
Response of the USD/MXN Exchange Rate to Macroeconomic Data

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Abstract:

Purpose: The study aims to demonstrate the different roles of national and American macroeconomic variables as the determinants of short-term responses of the USD/MXN exchange rate.

Design/Methodology/Approach: The study has employed regression analysis and the statistical analysis technique, within the framework of which the linear regression model has been used with the GARCH process for the random element. The model parameters have been estimated based on 30-minute data concerning currency exchange rates of three currency pairs subjected to analysis. The estimation of parameters has been conducted in the Stata 15 program. The currency exchange data were obtained from the Meta Trader 4 electronic trade platform. The study has employed the macroeconomic calendar of Investing.com, a global financial platform recognized by the world's investors. The econometric analysis has covered the period from January 2012 to December 2018. The series involved 185518 observations for the USD/MXN currency pair.

Findings: The exchange rate of the USD/MXN currency pair responds more profoundly to US macroeconomic data than to national economic data, however with the proviso that this applies exclusively to some critical data, in particular, non-farm payrolls and core CPI.

Practical implications: The study results have a cognitive as well as an application dimension. As regards the mental size, the article may be a source of knowledge on the Forex market and the determinants of shaping the USD/MXN exchange rate. As for the application dimension, the study results may be helpful for currency market players. The study may be addressed to investors who conduct transactions involving the USD/MXN currency pair. The proper identification of the currency exchange response translates into investment success.

Originality/Value: To date, there have been no attempts to study the impact of 15 types of US macroeconomic data and 5 Mexican pieces of macroeconomic data within the M30 interval. The author believes that the conducted study will assist in making decisions by Forex market investors involved in USD/MXN currency pair investing.

Keywords: The Forex Market, macroeconomic data, currency exchange rates, GARCH model.

JEL Classification: C51, E44, F31.

Paper type: Research article.

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1. Introduction

Demand and supply for a particular currency pair depend on numerous factors. The currency exchange rate reflects the operation of market forces. It follows from the demand-supply relationship of a specific currency pair. Therefore, the primary role in shaping the currency exchange rate level belongs to demand and supply involving a particular team. The essential elements are economic and institutional factors (among other things: political stability and interventions of monetary authorities) and psychological factors (Swider, 2018). The factors mentioned above have the most significant impact on the economy in a globalized world. Accordingly – they affect currency prices, and for this very reason, this group of determinants is considered in every currency market analysis. Bearing in mind the purpose of the article, the author has exclusively focused on economic factors, particularly taking macroeconomic data into account. Due to their measurability, economic factors are most frequently used to prepare a so-called fundamental analysis.

The impact of various types of macroeconomic data on currency exchange rates may be of high, moderate, or low significance. This division is generally applied in the literature on the subject and in market analyses (Matesanz and Ortega, 2015). The macroeconomic indices of great significance usually bear the most significant impact on shaping the currency exchange rate. A response to their publication usually takes place directly after the publication of data. Where the data is in line with the forecasts, they usually strengthen the current trend. Indices with moderate significance typically have a significant impact on the shaping of the currency exchange rate. As a rule, they support the arising trend; they oppose the already existing direction and may indicate its reversal.

Macroeconomic data of low significance most times do not give rise to more significant variability of exchange rates. They usually strengthen the existing trend and typically do not cause its reversal (Thomsett, 1998). The significance attributed to various macroeconomic indices is not constant and may be subject to change, for example, due to a change in the market environment. Numerous academic studies have confirmed this (Stock and Watson, 1996; Rossi, 2006; Pastor, 2009; Sarno, 2009; Bacchetta and Van Wincoop, 2013).

2. Literature Review

The literature of the subject contains numerous studies on the analysis of the shaping of exchange rates. Empirical research and business practice prove that exchange rates respond to information concerning macroeconomic data (Goodhart, 1989; Andersen and Bollerslev, 1998; Almeida *et al.*, 1998; Zettelmeyer, 2004; Gau and Wu, 2017). An analysis of ties between the publishing of macroeconomic data and exchange rate response has been, among other things, conducted by Neely, who examined the relationship between the publishing of macroeconomic data and exchange rate response (Neely, 2011). The study results have demonstrated that macroeconomic

announcements significantly contribute to exchange rate variability. Planned and unplanned news usually increases exchange rate variability for approximately one hour after publication, frequently causing price leaps. Furthermore, information from the United States usually causes a more significant impact on data than foreign news. After publishing data on non-farm payrolls, trade balance, and interest rates, the most considerable variability has been noted.

Empirical research confirms that foreign currency investors attribute different weights to various macroeconomic data, and in particular, the tremendous significance is attributed to data concerning the US economy (Bacchetta and Van Wincoop; Chatrath *et al.*, 2014). Cheung and Chinn (Cheung and Chinn, 2001) have demonstrated the different significance of macroeconomic variables for shaping exchange rates. Ikizlerli, Holmes, and Anderson (Ikizlerli *et al.*, 2019) have shown that other investors react differently to global, regional, and local macroeconomic surprises when analyzing foreign investors' conduct and local institutions, and local individual investors.

Exchange rate variability, as an effect of publishing US economic data, has been confirmed, among other things, by the studies of Andersen, Bollerslev, Diebold and Vegad (Andersen *et al.*, 2003), Devereux and Lane, Moran, Insah, or Mirchandani (Devereux and Lane, 2003). Goodhart (1989) argued the powerful impact of publishing US macroeconomic data on exchange rate variability and stressed that the effect decreases with time flow. Andersen and Bollerslev (Andersen and Bollerslev, 1998) arrived at similar conclusions, arguing that the impact of US data is significant for exchange rate variability, albeit of short duration. It follows from the studies of Matesanz and Ortega (Matesanz and Ortega, 2015) on the impact of macroeconomic messages on exchange rate variability that US macroeconomic data has a significant impact on EUR/USD, EUR/JPY, and USD/JPY exchange rates.

Moraine and Savaşer (2016), when analyzing the shaping of the Euro, Yen, and Pound under the impact of favorable and unfavorable economic news from the United States, argued that the most significant influence on exchange rate variability is exerted by data concerning the real estate sector (in particular, sale of new homes and housing starts), the labor market (in particular, non-farm payrolls and Unemployment Claims), CPI inflation and CB Consumer Confidence. They have also drawn attention to the significant impact of the chronology of publications within a month, demonstrating that the data published as first is of tremendous significance among one category of variables. Evans and Speight, (2010) have shown the principal impact of US macroeconomic data on the EUR/USD exchange rate variability, arguing the particular significance of publications on employment and trade balance.

Empirical research has also confirmed the statistically significant impact of information on the condition of the US trade balance upon exchange rate variability (Ito and Roley, 1986; Hogan *et al.*, 1991; Aggarwal and Schirm, 1992; Hogan and Melvin, 1994). The research conducted by Aggarwal and Schirm (1998) has

demonstrated that the exchange rate responded in a much weaker fashion to big surprises understood as the difference between expected and forecast value and the actual value as published.

On the other hand, the studies of Harris and Żabka (1995), and Edison (1997), have demonstrated that a clearly favorable and statistically significant impact on the shaping of the Dollar's exchange rate is exerted by data concerning changes in employment within the United States. Finally, the studies of Simpson, Ramchandra, and Chaudhry (Simpson *et al.*, 2005), in which the impact of 23 macroeconomic notices on exchange rates has been examined, have shown that the said exchange rates reacted to statements concerning inflation, consumer demand, and interest rates. It also followed from these studies that the most significant exchange rate response was the effect of publishing data concerning the trade balance and use of production capacities.

Sebastian Edwards, an American economist, was the precursor of studies that consider foreign macroeconomic data from economies other than the United States. During 1982 – 1984 Edwards published several studies dealing with the impact of data from the US economy and from abroad on exchange rates, arguing that exchange rates respond not only to US economic data but also to data from outside the United States (Edwards, 1982; Edwards, 1983; Edwards, 1994; Longworth, 1894).

The studies on the impact of macroeconomic data from the United States and Germany on exchange rates were conducted by Almeida, Goodhart, and Payne (Almeida *et al.*, 1998). The studies of British economists have confirmed the significant impact of data from the United States on the shaping of the exchange rate. Data on employment and the US trade balance were critical (Almeida *et al.*, 1998). The studies had demonstrated that the impact of US data maintained itself for two hours following the publication of the data. However, in the case of announcements concerning changes in non-farm payrolls and CB Consumer Confidence, their impact was maintained even up to 12 hours following their announcement. The publishing of German macroeconomic data had little effect on the shaping of the exchange rate, even for a few minutes following their announcement. Interest rates in Germany were an exception. Such information gave rise to a short-term response to the exchange rate.

The studies of Galati and Ho (2001) primarily focused on analyzing the degree of the EUR/USD exchange rate variability, confirmed the proposition on the statistically significant impact of US economic data on the exchange rate variability of the Eurodollar. Furthermore, the studies have demonstrated that in the case of data which are the measure of economic activity, a mild surprise, that is, the difference between the published value and its expected value, causes activity greater than expected in a particular country, usually bearing an impact on the appreciation of the currency of that specific country (Chatrath *et al.*, 2014). The study of the effects of macroeconomic data from the United States and the Euro Zone, conducted by Caruso (Caruso, 2016), has proven the impact of Euro Zone data on the shaping of the

EUR/USD exchange rate. This impact was especially noticeable after the crisis of 2008.

3. Research Methodology

The results of studying the short-term response of the USD/MXN exchange rate to publishing macroeconomic data have been presented in the chapter. The study covers data from January 2012 to December 2018. The macroeconomic data used in the analysis are both from the Mexican and US economies. The study's purpose is to demonstrate the different roles of national and American microeconomic variables as the determinants of short-term responses to the exchange rate.

A short-term response is understood in this paper as a response to the publishing of macroeconomic data within an interval up to one hour, with a view of eliminating the risk of the impact of other data - published the very same day, but at another time - on the shaping of the exchange rate in question. The choice of response up to one hour as the subject of analysis is a typical solution discussed in the literature of the issue. Numerous publications stress that the selection of the temporal interval up to one hour provides the most authoritative results because, among other things, the response within a more extended period may be compromised by the impact of other determinants. Such conclusions follow, *inter alia*, from the studies conducted by Goodhart, Andersen and Bollerslev, Neely or Almeida, Goodhart and Payne (Goodhart, 1989; Andersen and Bollerslev, 1998; Neely, 2011; Almeida *et al.*, 1998).

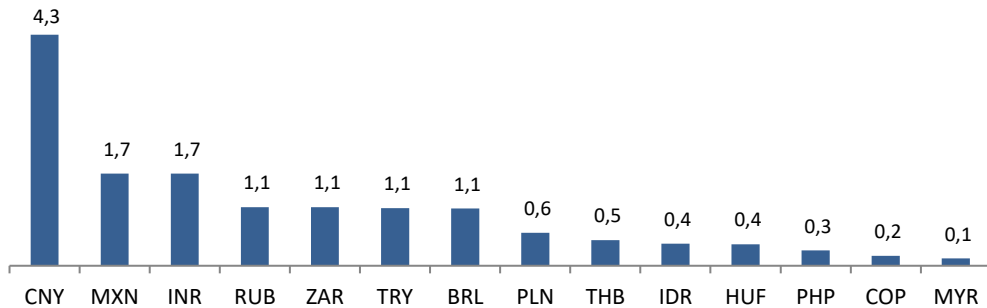
It is necessary to consider the state of expectations preceding the publication of data in studies on the short-term exchange rate response on the publishing of macroeconomic data. The exchange rate does not respond to the value of a published macroeconomic variable but rather to how different this value is against the expected value, that is, the extent to which it has surprised market players. Consequently, it is a surprise that must be the subject of the study. A macroeconomic shock is a difference between the expected (forecast) value of published macroeconomic data and the published value (Caruso, 2016; Andersen *et al.*, 2003; Andersen *et al.*, 2007; Fatum *et al.*, 2010).

The analysis was conducted about the USD/MXN pair. The choice of this currency pair is not by accident. The author intended to analyze emerging economies' currency, classified on the Forex market as so-called exotic currencies, and the large share of the Mexican cash in world currency trade was the decisive factor. Figure 1 illustrates the magnitude of the percentage of transactions in the Forex market with the participation of selected currencies of emerging markets.

The most important emerging market currencies in the order of their share in Forex market trade are the Chinese Yuan (CNY), Mexican Peso (MXN), Indian Rupee (INR), Russian Rouble (RUB), South African Rand (ZAR), Turkish Lira (TRY) and Brazilian Real (BRL). From among the most important emerging market currencies, guided by

the criteria of geographical representation and data availability, the USD/MXN currency pair was subjected to empirical study analysis. Furthermore, Mexico represents one of the world's most significant regions – South America.

Figure 1. Share of selected emerging market currencies in Forex market transactions, 2019 (in %)



Source: Own study, based on Foreign exchange turnover in April.

The results of studies of responses of the USD/MXN exchange rate to both local and US data have been presented in this article. To analyse the impact of macroeconomic data on exchange rates, it was necessary to select the most critical data from the US and the selected emerging economies. The fundamental criterion of choosing variables for the study was the importance of a particular variable for shaping exchange rates, following the most critical exchange rate theories and their practical significance from investors' perspectives.

Furthermore, the United States continues to be the most important economy in the world. For this very reason, publications on this economy draw the most excellent attention of currency investors. The study covers 15 types of macroeconomic data of the US economy. The response was examined based on the following variables: changes in non-farm payrolls, CPI, core CPI, PPI, Trade Balance, Retail Sales, ISM Non-Manufacturing PMI, ISM Manufacturing PMI, Pending Home Sales, Housing Starts, Existing Home Sales, Building Permits, Core Durable Goods Orders, Factory Orders, and CB Consumer Confidence. This is data of tremendous significance for foreign currency investors, confirmed by numerous studies (Cheung and Chinn, 2001; Omrane and Savaşer, 2016; Evans and Speight, 2010). In the instance of the Mexican economy, the short-term response of the exchange rate to the following macroeconomic data has been studied, Unemployment Rate, CPI inflation rate, Trade Balance, Retail Sales, and Industrial Production.

The study has employed the macroeconomic calendar of Investing.com, a global financial platform recognized by the world's investors. This is the only platform that updates the data concerning the forecast, actual and past value in the macroeconomic calendar by publishing data from previous years.

The following linear regression model has been employed with the GARCH process for a random element –to analyze ties between the publishing of macroeconomic data and exchange rate changes. This model is as follows:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{k_c} \alpha_i C_{it} + \sum_{j=1}^{k_x} \beta_j X_{jt} + \sqrt{h_t} \epsilon_t, \quad (1)$$

$$h_t = \gamma_0 + \gamma_1 (\Delta Y_t)^2 + \gamma_2 h_{t-1} + \gamma_3 C_t^g + \sum_{j=1}^{k_x} \delta_j X_{jt}, \quad \epsilon_t \sim N(0,1) \quad (2)$$

where:

ΔY_t – Exchange rate variation within a period of one hour, expressed in pips, calculated as follows:

$$\Delta Y_t = Y_{t+1}^z - Y_t^o, \quad (3)$$

where:

Y^o and Y^z – designate, as appropriate, the opening rate and closing rate of a particular 30-minute temporal interval;

$C_{it}, i = 1, 2, \dots, k_c$ – values of zero-one control variables, which represent the various times or temporal intervals during the day; these variables took the value of 1 for a specified temporal interval or time, and 0 in other cases; the following temporal intervals and times have been taken into account: 6:00-8:30, 9:00, 9:30, 10:00, 10:30, 11:00, 11:30, 12:00, 12:30, 13:00, 13:30, 14:00, 14:30, 15:00, 15:30, 16:00, 16:30, 17:00, 17:30, 18:00-21:30;

$X_{jt}, j = 1, 2, \dots, k_x$ – Values of standardized macroeconomic surprises; a particular equation takes into account both surprises for the United States and for the emerging market under scrutiny;

h_t – conditional variation of the random element;

ϵ_t – value of the random element;

C_t^g – values of zero-one control variables, which represent the periods of increased exchange rate variability; these periods have been determined individually for the USD/MXN currency pair;

$\alpha, \beta, \gamma, \delta$ – model parameters: α parameters describe average exchange rate variations during the various parts of the day; β parameters illustrate the change of the exchange rate upon the appearance of a specific surprise of a magnitude of one standard deviation, γ parameters characterize the level of variability of analysed exchange rates, and δ parameters define fluctuations of variability which follow the appearance of surprises.

This type of model is generally used to model phenomena in financial markets, particularly for modelling exchange rates (Doman and Doman, 2009; Osińska, 2006; Fiszeder, 2009; Perczak and Fiszeder, 2014; Engle, 2001; Günay and Haque, 2015). A similar study approach has been applied in other studies on Forex market exchange rates, (Caporalea *et al.*, 2018; Kim, 1998; Egert and Kocenda, 2014; Ari and Unal, 2011).

The model's parameters are estimated under 30-minute data concerning currency exchange rates during 2012-2018. The series, therefore, include 85518 observations. The data on surprises have been standardized so that a standard deviation of the various surprises is always equal to 1 (the average value remains unchanged, and therefore it is not always equal to 0). In a situation where the macroeconomic data have not been published at a particular moment, the value of variables describing surprises had been like 0.

The standard method of the most excellent credibility has been used for estimating models. The estimations have considered the lack of data (less than 0.5% of the general number of observations). The parameter estimation has been conducted in the Stata 15 program.

The next step in assessing whether the exchange rate of the currency pair in question responded more profoundly to data from the US economy compared against national data, relevance tests have been conducted for differences between the absolute values of the various estimates of responses to US national data. These comparisons have been performed separately for the β parameters in equation (1) and δ parameters in equation (2). The testing of the relevance of parameter differences has been conducted in the following manner:

Let β_{USA} and β_{MXN} designate the estimates of effects of surprises for the United States and Mexico, $D^2(\beta_{USA})$ and $D^2(\beta_{MXN})$ shall be the assessments of estimates variations,

whereas:

$[COV(\beta_{USA}, \beta_{MXN})]$ is the assessment of estimates co-variation. The following hypotheses are put to the test:

$$H_0: \beta_{USA} = \beta_{MXN} \tag{4}$$

$$H_1: \beta_{USA} > \beta_{MXN} \text{ if } \hat{\beta}_{USA} > \hat{\beta}_{MXN} \text{ or } \beta_{USA} < \beta_{MXN} \text{ if } \hat{\beta}_{USA} < \hat{\beta}_{MXN}$$

The test statistics take the form of:

$$t = \frac{\hat{\beta}_{USA} - \hat{\beta}_{MXN}}{D(\hat{\beta}_{USA} - \hat{\beta}_{MXN})} \tag{5}$$

where:

$$D(\hat{\beta}_{USA} - \hat{\beta}_{MXN}) = \sqrt{D^2(\hat{\beta}_{USA}) + D^2(\hat{\beta}_{MXN}) + 2COV(\hat{\beta}_{USA}, \hat{\beta}_{MXN})} \tag{6}$$

With the premise of the truthfulness of the Zero Hypothesis, the test statistics have a normal standard distribution. The test's critical area is unilateral (depending on the alternate hypothesis).

4. Results

The collected results concern the response of exchange rates to published macroeconomic data and the relative significance of the various macroeconomic variables from the US and national economies as the determinants of changes in the exchange rate.

Table 1. Estimates of model parameters (1-2) for the USD/MNX exchange rate

α parameters		β parameters		γ parameters		δ parameters	
α_0	-0,515 (0,686)	surprise USA Trade Balance	24,86** (12,02)	γ_0	7,698*** (0,009)	surprise USA Trade Balance	-1,114* (0,570)
id_0600_0830	2,017* (1,045)	surprise USA Housing Starts	-37,86** (18,64)	γ_1	0,556*** (0,003)	surprise USA Housing Starts	-2,065*** (0,266)
id_0900	15,06*** (1,809)	surprise USA CPI	49,68*** (14,05)	γ_2	0,575*** (0,001)	surprise USA CPI	1,167*** (0,256)
id_0930	16,42*** (1,939)	surprise USA Core CPI	130,3*** (9,704)			surprise USA Core CPI	-2,737*** (0,187)
id_1000	11,52*** (2,342)	surprise USA Pending Home Sales	-16,35 (17,95)			surprise USA Pending Home Sales	-1,060* (0,566)
id_1030	16,82*** (2,470)	surprise USA ISM Non- Manufacturing PMI	-0,382 (23,49)			surprise USA ISM Non-Manufacturing PMI	-2,485*** (0,450)
id_1100	30,30*** (2,682)	surprise USA ISM Manufacturing PMI	-28,94** (13,37)			surprise USA ISM Manufacturing PMI	1,714*** (0,286)
id_1130	38,76*** (2,584)	surprise USA Building Permits	17,29 (18,14)			surprise USA Building Permits	-0,714* (0,366)
id_1200_1400	56,60*** (0,816)	surprise USA PPI	-49,63*** (15,38)			surprise USA PPI	2,549*** (0,0939)
id_1430	1,748 (2,485)	surprise USA Existing Home Sales	19,05 (19,07)			surprise USA Existing Home Sales	-1,061*** (0,369)
id_1500	3,672 (2,507)	Surprise USA Retail Sales	56,71*** (7,046)			surprise USA Retail Sales	-2,031*** (0,127)
id_1530	14,42*** (3,090)	surprise USA Core Durable Goods Orders	29,07* (16,48)			surprise USA Core Durable Goods Orders	-1,337*** (0,286)
id_1600	4,308 (3,167)	surprise USA Factory Orders	27,28 (30,01)			surprise USA Factory Orders	0,104 (2,359)
id_1630	14,47*** (3,069)	surprise USA Non-farm payrolls	-135,1*** (6,588)			surprise USA Non-farm payrolls	3,335*** (0,167)
id_1700	0,373 (3,550)	surprise USA CB Consumer Confidence	82,62*** (27,56)			surprise USA CB Consumer Confidence	2,465*** (0,138)
id_1730	0,601 (3,864)	surprise MXN Unemployment Rate	-17,75 (14,38)			surprise MXN Trade Balance	-2,060*** (0,214)
id_1800_2130	5,799*** (1,012)	surprise MXN Trade Balance	45,13*** (13,37)			surprise MXN CPI	-0,915 (0,586)
		surprise MXN CPI	50,04** (20,39)			surprise MXN Industrial Production	2,700*** (0,575)
		surprise MXN Industrial Production	-32,71* (19,80)			surprise MXN Retail Sales	-1,451*** (0,274)

surprise MXN Retail Sales	46,19** (18,68)	surprise MXN Trade Balance	-1,679*** (0,614)
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Note: The table presents estimates of model parameters (1-2) with resistant average errors of the estimate in parenthesis; stars designate statistically relevant estimates (* 0.1; ** 0.05; *** 0.01).

Source: Own creation.

Table 2. Results of comparisons of the strength of response of the USD/MXN exchange rate to data from the United States and Mexico

USA	Factor	Mexico				
		Unemployment Rate	Trade Balance	CPI	Industrial Production	Retail Sales
		-17,75	45,13	50,04	-32,71	46,19
Trade balance	24,86	0	0	0	0	0
Housing Starts	-37,86	0	0	0	0	0
CPI	49,68	0	0	0	0	0
Core CPI	130,3	+	+	+	+	+
Pending Home Sales	-16,35	0	0	0	0	0
ISM Non- Manufacturing PMI	-0,382	0	-	0	0	0
ISM Manufacturing PMI	-28,94	0	0	0	0	0
Building Permits	17,29	0	0	0	0	0
PPI	-49,63	0	0	0	0	0
Existing Home Sales	19,05	0	0	0	0	0
Retail Sales	56,71	+	0	0	0	0
Core Durable Goods Orders	29,07	0	0	0	0	0
Factory Orders	27,28	0	0	0	0	0
Non-farm payrolls	-135,1	+	+	+	+	+
CB Consumer Confidence	82,62	+	0	0	0	0

Note: The table presents the values of β indices for data from the United States and Mexico, as well as the results of relevance tests for differences between all possible pairs of absolute values of estimates. The symbol 0 means that the difference is not statistically relevant, + means a stronger response to a specific surprise from the United States; - means a stronger response to a specific surprise from Mexico. The relevance level for all tests has been accepted as equal to 0.1.

Source: Own creation.

The parameter estimates of the model have been presented in Table 1 (1-2) for data from Mexico. When analysing the results for the β parameter, it is to be noted that the mild surprise regarding US data on non-farm payrolls and core CPI has caused a pronounced most robust exchange rate response. In the case of changes in Non-farm payrolls, the USD/MXN exchange rate changed by approximately 135 pips; however, in the instance of core CPI, this variability amounted to about 130 pips. A strong response followed the publishing of US data on CB Consumer Confidence. In this case, the change in pips amounted to approximately 83 pips. A somewhat weaker response was caused by publishing US data on Retail Sales and Mexican data on Retail

Sales and the Trade Balance. The change in pips amounted to, as appropriate, 57, 46, and 45. A similar scale of responses has been observed in response to US data on CPI in the United States, PPI in the United States, and CPI in Mexico.

In the case of these variables, it must be noted that the surprise entailed a change in the USD/MXN exchange rate of 50 pips on the average following one hour after the publishing of data. On the other hand, a positive surprise regarding data on US Core Durable Goods Orders in the amount of one standard deviation entailed an increase of the USD/MXN exchange rate of approximately 30 pips on average up to one hour following the publishing of data. A similar response scale has been observed in response to US data concerning the Trade Balance, ISM Manufacturing PMI, Housing Starts, and Mexican data on Industrial Production.

Table 2 presents the results of a study of the relevance of differences in estimated β parameters, which illustrate a change of the exchange rate following the publishing of the various macroeconomic data. The results presented in Table 2 indicate that exchange rate responses - regardless of the sign - to surprises concerning indices from Mexico were in no way significantly more robust from responses to US data. Only answers to Mexico's trade balance data were considerably more potent than the response to the ISM Non-Manufacturing PMI from the United States.

Simultaneously, the response to data concerning Non-farm payrolls and core CPI in the United States was significantly more robust than the response to all data concerning the Mexican economy. Furthermore, the reaction to Retail Sales and CB Consumer Confidence from the United States was considerably more robust than the response to Unemployment Rate in Mexico.

5. Conclusions

The results of studies of responses to the publishing of data concerning the US and Mexican economies are not precise in the case of the currency pair under scrutiny. The USD/MNX exchange rate responded to both US economic data and some national data.

The variables which caused the most robust response of the currency pair under analysis turned out to be changes in non-farm payrolls in the United States and core CPI in the United States. The variables that caused a strong response of the currency pair under analysis were CB Consumer Confidence and Retail Sales. Both indices are from the US economy.

When it comes to comparing the magnitude of the response in pairs, data analysis has demonstrated that data concerning Non-farm payrolls in the United States caused the most significant impact vis a vis the studied currency pair. Another type of data was Core CPI. In the instance of local data, this impact was differentiated, but in case it was as strong as Non-farm payrolls and Core CPI in the US economy. In the case of

Mexico, data from the local economy were not materially more robust. Only the response to Mexico's Trade Balance data was materially more potent from the reaction to ISM Non-Manufacturing PMI in the United States.

In conclusion, the currency exchange rates of emerging markets respond more strongly to US economy macroeconomic data than to data from the national economy, however with the proviso that this only applies to some critical data, especially Non-farm payrolls or Core CPI.

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