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# Impacts of Fed's Decisions on Emerging Countries: An Empirical Analysis & Investment Solution

**Bachelor Project submitted for the degree of**

**Bachelor of Science HES in International Business Management**

by

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# Declaration

This Bachelor Project is submitted as part of the final examination requirements of the Haute école de gestion de Genève, for the Bachelor of Science HES-SO in International Business Management.

The student accepts the terms of the confidentiality agreement if one has been signed. The use of any conclusions or recommendations made in the Bachelor Project, with no prejudice to their value, engages neither the responsibility of the author, nor the adviser to the Bachelor Project, nor the jury members nor the HEG.

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Geneva, August 23rd

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# Executive Summary

On July 13th, 2019, the Fed decided to reduce its interest rates by 25 basis points. Its first since October 2008. A decision that could be thought of as a good thing for the emerging countries' economies. Indeed, according to economic theories and history, they would benefit from a significant breath of fresh air. Legend has it that the Fed's will have a significant impact on emerging countries, whether positive or negative.

One could, therefore, question why did Argentina's stock exchange – just a few weeks after the so-called beneficial decision of the US central bank – lose 48% in one trading session. The second-largest stock market sell-off in history after Sri Lanka's civil war outbreak in 1989 (-61.7%). Obviously, the reasons for this Argentine air gap have endogenous roots, mostly political, but it is then interesting to investigate if the Fed's decisions impact the emerging regions of the world. Do this relation still exists today? Have emerging countries emancipated themselves from the American game? And finally, depending on the answers, what would be the most efficient ways to invest in these regions, rationally and professionally.

This paper, therefore, tries to demonstrate whether the impact on emerging markets of the Fed's decisions on rates still exists. More precisely, the approach here is to investigate the reactions of emerging currencies against the US dollar when interest rates vary. Through a statistical analysis over two periods (1997-2008 and 2008-2019), using tools such as linear regression and correlation observation, and adding the time-lag component, interesting results emerge. Indeed, depending on the period chosen, they are diametrically opposed. As things stand, the study shows a causal relationship and a correlation between interest rate decisions and emerging currencies. However, the change in US rates does not explain all the variation in the analysed currencies. The economic cycle in which the analysis was made must also be considered, it is likely that the latter is a significant component. The addition of variables would improve the performed statistical model, thus allowing a better understanding of their behaviour and so facilitate the investment process.

On this basis, adjusted with informed insights and experience of professionals, but also with the attempt to reduce cognitive biases to a minimum, this paper concludes with an investment solution. More specifically, a quantitative stock selection tool based on the mixed implementation of fundamental and technical analysis, which now shows encouraging results.

# Contents

# List of Tables



# List of Figures

# Abbreviations and acronyms

(in alphabetical order)

| | |
|---|---|
| CEPII | Centre d'Etudes Prospectives et d'Informations Internationales |
| GDP | Gross Domestic Product |
| IMF | The International Monetary Fund |
| MTD | Month-to-Date |
| OECD | Organisation for Economic Co-operation and Development |
| PE ratio | Price-to-Earnings ratio |
| RSI | Relative Strength Index |
| S&P 1200 | Standard & Poor's 1200 |
| S&P 500 | Standard & Poor's 500 |
| WACC | Weighted Average Cost of Capital |
| YTM | Year-to-date |

# 1. Introduction

Does the Fed's decisions impact emerging markets currencies? The current empirical literature seems to show that, indeed, when the Fed decides to move rates, it comes with an emerging market's reaction.

This first section will provide an overview on emerging markets reacting to Fed's decisions. Then, for a global understanding, it will present the Fed's background with some of its essential aspects, define what emerging markets are and finally contextualize current economic situation.

## 1.1 Literature review

In order not to deprive oneself of a voluminous and quality literature, it is necessary to understand that a significant in- or outflow of capital result a reaction of the value of a country's currency. So basically, the focus of this paper is on, if or if not, emerging currencies react to the Fed's rate, or, by extension, on if a variation in the US rate changes the geographical allocation of capital.

Some studies support the view that US rates have a role to play in the behaviour of emerging markets. For example, Fernandez-Arias (1996) states that low interest rates can, for a short period of time, improve a country's creditworthiness by lowering its borrowing rates, thereby creating an increase in demand for foreign capital. In another context, Taylor & Sarno (1997) write that the most affected asset class remains the emerging bonds, in the sense that Fed decisions are a significant factor in short-term investment flows to emerging economies.

In a more behavioural aspect, Koepke (2015) shows that capital flows to emerging markets are impacted by changes in market expectations. The study provides strong evidence that the unexpected is a key factor in an investor's decision to invest or withdraw and that the application of the decision itself – to raise or lower rates – does not cause a change in capital flows to emerging markets. This raises the question of how the Fed, by virtue of its primary role as an economic stabilizer, should communicate to minimize the consequences on capital flows to emerging countries and therefore by extension on their currencies as well.

Conversely, some studies have failed to provide evidence that capital flows from emerging markets are affected by US rates, but the conclusion allowed to drift to new suggestions – Hernandez, Mellado & Valdes (2001). They argue that the impact on emerging markets is only felt over a very short period after the decision. This observation reinforces the importance of the unexpected component, especially since evidence is brought that the reaction of emerging economies is weak in the long term, because market anticipation cancels out the surprise effect. So, this paper will investigate how the emerging currencies react to a Fed's decision over time, by implementing 0-, 3-, 6-, 9- and 12-months time-lags.

The next section looks at the Fed's historical foundations, its role in the global economy and the fears that accompany this powerful institution.

## 1.2 US Federal Reserve

### 1.2.1 Fed's history

The Federal Reserve System or often shortened Fed is the central bank of the United States. In 1791, the US government created the First Bank of the United States. For twenty-five years was this bank then responsible for the issuance of money and the regulation of credit. In 1816, after the war against the United Kingdom from 1812 to 1815, the bank was replaced by the Second Bank of the US, which was supposed to put an end to the galloping inflation that hit the country after the war. In 1830, President Andrew Jackson, who wanted to rebuild the banking and the monetary systems, dissolved the Second Bank. Since then, for several decades, the United States has had to contend with a complex monetary system that was based on barter between many regional currencies, known as "green papers." This decentralized situation made any regulation impossible, provoking numerous bankruptcies and crises.

In 1907, happened one of the biggest banking crises in the US's financial history. This led to the foundation of the National Monetary Commission, which was asked to define and implement a banking and monetary reform. This commission responded to the Congress and was led at that time by Republican Senator Nelson Aldrich. The report from this commission laid the foundation for the Federal Reserve Act that was passed by Congress on December 23, 1913 and promulgated by President Woodrow Wilson the same day. Then, the Congress set three monetary policy goals in the Owen-Glass Act: full employment, price stability,

and moderate long-term interest rates. It is often referred to the first two factors grouped under the term "dual purpose" or "dual mandate" of the Fed. Until today, in addition with preventing financial and banking crises, these objectives still are the sole purpose of the Fed.

### 1.2.2 Fed's structure & functioning

The institution publishes numerous reports, such as the beige book, a summary of the economic conditions in each state and in each region of the United States. The Federal Reserve consists of a board of governors, the Federal Open Market Committee (FOMC), twelve regional banks (Federal Reserve Banks), several banks, and some advisory boards. The FOMC Committee is responsible for the Fed's monetary policy. Today, this committee is made up of the seven members of the board of governors and the twelve presidents of regional banks, where only five have the right to vote at any given time.

Even though the Fed is a Federal institution, its structure is quite complicated and tries to meet both the public's interest and the banks. In the United States, all commercial banks licensed to operate in more than one state are required to be claim membership to the Federal Reserve in the region where their headquarters are located. These commercial banks own shares of their regional central bank, which allows to participate in the election of the Federal Reserve's board members.

In all cases, the Fed's authority is defined by the US Congress and the latter can exercise its congressional oversight right over the System. However, the members of the Board of Governors, including the President and Vice-President of the Fed, are appointed by the US President and confirmed by the Senate. It is also the government that appoints the bank's senior officials, sets their salaries, bonuses and other compensations. It is the federal government that receives the Fed's profits, except for a 6% dividend that is paid to the banks member of the system.

The federal government places the new institution under its authority by appointing the Secretary of the Treasury (Minister of Finance) and the Controller of the Currency as members, ending, the era of regional finance. Indeed, the purpose of the new organization is to promote currency management and the economy throughout the country, to allow the discounting of commercial paper and to monitor the operation of US banks.

This system proved its worth during the 1929 crash: the solution envisaged by the New York Federal Reserve, a monetary stimulus, would have made it possible to emerge from the crisis. However, a serious reorganization was required and in 1935, the Federal Reserve Board became the Governor's Board. The new body acquires control over the regional banks through the Banking Act. The Federal Open Market Committee (FOMC) was also created. This committee is responsible for overseeing national monetary policy and for regulating and controlling interest rates.

In theory, these measures ensure that the Fed stays independent for monetary policy. In practice, the Fed is continuously under pressure. And its independence is often disputed. In 1978, the Humphrey-Hawkins Full Employment Act redefined the Fed's mandate in terms of its even broader autonomy.

Today, the Federal Reserve or the US central bank is financially independent. It receives no budget from either the government or the US Congress. The Fed finances itself through the interest of public loans; commissions on bank deposit benefits and interest on foreign exchange. This is how the Fed manages to pay hundreds of millions of dollars to its shareholders and more billions of dollars of surplus to the US Treasury.

### 1.2.3 Fed’s roles

The role of the Federal Reserve has evolved since then, and today this institution generally acts as an independent or independent institution that does not depend on other levels of government (as in many other countries). Like all central banks, the Fed is responsible for developing, implementing, and controlling the state's monetary policy. Also, the Fed has the important responsibility for maintaining full employment conditions (generally considered to be around 4 to 5 % unemployment) while keeping inflation at an acceptable level (usually below 2%). It is also responsible for maintaining the stability of the country's financial system, overseeing and regulating the banking system, providing financial services to d posit-taking institutions, the Federal government, and foreign financial institutions. A peculiarity of the US monetary system is that it is not the central bank (Fed) but the Federal Treasury Department that creates the currency, unlike most other countries.

Although, all these roles may sound simple in theory, it shows to be a delicate balancing act when it comes to practice. Indeed, to achieve its monetary policy

objectives, the Federal Reserve has in its possession four tools, it can use at its discretion (see figure 1).

### 1.2.4 Fed's toolbox

The Fed uses four tools to reach its monetary policy objectives: reserve requirements, the discount rate, interest on reserves and open market operations.

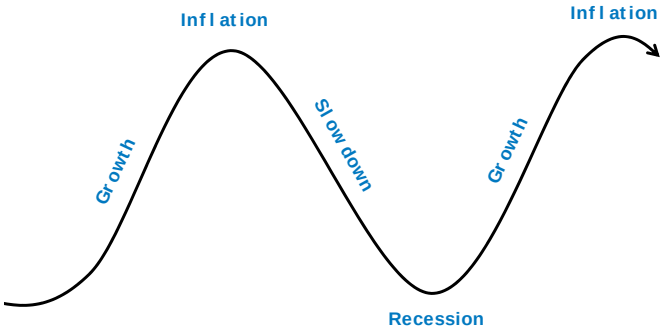
The most used and recent tool was given to the Fed after the 2008 financial crisis. Interest on reserves is what is paid to banks when there is an excess of reserves. Banks are required, by the Fed, to hold a certain percentage of their deposits, so when this percentage is higher than that required by the Fed, the banks receive interest on the surplus. So, depending on the rate decided by the Fed on reserves, banks have more or less incentive to keep or lend their reserves. Thus, by managing this rate, the Fed can increase or reduce the circulation of money.

Totally linked to the previous tool, reserve requirements set the deposit limit that banks must keep. Thus, a decrease in the limit on the Fed's part would mean the implementation of an expansionary policy. The opposite would logically explain why the Fed wants to introduce a more restrictive policy.

The discount rate is the interest rate at which Reserve Banks lends to commercial banks. Once again, by deciding at what rate the Fed wants commercial banks to borrow from it in the short term, it decides its monetary policy: a low rate will tend to see loan demand increase, demonstrating that the Fed's choice to expand its monetary policy. A higher rate would mean the opposite.

Finally, the open market operations tool is very simply used to buy or sell government financial instruments, always according to the same monetary policy management model.

**Figure 1: Economic cycles**




**Growth**:

- Growth Domestic Product (GDP) growth rate raises
- the Fed lowers interest rates, reserve requirements or acquires treasury bonds.
- Growing level of investments
- Unemployment rate decreases

**Inflation**:

- Abnormal GDP growth rates
- Borrowing becomes too cheap
- General price increase
- Unemployment rate decreases

**Slow down:**

- GDP growth rate stabilizes
- the Fed raises interest rates, reserve requirements or sells treasury bonds.
- Reduced investments
- Borrowing becomes more expensive

**Recession**:

- GDP growth rates decline substantially
- Borrowing becomes too expensive
- General price decrease
- Unemployment rate increases

### 1.2.5 Fed’s independence

Due to is role, the Fed is supposed to be independent and should act, above all, for the better of the US economy. However, for some time now and more recently Fed’s independence is disputed.

For example, some authors have, in the past, questioned its independence. Indeed, some developed the thesis that the Fed would, in fact, be controlled by the leading American private banks that could effectively defend their own interests to the detriment of the general interest. The Fed has also recently been questioned in several cases in which it is suspected of having been unresponsive to questionable practices by certain major banks. It did not launch an investigation against Goldman Sachs even though the information had been sent to it on a contentious operation carried out at the beginning of 2012. The Fed would not have acted on a recommendation from its 2009 team to conduct an in-depth review of the London branch of JP Morgan bank, while it found itself in 2012 at the heart of the financial scandal known as the "London whale."

More recently, concern about the Fed's independence has never been so acute. Analysts, economists, and academics have been worried about this independence, which they believe is threatened by the growing political pressure exerted by Donald Trump. In fact, the Republican President has consistently criticized the institution since his election. In particular, he criticizes it for maintaining interest rates that he considers too high.

Relatively recent, the independence of the major central banks was introduced in the aftermath of the oil shocks of the 1970s. Unelected, central bankers are free to take unpopular measures to avoid price hikes and limit excesses in the financial system. This freedom is essential to establish their credibility with the markets; otherwise their measures won't work. A famous example remains the German Bundesbank after World War II, which then obeyed to politics, massively printed money to pay off the war debt, which triggered severe hyperinflation for the Germans.

The following section introduces the definition of what emerging markets are and what characterises them.

## 1.3 Emerging markets

### 1.3.1 Definition

What is emergence? Or what is an emerging country?

Simply put, emergence is a concept to describe the growing attractiveness of developing countries with a middle-income population. With growth starting in its own financial market, until it becomes big enough to be considered as an emerging economy, to, finally, mature and become a developed country.

Although there is no unanimously accepted definition, the emergence concept contains the following three elements according to the CEPII[1] definition:

- a level of income below the OECD[2] average
- sustained economic growth accompanied by increasing openness over a relatively long period
- attractiveness for international investors

Thus, this paper will define a country as emerging with the following criteria. To understand the emergence and capacity of a country to emerge, it is necessary to highlight the competitive capacity of its economy and being a member of the OECD, is not enough to be categorized as a developed country.

An emerging country must be able to sustain rapid economic growth over a significant period without jeopardizing its balance or stability. Indeed, many candidates in the past have demonstrated legitimate growth in a short period of time but have nevertheless found it impossible to replicate this development capacity in the medium or long term. This has often led to a crash in the value of the currency, periods of inflation and even hyperinflation. In the recent weeks, Argentina has been the perfect example of this situation, a real case study.

The emergence therefore highlights the competitive capacity of the economy. In short, it must apply the foundations of capitalist theory, which states that when in a liberal economy, a society or, here, a country, it must know how to allocate and use its resources as long as open and free, market and competition, without deception nor fraud, is possible.

[1] Centre d'Etudes Prospectives et d'Informations Internationales

[2] Organisation for Economic Cooperation and Development

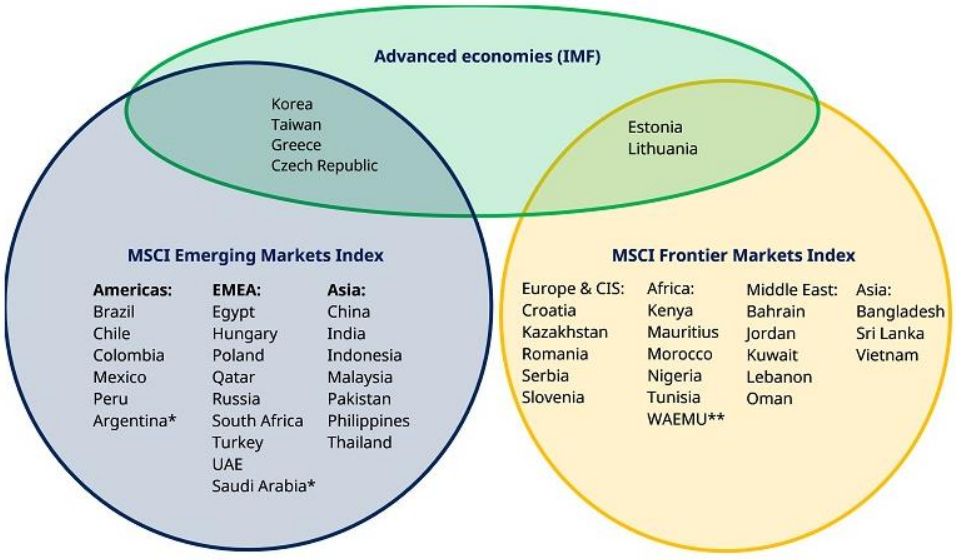
### 1.3.2 Investing in emerging markets

Investing is something one can do it anywhere in the world. The choice of investment products that make it possible to invest in the most diverse sectors, companies, themes, and countries of interest are vast. Emerging markets offer particularly attractive investment opportunities. But what exactly is it about? What are their particularities for investors?

Before making an investment in this area and including emerging market securities in your portfolio, it is therefore recommended to get a first impression of this sector. The easiest way to do this is to look at the "MSCI Emerging Markets" index (see figure 2). This equity index reflects the performance of the stock markets of 24 emerging countries. It, therefore, makes it possible to see which countries are precisely considered emerging and how their markets are evolving.

But first, a distinction must be made between an emerging country and an emerging economy. Korea and Taiwan are the best examples. For some indicators, such as GDP per capita, Taiwan is considered more developed than France or the UK. Not to mention, that both have world leaders in their field – Taiwan Semiconductor and Samsung - and that despite this, they still categorize themselves as emerging markets.

**Figure 2 – Emerging & Frontier markets repartition**




** Argentina and Saudi Arabia will be promoted to the MSCI EM Index in June 2019.*
*** The West African Economic and Monetary Union (WAEMU) consists of the following countries: Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal and Togo. Currently the MSCI WAEMU Indices include securities classified in Senegal, Ivory Coast and Burkina Faso.*

*Source: IMF, MSCI and Schroders. Data as at 30 June 2018.*

For investors, these markets offer additional opportunities but also present higher risks than industrialized countries. However, investing in emerging markets also involves a, and often higher, risk. Political insecurity and less monetary stability lead to increased volatility on the stock markets. As local currencies can quickly lose value, the exchange rate risk is also higher. As it has been statistically demonstrated, the situation in other countries also plays a role: in emerging markets, local currencies are often highly dependent on the US monetary policy. Similarly, the decisions taken by world powers in the context of their foreign policy may have a greater or lesser influence on these currencies.

Moreover, in these countries, the risk of a company being nationalized cannot be ruled out. Other additional risks include the lack of transparency in these markets. Market regulation does not always work or is subject to slow adaptation; intellectual property is poorly protected; these factors that can also influence the economic and financial development of emerging markets.

## 1.4 Current economic context

Despite the August's recent rollercoaster movements and the uncertainty of the current events (US-China trade war, Iran tensions, Brexit, etc.), shares have risen since January, and according to the experts, they should continue. So far, nothing has seemed to derail the rise in markets since January: +15% for the S&P 500, +16% for the SMI (data observed August 8$^{th,}$ 2019), stock market indices have risen in the developed and emerging world despite several threats to the global economy, particularly the trade war between China and the United States.

The question now would be to know if the second half will be as bullish as the first one as growth seems to be weakening, and trade tensions are picking up again. Credit Suisse believes so: "We believe that the upside potential is intact, although the risks of temporary corrections after the recent rally have increased," says Burkhard Varnholt, Head of Investments, in a note assessing market performance in the first half of the year and setting out the outlook for the second.

On the other hand, UBS is a little more cautious, reducing its equity allocation from "overweight" to "neutral" for the second half of the year. Isn't this year's rebound "too good to last"? Political risks - commercial or Brexit - could fuel volatility, they warn, also in a 2019 mid-term study. "Investors need to be agile and diversify their investment strategy in order to generate risk-adjusted returns," they recommend. It is in China, above all, that they see the most opportunity on the

equity markets. Its economy is stable, investors are increasingly positive, and the inclusion of this market in the MSCI index will make it even more critical. Nevertheless, the bank also believes that diversification into real assets and related alternative investments is likely to continue. For many, the rise in stock markets should, therefore, continue, while being subject to some probable ups and downs depending on political events. This will provide new purchasing opportunities. Especially since the signals from the US Federal Reserve, which seems to be considering another reduction in its interest rates, are favourable to the markets.

Most specific to this paper's question, Fed's latest rate cut (25bps reduction) could give emerging economies a breath of fresh air. Emerging economies, which are suffering from the slowdown in world trade and, above all, the decline in Chinese demand in goods and services, could benefit from a breath of fresh air thanks to the Fed which recently re-opened the door to a rate cut.

## 1.5 Latest comments[3]

Following are some interesting comments from professionals of the industry that will be investigated in this paper.

> *After leaving rates unchanged a week ago, Fed boss Jerome Powell explained on Tuesday that he did not want to "overreact" by immediately easing the bank's monetary policy in response to fears about trade tensions between Washington and Beijing.*
>
> *Even if his speech was less accommodating than expected, he distanced the prospect of a further rate increase, which would have strengthened the transfer of capital to the United States, where investments are less risky or increased the price of servicing their debt in dollars.*
>
> *"As the normalization of monetary policy in the United States is halted or even reversed, it may ease markets and financing conditions for emerging countries," Sébastien Jean, director of the Centre for Prospective Studies and International Information (CEPII), told AFP. "For some countries, there may, therefore, be some windfall effect," he added, referring to emerging economies that can afford it. Because*

[3] https://www.allnews.ch/content/news/la-Fed-pourrait-donner-un-bol-d%E2%80%99air-aux-%C3%A9conomies-%C3%A9mergentes

*they have the flexibility to boost their growth by financing themselves on the markets without fear of rising interest rates.*

*A welcome breath of fresh air at a time when emerging economies are experiencing growth rates driven by "low investment and the sharp slowdown in world trade," as recently explained by World Bank President David Malpass.*

*"A low rate in the United States is, a priori, good news for emerging countries because it creates slightly stronger incentives for flows" to these countries, Jens Arnold, head of the OECD's Department of Economics for Argentina and Brazil, told AFP.*

*There is also the "risk aversion" that currently characterizes markets, as Sean Darby, of the American investment bank Jefferies, pointed out at a conference in Paris. "What is happening in China is necessarily harmful to emerging countries," he told AFP about the decline in raw material exports to the Asian giant, which have long supported emerging economies. For Mr. Faure, the rates are too high anyway for emerging countries to be able to finance themselves on the markets, especially Argentina, which is in recession. "Not only do the Argentinians not want to, but they couldn't. This is better because they are already very heavily indebted," he said.*

*However, Mr. Darby noted that central banks in emerging countries are distancing themselves from the Fed. "This time, long before the Fed moved, several central banks in emerging countries lowered their rates, such as Malaysia, the Philippines, and India," he said. "The divorce between the emerging countries and the Fed has become quite clear," said the Jefferies analyst, citing the case of Russia.*

These comments could be the headlines of all the stereotypes and/or common literature when it comes to defining emerging markets reactions to the Fed's rate changes. So, using statistical analysis - a linear regression - this paper will try to unravel some of these affirmations anchored in the collective imagination.

The rest of the paper is organized as follows. Section 2. performs a statistical model to measure Fed's rate impact on emerging currencies. Section 2.3. shows

the results obtained by the linear regression and explains if and how emerging currencies react to changes in US rates.

Section 3.1. explains investing in emerging markets and introduces discussions with professionals of the financial industry about the statistical model (Section 2.) and how investment decisions are made.

Based on financial analysis theories such as fundamental, technical and behavioural, a quantitative investment solution for emerging markets equities is proposed in Section 3.2. Section 4. concludes.

# 2. Analysis

## 2.1 Hypothesis

It is commonly known and said that when the Fed flaps its wings, the emerging markets suffer an earthquake. Recently, James O'Neill, former chief economist at Goldman and inventor of the BRIC name, said that high deficit countries would get impacted heavily by the reduction of Fed's quantitative easing.

The first step is the attempt to prove that emerging currencies are heavily impacted by Fed rates. In a second step, the article wants to show that the more the current account of a country is negative, the more the elasticity of the currency with respect to the Fed is large.

## 2.2 Methodology

### 2.2.1 Objective

The objective of this analysis will be to analyse how the eight following emerging countries' currencies react to the decisions taken by the US Federal Reserve. To achieve this, the method used will be linear regression through STATA, a general-purpose statistical software.

The selection of currencies was based on the following reasons: First, we opted for the selection of currencies emanating from the countries represented by the association of the five largest emerging economies, more commonly known by the acronym BRICS. The latter includes Brazil, Russia, India, China, and South Africa, the latest country to join the alliance in 2010. Then, in order to identify a potential variation originating from the geographical location, we selected additional currencies coming from different continents, namely:

- For Africa: Nigerian Naira (NGN)
- For South America: Mexican Peso (MXN)
- For Europe: Turkish Lira (TRY)

So, the observed pairs of currency are:

- USDTRY (Turkish Lira / US Dollar)
- USDRUB (Russian Ruble / US Dollar)
- USDCNY (Chinese Yuan / US Dollar)
- USDINR (Indian Rupee / US Dollar)
- USDBRL (Brazilian Real / US Dollar)
- USDMXN (Mexican Peso / US Dollar)
- USDNGN (Nigerian Naira / US Dollar)
- USDZAR (South African Rand / US Dollar)

Also, we will take two distinct periods into consideration in order to conduct our analysis. The first, from 1997 to 2019, and the second, from 2008 to 2019, which represents the start of the after-crisis US quantitative easing.

### 2.2.2 Linear regression

We will continue with our model that tries to explain the variation of the emerging currencies (our dependent variable "Y") according to explanatory variables (X1). Variable X1 corresponds to the Fed's rate. So, our model looks like this:

$$Y = \alpha + \beta_1 X_1$$

where:

Y = the log (USDXXX) pair

$X_1$ = the Fed rate

The last term corresponds to the error term, which represents the deviation between the models' predictions and reality. As previously our goal here will be to determine the significant variables, i.e., whether the different coefficients are different from 0, the constant value of the alpha and the different "beta" coefficients that minimize the error between our estimated linear regression line and the real values of Y and finally the accuracy of our model, using, among other things, the "R-squared".

Within this model, the EM currency is put to the log in order that the results are expressed in percentage terms. In other words, to find out how much is the percentage of changes in Y for a change in 1 unit of X.

### 2.2.3 Economic time lags

Those who follow the market will have noticed that economists often announce a recession long after it has started. Indeed, time-lags or recognition lags can, depending on the strength and nature of the economic shock, be from several days to several months.

This economic characteristic exists because it takes time to measure the economic activity of a country, region or larger. Data is rarely available live, and it may take several months or quarters for some information to be collected and published. So that they can then be analysed and correctly interpreted by decision makers. It takes between three and six months, on average, for a lag to be seen, and it is difficult to reduce this window, mainly due to variables presenting economic health that are only presented monthly or quarterly.

As a result, monetary authorities are often not quick to respond to published figures. The initial estimates reported are often incomplete and inaccurate. Indeed, a variation in one direction or the other is often temporary and may return to normal by the time of the next publication. This gives the government more time to analyse trends more accurately and, if necessary, act to correct the situation. Time lags play an essential role in the effectiveness of the economic policy. There is an estimation of 18 months for interest rate cuts to have their full effect. This means that the rate cuts in the US of the past few weeks, may not have their full effect until mid-2020.

On the other hand, time lags make it very difficult for economists to try to boost the economy. For example, if the economy is in recession, the Fed will most likely cut its rates and the government may even lower taxes. But where it hurts is that by the time the economy acknowledges the government's actions, the recession will have lasted for some time, and, what is certain, the negative effects such as rising unemployment will have already had time to be felt. The other risk is that the government will go too hard on economic recovery and that in a year's time it will face the onset of inflationary pressure due to the economic air call created twelve months earlier. In other words, the main challenge for governments is not to find out how the economy is doing but how it will do. Everything is based

on the past to establish forecasts, and every action is actually an anticipation to control future economic conditions. They try to read the past to navigate the future between bandwidths.

Managing time-lags could be seen as one was manoeuvring a cargo ship, where one could only look out of the back window as economists can only see the past, not the future. Meaning that, when you try to change sides, it takes dozens of minutes (time Lag) for the cargo to show a response to the decision made some time ago. Therefore, accidents could happen quickly as you are always trying to compensate right and left to find out the correct navigation route or for governments, the right temperature for their pressure cooker they call Economy. Nearly every issue in economic can be subject to time-lags. An example of time lag could be if there is a shortage of nurses. This, in theory, should push up the wages of nurses. In the very long run, this may encourage more people to train as a nurse. A shortage of nurses may put pressure on the government to alter its immigration policies.

Coming back to our question and as we now understood that the economy could be compared to a cargo ship. We decided to implement time-lags in our analysis as well. Thus, the paper introduces time lags of 0, 3, 6, 9, and 12 months on each regression. In doing so, we will be able to bring consistency to the analysis. Then, to verify the second hypothesis, the current account in % of the GDP will be added to the first regression as a new independent variable. Once with linked with the same timeline than the Fed rate, once with the exchange rate. This will allow us to find out if the model is improved by checking an increase in the adjusted R2.

To conclude this analysis, this paper will investigate the correlation between the rate of the Fed and the currencies in both periods. And a last linear regression is performed on the coefficients previously with the average current accounts of their respective periods. This will allow a thorough check to see if the current account's value of a country has an impact on the sensitivity of the Fed rate and the EM currencies.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 D_1 + \varepsilon$$

where:

Y = the log (USDXXX) pair

$X_1$ = the Fed rate

$X_2$ = current account in % of GDP

## 2.3 Results

First, we can see that overall, the regression of emerging currencies relative to the Fed rate is statistically significant for both periods (Table 1 and Table 2), despite the simplicity of the model.

For the period 1997-2007, the first hypothesis can be refuted for all currencies. All coefficients are negative, which means that a change in US rates would bring down a pair of currencies, meaning a strengthening of the emerging currency. Also, there is no consensus on the best model used. The adjusted R2s are scattered over four of the five time-lag models.

About the second period (2008-2019), there is relevancy in the numbers. Also, we can finally see how a hike in the US rates will impact the currencies. With all coefficients being positive, one can highlight the fact that low-interest rates result to a capital outflow in dollars to countries with higher rates, here emerging countries. So, when the attractiveness of the US is coming back with a rate hike, the money will return and thus peg the countries indebted in dollars.

Another interesting observation is that the twelve-months lag is the best model for the period except for China. China that could already be considered as an outlier since although it is officially an emerging country, one could ask oneself, if it is behaving like it.

Considering the debt, when we add the variable of the current account as a percentage of the GDP in the linear regression, we obtain a better model (Table 3 – 4). Even if some of the coefficients become statistically irrelevant, the adjusted R2 is noticeably improved. I am proving again that the country's debt has a role to play in the sensitivity of emerging currencies to US rates.

The models, where we linked the current account variable to the same quarter than the exchange rate, were also better than the first ones but did not bring a better understanding nor a better-adjusted R2.

## Table 1 – Regression summary 1997-2007 period

| | USDTRY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.2098 | 0.0000 | 0.3670 | -0.2129 | 0.0000 | 0.3707 | -0.2121 | 0.0000 | 0.3611 | -0.2064 | 0.0000 | 0.3352 | -0.1976 | 0.0000 | 0.3026 |
| Constant | 0.7362 | 0.0000 | | 0.7333 | 0.0000 | | 0.7130 | 0.0000 | | 0.6723 | 0.0000 | | 0.6194 | 0.0000 | |

| | USDRUB | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.0926 | 0.0000 | 0.1558 | -0.0919 | 0.0000 | 0.1493 | -0.0878 | 0.0000 | 0.1321 | -0.0846 | 0.0000 | 0.1183 | -0.0844 | 0.0000 | 0.1147 |
| Constant | 3.5536 | 0.0000 | | 3.5468 | 0.0000 | | 3.5265 | 0.0000 | | 3.5090 | 0.0000 | | 3.5029 | 0.0000 | |

| | USDCNY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.0043 | 0.0020 | 0.0711 | -0.0038 | 0.0010 | 0.0813 | -0.0033 | 0.0010 | 0.0873 | -0.0028 | 0.0010 | 0.0902 | -0.0023 | 0.0010 | 0.0750 |
| Constant | 2.1164 | 0.0000 | | 2.1169 | 0.0000 | | 2.1169 | 0.0000 | | 2.1167 | 0.0000 | | 2.1162 | 0.0000 | |

| | USDINR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.0165 | 0.0000 | 0.2573 | -0.0179 | 0.0000 | 0.3344 | -0.0194 | 0.0000 | 0.4229 | -0.0204 | 0.0000 | 0.4971 | -0.0216 | 0.0000 | 0.5441 |
| Constant | 3.8605 | 0.0000 | | 3.8681 | 0.0000 | | 3.8756 | 0.0000 | | 3.8809 | 0.0000 | | 3.8847 | 0.0000 | |

| | USDBRL | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.1289 | 0.0000 | 0.6158 | -0.1278 | 0.0000 | 0.5977 | -0.1224 | 0.0000 | 0.5381 | -0.1138 | 0.0000 | 0.4530 | -0.1043 | 0.0000 | 0.3695 |
| Constant | 1.2588 | 0.0000 | | 1.2538 | 0.0000 | | 1.2318 | 0.0000 | | 1.1970 | 0.0000 | | 1.1582 | 0.0000 | |

| | USDMXN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.0202 | 0.0000 | 0.1721 | -0.1684 | 0.0000 | 0.1152 | -0.0125 | 0.0050 | 0.0590 | -0.0075 | 0.0990 | 0.0156 | -0.0022 | 0.6310 | -0.0071 |
| Constant | 2.3941 | 0.0000 | | 2.3788 | 0.0000 | | 2.3596 | 0.0000 | | 2.3391 | 0.0000 | | 2.3170 | 0.0000 | |

| | USDNGN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.1236 | 0.0000 | 0.1591 | -0.1175 | 0.0000 | 0.1397 | -0.1118 | 0.0000 | 0.1231 | -0.1083 | 0.0000 | 0.1123 | -0.1081 | 0.0000 | 0.1095 |
| Constant | 5.0654 | 0.0000 | | 5.0322 | 0.0000 | | 4.9994 | 0.0000 | | 4.9743 | 0.0000 | | 4.9610 | 0.0000 | |

| | USDZAR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0.0418 | 0.0000 | 0.1540 | -0.0536 | 0.0000 | 0.2526 | -0.0641 | 0.0000 | 0.3561 | -0.0735 | 0.0000 | 0.4578 | -0.0819 | 0.0000 | 0.5567 |
| Constant | 2.1054 | 0.0000 | | 2.1490 | 0.0000 | | 2.1854 | 0.0000 | | 2.2164 | 0.0000 | | 2.2424 | 0.0000 | |

| |
|---|
| Best Adj. R2 |
| P>\|t\| > 10.00% |
| P>\|t\| > 5.00% |
| P>\|t\| > 1.00% |

## Table 2 – Regression summary 2008-2019

| | USDTRY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.1930 | 0.0000 | 0.1280 | 0.3178 | 0.0000 | 0.3084 | 0.3923 | 0.0000 | 0.4631 | 0.4403 | 0.0000 | 0.6291 | 0.4243 | 0.0000 | 0.6606 |
| Constant | 0.6949 | 0.0000 | | 0.6171 | 0.0000 | | 0.5704 | 0.0000 | | 0.5364 | 0.0000 | | 0.5251 | 0.0000 | |

| | USDRUB | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.0888 | 0.0220 | 0.0315 | 0.1886 | 0.0000 | 0.1308 | 0.2640 | 0.0000 | 0.2457 | 0.3443 | 0.0000 | 0.3972 | 0.3641 | 0.0000 | 0.4628 |
| Constant | 3.6471 | 0.0000 | | 3.5868 | 0.0000 | | 3.5429 | 0.0000 | | 3.5012 | 0.0000 | | 3.4806 | 0.0000 | |

| | USDCNY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.0287 | 0.0000 | 0.2690 | 0.0293 | 0.0000 | 0.2113 | 0.0240 | 0.0000 | 0.1270 | 0.0132 | 0.0290 | 0.0298 | 0.0110 | 0.0730 | 0.0181 |
| Constant | 1.8597 | 0.0000 | | 1.8605 | 0.0000 | | 1.8632 | 0.0000 | | 1.8678 | 0.0000 | | 1.8685 | 0.0000 | |

| | USDINR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.0189 | 0.2970 | 0.0007 | 0.0616 | 0.0030 | 0.0604 | 0.0959 | 0.0000 | 0.1453 | 0.1332 | 0.0000 | 0.2725 | 0.1398 | 0.0000 | 0.3115 |
| Constant | 4.0186 | 0.0000 | | 3.9915 | 0.0000 | | 3.9709 | 0.0000 | | 3.9501 | 0.0000 | | 3.9420 | 0.0000 | |

| | USDBRL | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.1074 | 0.0010 | 0.0731 | 0.1840 | 0.0000 | 0.1814 | 0.2410 | 0.0000 | 0.2970 | 0.2890 | 0.0000 | 0.4133 | 0.2880 | 0.0000 | 0.4375 |
| Constant | 0.9193 | 0.0000 | | 0.7731 | 0.0000 | | 0.7398 | 0.0000 | | 0.7130 | 0.0000 | | 0.7021 | 0.0000 | |

| | USDMXN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.0562 | 0.0060 | 0.0470 | 0.1195 | 0.0000 | 0.1878 | 0.1687 | 0.0000 | 0.3604 | 0.2174 | 0.0000 | 0.5725 | 0.2215 | 0.0000 | 0.6349 |
| Constant | 2.6463 | 0.0000 | | 2.6087 | 0.0000 | | 2.5807 | 0.0000 | | 2.5561 | 0.0000 | | 2.5468 | 0.0000 | |

| | USDNGN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.1698 | 0.0000 | 0.1369 | 0.2924 | 0.0000 | 0.3405 | 0.3736 | 0.0000 | 0.5405 | 0.4543 | 0.0000 | 0.7875 | 0.4472 | 0.0000 | 0.8443 |
| Constant | 5.1574 | 0.0000 | | 5.0859 | 0.0000 | | 5.0397 | 0.0000 | | 4.9981 | 0.0000 | | 4.9855 | 0.0000 | |

| | USDZAR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0.0800 | 0.0040 | 0.0521 | 0.1397 | 0.0000 | 0.1356 | 0.1875 | 0.0000 | 0.2298 | 0.2308 | 0.0000 | 0.3303 | 0.2467 | 0.0000 | 0.3885 |
| Constant | 2.2661 | 0.0000 | | 2.2302 | 0.0000 | | 2.2033 | 0.0000 | | 2.1801 | 0.0000 | | 2.1656 | 0.0000 | |

| |
|---|
| Best Adj. R2 |
| P>\|t\| > 10.00% |
| P>\|t\| > 5.00% |
| P>\|t\| > 1.00% |

## Table 3 – Regression summary 1997-2007 with current account variable

| | USDTRY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,1964 | 0,0000 | | -0,0201 | 0,0000 | | -0,2226 | 0,0000 | | -0,2352 | 0,0000 | | -0,2502 | 0,0000 | |
| Curr.Acc. | -0,1194 | 0,0000 | 0,6603 | -0,1258 | 0,0000 | 0,7066 | -0,1371 | 0,0000 | 0,7253 | -0,1541 | 0,0000 | 0,7535 | -0,1793 | 0,0000 | 0,7754 |
| Constant | 0,5246 | 0,0000 | | 0,5409 | 0,0000 | | 0,5324 | 0,0000 | | 0,5040 | 0,0000 | | 0,4522 | 0,0000 | |

| | USDRUB | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,0402 | 0,0000 | | -0,0425 | 0,0000 | | -0,0412 | 0,0000 | | -0,0392 | 0,0000 | | -0,0356 | 0,0000 | |
| Curr.Acc. | 0,0160 | 0,0000 | 0,8064 | 0,0154 | 0,0000 | 0,7001 | 0,0116 | 0,0010 | 0,5706 | 0,0067 | 0,0740 | 0,5293 | 0,0015 | 0,6810 | 0,5167 |
| Constant | 3,3103 | 0,0000 | | 3,3218 | 0,0000 | | 3,3572 | 0,0000 | | 3,4048 | 0,0000 | | 3,4492 | 0,0000 | |

| | USDCNY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,0014 | 0,3030 | | -0,0013 | 0,3020 | | -0,0009 | 0,4000 | | -0,0007 | 0,5100 | | -0,0004 | 0,6980 | |
| Curr.Acc. | -0,0095 | 0,0000 | 0,7845 | -0,0077 | 0,0000 | 0,7659 | -0,0063 | 0,0000 | 0,7241 | -0,0051 | 0,0000 | 0,6784 | -0,0041 | 0,0000 | 0,6152 |
| Constant | 2,1404 | 0,0000 | | 2,1358 | 0,0000 | | 2,1320 | 0,0000 | | 2,1284 | 0,0000 | | 2,1252 | 0,0000 | |

| | USDINR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0002 | 0,9830 | | -0,0063 | 0,4030 | | -0,0092 | 0,1440 | | -0,0144 | 0,0050 | | -0,0181 | 0,0000 | |
| Curr.Acc. | 0,0230 | 0,0840 | 0,2082 | 0,0137 | 0,2590 | 0,2550 | 0,0115 | 0,2520 | 0,3982 | 0,0047 | 0,5470 | 0,5716 | 0,0003 | 0,9650 | 0,6826 |
| Constant | 3,8090 | 0,0000 | | 3,8337 | 0,0000 | | 3,8466 | 0,0000 | | 3,8669 | 0,0000 | | 3,8801 | 0,0000 | |

| | USDBRL | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,1005 | 0,0000 | | -0,0960 | 0,0000 | | -0,0861 | 0,0000 | | -0,0757 | 0,0000 | | -0,0637 | 0,0000 | |
| Curr.Acc. | 0,0119 | 0,2300 | 0,6615 | 0,0254 | 0,0060 | 0,7408 | 0,0395 | 0,0000 | 0,7739 | 0,0518 | 0,0000 | 0,7916 | 0,0641 | 0,0000 | 0,7898 |
| Constant | 1,2042 | 0,0000 | | 1,2054 | 0,0000 | | 1,1848 | 0,0000 | | 1,1575 | 0,0000 | | 1,1197 | 0,0000 | |

| | USDMXN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,0024 | 0,4470 | | 0,0007 | 0,8360 | | 0,0041 | 0,2680 | | 0,0074 | 0,6000 | | 0,0105 | 0,0160 | |
| Curr.Acc. | 0,0767 | 0,0000 | 0,8091 | 0,0804 | 0,0000 | 0,7747 | 0,0850 | 0,0000 | 0,7565 | 0,0885 | 0,0000 | 0,7374 | 0,0866 | 0,0000 | 0,6936 |
| Constant | 2,4617 | 0,0000 | | 2,4510 | 0,0000 | | 2,4403 | 0,0000 | | 2,4286 | 0,0000 | | 2,4103 | 0,0000 | |

| | USDNGN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,1410 | 0,1250 | | -0,0488 | 0,0040 | | -0,0430 | 0,0070 | | -0,0613 | 0,0030 | | -0,2130 | 0,0350 | |
| Curr.Acc. | 0,0459 | 0,0510 | 0,3479 | 0,0125 | 0,0040 | 0,7690 | 0,0127 | 0,0050 | 0,7410 | 0,1639 | 0,0030 | 0,7987 | 0,0627 | 0,2500 | 0,5382 |
| Constant | 4,7642 | 0,0000 | | 4,8473 | 0,0000 | | 4,8218 | 0,0000 | | 4,8393 | 0,0000 | | 4,7701 | 0,0000 | |

| | USDZAR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | -0,0139 | 0,3910 | | -0,0283 | 0,0780 | | -0,0411 | 0,0100 | | -0,0541 | 0,0010 | | -0,0666 | 0,0000 | |
| Curr.Acc. | 0,0421 | 0,0120 | 0,1987 | 0,0385 | 0,0170 | 0,2677 | 0,0342 | 0,0260 | 0,3504 | 0,0289 | 0,0430 | 0,4527 | 0,0209 | 0,1150 | 0,5419 |
| Constant | 2,0929 | 0,0000 | | 2,1396 | 0,0000 | | 2,1793 | 0,0000 | | 2,2162 | 0,0000 | | 2,2441 | 0,0000 | |

| |
|---|
| Best Adj. R2 |
| P>\|t\| > 10.00% |
| P>\|t\| > 5.00% |
| P>\|t\| > 1.00% |

## Table 4 – Regression summary 2008-2019 with current account variable

| | USDTRY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,2080 | 0,0150 | | 0,3183 | 0,0000 | | 0,3826 | 0,0000 | | 0,4611 | 0,0000 | | 0,4460 | 0,0000 | |
| Curr.Acc. | 0,0267 | 0,4370 | 0,1081 | 0,0315 | 0,2890 | 0,2749 | 0,0250 | 0,3050 | 0,4274 | 0,0168 | 0,3720 | 0,6213 | 0,0126 | 0,4800 | 0,6324 |
| Constant | 0,8227 | 0,0000 | | 0,7825 | 0,0000 | | 0,7061 | 0,0000 | | 0,6244 | 0,0000 | | 0,5902 | 0,0000 | |

| | USDRUB | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,1210 | 0,0980 | | 0,1956 | 0,1300 | | 0,2716 | 0,0010 | | 0,3621 | 0,0000 | | 0,3886 | 0,0000 | |
| Curr.Acc. | -0,0929 | 0,0080 | 0,1504 | -0,0846 | 0,1200 | 0,2100 | -0,0750 | 0,0190 | 0,3070 | -0,0588 | 0,0470 | 0,4470 | -0,0569 | 0,0560 | 0,5019 |
| Constant | 3,9815 | 0,0000 | | 3,9025 | 0,0000 | | 3,8224 | 0,0000 | | 3,7169 | 0,0000 | | 3,6818 | 0,0000 | |

| | USDCNY | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0271 | 0,0010 | | 0,0288 | 0,0010 | | 0,0298 | 0,0020 | | 0,0380 | 0,0010 | | 0,0468 | 0,0000 | |
| Curr.Acc. | 0,0077 | 0,0020 | 0,3856 | 0,0099 | 0,0000 | 0,3794 | 0,0125 | 0,0000 | 0,3625 | 0,0171 | 0,0000 | 0,3383 | 0,0200 | 0,0000 | 0,3392 |
| Constant | 1,8376 | 0,0000 | | 1,8314 | 0,0000 | | 1,8250 | 0,0000 | | 1,8118 | 0,0000 | | 1,8042 | 0,0000 | |

| | USDINR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0010 | 0,9780 | | 0,0350 | 0,3580 | | 0,0677 | 0,0650 | | 0,1170 | 0,0010 | | 0,1231 | 0,0000 | |
| Curr.Acc. | 0,0422 | 0,0350 | 0,0705 | 0,0470 | 0,1400 | 0,1526 | 0,0562 | 0,0010 | 0,3053 | 0,0593 | 0,0000 | 0,5041 | 0,0577 | 0,0000 | 0,5270 |
| Constant | 4,1234 | 0,0000 | | 4,1136 | 0,0000 | | 4,1165 | 0,0000 | | 4,1005 | 0,0000 | | 4,0892 | 0,0000 | |

| | USDBRL | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0885 | 0,3410 | | 0,1336 | 0,1640 | | 0,1822 | 0,0500 | | 0,2320 | 0,0110 | | 0,2176 | 0,1300 | |
| Curr.Acc. | 0,0292 | 0,5910 | 0,0484 | 0,0440 | 0,3900 | 0,1489 | 0,0527 | 0,2570 | 0,2781 | 0,0531 | 0,2070 | 0,4013 | 0,0770 | 0,1000 | 0,4582 |
| Constant | 0,9005 | 0,0000 | | 0,9075 | 0,0000 | | 0,8994 | 0,0000 | | 0,8746 | 0,0000 | | 0,9068 | 0,0000 | |

| | USDMXN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0830 | 0,0160 | | 0,1290 | 0,0010 | | 0,1870 | 0,0000 | | 0,2392 | 0,0000 | | 0,2468 | 0,0000 | |
| Curr.Acc. | -0,1625 | 0,0000 | 0,3628 | -0,1319 | 0,0000 | 0,3776 | -0,0998 | 0,0020 | 0,4920 | -0,0631 | 0,0150 | 0,6492 | -0,0451 | 0,0590 | 0,6831 |
| Constant | 2,3624 | 0,0000 | | 2,3843 | 0,0000 | | 2,4819 | 0,0000 | | 2,4452 | 0,0000 | | 2,4649 | 0,0000 | |

| | USDNGN | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,4317 | 0,0010 | | 0,4445 | 0,0000 | | 0,4386 | 0,0000 | | 0,4240 | 0,0000 | | 0,4329 | 0,0000 | |
| Curr.Acc. | -0,0382 | 0,0800 | 0,0764 | -0,0460 | 0,0500 | 0,7669 | -0,0432 | 0,0310 | 0,8233 | -0,0373 | 0,0050 | 0,9277 | -0,0191 | 0,1960 | 0,9194 |
| Constant | 5,1907 | 0,0000 | | 5,1804 | 0,0000 | | 5,1553 | 0,0000 | | 5,1045 | 0,0000 | | 5,0529 | 0,0000 | |

| | USDZAR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0M lag | P>\|t\| | Adj. R2 | 3M lag | P>\|t\| | Adj. R2 | 6M lag | P>\|t\| | Adj. R2 | 9M lag | P>\|t\| | Adj. R2 | 12M lag | P>\|t\| | Adj. R2 |
| Fed Rate | 0,0928 | 0,0000 | | 0,1550 | 0,0110 | | 0,2179 | 0,0010 | | 0,2870 | 0,0000 | | 0,3081 | 0,0000 | |
| Curr.Acc. | -0,0343 | 0,0810 | 0,0641 | -0,0360 | 0,1640 | 0,1419 | -0,0370 | 0,1369 | 0,2398 | -0,0418 | 0,8100 | 0,3646 | -0,0316 | 0,1720 | 0,4246 |
| Constant | 2,1233 | 0,0000 | | 2,0842 | 0,0000 | | 2,0573 | 0,0000 | | 2,0046 | 0,0000 | | 2,0283 | 0,0000 | |

| |
|---|
| Best Adj. R2 |
| P>\|t\| > 10.00% |
| P>\|t\| > 5.00% |
| P>\|t\| > 1.00% |

**Table 5 – Comparison of Average Current Acc. (% GDP) and Average Coefficient over the analysed periods**

| 1997-2007 | | |
|---|---|---|
| | Average Curr. Acc. % GDP | Average Coeff. 2nd regression |
| TURKEY | -2,30 | -0,18 |
| S. AFRICA | -1,61 | -0,04 |
| MEXICO | -1,58 | 0,00 |
| BRAZIL | -1,14 | -0,08 |
| INDIA | -0,18 | -0,01 |
| CHINA | 3,95 | 0,00 |
| NIGERIA | 8,27 | -0,01 |
| RUSSIA | 10,39 | -0,04 |

| 2008-2019 | | |
|---|---|---|
| | Average Curr. Acc. % GDP | Average Coeff. 2nd regression |
| TURKEY | -5,17 | 0,36 |
| S. AFRICA | -3,89 | 0,21 |
| MEXICO | -1,65 | 0,18 |
| BRAZIL | -2,31 | 0,17 |
| INDIA | -2,28 | 0,07 |
| CHINA | 3,03 | 0,03 |
| NIGERIA | 2,69 | 0,43 |
| RUSSIA | 3,83 | 0,27 |

With Table 5, we realize that there are no rules that can be deduced with a comparison between the current accounts and the regression coefficients. Indeed, a change in the current account does not necessarily have an impact on the coefficient of the regression.

However, with Table 6, it becomes evident that the economic cycle has a real impact on the correlation between the prices of the currencies and the US rates.

**Table 6 - Correlation between Fed rate and EM Currency**

| Pairwise correlations since 1997 | | Pairwise correlations since 2008 | |
|---|---|---|---|
| | Fed Rate | | Fed Rate |
| Fed Rate | 1,0000 | Fed Rate | 1,0000 |
| USDTRY | -0,4630 | USDTRY | 0,9149 |
| USDRUB | -0,4620 | USDRUB | 0,6109 |
| USDCNY | 0,7259 | USDCNY | 0,3901 |
| USDINR | -0,5320 | USDINR | 0,5886 |
| USDBRL | -0,3727 | USDBRL | 0,6719 |
| USDMXN | -0,5419 | USDMXN | 0,7441 |
| USDNGN | -0,4395 | USDNGN | 0,8786 |
| USDZAR | -0,4900 | USDZAR | 0,5626 |

### 2.3.1 Comments

Today, if the Fed continues to cut rates in the future, there will inevitably be some reaction from all emerging countries. According to the numbers above, the consequence of a cut in rates would be an increase in the volatility as well as in the emerging currency's value.

The overall results show this sensitivity between these two variables. However, as far as the current account is concerned, we can say that this variable has an impact on the model even if it won't be necessary to explain emerging currencies elasticity to Fed's rate change. Obviously, as mentioned above the model used is limited. Longer, shorter, or simply other study periods could have already changed the outcome. In addition, the few variables also influence the result as many variables are ignored within the said model. For example, there is no doubt that indicators such as debt to GDP, gold reserves or budget balance, to name but a few, have an impact on the reaction of the country's currency and its economy as a whole. And, it would be interesting to integrate them in order to complete the analysis and understand which component has the most weight in these variations. Nevertheless, overall and for a simplified model, some interesting conclusions still come up. There is strong evidence that a variation in the Fed's rate has an impact on emerging currencies and it takes 12 months lag to see when the impact is the strongest. Coming back to Koepke's (2015) "surprise view", during overreacted events or unexpected important decisions, people realize that countries and/or asset classes are impacted more severely than they should be according to their economic fundamentals. Hence, it is also essential to highlight the fact that the behavioural aspect of the investor is not considered here, although it represents an important, influential element. Sometimes the irrationality of the investor is preponderant to the logic of figures and economic indicators. This phenomenon is probably not about to diminish as the interconnectedness between world economies is growing continuously.

In conclusion, despite the few numbers of variables used and the arbitrary choice of periods, which obviously influences the results, we can say that the outcome shows an interesting level of significance. In this sense, the obtained results allowed us to come up with some interesting conclusions that leave an ample room for debate. It would be now interesting to push this research forward by implementing other variables and discuss these results with professionals to finally get to a point where and investment could be made.

# 3. Discussion

When there is a desire to invest in financial markets, one should know how vital it is how markets respond to economic indicators, political decisions, information, and other essential factors. Thus, in order to avoid pitfalls and reduce risks as much as possible, understanding emerging markets and asking professionals for information and advice is essential.

## 3.1 Industry's needs and opinion

### 3.1.1 Interviews

To obtain a more informed opinion on how to invest rationally, interviews with professionals were conducted. The aim was to have as much material as possible from the experts, without them being formatted or restricted by questions that were too focused and without any manoeuvring. Hence, the interviews were conducted in a semi-structured interview format, giving a common thread to the discussion and sometimes reframing specific ideas as they went off-topic.

The backbone of the discussion was organized mainly around the investment process of each of the professionals, and the statistical results obtained earlier. The interest was to discover how and on what basis, a decision is taken for an investment to be made in a region, asset class, or security. Indeed, getting to know what type of financial analysis is performed is essential. Similarly, it was important to learn how they minimize the noises whites related to their behaviour.

### 3.1.2 Interviewees biographies[4]

#### 3.1.2.1 Edouard de l'Espée

*After graduating from Ecole Supérieure de Commerce de Paris (ESCP) in 1972, Edouard de L'Espee trained as a financial analyst then worked for Banque Rothschild in Paris, first as a private client relationship manager, then as a trader on the Eurobond market. In these early years, he became convinced that he would best serve private clients by building deep expertise in financial markets and economics, in order to master his own investment decisions.*

[4] https://www.sing-alliance.com/our-team/#

*In the following years, he successfully developed these skills; in 1981 he started managing a bond fund for a subsidiary bank of UBS group named Banque Cantrade Ormond Burrus Geneva and portfolios for its private clients. In 1986 he joined the Cursitor Group in London to develop private client management activity in a closely associated company while participating in the development of macro-economic forecasting tools. He has been managing both private clients and yield funds for over 30 years, earning Standard & Poor's distinctions for outstanding performance over 3, 5 and 10 years.*

*In 1999, after having moved back to Switzerland, he founded Calypso Asset Management S.A., an external asset management company in Geneva and held the position of Executive Managing Partner. In 2008, Calypso Asset Management was absorbed by Compagnie Financière Aval S.A., and Edouard became a Managing Partner of Compagnie Financière Aval S.A. and Chief Investment Officer of the company.*

*In 2013, he joined Quaero Capital S.A., a swiss licensed independent fund management firm, as co-manager of a dynamic yield fund. Since 2005 he is on the Board and Audit Committee of the Wendel Group (France), a public investment company with gross assets over 10 billion Euros which takes significant participation as an active shareholder with a long-term perspective.*

#### 3.1.2.2 Lanhua Yu

*Lanhua Yu is a Taiwanese (Singapore PR) with more than 15 years of experience in financial markets across asset management, investment bank and private bank in Taipei, London, and Singapore. She started her banking career as a Portfolio Strategist at ABN Amro in London, where she advised institutional clients across Europe on asset enhancement and liability management strategies.*

*She later joined Barclays Wealth as an Investment Product Specialist, responsible for new product development for European private clients and pension funds. In 2007, she joined the Royal Bank of Scotland in London and later transferred to the Royal Bank Scotland in Singapore, as a Product Structurer for its multi-asset platform, servicing institutional clients both in Europe and in Asia with a solution-driven approach.*

*In 2013, she joined Falcon Private Bank in Singapore as a Senior Portfolio Manager, specializing in investments across global Emerging Market Fixed Income markets.*

*Lanhua holds a Ph.D. and an MBA from Imperial College London (UK) as well as an MSc in Accounting and Finance from the London School of Economics (UK). She is a CFA charterholder.*

#### 3.1.2.3 Laurent Perusset

*Laurent Perusset is a Swiss national with more than 25 years of banking experience. He started his career in 1989 as a fixed income trader for Darier & Cie. In 1995 he joined Banque Ferrier Lullin & Cie as Head of Fixed Income and Member of Treasury Committee of the bank.*

*From 2000 to 2010, Laurent worked for Union Bancaire Privée as Head of Investment Research & Advisory, Member of Investment Strategy. Equipped with strong management skills, Laurent was also heading the group of analysts and advisors for the bank at the same time. In 2010, he decided to embark on a new challenge and joined Barclays Bank (Suisse) SA as Head of Investment & Global Research, looking after EU discretionary mandates. During his involvement in Barclays, he also acted as Chairman of the bank's Pension Fund.*

*After four years at Barclays Bank (Suisse) SA, Union Bancaire Privée offered Laurent the opportunity to re-join the bank as Global Advisory Head, Member of the Investment Committee and Manager of the Swiss and Asian teams for the bank with the objectives to develop and re-design the Advisory Offering, boost the Return on Assets and create the global pitch book. He took up the offer and returned to Union Bancaire Privée in 2014.*

*Before joining SingAlliance as Head of Investment Solutions for the Group, Laurent spent nearly two years at Edmond de Rothschild in Geneva. He was in charge of the Advisory department which included the Analyst, the Structured Product, and the Advisory teams for the International Private Banking department and was also a member of the Global Investment Committee.*

### 3.1.3 Interviews summary

The first thing that emerges from these discussions is the definition of what an emerging country is. The OECD list is commonly used, but depending on the criteria used, from one organization to another, an emerging country may move into the developed category and vice versa. In addition to that, what are the criteria to be considered? Should it be based on the rating of a rating agency, the standard of living or a country's ability to refinance itself? To this must be added the emergence itself. Not all emerging countries are at the same stage of development, which complicates matters even more. The only thing that is certain is that the overall situation in these countries is much better today than it was 15 years ago.

By stating this, it is necessary to consider an expanding global economy and the knock-on effect that China has on the entire Southeast Asian region, for example. In general, some emerging countries remain investment opportunities, while others become so.

Does this mean that developed countries are no longer attractive for investment? A developed country would, therefore, be a mature country that has reached its limit and therefore, no yield or added value is possible. Again, it is the term used that is confusing. Indeed, there can be no end to development, especially in a globalized economy. As long as fiscal and economic competition exists, there is no reason to imagine that development will end. Based on these remarks can we affirm that growth is infinite, or does it transfer from one region to another as soon as development is complete?[5]

Concerning the exciting results of the statistical analysis. Despite a precise work, the simplicity of the model does not logically provide all the information needed to make investment decisions. Indeed, the first step in investment thinking is to have a global view of the global economy, from which one then zooms into more specific components (top-down approach). In other words, one defines which region, sector, or industry is to be overweight or underweight. Then, still based on a maximum of data, the analysis deepens more precisely to focus on a country or a

[5] By making a little aside, the paradox of Zeno's dichotomy and its resolution reflects my vision of Global Growth. A stone thrown against a tree will need to travel halfway to reach its target. Once halfway through, this stone will have to cover half again – the first distance divided by two – and this an infinite number of times. With this reasoning, the stone will never reach its target and the distances covered will be smaller and smaller. In the context of growth, I like to believe that with new technologies, we tend towards infinite growth but where the marginal product will shrink more and more. The only concern is that with time, and here, with modern calculus, we have discovered that the stone hits the tree.

company, for example. Finally, at the level of companies, two major options are available: fundamental analysis and technical analysis. Obviously, some data and indicators have more weight and impact than others, but all indicators are essential, and the more indicators one takes into consideration, the more one is close to the market.

To be the closest to the market, you must know how to get rid of the cognitive biases that everyone has and that unintentionally have and will have an impact on the decisions made. That is why a quantitative stock selection tool can make sense. However, it is essential to have enough access to the necessary data. Without it, there is no need to start anything. Also, this kind of tool already exists, and many of them got lost by not regularly reviewing their tool settings. Therefore, particular attention should be paid to the constant monitoring of this type of procedure.

## 3.2 Investment tool

Now we know how investing should be made, we need to define the best way to do it getting influenced by anything else than data. That's how the idea of a quantitative tool for decision support came up. Having all the tools at your disposal to do so, in this case, a Bloomberg terminal and its link with MS Office Excel. From this point on, it was necessary to define a methodology to implement the demands and needs of professionals while respecting a precise analysis of investments. In other words, to take up the theory of fundamental and technical analysis.

### 3.2.1 Financial analysis

#### 3.2.1.1 Technical analysis

If there is one area where theorists and practitioners have been competing for decades, it is undoubtedly about technical analysis. Often criticized this empirical method suffers from a lack of scientific foundations. Nevertheless, critics cannot deny its utility in the decision-making process.

Initially practiced by the Japanese in the 18th century to predict the evolution of rice prices, the technical analysis was updated in the 20th century thanks to the work of Charles Dow, co-founder of the Wall Street Journal who will give his name to the US flagship index. End 1930s, Ralph Nelson Elliott, revolutionised the method by highlighting Elliott's famous waves. Over time, the method became popular and expanded, first called graphical analysis (or “chartism”), it now incorporates many tools borrowed from mathematics and science. It was under this era that big names emerged, like Steve Nison, a follower of the Japanese candlestick method, Stan Weinstein, a fervent adept at moving averages, and John Bollinger.

Considering that there is an intense psychological dimension in the act of buying or selling, the technical analysis seeks to identify recurring behaviours (fear, euphoria, greed, etc.) in order to predict, from a historical of course, the future movements of an action. To summarize, we can say that technical analysis is the study of the evolution of the supply and demand of a financial asset from its graphical representation and this, in order to predict its future evolution.

In theory, the market takes everything into account; all the information, all the economic and psychological factors that affect the price determination of an equity are already embedded in the courses. As soon as an unexpected data comes in, the price will adjust in the short term, but the long / medium-term trend will not be

affected. The technical analyst seeks to interpret the price movements, in their dynamics and is interested only in the prices and volumes traded.

Technical analysis applies to all types of markets: indices, equities, interest rates, commodities, etc. the same tools and methods that can be applied to any type of asset when its price is determined by the comparison of an offer and a demand. The only constraint is to have sufficient liquidity; otherwise, the investor can, on his own, influence the share price by the passage of a large order. We are talking about self-realization.

Specifically, there are 3 primary sources of information: prices, volumes, and "open interest," i.e., open positions for options and futures.

The technical analysis starts from 3 postulates:

- The price includes all the information available at the moment t
- Prices are changing in trend
- The story repeats itself

The other major strand in financial analysis is the fundamental one and is explain quickly here below.

#### 3.2.1.2 Fundamental analysis

When it comes to equities, fundamental analysis is the method that is used to determine the value of a stock by focusing on the underlying factors that affect the current and future business of the company. More generally, it is possible to apply fundamental analysis to a sector of activity or even to the economy as a whole. The term simply refers to the economic health of an entity, as opposed to the minor fluctuation of its prices.

Fundamental analysis attempts to answer questions such as:

- Does the company's turnover increase?
- Does the company make a profit?
- Is the company in a position strong enough to outperform its competitors?
- Is the company solvent? can she repay her debts?

All these questions can fit into one: Does the company represent a good investment? The purpose of fundamental analysis is to allow us to answer all these questions.

We could define fundamental analysis as "the search for fundamentals," but that does not advance us much unless we already know these fundamentals. The big

problem in defining the fundamentals is that it can include everything related directly or indirectly to the economic health of the business. Some elements are quite distinct, such as profit and profits, but these fundamentals can also include other parameters, such as market share or management quality. The fundamental factors can be grouped into two categories: one quantitative, the other qualitative.

- Quantitative factors: those capable of being measured and quantified.
- Qualitative factors: those based on the quality or peculiarity of something, as opposed to its size or quantity.

In the context of the stock market, quantitative fundamentals are measurable and quantifiable characteristics of the company's activity. Financial statements are a great source of encrypted data. The result, profit, and assets can be measured with high precision. Qualitative fundamentals are the immaterial factors that surround the business of the company, such as the quality of its leaders, the power of its brand or its patents.

One should know that quantitative analysis and qualitative analysis are not exclusive. Neither is superior to the other. Financial analysts like to combine these two aspects. Take a company like Nestlé. By studying the Nestlé share, the financial analyst will look at the dividend, the earnings per share (EPS) and the Price / Earnings Ratio (PER). But any analysis of Nestlé would be incomplete without studying the different brands that make up the strength of the company's product portfolio. A lot of companies are in the food business, but few companies can boast strong international brands. It is difficult to define how much Nestlé's brands contribute to the long-term success of the company, but they are undoubtedly important.

Before continuing, let's talk about intrinsic value. One of the basic premises of the fundamental analysis is that the price of a stock in the secondary market of the stock market does not reflect its "real" value. After all, why do fundamental analysis if the market was always right? In financial jargon, this value is known as the "intrinsic" value.

For example, let's say that a company's stock trades at CHF 20. After doing our homework, we determine that this action is really worth CHF 25. In other words, we find that the intrinsic value of the stock is CHF 25. Obviously, it's worth it, because any investor seeks to buy securities that trade well below their intrinsic value.

This brings us to the second basic premise of fundamental analysis: in the long term, stock markets will reflect the value of the fundamentals of corporate equities. This is the primary goal of fundamental analysis. By focusing on particular companies, the financial analyst can estimate the intrinsic value of the stocks and then look for good deals in the market. If all goes well, the investment will pay off in the long run as the market moves to the fundamentals.

The big unknowns of fundamental analysis:

- We do not know if our estimate of intrinsic value is fair.
- We do not know how long the market will take to reflect the intrinsic value of a share.

The biggest criticisms of fundamental analysis come from two schools of thought: advocates of graphic analysis and advocates of the theory of market efficiency.

Advocates of market efficiency theory often disagree with fundamental analysis and graphical analysis. Theoreticians of market efficiency argue that it is impossible to beat the market, regardless of the method used. The argument is that any opportunity for an above-average return on investment due to inefficiency is almost immediately corrected by the countless market participants, preventing anyone from significantly beating the long-term indices.

This leads us to another school of thought: the behavioural aspects in finance.

#### 3.2.1.3 Behavioural finance

Behavioural finance is a branch of finance (born at the end of the 1970s) that seeks, in a practical way (via questionnaires, transaction records, laboratory experiments, etc.), to evaluate the behaviour of financiers and test whether or not they are perfectly rational.

Financial theory has been built over the past half-century on the assumption of rationality of individuals and its macroeconomic corollary, market efficiency. This scientific paradigm has made it possible to considerably advance knowledge about the valuation of financial assets. It has also shown its limitations. Empirical tests invalidating the predictions of the theoretical model have been accumulating over the past thirty years, to the point of encouraging researchers to relax their assumptions.

For anyone who would doubt it, the results of empirical studies conducted by behavioural finance researchers conclude that investors, whether individual or professional, are not entirely rational. On the contrary, their behaviours display

many biases, which can be cognitive, emotional, and social and reflect complicated risk preferences.

Some of the most frequent behavioural biases include a better explained by renowned educational financial web site; Investopedia[6];

> For example, the disposition bias *refers to when investors sell their winners and hang onto their losers. Investors' thinking is that they want to realize gains quickly. However, when an investment is losing money, they'll hold onto it because they want to get back to even or their initial price. Investors tend to admit their correct about an investment quickly (when there's a gain). However, investors are reluctant to admit when they made an investment mistake (when there's a loss). The flaw in disposition bias is that the performance of the investment is not tied to the entry price for the investor. In other words, if the fundamentals have worsened for the investment, it'll likely decline in price regardless of the investor's entry price.*
>
> *Confirmation bias is when investors have a bias to accepting information that confirms their already-held belief in an investment. If information surfaces, investors accept it readily to confirm that they're correct about their investment decision—even if the information is flawed.*
>
> *An availability bias occurs when investors' memory of recent events makes them biased or believe that the event is far more likely to occur again. For example, the financial crisis in 2008 and 2009 led many investors to exit the stock market. Many had a dim view of the markets and likely expected more economic hardship in the coming years. The experience of having gone through such an adverse event increased their bias or likelihood that the event could reoccur. In reality, the economy recovered, and the market bounced back in the years to follow.*
>
> *Loss aversion occurs when investors place a higher weighting on the concern for losses than the pleasure from market gains. In other words, they're far more likely to try to assign a higher priority on avoiding losses than making investment gains. As a result, some investors might want a higher pay-out to compensate for losses. If the high pay-out isn't likely, they might try to avoid losses altogether even if the investment's risk is acceptable from a rational standpoint.*

[6] https://www.investopedia.com/terms/b/behavioralfinance.asp

*The familiarity bias is when investors tend to invest in what they know, such as domestic companies or locally owned investments. As a result, investors are not diversified across multiple sectors and types of investments, which reduces risk. Investors tend to go with investments that they have a history with or have familiarity.*

Long snubbed by supporters of the standard approach, behavioural finance has established itself thanks to a strict methodology that allows it to avoid the pitfalls of intuitive psychology and the bridges it has built between individual psychology and aggregate market behaviour. The recent emergence of behavioural models for asset valuation should make it possible to merge it with the conventional current, so that in the long run, there may no longer be any real behavioural finance.

The interest of behavioural finance for market practitioners (individuals and professionals) is double. On the one hand, it makes it possible to better analyse one's behaviour, to know how to recognize situations at risk, and to implement debit strategies (at least for some biases). On the other hand, it helps to understand the psychological dimension of market cycles and, possibly, to apply strategies that take this into account.

For obvious reasons, not all the workings of the tool will be disclosed in the next section.

### 3.2.2 Methodology

First, before investing, it was necessary to define the investment universe. This means that it is needed to list all the instruments in which one could imagine investing. In this case, the S&P Global 1200 has been chosen, and this is for different reasons. First, because it is composed by the biggest market capitalization for each seven indexes listed below, but also for its geographical coverage, the index covers 31 countries around the world:

- S&P 500 Index (United States)
- S&P/TSX 60 Index (Canada)
- S&P Latin America 40 Index (Mexico, Brazil, Colombia, Chile, Peru)
- S&P/TOPIX 150 Index (Japan)
- S&P Asia 50 Index (Hong Kong, Korea, Singapore, Taiwan)
- S&P/ASX 50 Index (Australia)
- S&P Europe 350 Index

The index also represents about 70% of the world's market capitalization. And then because the eleven GICS economic sectors are significantly represented.

- Communication services
- Consumer discretionary
- Consumer staples
- Energy
- Financials
- Health care
- Industrials
- Information technology
- Materials
- Real estate
- Utilities

The purpose of this tool is to find a list of securities in which it would be possible to invest rationally, based on figures and without any cognitive bias.

Now, the investment universe is defined, how to proceed with the selection?

It has been decided to compare all securities according to several ratios and to classify them into quintiles. The ratios were defined based on the discussions with the professionals and following the two-leading school of thoughts of financial analysis – fundamental and technical. It is important to mention that all the ratios used are common ones and available to everyone. In this case, the selected ratios can be classified into four families that reflect the theories of financial analysis discussed above.

Fundamental ratios

- Operations (11 ratios)
- Balance Sheet (5 ratios)

Market ratios (technical ratios)

- Valuation (9 ratios)
- Momentum (11 ratios)

Operations and Balance Sheet correspond to fundamental ratios, which include fundamental analysis, while Valuation and Momentum are market-related ratios - which could be placed under the aegis of technical analysis.

The key figures in the Operations family define the company's profitability. The WACC and the operating margin are two examples of ratios. In Balance Sheet, it is a question of knowing the strength and financial solvency of the company. Typically, the current ratio and the debt/equity ratio are used.

As far as Valuation is concerned, the aim here is to quantify the market's anticipation in relation to this security. The theory is that the price of a stock is equivalent to the companies' future returns. As a result, PE ratio and the Price to Book value are components used in this family. Finally, data like YTM, MTD, or RSI are values that are quantified in the last family; Momentum. This last group of indicators is used to show the stock's dynamism in the market.

Then, the ratio ranks of each security are averaged for each family. The final rank of the security is then set according to a precise weighting, according to the importance of the ratio's family. Currently, the model is configured so that Valuation is overweight. The reason is simple; the theory is that the prices reflected in the stock market are those of future corporate returns.

The final score of 1200 titles obtained, this one is one last time divided into quintiles. This results in 240 securities from which it is still necessary to subtract all companies with a market capitalization of less than ten billion. This is for operational reasons. Indeed, by removing securities with a market cap of less than 10 billion, the turnover of companies entering and leaving the index is reduced.

Eventually, the tool has now listed less than 200 companies that could be invested in after it went through fundamental and technical indicators with no behavioural biases.

### 3.2.3 Application

This tool was finalized on March 11th, 2019, and a virtual portfolio is running since then. All the stocks in the first quintile belonging to an emerging country or economy are selected and are implemented equally in the portfolio. The selectable countries or regions are:

- Mexico
- Brazil
- Colombia
- Chile
- Peru
- Hong Kong
- South Korea[7]
- Taiwan[7]

Each month the tool is refreshed, and the portfolio updated. The portfolio is fully invested and is, on average, composed of 15 to 20 stocks. The missing decimals to reach 100% are compensated by USD. Table 7 and figures 3 & 4 give a practical example of what the virtual portfolio looked like at its inception, March 11th, 2019.

**Table 7 – Virtual portfolio – Holdings (March 11th, 2019)**

Portfolio Name MODEL EMERGING Ticker .MODEL-EM Index ID U25066022-53 Currency USD
Date 03/11/19 Portfolio Value 100,000,000 As Of 03/11/19
Rebalanced 03/11/19

| | Security | ID | Descr | Weight | Current Price | PCS | Current FX Rate | Cost Price | Cost FX Rate |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 100.0000 | | | | | |
| 11 | 000660 KP | KR7000660001 | SK HYNIX INC | 6.6600 | 66600.00 | EXCH | 0.00088 | | 0.00088 |
| 12 | 005930 KP | KR7005930003 | SAMSUNG ELECTRONICS CO LTD | 6.6600 | 43650.00 | EXCH | 0.00088 | | 0.00088 |
| 13 | 033780 KP | KR7033780008 | KT&G CORP | 6.6600 | 109500.00 | EXCH | 0.00088 | | 0.00088 |
| 14 | 068270 KP | KR7068270008 | CELLTRION INC | 6.6600 | 205000.00 | EXCH | 0.00088 | | 0.00088 |
| 15 | 1928 HK | KYG7800X1079 | SANDS CHINA LTD | 6.6600 | 37.65 | EXCH | 0.12739 | | 0.12739 |
| 16 | 2330 TT | TW0002330008 | TAIWAN SEMICONDUCTOR MANUFAC | 6.6600 | 230.50 | EXCH | 0.03235 | | 0.03235 |
| 17 | 2412 TT | TW0002412004 | CHUNGHWA TELECOM CO LTD | 6.6600 | 107.00 | EXCH | 0.03235 | | 0.03235 |
| 18 | 27 HK | HK0027032686 | GALAXY ENTERTAINMENT GROUP L | 6.6600 | 51.45 | EXCH | 0.12739 | | 0.12739 |
| 19 | 3008 TT | TW0003008009 | LARGAN PRECISION CO LTD | 6.6600 | 4490.00 | EXCH | 0.03235 | | 0.03235 |
| 20 | 388 HK | HK0388045442 | HONG KONG EXCHANGES & CLEAR | 6.6600 | 272.20 | EXCH | 0.12739 | | 0.12739 |
| 21 | 700 HK | KYG875721634 | TENCENT HOLDINGS LTD | 6.6600 | 354.80 | EXCH | 0.12739 | | 0.12739 |
| 22 | 823 HK | HK0823032773 | LINK REIT | 6.6600 | 88.00 | EXCH | 0.12739 | | 0.12739 |
| 23 | 883 HK | HK0883013259 | CNOOC LTD | 6.6600 | 13.24 | EXCH | 0.12739 | | 0.12739 |
| 24 | 941 HK | HK0941009539 | CHINA MOBILE LTD | 6.6600 | 82.95 | EXCH | 0.12739 | | 0.12739 |
| 25 | B3SA3 BS | BRB3SAACNOR6 | B3 SA-BRASIL BOLSA BALCAO | 6.6600 | 32.90 | EXCH | 0.25982 | | 0.25982 |
| 26 | USD | USD | US Dollar Spot | 0.1000 | 1.00 | EXCH | 1.00000 | | 1.00000 |
| 27 | | | | | | | | | |

[7] Korea and Taiwan are considered emerging markets as their FX markets are not fully liberalised.

**Figure 3 – Virtual portfolio – Currency Allocation (March 11th, 2019)**

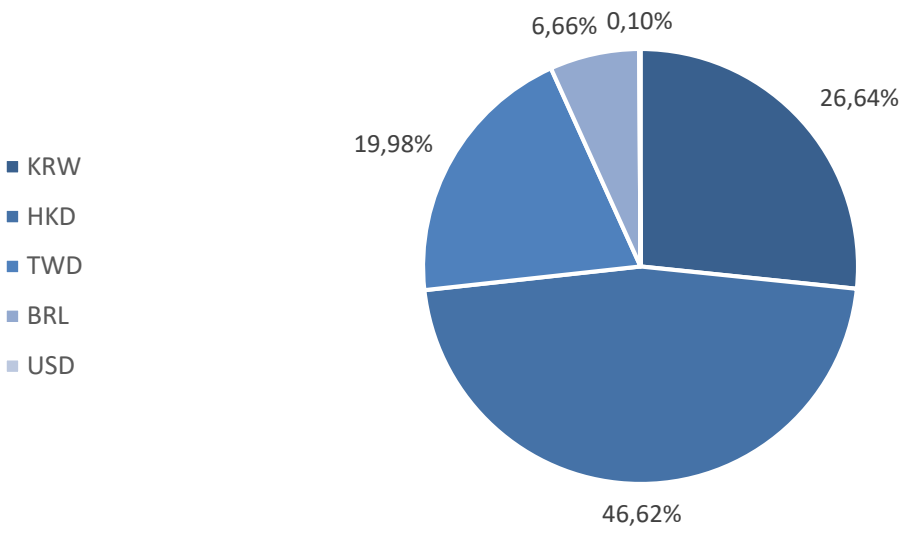
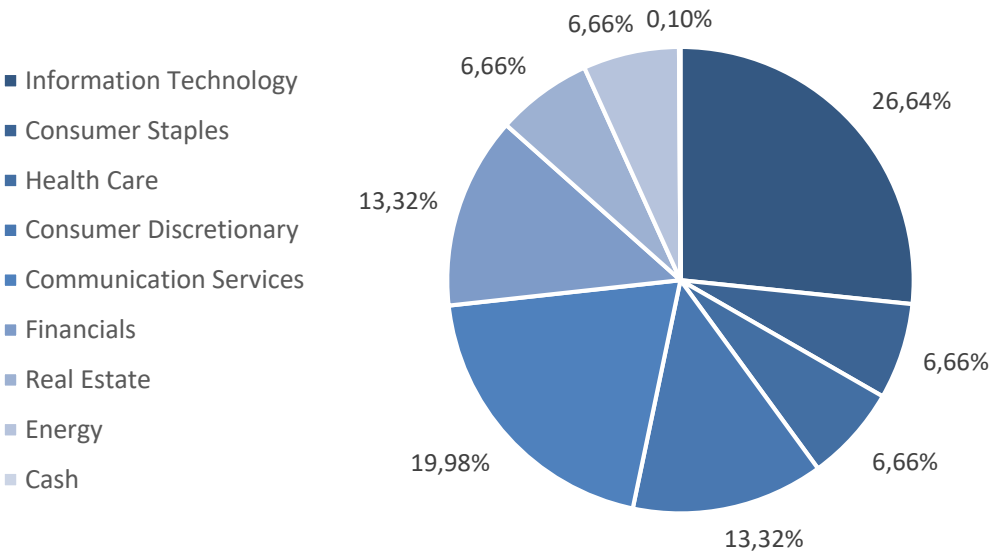



**Figure 4 – Virtual portfolio – Sector Allocation (March 11th, 2019)**

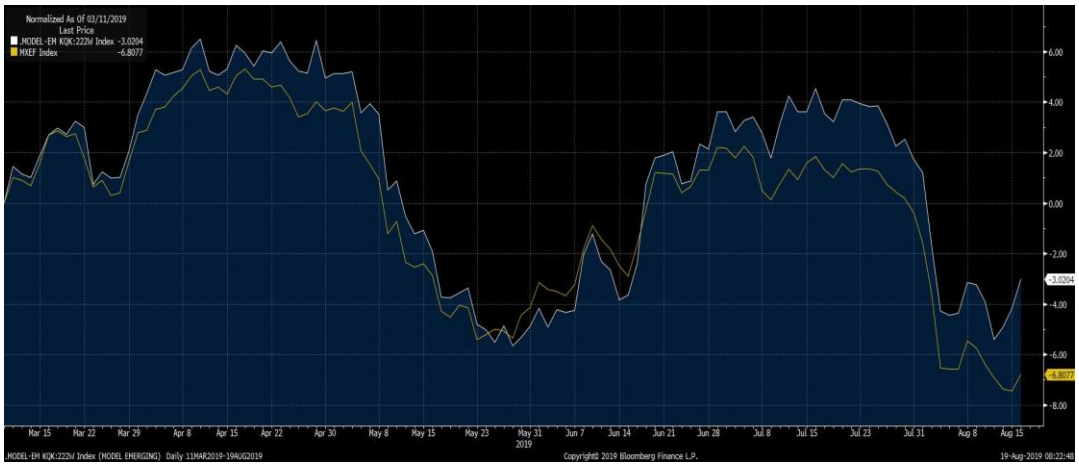


### 3.2.4 Performance

The virtual portfolio's performance is promising. When compared to its benchmark over the period[8], the portfolio outperforms its benchmark by more than 380 basis points (Figure 5). This result means that, for the time being, the stock selection made by the quantitative tool, coupled with the monthly update of the portfolio, pays off.

Of course, it would be wrong to take this performance at granted. Unknown variables remain. One should continue to the selection/update process, and the portfolio should be challenged during high volatility and/or significant market decisions. It should nevertheless be noted that despite August's large stock market movements, the portfolio held up well and maintained its lead over its index.

**Figure 5 – Virtual portfolio EM – Performance vs. MSCI EM**




Now, if we verify the hypothesis of the analysis performed above on the EM virtual portfolio, consistent results are demonstrated. Through the implementation of customized risk scenarios in Bloomberg, we discover some similarities with the previous results (Table 8).

The figures in the first column correspond to the performance in % of the portfolio and the various currencies making up the portfolio when US rates increase by 100bps. Looking at the positive numbers, we understand the importance of time lag. Indeed, if US rates rise, it means that growth is present and therefore, for the time being, emerging countries can still benefit from it.

[8] Performance from March 11th, 2019 to August 19th, 2019

Since the system cannot for obvious reasons predict the future, the second column corresponds to the same increase in base points but carried out a year ago. This is therefore the EM virtual portfolio's behaviour through its correlation a year earlier. So, one year after the rate hike, it is impressive to see how the portfolio would have behaved, even though the -9.38% already includes the devaluation of the currencies.

Finally, it is enlightening to see the behaviour of a portfolio created from scratch behave as the previous statistical analysis would have predicted.

**Table 8 – Risk Scenarios in Bloomberg**

| Risk Scenarios | Profit & Loss % (100bps change in US rates) | Profit & Loss % (100bps change in US rates - 12M lag) |
|---|---|---|
| **EM Virtual Portfolio** | 4.30 | -9.38 |
| **BRL** | 5.02 | -22.04 |
| **HKD** | 0.00 | -0.19 |
| **KRW** | 2.47 | -4.69 |
| **TWD** | 0.55 | -5.50 |
| **USD** | 0.00 | 0.00 |

### 3.2.5 Comments

The creation of this tool required several weeks of work. First, it was necessary to define which indicators were the most important when analysing securities. To this end, both the review of the theoretical literature and the advice and feedback from the interviews with the professionals were crucial.

Then, online classes were taken as an update of computer knowledge was required. Indeed, the project would have been compromised without an improvement in VBA or an introduction to Python. Furthermore, there were some technical problems. To begin with, the computer did not support working with so many data - about 1200 equities multiplied by 36 indicators. Once this problem is solved, by increasing the power of the computer. The number of monthly data allowed by Bloomberg was reached. Indeed, each refresh of the information meant a consumption of more than 43,000 data "ticks," making weeks of work null and void. After negotiating with Bloomberg, a solution was found. They, exceptionally, agreed to reset the counters to zero, and from now, the tool no more live and is only updated when needed or modified.

# 4. Conclusion

The findings presented in this paper provide robust evidence that emerging markets, post 2008, are impacted by variations of US Fed's rate, especially after 12 months.

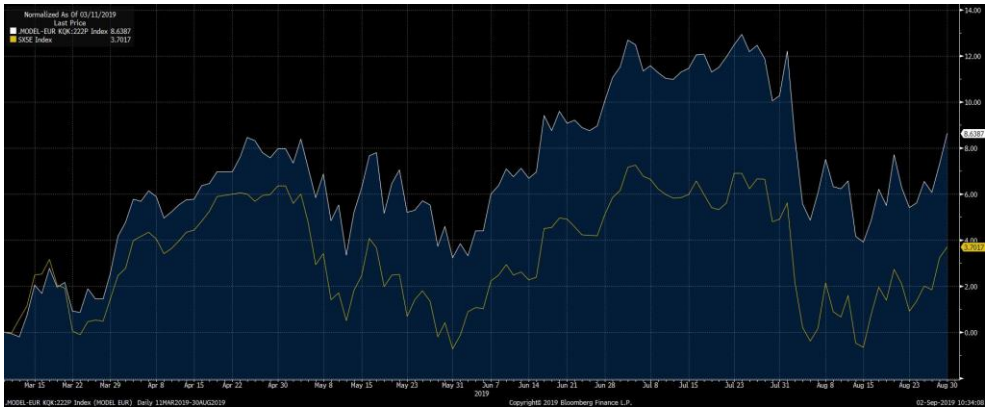
However, there are also strong clues that support the fact that the economic cycle in which one find oneself is a significant component on how emerging markets will react. The two periods, pre- and post- the 2008 financial crisis show completely opposite results. And this is true for both the statistical model and the correlation comparison between the value of currencies and the US rate.

Further research would be welcome to define the main driver for these results. Is the link between the US and the emerging countries still a kind of filiation or simply a driving effect of a booming economy?

In all cases, these results are consistent with the financial industry's investment process. Indeed, this strongly demonstrates that a systematic approach, starting with the big picture to understand all the ins and outs (macro analysis) and ending, for example, with the company's CEO and understanding how the company's governance is (micro analysis).

These comments reinforce the reasons of using these unbiased data-based tools but not only. Indeed, to go a bit further, the same strategy was used to create two other portfolios[9]; one in EUR and one in CHF (Figure 6 & 7).

**Figure 6 – Virtual portfolio EUR – Performance vs. Euro Stoxx 50**

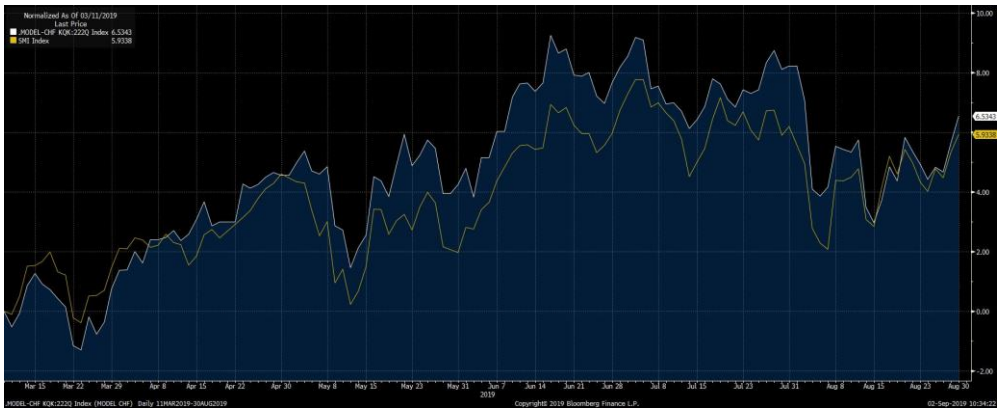



[9] Created March 11th, 2019 and performance as of August 30th, 2019

Compared to their respective benchmarks, we obtain for the current portfolio CHF vs. SMI an outperformance of +0.6008% for the observed period. This is an interesting performance when you consider that more than 60% of the SMI is composed of only three stocks - Nestlé, Roche, Novartis - which in this case also appear in the portfolio. This means that in addition to monitoring the SMI's 60% performance, the portfolio creates alpha on the rest of its stock selection.

On the other hand, the current EUR portfolio beats all expectations, with an outperformance over the period of +4.9370%. Using the graph, we can see that not only does the portfolio perform better when its index is positive, but it also resists better when it falls.

**Figure 7 – Virtual portfolio CHF – Performance vs. SMI**




Thus, with not only three extracted portfolios bringing very encouraging results but also with a rationally established ranking of more than 1200 stocks, the tool has found its place in the daily business of the company in which I work. This is for operational reasons, compliance reasons and finally customer demand.

First of all, for operational reasons, a structure with less than ten employees will find it difficult to compare itself in resources and manpower with the giants of the industry, where dozens of analysts spend hours on sectors and stocks Automating a comparative analysis to perform a first important sorting is essential, both in terms of time savings and savings.

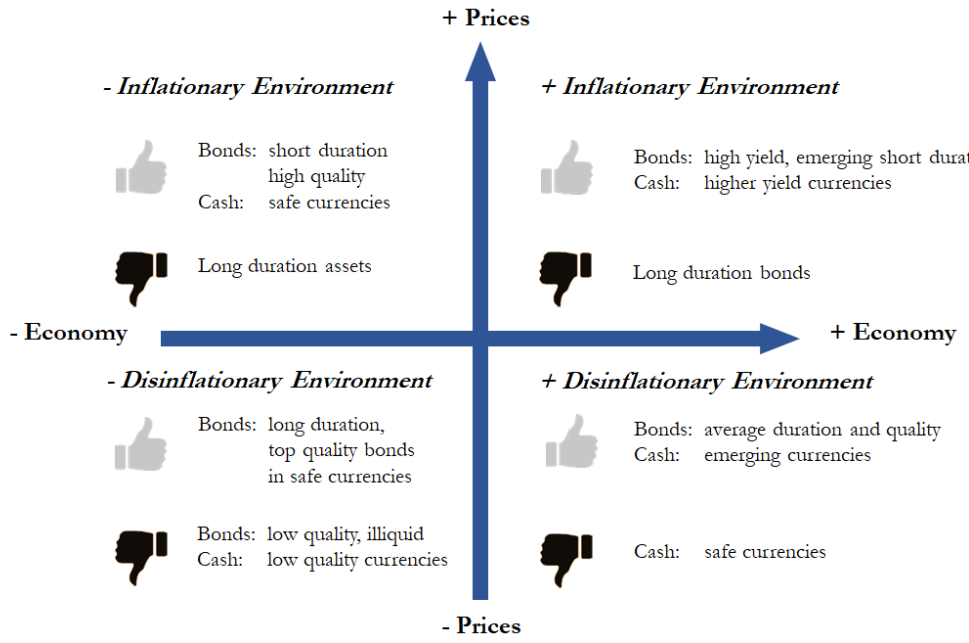
Compliance is becoming increasingly strict. It is necessary to demonstrate a systematic approach to investment and to be able to explain the investment process. Thus, between the advent of MiFID 2 and the implementation in January 2020 of LSFin and LEFin, this type of tool becomes a matter of course for the

operation of external managers. Typically, we are often asked to provide an opinion and a recommendation for our advisory clients. So, from now on, it is possible for us to automate a factsheet with the desired title and all the ratios we use in order to present a complete analysis. This factsheet with the recommendation is then recorded and kept for future reference all regulatory requests from the market authority.

However, when the tool is presented, some clients may see this tool as a Blackbox with an opaque and dubious operation. However, as mentioned above, all the ratios used are available with a Bloomberg and there is no secret formula. The tool's encryption key is actually the weighting given to each ratios' family. These settings are decided by the investment committee on a monthly basis. Like Alan Turing in his Enigma resolution, there is nothing hidden or secret, there is only a configuration.

Furthermore, as the stock selection tool showed some encouraging results and to extend it. It would be interesting to replicate the strategy of a quantitative tool to precisely and rationally define the cycle in which the economy is in, to know the best investment solutions, in form and content (see figure 8).

**Figure 8 – Economic scenarios (simplified)**




Obviously, more research needs to be done, but there are signs that do not deceive. Markets are not rational, at least not in the short term. So, a factual help

can only make sense in a world where most of the variables exists. Of course, they are not implemented - yet. But everything leads to the belief, and there is a trend going in this direction day after day, that data is to finance what oil is to commodities.

To wrap up this last opinion, information is key. Behavioural errors are only situations where not all information has been received or interpreted. A gift for the financial industry that is completely shifting paradigm and thus experiencing a new youth. Past mistakes are only information to be interpreted in order not to reproduce them, while today's information only need to be collected to be used. Basically, in addition to having the cards in hand, the rest of the deck is available to all face up.

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# Appendix 1: Observed data

| DATE Stata | FED RATE | USDTRY | USDRUB | USDCNY | USDINR | USDBRL | USDMXN | USDNGN | USDZAR |
|---|---|---|---|---|---|---|---|---|---|
| 2019m4 | 2,4200 | 5,9661 | 64,6319 | 6,7349 | 69,5563 | 3,9210 | 18,9460 | 360,7500 | 14,2986 |
| 2019m3 | 2,4100 | 5,5707 | 65,6304 | 6,7121 | 69,1488 | 3,9205 | 19,4279 | 360,6000 | 14,5012 |
| 2019m2 | 2,4000 | 5,3370 | 65,9115 | 6,6941 | 70,7450 | 3,7568 | 19,2813 | 361,0000 | 14,0849 |
| 2019m1 | 2,4000 | 5,1646 | 65,4060 | 6,7000 | 71,0850 | 3,6468 | 19,1056 | 362,6300 | 13,2542 |
| 2018m12 | 2,2700 | 5,2894 | 69,7150 | 6,8785 | 69,7712 | 3,8745 | 19,6504 | 364,0000 | 14,3467 |
| 2018m11 | 2,2000 | 5,2153 | 66,9760 | 6,9605 | 69,5837 | 3,8663 | 20,3668 | 364,5000 | 13,8699 |
| 2018m10 | 2,1900 | 5,5829 | 65,8804 | 6,9757 | 73,9550 | 3,7224 | 20,3389 | 363,5000 | 14,7864 |
| 2018m9 | 1,9500 | 6,0559 | 65,5532 | 6,8688 | 72,4900 | 4,0493 | 18,7183 | 362,0000 | 14,1415 |
| 2018m8 | 1,9100 | 6,5396 | 67,5427 | 6,8315 | 70,9962 | 4,0540 | 19,0850 | 362,2500 | 14,6887 |
| 2018m7 | 1,9100 | 4,9140 | 62,5221 | 6,8168 | 68,5475 | 3,7574 | 18,6469 | 361,5000 | 13,2750 |
| 2018m6 | 1,8200 | 4,5929 | 62,7416 | 6,6210 | 68,4700 | 3,8765 | 19,9078 | 361,0000 | 13,7250 |
| 2018m5 | 1,7000 | 4,5267 | 62,3985 | 6,4106 | 67,3963 | 3,7239 | 19,9117 | 362,0000 | 12,6993 |
| 2018m4 | 1,6900 | 4,0621 | 62,9713 | 6,3323 | 66,6613 | 3,5072 | 18,7141 | 360,2500 | 12,4608 |
| 2018m3 | 1,5100 | 3,9553 | 57,1305 | 6,2753 | 65,1775 | 3,3063 | 18,1812 | 360,2500 | 11,8408 |
| 2018m2 | 1,4200 | 3,7992 | 56,3433 | 6,3310 | 65,1775 | 3,2477 | 18,8381 | 360,0000 | 11,7957 |
| 2018m1 | 1,4100 | 3,7554 | 56,2173 | 6,2888 | 63,5863 | 3,1869 | 18,5999 | 360,5000 | 11,8514 |
| 2017m12 | 1,3000 | 3,7982 | 57,6258 | 6,5067 | 63,8713 | 3,3085 | 19,6590 | 360,5000 | 12,3828 |
| 2017m11 | 1,1600 | 3,9200 | 58,4524 | 6,6091 | 64,4588 | 3,2683 | 18,6284 | 359,7500 | 13,6981 |
| 2017m10 | 1,1500 | 3,7915 | 58,3302 | 6,6350 | 64,7462 | 3,2713 | 19,1466 | 359,6300 | 14,1272 |
| 2017m9 | 1,1500 | 3,5633 | 57,4938 | 6,6528 | 65,2762 | 3,1623 | 18,2545 | 359,7500 | 13,5590 |
| 2017m8 | 1,1600 | 3,4529 | 58,0089 | 6,5901 | 63,9063 | 3,1491 | 17,8863 | 359,2500 | 13,0032 |
| 2017m7 | 1,1500 | 3,5193 | 59,7734 | 6,7266 | 64,1875 | 3,1266 | 17,8005 | 305,9000 | 13,1859 |
| 2017m6 | 1,0400 | 3,5207 | 58,9430 | 6,7809 | 64,5788 | 3,3072 | 18,1203 | 341,5000 | 13,0744 |
| 2017m5 | 0,9100 | 3,5279 | 56,5670 | 6,8180 | 64,5112 | 3,2266 | 18,6199 | 314,7500 | 13,1179 |
| 2017m4 | 0,9000 | 3,5517 | 56,9300 | 6,8935 | 64,2450 | 3,1765 | 18,8206 | 315,2500 | 13,3701 |
| 2017m3 | 0,7900 | 3,6363 | 56,2649 | 6,8872 | 64,8500 | 3,1224 | 18,7249 | 314,5000 | 13,4136 |
| 2017m2 | 0,6600 | 3,6462 | 58,3140 | 6,8670 | 66,6900 | 3,1097 | 20,1090 | 315,2500 | 13,1285 |
| 2017m1 | 0,6500 | 3,7733 | 60,1660 | 6,8840 | 67,8650 | 3,1486 | 20,8322 | 314,7500 | 13,4753 |
| 2016m12 | 0,5400 | 3,5235 | 61,2668 | 6,9450 | 67,9250 | 3,2500 | 20,7272 | 315,2500 | 13,7401 |
| 2016m11 | 0,4100 | 3,4375 | 64,1395 | 6,8894 | 68,3887 | 3,3857 | 20,5743 | 315,2500 | 14,0940 |
| 2016m10 | 0,4000 | 3,0940 | 63,3920 | 6,7758 | 66,7787 | 3,1939 | 18,8642 | 305,2500 | 13,4741 |
| 2016m9 | 0,4000 | 2,9999 | 62,8495 | 6,6718 | 66,6150 | 3,2613 | 19,3852 | 315,2500 | 13,7225 |
| 2016m8 | 0,4000 | 2,9579 | 65,3334 | 6,6793 | 66,9637 | 3,2263 | 18,7836 | 314,2500 | 14,7313 |
| 2016m7 | 0,3900 | 2,9888 | 66,0262 | 6,6350 | 66,9950 | 3,2491 | 18,7527 | 315,5000 | 13,8787 |
| 2016m6 | 0,3800 | 2,8777 | 63,9674 | 6,6480 | 67,5250 | 3,2126 | 18,2804 | 280,5000 | 14,7266 |
| 2016m5 | 0,3700 | 2,9494 | 66,6931 | 6,5854 | 67,2600 | 3,6109 | 18,4672 | 199,0500 | 15,7086 |
| 2016m4 | 0,3700 | 2,7955 | 64,6641 | 6,4780 | 66,3300 | 3,4351 | 17,1770 | 199,0500 | 14,2302 |
| 2016m3 | 0,3600 | 2,8173 | 67,0515 | 6,4536 | 66,2475 | 3,5928 | 17,2790 | 198,0600 | 14,7673 |
| 2016m2 | 0,3800 | 2,9657 | 75,2012 | 6,5520 | 68,4200 | 4,0163 | 18,1360 | 199,0500 | 15,8715 |
| 2016m1 | 0,3400 | 2,9548 | 75,4522 | 6,5760 | 67,7925 | 3,9991 | 18,1065 | 199,3100 | 15,8907 |
| 2015m12 | 0,2400 | 2,9172 | 73,5950 | 6,4937 | 66,1537 | 3,9640 | 17,2075 | 199,3000 | 15,4685 |
| 2015m11 | 0,1200 | 2,9138 | 66,4873 | 6,3984 | 66,6675 | 3,8685 | 16,5768 | 197,5200 | 14,4480 |
| 2015m10 | 0,1200 | 2,9150 | 63,9303 | 6,3175 | 65,2650 | 3,8568 | 16,5021 | 199,0400 | 13,8224 |
| 2015m9 | 0,1400 | 3,0256 | 65,4342 | 6,3561 | 65,5900 | 3,9471 | 16,9177 | 199,2600 | 13,8549 |
| 2015m8 | 0,1400 | 2,9149 | 64,2767 | 6,3762 | 66,4825 | 3,6198 | 16,7503 | 198,9200 | 13,2799 |
| 2015m7 | 0,1300 | 2,7708 | 61,7308 | 6,2097 | 64,1362 | 3,4211 | 16,1088 | 198,9000 | 12,6808 |
| 2015m6 | 0,1300 | 2,6816 | 55,2879 | 6,2010 | 63,6513 | 3,1030 | 15,7389 | 199,1500 | 12,1688 |
| 2015m5 | 0,1200 | 2,6629 | 52,3445 | 6,1976 | 63,8250 | 3,1787 | 15,3780 | 198,7500 | 12,1525 |
| 2015m4 | 0,1200 | 2,6725 | 51,6265 | 6,2032 | 63,4225 | 3,0144 | 15,3505 | 199,0000 | 11,9107 |
| 2015m3 | 0,1100 | 2,5975 | 58,1919 | 6,1997 | 62,4975 | 3,1974 | 15,2635 | 199,2800 | 12,1321 |
| 2015m2 | 0,1100 | 2,5082 | 61,6094 | 6,2695 | 61,8450 | 2,8389 | 14,9499 | 202,7700 | 11,6585 |
| 2015m1 | 0,1100 | 2,4417 | 68,9592 | 6,2505 | 61,8725 | 2,6836 | 14,9770 | 187,6000 | 11,6476 |
| 2014m12 | 0,1200 | 2,3350 | 58,6570 | 6,2057 | 63,0425 | 2,6582 | 14,7515 | 183,4500 | 11,5706 |
| 2014m11 | 0,0900 | 2,2201 | 49,3230 | 6,1434 | 62,0337 | 2,5651 | 13,9293 | 178,7000 | 11,0629 |

| DATE Stata | FED RATE | USDTRY | USDRUB | USDCNY | USDINR | USDBRL | USDMXN | USDNGN | USDZAR |
|---|---|---|---|---|---|---|---|---|---|
| 2014m10 | 0,0900 | 2,2229 | 42,9389 | 6,1129 | 61,3675 | 2,4779 | 13,4813 | 165,6000 | 11,0395 |
| 2014m9 | 0,0900 | 2,2782 | 39,5555 | 6,1394 | 61,7575 | 2,4461 | 13,4286 | 163,8200 | 11,2853 |
| 2014m8 | 0,0900 | 2,1630 | 37,0959 | 6,1437 | 60,5150 | 2,2362 | 13,0847 | 162,2600 | 10,6666 |
| 2014m7 | 0,0900 | 2,1418 | 35,6772 | 6,1738 | 60,5600 | 2,2638 | 13,2166 | 161,8700 | 10,7073 |
| 2014m6 | 0,1000 | 2,1185 | 34,0465 | 6,2033 | 60,1862 | 2,2145 | 12,9683 | 162,8900 | 10,6375 |
| 2014m5 | 0,0900 | 2,0968 | 34,8522 | 6,2473 | 59,1025 | 2,2413 | 12,8580 | 162,6600 | 10,5723 |
| 2014m4 | 0,0900 | 2,1125 | 35,7500 | 6,2593 | 60,3350 | 2,2327 | 13,0793 | 160,7400 | 10,5224 |
| 2014m3 | 0,0800 | 2,1407 | 35,1371 | 6,2168 | 59,8900 | 2,2720 | 13,0580 | 165,0500 | 10,5319 |
| 2014m2 | 0,0700 | 2,2061 | 35,9063 | 6,1427 | 61,7575 | 2,3435 | 13,2492 | 165,2000 | 10,7551 |
| 2014m1 | 0,0700 | 2,2565 | 35,2498 | 6,0598 | 62,6575 | 2,4128 | 13,3573 | 162,4900 | 11,1206 |
| 2013m12 | 0,0900 | 2,1482 | 32,7287 | 6,0540 | 61,8000 | 2,3592 | 13,0367 | 160,3000 | 10,4926 |
| 2013m11 | 0,0800 | 2,0192 | 33,1725 | 6,0930 | 62,4487 | 2,3361 | 13,1093 | 158,2400 | 10,1742 |
| 2013m10 | 0,0900 | 1,9968 | 32,1145 | 6,0942 | 61,4950 | 2,2399 | 13,0217 | 159,0100 | 10,0467 |
| 2013m9 | 0,0800 | 2,0185 | 32,3894 | 6,1191 | 62,6175 | 2,2169 | 13,0914 | 161,2700 | 10,0278 |
| 2013m8 | 0,0800 | 2,0381 | 33,2980 | 6,1200 | 65,7050 | 2,3855 | 13,3800 | 161,4000 | 10,2799 |
| 2013m7 | 0,0900 | 1,9342 | 33,0238 | 6,1302 | 60,3600 | 2,2765 | 12,7320 | 160,6000 | 9,8768 |
| 2013m6 | 0,0900 | 1,9281 | 32,8261 | 6,1421 | 59,3900 | 2,2322 | 12,9308 | 162,5300 | 9,8806 |
| 2013m5 | 0,1100 | 1,8757 | 31,9390 | 6,1339 | 56,5050 | 2,1386 | 12,8089 | 158,2000 | 10,0915 |
| 2013m4 | 0,1500 | 1,7924 | 31,0326 | 6,1610 | 53,8050 | 2,0014 | 12,1340 | 158,0200 | 8,9682 |
| 2013m3 | 0,1400 | 1,8103 | 31,0545 | 6,2090 | 54,2800 | 2,0219 | 12,3312 | 158,5500 | 9,2362 |
| 2013m2 | 0,1500 | 1,7985 | 30,5519 | 6,2218 | 54,3600 | 1,9775 | 12,7793 | 158,3800 | 9,0246 |
| 2013m1 | 0,1400 | 1,7588 | 30,0321 | 6,2200 | 53,2237 | 1,9916 | 12,7087 | 157,1700 | 8,9559 |
| 2012m12 | 0,1600 | 1,7836 | 30,4302 | 6,2303 | 54,9850 | 2,0428 | 12,8533 | 156,1500 | 8,4735 |
| 2012m11 | 0,1600 | 1,7872 | 30,8875 | 6,2281 | 54,2650 | 2,1360 | 12,9667 | 157,2000 | 8,9088 |
| 2012m10 | 0,1600 | 1,7926 | 31,3368 | 6,2377 | 53,8138 | 2,0299 | 13,0949 | 157,0600 | 8,6736 |
| 2012m9 | 0,1400 | 1,7970 | 31,2038 | 6,2847 | 52,8600 | 2,0258 | 12,8585 | 157,2000 | 8,3146 |
| 2012m8 | 0,1300 | 1,8179 | 32,3311 | 6,3486 | 55,5263 | 2,0297 | 13,1910 | 158,1000 | 8,4000 |
| 2012m7 | 0,1600 | 1,7952 | 32,1694 | 6,3617 | 55,6550 | 2,0569 | 13,3291 | 160,7400 | 8,2587 |
| 2012m6 | 0,1600 | 1,8083 | 32,4225 | 6,3540 | 55,6375 | 2,0093 | 13,3608 | 162,7500 | 8,1642 |
| 2012m5 | 0,1600 | 1,8673 | 33,4858 | 6,3685 | 56,1100 | 2,0226 | 14,3755 | 159,8500 | 8,5230 |
| 2012m4 | 0,1400 | 1,7573 | 29,4005 | 6,2795 | 52,7363 | 1,9073 | 13,0127 | 157,4300 | 7,7774 |
| 2012m3 | 0,1300 | 1,7826 | 29,4459 | 6,2990 | 50,8750 | 1,8263 | 12,8107 | 157,7000 | 7,6730 |
| 2012m2 | 0,1000 | 1,7486 | 29,0646 | 6,2938 | 49,0238 | 1,7177 | 12,8624 | 157,6500 | 7,5063 |
| 2012m1 | 0,0800 | 1,7765 | 30,1704 | 6,3083 | 49,4550 | 1,7471 | 13,0456 | 161,1000 | 7,8108 |
| 2011m12 | 0,0700 | 1,8909 | 32,1026 | 6,2949 | 53,0650 | 1,8663 | 13,9357 | 162,3000 | 8,0900 |
| 2011m11 | 0,0800 | 1,8281 | 30,7360 | 6,3793 | 52,2112 | 1,8085 | 13,6251 | 161,2500 | 8,1089 |
| 2011m10 | 0,0700 | 1,7711 | 30,2315 | 6,3549 | 48,6950 | 1,7173 | 13,3517 | 159,2500 | 7,9599 |
| 2011m9 | 0,0800 | 1,8599 | 32,2404 | 6,3820 | 48,9637 | 1,8792 | 13,8973 | 159,7200 | 8,0967 |
| 2011m8 | 0,1000 | 1,7156 | 28,8286 | 6,3781 | 46,0950 | 1,5896 | 12,3327 | 154,7800 | 6,9915 |
| 2011m7 | 0,0700 | 1,6885 | 27,6379 | 6,4415 | 44,1881 | 1,5497 | 11,7354 | 153,0000 | 6,6910 |
| 2011m6 | 0,0900 | 1,6230 | 27,8994 | 6,4634 | 44,6981 | 1,5635 | 11,7135 | 152,2800 | 6,7693 |
| 2011m5 | 0,0900 | 1,5934 | 27,9988 | 6,4808 | 45,0600 | 1,5805 | 11,5693 | 156,5100 | 6,8021 |
| 2011m4 | 0,1000 | 1,5212 | 27,3808 | 6,4911 | 44,2194 | 1,5743 | 11,4959 | 154,6500 | 6,5686 |
| 2011m3 | 0,1400 | 1,5452 | 28,4260 | 6,5524 | 44,5850 | 1,6325 | 11,9048 | 155,1000 | 6,7743 |
| 2011m2 | 0,1600 | 1,5980 | 28,8570 | 6,5770 | 45,2708 | 1,6632 | 12,1016 | 153,3000 | 6,9687 |
| 2011m1 | 0,1700 | 1,6043 | 29,7888 | 6,6025 | 45,9050 | 1,6736 | 12,1219 | 152,1500 | 7,1855 |
| 2010m12 | 0,1800 | 1,5439 | 30,5174 | 6,5933 | 44,7050 | 1,6613 | 12,3401 | 152,0000 | 6,6291 |
| 2010m11 | 0,1900 | 1,5044 | 31,5083 | 6,6670 | 45,8850 | 1,7129 | 12,4877 | 150,8500 | 7,1032 |
| 2010m10 | 0,1900 | 1,4329 | 30,8592 | 6,6740 | 44,4275 | 1,7019 | 12,3450 | 150,8000 | 6,9990 |
| 2010m9 | 0,1900 | 1,4456 | 30,5350 | 6,6921 | 44,9450 | 1,7079 | 12,5936 | 154,5100 | 6,9630 |
| 2010m8 | 0,1900 | 1,5265 | 30,8038 | 6,8078 | 47,0750 | 1,7559 | 13,2046 | 150,6000 | 7,3740 |
| 2010m7 | 0,1800 | 1,5078 | 30,2050 | 6,7745 | 46,4075 | 1,7549 | 12,6453 | 150,2000 | 7,2972 |
| 2010m6 | 0,1800 | 1,5845 | 31,2095 | 6,7818 | 46,4500 | 1,8047 | 12,9409 | 149,8000 | 7,6710 |
| 2010m5 | 0,2000 | 1,5730 | 30,9025 | 6,8278 | 46,3675 | 1,8209 | 12,9346 | 151,3500 | 7,6700 |

| DATE Stata | FED RATE | USDTRY | USDRUB | USDCNY | USDINR | USDBRL | USDMXN | USDNGN | USDZAR |
|---|---|---|---|---|---|---|---|---|---|
| 2010m4 | 0,2000 | 1,4882 | 29,2537 | 6,8253 | 44,3650 | 1,7394 | 12,3109 | 150,9400 | 7,3890 |
| 2010m3 | 0,1600 | 1,5176 | 29,4205 | 6,8259 | 44,9175 | 1,7813 | 12,3650 | 149,9500 | 7,2850 |
| 2010m2 | 0,1300 | 1,5498 | 29,9485 | 6,8261 | 46,0850 | 1,8076 | 12,7720 | 150,3500 | 7,7154 |
| 2010m1 | 0,1100 | 1,4972 | 30,3482 | 6,8269 | 46,1782 | 1,8950 | 13,0950 | 150,9300 | 7,6263 |
| 2009m12 | 0,1200 | 1,4986 | 30,0350 | 6,8271 | 46,5250 | 1,7445 | 13,0914 | 149,5000 | 7,3980 |
| 2009m11 | 0,1200 | 1,5273 | 29,2640 | 6,8274 | 46,5150 | 1,7557 | 12,9342 | 148,2500 | 7,4046 |
| 2009m10 | 0,1200 | 1,5054 | 29,1384 | 6,8275 | 46,9750 | 1,7612 | 13,1977 | 150,9000 | 7,8150 |
| 2009m9 | 0,1500 | 1,4848 | 30,0154 | 6,8264 | 48,1100 | 1,7670 | 13,5115 | 149,8500 | 7,5098 |
| 2009m8 | 0,1600 | 1,5006 | 31,7919 | 6,8308 | 48,8250 | 1,8804 | 13,3633 | 154,0800 | 7,7771 |
| 2009m7 | 0,1600 | 1,4707 | 31,4644 | 6,8321 | 47,9350 | 1,8651 | 13,1917 | 156,7000 | 7,7610 |
| 2009m6 | 0,2100 | 1,5403 | 31,1527 | 6,8305 | 47,9050 | 1,9518 | 13,1850 | 148,1000 | 7,7140 |
| 2009m5 | 0,1800 | 1,5333 | 30,9700 | 6,8291 | 47,0913 | 1,9702 | 13,1506 | 148,0000 | 7,9386 |
| 2009m4 | 0,1500 | 1,5973 | 33,1005 | 6,8210 | 50,0925 | 2,1904 | 13,8408 | 148,0000 | 8,5274 |
| 2009m3 | 0,1800 | 1,6650 | 33,9540 | 6,8339 | 50,7300 | 2,3228 | 14,1722 | 148,1000 | 9,5026 |
| 2009m2 | 0,2200 | 1,7001 | 35,9137 | 6,8400 | 51,1612 | 2,3866 | 15,2550 | 147,9000 | 10,1165 |
| 2009m1 | 0,1500 | 1,6432 | 35,7364 | 6,8519 | 48,8750 | 2,3230 | 14,3333 | 148,7500 | 10,1996 |
| 2008m12 | 0,1600 | 1,5405 | 29,4027 | 6,8277 | 48,8025 | 2,3145 | 13,6733 | 139,7000 | 9,5250 |
| 2008m11 | 0,3900 | 1,5630 | 27,9231 | 6,8347 | 50,1075 | 2,3063 | 13,4647 | 119,3300 | 10,0500 |
| 2008m10 | 0,9700 | 1,5423 | 27,0690 | 6,8388 | 49,4575 | 2,1590 | 12,8259 | 117,7000 | 9,7800 |
| 2008m9 | 1,8100 | 1,2695 | 25,6439 | 6,8460 | 46,9550 | 1,9046 | 10,9378 | 117,6200 | 8,2865 |
| 2008m8 | 2,0000 | 1,1844 | 24,6450 | 6,8397 | 43,9375 | 1,6315 | 10,2870 | 117,6300 | 7,7045 |
| 2008m7 | 2,0100 | 1,1639 | 23,4318 | 6,8319 | 42,5700 | 1,5654 | 10,0368 | 117,7800 | 7,3360 |
| 2008m6 | 2,0000 | 1,2264 | 23,4446 | 6,8544 | 43,0400 | 1,6037 | 10,3098 | 117,8200 | 7,8194 |
| 2008m5 | 1,9900 | 1,2186 | 23,6840 | 6,9421 | 42,4575 | 1,6270 | 10,3300 | 117,8300 | 7,6100 |
| 2008m4 | 2,2800 | 1,2792 | 23,6377 | 6,9878 | 40,4950 | 1,6629 | 10,4860 | 117,9000 | 7,5615 |
| 2008m3 | 2,6100 | 1,3241 | 23,4929 | 7,0120 | 40,1175 | 1,7519 | 10,6421 | 117,0700 | 8,0905 |
| 2008m2 | 2,9800 | 1,2031 | 24,0143 | 7,1108 | 40,0141 | 1,6907 | 10,7136 | 117,0300 | 7,8300 |
| 2008m1 | 3,9400 | 1,1766 | 24,4353 | 7,1818 | 39,3685 | 1,7592 | 10,8272 | 117,7900 | 7,4820 |
| 2007m12 | 4,2400 | 1,1700 | 24,6006 | 7,3037 | 39,4125 | 1,7800 | 10,8988 | 117,9000 | 6,8625 |
| 2007m11 | 4,4900 | 1,1757 | 24,5010 | 7,3919 | 39,5987 | 1,7924 | 10,9202 | 118,9300 | 6,8038 |
| 2007m10 | 4,7600 | 1,1744 | 24,6556 | 7,4627 | 39,3256 | 1,7360 | 10,6542 | 121,1500 | 6,4986 |
| 2007m9 | 4,9400 | 1,2072 | 24,8588 | 7,5105 | 39,8450 | 1,8336 | 10,9355 | 125,2000 | 6,8698 |
| 2007m8 | 5,0200 | 1,3026 | 25,6560 | 7,5450 | 40,9300 | 1,9619 | 11,0303 | 126,1600 | 7,1475 |
| 2007m7 | 5,2600 | 1,2756 | 25,5537 | 7,5728 | 40,3675 | 1,8825 | 10,9860 | 127,1400 | 7,1388 |
| 2007m6 | 5,2500 | 1,3040 | 25,7449 | 7,6151 | 40,7225 | 1,9290 | 10,8084 | 127,2500 | 7,0430 |
| 2007m5 | 5,2500 | 1,3203 | 25,8835 | 7,6460 | 40,6115 | 1,9246 | 10,7416 | 127,6500 | 7,1175 |
| 2007m4 | 5,2500 | 1,3683 | 25,6908 | 7,7033 | 41,1775 | 2,0345 | 10,9658 | 127,4500 | 7,0800 |
| 2007m3 | 5,2600 | 1,3847 | 25,9860 | 7,7315 | 43,4750 | 2,0594 | 11,0494 | 127,9500 | 7,2638 |
| 2007m2 | 5,2600 | 1,4161 | 26,1157 | 7,7417 | 44,2938 | 2,1205 | 11,1619 | 128,2500 | 7,2325 |
| 2007m1 | 5,2500 | 1,4183 | 26,4700 | 7,7737 | 44,1825 | 2,1229 | 11,0242 | 128,2000 | 7,2165 |
| 2006m12 | 5,2400 | 1,4156 | 26,3255 | 7,8045 | 44,2700 | 2,1364 | 10,8033 | 128,8000 | 7,0060 |
| 2006m11 | 5,2500 | 1,4527 | 26,2597 | 7,8331 | 44,7470 | 2,1649 | 10,9823 | 128,2500 | 7,1538 |
| 2006m10 | 5,2500 | 1,4539 | 26,7121 | 7,8794 | 45,0325 | 2,1418 | 10,7733 | 128,2500 | 7,3710 |
| 2006m9 | 5,2500 | 1,5155 | 26,7958 | 7,9040 | 45,8675 | 2,1690 | 10,9850 | 128,3500 | 7,7838 |
| 2006m8 | 5,2500 | 1,4650 | 26,7521 | 7,9527 | 46,4400 | 2,1450 | 10,9128 | 128,2900 | 7,1993 |
| 2006m7 | 5,2400 | 1,4979 | 26,8040 | 7,9690 | 46,5000 | 2,1770 | 10,9656 | 128,2500 | 6,9475 |
| 2006m6 | 4,9900 | 1,5870 | 26,8455 | 7,9943 | 46,0400 | 2,1650 | 11,3463 | 128,4000 | 7,1740 |
| 2006m5 | 4,9400 | 1,5685 | 27,0136 | 8,0175 | 46,3700 | 2,3070 | 11,3373 | 128,7500 | 6,7368 |
| 2006m4 | 4,7900 | 1,3195 | 27,1746 | 8,0140 | 44,8800 | 2,0870 | 11,0613 | 128,3300 | 6,0050 |
| 2006m3 | 4,5900 | 1,3483 | 27,7050 | 8,0172 | 44,6225 | 2,1640 | 10,8740 | 128,1500 | 6,1765 |
| 2006m2 | 4,4900 | 1,3155 | 28,0359 | 8,0402 | 44,3900 | 2,1235 | 10,4883 | 128,7500 | 6,1650 |
| 2006m1 | 4,2900 | 1,3245 | 28,0788 | 8,0608 | 44,1175 | 2,2120 | 10,4498 | 129,3000 | 6,0579 |
| 2005m12 | 4,1600 | 1,3510 | 28,7414 | 8,0702 | 45,0500 | 2,3355 | 10,6350 | 130,3800 | 6,3288 |
| 2005m11 | 4,0000 | 1,3553 | 28,8072 | 8,0804 | 45,9288 | 2,2035 | 10,5580 | 130,3000 | 6,4625 |

| DATE Stata | FED RATE | USDTRY | USDRUB | USDCNY | USDINR | USDBRL | USDMXN | USDNGN | USDZAR |
|---|---|---|---|---|---|---|---|---|---|
| 2005m10 | 3,7800 | 1,3513 | 28,5850 | 8,0845 | 45,1637 | 2,2518 | 10,7870 | 130,2500 | 6,7025 |
| 2005m9 | 3,6200 | 1,3470 | 28,4977 | 8,0920 | 44,0150 | 2,2275 | 10,7590 | 130,7500 | 6,3701 |
| 2005m8 | 3,5000 | 1,3455 | 28,4800 | 8,0998 | 44,1500 | 2,3570 | 10,7512 | 131,7500 | 6,3660 |
| 2005m7 | 3,2600 | 1,3259 | 28,6300 | 8,1056 | 43,4800 | 2,3787 | 10,5949 | 136,5000 | 6,5811 |
| 2005m6 | 3,0400 | 1,3305 | 28,6300 | 8,2764 | 43,4850 | 2,3325 | 10,7490 | 133,1000 | 6,6495 |
| 2005m5 | 3,0000 | 1,3645 | 28,2405 | 8,2767 | 43,7000 | 2,4076 | 10,8790 | 131,8500 | 6,8120 |
| 2005m4 | 2,7900 | 1,3915 | 27,7810 | 8,2764 | 43,5350 | 2,5280 | 11,0477 | 131,7500 | 6,0858 |
| 2005m3 | 2,6300 | 1,3510 | 27,8621 | 8,2764 | 43,7450 | 2,6790 | 11,1703 | 131,6500 | 6,2395 |
| 2005m2 | 2,5000 | 1,2830 | 27,6750 | 8,2765 | 43,6750 | 2,5875 | 11,0914 | 132,8500 | 5,8175 |
| 2005m1 | 2,2800 | 1,3345 | 28,0200 | 8,2764 | 43,7200 | 2,6088 | 11,1870 | 132,2500 | 5,9850 |
| 2004m12 | 2,1600 | 1,3435 | 27,7200 | 8,2765 | 43,4600 | 2,6560 | 11,1470 | 132,1000 | 5,6650 |
| 2004m11 | 1,9300 | 1,4315 | 28,1300 | 8,2765 | 44,6350 | 2,7200 | 11,2240 | 132,9000 | 5,8033 |
| 2004m10 | 1,7600 | 1,4780 | 28,7455 | 8,2766 | 45,3875 | 2,8570 | 11,5363 | 132,2500 | 6,1000 |
| 2004m9 | 1,6100 | 1,5055 | 29,2229 | 8,2765 | 45,9500 | 2,8608 | 11,3820 | 132,2500 | 6,4535 |
| 2004m8 | 1,4300 | 1,5035 | 29,2620 | 8,2765 | 46,3538 | 2,9270 | 11,3890 | 132,2500 | 6,6313 |
| 2004m7 | 1,2600 | 1,4660 | 29,1060 | 8,2770 | 46,4700 | 3,0365 | 11,4152 | 132,5000 | 6,2675 |
| 2004m6 | 1,0300 | 1,4840 | 29,0698 | 8,2766 | 46,0600 | 3,0850 | 11,4865 | 132,7500 | 6,1362 |
| 2004m5 | 1,0000 | 1,4885 | 28,9940 | 8,2768 | 45,4650 | 3,1890 | 11,4520 | 132,5000 | 6,5150 |
| 2004m4 | 1,0000 | 1,4214 | 29,0060 | 8,2771 | 44,5000 | 2,9330 | 11,4198 | 134,0400 | 6,9901 |
| 2004m3 | 1,0000 | 1,3145 | 28,5190 | 8,2770 | 43,6000 | 2,8953 | 11,1251 | 133,0000 | 6,2925 |
| 2004m2 | 1,0100 | 1,3290 | 28,5105 | 8,2769 | 45,2350 | 2,9059 | 11,0650 | 136,4000 | 6,6328 |
| 2004m1 | 1,0000 | 1,3405 | 28,5300 | 8,2768 | 45,2650 | 2,9345 | 11,0614 | 136,8500 | 7,0713 |
| 2003m12 | 0,9800 | 1,4065 | 29,2425 | 8,2767 | 45,6250 | 2,8915 | 11,2285 | 139,5500 | 6,6843 |
| 2003m11 | 1,0000 | 1,4620 | 29,7405 | 8,2770 | 45,7700 | 2,9460 | 11,3785 | 144,1500 | 6,3926 |
| 2003m10 | 1,0100 | 1,4830 | 29,9450 | 8,2766 | 45,3200 | 2,8675 | 11,0175 | 132,7500 | 6,8960 |
| 2003m9 | 1,0100 | 1,3915 | 30,5870 | 8,2770 | 45,7600 | 2,9000 | 10,9860 | 131,2000 | 6,9309 |
| 2003m8 | 1,0300 | 1,4010 | 30,5120 | 8,2771 | 45,8400 | 2,9760 | 11,0471 | 132,0000 | 7,3770 |
| 2003m7 | 1,0100 | 1,4275 | 30,2591 | 8,2773 | 46,1420 | 2,9660 | 10,6028 | 128,2000 | 7,3715 |
| 2003m6 | 1,2200 | 1,4185 | 30,3655 | 8,2775 | 46,4875 | 2,8440 | 10,4570 | 130,1000 | 7,4704 |
| 2003m5 | 1,2600 | 1,4295 | 30,7250 | 8,2768 | 47,0800 | 2,9675 | 10,3145 | 129,7500 | 8,0830 |
| 2003m4 | 1,2600 | 1,5655 | 31,1100 | 8,2770 | 47,3250 | 2,9105 | 10,2900 | 135,0000 | 7,2480 |
| 2003m3 | 1,2500 | 1,7140 | 31,3863 | 8,2774 | 47,4700 | 3,3525 | 10,7700 | 129,8000 | 7,8651 |
| 2003m2 | 1,2600 | 1,5970 | 31,5845 | 8,2775 | 47,6700 | 3,5685 | 11,0160 | 128,0500 | 8,0800 |
| 2003m1 | 1,2400 | 1,6501 | 31,8490 | 8,2769 | 47,7950 | 3,4975 | 10,9063 | 129,1000 | 8,5152 |
| 2002m12 | 1,2400 | 1,6551 | 31,9550 | 8,2770 | 47,9750 | 3,5400 | 10,3700 | 126,5000 | 8,5702 |
| 2002m11 | 1,3400 | 1,5396 | 31,8650 | 8,2772 | 48,3200 | 3,6530 | 10,1465 | 128,8000 | 9,2600 |
| 2002m10 | 1,7500 | 1,6781 | 31,7850 | 8,2772 | 48,3600 | 3,6300 | 10,2025 | 127,3500 | 10,0050 |
| 2002m9 | 1,7500 | 1,6641 | 31,6900 | 8,2772 | 48,3750 | 3,7395 | 10,2065 | 126,2500 | 10,5400 |
| 2002m8 | 1,7400 | 1,6351 | 31,6330 | 8,2768 | 48,5100 | 3,0060 | 9,9350 | 127,2500 | 10,5600 |
| 2002m7 | 1,7300 | 1,6925 | 31,4750 | 8,2766 | 48,6700 | 3,4600 | 9,8695 | 134,0000 | 10,2100 |
| 2002m6 | 1,7500 | 1,5875 | 31,4750 | 8,2771 | 48,8850 | 2,8175 | 9,9465 | 119,8500 | 10,2950 |
| 2002m5 | 1,7500 | 1,4455 | 31,3350 | 8,2765 | 49,0450 | 2,5130 | 9,6450 | 114,4500 | 9,8330 |
| 2002m4 | 1,7500 | 1,3420 | 31,2000 | 8,2773 | 48,9500 | 2,3610 | 9,3950 | 114,4500 | 10,6650 |
| 2002m3 | 1,7300 | 1,3491 | 31,2100 | 8,2774 | 48,8150 | 2,3250 | 9,0350 | 117,2500 | 11,3300 |
| 2002m2 | 1,7400 | 1,3975 | 30,9620 | 8,2765 | 48,7400 | 2,3635 | 9,1190 | 117,3000 | 11,3650 |
| 2002m1 | 1,7300 | 1,3165 | 30,7100 | 8,2766 | 48,5200 | 2,4130 | 9,1475 | 114,5000 | 11,4150 |
| 2001m12 | 1,8200 | 1,4501 | 30,5050 | 8,2765 | 48,2450 | 2,3105 | 9,1575 | 119,5000 | 11,9610 |
| 2001m11 | 2,0900 | 1,4795 | 29,9150 | 8,2774 | 47,9250 | 2,4985 | 9,2240 | 120,5000 | 10,2555 |
| 2001m10 | 2,4900 | 1,5918 | 29,7290 | 8,2768 | 48,0050 | 2,6965 | 9,2590 | 112,1600 | 9,4420 |
| 2001m9 | 3,0700 | 1,5351 | 29,4670 | 8,2768 | 47,8600 | 2,6700 | 9,5140 | 115,5000 | 9,0265 |
| 2001m8 | 3,6500 | 1,3676 | 29,4230 | 8,2769 | 47,1350 | 2,5635 | 9,2040 | 112,2600 | 8,4390 |
| 2001m7 | 3,7700 | 1,3296 | 29,3550 | 8,2770 | 47,1350 | 2,4665 | 9,1415 | 118,0000 | 8,2575 |
| 2001m6 | 3,9700 | 1,2550 | 29,1470 | 8,2767 | 47,0400 | 2,3105 | 9,0410 | 112,5500 | 8,0450 |
| 2001m5 | 4,2100 | 1,1700 | 29,1620 | 8,2770 | 47,0000 | 2,3820 | 9,1735 | 114,5000 | 8,0010 |

| DATE Stata | FED RATE | USDTRY | USDRUB | USDCNY | USDINR | USDBRL | USDMXN | USDNGN | USDZAR |
|---|---|---|---|---|---|---|---|---|---|
| 2001m4 | 4,8000 | 1,1401 | 28,9300 | 8,2774 | 46,8300 | 2,2000 | 9,2390 | 119,8500 | 8,0330 |
| 2001m3 | 5,3100 | 1,0425 | 28,7600 | 8,2777 | 46,6150 | 2,1525 | 9,4615 | 122,0000 | 8,0125 |
| 2001m2 | 5,4900 | 0,9630 | 28,6700 | 8,2783 | 46,5500 | 2,0460 | 9,6881 | 114,6000 | 7,6713 |
| 2001m1 | 5,9800 | 0,6724 | 28,3700 | 8,2781 | 46,4000 | 1,9720 | 9,6775 | 110,3500 | 7,7350 |
| 2000m12 | 6,4000 | 0,6685 | 28,1600 | 8,2774 | 46,6750 | 1,9500 | 9,6225 | 110,0000 | 7,5788 |
| 2000m11 | 6,5100 | 0,6828 | 27,9340 | 8,2777 | 46,8650 | 1,9800 | 9,4160 | 116,0000 | 7,7444 |
| 2000m10 | 6,5100 | 0,6812 | 27,8820 | 8,2775 | 46,7300 | 1,9010 | 9,5665 | 109,6000 | 7,5500 |
| 2000m9 | 6,5200 | 0,6649 | 27,7820 | 8,2798 | 46,0400 | 1,8440 | 9,4370 | 108,7000 | 7,2350 |
| 2000m8 | 6,5000 | 0,6558 | 27,7750 | 8,2786 | 45,7900 | 1,8235 | 9,2020 | 103,3500 | 6,9785 |
| 2000m7 | 6,5400 | 0,6351 | 27,8600 | 8,2792 | 45,0100 | 1,7815 | 9,3520 | 105,3000 | 6,9538 |
| 2000m6 | 6,5300 | 0,6193 | 28,0700 | 8,2782 | 44,6750 | 1,8060 | 9,8300 | 105,1000 | 6,7950 |
| 2000m5 | 6,2700 | 0,6156 | 28,2525 | 8,2773 | 44,5750 | 1,8240 | 9,5070 | 101,9500 | 6,9680 |
| 2000m4 | 6,0200 | 0,6111 | 28,4300 | 8,2799 | 43,6700 | 1,8070 | 9,3925 | 100,8000 | 6,7885 |
| 2000m3 | 5,8500 | 0,5899 | 28,6600 | 8,2787 | 43,6200 | 1,7360 | 9,2530 | 102,9000 | 6,5250 |
| 2000m2 | 5,7300 | 0,5744 | 28,7000 | 8,2786 | 43,6200 | 1,7665 | 9,3690 | 102,1000 | 6,3340 |
| 2000m1 | 5,4500 | 0,5583 | 28,6350 | 8,2777 | 43,6350 | 1,7840 | 9,5925 | 99,3500 | 6,3060 |
| 1999m12 | 5,3000 | 0,5443 | 27,5500 | 8,2795 | 43,5500 | 1,7990 | 9,5050 | 99,4000 | 6,1548 |
| 1999m11 | 5,4200 | 0,5183 | 26,7000 | 8,2789 | 43,4125 | 1,9230 | 9,4375 | 99,5000 | 6,1755 |
| 1999m10 | 5,2000 | 0,4808 | 26,1050 | 8,2778 | 43,3800 | 1,9490 | 9,5975 | 95,3400 | 6,1465 |
| 1999m9 | 5,2200 | 0,4614 | 25,2350 | 8,2778 | 43,6200 | 1,9375 | 9,3600 | 95,2500 | 6,0075 |
| 1999m8 | 5,0700 | 0,4461 | 25,0850 | 8,2770 | 43,4800 | 1,9190 | 9,3550 | 100,1000 | 6,0850 |
| 1999m7 | 4,9900 | 0,4297 | 24,2450 | 8,2774 | 43,3000 | 1,8010 | 9,4050 | 100,0000 | 6,1705 |
| 1999m6 | 4,7600 | 0,4220 | 24,2550 | 8,2787 | 43,3700 | 1,7525 | 9,3550 | 100,0300 | 6,0125 |
| 1999m5 | 4,7400 | 0,4067 | 24,7250 | 8,2785 | 42,8500 | 1,7210 | 9,7150 | 97,7800 | 6,2200 |
| 1999m4 | 4,7400 | 0,3880 | 24,5900 | 8,2790 | 42,8000 | 1,6650 | 9,2889 | 87,6100 | 6,0713 |
| 1999m3 | 4,8100 | 0,3731 | 24,8750 | 8,2800 | 42,4300 | 1,7175 | 9,5619 | 87,5800 | 6,1578 |
| 1999m2 | 4,7600 | 0,3543 | 23,0750 | 8,2789 | 42,5070 | 2,0350 | 9,9855 | 86,5000 | 6,1925 |
| 1999m1 | 4,6300 | 0,3337 | 22,9500 | 8,2778 | 42,4900 | 2,0500 | 10,1675 | 86,8000 | 6,0623 |
| 1998m12 | 4,6800 | 0,3155 | 20,6200 | 8,2789 | 42,4900 | 1,2083 | 9,8970 | 21,8900 | 5,8675 |
| 1998m11 | 4,8300 | 0,3034 | 18,2250 | 8,2782 | 42,5750 | 1,2008 | 9,9850 | 21,8900 | 5,6920 |
| 1998m10 | 5,0700 | 0,2862 | 16,6500 | 8,2780 | 42,4500 | 1,1928 | 10,0950 | 21,8900 | 5,5953 |
| 1998m9 | 5,5100 | 0,2777 | 15,9100 | 8,2780 | 42,4500 | 1,1856 | 10,2200 | 21,8900 | 5,9250 |
| 1998m8 | 5,5500 | 0,2775 | 10,0500 | 8,2800 | 42,4900 | 1,1765 | 9,9600 | 21,8900 | 6,4503 |
| 1998m7 | 5,5400 | 0,2703 | 6,2380 | 8,2799 | 42,5300 | 1,1630 | 8,9350 | 21,8900 | 6,1253 |
| 1998m6 | 5,5600 | 0,2664 | 6,1980 | 8,2797 | 42,4100 | 1,1565 | 8,9580 | 22,0000 | 5,9653 |
| 1998m5 | 5,4900 | 0,2583 | 6,1600 | 8,2793 | 41,6800 | 1,1501 | 8,8550 | 22,0000 | 5,1560 |
| 1998m4 | 5,4500 | 0,2500 | 6,1330 | 8,2779 | 39,7200 | 1,1443 | 8,4900 | 22,0000 | 5,0535 |
| 1998m3 | 5,4900 | 0,2427 | 6,1060 | 8,2793 | 39,4900 | 1,1370 | 8,5200 | 22,0000 | 5,0345 |
| 1998m2 | 5,5000 | 0,2293 | 6,0700 | 8,2789 | 39,3400 | 1,1300 | 8,6100 | 22,0000 | 4,9465 |
| 1998m1 | 5,5600 | 0,2182 | 6,0210 | 8,2785 | 38,7000 | 1,1234 | 8,4500 | 22,0000 | 4,9330 |
| 1997m12 | 5,5000 | 0,2060 | 5,9580 | 8,2795 | 39,2000 | 1,1160 | 8,0550 | 22,0000 | 4,8665 |
| 1997m11 | 5,5200 | 0,1956 | 5,9170 | 8,2800 | 38,8500 | 1,1095 | 8,2050 | 22,0000 | 4,8525 |

# Appendix 2: STATA code (.dofile)

| | |
|---|---|
| 1 | clear |
| 2 | import excel "C:\Users\simon\OneDrive\Bureau\1997-2019 DATA.xlsx", sheet("ALL CCY") firstrow |
| 3 | ssc install fcstats |
| 4 | ssc install tsmktim |
| 5 | sort DATEStata |
| 6 | tsmktim Time, start (1997m11) |
| 7 | tsset Time |
| 8 | gen logUSDTRY = log( USDTRY) |
| 9 | gen logUSDRUB = log( USDRUB) |
| 10 | gen logUSDCNY = log( USDCNY) |
| 11 | gen logUSDINR = log( USDINR) |
| 12 | gen logUSDBRL = log( USDBRL) |
| 13 | gen logUSDMXN = log( USDMXN) |
| 14 | gen logUSDNGN = log( USDNGN) |
| 15 | gen logUSDZAR = log( USDZAR) |
| 16 | reg logUSDTRY FEDRATE |
| 17 | reg L3.logUSDTRY FEDRATE |
| 18 | reg L6.logUSDTRY FEDRATE |
| 19 | reg L9.logUSDTRY FEDRATE |
| 20 | reg L12.logUSDTRY FEDRATE |
| 21 | reg logUSDRUB FEDRATE |
| 22 | reg L3.logUSDRUB FEDRATE |
| 23 | reg L6.logUSDRUB FEDRATE |
| 24 | reg L9.logUSDRUB FEDRATE |
| 25 | reg L12.logUSDRUB FEDRATE |
| 26 | reg logUSDCNY FEDRATE |
| 27 | reg L3.logUSDCNY FEDRATE |
| 28 | reg L6.logUSDCNY FEDRATE |
| 29 | reg L9.logUSDCNY FEDRATE |
| 30 | reg L12.logUSDCNY FEDRATE |
| 31 | reg logUSDINR FEDRATE |
| 32 | reg L3.logUSDINR FEDRATE |

| | |
|---|---|
| 33 | reg L6.logUSDINR FEDRATE |
| 34 | reg L9.logUSDINR FEDRATE |
| 35 | reg L12.logUSDINR FEDRATE |
| 36 | reg logUSDBRL FEDRATE |
| 37 | reg L3.logUSDBRL FEDRATE |
| 38 | reg L6.logUSDBRL FEDRATE |
| 39 | reg L9.logUSDBRL FEDRATE |
| 40 | reg L12.logUSDBRL FEDRATE |
| 41 | reg logUSDMXN FEDRATE |
| 42 | reg L3.logUSDMXN FEDRATE |
| 43 | reg L6.logUSDMXN FEDRATE |
| 44 | reg L9.logUSDMXN FEDRATE |
| 45 | reg L12.logUSDMXN FEDRATE |
| 46 | reg logUSDNGN FEDRATE |
| 47 | reg L3.logUSDNGN FEDRATE |
| 48 | reg L6.logUSDNGN FEDRATE |
| 49 | reg L9.logUSDNGN FEDRATE |
| 50 | reg L12.logUSDNGN FEDRATE |
| 51 | reg logUSDZAR FEDRATE |
| 52 | reg L3.logUSDZAR FEDRATE |
| 53 | reg L6.logUSDZAR FEDRATE |
| 54 | reg L9.logUSDZAR FEDRATE |
| 55 | reg L12.logUSDZAR FEDRATE |
| 56 | |
| 57 | *1997-2007 |
| 58 | clear |
| 59 | import excel "C:\Users\simon\OneDrive\Bureau\1997-2007 DATA.xlsx", sheet("ALL CCY") firstrow |
| 60 | ssc install fcstats |
| 61 | ssc install tsmktim |
| 62 | sort DATEStata |
| 63 | tsmktim Time, start (1997m11) |
| 64 | tsset Time |
| 65 | gen logUSDTRY = log( USDTRY) |
| 66 | gen logUSDRUB = log( USDRUB) |

| | |
|---|---|
| 67 | gen logUSDCNY = log( USDCNY) |
| 68 | gen logUSDINR = log( USDINR) |
| 69 | gen logUSDBRL = log( USDBRL) |
| 70 | gen logUSDMXN = log( USDMXN) |
| 71 | gen logUSDNGN = log( USDNGN) |
| 72 | gen logUSDZAR = log( USDZAR) |
| 73 | reg logUSDTRY FEDRATE |
| 74 | reg L3.logUSDTRY FEDRATE |
| 75 | reg L6.logUSDTRY FEDRATE |
| 76 | reg L9.logUSDTRY FEDRATE |
| 77 | reg L12.logUSDTRY FEDRATE |
| 78 | reg logUSDRUB FEDRATE |
| 79 | reg L3.logUSDRUB FEDRATE |
| 80 | reg L6.logUSDRUB FEDRATE |
| 81 | reg L9.logUSDRUB FEDRATE |
| 82 | reg L12.logUSDRUB FEDRATE |
| 83 | reg logUSDCNY FEDRATE |
| 84 | reg L3.logUSDCNY FEDRATE |
| 85 | reg L6.logUSDCNY FEDRATE |
| 86 | reg L9.logUSDCNY FEDRATE |
| 87 | reg L12.logUSDCNY FEDRATE |
| 88 | reg logUSDINR FEDRATE |
| 89 | reg L3.logUSDINR FEDRATE |
| 90 | reg L6.logUSDINR FEDRATE |
| 91 | reg L9.logUSDINR FEDRATE |
| 92 | reg L12.logUSDINR FEDRATE |
| 93 | reg logUSDBRL FEDRATE |
| 94 | reg L3.logUSDBRL FEDRATE |
| 95 | reg L6.logUSDBRL FEDRATE |
| 96 | reg L9.logUSDBRL FEDRATE |
| 97 | reg L12.logUSDBRL FEDRATE |
| 98 | reg logUSDMXN FEDRATE |
| 99 | reg L3.logUSDMXN FEDRATE |
| 100 | reg L6.logUSDMXN FEDRATE |
| 101 | reg L9.logUSDMXN FEDRATE |

| | |
|---|---|
| 102 | reg L12.logUSDMXN FEDRATE |
| 103 | reg logUSDNGN FEDRATE |
| 104 | reg L3.logUSDNGN FEDRATE |
| 105 | reg L6.logUSDNGN FEDRATE |
| 106 | reg L9.logUSDNGN FEDRATE |
| 107 | reg L12.logUSDNGN FEDRATE |
| 108 | reg logUSDZAR FEDRATE |
| 109 | reg L3.logUSDZAR FEDRATE |
| 110 | reg L6.logUSDZAR FEDRATE |
| 111 | reg L9.logUSDZAR FEDRATE |
| 112 | reg L12.logUSDZAR FEDRATE |
| 113 | |
| 114 | *2008-2019 |
| 115 | clear |
| 116 | import excel "C:\Users\simon\OneDrive\Bureau\2008-2019 DATA.xlsx", sheet("ALL CCY") firstrow |
| 117 | ssc install fcstats |
| 118 | ssc install tsmktim |
| 119 | sort DATEStata |
| 120 | tsmktim Time, start (2008m1) |
| 121 | tsset Time |
| 122 | gen logUSDTRY = log( USDTRY) |
| 123 | gen logUSDRUB = log( USDRUB) |
| 124 | gen logUSDCNY = log( USDCNY) |
| 125 | gen logUSDINR = log( USDINR) |
| 126 | gen logUSDBRL = log( USDBRL) |
| 127 | gen logUSDMXN = log( USDMXN) |
| 128 | gen logUSDNGN = log( USDNGN) |
| 129 | gen logUSDZAR = log( USDZAR) |
| 130 | reg logUSDTRY FEDRATE |
| 131 | reg L3.logUSDTRY FEDRATE |
| 132 | reg L6.logUSDTRY FEDRATE |
| 133 | reg L9.logUSDTRY FEDRATE |
| 134 | reg L12.logUSDTRY FEDRATE |
| 135 | reg logUSDRUB FEDRATE |

| | |
|---|---|
| 136 | reg L3.logUSDRUB FEDRATE |
| 137 | reg L6.logUSDRUB FEDRATE |
| 138 | reg L9.logUSDRUB FEDRATE |
| 139 | reg L12.logUSDRUB FEDRATE |
| 140 | reg logUSDCNY FEDRATE |
| 141 | reg L3.logUSDCNY FEDRATE |
| 142 | reg L6.logUSDCNY FEDRATE |
| 143 | reg L9.logUSDCNY FEDRATE |
| 144 | reg L12.logUSDCNY FEDRATE |
| 145 | reg logUSDINR FEDRATE |
| 146 | reg L3.logUSDINR FEDRATE |
| 147 | reg L6.logUSDINR FEDRATE |
| 148 | reg L9.logUSDINR FEDRATE |
| 149 | reg L12.logUSDINR FEDRATE |
| 150 | reg logUSDBRL FEDRATE |
| 151 | reg L3.logUSDBRL FEDRATE |
| 152 | reg L6.logUSDBRL FEDRATE |
| 153 | reg L9.logUSDBRL FEDRATE |
| 154 | reg L12.logUSDBRL FEDRATE |
| 155 | reg logUSDMXN FEDRATE |
| 156 | reg L3.logUSDMXN FEDRATE |
| 157 | reg L6.logUSDMXN FEDRATE |
| 158 | reg L9.logUSDMXN FEDRATE |
| 159 | reg L12.logUSDMXN FEDRATE |
| 160 | reg logUSDNGN FEDRATE |
| 161 | reg L3.logUSDNGN FEDRATE |
| 162 | reg L6.logUSDNGN FEDRATE |
| 163 | reg L9.logUSDNGN FEDRATE |
| 164 | reg L12.logUSDNGN FEDRATE |
| 165 | reg logUSDZAR FEDRATE |
| 166 | reg L3.logUSDZAR FEDRATE |
| 167 | reg L6.logUSDZAR FEDRATE |
| 168 | reg L9.logUSDZAR FEDRATE |
| 169 | reg L12.logUSDZAR FEDRATE |
| 170 | |

| | |
|---|---|
| 171 | *WITH CURRENT ACCOUNTS |
| 172 | *1997-2007 |
| 173 | clear |
| 174 | import excel "C:\Users\simon\OneDrive\Bureau\1997-2007 CURRENT ACCOUNTS.xlsx", sheet("ALL CCY") firstrow |
| 175 | ssc install fcstats |
| 176 | ssc install tsmktim |
| 177 | sort DATEStata |
| 178 | tsmktim Time, start (1998q4) |
| 179 | tsset Time |
| 180 | gen logUSDTRY = log( USDTRY) |
| 181 | gen logUSDRUB = log( USDRUB) |
| 182 | gen logUSDCNY = log( USDCNY) |
| 183 | gen logUSDINR = log( USDINR) |
| 184 | gen logUSDBRL = log( USDBRL) |
| 185 | gen logUSDMXN = log( USDMXN) |
| 186 | gen logUSDNGN = log( USDNGN) |
| 187 | gen logUSDZAR = log( USDZAR) |
| 188 | reg logUSDTRY FEDRATE TRYQCURRACC |
| 189 | reg L3.logUSDTRY FEDRATE TRYQCURRACC |
| 190 | reg L6.logUSDTRY FEDRATE TRYQCURRACC |
| 191 | reg L9.logUSDTRY FEDRATE TRYQCURRACC |
| 192 | reg L12.logUSDTRY FEDRATE TRYQCURRACC |
| 193 | reg logUSDRUB FEDRATE RUBQCURRACC |
| 194 | reg L3.logUSDRUB FEDRATE RUBQCURRACC |
| 195 | reg L6.logUSDRUB FEDRATE RUBQCURRACC |
| 196 | reg L9.logUSDRUB FEDRATE RUBQCURRACC |
| 197 | reg L12.logUSDRUB FEDRATE RUBQCURRACC |
| 198 | reg logUSDCNY FEDRATE CNYQCURRACC |
| 199 | reg L3.logUSDCNY FEDRATE CNYQCURRACC |
| 200 | reg L6.logUSDCNY FEDRATE CNYQCURRACC |
| 201 | reg L9.logUSDCNY FEDRATE CNYQCURRACC |
| 202 | reg L12.logUSDCNY FEDRATE CNYQCURRACC |
| 203 | reg logUSDINR FEDRATE INRQCURRACC |
| 204 | reg L3.logUSDINR FEDRATE INRQCURRACC |

| | |
|---|---|
| 205 | reg L6.logUSDINR FEDRATE INRQCURRACC |
| 206 | reg L9.logUSDINR FEDRATE INRQCURRACC |
| 207 | reg L12.logUSDINR FEDRATE INRQCURRACC |
| 208 | reg logUSDBRL FEDRATE BRLQCURRACC |
| 209 | reg L3.logUSDBRL FEDRATE BRLQCURRACC |
| 210 | reg L6.logUSDBRL FEDRATE BRLQCURRACC |
| 211 | reg L9.logUSDBRL FEDRATE BRLQCURRACC |
| 212 | reg L12.logUSDBRL FEDRATE BRLQCURRACC |
| 213 | reg logUSDMXN FEDRATE MXNQCURRACC |
| 214 | reg L3.logUSDMXN FEDRATE MXNQCURRACC |
| 215 | reg L6.logUSDMXN FEDRATE MXNQCURRACC |
| 216 | reg L9.logUSDMXN FEDRATE MXNQCURRACC |
| 217 | reg L12.logUSDMXN FEDRATE MXNQCURRACC |
| 218 | reg logUSDNGN FEDRATE NGNQCURRACC |
| 219 | reg L3.logUSDNGN FEDRATE NGNQCURRACC |
| 220 | reg L6.logUSDNGN FEDRATE NGNQCURRACC |
| 221 | reg L9.logUSDNGN FEDRATE NGNQCURRACC |
| 222 | reg L12.logUSDNGN FEDRATE NGNQCURRACC |
| 223 | reg logUSDZAR FEDRATE ZARQCURRACC |
| 224 | reg L3.logUSDZAR FEDRATE ZARQCURRACC |
| 225 | reg L6.logUSDZAR FEDRATE ZARQCURRACC |
| 226 | reg L9.logUSDZAR FEDRATE ZARQCURRACC |
| 227 | reg L12.logUSDZAR FEDRATE ZARQCURRACC |
| 228 | |
| 229 | *With no lags in Current account (1998-2008) |
| 230 | reg logUSDTRY FEDRATE TRYQCURRACC |
| 231 | reg L3.logUSDTRY FEDRATE L3.TRYQCURRACC |
| 232 | reg L6.logUSDTRY FEDRATE L6.TRYQCURRACC |
| 233 | reg L9.logUSDTRY FEDRATE L9.TRYQCURRACC |
| 234 | reg L12.logUSDTRY FEDRATE L12.TRYQCURRACC |
| 235 | reg logUSDRUB FEDRATE RUBQCURRACC |
| 236 | reg L3.logUSDRUB FEDRATE L3.RUBQCURRACC |
| 237 | reg L6.logUSDRUB FEDRATE L6.RUBQCURRACC |
| 238 | reg L9.logUSDRUB FEDRATE L9.RUBQCURRACC |
| 239 | reg L12.logUSDRUB FEDRATE L12.RUBQCURRACC |

| | |
|---|---|
| 240 | reg logUSDCNY FEDRATE CNYQCURRACC |
| 241 | reg L3.logUSDCNY FEDRATE L3.CNYQCURRACC |
| 242 | reg L6.logUSDCNY FEDRATE L6.CNYQCURRACC |
| 243 | reg L9.logUSDCNY FEDRATE L9.CNYQCURRACC |
| 244 | reg L12.logUSDCNY FEDRATE L12.CNYQCURRACC |
| 245 | reg logUSDINR FEDRATE INRQCURRACC |
| 246 | reg L3.logUSDINR FEDRATE L3.INRQCURRACC |
| 247 | reg L6.logUSDINR FEDRATE L6.INRQCURRACC |
| 248 | reg L9.logUSDINR FEDRATE L9.INRQCURRACC |
| 249 | reg L12.logUSDINR FEDRATE L12.INRQCURRACC |
| 250 | reg logUSDBRL FEDRATE BRLQCURRACC |
| 251 | reg L3.logUSDBRL FEDRATE L3.BRLQCURRACC |
| 252 | reg L6.logUSDBRL FEDRATE L6.BRLQCURRACC |
| 253 | reg L9.logUSDBRL FEDRATE L9.BRLQCURRACC |
| 254 | reg L12.logUSDBRL FEDRATE L12.BRLQCURRACC |
| 255 | reg logUSDMXN FEDRATE MXNQCURRACC |
| 256 | reg L3.logUSDMXN FEDRATE L3.MXNQCURRACC |
| 257 | reg L6.logUSDMXN FEDRATE L6.MXNQCURRACC |
| 258 | reg L9.logUSDMXN FEDRATE L9.MXNQCURRACC |
| 259 | reg L12.logUSDMXN FEDRATE L12.MXNQCURRACC |
| 260 | reg logUSDNGN FEDRATE NGNQCURRACC |
| 261 | reg L3.logUSDNGN FEDRATE L3.NGNQCURRACC |
| 262 | reg L6.logUSDNGN FEDRATE L6.NGNQCURRACC |
| 263 | reg L9.logUSDNGN FEDRATE L9.NGNQCURRACC |
| 264 | reg L12.logUSDNGN FEDRATE L12.NGNQCURRACC |
| 265 | reg logUSDZAR FEDRATE ZARQCURRACC |
| 266 | reg L3.logUSDZAR FEDRATE L3.ZARQCURRACC |
| 267 | reg L6.logUSDZAR FEDRATE L6.ZARQCURRACC |
| 268 | reg L9.logUSDZAR FEDRATE L9.ZARQCURRACC |
| 269 | reg L12.logUSDZAR FEDRATE L12.ZARQCURRACC |
| 270 | |
| 271 | |
| 272 | *WITH CURRENT ACCOUNTS |
| 273 | *2008-2019 |
| 274 | clear |

| | |
|---|---|
| 275 | import excel "C:\Users\simon\OneDrive\Bureau\2008-2019 CURRENT ACCOUNTS.xlsx", sheet("ALL CCY") firstrow |
| 276 | ssc install fcstats |
| 277 | ssc install tsmktim |
| 278 | sort DATEStata |
| 279 | tsmktim Time, start (2008q1) |
| 280 | tsset Time |
| 281 | gen logUSDTRY = log( USDTRY) |
| 282 | gen logUSDRUB = log( USDRUB) |
| 283 | gen logUSDCNY = log( USDCNY) |
| 284 | gen logUSDINR = log( USDINR) |
| 285 | gen logUSDBRL = log( USDBRL) |
| 286 | gen logUSDMXN = log( USDMXN) |
| 287 | gen logUSDNGN = log( USDNGN) |
| 288 | gen logUSDZAR = log( USDZAR) |
| 289 | reg logUSDTRY FEDRATE TRYQCURRACC |
| 290 | reg L3.logUSDTRY FEDRATE TRYQCURRACC |
| 291 | reg L6.logUSDTRY FEDRATE TRYQCURRACC |
| 292 | reg L9.logUSDTRY FEDRATE TRYQCURRACC |
| 293 | reg L12.logUSDTRY FEDRATE TRYQCURRACC |
| 294 | reg logUSDRUB FEDRATE RUBQCURRACC |
| 295 | reg L3.logUSDRUB FEDRATE RUBQCURRACC |
| 296 | reg L6.logUSDRUB FEDRATE RUBQCURRACC |
| 297 | reg L9.logUSDRUB FEDRATE RUBQCURRACC |
| 298 | reg L12.logUSDRUB FEDRATE RUBQCURRACC |
| 299 | reg logUSDCNY FEDRATE CNYQCURRACC |
| 300 | reg L3.logUSDCNY FEDRATE CNYQCURRACC |
| 301 | reg L6.logUSDCNY FEDRATE CNYQCURRACC |
| 302 | reg L9.logUSDCNY FEDRATE CNYQCURRACC |
| 303 | reg L12.logUSDCNY FEDRATE CNYQCURRACC |
| 304 | reg logUSDINR FEDRATE INRQCURRACC |
| 305 | reg L3.logUSDINR FEDRATE INRQCURRACC |
| 306 | reg L6.logUSDINR FEDRATE INRQCURRACC |
| 307 | reg L9.logUSDINR FEDRATE INRQCURRACC |
| 308 | reg L12.logUSDINR FEDRATE INRQCURRACC |

| | |
|---|---|
| 309 | reg logUSDBRL FEDRATE BRLQCURRACC |
| 310 | reg L3.logUSDBRL FEDRATE BRLQCURRACC |
| 311 | reg L6.logUSDBRL FEDRATE BRLQCURRACC |
| 312 | reg L9.logUSDBRL FEDRATE BRLQCURRACC |
| 313 | reg L12.logUSDBRL FEDRATE BRLQCURRACC |
| 314 | reg logUSDMXN FEDRATE MXNQCURRACC |
| 315 | reg L3.logUSDMXN FEDRATE MXNQCURRACC |
| 316 | reg L6.logUSDMXN FEDRATE MXNQCURRACC |
| 317 | reg L9.logUSDMXN FEDRATE MXNQCURRACC |
| 318 | reg L12.logUSDMXN FEDRATE MXNQCURRACC |
| 319 | reg logUSDNGN FEDRATE NGNQCURRACC |
| 320 | reg L3.logUSDNGN FEDRATE NGNQCURRACC |
| 321 | reg L6.logUSDNGN FEDRATE NGNQCURRACC |
| 322 | reg L9.logUSDNGN FEDRATE NGNQCURRACC |
| 323 | reg L12.logUSDNGN FEDRATE NGNQCURRACC |
| 324 | reg logUSDZAR FEDRATE ZARQCURRACC |
| 325 | reg L3.logUSDZAR FEDRATE ZARQCURRACC |
| 326 | reg L6.logUSDZAR FEDRATE ZARQCURRACC |
| 327 | reg L9.logUSDZAR FEDRATE ZARQCURRACC |
| 328 | reg L12.logUSDZAR FEDRATE ZARQCURRACC |
| 329 | |
| 330 | *With no lags in Current account (2008-2019) |
| 331 | reg logUSDTRY FEDRATE TRYQCURRACC |
| 332 | reg L3.logUSDTRY FEDRATE L3.TRYQCURRACC |
| 333 | reg L6.logUSDTRY FEDRATE L6.TRYQCURRACC |
| 334 | reg L9.logUSDTRY FEDRATE L9.TRYQCURRACC |
| 335 | reg L12.logUSDTRY FEDRATE L12.TRYQCURRACC |
| 336 | reg logUSDRUB FEDRATE RUBQCURRACC |
| 337 | reg L3.logUSDRUB FEDRATE L3.RUBQCURRACC |
| 338 | reg L6.logUSDRUB FEDRATE L6.RUBQCURRACC |
| 339 | reg L9.logUSDRUB FEDRATE L9.RUBQCURRACC |
| 340 | reg L12.logUSDRUB FEDRATE L12.RUBQCURRACC |
| 341 | reg logUSDCNY FEDRATE CNYQCURRACC |
| 342 | reg L3.logUSDCNY FEDRATE L3.CNYQCURRACC |
| 343 | reg L6.logUSDCNY FEDRATE L6.CNYQCURRACC |

| | |
|---|---|
| 344 | reg L9.logUSDCNY FEDRATE L9.CNYQCURRACC |
| 345 | reg L12.logUSDCNY FEDRATE L12.CNYQCURRACC |
| 346 | reg logUSDINR FEDRATE INRQCURRACC |
| 347 | reg L3.logUSDINR FEDRATE L3.INRQCURRACC |
| 348 | reg L6.logUSDINR FEDRATE L6.INRQCURRACC |
| 349 | reg L9.logUSDINR FEDRATE L9.INRQCURRACC |
| 350 | reg L12.logUSDINR FEDRATE L12.INRQCURRACC |
| 351 | reg logUSDBRL FEDRATE BRLQCURRACC |
| 352 | reg L3.logUSDBRL FEDRATE L3.BRLQCURRACC |
| 353 | reg L6.logUSDBRL FEDRATE L6.BRLQCURRACC |
| 354 | reg L9.logUSDBRL FEDRATE L9.BRLQCURRACC |
| 355 | reg L12.logUSDBRL FEDRATE L12.BRLQCURRACC |
| 356 | reg logUSDMXN FEDRATE MXNQCURRACC |
| 357 | reg L3.logUSDMXN FEDRATE L3.MXNQCURRACC |
| 358 | reg L6.logUSDMXN FEDRATE L6.MXNQCURRACC |
| 359 | reg L9.logUSDMXN FEDRATE L9.MXNQCURRACC |
| 360 | reg L12.logUSDMXN FEDRATE L12.MXNQCURRACC |
| 361 | reg logUSDNGN FEDRATE NGNQCURRACC |
| 362 | reg L3.logUSDNGN FEDRATE L3.NGNQCURRACC |
| 363 | reg L6.logUSDNGN FEDRATE L6.NGNQCURRACC |
| 364 | reg L9.logUSDNGN FEDRATE L9.NGNQCURRACC |
| 365 | reg L12.logUSDNGN FEDRATE L12.NGNQCURRACC |
| 366 | reg logUSDZAR FEDRATE ZARQCURRACC |
| 367 | reg L3.logUSDZAR FEDRATE L3.ZARQCURRACC |
| 368 | reg L6.logUSDZAR FEDRATE L6.ZARQCURRACC |
| 369 | reg L9.logUSDZAR FEDRATE L9.ZARQCURRACC |
| 370 | reg L12.logUSDZAR FEDRATE L12.ZARQCURRACC |

# Appendix 3: STATA output

```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   16.0   Copyright 1985-2019 StataCorp LLC
  Statistics/Data Analysis            StataCorp
                                      4905 Lakeway Drive
                                      College Station, Texas 77845 USA
                                      800-STATA-PC        http://www.stata.com
                                      979-696-4600        stata@stata.com
                                      979-696-4601 (fax)

Single-user Stata license expires 10 Feb 2020:
       Serial number:  301609220714
         Licensed to:  Simon


Notes:
      1.  Unicode is supported; see help unicode_advice.

Checking for updates...
(contacting http://www.stata.com)

Update status
    Last check for updates:  19 Aug 2019
    New update available:    none         (as of 19 Aug 2019)
    Current update level:    01 Aug 2019  (what's new)

Possible actions

    Do nothing; all files are up to date.

Click to edit automatic update checking preferences

. doedit "C:\Users\simon\OneDrive\Bureau\em FINALE.do"

. do "C:\Users\simon\OneDrive\Bureau\em FINALE.do"

. clear

. import excel "C:\Users\simon\OneDrive\Bureau\1997-2019 DATA.xlsx", sheet("ALL
CCY") firstrow
(15 vars, 258 obs)

. ssc install fcstats
checking fcstats consistency and verifying not already installed...
all files already exist and are up to date.

. ssc install tsmktim
checking tsmktim consistency and verifying not already installed...
all files already exist and are up to date.

. sort DATEStata

. tsmktim Time, start (1997m11)
        time variable:  Time, 1997m11 to 2019m4
                delta:  1 month

. tsset Time
        time variable:  Time, 1997m11 to 2019m4
                delta:  1 month

. gen logUSDTRY = log( USDTRY)

. gen logUSDRUB = log( USDRUB)

. gen logUSDCNY = log( USDCNY)

. gen logUSDINR = log( USDINR)

. gen logUSDBRL = log( USDBRL)

. gen logUSDMXN = log( USDMXN)
```

```
. gen logUSDNGN = log( USDNGN)

. gen logUSDZAR = log( USDZAR)

. reg logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    201.84
       Model |  53.4819041         1  53.4819041   Prob > F        =    0.0000
    Residual |  67.8316057       256   .26496721   R-squared       =    0.4409
-------------+----------------------------------   Adj R-squared   =    0.4387
       Total |   121.31351       257  .472037003   Root MSE        =    .51475

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2154458   .0151646   -14.21   0.000     -.245309   -.1855825
       _cons |   .8550822    .045388    18.84   0.000     .7657009    .9444635
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    195.84
       Model |  50.5945123         1  50.5945123   Prob > F        =    0.0000
    Residual |  65.3625291       253  .258349917   R-squared       =    0.4363
-------------+----------------------------------   Adj R-squared   =    0.4341
       Total |  115.957041       254  .456523785   Root MSE        =    .50828

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2128291   .0152084   -13.99   0.000    -.2427803   -.1828779
       _cons |   .8253856   .0448692    18.40   0.000     .7370209    .9137504
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =    185.32
       Model |  47.2792454         1  47.2792454   Prob > F        =    0.0000
    Residual |   63.779533       250  .255118132   R-squared       =    0.4257
-------------+----------------------------------   Adj R-squared   =    0.4234
       Total |  111.058778       251  .442465252   Root MSE        =    .50509

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2090494   .0153562   -13.61   0.000    -.2392935   -.1788054
       _cons |   .7939416   .0446397    17.79   0.000     .7060237    .8818595
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =    177.30
       Model |  43.8007445         1  43.8007445   Prob > F        =    0.0000
    Residual |  61.0209708       247  .247048465   R-squared       =    0.4179
-------------+----------------------------------   Adj R-squared   =    0.4155
       Total |  104.821715       248  .422668207   Root MSE        =    .49704

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2047445   .0153767   -13.32   0.000    -.2350306   -.1744583
       _cons |   .7593013   .0439883    17.26   0.000     .6726612    .8459413
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =    161.82
       Model |  40.0756423         1  40.0756423   Prob > F        =    0.0000
    Residual |  60.4295125       244  .247661936   R-squared       =    0.3987
-------------+----------------------------------   Adj R-squared   =    0.3963
       Total |  100.505155       245  .410225122   Root MSE        =    .49766
```

```
------------------------------------------------------------------------------
L12.          |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1991927    .015659   -12.72   0.000    -.2300366   -.1683487
       _cons |   .7254715   .0440971    16.45   0.000      .638612    .8123309
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =     97.95
       Model |  15.3064317         1  15.3064317   Prob > F        =    0.0000
    Residual |  40.0055093       256  .156271521   R-squared       =    0.2767
-------------+----------------------------------   Adj R-squared   =    0.2739
       Total |   55.311941       257   .21522156   Root MSE        =    .39531

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1152581   .0116459    -9.90   0.000    -.1381922   -.0923241
       _cons |   3.708778   .0348566   106.40   0.000     3.640136     3.77742
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =     86.45
       Model |  13.6904616         1  13.6904616   Prob > F        =    0.0000
    Residual |  40.0657942       253  .158362823   R-squared       =    0.2547
-------------+----------------------------------   Adj R-squared   =    0.2517
       Total |  53.7562558       254  .211638802   Root MSE        =    .39795

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1107104   .0119071    -9.30   0.000      -.13416   -.0872607
       _cons |    3.68628   .0351294   104.93   0.000     3.617096    3.755463
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =     73.84
       Model |  11.8637901         1  11.8637901   Prob > F        =    0.0000
    Residual |  40.1658118       250  .160663247   R-squared       =    0.2280
-------------+----------------------------------   Adj R-squared   =    0.2249
       Total |  52.0296019       251  .207289251   Root MSE        =    .40083

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.104719   .0121863    -8.59   0.000    -.1287199   -.0807181
       _cons |   3.660609   .0354249   103.33   0.000     3.590839    3.730378
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =     63.61
       Model |  10.3078246         1  10.3078246   Prob > F        =    0.0000
    Residual |  40.0252835       247  .162045682   R-squared       =    0.2048
-------------+----------------------------------   Adj R-squared   =    0.2016
       Total |   50.333108       248  .202956081   Root MSE        =    .40255

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0993242   .0124535    -7.98   0.000    -.1238527   -.0747956
       _cons |   3.636427   .0356258   102.07   0.000     3.566258    3.706596
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
```

```
-------------+----------------------------------   F(1, 244)       =     55.67
       Model |  9.07584694         1  9.07584694   Prob > F        =    0.0000
    Residual |  39.7780672       244  .163024866   R-squared       =    0.1858
-------------+----------------------------------   Adj R-squared   =    0.1824
       Total |  48.8539142       245  .199403731   Root MSE        =    .40376

------------------------------------------------------------------------------
L12.         |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0947931   .0127046    -7.46   0.000    -.1198177   -.0697685
       _cons |    3.61496   .0357772   101.04   0.000     3.544489    3.685432
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    289.71
       Model |  1.88512779         1  1.88512779   Prob > F        =    0.0000
    Residual |  1.66579253       256  .006507002   R-squared       =    0.5309
-------------+----------------------------------   Adj R-squared   =    0.5291
       Total |  3.55092032       257  .013816811   Root MSE        =    .08067

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0404487   .0023764    17.02   0.000     .0357689    .0451286
       _cons |   1.896745   .0071127   266.67   0.000     1.882739    1.910752
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    295.40
       Model |  1.90269192         1  1.90269192   Prob > F        =    0.0000
    Residual |  1.62958687       253  .006441055   R-squared       =    0.5387
-------------+----------------------------------   Adj R-squared   =    0.5368
       Total |  3.53227879       254  .013906609   Root MSE        =    .08026

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0412728   .0024014    17.19   0.000     .0365435     .046002
       _cons |   1.897575   .0070847   267.84   0.000     1.883622    1.911527
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =    291.85
       Model |  1.89628596         1  1.89628596   Prob > F        =    0.0000
    Residual |   1.6243706       250  .006497482   R-squared       =    0.5386
-------------+----------------------------------   Adj R-squared   =    0.5368
       Total |  3.52065656       251   .01402652   Root MSE        =    .08061

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0418664   .0024507    17.08   0.000     .0370398     .046693
       _cons |   1.898747    .007124   266.53   0.000     1.884717    1.912778
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =    280.38
       Model |  1.86693754         1  1.86693754   Prob > F        =    0.0000
    Residual |  1.64470023       247  .006658705   R-squared       =    0.5316
-------------+----------------------------------   Adj R-squared   =    0.5297
       Total |  3.51163777       248   .01415983   Root MSE        =     .0816

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0422704   .0025244    16.74   0.000     .0372982    .0472426
       _cons |    1.90035   .0072217   263.14   0.000     1.886126    1.914574
------------------------------------------------------------------------------
```

```
. reg L12.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =    267.72
       Model |  1.82170686         1  1.82170686   Prob > F        =    0.0000
    Residual |  1.66031186       244  .006804557   R-squared       =    0.5232
-------------+----------------------------------   Adj R-squared   =    0.5212
       Total |  3.48201872       245  .014212321   Root MSE        =    .08249

------------------------------------------------------------------------------
L12.         |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .042469   .0025956    16.36   0.000     .0373564    .0475816
       _cons |   1.902869   .0073094   260.33   0.000     1.888471    1.917266
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    116.85
       Model |  2.42987569         1  2.42987569   Prob > F        =    0.0000
    Residual |   5.3234058       256  .020794554   R-squared       =    0.3134
-------------+----------------------------------   Adj R-squared   =    0.3107
       Total |  7.75328149       257   .03016841   Root MSE        =     .1442

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0459226   .0042482   -10.81   0.000    -.0542886   -.0375567
       _cons |   4.017501   .0127151   315.96   0.000     3.992461     4.04254
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    104.09
       Model |  2.16613147         1  2.16613147   Prob > F        =    0.0000
    Residual |   5.2649661       253  .020810143   R-squared       =    0.2915
-------------+----------------------------------   Adj R-squared   =    0.2887
       Total |  7.43109758       254   .02925629   Root MSE        =    .14426

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0440374   .0043164   -10.20   0.000     -.052538   -.0355368
       _cons |   4.007909   .0127345   314.73   0.000      3.98283    4.032988
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =     91.13
       Model |  1.89449816         1  1.89449816   Prob > F        =    0.0000
    Residual |  5.19725944       250  .020789038   R-squared       =    0.2671
-------------+----------------------------------   Adj R-squared   =    0.2642
       Total |   7.0917576       251  .028254014   Root MSE        =    .14418

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0418467   .0043836    -9.55   0.000    -.0504802   -.0332132
       _cons |   3.997681   .0127429   313.72   0.000     3.972583    4.022778
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =     79.34
       Model |  1.62239571         1  1.62239571   Prob > F        =    0.0000
    Residual |  5.05103778       247  .020449546   R-squared       =    0.2431
-------------+----------------------------------   Adj R-squared   =    0.2400
       Total |  6.67343348       248  .026909006   Root MSE        =      .143

------------------------------------------------------------------------------
```

```
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0394049    .004424    -8.91   0.000    -.0481184   -.0306913
       _cons |   3.986577   .0126558   315.00   0.000      3.96165    4.011504
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =     67.15
       Model |  1.37570676         1  1.37570676   Prob > F        =    0.0000
    Residual |  4.99888836       244  .020487247   R-squared       =    0.2158
-------------+----------------------------------   Adj R-squared   =    0.2126
       Total |  6.37459511       245  .026018756   Root MSE        =    .14313

------------------------------------------------------------------------------
L12.          |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0369059   .0045038    -8.19   0.000    -.0457771   -.0280347
       _cons |   3.976241    .012683   313.51   0.000     3.951259    4.001223
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =     48.52
       Model |  3.88203366         1  3.88203366   Prob > F        =    0.0000
    Residual |  20.4840647       256  .080015878   R-squared       =    0.1593
-------------+----------------------------------   Adj R-squared   =    0.1560
       Total |  24.3660984       257  .094809721   Root MSE        =    .28287

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0580449   .0083334    -6.97   0.000    -.0744557   -.0416342
       _cons |   .9524067   .0249421    38.18   0.000      .903289    1.001525
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =     39.75
       Model |  3.19561454         1  3.19561454   Prob > F        =    0.0000
    Residual |  20.3400938       253  .080395628   R-squared       =    0.1358
-------------+----------------------------------   Adj R-squared   =    0.1324
       Total |  23.5357084       254  .092660269   Root MSE        =    .28354

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.053488   .0084839    -6.30   0.000    -.0701961   -.0367799
       _cons |   .9344554     .02503    37.33   0.000     .8851617     .983749
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =     29.56
       Model |  2.40486546         1  2.40486546   Prob > F        =    0.0000
    Residual |  20.3379931       250  .081351972   R-squared       =    0.1057
-------------+----------------------------------   Adj R-squared   =    0.1022
       Total |  22.7428585       251  .090608998   Root MSE        =    .28522

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0471476   .0086716    -5.44   0.000    -.0642262   -.0300689
       _cons |   .9132874   .0252078    36.23   0.000     .8636407    .9629341
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =     20.76
       Model |  1.69046249         1  1.69046249   Prob > F        =    0.0000
    Residual |  20.1167223       247   .08144422   R-squared       =    0.0775
```

```
-------------+----------------------------------   Adj R-squared   =    0.0738
       Total |  21.8071848       248  .087932197   Root MSE        =    .28538

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.040223   .0088288    -4.56   0.000    -.0576123   -.0228336
       _cons |   .8908056   .0252567    35.27   0.000     .8410596    .9405515
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =     13.67
       Model |  1.11345078         1  1.11345078   Prob > F        =    0.0003
    Residual |  19.8696725       244  .081433084   R-squared       =    0.0531
-------------+----------------------------------   Adj R-squared   =    0.0492
       Total |  20.9831233       245  .085645401   Root MSE        =    .28536

------------------------------------------------------------------------------
L12.          |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0332023   .0089791    -3.70   0.000    -.0508888   -.0155159
       _cons |   .8690683    .025286    34.37   0.000     .8192616     .918875
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    146.93
       Model |  5.29555337         1  5.29555337   Prob > F        =    0.0000
    Residual |  9.22671967       256  .036041874   R-squared       =    0.3647
-------------+----------------------------------   Adj R-squared   =    0.3622
       Total |   14.522273       257  .056506899   Root MSE        =    .18985

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0677938   .0055929   -12.12   0.000    -.0788078   -.0567799
       _cons |   2.652231   .0167397   158.44   0.000     2.619265    2.685196
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    124.86
       Model |  4.59801139         1  4.59801139   Prob > F        =    0.0000
    Residual |  9.31671444       253  .036824958   R-squared       =    0.3304
-------------+----------------------------------   Adj R-squared   =    0.3278
       Total |  13.9147258       254  .054782385   Root MSE        =     .1919

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    -.06416   .0057418   -11.17   0.000    -.0754679   -.0528521
       _cons |   2.636695   .0169401   155.65   0.000     2.603333    2.670056
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =    104.12
       Model |  3.88712657         1  3.88712657   Prob > F        =    0.0000
    Residual |  9.33372624       250  .037334905   R-squared       =    0.2940
-------------+----------------------------------   Adj R-squared   =    0.2912
       Total |  13.2208528       251   .05267272   Root MSE        =    .19322

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0599416   .0058745   -10.20   0.000    -.0715114   -.0483717
       _cons |   2.619813   .0170769   153.41   0.000      2.58618    2.653446
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE
```

```
      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =     86.75
       Model |  3.26402599         1  3.26402599   Prob > F        =    0.0000
    Residual |  9.29359504       247  .037625891   R-squared       =    0.2599
-------------+----------------------------------   Adj R-squared   =    0.2569
       Total |   12.557621       248  .050635569   Root MSE        =    .19397

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0558918   .0060009    -9.31   0.000    -.0677112   -.0440724
       _cons |    2.60359   .0171668   151.66   0.000     2.569778    2.637402
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =     71.88
       Model |  2.69948477         1  2.69948477   Prob > F        =    0.0000
    Residual |  9.16324716       244  .037554292   R-squared       =    0.2276
-------------+----------------------------------   Adj R-squared   =    0.2244
       Total |  11.8627319       245  .048419314   Root MSE        =    .19379

------------------------------------------------------------------------------
L12.          |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.051698   .0060977    -8.48   0.000    -.0637087   -.0396872
       _cons |   2.587263   .0171716   150.67   0.000      2.55344    2.621086
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    114.51
       Model |  25.7737447         1  25.7737447   Prob > F        =    0.0000
    Residual |  57.6221038       256  .225086343   R-squared       =    0.3091
-------------+----------------------------------   Adj R-squared   =    0.3064
       Total |  83.3958485       257  .324497465   Root MSE        =    .47443

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1495627   .0139768   -10.70   0.000    -.1770869   -.1220385
       _cons |   5.262589    .041833   125.80   0.000     5.180208     5.34497
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    100.79
       Model |  22.9893149         1  22.9893149   Prob > F        =    0.0000
    Residual |  57.7091992       253  .228099602   R-squared       =    0.2849
-------------+----------------------------------   Adj R-squared   =    0.2821
       Total |   80.698514       254  .317710685   Root MSE        =     .4776

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1434638   .0142903   -10.04   0.000    -.1716069   -.1153207
       _cons |   5.232821   .0421606   124.12   0.000     5.149791    5.315852
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =     89.35
       Model |  20.5083983         1  20.5083983   Prob > F        =    0.0000
    Residual |  57.3815744       250  .229526298   R-squared       =    0.2633
-------------+----------------------------------   Adj R-squared   =    0.2604
       Total |  77.8899727       251  .310318616   Root MSE        =    .47909

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1376828   .0145657    -9.45   0.000    -.1663698   -.1089957
```

```
       _cons |   5.203776   .0423416   122.90   0.000     5.120384    5.287168
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =     81.12
       Model |   18.549855         1   18.549855   Prob > F        =    0.0000
    Residual |  56.4822095       247  .228672913   R-squared       =    0.2472
-------------+----------------------------------   Adj R-squared   =    0.2442
       Total |  75.0320645       248  .302548647   Root MSE        =     .4782

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1332422   .0147938    -9.01   0.000    -.1623802   -.1041041
       _cons |   5.177428   .0423208   122.34   0.000     5.094073    5.260784
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =     76.32
       Model |  17.1834069         1  17.1834069   Prob > F        =    0.0000
    Residual |  54.9388605       244  .225159264   R-squared       =    0.2383
-------------+----------------------------------   Adj R-squared   =    0.2351
       Total |  72.1222674       245  .294376602   Root MSE        =    .47451

------------------------------------------------------------------------------
L12.         |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1304331   .0149306    -8.74   0.000    -.1598424   -.1010237
       _cons |   5.154505    .042046   122.59   0.000     5.071686    5.237325
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       258
-------------+----------------------------------   F(1, 256)       =    101.15
       Model |  6.39842196         1  6.39842196   Prob > F        =    0.0000
    Residual |  16.1939445       256  .063257596   R-squared       =    0.2832
-------------+----------------------------------   Adj R-squared   =    0.2804
       Total |  22.5923665       257  .087908041   Root MSE        =    .25151

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0745197   .0074095   -10.06   0.000    -.0891111   -.0599283
       _cons |   2.298223   .0221769   103.63   0.000     2.254551    2.341896
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       255
-------------+----------------------------------   F(1, 253)       =    108.70
       Model |   6.5433956         1   6.5433956   Prob > F        =    0.0000
    Residual |  15.2292138       253  .060194521   R-squared       =    0.3005
-------------+----------------------------------   Adj R-squared   =    0.2978
       Total |  21.7726094       254  .085718935   Root MSE        =    .24535

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0765387    .007341   -10.43   0.000     -.090996   -.0620813
       _cons |   2.293322   .0216582   105.89   0.000     2.250669    2.335976
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       252
-------------+----------------------------------   F(1, 250)       =    111.48
       Model |  6.48714582         1  6.48714582   Prob > F        =    0.0000
    Residual |   14.548408       250  .058193632   R-squared       =    0.3084
-------------+----------------------------------   Adj R-squared   =    0.3056
       Total |  21.0355538       251  .083806987   Root MSE        =    .24123
```

```
------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0774356   .0073342   -10.56   0.000    -.0918802   -.0629909
       _cons |   2.286199   .0213201   107.23   0.000     2.244209    2.328189
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       249
-------------+----------------------------------   F(1, 247)       =    115.71
       Model |  6.41919551         1  6.41919551   Prob > F        =    0.0000
    Residual |   13.702369       247  .055475178   R-squared       =    0.3190
-------------+----------------------------------   Adj R-squared   =    0.3163
       Total |  20.1215645       248  .081135341   Root MSE        =    .23553

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0783812   .0072865   -10.76   0.000    -.0927328   -.0640295
       _cons |   2.278224   .0208447   109.30   0.000     2.237168     2.31928
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       246
-------------+----------------------------------   F(1, 244)       =    113.03
       Model |  6.16522167         1  6.16522167   Prob > F        =    0.0000
    Residual |  13.3093419       244  .054546483   R-squared       =    0.3166
-------------+----------------------------------   Adj R-squared   =    0.3138
       Total |  19.4745636       245  .079488015   Root MSE        =    .23355

------------------------------------------------------------------------------
L12.          |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0781281   .0073488   -10.63   0.000    -.0926033    -.063653
       _cons |   2.268883   .0206949   109.63   0.000     2.228119    2.309646
------------------------------------------------------------------------------

.
. *1997-2007
. clear

. import excel "C:\Users\simon\OneDrive\Bureau\1997-2007 DATA.xlsx", sheet("ALL
CCY") firstrow
(13 vars, 122 obs)

. ssc install fcstats
checking fcstats consistency and verifying not already installed...
all files already exist and are up to date.

. ssc install tsmktim
checking tsmktim consistency and verifying not already installed...
all files already exist and are up to date.

. sort DATEStata

. tsmktim Time, start (1997m11)
        time variable:  Time, 1997m11 to 2007m12
                delta:  1 month

. tsset Time
        time variable:  Time, 1997m11 to 2007m12
                delta:  1 month

. gen logUSDTRY = log( USDTRY)

. gen logUSDRUB = log( USDRUB)

. gen logUSDCNY = log( USDCNY)

. gen logUSDINR = log( USDINR)

. gen logUSDBRL = log( USDBRL)
```

```
. gen logUSDMXN = log( USDMXN)

. gen logUSDNGN = log( USDNGN)

. gen logUSDZAR = log( USDZAR)

. reg logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     71.16
       Model |  17.8578189         1  17.8578189   Prob > F        =    0.0000
    Residual |  30.1162792       120  .250968993   R-squared       =    0.3722
-------------+----------------------------------   Adj R-squared   =    0.3670
       Total |  47.9740981       121  .396480149   Root MSE        =    .50097

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2097654   .0248674    -8.44   0.000    -.2590011   -.1605298
       _cons |   .7362257   .1049733     7.01   0.000     .5283859    .9440654
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     70.51
       Model |  17.9834362         1  17.9834362   Prob > F        =    0.0000
    Residual |  29.8387698       117  .255032221   R-squared       =    0.3760
-------------+----------------------------------   Adj R-squared   =    0.3707
       Total |   47.822206       118  .405272932   Root MSE        =    .50501

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2129017   .0253536    -8.40   0.000    -.2631132   -.1626901
       _cons |   .7333331   .1060582     6.91   0.000     .5232903    .9433759
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     66.00
       Model |  17.4327043         1  17.4327043   Prob > F        =    0.0000
    Residual |  30.1094797       114  .264118243   R-squared       =    0.3667
-------------+----------------------------------   Adj R-squared   =    0.3611
       Total |   47.542184       115  .413410296   Root MSE        =    .51392

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2120537   .0261013    -8.12   0.000    -.2637602   -.1603471
       _cons |   .7129706   .1081701     6.59   0.000     .4986865    .9272546
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     57.47
       Model |  16.0803085         1  16.0803085   Prob > F        =    0.0000
    Residual |  31.0585588       111  .279806836   R-squared       =    0.3411
-------------+----------------------------------   Adj R-squared   =    0.3352
       Total |  47.1388674       112  .420882744   Root MSE        =    .52897

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2063683   .0272223    -7.58   0.000    -.2603112   -.1524255
       _cons |   .6723119   .1116406     6.02   0.000     .4510887    .8935352
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =     48.30
       Model |  14.3930162         1  14.3930162   Prob > F        =    0.0000
    Residual |  32.1855664       108  .298014504   R-squared       =    0.3090
```

```
-------------+----------------------------------   Adj R-squared   =    0.3026
       Total |  46.5785827       109  .427326446   Root MSE        =    .54591

------------------------------------------------------------------------------
L12.         |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1976392   .0284391    -6.95   0.000    -.2540104   -.1412679
       _cons |   .6194479   .1154772     5.36   0.000      .390552    .8483438
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     23.33
       Model |  3.48549529         1  3.48549529   Prob > F        =    0.0000
    Residual |  17.9252975       120  .149377479   R-squared       =    0.1628
-------------+----------------------------------   Adj R-squared   =    0.1558
       Total |  21.4107928       121  .176948701   Root MSE        =    .38649

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0926727    .019185    -4.83   0.000    -.1306577   -.0546877
       _cons |   3.553699   .0809862    43.88   0.000     3.393352    3.714047
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     21.71
       Model |   3.3512991         1   3.3512991   Prob > F        =    0.0000
    Residual |  18.0594684       117  .154354431   R-squared       =    0.1565
-------------+----------------------------------   Adj R-squared   =    0.1493
       Total |  21.4107675       118  .181447183   Root MSE        =    .39288

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0919072   .0197243    -4.66   0.000    -.1309702   -.0528442
       _cons |   3.546769     .08251    42.99   0.000     3.383362    3.710175
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     18.50
       Model |  2.98837352         1  2.98837352   Prob > F        =    0.0000
    Residual |  18.4186403       114   .16156702   R-squared       =    0.1396
-------------+----------------------------------   Adj R-squared   =    0.1321
       Total |  21.4070138       115  .186147946   Root MSE        =    .40195

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0877972   .0204145    -4.30   0.000    -.1282383   -.0473562
       _cons |   3.526574   .0846027    41.68   0.000     3.358977    3.694171
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     16.03
       Model |  2.69988576         1  2.69988576   Prob > F        =    0.0001
    Residual |  18.6996167       111  .168465016   R-squared       =    0.1262
-------------+----------------------------------   Adj R-squared   =    0.1183
       Total |  21.3995025       112  .191066987   Root MSE        =    .41044

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0845607   .0211228    -4.00   0.000    -.1264169   -.0427045
       _cons |   3.509163   .0866259    40.51   0.000     3.337508    3.680818
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE
```

```
      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =     15.12
       Model |  2.62668782         1  2.62668782   Prob > F        =    0.0002
    Residual |   18.758946       108  .173693944   R-squared       =    0.1228
-------------+----------------------------------   Adj R-squared   =    0.1147
       Total |  21.3856338       109  .196198475   Root MSE        =    .41677

------------------------------------------------------------------------------
L12.         |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0844309   .0217115    -3.89   0.000    -.1274668    -.041395
       _cons |   3.502942   .0881597    39.73   0.000     3.328194    3.677689
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     10.27
       Model |  .007655285         1  .007655285   Prob > F        =    0.0017
    Residual |  .089470337       120  .000745586   R-squared       =    0.0788
-------------+----------------------------------   Adj R-squared   =    0.0711
       Total |  .097125622       121  .000802691   Root MSE        =    .02731

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0043431   .0013554    -3.20   0.002    -.0070267   -.0016595
       _cons |   2.116432   .0057216   369.90   0.000     2.105103     2.12776
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     11.44
       Model |  .005874252         1  .005874252   Prob > F        =    0.0010
    Residual |   .06005467       117  .000513288   R-squared       =    0.0891
-------------+----------------------------------   Adj R-squared   =    0.0813
       Total |  .065928922       118   .00055872   Root MSE        =    .02266

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0038479   .0011374    -3.38   0.001    -.0061005   -.0015952
       _cons |   2.116909    .004758   444.91   0.000     2.107486    2.126332
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     12.00
       Model |  .004310817         1  .004310817   Prob > F        =    0.0008
    Residual |  .040968852       114  .000359376   R-squared       =    0.0952
-------------+----------------------------------   Adj R-squared   =    0.0873
       Total |  .045279669       115  .000393736   Root MSE        =    .01896

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0033346   .0009628    -3.46   0.001    -.0052419   -.0014273
       _cons |   2.116946   .0039901   530.55   0.000     2.109042     2.12485
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     12.11
       Model |  .002994772         1  .002994772   Prob > F        =    0.0007
    Residual |  .027459767       111  .000247385   R-squared       =    0.0983
-------------+----------------------------------   Adj R-squared   =    0.0902
       Total |  .030454539       112  .000271916   Root MSE        =    .01573

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0028163   .0008094    -3.48   0.001    -.0044202   -.0012123
```

```
       _cons |   2.116721   .0033196   637.65   0.000     2.110143    2.123299
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =     11.46
       Model |  .001896589         1  .001896589   Prob > F        =    0.0010
    Residual |  .017877605       108  .000165533   R-squared       =    0.0959
-------------+----------------------------------   Adj R-squared   =    0.0875
       Total |  .019774194       109  .000181415   Root MSE        =    .01287

------------------------------------------------------------------------------
L12.         |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0022687   .0006703    -3.38   0.001    -.0035973   -.0009402
       _cons |   2.116209   .0027216   777.57   0.000     2.110815    2.121604
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     42.92
       Model |  .110832769         1  .110832769   Prob > F        =    0.0000
    Residual |  .309886334       120  .002582386   R-squared       =    0.2634
-------------+----------------------------------   Adj R-squared   =    0.2573
       Total |  .420719103       121  .003477017   Root MSE        =    .05082

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0165255   .0025225    -6.55   0.000    -.0215198   -.0115311
       _cons |   3.860538   .0106483   362.55   0.000     3.839455    3.881621
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     60.27
       Model |  .127292913         1  .127292913   Prob > F        =    0.0000
    Residual |  .247090708       117  .002111886   R-squared       =    0.3400
-------------+----------------------------------   Adj R-squared   =    0.3344
       Total |  .374383621       118  .003172743   Root MSE        =    .04596

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.017912   .0023072    -7.76   0.000    -.0224812   -.0133428
       _cons |   3.868134   .0096512   400.79   0.000      3.84902    3.887247
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     85.28
       Model |  .146238209         1  .146238209   Prob > F        =    0.0000
    Residual |  .195497998       114  .001714895   R-squared       =    0.4279
-------------+----------------------------------   Adj R-squared   =    0.4229
       Total |  .341736207       115  .002971619   Root MSE        =    .04141

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.019422   .0021032    -9.23   0.000    -.0235884   -.0152556
       _cons |   3.875603   .0087162   444.64   0.000     3.858337     3.89287
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =    111.72
       Model |  .157779842         1  .157779842   Prob > F        =    0.0000
    Residual |  .156756241       111  .001412218   R-squared       =    0.5016
-------------+----------------------------------   Adj R-squared   =    0.4971
       Total |  .314536083       112  .002808358   Root MSE        =    .03758
```

```
------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0204419    .001934   -10.57   0.000    -.0242742   -.0166097
       _cons |   3.880904   .0079313   489.32   0.000     3.865188     3.89662
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =    131.06
       Model |  .171505392         1  .171505392   Prob > F        =    0.0000
    Residual |  .141324259       108  .001308558   R-squared       =    0.5482
-------------+----------------------------------   Adj R-squared   =    0.5441
       Total |  .312829651       109  .002869997   Root MSE        =    .03617

------------------------------------------------------------------------------
L12.         |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0215743   .0018845   -11.45   0.000    -.0253096   -.0178389
       _cons |    3.88466    .007652   507.67   0.000     3.869492    3.899827
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =    194.97
       Model |  6.74275143         1  6.74275143   Prob > F        =    0.0000
    Residual |  4.14996207       120  .034583017   R-squared       =    0.6190
-------------+----------------------------------   Adj R-squared   =    0.6158
       Total |  10.8927135       121  .090022426   Root MSE        =    .18597

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1288957   .0092311   -13.96   0.000    -.1471725   -.1106188
       _cons |   1.258759   .0389673    32.30   0.000     1.181607    1.335912
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =    176.30
       Model |  6.47501615         1  6.47501615   Prob > F        =    0.0000
    Residual |  4.29719505       117  .036728163   R-squared       =    0.6011
-------------+----------------------------------   Adj R-squared   =    0.5977
       Total |  10.7722112       118  .091289925   Root MSE        =    .19165

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1277507   .0096215   -13.28   0.000    -.1468055   -.1086958
       _cons |    1.25384   .0402482    31.15   0.000     1.174131     1.33355
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =    134.98
       Model |  5.80814721         1  5.80814721   Prob > F        =    0.0000
    Residual |  4.90528625       114  .043028827   R-squared       =    0.5421
-------------+----------------------------------   Adj R-squared   =    0.5381
       Total |  10.7134335       115  .093160291   Root MSE        =    .20743

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1224002   .0105352   -11.62   0.000    -.1432704   -.1015301
       _cons |   1.231773   .0436604    28.21   0.000     1.145282    1.318263
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     93.76
```

```
       Model |  4.89001603         1  4.89001603   Prob > F        =    0.0000
    Residual |  5.78905633       111  .052153661   R-squared       =    0.4579
-------------+----------------------------------   Adj R-squared   =    0.4530
       Total |  10.6790724       112   .09534886   Root MSE        =    .22837

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1138023   .0117527    -9.68   0.000    -.1370911   -.0905135
       _cons |   1.197047   .0481987    24.84   0.000     1.101538    1.292556
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =     64.88
       Model |  4.00589478         1  4.00589478   Prob > F        =    0.0000
    Residual |  6.66837078       108  .061744174   R-squared       =    0.3753
-------------+----------------------------------   Adj R-squared   =    0.3695
       Total |  10.6742656       109  .097929042   Root MSE        =    .24848

------------------------------------------------------------------------------
L12.          |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.104267   .0129448    -8.05   0.000    -.1299258   -.0786082
       _cons |     1.1582   .0525625    22.03   0.000     1.054012    1.262388
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     26.15
       Model |  .166396376         1  .166396376   Prob > F        =    0.0000
    Residual |  .763618164       120  .006363485   R-squared       =    0.1789
-------------+----------------------------------   Adj R-squared   =    0.1721
       Total |   .93001454       121  .007686071   Root MSE        =    .07977

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0202484   .0039597    -5.11   0.000    -.0280885   -.0124084
       _cons |   2.394094   .0167154   143.23   0.000     2.360998    2.427189
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     16.37
       Model |  .112509493         1  .112509493   Prob > F        =    0.0001
    Residual |  .804241719       117  .006873861   R-squared       =    0.1227
-------------+----------------------------------   Adj R-squared   =    0.1152
       Total |  .916751212       118  .007769078   Root MSE        =    .08291

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0168398   .0041624    -4.05   0.000    -.0250832   -.0085964
       _cons |   2.378755   .0174119   136.62   0.000     2.344272    2.413239
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =      8.21
       Model |  .060225595         1  .060225595   Prob > F        =    0.0050
    Residual |   .83627094       114  .00733571    R-squared       =    0.0672
-------------+----------------------------------   Adj R-squared   =    0.0590
       Total |  .896496535       115  .007795622   Root MSE        =    .08565

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0124639     .00435    -2.87   0.005    -.0210811   -.0038467
       _cons |   2.359636   .0180272   130.89   0.000     2.323925    2.395348
------------------------------------------------------------------------------
```

```
. reg L9.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =      2.77
       Model |  .021464538         1  .021464538   Prob > F        =    0.0988
    Residual |  .859804848       111   .00774599   R-squared       =    0.0244
-------------+----------------------------------   Adj R-squared   =    0.0156
       Total |  .881269386       112  .007868477   Root MSE        =    .08801

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0075397   .0045293    -1.66   0.099    -.0165149    .0014354
       _cons |   2.339107   .0185751   125.93   0.000     2.302299    2.375915
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =      0.23
       Model |  .001830012         1  .001830012   Prob > F        =    0.6311
    Residual |  .852372972       108  .007892342   R-squared       =    0.0021
-------------+----------------------------------   Adj R-squared   =   -0.0071
       Total |  .854202985       109  .007836725   Root MSE        =    .08884

------------------------------------------------------------------------------
L12.         |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0022286   .0046281    -0.48   0.631    -.0114022    .0069451
       _cons |   2.316953   .0187923   123.29   0.000     2.279704    2.354203
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     23.89
       Model |  6.20147498         1  6.20147498   Prob > F        =    0.0000
    Residual |  31.1442546       120  .259535455   R-squared       =    0.1661
-------------+----------------------------------   Adj R-squared   =    0.1591
       Total |  37.3457296       121  .308642393   Root MSE        =    .50945

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1236139   .0252882    -4.89   0.000    -.1736828    -.073545
       _cons |   5.065432   .1067498    47.45   0.000     4.854075    5.276789
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     20.16
       Model |  5.47367687         1  5.47367687   Prob > F        =    0.0000
    Residual |  31.7641582       117  .271488532   R-squared       =    0.1470
-------------+----------------------------------   Adj R-squared   =    0.1397
       Total |  37.2378351       118  .315574873   Root MSE        =    .52105

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1174579   .0261588    -4.49   0.000    -.1692641   -.0656517
       _cons |   5.032191   .1094265    45.99   0.000     4.815477    5.248904
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     17.14
       Model |   4.8420493         1   4.8420493   Prob > F        =    0.0001
    Residual |  32.2072074       114  .282519363   R-squared       =    0.1307
-------------+----------------------------------   Adj R-squared   =    0.1231
       Total |  37.0492567       115   .32216745   Root MSE        =    .53153

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
```

```
-------------+----------------------------------------------------------------
     FEDRATE |  -.1117578   .0269953    -4.14   0.000    -.1652352   -.0582804
       _cons |   4.999377   .1118747    44.69   0.000     4.777754    5.221
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     15.17
       Model |  4.42754631         1  4.42754631   Prob > F        =    0.0002
    Residual |  32.4070685       111  .291955572   R-squared       =    0.1202
-------------+----------------------------------   Adj R-squared   =    0.1123
       Total |  36.8346148       112  .328880489   Root MSE        =    .54033

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1082873    .027807    -3.89   0.000    -.1633887   -.0531858
       _cons |   4.974255   .1140384    43.62   0.000      4.74828    5.200229
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =     14.40
       Model |  4.30614109         1  4.30614109   Prob > F        =    0.0002
    Residual |  32.2931054       108  .299010235   R-squared       =    0.1177
-------------+----------------------------------   Adj R-squared   =    0.1095
       Total |  36.5992465       109  .335772904   Root MSE        =    .54682

------------------------------------------------------------------------------
L12.         |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1081039   .0284866    -3.79   0.000    -.1645692   -.0516385
       _cons |   4.961016     .11567    42.89   0.000     4.731738    5.190294
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       122
-------------+----------------------------------   F(1, 120)       =     23.02
       Model |  .710791278         1  .710791278   Prob > F        =    0.0000
    Residual |  3.70561207       120  .030880101   R-squared       =    0.1609
-------------+----------------------------------   Adj R-squared   =    0.1540
       Total |  4.41640335       121  .036499201   Root MSE        =    .17573

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0418495   .0087229    -4.80   0.000    -.0591202   -.0245789
       _cons |   2.105358   .0368221    57.18   0.000     2.032453    2.178263
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       119
-------------+----------------------------------   F(1, 117)       =     40.87
       Model |  1.14160188         1  1.14160188   Prob > F        =    0.0000
    Residual |  3.26791717       117  .027930916   R-squared       =    0.2589
-------------+----------------------------------   Adj R-squared   =    0.2526
       Total |  4.40951905       118  .037368806   Root MSE        =    .16713

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0536414   .0083905    -6.39   0.000    -.0702583   -.0370245
       _cons |   2.148957   .0350986    61.23   0.000     2.079446    2.218468
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       116
-------------+----------------------------------   F(1, 114)       =     64.60
       Model |  1.59455615         1  1.59455615   Prob > F        =    0.0000
    Residual |  2.81383359       114  .024682751   R-squared       =    0.3617
-------------+----------------------------------   Adj R-squared   =    0.3561
```

```
       Total |  4.40838974       115  .038333824   Root MSE        =    .15711

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0641333   .0079792    -8.04   0.000      -.07994   -.0483265
       _cons |   2.185441   .0330678    66.09   0.000     2.119934    2.250948
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       113
-------------+----------------------------------   F(1, 111)       =     95.56
       Model |  2.03921214         1  2.03921214   Prob > F        =    0.0000
    Residual |  2.36879084       111  .021340458   R-squared       =    0.4626
-------------+----------------------------------   Adj R-squared   =    0.4578
       Total |  4.40800297       112  .039357169   Root MSE        =    .14608

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0734898   .0075179    -9.78   0.000    -.0883871   -.0585925
       _cons |   2.216431   .0308315    71.89   0.000     2.155337    2.277526
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       110
-------------+----------------------------------   F(1, 108)       =    137.88
       Model |   2.4699826         1   2.4699826   Prob > F        =    0.0000
    Residual |  1.93471367       108  .017914015   R-squared       =    0.5608
-------------+----------------------------------   Adj R-squared   =    0.5567
       Total |  4.40469627       109  .040410058   Root MSE        =    .13384

------------------------------------------------------------------------------
L12.         |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0818736   .0069726   -11.74   0.000    -.0956945   -.0680528
       _cons |   2.242511   .0283122    79.21   0.000     2.186391    2.298631
------------------------------------------------------------------------------

.
. *2008-2019
. clear

. import excel "C:\Users\simon\OneDrive\Bureau\2008-2019 DATA.xlsx", sheet("ALL
CCY") firstrow
(13 vars, 136 obs)

. ssc install fcstats
checking fcstats consistency and verifying not already installed...
all files already exist and are up to date.

. ssc install tsmktim
checking tsmktim consistency and verifying not already installed...
all files already exist and are up to date.

. sort DATEStata

. tsmktim Time, start (2008m1)
        time variable:  Time, 2008m1 to 2019m4
                delta:  1 month

. tsset Time
        time variable:  Time, 2008m1 to 2019m4
                delta:  1 month

. gen logUSDTRY = log( USDTRY)

. gen logUSDRUB = log( USDRUB)

. gen logUSDCNY = log( USDCNY)

. gen logUSDINR = log( USDINR)
```

```
. gen logUSDBRL = log( USDBRL)

. gen logUSDMXN = log( USDMXN)

. gen logUSDNGN = log( USDNGN)

. gen logUSDZAR = log( USDZAR)

. reg logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =     20.82
       Model |  3.25370653         1  3.25370653   Prob > F        =    0.0000
    Residual |  20.9443652       134  .156301233   R-squared       =    0.1345
-------------+----------------------------------   Adj R-squared   =    0.1280
       Total |  24.1980717       135  .179244975   Root MSE        =    .39535

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .193033   .0423081     4.56   0.000     .1093549     .276711
       _cons |   .6948747   .0424976    16.35   0.000     .6108219    .7789275
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     58.49
       Model |  6.67575981         1  6.67575981   Prob > F        =    0.0000
    Residual |  14.9516425       131  .114134676   R-squared       =    0.3087
-------------+----------------------------------   Adj R-squared   =    0.3034
       Total |  21.6274023       132  .163843957   Root MSE        =    .33784

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3177932   .0415531     7.65   0.000     .2355913    .3999951
       _cons |    .617109   .0370971    16.63   0.000     .5437222    .6904959
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =    112.25
       Model |  9.03927943         1  9.03927943   Prob > F        =    0.0000
    Residual |  10.3079776       128  .080531075   R-squared       =    0.4672
-------------+----------------------------------   Adj R-squared   =    0.4631
       Total |  19.3472571       129  .149978737   Root MSE        =    .28378

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |     .39226   .0370245    10.59   0.000     .3190008    .4655193
       _cons |   .5703918   .0312895    18.23   0.000     .5084801    .6323035
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =    214.71
       Model |  10.1682357         1  10.1682357   Prob > F        =    0.0000
    Residual |  5.91968972       125  .047357518   R-squared       =    0.6320
-------------+----------------------------------   Adj R-squared   =    0.6291
       Total |  16.0879255       126  .127681948   Root MSE        =    .21762

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4402557   .0300453    14.65   0.000     .3807923    .4997191
       _cons |   .5363705   .0240732    22.28   0.000     .4887267    .5840143
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =    240.35
       Model |  9.37998808         1  9.37998808   Prob > F        =    0.0000
```

```
    Residual |  4.76118447       122  .039026102   R-squared       =    0.6633
-------------+----------------------------------   Adj R-squared   =    0.6606
       Total |  14.1411726       123  .114968883   Root MSE        =    .19755

------------------------------------------------------------------------------
L12.         |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4242685   .0273664    15.50   0.000      .370094    .4784429
       _cons |   .5250704   .0220376    23.83   0.000     .4814447    .5686962
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =      5.39
       Model |  .688771667         1  .688771667   Prob > F        =    0.0218
    Residual |  17.1317214       134  .127848667   R-squared       =    0.0387
-------------+----------------------------------   Adj R-squared   =    0.0315
       Total |  17.8204931       135  .132003652   Root MSE        =    .35756

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0888137    .038264     2.32   0.022     .0131342    .1644932
       _cons |   3.647149   .0384354    94.89   0.000      3.57113    3.723167
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     20.86
       Model |  2.35112145         1  2.35112145   Prob > F        =    0.0000
    Residual |  14.7641125       131  .112703149   R-squared       =    0.1374
-------------+----------------------------------   Adj R-squared   =    0.1308
       Total |   17.115234       132  .129660864   Root MSE        =    .33571

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1885957   .0412917     4.57   0.000      .106911    .2702804
       _cons |    3.58683   .0368637    97.30   0.000     3.513905    3.659755
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     43.01
       Model |  4.09576094         1  4.09576094   Prob > F        =    0.0000
    Residual |  12.1885729       128  .095223226   R-squared       =    0.2515
-------------+----------------------------------   Adj R-squared   =    0.2457
       Total |  16.2843338       129  .126235146   Root MSE        =    .30858

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2640429   .0402604     6.56   0.000     .1843807    .3437051
       _cons |    3.54291   .0340243   104.13   0.000     3.475587    3.610233
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =     84.04
       Model |  6.21740496         1  6.21740496   Prob > F        =    0.0000
    Residual |  9.24767869       125   .07398143   R-squared       =    0.4020
-------------+----------------------------------   Adj R-squared   =    0.3972
       Total |  15.4650837       126  .122738759   Root MSE        =      .272

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3442602   .0375529     9.17   0.000     .2699383     .418582
       _cons |   3.501241   .0300885   116.36   0.000     3.441692    3.560789
------------------------------------------------------------------------------
```

```
. reg L12.logUSDRUB FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =    106.97
       Model |  6.90792349         1  6.90792349   Prob > F        =    0.0000
    Residual |  7.87816519       122  .064575125   R-squared       =    0.4672
-------------+----------------------------------   Adj R-squared   =    0.4628
       Total |  14.7860887       123  .120212103   Root MSE        =    .25412

------------------------------------------------------------------------------
L12.          |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3640939   .0352024    10.34   0.000     .2944072    .4337805
       _cons |   3.480627   .0283479   122.78   0.000      3.42451    3.536745
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =     50.67
       Model |  .072094401         1  .072094401   Prob > F        =    0.0000
    Residual |  .190641867       134  .001422701   R-squared       =    0.2744
-------------+----------------------------------   Adj R-squared   =    0.2690
       Total |  .262736268       135  .001946195   Root MSE        =    .03772

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0287338   .0040364     7.12   0.000     .0207504    .0367172
       _cons |   1.859737   .0040545   458.68   0.000     1.851718    1.867757
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     36.37
       Model |  .056606285         1  .056606285   Prob > F        =    0.0000
    Residual |  .203874352       131  .001556293   R-squared       =    0.2173
-------------+----------------------------------   Adj R-squared   =    0.2113
       Total |  .260480637       132  .001973338   Root MSE        =    .03945

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0292635   .0048522     6.03   0.000     .0196647    .0388624
       _cons |   1.860504   .0043319   429.49   0.000     1.851935    1.869074
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     19.76
       Model |  .033825283         1  .033825283   Prob > F        =    0.0000
    Residual |  .219097863       128  .001711702   R-squared       =    0.1337
-------------+----------------------------------   Adj R-squared   =    0.1270
       Total |  .252923146       129  .001960645   Root MSE        =    .04137

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0239954   .0053979     4.45   0.000     .0133148     .034676
       _cons |   1.863158   .0045618   408.43   0.000     1.854132    1.872184
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =      4.87
       Model |  .009129292         1  .009129292   Prob > F        =    0.0291
    Residual |  .234311992       125  .001874496   R-squared       =    0.0375
-------------+----------------------------------   Adj R-squared   =    0.0298
       Total |  .243441284       126  .001932074   Root MSE        =     .0433

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
```

```
     FEDRATE |   .0131917   .0059776     2.21   0.029     .0013614     .025022
       _cons |    1.86784   .0047894   389.99   0.000     1.858361    1.877319
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =      3.26
       Model |  .006270591         1  .006270591   Prob > F        =    0.0734
    Residual |  .234586266       122  .001922838   R-squared       =    0.0260
-------------+----------------------------------   Adj R-squared   =    0.0181
       Total |  .240856857       123  .001958186   Root MSE        =    .04385

------------------------------------------------------------------------------
L12.          |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0109697   .0060745     1.81   0.073    -.0010554    .0229948
       _cons |   1.868547   .0048917   381.98   0.000     1.858863     1.87823
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =      1.10
       Model |  .031296581         1  .031296581   Prob > F        =    0.2970
    Residual |  3.82582997       134   .02855097   R-squared       =    0.0081
-------------+----------------------------------   Adj R-squared   =    0.0007
       Total |  3.85712655       135  .028571308   Root MSE        =    .16897

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0189318   .0180823     1.05   0.297    -.0168318    .0546953
       _cons |   4.018628   .0181632   221.25   0.000     3.982704    4.054551
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =      9.48
       Model |  .250603018         1  .250603018   Prob > F        =    0.0025
    Residual |  3.46347366       131   .02643873   R-squared       =    0.0675
-------------+----------------------------------   Adj R-squared   =    0.0604
       Total |  3.71407668       132  .028136945   Root MSE        =     .1626

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0615726   .0199993     3.08   0.003     .0220092     .101136
       _cons |   3.991503   .0178546   223.56   0.000     3.956182    4.026824
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     22.93
       Model |  .540452455         1  .540452455   Prob > F        =    0.0000
    Residual |  3.01754088       128  .023574538   R-squared       =    0.1519
-------------+----------------------------------   Adj R-squared   =    0.1453
       Total |  3.55799334       129  .027581344   Root MSE        =    .15354

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0959149   .0200322     4.79   0.000     .0562777     .135552
       _cons |   3.970906   .0169293   234.56   0.000     3.937409    4.004404
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =     48.21
       Model |  .930827438         1  .930827438   Prob > F        =    0.0000
    Residual |  2.41368504       125   .01930948   R-squared       =    0.2783
-------------+----------------------------------   Adj R-squared   =    0.2725
```

```
       Total |  3.34451248       126   .02654375   Root MSE        =    .13896

------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1332039   .0191853     6.94   0.000     .0952339    .1711738
       _cons |   3.950085   .0153718   256.97   0.000     3.919663    3.980508
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =     56.66
       Model |   1.0185849         1   1.0185849   Prob > F        =    0.0000
    Residual |  2.19321124       122  .017977141   R-squared       =    0.3171
-------------+----------------------------------   Adj R-squared   =    0.3115
       Total |  3.21179614       123  .026112164   Root MSE        =    .13408

------------------------------------------------------------------------------
L12.         |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |     .13981   .0185738     7.53   0.000     .1030414    .1765786
       _cons |   3.941996   .0149571   263.55   0.000     3.912387    3.971605
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =     11.65
       Model |  1.00795364         1  1.00795364   Prob > F        =    0.0009
    Residual |  11.5950927       134  .086530542   R-squared       =    0.0800
-------------+----------------------------------   Adj R-squared   =    0.0731
       Total |  12.6030463       135  .093355899   Root MSE        =    .29416

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1074392   .0314794     3.41   0.001     .0451783       .1697
       _cons |   .8193115   .0316204    25.91   0.000     .7567718    .8818511
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     30.25
       Model |  2.23792713         1  2.23792713   Prob > F        =    0.0000
    Residual |  9.69300469       131  .073992402   R-squared       =    0.1876
-------------+----------------------------------   Adj R-squared   =    0.1814
       Total |  11.9309318       132  .090385847   Root MSE        =    .27202

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1839998   .0334571     5.50   0.000     .1178137    .2501858
       _cons |   .7730578   .0298693    25.88   0.000     .7139692    .8321463
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     55.50
       Model |  3.41148645         1  3.41148645   Prob > F        =    0.0000
    Residual |  7.86853929       128  .061472963   R-squared       =    0.3024
-------------+----------------------------------   Adj R-squared   =    0.2970
       Total |  11.2800257       129   .08744206   Root MSE        =    .24794

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2409789   .0323481     7.45   0.000     .1769726    .3049852
       _cons |   .7398163   .0273376    27.06   0.000     .6857243    .7939084
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
```

```
-------------+----------------------------------   F(1, 125)       =     89.77
       Model |  4.38195526         1  4.38195526   Prob > F        =    0.0000
    Residual |  6.10193094       125  .048815448   R-squared       =    0.4180
-------------+----------------------------------   Adj R-squared   =    0.4133
       Total |  10.4838862       126  .083205446   Root MSE        =    .22094

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2890122   .0305043     9.47   0.000     .2286404     .349384
       _cons |   .7129725   .0244409    29.17   0.000     .6646008    .7613441
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =     96.65
       Model |  4.32106091         1  4.32106091   Prob > F        =    0.0000
    Residual |  5.45430675       122  .044707432   R-squared       =    0.4420
-------------+----------------------------------   Adj R-squared   =    0.4375
       Total |  9.77536767       123  .079474534   Root MSE        =    .21144

------------------------------------------------------------------------------
L12.         |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2879617   .0292907     9.83   0.000     .2299779    .3459456
       _cons |   .7020613   .0235873    29.76   0.000     .6553679    .7487546
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =      7.66
       Model |  .275921552         1  .275921552   Prob > F        =    0.0064
    Residual |  4.82591598       134  .036014298   R-squared       =    0.0541
-------------+----------------------------------   Adj R-squared   =    0.0470
       Total |  5.10183753       135  .037791389   Root MSE        =    .18977

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0562128   .0203086     2.77   0.006     .0160459    .0963796
       _cons |   2.646308   .0203995   129.72   0.000     2.605962    2.686655
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     31.53
       Model |  .944396797         1  .944396797   Prob > F        =    0.0000
    Residual |  3.92434869       131   .02995686   R-squared       =    0.1940
-------------+----------------------------------   Adj R-squared   =    0.1878
       Total |  4.86874549       132  .036884436   Root MSE        =    .17308

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1195285   .0212884     5.61   0.000      .077415     .161642
       _cons |   2.608674   .0190055   137.26   0.000     2.571077    2.646271
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     73.68
       Model |  1.67257227         1  1.67257227   Prob > F        =    0.0000
    Residual |  2.90575834       128  .022701237   R-squared       =    0.3653
-------------+----------------------------------   Adj R-squared   =    0.3604
       Total |  4.57833062       129  .035490935   Root MSE        =    .15067

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1687328   .0196577     8.58   0.000     .1298368    .2076289
       _cons |   2.580654   .0166128   155.34   0.000     2.547783    2.613526
```

```
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =    169.75
       Model |  2.47897988         1  2.47897988   Prob > F        =    0.0000
    Residual |  1.82547418       125  .014603793   R-squared       =    0.5759
-------------+----------------------------------   Adj R-squared   =    0.5725
       Total |  4.30445406       126  .034162334   Root MSE        =    .12085

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2173796   .0166846    13.03   0.000     .1843587    .2504004
       _cons |   2.556066   .0133682   191.21   0.000     2.529609    2.582523
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =    214.91
       Model |  2.55641366         1  2.55641366   Prob > F        =    0.0000
    Residual |  1.45123392       122   .01189536   R-squared       =    0.6379
-------------+----------------------------------   Adj R-squared   =    0.6349
       Total |  4.00764758       123  .032582501   Root MSE        =    .10907

------------------------------------------------------------------------------
L12.          |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2214905   .0151087    14.66   0.000     .1915813    .2513998
       _cons |   2.546768   .0121668   209.32   0.000     2.522682    2.570853
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =     22.41
       Model |  2.51789355         1  2.51789355   Prob > F        =    0.0000
    Residual |  15.0584186       134  .112376258   R-squared       =    0.1433
-------------+----------------------------------   Adj R-squared   =    0.1369
       Total |  17.5763122       135  .130194905   Root MSE        =    .33523

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1698091    .035874     4.73   0.000     .0988566    .2407616
       _cons |   5.157379   .0360346   143.12   0.000     5.086109    5.228649
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     69.12
       Model |    5.653066         1    5.653066   Prob > F        =    0.0000
    Residual |  10.7132558       131  .081780579   R-squared       =    0.3454
-------------+----------------------------------   Adj R-squared   =    0.3404
       Total |  16.3663218       132  .123987286   Root MSE        =    .28597

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2924397   .0351738     8.31   0.000     .2228575    .3620219
       _cons |    5.08589   .0314019   161.96   0.000     5.023769     5.14801
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =    152.74
       Model |  8.19804963         1  8.19804963   Prob > F        =    0.0000
    Residual |  6.87038104       128  .053674852   R-squared       =    0.5441
-------------+----------------------------------   Adj R-squared   =    0.5405
       Total |  15.0684307       129   .11680954   Root MSE        =    .23168

------------------------------------------------------------------------------
```

```
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3735618   .0302268    12.36   0.000     .3137528    .4333707
       _cons |   5.039745   .0255448   197.29   0.000       4.9892    5.090289
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =    468.03
       Model |  10.8295555         1  10.8295555   Prob > F        =    0.0000
    Residual |  2.89231662       125  .023138533   R-squared       =    0.7892
-------------+----------------------------------   Adj R-squared   =    0.7875
       Total |  13.7218721       126  .108903747   Root MSE        =    .15211

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4543468   .0210015    21.63   0.000     .4127823    .4959114
       _cons |   4.998052    .016827   297.03   0.000      4.96475    5.031355
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =    668.10
       Model |  10.4198655         1  10.4198655   Prob > F        =    0.0000
    Residual |  1.90273039       122  .015596151   R-squared       =    0.8456
-------------+----------------------------------   Adj R-squared   =    0.8443
       Total |  12.3225959       123  .100183707   Root MSE        =    .12488

------------------------------------------------------------------------------
L12.          |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4471679   .0173001    25.85   0.000     .4129207    .4814152
       _cons |   4.985466   .0139314   357.86   0.000     4.957887    5.013044
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       136
-------------+----------------------------------   F(1, 134)       =      8.42
       Model |  .558441305         1  .558441305   Prob > F        =    0.0043
    Residual |  8.88536462       134  .066308691   R-squared       =    0.0591
-------------+----------------------------------   Adj R-squared   =    0.0521
       Total |  9.44380593       135  .069954118   Root MSE        =     .2575

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0799707   .0275567     2.90   0.004     .0254683    .1344731
       _cons |   2.266084   .0276801    81.87   0.000     2.211337     2.32083
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       133
-------------+----------------------------------   F(1, 131)       =     21.71
       Model |  1.29069982         1  1.29069982   Prob > F        =    0.0000
    Residual |  7.78690132       131  .059441995   R-squared       =    0.1422
-------------+----------------------------------   Adj R-squared   =    0.1356
       Total |  9.07760114       132  .068769706   Root MSE        =    .24381

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1397355   .0299875     4.66   0.000      .080413    .1990581
       _cons |   2.230196   .0267718    83.30   0.000     2.177235    2.283157
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       130
-------------+----------------------------------   F(1, 128)       =     39.50
       Model |  2.06621022         1  2.06621022   Prob > F        =    0.0000
```

```
    Residual |  6.69567644       128  .052309972   R-squared       =    0.2358
-------------+----------------------------------   Adj R-squared   =    0.2298
       Total |  8.76188666       129  .067921602   Root MSE        =    .22871

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1875402     .02984     6.28   0.000     .1284966    .2465838
       _cons |   2.203322    .025218    87.37   0.000     2.153424     2.25322
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       127
-------------+----------------------------------   F(1, 125)       =     63.16
       Model |  2.79389706         1  2.79389706   Prob > F        =    0.0000
    Residual |    5.529766       125  .044238128   R-squared       =    0.3357
-------------+----------------------------------   Adj R-squared   =    0.3303
       Total |  8.32366307       126  .066060818   Root MSE        =    .21033

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2307743   .0290389     7.95   0.000     .1733026    .2882459
       _cons |   2.180052   .0232668    93.70   0.000     2.134004      2.2261
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE

      Source |       SS           df       MS      Number of obs   =       124
-------------+----------------------------------   F(1, 122)       =     79.14
       Model |  3.17081723         1  3.17081723   Prob > F        =    0.0000
    Residual |  4.88826567       122  .040067751   R-squared       =    0.3934
-------------+----------------------------------   Adj R-squared   =    0.3885
       Total |  8.05908289       123  .065520999   Root MSE        =    .20017

------------------------------------------------------------------------------
L12.          |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .246675   .0277292     8.90   0.000     .1917823    .3015677
       _cons |   2.165554   .0223298    96.98   0.000      2.12135    2.209758
------------------------------------------------------------------------------


.
. *WITH CURRENT ACCOUNTS
. *1997-2007
. clear

. import excel "C:\Users\simon\OneDrive\Bureau\1997-2007 CURRENT ACCOUNTS.xlsx",
sheet("ALL CCY") firstrow
(25 vars, 37 obs)

. ssc install fcstats
checking fcstats consistency and verifying not already installed...
all files already exist and are up to date.

. ssc install tsmktim
checking tsmktim consistency and verifying not already installed...
all files already exist and are up to date.

. sort DATEStata

. tsmktim Time, start (1998q4)
        time variable:  Time, 1998q4 to 2007q4
                delta:  1 quarter

. tsset Time
        time variable:  Time, 1998q4 to 2007q4
                delta:  1 quarter

. gen logUSDTRY = log( USDTRY)

. gen logUSDRUB = log( USDRUB)

. gen logUSDCNY = log( USDCNY)
```

```
. gen logUSDINR = log( USDINR)

. gen logUSDBRL = log( USDBRL)

. gen logUSDMXN = log( USDMXN)

. gen logUSDNGN = log( USDNGN)

. gen logUSDZAR = log( USDZAR)

. reg logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     35.98
       Model |  5.48141185         2  2.74070592   Prob > F        =    0.0000
    Residual |  2.58962118        34  .076165329   R-squared       =    0.6791
-------------+----------------------------------   Adj R-squared   =    0.6603
       Total |  8.07103303        36  .224195362   Root MSE        =    .27598

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1964321   .0260107    -7.55   0.000    -.2492923    -.143572
 TRYQCURRACC |  -.1194167   .0200831    -5.95   0.000    -.1602304    -.078603
       _cons |   .5246244   .1023936     5.12   0.000     .3165355    .7327133
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     51.44
       Model |  6.16326447         2  3.08163223   Prob > F        =    0.0000
    Residual |  1.85718445        31  .059909176   R-squared       =    0.7684
-------------+----------------------------------   Adj R-squared   =    0.7535
       Total |  8.02044892        33  .243043907   Root MSE        =    .24476

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2351712   .0248089    -9.48   0.000    -.2857692   -.1845732
 TRYQCURRACC |  -.1541065   .0209982    -7.34   0.000    -.1969325   -.1112804
       _cons |   .5040052   .0910639     5.53   0.000     .3182791    .6897313
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     93.30
       Model |  6.73576896         2  3.36788448   Prob > F        =    0.0000
    Residual |  1.01075693        28  .036098462   R-squared       =    0.8695
-------------+----------------------------------   Adj R-squared   =    0.8602
       Total |  7.74652589        30   .25821753   Root MSE        =       .19

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.278092    .022647   -12.28   0.000    -.3244822   -.2317018
 TRYQCURRACC |  -.2317527   .0192523   -12.04   0.000    -.2711893   -.1923161
       _cons |    .324729   .0709142     4.58   0.000     .1794678    .4699902
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     49.09
       Model |  5.91446085         2  2.95723043   Prob > F        =    0.0000
    Residual |  1.50598699        25   .06023948   R-squared       =    0.7970
-------------+----------------------------------   Adj R-squared   =    0.7808
       Total |  7.42044784        27  .274831401   Root MSE        =    .24544

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.2258368   .0388106    -5.82   0.000    -.3057688   -.1459049
 TRYQCURRACC |  -.2710951   .0275534    -9.84   0.000    -.3278423   -.2143478
       _cons |  -.0617683   .0973738    -0.63   0.532    -.2623133    .1387767
```

```
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     68.94
       Model |   6.1746818         2   3.0873409   Prob > F        =    0.0000
    Residual |  .985255452        22  .044784339   R-squared       =    0.8624
-------------+----------------------------------   Adj R-squared   =    0.8499
       Total |  7.15993725        24  .298330719   Root MSE        =    .21162

------------------------------------------------------------------------------
L12.         |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0399567   .0392095    -1.02   0.319    -.1212723    .0413589
 TRYQCURRACC |  -.2326929   .0275291    -8.45   0.000    -.2897848    -.175601
       _cons |  -.5883094   .0852705    -6.90   0.000    -.7651496   -.4114692
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     76.00
       Model |  .241878824         2  .120939412   Prob > F        =    0.0000
    Residual |  .054106867        34  .001591378   R-squared       =    0.8172
-------------+----------------------------------   Adj R-squared   =    0.8064
       Total |  .295985691        36  .008221825   Root MSE        =    .03989

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0402403   .0037788   -10.65   0.000    -.0479198   -.0325609
 RUBQCURRACC |   .0159632   .0017273     9.24   0.000     .0124529    .0194734
       _cons |   3.310365   .0199668   165.79   0.000     3.269787    3.350942
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     19.55
       Model |  .142855389         2  .071427695   Prob > F        =    0.0000
    Residual |  .113234791        31  .003652735   R-squared       =    0.5578
-------------+----------------------------------   Adj R-squared   =    0.5293
       Total |  .256090181        33  .007760309   Root MSE        =    .06044

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0392024   .0064572    -6.07   0.000    -.0523719   -.0260328
 RUBQCURRACC |   .0066566    .003594     1.85   0.074    -.0006733    .0139865
       _cons |   3.404843   .0355615    95.75   0.000     3.332315    3.477371
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     26.30
       Model |  .156930479         2  .078465239   Prob > F        =    0.0000
    Residual |  .083529025        28  .002983179   R-squared       =    0.6526
-------------+----------------------------------   Adj R-squared   =    0.6278
       Total |  .240459504        30  .008015317   Root MSE        =    .05462

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0261814   .0062375    -4.20   0.000    -.0389583   -.0134045
 RUBQCURRACC |  -.0091847   .0033139    -2.77   0.010    -.0159729   -.0023964
       _cons |   3.534966    .032386   109.15   0.000     3.468626    3.601305
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     12.77
       Model |  .119449777         2  .059724889   Prob > F        =    0.0002
    Residual |  .116888893        25  .004675556   R-squared       =    0.5054
```

```
-------------+----------------------------------   Adj R-squared   =    0.4659
       Total |  .236338671        27  .008753284   Root MSE        =    .06838

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.004565    .008301    -0.55   0.587    -.0216612    .0125312
 RUBQCURRACC |   -.021962   .0047295    -4.64   0.000    -.0317025   -.0122214
       _cons |   3.588519   .0494276    72.60   0.000     3.486721    3.690317
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      2.70
       Model |   .04649951         2  .023249755   Prob > F        =    0.0893
    Residual |  .189325577        22  .008605708   R-squared       =    0.1972
-------------+----------------------------------   Adj R-squared   =    0.1242
       Total |  .235825087        24  .009826045   Root MSE        =    .09277

------------------------------------------------------------------------------
L12.         |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0255466   .0114116     2.24   0.036     .0018803    .0492129
 RUBQCURRACC |  -.0101084   .0107042    -0.94   0.355    -.0323076    .0120907
       _cons |   3.372183   .1037031    32.52   0.000     3.157116     3.58725
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     66.52
       Model |  .028823546         2  .014411773   Prob > F        =    0.0000
    Residual |  .007366712        34  .000216668   R-squared       =    0.7964
-------------+----------------------------------   Adj R-squared   =    0.7845
       Total |  .036190258        36  .001005285   Root MSE        =    .01472

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0014457   .0013831    -1.05   0.303    -.0042565    .0013651
 CNYQCURRACC |   -.009537    .000892   -10.69   0.000    -.0113499   -.0077242
       _cons |   2.140421   .0057616   371.50   0.000     2.128712     2.15213
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     35.80
       Model |  .007817599         2    .0039088   Prob > F        =    0.0000
    Residual |  .003384731        31  .000109185   R-squared       =    0.6979
-------------+----------------------------------   Adj R-squared   =    0.6784
       Total |  .011202331        33  .000339465   Root MSE        =    .01045

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0006779   .0010164    -0.67   0.510    -.0027509     .001395
 CNYQCURRACC |  -.0050747   .0006585    -7.71   0.000    -.0064177   -.0037316
       _cons |   2.128389   .0041011   518.98   0.000     2.120025    2.136753
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     12.90
       Model |   .00142222         2   .00071111   Prob > F        =    0.0001
    Residual |  .001543744        28  .000055134   R-squared       =    0.4795
-------------+----------------------------------   Adj R-squared   =    0.4423
       Total |  .002965964        30  .000098865   Root MSE        =    .00743

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   3.14e-06   .0008007     0.00   0.997    -.0016371    .0016433
```

```
 CNYQCURRACC |  -.0022914   .0005031    -4.55   0.000     -.003322   -.0012608
       _cons |    2.11973    .002916   726.92   0.000     2.113757    2.125703
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =      1.79
       Model |  .000062022         2  .000031011   Prob > F        =    0.1883
    Residual |  .000433953        25  .000017358   R-squared       =    0.1251
-------------+----------------------------------   Adj R-squared   =    0.0551
       Total |  .000495975        27  .000018369   Root MSE        =    .00417

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0005299   .0007277     0.73   0.473    -.0009689    .0020287
 CNYQCURRACC |  -.0006753   .0003965    -1.70   0.101    -.0014919    .0001412
       _cons |   2.114243   .0016629  1271.39   0.000     2.110818    2.117668
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     12.60
       Model |  2.1210e-07         2  1.0605e-07   Prob > F        =    0.0002
    Residual |  1.8517e-07        22  8.4169e-09   R-squared       =    0.5339
-------------+----------------------------------   Adj R-squared   =    0.4915
       Total |  3.9727e-07        24  1.6553e-08   Root MSE        =    9.2e-05

------------------------------------------------------------------------------
L12.          |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0000521   .0000332     1.57   0.130    -.0000167    .0001209
 CNYQCURRACC |  -.0000573   .0000186    -3.08   0.005    -.0000958   -.0000188
       _cons |   2.113691    .000037  5.7e+04   0.000     2.113615    2.113768
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =      5.73
       Model |   .02583854         2   .01291927   Prob > F        =    0.0071
    Residual |  .076611614        34  .002253283   R-squared       =    0.2522
-------------+----------------------------------   Adj R-squared   =    0.2082
       Total |  .102450154        36  .002845838   Root MSE        =    .04747

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |     .00018   .0081995     0.02   0.983    -.0164833    .0168434
 INRQCURRACC |   .0230196   .0129192     1.78   0.084    -.0032354    .0492745
       _cons |   3.808995    .028821   132.16   0.000     3.750424    3.867567
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     23.02
       Model |  .034269858         2  .017134929   Prob > F        =    0.0000
    Residual |  .023076046        31  .000744389   R-squared       =    0.5976
-------------+----------------------------------   Adj R-squared   =    0.5716
       Total |  .057345904        33  .001737755   Root MSE        =    .02728

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0143803   .0047865    -3.00   0.005    -.0241425    -.004618
 INRQCURRACC |   .0046854    .007699     0.61   0.547    -.0110167    .0203876
       _cons |   3.866914    .016922   228.51   0.000     3.832401    3.901427
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     41.55
```

```
       Model |  .040830561         2  .020415281   Prob > F        =    0.0000
    Residual |  .013758634        28   .00049138   R-squared       =    0.7480
-------------+----------------------------------   Adj R-squared   =    0.7300
       Total |  .054589195        30   .00181964   Root MSE        =    .02217

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0182357   .0040946    -4.45   0.000    -.0266231   -.0098482
 INRQCURRACC |   .0023329   .0063548     0.37   0.716    -.0106844    .0153502
       _cons |   3.878624   .0141141   274.81   0.000     3.849713    3.907536
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =      5.59
       Model |  .016685336         2  .008342668   Prob > F        =    0.0098
    Residual |  .037278122        25  .001491125   R-squared       =    0.3092
-------------+----------------------------------   Adj R-squared   =    0.2539
       Total |  .053963458        27  .001998647   Root MSE        =    .03862

------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.020659   .0089971    -2.30   0.030     -.039189    -.002129
 INRQCURRACC |  -.0094727   .0121614    -0.78   0.443    -.0345197    .0155743
       _cons |   3.881168    .028906   134.27   0.000     3.821635    3.940701
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      0.74
       Model |  .003067913         2  .001533956   Prob > F        =    0.4878
    Residual |  .045492671        22  .002067849   R-squared       =    0.0632
-------------+----------------------------------   Adj R-squared   =   -0.0220
       Total |  .048560584        24  .002023358   Root MSE        =    .04547

------------------------------------------------------------------------------
L12.          |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0063874   .0120562    -0.53   0.602    -.0313904    .0186156
 INRQCURRACC |   -.015238   .0156419    -0.97   0.341    -.0476774    .0172014
       _cons |   3.842887   .0371175   103.53   0.000      3.76591    3.919864
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     36.18
       Model |  1.40645274         2  .703226372   Prob > F        =    0.0000
    Residual |  .660923288        34   .01943892   R-squared       =    0.6803
-------------+----------------------------------   Adj R-squared   =    0.6615
       Total |  2.06737603        36  .057427112   Root MSE        =    .13942

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1004924   .0132052    -7.61   0.000    -.1273286   -.0736562
 BRLQCURRACC |   .0118892    .009731     1.22   0.230    -.0078865    .0316649
       _cons |   1.204217   .0510717    23.58   0.000     1.100427    1.308007
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     63.69
       Model |  1.54105747         2  .770528735   Prob > F        =    0.0000
    Residual |  .375047901        31  .012098319   R-squared       =    0.8043
-------------+----------------------------------   Adj R-squared   =    0.7916
       Total |  1.91610537        33  .058063799   Root MSE        =    .10999

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
```

```
-------------+----------------------------------------------------------------
     FEDRATE |  -.0757438   .0104496    -7.25   0.000     -.097056   -.0544317
 BRLQCURRACC |   .0517974   .0081277     6.37   0.000     .0352209    .0683739
       _cons |   1.157518   .0402922    28.73   0.000     1.075342    1.239695
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     54.62
       Model |  1.50136414         2  .750682072   Prob > F        =    0.0000
    Residual |  .384836647        28  .013744166   R-squared       =    0.7960
-------------+----------------------------------   Adj R-squared   =    0.7814
       Total |  1.88620079        30   .06287336   Root MSE        =    .11724

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0423031   .0114777    -3.69   0.001    -.0658142   -.0187921
 BRLQCURRACC |   .0845552   .0093207     9.07   0.000     .0654626    .1036477
       _cons |   1.042622   .0433279    24.06   0.000     .9538689    1.131375
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     41.56
       Model |  1.43900132         2  .719500661   Prob > F        =    0.0000
    Residual |    .4327632        25  .017310528   R-squared       =    0.7688
-------------+----------------------------------   Adj R-squared   =    0.7503
       Total |  1.87176452        27  .069324612   Root MSE        =    .13157

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .010341   .0153902     0.67   0.508    -.0213558    .0420379
 BRLQCURRACC |   .1042998   .0116655     8.94   0.000     .0802743    .1283253
       _cons |   .8520575   .0528358    16.13   0.000     .7432401    .9608749
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     53.55
       Model |  1.53661357         2  .768306784   Prob > F        =    0.0000
    Residual |  .315638785        22  .014347217   R-squared       =    0.8296
-------------+----------------------------------   Adj R-squared   =    0.8141
       Total |  1.85225235        24  .077177181   Root MSE        =    .11978

------------------------------------------------------------------------------
L12.          |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0903471   .0157764     5.73   0.000     .0576289    .1230652
 BRLQCURRACC |   .0871681   .0150895     5.78   0.000     .0558743    .1184619
       _cons |   .5754149    .050019    11.50   0.000     .4716819    .6791479
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     77.28
       Model |  .174396301         2  .087198151   Prob > F        =    0.0000
    Residual |  .038362012        34  .001128294   R-squared       =    0.8197
-------------+----------------------------------   Adj R-squared   =    0.8091
       Total |  .212758313        36  .005909953   Root MSE        =    .03359

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0024439   .0031794    -0.77   0.447    -.0089052    .0040174
 MXNQCURRACC |   .0766651   .0066373    11.55   0.000     .0631765    .0901537
       _cons |   2.461664   .0140562   175.13   0.000     2.433098     2.49023
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE MXNQCURRACC
```

```
      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     47.33
       Model |  .152786648         2  .076393324   Prob > F        =    0.0000
    Residual |  .050040127        31  .001614198   R-squared       =    0.7533
-------------+----------------------------------   Adj R-squared   =    0.7374
       Total |  .202826774        33  .006146266   Root MSE        =    .04018

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0074165   .0038046     1.95   0.060    -.0003431     .015176
 MXNQCURRACC |   .0885274   .0091157     9.71   0.000     .0699358     .107119
       _cons |   2.428617   .0175783   138.16   0.000     2.392766    2.464469
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     33.10
       Model |  .132357994         2  .066178997   Prob > F        =    0.0000
    Residual |   .05598207        28   .00199936   R-squared       =    0.7028
-------------+----------------------------------   Adj R-squared   =    0.6815
       Total |  .188340064        30  .006278002   Root MSE        =    .04471

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0184516    .004376     4.22   0.000     .0094877    .0274154
 MXNQCURRACC |   .0808735   .0107373     7.53   0.000     .0588791    .1028679
       _cons |   2.368243   .0205344   115.33   0.000      2.32618    2.410305
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     72.75
       Model |  .144060048         2  .072030024   Prob > F        =    0.0000
    Residual |   .02475119        25  .000990048   R-squared       =    0.8534
-------------+----------------------------------   Adj R-squared   =    0.8416
       Total |  .168811238        27  .006252268   Root MSE        =    .03147

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0368758   .0037073     9.95   0.000     .0292404    .0445112
 MXNQCURRACC |   .0441239   .0087879     5.02   0.000     .0260248     .062223
       _cons |   2.256288   .0177741   126.94   0.000     2.219681    2.292894
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     47.08
       Model |  .120801125         2  .060400563   Prob > F        =    0.0000
    Residual |  .028222982        22  .001282863   R-squared       =    0.8106
-------------+----------------------------------   Adj R-squared   =    0.7934
       Total |  .149024107        24  .006209338   Root MSE        =    .03582

------------------------------------------------------------------------------
L12.          |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0435932    .004909     8.88   0.000     .0334126    .0537739
 MXNQCURRACC |  -.0089262   .0146604    -0.61   0.549    -.0393299    .0214776
       _cons |   2.169442   .0264177    82.12   0.000     2.114655    2.224229
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        10
-------------+----------------------------------   F(2, 7)         =      3.40
       Model |  1.35330086         2  .676650432   Prob > F        =    0.0929
    Residual |  1.39297295         7  .198996136   R-squared       =    0.4928
-------------+----------------------------------   Adj R-squared   =    0.3479
       Total |  2.74627381         9  .305141535   Root MSE        =    .44609
```

```
------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1410371   .0810026    -1.74   0.125    -.3325778    .0505037
 NGNQCURRACC |   .0459322   .0195003     2.36   0.051    -.0001787    .0920431
       _cons |   4.764182    .324246    14.69   0.000     3.997462    5.530902
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         9
-------------+----------------------------------   F(2, 6)         =     16.87
       Model |  .133142029         2  .066571014   Prob > F        =    0.0034
    Residual |  .023682158         6  .003947026   R-squared       =    0.8490
-------------+----------------------------------   Adj R-squared   =    0.7987
       Total |  .156824187         8  .019603023   Root MSE        =    .06283

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0613376    .012406    -4.94   0.003     -.091694   -.0309812
 NGNQCURRACC |    .016388   .0033407     4.91   0.003     .0082136    .0245624
       _cons |   4.839258   .0460946   104.99   0.000     4.726468    4.952047
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         8
-------------+----------------------------------   F(2, 5)         =      3.75
       Model |  .052039333         2  .026019666   Prob > F        =    0.1013
    Residual |  .034728193         5  .006945639   R-squared       =    0.5998
-------------+----------------------------------   Adj R-squared   =    0.4397
       Total |  .086767526         7  .012395361   Root MSE        =    .08334

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0393054   .0215192    -1.83   0.127    -.0946224    .0160115
 NGNQCURRACC |   .0164876   .0060248     2.74   0.041     .0010003     .031975
       _cons |   4.739582    .061295    77.32   0.000     4.582018    4.897146
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         7
-------------+----------------------------------   F(2, 4)         =      3.41
       Model |  .057765787         2  .028882893   Prob > F        =    0.1367
    Residual |  .033889537         4  .008472384   R-squared       =    0.6303
-------------+----------------------------------   Adj R-squared   =    0.4454
       Total |  .091655324         6  .015275887   Root MSE        =    .09205

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0197528   .0380196     0.52   0.631    -.0858064     .125312
 NGNQCURRACC |   .0089955   .0083077     1.08   0.340    -.0140703    .0320614
       _cons |    4.63246    .072252    64.12   0.000     4.431857    4.833064
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         7
-------------+----------------------------------   F(2, 4)         =      0.59
       Model |  .586899348         2  .293449674   Prob > F        =    0.5953
    Residual |  1.98212999         4  .495532497   R-squared       =    0.2285
-------------+----------------------------------   Adj R-squared   =   -0.1573
       Total |  2.56902933         6  .428171556   Root MSE        =    .70394

------------------------------------------------------------------------------
L12.         |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0377922   .2907638     0.13   0.903    -.7694975    .8450819
 NGNQCURRACC |   .0336452    .063535     0.53   0.624    -.1427564    .2100468
       _cons |   4.093847   .5525645     7.41   0.002     2.559682    5.628012
------------------------------------------------------------------------------
```

```
. reg logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =      5.46
       Model |  .300722256         2  .150361128   Prob > F        =    0.0088
    Residual |  .935851809        34  .027525053   R-squared       =    0.2432
-------------+----------------------------------   Adj R-squared   =    0.1987
       Total |  1.23657407        36   .03434928   Root MSE        =    .16591

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0138851   .0159698    -0.87   0.391    -.0463396    .0185694
 ZARQCURRACC |    .042143   .0157863     2.67   0.012     .0100615    .0742246
       _cons |   2.092918   .0607873    34.43   0.000     1.969383    2.216452
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     14.65
       Model |  .598074347         2  .299037173   Prob > F        =    0.0000
    Residual |  .632972232        31  .020418459   R-squared       =    0.4858
-------------+----------------------------------   Adj R-squared   =    0.4527
       Total |  1.23104658        33  .037304442   Root MSE        =    .14289

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0541308   .0140685    -3.85   0.001    -.0828237   -.0254378
 ZARQCURRACC |   .0289314   .0136888     2.11   0.043     .0010129      .05685
       _cons |   2.216239   .0523676    42.32   0.000     2.109434    2.323043
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     26.87
       Model |  .805031066         2  .402515533   Prob > F        =    0.0000
    Residual |   .41946766        28  .014980988   R-squared       =    0.6574
-------------+----------------------------------   Adj R-squared   =    0.6330
       Total |  1.22449873        30  .040816624   Root MSE        =     .1224

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0860468   .0132333    -6.50   0.000    -.1131539   -.0589397
 ZARQCURRACC |   .0014005   .0123366     0.11   0.910      -.02387    .0266709
       _cons |   2.266409   .0452505    50.09   0.000     2.173718    2.359101
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     24.20
       Model |   .77802533         2  .389012665   Prob > F        =    0.0000
    Residual |  .401819274        25  .016072771   R-squared       =    0.6594
-------------+----------------------------------   Adj R-squared   =    0.6322
       Total |   1.1798446        27  .043697948   Root MSE        =    .12678

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1410442   .0203644    -6.93   0.000    -.1829855   -.0991028
 ZARQCURRACC |  -.0696927   .0161723    -4.31   0.000    -.1030001   -.0363853
       _cons |    2.28105   .0517416    44.09   0.000     2.174487    2.387614
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      4.86
       Model |  .343825711         2  .171912856   Prob > F        =    0.0179
    Residual |  .778862897        22  .035402859   R-squared       =    0.3063
-------------+----------------------------------   Adj R-squared   =    0.2432
       Total |  1.12268861        24  .046778692   Root MSE        =    .18816
```

```
------------------------------------------------------------------------------
L12.          |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1303106   .0452067    -2.88   0.009    -.2240635   -.0365577
 ZARQCURRACC |  -.1127101   .0365315    -3.09   0.005    -.1884717   -.0369485
       _cons |   2.138873   .0833912    25.65   0.000      1.96593    2.311816
------------------------------------------------------------------------------

.
. *With no lags in Current account (1998-2008)
. reg logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     35.98
       Model |  5.48141185         2  2.74070592   Prob > F        =    0.0000
    Residual |  2.58962118        34  .076165329   R-squared       =    0.6791
-------------+----------------------------------   Adj R-squared   =    0.6603
       Total |  8.07103303        36  .224195362   Root MSE        =    .27598

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1964321   .0260107    -7.55   0.000    -.2492923    -.143572
 TRYQCURRACC |  -.1194167   .0200831    -5.95   0.000    -.1602304    -.078603
       _cons |   .5246244   .1023936     5.12   0.000     .3165355    .7327133
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE L3.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     30.27
       Model |  5.30414611         2  2.65207305   Prob > F        =    0.0000
    Residual |  2.71630282        31  .087622671   R-squared       =    0.6613
-------------+----------------------------------   Adj R-squared   =    0.6395
       Total |  8.02044892        33  .243043907   Root MSE        =    .29601

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1927425    .027949    -6.90   0.000    -.2497448   -.1357402
             |
 TRYQCURRACC |
         L3. |  -.1190439    .022901    -5.20   0.000    -.1657507   -.0723371
             |
       _cons |   .5142129    .110423     4.66   0.000     .2890036    .7394222
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE L6.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =      8.58
       Model |   2.9426684         2   1.4713342   Prob > F        =    0.0012
    Residual |  4.80385749        28  .171566339   R-squared       =    0.3799
-------------+----------------------------------   Adj R-squared   =    0.3356
       Total |  7.74652589        30   .25821753   Root MSE        =    .41421

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1420951   .0408542    -3.48   0.002    -.2257811   -.0584091
             |
 TRYQCURRACC |
         L6. |  -.1054469   .0364258    -2.89   0.007    -.1800618   -.0308321
             |
       _cons |   .3460688   .1568344     2.21   0.036     .0248081    .6673295
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE L9.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =      1.03
       Model |  .566040916         2  .283020458   Prob > F        =    0.3709
    Residual |  6.85440692        25  .274176277   R-squared       =    0.0763
-------------+----------------------------------   Adj R-squared   =    0.0024
       Total |  7.42044784        27  .274831401   Root MSE        =    .52362
```

```
------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0031323   .0667412    -0.05   0.963    -.1405885    .1343238
             |
 TRYQCURRACC |
         L9. |  -.0748069    .056361    -1.33   0.196    -.1908847    .0412708
             |
       _cons |  -.0761589   .2077679    -0.37   0.717    -.5040648     .351747
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE L12.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      7.89
       Model |  2.99129726         2  1.49564863   Prob > F        =    0.0026
    Residual |  4.16863999        22  .189483636   R-squared       =    0.4178
-------------+----------------------------------   Adj R-squared   =    0.3649
       Total |  7.15993725        24  .298330719   Root MSE        =     .4353

------------------------------------------------------------------------------
L12.          |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2055442   .0550482     3.73   0.001     .0913811    .3197072
             |
 TRYQCURRACC |
        L12. |  -.0143875   .0490474    -0.29   0.772    -.1161056    .0873306
             |
       _cons |   -.622526   .1755148    -3.55   0.002    -.9865215   -.2585305
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     76.00
       Model |  .241878824         2  .120939412   Prob > F        =    0.0000
    Residual |  .054106867        34  .001591378   R-squared       =    0.8172
-------------+----------------------------------   Adj R-squared   =    0.8064
       Total |  .295985691        36  .008221825   Root MSE        =    .03989

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0402403   .0037788   -10.65   0.000    -.0479198   -.0325609
 RUBQCURRACC |   .0159632   .0017273     9.24   0.000     .0124529    .0194734
       _cons |   3.310365   .0199668   165.79   0.000     3.269787    3.350942
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE L3.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     25.00
       Model |    .1580859         2   .07904295   Prob > F        =    0.0000
    Residual |  .098004281        31  .003161428   R-squared       =    0.6173
-------------+----------------------------------   Adj R-squared   =    0.5926
       Total |  .256090181        33  .007760309   Root MSE        =    .05623

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0316123   .0051654    -6.12   0.000    -.0421472   -.0210775
             |
 RUBQCURRACC |
         L3. |   .0071823   .0024237     2.96   0.006     .0022391    .0121255
             |
       _cons |   3.374467   .0344655    97.91   0.000     3.304175     3.44476
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE L6.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     17.67
       Model |  .134167583         2  .067083792   Prob > F        =    0.0000
    Residual |   .10629192        28   .00379614   R-squared       =    0.5580
```

```
-------------+----------------------------------   Adj R-squared   =    0.5264
       Total |  .240459504        30  .008015317   Root MSE        =    .06161

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0361956   .0071948    -5.03   0.000    -.0509335   -.0214578
             |
 RUBQCURRACC |
         L6. |  -.0006416   .0032016    -0.20   0.843    -.0071997    .0059165
             |
       _cons |    3.47437    .053057    65.48   0.000     3.365687    3.583052
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE L9.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =      2.49
       Model |  .039246031         2  .019623016   Prob > F        =    0.1033
    Residual |  .197092639        25  .007883706   R-squared       =    0.1661
-------------+----------------------------------   Adj R-squared   =    0.0993
       Total |  .236338671        27  .008753284   Root MSE        =    .08879

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0001774   .0141454    -0.01   0.990    -.0293104    .0289556
             |
 RUBQCURRACC |
         L9. |   .0084866   .0052479     1.62   0.118    -.0023216    .0192947
             |
       _cons |   3.258803   .0922184    35.34   0.000     3.068876     3.44873
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE L12.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     19.05
       Model |  .149486915         2  .074743458   Prob > F        =    0.0000
    Residual |  .086338172        22  .003924462   R-squared       =    0.6339
-------------+----------------------------------   Adj R-squared   =    0.6006
       Total |  .235825087        24  .009826045   Root MSE        =    .06265

------------------------------------------------------------------------------
L12.          |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .046079   .0086863     5.30   0.000     .0280648    .0640932
             |
 RUBQCURRACC |
        L12. |   .0163336   .0030759     5.31   0.000     .0099546    .0227127
             |
       _cons |   3.042461   .0514864    59.09   0.000     2.935685    3.149238
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     66.52
       Model |  .028823546         2  .014411773   Prob > F        =    0.0000
    Residual |  .007366712        34  .000216668   R-squared       =    0.7964
-------------+----------------------------------   Adj R-squared   =    0.7845
       Total |  .036190258        36  .001005285   Root MSE        =    .01472

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0014457   .0013831    -1.05   0.303    -.0042565    .0013651
 CNYQCURRACC |   -.009537    .000892   -10.69   0.000    -.0113499   -.0077242
       _cons |   2.140421   .0057616   371.50   0.000     2.128712     2.15213
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE L3.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     68.52
       Model |  .009135656         2  .004567828   Prob > F        =    0.0000
```

```
    Residual |  .002066674        31  .000066667   R-squared       =    0.8155
-------------+----------------------------------   Adj R-squared   =    0.8036
       Total |  .011202331        33  .000339465   Root MSE        =    .00816

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0002368   .0008168     0.29   0.774    -.0014291    .0019028
             |
 CNYQCURRACC |
         L3. |  -.0070492   .0006516   -10.82   0.000    -.0083781   -.0057202
             |
       _cons |   2.128494   .0031716   671.11   0.000     2.122026    2.134963
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE L6.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     24.51
       Model |  .001887811         2  .000943906   Prob > F        =    0.0000
    Residual |  .001078153        28  .000038505   R-squared       =    0.6365
-------------+----------------------------------   Adj R-squared   =    0.6105
       Total |  .002965964        30  .000098865   Root MSE        =    .00621

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0007948   .0007061     1.13   0.270    -.0006516    .0022412
             |
 CNYQCURRACC |
         L6. |  -.0050792   .0007857    -6.46   0.000    -.0066887   -.0034698
             |
       _cons |   2.121949   .0025174   842.93   0.000     2.116792    2.127105
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE L9.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =      5.59
       Model |  .000153185         2  .000076592   Prob > F        =    0.0099
    Residual |   .00034279        25  .000013712   R-squared       =    0.3089
-------------+----------------------------------   Adj R-squared   =    0.2536
       Total |  .000495975        27  .000018369   Root MSE        =     .0037

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .000825   .0005738     1.44   0.163    -.0003568    .0020069
             |
 CNYQCURRACC |
         L9. |  -.0024055   .0007487    -3.21   0.004    -.0039475   -.0008634
             |
       _cons |   2.116331   .0016485  1283.83   0.000     2.112936    2.119726
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE L12.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      5.57
       Model |  1.3352e-07         2  6.6760e-08   Prob > F        =    0.0110
    Residual |  2.6375e-07        22  1.1989e-08   R-squared       =    0.3361
-------------+----------------------------------   Adj R-squared   =    0.2757
       Total |  3.9727e-07        24  1.6553e-08   Root MSE        =    .00011

------------------------------------------------------------------------------
L12.         |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0000478   .0000167    -2.86   0.009    -.0000825   -.0000131
             |
 CNYQCURRACC |
        L12. |   .0000148   .0000418     0.35   0.726    -.0000719    .0001016
             |
       _cons |   2.113661   .0000752  2.8e+04   0.000     2.113505    2.113817
------------------------------------------------------------------------------
```

```
. reg logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =      5.73
       Model |   .02583854         2   .01291927   Prob > F        =    0.0071
    Residual |  .076611614        34  .002253283   R-squared       =    0.2522
-------------+----------------------------------   Adj R-squared   =    0.2082
       Total |  .102450154        36  .002845838   Root MSE        =    .04747

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |     .00018   .0081995     0.02   0.983    -.0164833    .0168434
 INRQCURRACC |   .0230196   .0129192     1.78   0.084    -.0032354    .0492745
       _cons |   3.808995    .028821   132.16   0.000     3.750424    3.867567
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE L3.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     24.32
       Model |  .035022508         2  .017511254   Prob > F        =    0.0000
    Residual |  .022323396        31   .00072011   R-squared       =    0.6107
-------------+----------------------------------   Adj R-squared   =    0.5856
       Total |  .057345904        33  .001737755   Root MSE        =    .02683

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   -.020318   .0037909    -5.36   0.000    -.0280497   -.0125864
             |
 INRQCURRACC |
         L3. |  -.0071832    .006011    -1.20   0.241    -.0194429    .0050764
             |
       _cons |    3.88662   .0136717   284.28   0.000     3.858736    3.914504
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE L6.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     46.14
       Model |  .041882317         2  .020941159   Prob > F        =    0.0000
    Residual |  .012706878        28  .000453817   R-squared       =    0.7672
-------------+----------------------------------   Adj R-squared   =    0.7506
       Total |  .054589195        30   .00181964   Root MSE        =     .0213

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0180184   .0022697    -7.94   0.000    -.0226677   -.0133691
             |
 INRQCURRACC |
         L6. |   .0055478   .0035346     1.57   0.128    -.0016926    .0127881
             |
       _cons |   3.877907   .0084768   457.47   0.000     3.860543    3.895271
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE L9.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     29.78
       Model |  .038008792         2  .019004396   Prob > F        =    0.0000
    Residual |  .015954666        25  .000638187   R-squared       =    0.7043
-------------+----------------------------------   Adj R-squared   =    0.6807
       Total |  .053963458        27  .001998647   Root MSE        =    .02526

------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0184839   .0030062    -6.15   0.000    -.0246752   -.0122926
             |
 INRQCURRACC |
         L9. |   .0242999   .0041174     5.90   0.000     .0158199    .0327799
             |
       _cons |   3.871041   .0101343   381.97   0.000     3.850169    3.891913
------------------------------------------------------------------------------
```

```
. reg L12.logUSDINR FEDRATE L12.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =      7.99
       Model |   .02042712         2   .01021356   Prob > F        =    0.0025
    Residual |  .028133464        22  .001278794   R-squared       =    0.4207
-------------+----------------------------------   Adj R-squared   =    0.3680
       Total |  .048560584        24  .002023358   Root MSE        =    .03576

------------------------------------------------------------------------------
L12.          |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0242013   .0084709    -2.86   0.009    -.0417688   -.0066338
             |
 INRQCURRACC |
       L12.  |   .0463064   .0119129     3.89   0.001     .0216004    .0710123
             |
       _cons |   3.880753   .0229189   169.33   0.000     3.833222    3.928283
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     36.18
       Model |  1.40645274         2  .703226372   Prob > F        =    0.0000
    Residual |  .660923288        34   .01943892   R-squared       =    0.6803
-------------+----------------------------------   Adj R-squared   =    0.6615
       Total |  2.06737603        36  .057427112   Root MSE        =    .13942

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1004924   .0132052    -7.61   0.000    -.1273286   -.0736562
 BRLQCURRACC |   .0118892    .009731     1.22   0.230    -.0078865    .0316649
       _cons |   1.204217   .0510717    23.58   0.000     1.100427    1.308007
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE L3.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     43.63
       Model |   1.4137916         2    .7068958   Prob > F        =    0.0000
    Residual |  .502313772        31   .01620367   R-squared       =    0.7378
-------------+----------------------------------   Adj R-squared   =    0.7209
       Total |  1.91610537        33  .058063799   Root MSE        =    .12729

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0927572   .0116461    -7.96   0.000    -.1165096   -.0690048
             |
 BRLQCURRACC |
         L3. |   .0409311   .0086347     4.74   0.000     .0233205    .0585418
             |
       _cons |   1.225216   .0476796    25.70   0.000     1.127973    1.322459
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE L6.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     29.98
       Model |  1.28577004         2  .642885021   Prob > F        =    0.0000
    Residual |  .600430749        28  .021443955   R-squared       =    0.6817
-------------+----------------------------------   Adj R-squared   =    0.6589
       Total |  1.88620079        30   .06287336   Root MSE        =    .14644

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0907514   .0149751    -6.06   0.000    -.1214265   -.0600763
             |
 BRLQCURRACC |
         L6. |   .0720827   .0110319     6.53   0.000     .0494848    .0946806
             |
       _cons |   1.267852   .0635192    19.96   0.000     1.137739    1.397965
```

```
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE L9.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     18.48
       Model |    1.116453         2  .558226498   Prob > F        =    0.0000
    Residual |  .755311525        25  .030212461   R-squared       =    0.5965
-------------+----------------------------------   Adj R-squared   =    0.5642
       Total |  1.87176452        27  .069324612   Root MSE        =    .17382

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1346189   .0339603    -3.96   0.001    -.2045615   -.0646763
             |
 BRLQCURRACC |
         L9. |   .1330895   .0224558     5.93   0.000     .0868409    .1793382
             |
       _cons |   1.509772   .1413996    10.68   0.000     1.218554     1.80099
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE L12.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     15.65
       Model |  1.08780456         2  .543902279   Prob > F        =    0.0001
    Residual |  .764447795        22  .034747627   R-squared       =    0.5873
-------------+----------------------------------   Adj R-squared   =    0.5498
       Total |  1.85225235        24  .077177181   Root MSE        =    .18641

------------------------------------------------------------------------------
L12.          |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1807584   .0640045     2.82   0.010     .0480213    .3134955
             |
 BRLQCURRACC |
        L12. |   -.043119   .0464327    -0.93   0.363    -.1394145    .0531764
             |
       _cons |   .2413941   .2869356     0.84   0.409    -.3536739    .8364621
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =     77.28
       Model |  .174396301         2  .087198151   Prob > F        =    0.0000
    Residual |  .038362012        34  .001128294   R-squared       =    0.8197
-------------+----------------------------------   Adj R-squared   =    0.8091
       Total |  .212758313        36  .005909953   Root MSE        =    .03359

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0024439   .0031794    -0.77   0.447    -.0089052    .0040174
 MXNQCURRACC |   .0766651   .0066373    11.55   0.000     .0631765    .0901537
       _cons |   2.461664   .0140562   175.13   0.000     2.433098     2.49023
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE L3.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     65.39
       Model |  .163963227         2  .081981614   Prob > F        =    0.0000
    Residual |  .038863547        31  .001253663   R-squared       =    0.8084
-------------+----------------------------------   Adj R-squared   =    0.7960
       Total |  .202826774        33  .006146266   Root MSE        =    .03541

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0000719   .0032447     0.02   0.982    -.0065457    .0066894
             |
 MXNQCURRACC |
         L3. |   .0778819   .0068215    11.42   0.000     .0639695    .0917944
             |
```

```
       _cons |   2.454003   .0166292   147.57   0.000     2.420088    2.487918
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE L6.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     72.86
       Model |  .157983834         2  .078991917   Prob > F        =    0.0000
    Residual |  .030356229        28  .001084151   R-squared       =    0.8388
-------------+----------------------------------   Adj R-squared   =    0.8273
       Total |  .188340064        30  .006278002   Root MSE        =    .03293

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0072802   .0032269     2.26   0.032     .0006703    .0138902
             |
 MXNQCURRACC |
         L6. |   .0790305   .0069783    11.33   0.000      .064736    .0933249
             |
       _cons |   2.433975   .0184828   131.69   0.000     2.396115    2.471836
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE L9.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =    130.16
       Model |  .154019826         2  .077009913   Prob > F        =    0.0000
    Residual |  .014791413        25  .000591657   R-squared       =    0.9124
-------------+----------------------------------   Adj R-squared   =    0.9054
       Total |  .168811238        27  .006252268   Root MSE        =    .02432

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0213103   .0037324     5.71   0.000     .0136233    .0289974
             |
 MXNQCURRACC |
         L9. |   .0567991   .0073934     7.68   0.000     .0415721    .0720262
             |
       _cons |   2.354455   .0231552   101.68   0.000     2.306766    2.402144
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE L12.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     56.07
       Model |  .124581413         2  .062290706   Prob > F        =    0.0000
    Residual |  .024442694        22  .001111032   R-squared       =    0.8360
-------------+----------------------------------   Adj R-squared   =    0.8211
       Total |  .149024107        24  .006209338   Root MSE        =    .03333

------------------------------------------------------------------------------
L12.          |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0259748   .0092382     2.81   0.010     .0068159    .0451337
             |
 MXNQCURRACC |
        L12. |   .0361921    .018492     1.96   0.063    -.0021579    .0745421
             |
       _cons |   2.300093   .0613535    37.49   0.000     2.172853    2.427332
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        10
-------------+----------------------------------   F(2, 7)         =      3.40
       Model |  1.35330086         2  .676650432   Prob > F        =    0.0929
    Residual |  1.39297295         7  .198996136   R-squared       =    0.4928
-------------+----------------------------------   Adj R-squared   =    0.3479
       Total |  2.74627381         9  .305141535   Root MSE        =    .44609

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
```

```
     FEDRATE |  -.1410371   .0810026    -1.74   0.125    -.3325778    .0505037
 NGNQCURRACC |   .0459322   .0195003     2.36   0.051    -.0001787    .0920431
       _cons |   4.764182    .324246    14.69   0.000     3.997462    5.530902
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE L3.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         9
-------------+----------------------------------   F(2, 6)         =      3.22
       Model |  1.41026816         2  .705134079   Prob > F        =    0.1124
    Residual |  1.31519336         6  .219198894   R-squared       =    0.5174
-------------+----------------------------------   Adj R-squared   =    0.3566
       Total |  2.72546152         8   .34068269   Root MSE        =    .46819

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1542618   .0876761    -1.76   0.129    -.3687975     .060274
             |
 NGNQCURRACC |
         L3. |   .0440073   .0202528     2.17   0.073    -.0055496    .0935641
             |
       _cons |   4.831606   .3614843    13.37   0.000     3.947085    5.716126
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE L6.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         8
-------------+----------------------------------   F(2, 5)         =      5.26
       Model |  1.80296309         2  .901481545   Prob > F        =    0.0590
    Residual |  .857432466         5  .171486493   R-squared       =    0.6777
-------------+----------------------------------   Adj R-squared   =    0.5488
       Total |  2.66039556         7  .380056508   Root MSE        =    .41411

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1985409   .0773919    -2.57   0.050    -.3974833    .0004014
             |
 NGNQCURRACC |
         L6. |     .04483   .0191944     2.34   0.067    -.0045109    .0941709
             |
       _cons |    4.96815   .3174964    15.65   0.000     4.151999      5.7843
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE L9.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         7
-------------+----------------------------------   F(2, 4)         =      1.53
       Model |  1.11476413         2  .557382065   Prob > F        =    0.3204
    Residual |   1.4542652         4  .363566301   R-squared       =    0.4339
-------------+----------------------------------   Adj R-squared   =    0.1509
       Total |  2.56902933         6  .428171556   Root MSE        =    .60296

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.1196915   .1298366    -0.92   0.409    -.4801758    .2407928
             |
 NGNQCURRACC |
         L9. |   .0591078   .0418558     1.41   0.231    -.0571025     .175318
             |
       _cons |   4.641158    .516031     8.99   0.001     3.208426     6.07389
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE L12.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         7
-------------+----------------------------------   F(2, 4)         =      1.66
       Model |  1.16591029         2  .582955147   Prob > F        =    0.2983
    Residual |  1.40311904         4   .35077976   R-squared       =    0.4538
-------------+----------------------------------   Adj R-squared   =    0.1807
       Total |  2.56902933         6  .428171556   Root MSE        =    .59227

------------------------------------------------------------------------------
L12.         |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
```

```
-------------+----------------------------------------------------------------
     FEDRATE |   .1460694   .1441635     1.01   0.368    -.2541927    .5463315
             |
 NGNQCURRACC |
        L12. |   .0588238   .0411166     1.43   0.226    -.0553341    .1729817
             |
       _cons |   3.856252   .4919757     7.84   0.001     2.490309    5.222196
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        37
-------------+----------------------------------   F(2, 34)        =      5.46
       Model |  .300722256         2  .150361128   Prob > F        =    0.0088
    Residual |  .935851809        34  .027525053   R-squared       =    0.2432
-------------+----------------------------------   Adj R-squared   =    0.1987
       Total |  1.23657407        36   .03434928   Root MSE        =    .16591

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0138851   .0159698    -0.87   0.391    -.0463396    .0185694
 ZARQCURRACC |    .042143   .0157863     2.67   0.012     .0100615    .0742246
       _cons |   2.092918   .0607873    34.43   0.000     1.969383    2.216452
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE L3.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        34
-------------+----------------------------------   F(2, 31)        =     12.42
       Model |  .547688412         2  .273844206   Prob > F        =    0.0001
    Residual |  .683358167        31  .022043812   R-squared       =    0.4449
-------------+----------------------------------   Adj R-squared   =    0.4091
       Total |  1.23104658        33  .037304442   Root MSE        =    .14847

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0509201     .01713    -2.97   0.006     -.085857   -.0159833
             |
 ZARQCURRACC |
         L3. |   .0276247      .0203     1.36   0.183    -.0137774    .0690267
             |
       _cons |   2.193616   .0552452    39.71   0.000     2.080942    2.306289
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE L6.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        31
-------------+----------------------------------   F(2, 28)        =     27.04
       Model |  .806789468         2  .403394734   Prob > F        =    0.0000
    Residual |  .417709257        28  .014918188   R-squared       =    0.6589
-------------+----------------------------------   Adj R-squared   =    0.6345
       Total |  1.22449873        30  .040816624   Root MSE        =    .12214

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0813534   .0189613    -4.29   0.000     -.120194   -.0425129
             |
 ZARQCURRACC |
         L6. |   .0092618    .025608     0.36   0.720    -.0431937    .0617174
             |
       _cons |   2.257834   .0507669    44.47   0.000     2.153843    2.361825
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE L9.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        28
-------------+----------------------------------   F(2, 25)        =     14.52
       Model |  .633947192         2  .316973596   Prob > F        =    0.0001
    Residual |  .545897412        25  .021835896   R-squared       =    0.5373
-------------+----------------------------------   Adj R-squared   =    0.5003
       Total |   1.1798446        27  .043697948   Root MSE        =    .14777

------------------------------------------------------------------------------
```

```
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0309144   .0253059    -1.22   0.233    -.0830328    .0212041
             |
 ZARQCURRACC |
         L9. |   .0927883   .0348936     2.66   0.013     .0209237     .164653
             |
       _cons |   2.151196   .0654224    32.88   0.000     2.016456    2.285936
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE L12.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        25
-------------+----------------------------------   F(2, 22)        =     18.81
       Model |  .708348257         2  .354174129   Prob > F        =    0.0000
    Residual |   .41434035        22  .018833652   R-squared       =    0.6309
-------------+----------------------------------   Adj R-squared   =    0.5974
       Total |  1.12268861        24  .046778692   Root MSE        =    .13724

------------------------------------------------------------------------------
L12.         |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0049545   .0168831     0.29   0.772     -.030059     .039968
             |
 ZARQCURRACC |
        L12. |   .1853858   .0303755     6.10   0.000     .1223909    .2483806
             |
       _cons |    2.07892   .0557947    37.26   0.000     1.963209    2.194631
------------------------------------------------------------------------------

.
.
. *WITH CURRENT ACCOUNTS
. *2008-2019
. clear

. import excel "C:\Users\simon\OneDrive\Bureau\2008-2019 CURRENT ACCOUNTS.xlsx",
sheet("ALL CCY") firstrow
(25 vars, 44 obs)

. ssc install fcstats
checking fcstats consistency and verifying not already installed...
all files already exist and are up to date.

. ssc install tsmktim
checking tsmktim consistency and verifying not already installed...
all files already exist and are up to date.

. sort DATEStata

. tsmktim Time, start (2008q1)
        time variable:  Time, 2008q1 to 2018q4
                delta:  1 quarter

. tsset Time
        time variable:  Time, 2008q1 to 2018q4
                delta:  1 quarter

. gen logUSDTRY = log( USDTRY)

. gen logUSDRUB = log( USDRUB)

. gen logUSDCNY = log( USDCNY)

. gen logUSDINR = log( USDINR)

. gen logUSDBRL = log( USDBRL)

. gen logUSDMXN = log( USDMXN)

. gen logUSDNGN = log( USDNGN)

. gen logUSDZAR = log( USDZAR)

. reg logUSDTRY FEDRATE TRYQCURRACC
```

```
      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      3.61
       Model |  1.04273596         2  .521367982   Prob > F        =    0.0361
    Residual |  5.92726783        41  .144567508   R-squared       =    0.1496
-------------+----------------------------------   Adj R-squared   =    0.1081
       Total |   6.9700038        43  .162093112   Root MSE        =    .38022

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2080364   .0815612     2.55   0.015     .0433202    .3727527
 TRYQCURRACC |   .0267191   .0340342     0.79   0.437    -.0420145    .0954527
       _cons |   .8226677   .1911052     4.30   0.000      .436723    1.208612
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     33.82
       Model |  2.89063815         2  1.44531907   Prob > F        =    0.0000
    Residual |  1.62403922        38  .042737874   R-squared       =    0.6403
-------------+----------------------------------   Adj R-squared   =    0.6213
       Total |  4.51467737        40  .112866934   Root MSE        =    .20673

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4611147   .0571876     8.06   0.000     .3453445     .576885
 TRYQCURRACC |   .0168444   .0186374     0.90   0.372    -.0208849    .0545738
       _cons |     .62442   .1057895     5.90   0.000     .4102604    .8385795
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     41.79
       Model |  2.37629301         2   1.1881465   Prob > F        =    0.0000
    Residual |  .995104417        35  .028431555   R-squared       =    0.7048
-------------+----------------------------------   Adj R-squared   =    0.6880
       Total |  3.37139743        37  .091118849   Root MSE        =    .16862

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .422554   .0471005     8.97   0.000     .3269349    .5181731
 TRYQCURRACC |   .0116056   .0156778     0.74   0.464    -.0202221    .0434333
       _cons |   .5600895    .090952     6.16   0.000     .3754472    .7447319
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     42.90
       Model |  1.64984563         2  .824922814   Prob > F        =    0.0000
    Residual |  .615267165        32  .019227099   R-squared       =    0.7284
-------------+----------------------------------   Adj R-squared   =    0.7114
       Total |  2.26511279        34  .066620964   Root MSE        =    .13866

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3399092   .0399316     8.51   0.000     .2585712    .4212471
 TRYQCURRACC |   .0255238   .0152766     1.67   0.105    -.0055936    .0566412
       _cons |   .6173943   .0928005     6.65   0.000      .428366    .8064227
------------------------------------------------------------------------------

. reg L12.logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =    108.91
       Model |  1.47007551         2  .735037757   Prob > F        =    0.0000
    Residual |  .195729678        29  .006749299   R-squared       =    0.8825
-------------+----------------------------------   Adj R-squared   =    0.8744
       Total |  1.66580519        31  .053735651   Root MSE        =    .08215

------------------------------------------------------------------------------
```

```
L12.          |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2942412   .0241516    12.18   0.000     .2448456    .3436367
 TRYQCURRACC |   .0460459   .0094664     4.86   0.000      .026685    .0654067
       _cons |    .707552   .0588707    12.02   0.000     .5871478    .8279561
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      4.81
       Model |  1.05514011         2  .527570053   Prob > F        =    0.0133
    Residual |  4.50110926        41  .109783153   R-squared       =    0.1899
-------------+----------------------------------   Adj R-squared   =    0.1504
       Total |  5.55624937        43  .129215102   Root MSE        =    .33134

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1210106   .0714932     1.69   0.098    -.0233729    .2653941
 RUBQCURRACC |  -.0929351   .0335748    -2.77   0.008    -.1607408   -.0251293
       _cons |   3.981476   .1392559    28.59   0.000     3.700243    4.262709
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     17.16
       Model |   2.2566208         2   1.1283104   Prob > F        =    0.0000
    Residual |  2.49812678        38  .065740178   R-squared       =    0.4746
-------------+----------------------------------   Adj R-squared   =    0.4470
       Total |  4.75474758        40   .11886869   Root MSE        =     .2564

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3621418   .0717283     5.05   0.000     .2169356    .5073481
 RUBQCURRACC |  -.0587962    .028588    -2.06   0.047    -.1166695   -.0009228
       _cons |   3.716856   .1209025    30.74   0.000     3.472102    3.961611
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     35.44
       Model |  2.84452851         2  1.42226425   Prob > F        =    0.0000
    Residual |  1.40478197        35  .040136628   R-squared       =    0.6694
-------------+----------------------------------   Adj R-squared   =    0.6505
       Total |  4.24931048        37  .114846229   Root MSE        =    .20034

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4348753   .0561074     7.75   0.000     .3209711    .5487794
 RUBQCURRACC |  -.0566777   .0254749    -2.22   0.033    -.1083945    -.004961
       _cons |   3.628121    .100599    36.07   0.000     3.423894    3.832348
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =    141.48
       Model |  3.22183739         2   1.6109187   Prob > F        =    0.0000
    Residual |   .36434905        32  .011385908   R-squared       =    0.8984
-------------+----------------------------------   Adj R-squared   =    0.8921
       Total |  3.58618644        34  .105476072   Root MSE        =     .1067

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4642995   .0301946    15.38   0.000     .4027951    .5258038
 RUBQCURRACC |  -.0660682   .0136056    -4.86   0.000    -.0937819   -.0383546
       _cons |   3.595361   .0538253    66.80   0.000     3.485723       3.705
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE RUBQCURRACC
```

```
      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     95.16
       Model |  2.14301639         2  1.07150819   Prob > F        =    0.0000
    Residual |  .326540348        29  .011260012   R-squared       =    0.8678
-------------+----------------------------------   Adj R-squared   =    0.8587
       Total |  2.46955673        31   .07966312   Root MSE        =    .10611

------------------------------------------------------------------------------
L12.         |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4152181   .0301804    13.76   0.000     .3534922    .4769441
 RUBQCURRACC |  -.0017852   .0152699    -0.12   0.908    -.0330158    .0294453
       _cons |   3.330427   .0561758    59.29   0.000     3.215534    3.445319
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =     14.49
       Model |  .033813198         2  .016906599   Prob > F        =    0.0000
    Residual |  .047826188        41  .001166492   R-squared       =    0.4142
-------------+----------------------------------   Adj R-squared   =    0.3856
       Total |  .081639386        43   .00189859   Root MSE        =    .03415

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0271318    .007434     3.65   0.001     .0121185    .0421451
 CNYQCURRACC |   .0076717   .0023416     3.28   0.002     .0029427    .0124007
       _cons |   1.837581   .0091333   201.20   0.000     1.819136    1.856026
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     11.22
       Model |  .028089759         2   .01404488   Prob > F        =    0.0001
    Residual |  .047550239        38  .001251322   R-squared       =    0.3714
-------------+----------------------------------   Adj R-squared   =    0.3383
       Total |  .075639998        40     .001891   Root MSE        =    .03537

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0379837   .0110534     3.44   0.001     .0156073    .0603601
 CNYQCURRACC |   .0171294   .0038093     4.50   0.000     .0094179    .0248409
       _cons |   1.811815   .0139789   129.61   0.000     1.783516    1.840114
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =      6.65
       Model |  .020329948         2  .010164974   Prob > F        =    0.0036
    Residual |  .053505895        35   .00152874   R-squared       =    0.2753
-------------+----------------------------------   Adj R-squared   =    0.2339
       Total |  .073835843        37  .001995563   Root MSE        =     .0391

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0495024   .0141502     3.50   0.001      .020776    .0782289
 CNYQCURRACC |   .0249186   .0082117     3.03   0.005     .0082479    .0415892
       _cons |   1.795055   .0238468    75.27   0.000     1.746644    1.843467
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =      1.65
       Model |  .005984155         2  .002992077   Prob > F        =    0.2077
    Residual |  .057968165        32  .001811505   R-squared       =    0.0936
-------------+----------------------------------   Adj R-squared   =    0.0369
       Total |   .06395232        34  .001880951   Root MSE        =    .04256
```

```
------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0126892   .0163225     0.78   0.443    -.0205586    .0459371
 CNYQCURRACC |   .0194633   .0112352     1.73   0.093     -.003422    .0423485
       _cons |   1.821751    .030101    60.52   0.000     1.760437    1.883065
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =      3.70
       Model |  .012659862         2  .006329931   Prob > F        =    0.0371
    Residual |   .04964872        29  .001712025   R-squared       =    0.2032
-------------+----------------------------------   Adj R-squared   =    0.1482
       Total |  .062308581        31  .002009954   Root MSE        =    .04138

------------------------------------------------------------------------------
L12.         |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0364557   .0178316    -2.04   0.050    -.0729255    .0000141
 CNYQCURRACC |  -.0054301   .0151789    -0.36   0.723    -.0364744    .0256142
       _cons |   1.895326   .0371692    50.99   0.000     1.819306    1.971346
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      2.63
       Model |  .133483256         2  .066741628   Prob > F        =    0.0842
    Residual |  1.04047439        41  .025377424   R-squared       =    0.1137
-------------+----------------------------------   Adj R-squared   =    0.0705
       Total |  1.17395765        43  .027301341   Root MSE        =     .1593

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0010092   .0357737     0.03   0.978    -.0712372    .0732556
 INRQCURRACC |   .0421634   .0193257     2.18   0.035     .0031344    .0811924
       _cons |   4.123356   .0583069    70.72   0.000     4.005603     4.24111
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     21.33
       Model |   .53463975         2  .267319875   Prob > F        =    0.0000
    Residual |  .476231427        38  .012532406   R-squared       =    0.5289
-------------+----------------------------------   Adj R-squared   =    0.5041
       Total |  1.01087118        40  .025271779   Root MSE        =    .11195

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1170297   .0317727     3.68   0.001     .0527092    .1813501
 INRQCURRACC |    .059261   .0136085     4.35   0.000     .0317121    .0868098
       _cons |   4.100542   .0413627    99.14   0.000     4.016808    4.184276
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     36.25
       Model |  .626012979         2   .31300649   Prob > F        =    0.0000
    Residual |  .302254426        35  .008635841   R-squared       =    0.6744
-------------+----------------------------------   Adj R-squared   =    0.6558
       Total |  .928267405        37  .025088308   Root MSE        =    .09293

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1372456   .0266223     5.16   0.000     .0831995    .1912916
 INRQCURRACC |    .060026   .0113487     5.29   0.000     .0369869     .083065
       _cons |   4.079644   .0352422   115.76   0.000     4.008098    4.151189
------------------------------------------------------------------------------
```

```
. reg L9.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =    124.95
       Model |  .720200837         2  .360100419   Prob > F        =    0.0000
    Residual |  .092224058        32  .002882002   R-squared       =    0.8865
-------------+----------------------------------   Adj R-squared   =    0.8794
       Total |  .812424896        34   .02389485   Root MSE        =    .05368

------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1422522   .0156288     9.10   0.000     .1104174    .1740871
 INRQCURRACC |   .0668437   .0066441    10.06   0.000       .05331    .0803773
       _cons |   4.075721   .0212147   192.12   0.000     4.032508    4.118933
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     44.09
       Model |  .492973786         2  .246486893   Prob > F        =    0.0000
    Residual |  .162108092        29  .005589934   R-squared       =    0.7525
-------------+----------------------------------   Adj R-squared   =    0.7355
       Total |  .655081877        31  .021131673   Root MSE        =    .07477

------------------------------------------------------------------------------
L12.          |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1594287   .0218629     7.29   0.000     .1147139    .2041434
 INRQCURRACC |   .0375771    .009427     3.99   0.000     .0182967    .0568575
       _cons |   3.969343   .0295648   134.26   0.000     3.908876     4.02981
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      2.09
       Model |  .363194489         2  .181597245   Prob > F        =    0.1364
    Residual |  3.55809977        41  .086782921   R-squared       =    0.0926
-------------+----------------------------------   Adj R-squared   =    0.0484
       Total |  3.92129426        43   .09119289   Root MSE        =    .29459

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0884647   .0918708     0.96   0.341    -.0970722    .2740015
 BRLQCURRACC |   .0291816   .0538275     0.54   0.591    -.0795253    .1378884
       _cons |   .9004668   .1699829     5.30   0.000     .5571794    1.243754
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     14.40
       Model |  1.35931012         2  .679655059   Prob > F        =    0.0000
    Residual |  1.79304416        38  .047185373   R-squared       =    0.4312
-------------+----------------------------------   Adj R-squared   =    0.4013
       Total |  3.15235428        40  .078808857   Root MSE        =    .21722

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2319502   .0863776     2.69   0.011     .0570879    .4068124
 BRLQCURRACC |   .0531469   .0413795     1.28   0.207    -.0306216    .1369154
       _cons |   .8745794   .1329542     6.58   0.000     .6054277    1.143731
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     28.16
       Model |  1.71809982         2  .859049911   Prob > F        =    0.0000
    Residual |  1.06761263        35  .030503218   R-squared       =    0.6168
```

```
-------------+----------------------------------   Adj R-squared   =    0.5949
       Total |  2.78571245        37  .075289526   Root MSE        =    .17465

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2349731   .0768324     3.06   0.004      .078995    .3909513
 BRLQCURRACC |   .0733894   .0376039     1.95   0.059    -.0029505    .1497294
       _cons |   .8966665   .1250094     7.17   0.000     .6428838    1.150449
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     62.67
       Model |  1.89560615         2  .947803074   Prob > F        =    0.0000
    Residual |  .483934666        32  .015122958   R-squared       =    0.7966
-------------+----------------------------------   Adj R-squared   =    0.7839
       Total |  2.37954081        34  .069986495   Root MSE        =    .12298

------------------------------------------------------------------------------
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2298416   .0638678     3.60   0.001     .0997471    .3599362
 BRLQCURRACC |   .0858807   .0317591     2.70   0.011     .0211894    .1505719
       _cons |   .9004356   .1097547     8.20   0.000     .6768726    1.123999
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     74.76
       Model |  1.50010686         2   .75005343   Prob > F        =    0.0000
    Residual |   .29093888        29  .010032375   R-squared       =    0.8376
-------------+----------------------------------   Adj R-squared   =    0.8264
       Total |  1.79104574        31  .057775669   Root MSE        =    .10016

------------------------------------------------------------------------------
L12.         |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |     .33217   .0525031     6.33   0.000     .2247891     .439551
 BRLQCURRACC |   .0090558     .02614     0.35   0.732    -.0444066    .0625182
       _cons |     .60688   .0904282     6.71   0.000     .4219336    .7918264
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =     13.24
       Model |  .613064003         2  .306532002   Prob > F        =    0.0000
    Residual |   .94931436        41  .023154009   R-squared       =    0.3924
-------------+----------------------------------   Adj R-squared   =    0.3628
       Total |  1.56237836        43  .036334381   Root MSE        =    .15216

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0830143   .0329256     2.52   0.016     .0165197     .149509
 MXNQCURRACC |  -.1624663   .0339809    -4.78   0.000    -.2310922   -.0938404
       _cons |   2.362365   .0652936    36.18   0.000     2.230502    2.494228
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     38.01
       Model |  .859145216         2  .429572608   Prob > F        =    0.0000
    Residual |  .429513343        38  .011302983   R-squared       =    0.6667
-------------+----------------------------------   Adj R-squared   =    0.6492
       Total |  1.28865856        40  .032216464   Root MSE        =    .10632

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2392489    .029359     8.15   0.000     .1798147     .298683
 MXNQCURRACC |  -.0631058    .024668    -2.56   0.015    -.1130434   -.0131681
```

```
       _cons |   2.445244   .0461813    52.95   0.000     2.351755    2.538733
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     57.54
       Model |  .799853024         2  .399926512   Prob > F        =    0.0000
    Residual |  .243254434        35  .006950127   R-squared       =    0.7668
-------------+----------------------------------   Adj R-squared   =    0.7535
       Total |  1.04310746        37  .028192093   Root MSE        =    .08337

------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2428365   .0231777    10.48   0.000     .1957833    .2898896
 MXNQCURRACC |  -.0330865   .0194119    -1.70   0.097    -.0724948    .0063218
       _cons |   2.468216   .0369517    66.80   0.000       2.3932    2.543231
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     53.57
       Model |  .539109084         2  .269554542   Prob > F        =    0.0000
    Residual |  .161018498        32  .005031828   R-squared       =    0.7700
-------------+----------------------------------   Adj R-squared   =    0.7556
       Total |  .700127582        34  .020591988   Root MSE        =    .07094

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2019955   .0199191    10.14   0.000     .1614216    .2425694
 MXNQCURRACC |  -.0336608   .0174381    -1.93   0.062    -.0691811    .0018595
       _cons |   2.450748   .0344459    71.15   0.000     2.380583    2.520912
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     19.51
       Model |  .227231053         2  .113615526   Prob > F        =    0.0000
    Residual |  .168865106        29  .005822935   R-squared       =    0.5737
-------------+----------------------------------   Adj R-squared   =    0.5443
       Total |  .396096159        31  .012777295   Root MSE        =    .07631

------------------------------------------------------------------------------
L12.         |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1359022    .021756     6.25   0.000     .0914063    .1803982
 MXNQCURRACC |  -.0154737   .0238925    -0.65   0.522    -.0643393    .0333919
       _cons |   2.480304   .0497173    49.89   0.000     2.378621    2.581988
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        11
-------------+----------------------------------   F(2, 8)         =     17.20
       Model |  1.10550416         2  .552752079   Prob > F        =    0.0013
    Residual |  .257158697         8  .032144837   R-squared       =    0.8113
-------------+----------------------------------   Adj R-squared   =    0.7641
       Total |  1.36266286        10  .136266286   Root MSE        =    .17929

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4317192   .0822617     5.25   0.001     .2420233     .621415
 NGNQCURRACC |  -.0381905   .0190334    -2.01   0.080    -.0820816    .0057007
       _cons |    5.19071   .0868772    59.75   0.000     4.990371    5.391049
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        11
-------------+----------------------------------   F(2, 8)         =     65.16
```

```
       Model |  1.06474502         2  .532372511   Prob > F        =    0.0000
    Residual |  .065360755         8  .008170094   R-squared       =    0.9422
-------------+----------------------------------   Adj R-squared   =    0.9277
       Total |  1.13010578        10  .113010578   Root MSE        =    .09039

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4239995   .0414721    10.22   0.000     .3283648    .5196343
 NGNQCURRACC |  -.0373267   .0095957    -3.89   0.005    -.0594544   -.0151991
       _cons |   5.104464   .0437989   116.54   0.000     5.003463    5.205464
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        10
-------------+----------------------------------   F(2, 7)         =     31.29
       Model |  .833081314         2  .416540657   Prob > F        =    0.0003
    Residual |  .093176657         7  .013310951   R-squared       =    0.8994
-------------+----------------------------------   Adj R-squared   =    0.8707
       Total |  .926257971         9  .102917552   Root MSE        =    .11537

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4157802   .0532167     7.81   0.000     .2899428    .5416176
 NGNQCURRACC |  -.0187811   .0165749    -1.13   0.294    -.0579744    .0204122
       _cons |   5.011653   .0572669    87.51   0.000     4.876238    5.147067
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         9
-------------+----------------------------------   F(2, 6)         =     18.52
       Model |  .500257289         2  .250128645   Prob > F        =    0.0027
    Residual |  .081025861         6   .01350431   R-squared       =    0.8606
-------------+----------------------------------   Adj R-squared   =    0.8141
       Total |   .58128315         8  .072660394   Root MSE        =    .11621

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3324123   .0547017     6.08   0.001     .1985619    .4662626
 NGNQCURRACC |  -.0135114   .0181742    -0.74   0.485     -.057982    .0309593
       _cons |   4.971567   .0578338    85.96   0.000     4.830053    5.113081
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         8
-------------+----------------------------------   F(2, 5)         =     19.21
       Model |  .081676653         2  .040838326   Prob > F        =    0.0045
    Residual |  .010627183         5  .002125437   R-squared       =    0.8849
-------------+----------------------------------   Adj R-squared   =    0.8388
       Total |  .092303835         7  .013186262   Root MSE        =     .0461

------------------------------------------------------------------------------
L12.         |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1377273   .0222182     6.20   0.002     .0806136    .1948411
 NGNQCURRACC |  -.0063769   .0075813    -0.84   0.439    -.0258652    .0131115
       _cons |   5.014414   .0233329   214.91   0.000     4.954434    5.074393
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      2.47
       Model |  .325540644         2  .162770322   Prob > F        =    0.0968
    Residual |  2.69849835        41  .065817033   R-squared       =    0.1077
-------------+----------------------------------   Adj R-squared   =    0.0641
       Total |  3.02403899        43  .070326488   Root MSE        =    .25655

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
```

```
     FEDRATE |   .0928367   .0552098     1.68   0.100    -.0186616    .2043351
 ZARQCURRACC |  -.0343385   .0261934    -1.31   0.197    -.0872372    .0185601
       _cons |   2.123302   .1108356    19.16   0.000     1.899465    2.347139
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     12.48
       Model |  1.05364967         2  .526824833   Prob > F        =    0.0001
    Residual |  1.60448058        38  .042223173   R-squared       =    0.3964
-------------+----------------------------------   Adj R-squared   =    0.3646
       Total |  2.65813025        40  .066453256   Root MSE        =    .20548

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .286958   .0580514     4.94   0.000     .1694391    .4044769
 ZARQCURRACC |  -.0417898    .023306    -1.79   0.081    -.0889704    .0053907
       _cons |    2.00461   .1008329    19.88   0.000     1.800485    2.208736
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     23.25
       Model |  1.39655672         2  .698278362   Prob > F        =    0.0000
    Residual |  1.05139626        35  .030039893   R-squared       =    0.5705
-------------+----------------------------------   Adj R-squared   =    0.5460
       Total |  2.44795298        37  .066160891   Root MSE        =    .17332

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3307125   .0491008     6.74   0.000     .2310326    .4303925
 ZARQCURRACC |  -.0062471   .0202472    -0.31   0.760    -.0473512     .034857
       _cons |   2.093416   .0857724    24.41   0.000     1.919289    2.267543
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     52.57
       Model |  1.59936189         2  .799680947   Prob > F        =    0.0000
    Residual |  .486738517        32  .015210579   R-squared       =    0.7667
-------------+----------------------------------   Adj R-squared   =    0.7521
       Total |  2.08610041        34  .061355894   Root MSE        =    .12333

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3358067   .0356419     9.42   0.000     .2632066    .4084069
 ZARQCURRACC |   .0252388   .0148318     1.70   0.099    -.0049727    .0554502
       _cons |   2.170793   .0648611    33.47   0.000     2.038675    2.302911
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =    101.99
       Model |  1.28591077         2  .642955385   Prob > F        =    0.0000
    Residual |  .182812113        29  .006303866   R-squared       =    0.8755
-------------+----------------------------------   Adj R-squared   =    0.8669
       Total |  1.46872288        31  .047378158   Root MSE        =     .0794

------------------------------------------------------------------------------
L12.          |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2816113   .0237762    11.84   0.000     .2329835    .3302391
 ZARQCURRACC |   .0400867   .0105918     3.78   0.001      .018424    .0617494
       _cons |    2.21016   .0484502    45.62   0.000     2.111068    2.309252
------------------------------------------------------------------------------

.
. *With no lags in Current account (2008-2019)
```

```
. reg logUSDTRY FEDRATE TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      3.61
       Model |  1.04273596         2  .521367982   Prob > F        =    0.0361
    Residual |  5.92726783        41  .144567508   R-squared       =    0.1496
-------------+----------------------------------   Adj R-squared   =    0.1081
       Total |   6.9700038        43  .162093112   Root MSE        =    .38022

------------------------------------------------------------------------------
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2080364   .0815612     2.55   0.015     .0433202    .3727527
 TRYQCURRACC |   .0267191   .0340342     0.79   0.437    -.0420145    .0954527
       _cons |   .8226677   .1911052     4.30   0.000      .436723    1.208612
------------------------------------------------------------------------------

. reg L3.logUSDTRY FEDRATE L3.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     32.76
       Model |  2.85741581         2   1.4287079   Prob > F        =    0.0000
    Residual |  1.65726157        38  .043612146   R-squared       =    0.6329
-------------+----------------------------------   Adj R-squared   =    0.6136
       Total |  4.51467737        40  .112866934   Root MSE        =    .20884

------------------------------------------------------------------------------
L3.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4638381   .0582856     7.96   0.000     .3458451    .5818312
             |
 TRYQCURRACC |
         L3. |   .0037955    .019291     0.20   0.845     -.035257     .042848
             |
       _cons |   .5564314   .1113887     5.00   0.000     .3309367    .7819261
------------------------------------------------------------------------------

. reg L6.logUSDTRY FEDRATE L6.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     43.28
       Model |  2.40068928         2  1.20034464   Prob > F        =    0.0000
    Residual |  .970708151        35  .027734519   R-squared       =    0.7121
-------------+----------------------------------   Adj R-squared   =    0.6956
       Total |  3.37139743        37  .091118849   Root MSE        =    .16654

------------------------------------------------------------------------------
L6.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4482454   .0496559     9.03   0.000     .3474386    .5490522
             |
 TRYQCURRACC |
         L6. |  -.0197187   .0164244    -1.20   0.238    -.0530619    .0136245
             |
       _cons |    .386639    .098569     3.92   0.000     .1865333    .5867447
------------------------------------------------------------------------------

. reg L9.logUSDTRY FEDRATE L9.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     46.51
       Model |  1.68535442         2  .842677212   Prob > F        =    0.0000
    Residual |  .579758368        32  .018117449   R-squared       =    0.7440
-------------+----------------------------------   Adj R-squared   =    0.7281
       Total |  2.26511279        34  .066620964   Root MSE        =     .1346

------------------------------------------------------------------------------
L9.logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3872867   .0405411     9.55   0.000      .304707    .4698663
             |
 TRYQCURRACC |
         L9. |  -.0299631   .0135051    -2.22   0.034    -.0574721   -.0024541
             |
       _cons |   .2981427   .0828794     3.60   0.001     .1293228    .4669627
------------------------------------------------------------------------------
```

```
. reg L12.logUSDTRY FEDRATE L12.TRYQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     78.39
       Model |  1.40578655         2  .702893275   Prob > F        =    0.0000
    Residual |  .260018641        29   .00896616   R-squared       =    0.8439
-------------+----------------------------------   Adj R-squared   =    0.8331
       Total |  1.66580519        31  .053735651   Root MSE        =    .09469

------------------------------------------------------------------------------
L12.          |
   logUSDTRY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3454261   .0276019    12.51   0.000     .2889738    .4018784
             |
 TRYQCURRACC |
        L12. |  -.0309345   .0094836    -3.26   0.003    -.0503306   -.0115384
             |
       _cons |   .2586189   .0583903     4.43   0.000     .1391973    .3780405
------------------------------------------------------------------------------

. reg logUSDRUB FEDRATE RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      4.81
       Model |  1.05514011         2  .527570053   Prob > F        =    0.0133
    Residual |  4.50110926        41  .109783153   R-squared       =    0.1899
-------------+----------------------------------   Adj R-squared   =    0.1504
       Total |  5.55624937        43  .129215102   Root MSE        =    .33134

------------------------------------------------------------------------------
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1210106   .0714932     1.69   0.098    -.0233729    .2653941
  RUBQCURRACC |  -.0929351   .0335748    -2.77   0.008    -.1607408   -.0251293
       _cons |   3.981476   .1392559    28.59   0.000     3.700243    4.262709
------------------------------------------------------------------------------

. reg L3.logUSDRUB FEDRATE L3.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     14.79
       Model |  2.08135187         2  1.04067594   Prob > F        =    0.0000
    Residual |  2.67339571        38  .070352519   R-squared       =    0.4377
-------------+----------------------------------   Adj R-squared   =    0.4081
       Total |  4.75474758        40   .11886869   Root MSE        =    .26524

------------------------------------------------------------------------------
L3.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3451608   .0810829     4.26   0.000     .1810171    .5093046
             |
 RUBQCURRACC |
         L3. |   -.036606   .0302819    -1.21   0.234    -.0979084    .0246965
             |
       _cons |   3.648502   .1405834    25.95   0.000     3.363906    3.933098
------------------------------------------------------------------------------

. reg L6.logUSDRUB FEDRATE L6.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     30.14
       Model |  2.68829947         2  1.34414974   Prob > F        =    0.0000
    Residual |  1.56101101        35  .044600315   R-squared       =    0.6326
-------------+----------------------------------   Adj R-squared   =    0.6117
       Total |  4.24931048        37  .114846229   Root MSE        =    .21119

------------------------------------------------------------------------------
L6.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4327461   .0616881     7.02   0.000     .3075126    .5579796
             |
 RUBQCURRACC |
         L6. |   -.023648   .0242409    -0.98   0.336    -.0728596    .0255636
             |
       _cons |    3.52563   .1131388    31.16   0.000     3.295947    3.755314
```

```
------------------------------------------------------------------------------

. reg L9.logUSDRUB FEDRATE L9.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     79.99
       Model |  2.98842481         2   1.4942124   Prob > F        =    0.0000
    Residual |  .597761637        32  .018680051   R-squared       =    0.8333
-------------+----------------------------------   Adj R-squared   =    0.8229
       Total |  3.58618644        34  .105476072   Root MSE        =    .13667

------------------------------------------------------------------------------
L9.logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4745197   .0388177    12.22   0.000     .3954507    .5535887
             |
 RUBQCURRACC |
         L9. |  -.0221573   .0161705    -1.37   0.180    -.0550954    .0107809
             |
       _cons |   3.453838   .0753149    45.86   0.000     3.300427    3.607249
------------------------------------------------------------------------------

. reg L12.logUSDRUB FEDRATE L12.RUBQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     97.73
       Model |  2.15047915         2  1.07523958   Prob > F        =    0.0000
    Residual |  .319077583        29  .011002675   R-squared       =    0.8708
-------------+----------------------------------   Adj R-squared   =    0.8619
       Total |  2.46955673        31   .07966312   Root MSE        =    .10489

------------------------------------------------------------------------------
L12.          |
   logUSDRUB |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4248723   .0318509    13.34   0.000     .3597299    .4900147
             |
 RUBQCURRACC |
         L12. |   .0110908     .01333     0.83   0.412    -.0161721    .0383537
             |
       _cons |   3.274015   .0651344    50.27   0.000       3.1408    3.407229
------------------------------------------------------------------------------

. reg logUSDCNY FEDRATE CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =     14.49
       Model |  .033813198         2  .016906599   Prob > F        =    0.0000
    Residual |  .047826188        41  .001166492   R-squared       =    0.4142
-------------+----------------------------------   Adj R-squared   =    0.3856
       Total |  .081639386        43   .00189859   Root MSE        =    .03415

------------------------------------------------------------------------------
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0271318    .007434     3.65   0.001     .0121185    .0421451
 CNYQCURRACC |   .0076717   .0023416     3.28   0.002     .0029427    .0124007
       _cons |   1.837581   .0091333   201.20   0.000     1.819136    1.856026
------------------------------------------------------------------------------

. reg L3.logUSDCNY FEDRATE L3.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     23.45
       Model |  .041782417         2  .020891209   Prob > F        =    0.0000
    Residual |  .033857581        38  .000890989   R-squared       =    0.5524
-------------+----------------------------------   Adj R-squared   =    0.5288
       Total |  .075639998        40     .001891   Root MSE        =    .02985

------------------------------------------------------------------------------
L3.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0369824   .0088969     4.16   0.000     .0189716    .0549931
             |
 CNYQCURRACC |
         L3. |   .0150832   .0022799     6.62   0.000     .0104677    .0196987
             |
```

```
       _cons |   1.808548   .0105169   171.97   0.000     1.787258    1.829839
------------------------------------------------------------------------------

. reg L6.logUSDCNY FEDRATE L6.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     30.83
       Model |   .04709893         2  .023549465   Prob > F        =    0.0000
    Residual |  .026736913        35  .000763912   R-squared       =    0.6379
-------------+----------------------------------   Adj R-squared   =    0.6172
       Total |  .073835843        37  .001995563   Root MSE        =    .02764

------------------------------------------------------------------------------
L6.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0415859   .0081281     5.12   0.000      .025085    .0580869
             |
 CNYQCURRACC |
         L6. |   .0157137   .0021489     7.31   0.000     .0113511    .0200763
             |
       _cons |   1.801511   .0101498   177.49   0.000     1.780906    1.822117
------------------------------------------------------------------------------

. reg L9.logUSDCNY FEDRATE L9.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     25.89
       Model |  .039528361         2  .019764181   Prob > F        =    0.0000
    Residual |  .024423959        32  .000763249   R-squared       =    0.6181
-------------+----------------------------------   Adj R-squared   =    0.5942
       Total |   .06395232        34  .001880951   Root MSE        =    .02763

------------------------------------------------------------------------------
L9.logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0090283   .0080583     1.12   0.271     -.007386    .0254425
             |
 CNYQCURRACC |
         L9. |   .0155895   .0021814     7.15   0.000      .011146    .0200329
             |
       _cons |   1.808884   .0105694   171.14   0.000     1.787355    1.830413
------------------------------------------------------------------------------

. reg L12.logUSDCNY FEDRATE L12.CNYQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     36.39
       Model |  .044554233         2  .022277116   Prob > F        =    0.0000
    Residual |  .017754348        29  .000612219   R-squared       =    0.7151
-------------+----------------------------------   Adj R-squared   =    0.6954
       Total |  .062308581        31  .002009954   Root MSE        =    .02474

------------------------------------------------------------------------------
L12.         |
   logUSDCNY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |  -.0142406   .0074225    -1.92   0.065    -.0294213    .0009401
             |
 CNYQCURRACC |
        L12. |   .0146341   .0020206     7.24   0.000     .0105015    .0187666
             |
       _cons |   1.820217   .0102539   177.51   0.000     1.799245    1.841188
------------------------------------------------------------------------------

. reg logUSDINR FEDRATE INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      2.63
       Model |  .133483256         2  .066741628   Prob > F        =    0.0842
    Residual |  1.04047439        41  .025377424   R-squared       =    0.1137
-------------+----------------------------------   Adj R-squared   =    0.0705
       Total |  1.17395765        43  .027301341   Root MSE        =     .1593

------------------------------------------------------------------------------
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
```

```
     FEDRATE |   .0010092   .0357737     0.03   0.978    -.0712372    .0732556
 INRQCURRACC |   .0421634   .0193257     2.18   0.035     .0031344    .0811924
       _cons |   4.123356   .0583069    70.72   0.000     4.005603     4.24111
------------------------------------------------------------------------------

. reg L3.logUSDINR FEDRATE L3.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =      8.60
       Model |  .315015037         2  .157507518   Prob > F        =    0.0008
    Residual |  .695856139        38  .018312004   R-squared       =    0.3116
-------------+----------------------------------   Adj R-squared   =    0.2754
       Total |  1.01087118        40  .025271779   Root MSE        =    .13532

------------------------------------------------------------------------------
L3.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1319991   .0415404     3.18   0.003     .0479049    .2160933
             |
 INRQCURRACC |
         L3. |   .0173559   .0174891     0.99   0.327    -.0180489    .0527606
             |
       _cons |   3.994984   .0545622    73.22   0.000     3.884528    4.105439
------------------------------------------------------------------------------

. reg L6.logUSDINR FEDRATE L6.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     12.53
       Model |  .387319133         2  .193659567   Prob > F        =    0.0001
    Residual |  .540948272        35  .015455665   R-squared       =    0.4172
-------------+----------------------------------   Adj R-squared   =    0.3839
       Total |  .928267405        37  .025088308   Root MSE        =    .12432

------------------------------------------------------------------------------
L6.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .183013   .0427232     4.28   0.000     .0962804    .2697456
             |
 INRQCURRACC |
         L6. |  -.0078336   .0180732    -0.43   0.667    -.0445241    .0288569
             |
       _cons |   3.899229   .0591898    65.88   0.000     3.779067     4.01939
------------------------------------------------------------------------------

. reg L9.logUSDINR FEDRATE L9.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     22.70
       Model |  .476581677         2  .238290839   Prob > F        =    0.0000
    Residual |  .335843218        32  .010495101   R-squared       =    0.5866
-------------+----------------------------------   Adj R-squared   =    0.5608
       Total |  .812424896        34   .02389485   Root MSE        =    .10245

------------------------------------------------------------------------------
L9.logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2309284   .0362252     6.37   0.000     .1571401    .3047167
             |
 INRQCURRACC |
         L9. |  -.0343291   .0160385    -2.14   0.040    -.0669985   -.0016597
             |
       _cons |   3.789441   .0545983    69.41   0.000     3.678228    3.900654
------------------------------------------------------------------------------

. reg L12.logUSDINR FEDRATE L12.INRQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     43.18
       Model |   .49041066         2   .24520533   Prob > F        =    0.0000
    Residual |  .164671217        29  .005678318   R-squared       =    0.7486
-------------+----------------------------------   Adj R-squared   =    0.7313
       Total |  .655081877        31  .021131673   Root MSE        =    .07535

------------------------------------------------------------------------------
L12.         |
   logUSDINR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
```

```
-------------+----------------------------------------------------------------
     FEDRATE |   .2308836   .0249996     9.24   0.000     .1797537    .2820135
             |
 INRQCURRACC |
       L12. |  -.0462516   .0118671    -3.90   0.001    -.0705224   -.0219807
             |
       _cons |   3.725913   .0413251    90.16   0.000     3.641394    3.810433
------------------------------------------------------------------------------

. reg logUSDBRL FEDRATE BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =      2.09
       Model |  .363194489         2  .181597245   Prob > F        =    0.1364
    Residual |  3.55809977        41  .086782921   R-squared       =    0.0926
-------------+----------------------------------   Adj R-squared   =    0.0484
       Total |  3.92129426        43   .09119289   Root MSE        =    .29459

------------------------------------------------------------------------------
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0884647   .0918708     0.96   0.341    -.0970722    .2740015
 BRLQCURRACC |   .0291816   .0538275     0.54   0.591    -.0795253    .1378884
       _cons |   .9004668   .1699829     5.30   0.000     .5571794    1.243754
------------------------------------------------------------------------------

. reg L3.logUSDBRL FEDRATE L3.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     21.53
       Model |  1.67464174         2  .837320869   Prob > F        =    0.0000
    Residual |  1.47771254        38  .038887172   R-squared       =    0.5312
-------------+----------------------------------   Adj R-squared   =    0.5066
       Total |  3.15235428        40  .078808857   Root MSE        =     .1972

------------------------------------------------------------------------------
L3.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4570261   .0709568     6.44   0.000     .3133816    .6006707
             |
 BRLQCURRACC |
         L3. |  -.1095004   .0344373    -3.18   0.003    -.1792151   -.0397858
             |
       _cons |   .3860149   .1097234     3.52   0.001     .1638915    .6081382
------------------------------------------------------------------------------

. reg L6.logUSDBRL FEDRATE L6.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     42.30
       Model |  1.97047068         2  .985235342   Prob > F        =    0.0000
    Residual |  .815241764        35  .023292622   R-squared       =    0.7073
-------------+----------------------------------   Adj R-squared   =    0.6906
       Total |  2.78571245        37  .075289526   Root MSE        =    .15262

------------------------------------------------------------------------------
L6.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4261973   .0463573     9.19   0.000      .332087    .5203076
             |
 BRLQCURRACC |
         L6. |  -.1006479   .0253025    -3.98   0.000    -.1520147   -.0492812
             |
       _cons |   .3703935   .0798103     4.64   0.000     .2083699    .5324171
------------------------------------------------------------------------------

. reg L9.logUSDBRL FEDRATE L9.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     62.59
       Model |  1.89511122         2  .947555609   Prob > F        =    0.0000
    Residual |  .484429596        32  .015138425   R-squared       =    0.7964
-------------+----------------------------------   Adj R-squared   =    0.7837
       Total |  2.37954081        34  .069986495   Root MSE        =    .12304

------------------------------------------------------------------------------
```

```
L9.logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3737686   .0345502    10.82   0.000     .3033922     .444145
             |
 BRLQCURRACC |
         L9. |  -.0558988   .0207287    -2.70   0.011    -.0981217   -.0136758
             |
       _cons |    .461491   .0618449     7.46   0.000      .335517    .5874649
------------------------------------------------------------------------------

. reg L12.logUSDBRL FEDRATE L12.BRLQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     74.86
       Model |  1.50041377         2  .750206884   Prob > F        =    0.0000
    Residual |  .290631971        29  .010021792   R-squared       =    0.8377
-------------+----------------------------------   Adj R-squared   =    0.8265
       Total |  1.79104574        31  .057775669   Root MSE        =    .10011

------------------------------------------------------------------------------
L12.          |
   logUSDBRL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3540775    .033128    10.69   0.000     .2863231     .421832
             |
 BRLQCURRACC |
        L12. |    .008035   .0206934     0.39   0.701    -.0342878    .0503578
             |
       _cons |   .5957639    .054412    10.95   0.000     .4844789    .7070489
------------------------------------------------------------------------------

. reg logUSDMXN FEDRATE MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
-------------+----------------------------------   F(2, 41)        =     13.24
       Model |  .613064003         2  .306532002   Prob > F        =    0.0000
    Residual |   .94931436        41  .023154009   R-squared       =    0.3924
-------------+----------------------------------   Adj R-squared   =    0.3628
       Total |  1.56237836        43  .036334381   Root MSE        =    .15216

------------------------------------------------------------------------------
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0830143   .0329256     2.52   0.016     .0165197     .149509
 MXNQCURRACC |  -.1624663   .0339809    -4.78   0.000    -.2310922   -.0938404
       _cons |   2.362365   .0652936    36.18   0.000     2.230502    2.494228
------------------------------------------------------------------------------

. reg L3.logUSDMXN FEDRATE L3.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     65.19
       Model |   .99783862         2   .49891931   Prob > F        =    0.0000
    Residual |  .290819939        38  .007653156   R-squared       =    0.7743
-------------+----------------------------------   Adj R-squared   =    0.7624
       Total |  1.28865856        40  .032216464   Root MSE        =    .08748

------------------------------------------------------------------------------
L3.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2100898   .0249582     8.42   0.000     .1595646     .260615
             |
 MXNQCURRACC |
         L3. |  -.1057151   .0200544    -5.27   0.000    -.1463131   -.0651171
             |
       _cons |   2.390888   .0348089    68.69   0.000     2.320422    2.461355
------------------------------------------------------------------------------

. reg L6.logUSDMXN FEDRATE L6.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     71.88
       Model |  .838884604         2  .419442302   Prob > F        =    0.0000
    Residual |  .204222853        35  .005834939   R-squared       =    0.8042
-------------+----------------------------------   Adj R-squared   =    0.7930
       Total |  1.04310746        37  .028192093   Root MSE        =    .07639
```

```
------------------------------------------------------------------------------
L6.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .2030728   .0249692     8.13   0.000     .1523826     .253763
             |
 MXNQCURRACC |
         L6. |  -.0635179   .0199375    -3.19   0.003    -.1039932   -.0230426
             |
       _cons |   2.438099   .0311726    78.21   0.000     2.374815    2.501383
------------------------------------------------------------------------------

. reg L9.logUSDMXN FEDRATE L9.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =     50.89
       Model |  .532650953         2  .266325476   Prob > F        =    0.0000
    Residual |   .16747663        32  .005233645   R-squared       =    0.7608
-------------+----------------------------------   Adj R-squared   =    0.7458
       Total |  .700127582        34  .020591988   Root MSE        =    .07234

------------------------------------------------------------------------------
L9.logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1751918   .0270395     6.48   0.000     .1201142    .2302694
             |
 MXNQCURRACC |
         L9. |  -.0336252   .0219421    -1.53   0.135    -.0783198    .0110694
             |
       _cons |   2.469396   .0309315    79.83   0.000      2.40639    2.532401
------------------------------------------------------------------------------

. reg L12.logUSDMXN FEDRATE L12.MXNQCURRACC

      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =     19.45
       Model |  .226919161         2  .113459581   Prob > F        =    0.0000
    Residual |  .169176997        29   .00583369   R-squared       =    0.5729
-------------+----------------------------------   Adj R-squared   =    0.5434
       Total |  .396096159        31  .012777295   Root MSE        =    .07638

------------------------------------------------------------------------------
L12.          |
   logUSDMXN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .1217602    .030304     4.02   0.000     .0597816    .1837388
             |
 MXNQCURRACC |
        L12. |  -.0162587   .0269043    -0.60   0.550    -.0712842    .0387668
             |
       _cons |   2.492388   .0345932    72.05   0.000     2.421637    2.563139
------------------------------------------------------------------------------

. reg logUSDNGN FEDRATE NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        11
-------------+----------------------------------   F(2, 8)         =     17.20
       Model |  1.10550416         2  .552752079   Prob > F        =    0.0013
    Residual |  .257158697         8  .032144837   R-squared       =    0.8113
-------------+----------------------------------   Adj R-squared   =    0.7641
       Total |  1.36266286        10  .136266286   Root MSE        =    .17929

------------------------------------------------------------------------------
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4317192   .0822617     5.25   0.001     .2420233     .621415
 NGNQCURRACC |  -.0381905   .0190334    -2.01   0.080    -.0820816    .0057007
       _cons |    5.19071   .0868772    59.75   0.000     4.990371    5.391049
------------------------------------------------------------------------------

. reg L3.logUSDNGN FEDRATE L3.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =        10
-------------+----------------------------------   F(2, 7)         =     95.92
       Model |   .92845917         2  .464229585   Prob > F        =    0.0000
    Residual |  .033878904         7  .004839843   R-squared       =    0.9648
-------------+----------------------------------   Adj R-squared   =    0.9547
```

```
       Total |  .962338073         9  .106926453   Root MSE        =    .06957

------------------------------------------------------------------------------
L3.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .4709711   .0380249    12.39   0.000     .3810564    .5608858
             |
 NGNQCURRACC |
         L3. |  -.0265102   .0075112    -3.53   0.010    -.0442715    -.008749
             |
       _cons |   5.100622   .0364291   140.02   0.000     5.014481    5.186763
------------------------------------------------------------------------------

. reg L6.logUSDNGN FEDRATE L6.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         9
-------------+----------------------------------   F(2, 6)         =     36.25
       Model |  .449960954         2  .224980477   Prob > F        =    0.0004
    Residual |   .03723518         6  .006205863   R-squared       =    0.9236
-------------+----------------------------------   Adj R-squared   =    0.8981
       Total |  .487196134         8  .060899517   Root MSE        =    .07878

------------------------------------------------------------------------------
L6.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3724586   .0571868     6.51   0.001     .2325276    .5123896
             |
 NGNQCURRACC |
         L6. |  -.0068384   .0102391    -0.67   0.529    -.0318927    .0182158
             |
       _cons |   5.014568   .0543546    92.26   0.000     4.881567    5.147569
------------------------------------------------------------------------------

. reg L9.logUSDNGN FEDRATE L9.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         8
-------------+----------------------------------   F(2, 5)         =     72.96
       Model |  .089245615         2  .044622807   Prob > F        =    0.0002
    Residual |   .00305822         5  .000611644   R-squared       =    0.9669
-------------+----------------------------------   Adj R-squared   =    0.9536
       Total |  .092303835         7  .013186262   Root MSE        =    .02473

------------------------------------------------------------------------------
L9.logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0726823   .0333252     2.18   0.081    -.0129829    .1583475
             |
 NGNQCURRACC |
         L9. |  -.0231726   .0048313    -4.80   0.005    -.0355919   -.0107532
             |
       _cons |   5.126916   .0282834   181.27   0.000     5.054211    5.199621
------------------------------------------------------------------------------

. reg L12.logUSDNGN FEDRATE L12.NGNQCURRACC

      Source |       SS           df       MS      Number of obs   =         8
-------------+----------------------------------   F(2, 5)         =     94.75
       Model |  .089931002         2  .044965501   Prob > F        =    0.0001
    Residual |  .002372833         5  .000474567   R-squared       =    0.9743
-------------+----------------------------------   Adj R-squared   =    0.9640
       Total |  .092303835         7  .013186262   Root MSE        =    .02178

------------------------------------------------------------------------------
L12.          |
   logUSDNGN |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0560245   .0203558     2.75   0.040     .0036983    .1083507
             |
 NGNQCURRACC |
        L12. |  -.0209848   .0046278    -4.53   0.006    -.0328808   -.0090887
             |
       _cons |   5.116409   .0263268   194.34   0.000     5.048734    5.184084
------------------------------------------------------------------------------

. reg logUSDZAR FEDRATE ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        44
```

```
-------------+----------------------------------   F(2, 41)        =      2.47
       Model |  .325540644         2  .162770322   Prob > F        =    0.0968
    Residual |  2.69849835        41  .065817033   R-squared       =    0.1077
-------------+----------------------------------   Adj R-squared   =    0.0641
       Total |  3.02403899        43  .070326488   Root MSE        =    .25655

------------------------------------------------------------------------------
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .0928367   .0552098     1.68   0.100    -.0186616    .2043351
 ZARQCURRACC |  -.0343385   .0261934    -1.31   0.197    -.0872372    .0185601
       _cons |   2.123302   .1108356    19.16   0.000     1.899465    2.347139
------------------------------------------------------------------------------

. reg L3.logUSDZAR FEDRATE L3.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        41
-------------+----------------------------------   F(2, 38)        =     23.84
       Model |  1.47929003         2  .739645015   Prob > F        =    0.0000
    Residual |  1.17884022        38  .031022111   R-squared       =    0.5565
-------------+----------------------------------   Adj R-squared   =    0.5332
       Total |  2.65813025        40  .066453256   Root MSE        =    .17613

------------------------------------------------------------------------------
L3.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3317723   .0510817     6.49   0.000     .2283628    .4351819
             |
 ZARQCURRACC |
         L3. |  -.0804378   .0189087    -4.25   0.000    -.1187164   -.0421592
             |
       _cons |   1.826423   .0878845    20.78   0.000      1.64851    2.004336
------------------------------------------------------------------------------

. reg L6.logUSDZAR FEDRATE L6.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        38
-------------+----------------------------------   F(2, 35)        =     69.06
       Model |  1.95302646         2   .97651323   Prob > F        =    0.0000
    Residual |   .49492652        35  .014140758   R-squared       =    0.7978
-------------+----------------------------------   Adj R-squared   =    0.7863
       Total |  2.44795298        37  .066160891   Root MSE        =    .11891

------------------------------------------------------------------------------
L6.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .363349   .0334905    10.85   0.000     .2953596    .4313383
             |
 ZARQCURRACC |
         L6. |  -.0797008   .0126726    -6.29   0.000    -.1054275   -.0539741
             |
       _cons |   1.781428   .0586757    30.36   0.000      1.66231    1.900546
------------------------------------------------------------------------------

. reg L9.logUSDZAR FEDRATE L9.ZARQCURRACC

      Source |       SS           df       MS      Number of obs   =        35
-------------+----------------------------------   F(2, 32)        =    123.37
       Model |  1.84661837         2  .923309186   Prob > F        =    0.0000
    Residual |   .23948204        32  .007483814   R-squared       =    0.8852
-------------+----------------------------------   Adj R-squared   =    0.8780
       Total |  2.08610041        34  .061355894   Root MSE        =    .08651

------------------------------------------------------------------------------
L9.logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |   .3245995   .0246331    13.18   0.000     .2744236    .3747755
             |
 ZARQCURRACC |
         L9. |  -.0600778   .0096295    -6.24   0.000    -.0796925   -.0404631
             |
       _cons |   1.832832   .0422988    43.33   0.000     1.746672    1.918992
------------------------------------------------------------------------------

. reg L12.logUSDZAR FEDRATE L12.ZARQCURRACC
```

```
      Source |       SS           df       MS      Number of obs   =        32
-------------+----------------------------------   F(2, 29)        =    168.88
       Model |  1.35258922         2  .676294609   Prob > F        =    0.0000
    Residual |  .116133666        29  .004004609   R-squared       =    0.9209
-------------+----------------------------------   Adj R-squared   =    0.9155
       Total |  1.46872288        31  .047378158   Root MSE        =    .06328

------------------------------------------------------------------------------
L12.          |
   logUSDZAR |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     FEDRATE |    .272183   .0189649    14.35   0.000     .2333954    .3109706
             |
 ZARQCURRACC |
        L12. |  -.0460207   .0073505    -6.26   0.000    -.0610543   -.0309872
             |
       _cons |    1.86821   .0309217    60.42   0.000     1.804968    1.931452
------------------------------------------------------------------------------

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end of do-file

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```