opción

Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía, Lingüística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 36, 2020, Especial N° 27

Revista de Ciencias Humanas y Sociales
ISSN 1012-1587/ ISSNe: 2477-9385
Depósito Legal pp 198402ZU45

Universidad del Zulia
Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
Maracaibo - Venezuela

Opción, Año 36, Especial No.27 (2020): 588-606
ISSN 1012-1587/ISSNe: 2477-9385

The effect of inflation on the formulation of monetary policy in Iraq

Al-Daghir, Mahmoud Mohamed
Financial Operations and Debt Management in
Central Bank of Iraq
dr-m-daghir@yahoo.com

Suad Qasim Hashim
University of Baghdad / College of Administration and Economics
suad.qasem@hotmaiI.com

Haitham Hameed Mutlag
Iraqi Ministry of Education
hameedhaitham3@gmail.com

Abstract

The research attempted to diagnose the relationship between inflation and the exchange rate and its realistic significance in formulating the goal of stability in growth rates for the general level of prices, by regulating the money supply flows within the framework of the central bank's management of the purchasing power of the Iraqi dinar through its cash operations in organizing the movement of the monetary basis to reach actual inflation within the target. The research reached the efficiency of the exchange rate, a nominal anchor of monetary policy.

Keywords: Monetary policy, Inflation targeting, Exchange rate, Nominal anchor, Exchange system.

El efecto de la inflación en la formulación de la política monetaria en Iraq

Resumen

La investigación intentó diagnosticar la relación entre la inflación y el tipo de cambio y su importancia realista en la formulación del objetivo de estabilidad en las tasas de crecimiento para el nivel general de precios, mediante la regulación de los flujos de

Recibido: 20-12-2019 •Aceptado: 20-02-2020

oferta monetaria en el marco de la gestión del banco central, del poder de compra del dinar iraquí a través de sus operaciones de efectivo en la organización del movimiento de la base monetaria para alcanzar la inflación real dentro del objetivo. La investigación alcanzó la eficiencia del tipo de cambio, un ancla nominal de la política monetaria.

Palabras clave: Política monetaria, Objetivos de inflación, Tipo de cambio, Ancla nominal, Sistema de cambio.

1. INTRODUCTION

The relationship between inflation and the exchange rate revolves to take a successful framework in formulating monetary policy in Iraq, in view of the imbalance in the economy, the balance, and the distortion of the Iraqi economic structure, as this relationship crystallized in building a monetary policy that seeks to be inflation fluctuations around targeted rates in the context of its endeavor to achieve stability in the level General prices. Having a controlled inflation rate makes targeting the exchange rate a basic requirement of monetary policy towards regulating the price volatility movement as a substitute for the interest rate that was reflected in its ineffectuality in achieving a policy impact transition to the joints of the economy, so the exchange rate must be used nominally in the Iraqi money market, The research proved the efficiency of the exchange rate instrument, a nominal anchor of the policy. Because the purpose of the monetary authority is to ensure the stability of the real value of the currency issued as an essential part of the overall stability, so the means will be to absorb its purchasing power during the sale of the dollar to the government. Then using the foreign reserve to achieve a balance in the money market and then restore the purchasing power of the market, to be traded and spent in a religious manner in daily transactions. So, the ability

of the central bank is evident in its control over the management of the balance of the real value of money through sterilization waves to achieve stability in inflation rates.

Central banks seek to approach their ultimate goal of price stability by targeting inflation to culminate in the relationship between the exchange rate and inflation within the framework of modern and contemporary formulation of monetary policy, according to theoretical analysis and the practical field, given that the exchange rate is an external variable, so monetary policy has been able to stabilize inflation fluctuations and activity around their scope Target.

In view of the low indicators of financial depth in Iraq and the decline of the real sector, the research aims to raise the following questions and try to answer them:

- Is there a relationship between inflation and the exchange rate that is reflected in establishing monetary policy, and what is the nature of this relationship, in theory and empirically? What is the use of the exchange rate nominally anchor in Iraq?

- Does their relationship and direction affect the formulation of monetary policy in Iraq during the research period?

1- A study touched (NAVRATIL, VIKTOR KOTLAN – DAVID, 2003), entitled "Inflation Targeting as a Stabilization tool: Its Design and Performance in the Czech Republic": Monetary policy of the Czech Republic, its response to short-term shocks, and the

effects of the degree of that response according to The fluctuations in monetary and real variables, and the effectiveness of managing expectations to achieve total stability, through the analysis of the resulting gaps and inflation. As two methods can be presented to target the first inflation, which is average decreasing inflation and the second is stable inflation according to long-term price stability. The study concluded through standard analysis that "targeting inflation" contributed to macroeconomic stability.

2- A study touched (FREDERIC S. MISHKIN, 2006) addressed the title "Monetary Policy Strategy, How Did We Get Here?": The direction of modern monetary policy and why it changed and how it succeeded in taming inflation, as the study showed the importance of targeting monetary policy inflation by using interest as an effective nominal anchor in curbing high inflation rates when fluctuating in the short term and reaching price stability in the long term. The study concluded that improving the performance of monetary policy with stable rates of inflation and output in view of the use of nominal interest rates to target inflation.

3- The study (MAHMOUD MUHAMMAD AL-DAGHIR and HUSSEIN ATWAN MHAWIS, 2015), tagged "The Iraqi dinar exchange rate between the real system and the announced system for the period 2004-2012", focused on the theoretical framework for the nature of exchange rate systems, and examined the nature of the exchange system in Iraq and the direction of monetary policy for choosing The effective nominal anchor based on the nature of the Iraqi economy. The researchers found a clear stability in

inflation rates by decreasing and fading the gap between the announced and parallel exchange rate, due to the focus of monetary policy on the use of the exchange rate nominally anchor in view of the rentier structure of the Iraqi economy, and the presence of a large role for foreign reserves in stabilizing the exchange rate and achieving stability in inflation rates.

This research clarifies the importance of the relationship between inflation and the exchange rate and its role in formulating a monetary policy aimed at inflation to achieve total stability, and investigating the validity of the null hypothesis in the absence of an explanatory relationship between inflation and the exchange rate or otherwise.

2. METHODOLOGY

The hypothesis of the study:

Acceptance of Null hypothesis: The absence of a relationship between inflation and the exchange rate establishes a target for inflation in Iraq, for the years 1990 to 2018.

Acceptance of Alternative Hypothesis: A relationship between the exchange rate and inflation is established to target inflation in Iraq, for the years 1990 to 2018.

Objective of the study:

For understand the relationship between inflation and the exchange rate under a monetary policy targeting inflation.

- Analyze the trend of the relationship between inflation and the exchange rate and its impact on the formulation of monetary policy for the Iraqi economy by analyzing the gap for a time series from 1990 to 2018.

Structure of the study:

The study was crystallized in three topics, the first topic dealt with the theoretical framework of inflation and its economic effects and the relationship between the theory of the amount of money and prices and monetary policy and the exchange rate channel and its fixed system, while the second topic discussed an analysis of the trend of inflation rates and exchange rates in Iraq for the period 1990 - 2018, and the third topic goes to a study The effect of the nominal anchor of inflation in formulating the monetary policy of the Central Bank of Iraq through "gap analysis" for the period 1990-2018.

3. RESULTS and DISCUSSION

The first topic:

Theoretical framework: inflation - its economic effects - the relationship between the theory of the quantity of money and prices and

monetary policy - the exchange rate channel and the fixed exchange system

Inflation is defined as a monetary phenomenon, it is the continuous rise in the general level of prices caused by the high rate of money supply growth, as the cash balance is the variable that determines the price increase (Khalil, Sami, 1994, p. 1502) and multiple definitions of inflation acquire their content according to the reasons that each A definition, including demand withdrawal inflation, cost payment inflation, and others. According to the financial theory of the general price level, inflation is the increase in the general level of prices caused by continuing to increase the government debt balance in the central bank's budget through deduction or accumulation of treasury transfers, or the issuance of more cash, It leads to price increases and erosion of the true value of financial wealth (Ibraihi, 2010, p. 5). Therefore, the rise in inflation is targeted. While the monetary analysis emphasizes the importance of the relationship between money and prices and according to the assumption of the stability of the long-term cash demand function, the permanent income is determined by the level of long-term prices, because the change in the money supply will inevitably lead to a change in the total demand, and in the short term any increase in Money supply will result in higher output and price levels. However, changing the long-term money supply will be limited to raising the price level (Edgeman, 1999, p. 333).

Inflation has multiple problems affecting the macro economy, of which the most serious are:

1. The deficit in the country's trade balances because imports are valued at more than exports due to the depreciation of the national currency against foreign currencies, which enhances the high exchange rates of foreign currencies.

2. Leads to a higher cost of investments due to higher costs resulting from higher interest rates.

3. Damage to confidence in the business and government climate due to unclear costs, which reduces investment levels. Therefore, uncertainty about inflation rates will increase the difficulties of forecasting inflation and measuring it to estimate profits, damage to projects and economic growth.

4. Inflation raises inflation expectations, that is, inflation feeds itself.

5. Harming the distribution of real wealth through the continuous increases in index rates and the deteriorating purchasing power of money, which negatively affects the conditions of people with fixed incomes (Auberey, pp. 16-17).

6. Due to inflation, lenders demand a risk premium, which is added to the real interest rate (Engene, 1993, p. 130).

The relationship between the quantity theory of money and prices and monetary policy:

The quantity theory of money, via the exchange equation, focused on the amount of money **M** required to demand real output multiplied by the speed of rotation **V** (the average number of times a currency unit is traded to complete transactions for the purchase of goods and services included in the output) is equal to the level of output **Y** combined with the price index **P**, and according to the theoretical assumption Output stability and rotational speed produce the correlation of the general level of prices with a variable dependent on the amount of money, as in the following formula:

$$M \ V = P \ Y \qquad (1)$$

By rewriting equation (1) to reach the speed of rotation, the effect of money on prices is evident by observing the current output correlated with the price index in a positive relationship with the amount of money needed to finance the total activity, so we will get the value of the real output that reflects the role of prices in changing its value according to its changes, As shown in equation (2):

$$\boldsymbol{V} = \frac{\mathbf{P\,Y}}{\mathbf{M}} - \qquad (2)$$

As equation (1) can be formulated according to the rate of money supply changes in addition to the rate of rotational speed

changes equal to the rate of price changes added to the rate of output changes, the formula will be:

$$M + \%\square V = \%\square P + \%\square Y \ \square\% \quad (3)$$

Where the relationship between money and prices in equation (3) leads to the predictability of inflation rates, based on the assumption of zero rate of change **V**, it will produce:

$$M = \% \square p + \%\square Y \ \square\% \quad (4)$$

Equation (4) indicates that the rate of output growth changes and the rate of inflation changes are affected by the rate of changes in the external variable money supply. Inflation rates can be inferred by subtracting the rate of output changes from the rate of money supply changes as in equation (5):

$$\%\square \ p = \% \square M - \% \square Y \quad (5)$$

When the rate of change in output is 3% and the rate of change in the money supply is 5%, the rate of change in prices will be 2%, and if the central bank wants to double the money supply to 10%, inflation will jump from 2% to 7%, as the relationship of money to prices will predict Inflation, because one-point money supply growth will cause inflation to rise by the same. (R. GLENN HUBBARD, 2012, p. 188). In other words, when the relative changes in the cash flow are greater than the relative changes of the real current, there is an inflationary

gap, while the stagnant gap reflects the magnitude of the relative changes of the real flow over the relative changes in the cash flow.

So, price stability in view of the entry of the quantity of money will come from a comparison of growth rates in the following equation:

$$\%M + \%V = \%P + \%Y \quad (6)$$

Re-arrange the equation limits as follows:

$$\%P = \%M + \%V - \%Y \quad (7)$$

Reaching price stability is achieved by assuming that the rate of change in price growth is zero: $\%P = 0$

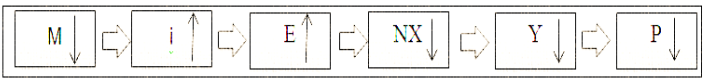
If the real output growth rate is 4% and the rate of growth in the money supply is 4%, then we have price stability because the rate of change is equal to zero, assuming that the rate of change in the speed of trading remains zero, but if the rate of change for one of the elements of the equation differs, then this would reduce the zero rate of change in prices (JONES. CI, 2012, p. 227).

It can be inferred from the above, that in the case of instability of the speed of rotation, it will be difficult for the monetary authority to predict inflation rates. From the positive relationship between money and inflation, the theoretical root of targeting inflation is

extracted by the central bank's control of the money supply, as adopting a stable rate of money supply will inevitably lead to a stable rate of inflation as well, and if the central bank increases the money supply suddenly, this would A sudden rise in the general level of prices in the same proportion. By adopting the hypotheses (stability of **V** and double money), the bank will influence the general level of prices for overall activity through monetary policy (MANKIW GREGORY, 2010, p. 90), with its "measures to manage the money supply and interest rates to achieve its macroeconomic goals, for example using Complete, price stability, long-term interest rates" (HUBBARD. R. GLENN, 2013, p. 456) and up to its modern role in addressing the stability of the financial and economic system as the central bank's strategic management seeks to reach the primary goal of stability in inflation rates (MISHKIN, FREDERIC S., AGUEST 1997), by constructing a path of goals that Directly linking its monetary tools with its ultimate goals, known as Nominal Anchor to establish monetary policy and are themselves the intermediate goals, including (monetary totals and short-term interest rate and exchange rate), and in the presence of a direct impact relationship between these targets and monetary tools of the Central Bank, the response of the anchor will be more quickly (AL-DAGHIR; MAHMOUD MOHAMED, 2018, p. 284).

Exchange rates affect local economic variables, and their impact is transferred to the total demand and the general level of prices by changing the costs of imported goods, the costs of production and investment, and the net exports. The exchange channel includes the

effect of the interest channel because the decrease in real local interest will reduce the attractiveness of local deposits denominated in foreign currency, when the central bank adopts a deflationary monetary policy that reduces the money supply through open market operations (OMO), which would raise the local real interest This leads to an influx of foreign balances inward to increase the demand for the local currency and raise its value, leading to a decrease in aggregate demand, output and price level, and the opposite occurs in the event of an increase in the money supply. The level of performance of the exchange rate channel is highly dependent on the degree of economic openness, as the floating exchange system increases the effectiveness of the exchange rate channel. Any change in monetary policy decisions will cause the price of imported goods to move through exchange rates, as in the following chart:



Where M is the money supply, i interest rate, E exchange rate, NX net exports, Y output, P prices. (MISHKIN, FREDERIC, 1996)

Fixed Exchange Rate System:

The process of targeting a fixed exchange rate system is accomplished by drawing a specific border fluctuation between the upper and lower limits called the spread band. As the figure shows that

the range will be 2 euros, for example (1.1 - 0.9), and since the central value of the euro is 1 dollar = 1 euro, then will be 20% or 10% in both directions of the central value. In the event that the dollar falls below the minimum of 1 = 9, the central bank will pursue a deflationary policy by buying the dollar against the euro to reach the required price, and vice versa in the event that the dollar that leads to an expansionary monetary policy increases. Depending on the fact that the dollars constitute foreign reserves with the euro countries and the United States does not have the source country for the dollar, so the foreign exchange reserves of dollars will rise if the euro countries follow an expansionary policy, as buying the dollar against the euro will increase it as foreign reserves in the euro countries, and vice versa occurs in If a deflationary policy is followed, the reserve will fall and the money supply will decrease. (MORDECHAI. E.KREININ, 2010, p. 277-278)

The second topic:

Analysis of the trend of the relationship of inflation rates and exchange rates in Iraq for the period 1990-2018

To describe the direction of the relationship of inflation and the exchange rate in monetary policy in Iraq for the period 1990-2003, it is necessary to follow the data of Table (1) that clarifies that relationship and frame it in two clear directions: **The first direction:** represented in the era of the nineties that spanned from 1990-2003, and this period was characterized The existence of a significant increase in the fluctuations of the Iraqi dinar as a result of the dependency of

monetary policy on public finance and the inability of the exchange system to perform its role as a nominal anchor of inflation, which is due to the focus of monetary policy around the financing role without the balance role.

The second direction: it is represented in the period 2003-2018, as it distinguished from its predecessor that the stability of the exchange rate is through a market balance determined by the forces of supply and demand, in addition to the auction for the sale of foreign currency that leads the role of the impact of monetary policy to total demand as a nominal anchor by controlling flows The dinar, which reflects a strong demand for the dollar, and therefore the ability of the central bank to target inflation is required by the dependence of the movement of foreign reserves on the central bank of the currency auction. The more dinar spending, the dollar flow must be directed to stabilize the value of the dinar. However, the stability of the dinar exchange rate is of a critical type, as it is linked to the oil revenue. (AL-DAGHIR, MAHMOUD MOHAMED, 2014, p. 33)

Table 1: Trend of exchange rates with output, inflation rates and money supply in Iraq for the period 1990-2018

Annual inflation%	Annual market exchange rate growth %	Foreign exchange gap %	Official exchange rate Dinars for dollars	Market exchange rate Dinars for dollars	Money supply million dinars	GDP at constant prices - million dinars 2007 = 100	years
7	6	5	4	3	2	1	
		92.23	0.3108	4	15359.3	78617888.1	1990
186.5	60	96.89	0.3108	10	24670	28265405.2	1991
83.8	52.4	98.52	0.3108	21	43909	37477725.8	1992
204.6	71.6	99.58	0.3108	74	86430	48829665	1993
492.1	83.8	99.93	0.3108	458	238901	50711820.3	1994
351.4	72.6	99.98	0.3108	1674	705064	51786921.8	1995
15.4-	-43.1	99.97	0.3108	1170	960503	57494247.4	1996
23.1	20.5	99.98	0.3108	1471	1038097	69704838.9	1997
14.8	9.2	99.98	0.3108	1620	1351876	94001921	1998
30.2	17.8	99.98	0.3108	1972	1483836	110529589	1999
4.9	-2.2	99.98	0.3108	1930	1728006	112084152	2000

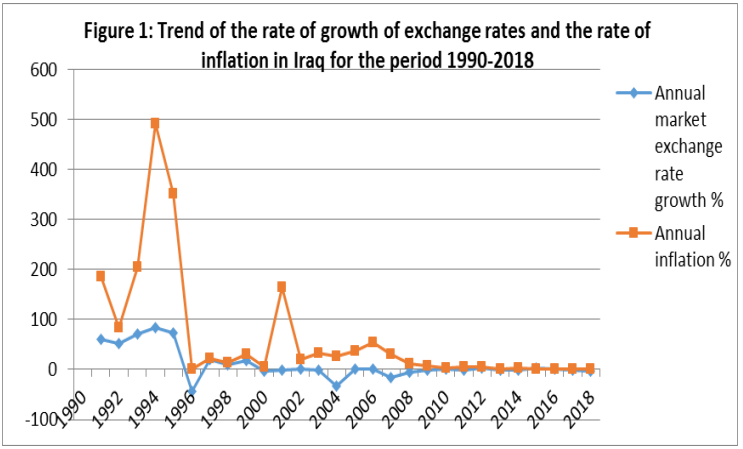
164	-0.1	99.98	0.3108	1929	2159089	114128642	2001
19.3	1.4	99.98	0.3108	1957	3013601	104917973	2002
33.6	-1.4	1.76	1896	1930	5773601	66335800	2003
26.8	-32.8	0.00	1453	1453	10148626	101845262	2004
37.1	1.3	0.20	1469	1472	11399125	103551403	2005
53.1	0.2	0.54	1467	1475	15460060	109389941	2006
30.8	-16.4	0.95	1255	1267	21721167	111455813	2007
12.7	-5.3	0.83	1193	1203	28189934	119802041	2008
8.3	-1.8	-0.68	1190	1182	37700030	124659542	2009
2.5	0.3	-0.34	1190	1186	51743489	132731012	2010
5.6	-0.2	-0.51	1190	1184	62473929	142696722	2011
6.1	4	3.49	1190	1233	63735871	161066280	2012
1.9	-0.1	3.41	1190	1232	73858000	173273046	2013

Source: Central Bank of Iraq - Baghdad: General Directorate of Statistics and Research, annual statistical releases for the years 1990-2018

Figure (1) shows the official exchange rates and market exchange rates and their comparison with inflation rates from 1990-2003 as the mentioned period witnessed an increase in the market exchange rates starting in the year 1991 at a rate of 10 dinars per dollar, as the exchange rate rose at an annual rate of 60% and continued the fluctuating rise Until it decreased in 1996 to 1170 after reaching 1674 in 1995 with a negative annual growth rate of 43.1% due to the implementation of the Memorandum of Understanding that resulted in higher levels of output after direct export of oil for food, which stimulated the reduction of inflation levels in 1996 to a rate Annual negative 15.4%, after reaching its peak in 1994, as appropriate This is 492.1%.

Tracking the growth of exchange rates and inflation rates in Figure 1 for the period 2003-2018 indicates that a major shift in monetary policy has taken place in favor of market forces and has been presented as the best mechanism for macroeconomic balance in view of a new vision directed towards the market economy and activating the sector's energy reservoirs Private sector, by strengthening the interest and exchange rate tools to encourage private investment.

This transformation was represented by the monetary policy focus on the stability of the exchange rate significantly in line with the nature of the total activity generated from the oil revenue, and to achieve the exchange rate nominal anchor and valve to purify the monetary expansion and transfer the effect to the real sector, the currency auction was used to direct the money supply levels and try to maintain stability. The exchange rate of the national currency, as the gap between the official and actual exchange rate began to decrease gradually as the currency auction reflects the form of the exchange system, being a realistic, not an official determinant (AL-DAGHIR, MAHMOUD MOHAMED, 2014, p. 41) where we see the stability of inflation rates and the exchange rate in the framework of its dependency on exchange Installed A nominal anchor, for the CBI monetary policy during the years following 2011 until the end of 2018, as it diagnoses its stability around its actual values below the correct one, which confirms the effectiveness of targeting.



Source: By researchers, according to Table (1)

4. CONCLUSION

The research ends with rejecting the Null hypothesis and accepting the Alternative hypothesis: A relationship between the exchange rate and inflation is established to target inflation in Iraq. As the researcher concludes, the effectiveness of the exchange rate is nominal anchor to target inflation. This is because the evolution of annual growth rates in the general level of prices has all strengthened the dependency of the price system on public finance, so the monetary authority in the years after 2004, especially 2008 to 2018, went towards systematic development in formulating monetary policy towards realizing the behavior of macroeconomic variables and the scientific understanding of the nature of the relationship between a ministry Finance and the central bank, and awareness of the effects and risks of financial market inefficiency that is credible with the separation of the real sector from the monetary sector, which motivated the monetary authority to focus on its main role in adopting the goal of price stability, which includes targeting inflation, etc. Directly force him. By regulating the movement of foreign exchange and domestic cash within the framework of targeting the stability of the exchange rate by absorbing the expansionary effect of domestic cash or reviving the deflationary effect by the currency auction, so the formulation of monetary policy is effective through the adoption of the exchange rate nominal anchor.

REFERENCES

AL-DAGHIR, MAHMOUD MOHAMED, AND ASHOUR, IHSAN JABR. 2014. “the causal relationship between money supply, inflation, and exchange rate in Iraq for the period 1990-20119”. **Journal of Administrative and Economic Sciences**, No 219.

AL-DAGHIR, MAHMOUD MOHAMED. 2014. "Monetary policy from dependency to ineffective independence". **Arab Economic Research** – No. 65.

AL-DAGHIR, MAHMOUD MUHAMMAD, AND MHAWIS, HUSSEIN ATWAN. "The exchange rate of the Iraqi dinar between the real system and the announced system for the period 2004-2012". **Journal of Economic and Administrative Sciences,** V. 21, No. 84.

AUBEREY, M. (n.d.), **the Effect of Inflation Targeting**, University of Limpopo.

ENGENE, W. J. 1993. **Essentials of Managerial Finance**. New Yorkp: the Dryden press.

GLENN HUBBARD, A. P., 2012, **Macroeconomics,** Columbia University.

HUBBARD .R .GLENN, A. 2013. **Macroeconomics (Vols. third edition, Pearson)**. USA.

IBRAIHI, A. 2010. **Inflation and monetary policy**. Iraqi Journal of Economic Sciences, College of Administration and Economics, Al-Mustansiriya University.

JONES. C.I. 2012. **Macroeconomics (Third Edition Ed.).** Stanford University.

MANKIW, GREGORY. 2010. **Macroeconomics (Third Edition Ed.)**. New York: Harvard University.

MISHKIN, FREDERIC S. 1997. **Strategies for controlling inflation series.**

MISHKIN, FREDERIC. 1996. **the Channels of Monetary Transmission: Lessons for Monetary Policy**. NBER Working Paper No. 5464.

MORDECHAI, E. KREININ. 2010. **International economics a policy a proach, translation:** Dr. Mohamed Ibrahim Mansour and Dr. Ali Masoud Attia, Dar Al-Merikh, Riyadh, Kingdom of Saudi Arabia.

UNIVERSIDAD DEL ZULIA

opción

Revista de Ciencias Humanas y Sociales

Año 36, Especial N° 27 (2020)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.
Maracaibo - Venezuela

www.luz.edu.ve

www.serbi.luz.edu.ve

produccioncientifica.luz.edu.ve