

**MONETARY OUTLOOK: INTERNAL VALUE OF MONEY
STABILITY COMPARISON IN USA**

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ABSTRACT

This paper aims to study the transformation of money in the United States using qualitative content analysis and predict the stability of the internal exchange rate of money by comparing the internal exchange rate of commodity money proxied by gold against crude oil internally. The exchange rate of fiat money proxied by the USD against crude oil and the internal exchange rate of synthetic money proxied by bitcoin against crude oil use the autoregressive threshold (TAR) method in the exchange period. In the great depression, fiat standards, subprime mortgage crisis, Europe experienced a debt crisis until 2017 (1960 - 2017). We compare the internal stability of money for each period in the aggregate using TAR to describe the overall fluctuation of internal exchange rate stability. So it can be seen that the behavior of data movements based on the crisis period experienced is the basis for predicting the stability of the internal exchange rate in the future.

Keywords: monetary outlook, internal value of money, mixed-method

1. Introduction

The money that is known today is fiat money in certain currencies in the world. Inflation that occurs throughout the world causes the exchange rate of money against goods to change from year to year. Inflation keeps prices high and never returns to the starting point of the long-run price change.

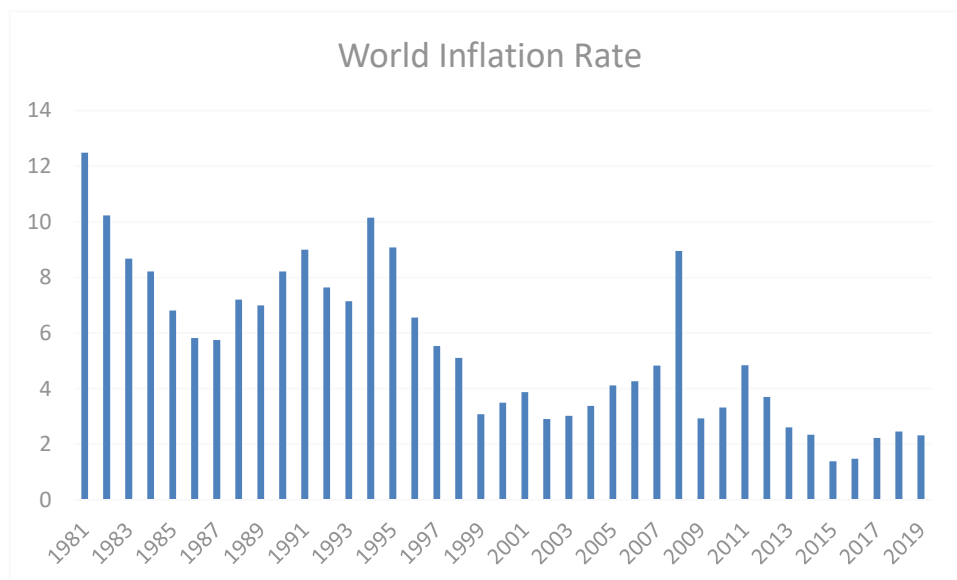


Figure 1

Source: World Bank, compiled

The world inflation rate, which is getting more stable and better after 2009, shows an increase in commodity prices worldwide. Changes in prices continuously indicate a weakening of the exchange rate for goods and services. Inflation is a condition in which prices generally rise, and this happens theoretically because the money supply exceeds or is not balanced with production growth which results in a decline in the internal exchange rate of money. Alternatively, theoretically, population growth which is getting more and more, cannot be balanced by production growth so that demand is increasing, but supply growth is unable to keep up with demand growth due to population growth. It causes prices to apply when demand rises and production cannot increase to compensate for demand so that prices will rise. In aggregate or in general, when this condition occurs, inflation arises (Heise, 2019).

The quantity theory of money explains that the value of money occurs as a result of the demand for money for the needs of transactions with goods where when the amount of money in circulation is more than the demand or the growth in the money supply is higher than the growth in production, it will have an impact on increasing prices in general and expanding. is called inflation. The value of money is the value of demand and supply in money in circulation and the production of output, both goods and services exchanged in supply and demand, is in the opposite position (Mitchell et al., 2019).

2. Literature Review

Money is a legal payment medium. Money is a commonly used commodity to pay (Jain & Ohri, 2020; Hazlett & Luther, 2020). Based on the form, money is divided into commodity money or goods money, fiat money, and electronic money or digital money (Vandezande, 2017; Bonetto & Iacopetta, 2019). Commodity money has the value of use because

commodity money can be used or consumed. The value of exchange for other commodities is measured based on the benefits of the goods being exchanged and the scarcity or difficulty of obtaining the goods exchanged (the value of scarcity) so that the exchange rate for goods money is a function of use-value and scarcity value (Karimzadi, 2013; Smith & Shubik, 2011).

Based on its exchange rate, fiat money has an exchange rate for goods (internal value of money) and an external value of money (Caldentey, 2015; Daly, 2014). Based on public acceptance as money users and based on the history of money, fiat money is accepted because of the guaranteed value of both gold and silver and the existence of legal or legal regulations. Based on the elements attached to fiat or paper money, there is an intrinsic value in the form of costs required to make money and the nominal value stated on the money (Glasner, D.2017; Grewal, 2020). Digital money was first born in 2009 and is a new money revolution in this century (Pagliery, 2014). Digital money is different from money that represents itself and has a value of use and is different from fiat money, which represents something that guarantees both law and gold or silver (Lyócsa et al., 2020). Digital money can be mined by anyone through blockchains and owned by anyone, but it is rare or limited (Kristoufek, 2020; Ammous, 2018). Digital money has a scarcity value so that its exchange rate is purely influenced by the amount of demand and supply (Horra et al., 2019; Chu et al., 2019). Digital money cannot be consumed like fiat money but can be exchanged for goods or services (Zharova & Lloyd, 2018).

Based on the history of money, money transformed in shape and impacted the world's monetary system. Starting from 3000 BC in Mesopotamia using grain or wheat as money, China used (packed tea) pressed tea as money, and in Egypt, Rome used salt as money. At that time, the value of use becomes the dominant value in determining the exchange rate (Wang, 2020; Chaturvedi et al., 2018). However, money changed its shape to a more compact form and was easier to transfer starting from shell money in china (shell money) 1200 BC, then transformed into a more durable one starting with knife money (knife money) 1000 BC in china, coins Gold in Lydia (currently Turkey) 625 BC, Bar money in the Roman Empire 359 BC (Yang, 2019; Sumner, 2020). The transformation of money from 3000 BC to 359 BC encourages a shift in the underlying value of the exchange rate from the value of use to the value of scarcity. The money transformation at that time was still around the type of money in goods. However, since the Han dynasty 118 BC issued leather money representing the gold and silver owned by the Han dynasty to facilitate exchange and encourage Chinese trade, the value underlying the exchange rate has shifted from scarcity to representation (Pulikkottil, 2017). Han dynasty innovation pioneered the birth of paper money 700 years later, namely the Tang dynasty AD 618 known as Fei Qian 飞钱 or biannual 便换 and its influence was spread by the Mongol kingdom (yuan dynasty) in Mongol expansion known as 鐘形 Zhongtong Chao (Prasad, 2017). A.D. 54 Romani had the same innovation as the Han dynasty using wooden tablets that promised a certain amount of gold, known as Rome's promissory notes (Johnston, 2015). The concept of promissory notes, which is increasingly popular in Europe (western world), met 鐘形 Zhongtong Chao (eastern world) in 1275 which developed into banknotes (banknotes issued) in 1661 in Sweden (Sweden) and spread throughout the world, including America (Range, 2018). From April 19, 1775, to September 3, 1783, the Continental Congress issued banknotes, supported by "anticipated" tax revenues, which became America's first banknotes (it was hoped that the gold and silver that supported them could be obtained from tax revenues) to finance the American Revolutionary War (Flick, 2019). The continental currency quickly depreciated because it was easy to counterfeit, and there was no pen

3. Research Method

This type of data is quantitative and qualitative, while the data source in this study is secondary data. The method used in this research is a mixed method of qualitative narrative content analysis, which analyzes historical content to obtain an understanding and general description of money transformation and exchange rate stability from 3000 BC to the present. Descriptive Quantitative Analysis the Nonlinear Time Series Forecasting Threshold Autoregressive (TAR) Model Statistical Analysis.

3.1 Research Model

Equation Model TAR 3 regime P Oil in USD :

$$P \text{ Oil in USD}_t^{(1)} = \beta_0^{(1)} + \beta_1^{(1)} P \text{ Oil in USD}_{t-1} + \dots + \beta_1^{(1)} P \text{ Oil in Gold}_{t-1} + e_t^{(1)}$$

$$P \text{ Oil in USD}_t^{(2)} = \beta_0^{(2)} + \beta_1^{(2)} P \text{ Oil in USD}_{t-1} + \dots + \beta_1^{(2)} P \text{ Oil in Gold}_{t-1} + e_t^{(2)}$$

$$P \text{ Oil in USD}_t^{(3)} = \beta_0^{(3)} + \beta_1^{(3)} P \text{ Oil in USD}_{t-1} + \dots + \beta_1^{(3)} P \text{ Oil in Gold}_{t-1} + e_t^{(3)}$$

Non Threshold Variabel dalam persamaan P Gold in USD

Equation Model TAR 3 regime P Oil in Gold :

$$P \text{ Oil in Gold}_t^{(1)} = \beta_0^{(1)} + \beta_1^{(1)} P \text{ Oil in Gold}_{t-1} + \dots + \beta_1^{(1)} P \text{ Oil in USD}_{t-1} + e_t^{(1)}$$

$$P \text{ Oil in Gold}_t^{(2)} = \beta_0^{(2)} + \beta_1^{(2)} P \text{ Oil in Gold}_{t-1} + \dots + \beta_1^{(2)} P \text{ Oil in USD}_{t-1} + e_t^{(2)}$$

$$P \text{ Oil in Gold}_t^{(3)} = \beta_0^{(3)} + \beta_1^{(3)} P \text{ Oil in Gold}_{t-1} + \dots + \beta_1^{(3)} P \text{ Oil in USD}_{t-1} + e_t^{(3)}$$

Non Threshold Variabel dalam persamaan P Gold in USD

Equation Model TAR 3 regime P Oil in Bitcoin :

$$P \text{ Oil in Bitcoin}_t^{(1)} = \beta_0^{(1)} + \beta_1^{(1)} P \text{ Oil in Bitcoin}_{t-1} + \dots + \beta_1^{(1)} P \text{ Oil in USD}_{t-1} + e_t^{(1)}$$

$$P \text{ Oil in Bitcoin}_t^{(2)} = \beta_0^{(2)} + \beta_1^{(2)} P \text{ Oil in Bitcoin}_{t-1} + \dots + \beta_1^{(2)} P \text{ Oil in USD}_{t-1} + e_t^{(1)}$$

$$P \text{ Oil in Bitcoin}_t^{(3)} = \beta_0^{(1)} + \beta_1^{(3)} P \text{ Oil in Bitcoin}_{t-1} + \dots + \beta_1^{(3)} P \text{ Oil in USD}_{t-1} + e_t^{(1)}$$

Non Threshold Variable in the P Bitcoin in USD equation

4. Data and Discussion

Currently (2019) is a digital era where the use of information technology is increasingly massive. Unstoppable technological developments are flooding the current young generation replacing the previous generation with various information, making the digital age learn faster. Technological developments change people's lifestyles and transactions. It has been going on thousands of years ago when mining technology developed; money was converted from agricultural products to metals starting in Lydia 625 BC. Likewise, when paper technology developed, money also changed the following technology from metal to paper, which reached its peak in 1971 during the Nixon Shock era. The development of technology was followed by the birth of the Electronic Transfer Fund in 1860, which became the forerunner of financial technology.

Technological developments have played a significant role in transforming money in the history of money from 3000 years ago to the present.

4.1. Content Analysis Result

Based on historical facts and previous research that we investigated and presented in the literature review section, there have been changes or transformations in the form of money in America since its birth on July 4, 1776, until now (2019), American money is transformed from commodity money in the way of gold coins to fiat and has the potential to transform into digital money. The value of money on which the American currency exchange rate (USD) is based has shifted from scarcity to expected discount value. A representative amount of gold (representative of gold value) is dominated by the weight of absence (value of lack) shifting to represent the country (representative of a nation). The new Bitcoin, which

appeared in 2009, has the potential to trigger the transformation of money from fiat to digital, as happened during the dynasty 118 BC, which started with leather money backed up with gold and silver, which encouraged the transformation of money from real money to banknotes and money. Two thousand years after that, money transformed into fiat money in 1971 in the era of the Nixon shock, which shifted the base value of the exchange rate from scarcity to representation value. The shift in the fundamental importance of the exchange rate of money from the amount of use (value of service) 3000 BC to the cost of scarcity is also 2000 years, which peaked in 625 BC with the emergence of the first coin in Lydia, which started from shell money (Shell Money).) 1200 BC and Knife Money (Knife Money) 1000 BC. Based on these historical facts, the emergence of bitcoin in 2009, which previously appeared in Electronic Transfer Fund (ETF) with the 1860 telegram technology, which grew increasingly massive with the invention of 1940 computer and 1960 ethernet technology, has the potential to trigger digital money in the 22nd century and maybe sooner than the next 2000 years. It is marked by the massive financial technology, ranging from e-commerce to peer to peer lending, which changes human habits of transacting and interacting, which increasingly drives the need for digital money, meaning that fiat (paper) money has the potential to transform into digital money.

From the B.C. to the present (2019), human expectations regarding money are the stability of its internal exchange rate, ease of use, and hands transfer. The transformation of money from good money to fiat money is motivated by transactions where a short and safe payment medium is needed. However, fiat money has weaknesses, namely the depreciation of the internal exchange rate and the external exchange rate's instability. Currently, fiat money cannot be transferred to other regions physically quickly, but since 1860 it has been anticipated that the existence of ETFs where transactions between regions are based on messages or secure information supported by information technology. The development of ETF and information technology increasingly massive changes the habits of humans who are getting closer to the internet, including the increasingly massive transaction habits using online media. However, current money transfers (2019) are only transfers of information without physical money transfers. Digital money offers a weakness that fiat money cannot be physically transferred outside the region or, in other words, ETFs are just hallucinations. Digital money can be transferred around the world very quickly because it is digital and tends to be safe and there are still some that are mined and some that have not been mined. In other words, when bitcoin is mined, the number of bitcoins available for the transaction will never increase or remain. Digital money, especially bitcoin, has properties like gold but is digital. Gold is fixed, some are mined, some have not been mined, and the amount of gold throughout the world, both mined and not, is fixed.

4.2. Price Oil in USD Threshold Autoregressive (TAR) Result

Based on the results of the R-squared calculation, 0.994844 identifies observations close to 99% reality. There were three periods of change in the USD currency: the 1971 Nixon shock period, where the USD depreciated continuously and began to strengthen in 1981 but never returned to its original internal exchange rate position.

Table 1				
Price Oil in USD Threshold Autoregressive (TAR) Result				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
P_OIL_IN_USD(-3) < 11.63 -- 16 obs				
C	-3.987817	1.494659	-2.668044	0.0104
P_OIL_IN_GOLD	1.712948	0.929669	1.842535	0.0716
11.63 <= P_OIL_IN_USD(-3) < 37.73338 -- 28 obs				
C	-30.51872	1.608853	-18.96924	0.0000
P_OIL_IN_GOLD	12.84779	0.588022	21.84916	0.0000
37.73338 <= P_OIL_IN_USD(-3) -- 11 obs				
C	-85.47751	4.518722	-18.91630	0.0000
P_OIL_IN_GOLD	33.80458	1.072923	31.50701	0.0000
Non-Threshold Variables				
P_GOLD_IN_USD	2.391700	0.076601	31.22292	0.0000
R-squared	0.994844	Mean dependent var		30.37181
Adjusted R-squared	0.994200	S.D. dependent var		29.31931
S.E. of regression	2.232890	Akaike info criterion		4.562884
Sum squared resid	239.3183	Schwarz criterion		4.818362

Source: Data Processed

4.3. Price Oil in Gold Threshold Autoregressive (TAR) Result

Table 2				
Price Oil in Gold Threshold Autoregressive (TAR)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
P_OIL_IN_GOLD(-3) < 1.886516 -- 27 obs				
C	1.176588	0.096429	12.20159	0.0000
P_OIL_IN_USD	0.088413	0.007612	11.61475	0.0000
1.886516 <= P_OIL_IN_GOLD(-3) -- 28 obs				
C	2.289057	0.113902	20.09672	0.0000
P_OIL_IN_USD	0.041302	0.003586	11.51730	0.0000
Non-Threshold Variables				
P_GOLD_IN_USD	-0.088973	0.007353	-12.10019	0.0000
R-squared	0.841004	Mean dependent var		1.940785
Adjusted R-squared	0.828284	S.D. dependent var		0.743834
S.E. of regression	0.308234	Akaike info criterion		0.570596
Sum squared resid	4.750425	Schwarz criterion		0.753081

Source: Data Processed

The estimation results of Price Oil in Gold Threshold Autoregressive (TAR) are presented in Table 2 Price Oil in Gold Threshold Autoregressive (TAR).

4.4. Price Oil in Bitcoin Threshold Autoregressive (TAR) Result

Table 4				
Price Oil in Bitcoin Threshold Autoregressive (TAR)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PRICE_OIL_IN_BITCOIN(-3) < 0.05374508 -- 46 obs				
C	-0.068809	0.032209	-2.136370	0.0344
PRICE_OIL_IN_USD	0.002101	0.000677	3.101226	0.0023
0.05374508 <= PRICE_OIL_IN_BITCOIN(-3) < 0.08476015 -- 42 obs				
C	0.106544	0.012624	8.439739	0.0000
PRICE_OIL_IN_USD	-0.000769	0.000278	-2.763624	0.0065
0.08476015 <= PRICE_OIL_IN_BITCOIN(-3) < 0.1423734 -- 22 obs				
C	0.077238	0.019183	4.026333	0.0001
PRICE_OIL_IN_USD	0.000333	0.000460	0.724419	0.4700
0.1423734 <= PRICE_OIL_IN_BITCOIN(-3) -- 42 obs				
C	-0.074726	0.016526	-4.521570	0.0000
PRICE_OIL_IN_USD	0.005448	0.000326	16.69401	0.0000
Non-Threshold Variables				
PRICE_BITCOIN_IN_USD	-3.73E-06	6.26E-07	-5.959834	0.0000
R-squared	0.971307	Mean dependent var	0.092855	
Adjusted R-squared	0.969702	S.D. dependent var	0.073353	
S.E. of regression	0.012768	Akaike info criterion	-5.826358	
Sum squared resid	0.023312	Schwarz criterion	-5.647312	
Log likelihood	451.8032	Hannan-Quinn criter.	-5.753623	
F-statistic	605.1084	Durbin-Watson stat	0.575916	
Prob(F-statistic)	0.000000			

Source : Data Processed

The R squared of the estimation result is 0.971307, which shows that earthquakes identified 97%.

5. Conclusion

Gold is the most stable medium of exchange in the world and is resistant to inflation. The value of money shifted due to technological developments. Moreover, the form of money is

increasingly digital. However, the transformation of money towards digital is the lack of stability in the internal exchange rate of money.

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