-year period (2013-2018), Suit and Enol (2019) applied a test of the IFE to four "foreign countries"; namely, the USA, Japan, Singapore, and the UK. Indonesia was the home country.

In this study, regression results showed that interest rate differentials had positive but no significant effect on changes in exchange rate for the Empirical Testing of the International Fisher Effect (2012). The relationship between the nominal interest rates and the expected inflation is of crucial importance in the financial markets. The Fisher Effect postulated that the real interest rate is constant and that nominal interest rates and expected inflation move one-for-one together. The paper examines the existence of an International Fisher Effect in the United States and selected Asian countries like India, Korea and Japan, by regressing interest rate differential on inflation rate differential during the period, 8/2022: Q1 of 2012: Q2. The estimated slope coefficients in regressions of nominal interest rate differential on expected inflation rate differential are significantly different than the theoretical value of unity as is evident in our study. The finding lends support to the existence of a partial Fisher Effect on USA because both interest rates and inflation rate move in a positive direction but do not move with one-for-one. However, in the case of India, Japan and Korea, there do not exist any signs of International Fisher Effect. When each country is treated interchangeably as home country and foreign country to show the direction of International Fisher Effect, the result shows a mixed picture. The theory holds when some countries were used as home country, but was disproved when they were used as foreign countries. In a nutshell, the study suggests that it finds evidence of a positive long run relationship between interest rate and inflation rate for the countries undertaken in our study, but the notion of a full International Fisher Effect is rejected.

Regression results showed an examination of the Fisher Effect for selected new EU member states, (2014). The relationship between interest rates and inflation, which is called Fisher Effect has been investigated in both theoretical and empirical economics vast literature. The contribution of this paper to the literature is to test the Fisher Effect for the selected four transition economies that are also new EU member states. The empirical analysis is conducted by allowing for a structural break that takes place in the year 2012. In this study, a case-wise bootstrap approach empirical method which was developed by Hatemi - J and Hacker (2015) is used and the results support a tax adjusted Fisher Effect in the presence of a structural break.

Another paper empirically investigated the existence of the Fisher Effect in Nigeria under a title of Cointegration Causality and Fisher Effect in Nigeria (2014): An Empirical Analysis (1970-2011). Specifically, it sought to: examine the relationship between expected inflation and nominal interest rates in Nigeria; and determine the nature and direction of causality between expected inflation and nominal interest rate in Nigeria. Employing Cointegration, Granger causality and error correction techniques and using data spanning the period of 1970-2011, the results indicate the existence of long run partial Fisher Effect in Nigeria. Specifically, there exists a long run positive and significant relationship between inflation and interest rates in Nigeria. Furthermore, there exists a unidirectional causality running from inflation to interest rate in Nigeria. The paper recommends amongst others that, given the crucial role of interest rates in determining savings and investment which are necessary for economic growth and development, policy makers and relevant monetary authorities should employ measures that will prevent the inflation rates from rising to alarming heights in order to ensure that interest rates are maintained at reasonably low levels in Nigeria.

A Panel Analysis of the Fisher Effect with an Unobserved World Real Interest Rate (December 6, 2017). The Fisher Effect states that inflation expectations should be reflected in nominal interest rates in a one-for-one manner to compensate for changes in the purchasing power of money. Despite its wide acceptance in theory, much of the empirical work fails to end strong favorable evidence. This paper examines the Fisher Effect on a panel of 21 OECD countries over the period 1983-2010. A standard panel test ends cointegration between nominal interest rates and inflation. However, a small non-stationary common component in the error terms of this alleged cointegrating relation is detected using the PANIC approach. This implies the regression results to be spurious. One possible interpretation for the non-stationary common factor is that it reflects permanent common shifts in the real interest rate induced by, e.g., shifts in time preferences, risk aversion and the steady-state growth rate of

technological change. We next control an unobserved non-stationary common factor using both the Common Correlated Effects (CCE) estimation approach and the Continuously Updated Bias-Corrected (CupBC) estimator. The estimated slope coefficient on inflation is found to be insignificantly different.

Another paper studied the impact of the exchange rate, the international prices, the demand shocks, and the devaluations done in different years, on inflation in the Fiji Islands for the years (annual data) 1975-2010 using cointegration and Vector Error Correction (VEC) approach. The main purpose of this study is to examine the effects of the exchange rates, international prices, and the demand shocks on inflation in Fiji. How the domestic inflation in a pegged exchange rate system is aligned with international price shocks is an important monetarist idea, and this is tested in this study. In addition, this study employs annual data from 1975 to 2010. The multivariate cointegration tests are done after the unit root tests, and further, the Vector Error Correction (VEC) model shows that the changes in Fiji's CPI are Granger caused by the long-term trends in all other variables, and the CPI in Australia, and devaluation-year dummies are used as exogenous variables in the VEC model. Also, the changes in exchange rate and changes in demand shocks are the independent variables, but made endogenous in the VEC model. The impulse response function also shows that due to the exchange rate depreciation, inflation has increased for many years in Fiji. The policy implication of our study is that as a monetary policy instrument, the flexibility of the exchange rate policy is indispensable for Fiji to appropriately absorb the international supply and price shocks.

A study was recently conducted by Maurice (2012) at Columbus State University in the United States of America. In a simplified statistical test of the IFE (International Fisher Effect), a regression analysis was applied to historical exchange rates and interest differential data for eight selected Asian countries; namely, China, India, Japan, South Korea, Malaysia, Thailand, Vietnam, and Indonesia. Each of these countries was interchangeably used as the home country, and foreign country to track the trail of the effect. While caution must be exercised in applying and assessing the theory, the IFE model may not be realistic to put into practice in daily currency transactions, but its value lies in its ability to illustrate the expected relationship between interest rates, inflation, and exchange rates. This information is helpful in appraising the price competitiveness of foreign imports and in exploring export opportunities for countries.

In this study, the empirical evidence of international Fisher Effect is investigated among The Association of Southeast Asian Nations (ASEAN) member countries and assuming Malaysia as the home country. In general, the results of this study indicated that exchange rate movements do not follow the international Fisher Effect theory and nominal interest rate differentials cannot completely offset the currency value changes among ASEAN countries in the long run except the fact that this theory is partially held in the Malaysian-Indonesian case for the surveyed period.

In Malaysia, empirical studies of Fisher Effect have focused the relationship on stock and bond market, leaving the money market with no or very few interests as it shows rapid growth in the transaction volume. This paper aimed at investigating the validity of the Fisher Effect on the Malaysian money market. The timeframe (2000-2012) is chosen as the study duration. Three variables were targeted in this study, including an inflation rate (INF), 3- months treasury bill rate (MTB) and the interbank rate (IBR). To study the relationship, this paper employed Autoregressive Distributed Lap (ARDL) bounds test that is capable of testing for the existence of a long-run relationship between the variables irrespective of whether the time series are I (0) or I, by Ray S, (2012). The estimation results indicated the presence of long run cointegration among the variables. Overall, the study provides evidence on the Fisher Effect in Malaysia.

In view of the above, it is the objective of this paper to examine the International Fisher Effect theory as relevant to some selected nations and the governments of the selected countries in attempting to influence the values of their currencies. Analysis of the results will be made, and suggestions offered where necessary.

**Methodology and Data Collection**

Various secondary data were collected for the following countries: Libya, Euro Countries. The data include quarterly money market interest rates and percentage change in the exchange rates. The data which range from the year 2012 to the year 2022 were obtained from various sources, including International Financial Statistics, published by the World Bank, data from databases: World development Indicators (Last Updated: 12/19/2020), Central Bank of Libya, and the International Monetary Fund (IMF).

Following Thomson analysis (2003), statistical tests of international Fisher Effect among selected countries were conducted. Ordinary least squares regressions were run on the historical exchange rates and the nominal interest rate differential. The equations follow from the assumptions that the effect (exchange rate adjusted) return on a foreign bank deposit (or any money market security) is:

$$r = (1 + if)\,(1 + ef) - 1 \qquad (1)$$

Where *if is* the foreign interest rate, and *ef* is the percentage change in the value of the foreign denominating the security. The equation as Ray S, (2012), states that the actual or effective return on a foreign money market security depends on the foreign interest rate (*if),* as well as the percent change in the value of foreign currency (*ef*) denominating the security. Furthermore, the investors who invest in the money market in the home country are expected to receive the actual rate of return which is simply the interest rate offered on those securities. In accordance with the IFE, the effective return on a home investment (*ih*) should be on average equal to the effective return on a foreign investment (*r*), *r* = *ih*. Substituting equation (1) for *r*, the equation becomes:

$$(1 + if)\,(1+ ef) - 1 = ih \qquad (2)$$

Solving for *ef:*

$$ef = [(1 + ih)/(1 + if)] - 1 \qquad (3)$$

When ih > if, ef will be positive. This means that the foreign currency will appreciate when the home interest rate is greater than the foreign interest rate. Conversely, when ih < if, ef will be negative. In other words, the home currency will appreciate when the home interest rate is smaller than the foreign interest rate. It should be recalled that the difference in the nominal interest rate between countries is due to differences in expected inflation rates, assuming that the real rate of return is equal across countries. It should also be recalled that the PPP theory suggests that the currency of a country with a higher inflation rate will depreciate by the amount of inflation differential. Therefore, the country with a higher interest rate will experience depreciation in the value of its currency by the amount of interest rate differential which will consequently negate any gains by investors who invested in the securities of those countries due to a higher interest rate. Eventually, the return on investment in respective countries will be similar. For detailed information on the derivation of this equation, Thomson analysis (2003) in the spreadsheets to accompany this paper.

**Table 1:** Regression Results of International Fisher Effect for Selected Countries.

| Investors Residing in home countries | Attempt to invest in | ih | if | Spot rate (So) | ef | Future spot rate (St) | Regression Results |
|---|---|---|---|---|---|---|---|
| Euro Countries 2012 to 8/2022 | Euro Countries | 1.75% | 3.20% | 1.773 | -1.45 | 1.74809 | 0.0250 |
| | Libya | 57.80% | 3.20% | 1.7694 | 56.05 | 2.71105 | -0.9385 |
| Libya 2012 to 8/2022 | Euro Countries | 25% | 8.00% | 1.7290 | 17.00 | 1.7007 | -0.2723 |
| | Libya | 3.40% | 25% | 1.6438 | -21.60 | 1.6544 | 0.2198 |

**Source: Author's own estimate**

**Currency of foreign country**
if = Interest rate in a foreign country (if)
ih = Interest rate in home country (ih)
So = Spot rate (S0) -Dollars per unit of foreign currency
ef = Adjustments in foreign currency exchange rate (ef) = [(1+ ih) / (1+ if)] - 1
St = Future spot rate (St) = S0 (1 + ef).
Regression Results = S0 – St

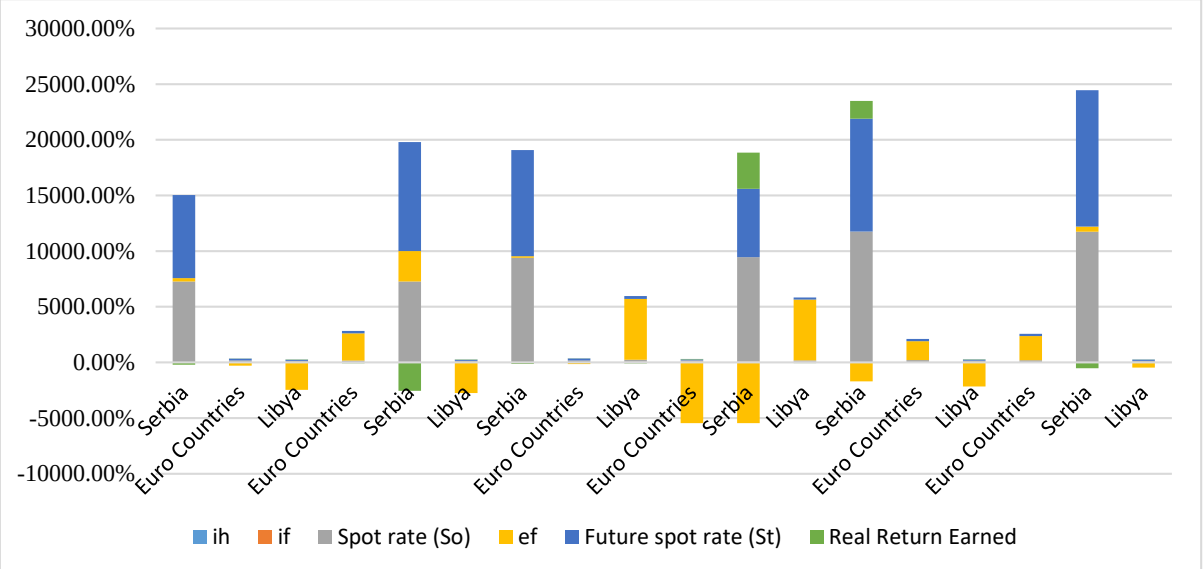

**Figure 1**: Regression Results of International Fisher Effect for Selected Countries.

**Source:** Author's own estimates.

**Test For International Fisher Effect**

To test for international Fisher Effect, the percentage change in currency is regressed against the nominal interest rate differential among the selected countries.

Thus, the regression equation is as follows:

$$ef = a0 + a1\ [[(1 + ih)/(1 + if)] - 1] + \mu \quad (4)$$

Where, *a0* = constant, *a1* = slope coefficient, and **μ** = error term.

The hypothesized values of a0 and a1 are 0 and l. , respectively, implying an equal offsetting average percentage change in the exchange rate for a given interest rate differential. Each coefficient is divided by its standard error. The level of significance is determined by the critical t-value from the table based on the number of observations and degrees of freedom (Thomson analysis, 2003, pp. 30).

To test the direction of IFE, each country is used as home country and then foreign country respectively. This will make it possible to investigate if the International Fisher Effect is unidirectional or not.

**Results and Discussion**

Table 2 provides the regression results for the International Fisher Effect. As shown in this table, the results are mixed. While the theory holds for some countries, it does not hold for others. In other words, for some countries, the coefficients imply that a given differential in nominal interest rates on the average is offset by an equal percentage change in the exchange rates. For other countries, this may not be true. The coefficients obtained in table 2 must be tested to determine if the IFE theory holds or not. The statistical tests are described below (Thomson analysis, pp. 6-30):

(a) Test for $a_0 = 0$

$t = (a_0 - 0) / \text{s. e. of } a_0$

(b) Test for $a_1 = 1$

$t = (a_1 - 1) / \text{s. e. of } a_1$

**Table 2:** Regression Results of International Fisher Effect for Selected Countries

| **Home Country** | **Foreign Country** | |
|---|---|---|
| **Euro Countries** | **Euro Countries** | **Libya** |
| 2012 | | |
| 1 | 0.137595841 | -0.494792621 |
| 2 | 0.046304155 | -0.028441269 |
| 2017 | | |
| 1 | 0.069855535 | 0.266127692 |
| 2 | 0.024911337 | 0.433720532 |

| | | |
|---|---|---|
| 2022 | | |
| 1 | 0.007635427 | 0.016040527 |
| 2 | -0.272157407 | -0.361183752 |
| **Libya** | | |
| 2012 | | |
| 1 | 0.377576854 | 0.295423228 |
| 2 | 0.056733641 | 0.02153309 |
| 2017 | | |
| 1 | -0.275158537 | -0.477878906 |
| 2 | -0.663188953 | -0.938578923 |
| 2022 | | |
| 1 | -0.00623896 | -0.011906604 |
| 2 | 0.054156481 | 0.2197152 |

1- **Table 1:** Real Return Earned, International Fisher Effect for Selected Countries
2- **Table 2:** Regression Results of International Fisher Effect for Selected Countries.

**Source:** Author's own estimates

Each regression coefficient is compared to its hypothesized value, divided by its standard error. The significance of the test is determined by the procedure described in the previous section. If either hypothesis is rejected, then IFE theory is refuted. The results of the test are presented in Table 3.

When Libya is used as the home country, the theory holds between Libya and the selected countries. When the Euro Countries are used as the home country, the theory holds between the Euro Countries and Libya, but does not hold between the Euro Countries and Libya. The theory holds between Libya and the Euro Countries. However, it does not hold between Libya and Euro Countries. Between, the theory holds except for Euro Countries the selected countries. When Libya is used as the home country, the theory holds between Euro Countries and Libya. In most cases, the theory holds except for a few instances. It is intriguing to note that the theory holds between all other countries except Libya, when Euro Countries was used as the home country. However, when Libya is used as the home country, the theory holds between Euro Countries and the selected Libya, but the theory holds except for Euro Countries. This suggests that the exchange rate adjustment may not be a reciprocal phenomenon. Other reasons are that the exchange rate may not fully offset the interest rate differential in some cases; while in others, the exchange rate may more than offset interest rate. However, the results balance out such that interest rate differentials are on the average offset fluctuation in the exchange rate over time. This is in accordance with the suggestion by measure that the IFE theory does not suggest that the relationship will exist over each time period, but periodic investments that attempt to capitalize on the higher interest rate would achieve a similar yield on the average if they were simply made domestically and periodically.

**Table 3: Test of International Fisher Effect Theory between Countries**

| **Home countries** | **Foreign countries** | | |
|---|---|---|---|
| | **Year** | **Euro countries** | **Libya** |
| **Euro countries** | 2012 | | nh |
| | 2017 | | H |
| | 2022 | | nh |
| **Libya** | 2012 | H | |
| | 2017 | nh | |

| | | | |
|---|---|---|---|
| | 2022 | H | |

H: Theory holds
nh: Theory does not hold

**Source:** Maurice k. S. Test of the IFE in Selected Countries, Columbus State University, (2020).

Whether the test holds or not, also depends on other factors, such as the period of time under study. While it may hold for a certain period, it may not hold for another. Another limitation of the theory is that exchange rate determination is not affected primarily by inflation alone. There are other psychological factors, as opposed to macroeconomic fundamentals, that play an important role in determining the likely future exchange rates. The bandwagon effects which are difficult to predict should not be ignored (Allen and Taylor, 2009). The exchange rate is also influenced by the markets for exchange rate. It should also be noted that different functional forms or estimating techniques may produce different results.

**Conclusion**

The International Fisher Effect theory and application of Empirical Testing International Fisher Effect theory was conducted in two selected industrialized nations, namely Libya, and Euro Countries. Each of these countries was used interchangeably as the home country, and foreign country so as to investigate the direction of the parity. The results are mixed. While the theory holds for some countries, it does not hold for others. The theory holds when some countries were used as home country, but was refused when they were used as foreign countries. This suggests that there may be some impediments to foreign trade that may affect exchange rate adjustment apart from interest and inflation rate differentials. While caution must be exercised in applying or interpreting the theory, this information is useful in international business in terms of export opportunities and price competitiveness of foreign imports. Also, Fisher's international impact on accounting and technology has been somewhat positive and good in some years in terms of impact. Also, this is the results why the inflation rate in Libya has doubled more than five times (5) during the current world compared to the inflation rate in the European Union three times (3) during the year and warnings of economic recession if inflation continues to rise.

**References**

Alizadeh H, Nassir A, and Masoudi Y. February, 2014, ***an empirical investigation of international fisher effect on 10 Asean Countries.***

Central Bank of Libya, 2004, access on Feb 2015, available at {*http://cbl.gov.ly/ar/index.php?option=com_content&view=article&id=260&Itemid=169*}

Central Bank of Libya, 2004, access on Feb 2017, available at {*http://cbl.gov.ly/ar/index.php?option=com_content&view=article&id=260&Itemid=169*}

Central Bank of Libya, 2004, access on Feb 2019, available at {*http://cbl.gov.ly/ar/index.php?option=com_content&view=article&id=260&Itemid=169*}

Central Bank of Libya, 2004, access on Feb 2021, available at {*http://cbl.gov.ly/ar/index.php?option=com_content&view=article&id=260&Itemid=169*}

Central Bank of Libya, 2004, access on Feb 2022, available at {*http://cbl.gov.ly/ar/index.php?option=com_content&view=article&id=260&Itemid=169*}

Harun UCAK, 2014, ***An Examination of Fisher Effect for Selected New EU Member States,*** Mugla, Turkey, International Journal of Economics and Financial Issues Vol. 4, No. 4, 2014, pp. 956-959, ISSN: 2146-4138.

Hill, Charles W.L. 2014 ***"International Business Competing in the Global Market Place***". *McGraw-Hill College*; 5 edition (January 2014).

Inam S, 2014, ***Department of Economics, Faculty of Social Sciences,*** University of Uyo, P.M.B 1017, Uyo, Akwa Ibom State, Research in Humanities and Social Sciences www.iiste.org, ISSN (Paper) 2224-5766 ISSN (Online) 2225-0484 (Online), Vol.4, No.24, 2014, Nigeria,

INDEX Key Economic, Monetary **Indicators,** Exchange Rates in the Libya, 2014, access on Feb 2015, available at {*http://cbl.gov.ly/ar/images/stories/bohot/INDICATORS.pdf*}.

Madura, Jeff. (2010). "***International Financial Management***", 10th Edition, *South-Western, College Publishing.*

Paul T, Tang Y, Bhatt M, 2013, ***A STUDY OF THE RELATION BETWEEN INFLATION AND EXCHANGE RATES IN THE FIJI ISLANDS:*** A COINTEGRATION AND VECTOR ERROR CORRECTION APPROACH, University of the South Pacific, Fiji.

Sarbapriya Ray, 2012, ***Empirical Testing of International Fisher Effect in United States and Selected Asian Economies***, Advances in Information Technology and Management (AITM) 216 Vol. 2, No. 1, 2012, ISSN 2167-6372, University of Calcutta, India.

Sherpa, 2011, ***A Panel Analysis of the Fisher Effect with an Unobserved I(1),World Real Interest Rate***, Gerdie Everaert, Ghent University, December 16, 2011.

Sherpa, 2017, ***A Panel Analysis of the Fisher Effect with an Unobserved I(1),World Real Interest Rate***, Gerdie Everaert, Ghent University, December 6, 2017.

Siti Rahmi Utami, Eno L. Inanga.2009, "***Exchange Rates, Interest Rates, and Inflation Rates***. In Indonesia": The International Fisher Effect Theory**,** *International Research Journal of Finance and Economics* ISSN 1450-2887 Issue 26.

The World Bank Group, 2015, access on Feb 2015 available at {http://data.worldbank.org/indicator/FR.INR.RINR.}

The World Bank Group, 2015, access on Feb 2016 available at {http://data.worldbank.org/indicator/FR.INR.RINR.}

The World Bank Group, 2015, access on Feb 2018 available at {http://data.worldbank.org/indicator/FR.INR.RINR.}

The World Bank Group, 2015, access on Feb 2021 available at

The World Bank Group, 2015, access on Feb 2022 available at {http://data.worldbank.org/indicator/FR.INR.RINR.}

The World Bank Group, and the world Development indicators, 2015, access on Feb 2015, available at {*http://databank.worldbank.org/data/views/variableselection/selectv ariables.aspx? source= world- development- indicators #s i* }

The World Bank Group, and the world Development indicators, 2015, access on Feb 2015, available at {http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#c_e}.

The world Development indicators, 2015, access on Feb 2015, available at {*http://wdi.worldbank.org/table/4.15.Economy.Monetary indicators. 2014*}.

*Thomson Learning © 2003,* ***Relationships between Inflation, Interest Rates, and Exchange Rates***.. *South-Western. Pp 2-36.* Windows live space, posted on 14/ Nov, 2013, access on Mar 2015, available at request {*http://cbl.gov.ly/ar/images/stories/banks/Masarf%2022.pdf}*

Zainal N, Nassir A, Yahya M, 2014. ***Fisher Effect: Evidence from Money Market in Malaysia***, Journal of social science studies.