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The effect of monetary policy in reducing asset price bubbles in America and Japan

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Abstract
The research seeks to assess the efficacy of monetary policy and its instruments in mitigating asset price bubbles by identifying the key elements that contribute to inflation in asset and bond prices in the selected nations. The data was analyzed using the descriptive technique, which was supplemented by the quantitative method. The quantitative method involved conducting cointegration tests and making initial estimations of the model. ARDL The study found that there is a durable integration link in the economies of the nations included in the sample. Topics: monetary policy, asset pricing.

Keywords: Monetary policy, ARDL, central banks

Introduction
This study deals with an analysis of the environment of monetary policy variables in a group of countries that have the same economic, social and geographical characteristics as the Iraqi state, where one of the important matters that affects the relationship between monetary policy and asset price bubbles is the balance between achieving financial stability and encouraging economic growth. Central banks must be cautious in implementing their monetary policies and take into account the potential effects on asset prices and avoid the formation of unsustainable bubbles. This may require the use of additional tools to control excessive financial speculation and mitigate the impact of asset bubbles on the economy in the future. It can be said that inflation and asset price bubbles are mutually affected, and monetary policy maintains great importance in controlling this relationship and ensuring a sustainable balance between financial stability and financial stability. Avoid the formation of unsustainable bubbles in asset prices.

The first topic
Research Methodology
1. Research importance
The importance of the study comes when an asset price bubble occurs and its price becomes excessively inflated and does not fit with the reality of the basic economy, this can ultimately lead to general inflation. If there are no rules or regulatory controls to control the rise in asset prices and limit the harm caused by bubbles, the bursting of the bubble may cause a collapse in prices and an economic shock, and this may lead to a contraction in demand, a decline in investment, and high unemployment rates.

2. Research problem
The study problem will be put in the following questions
a) What is the extent of the impact of monetary policy tools and procedures on the asset price bubble?
b) Can monetary policy maintain control of asset price bubbles in these countries?
c) Does the effect of this policy differ from one country to another?

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3. Research hypothesis
The study starts from two hypotheses
a) Through monetary policy, can these countries control asset price bubbles?
b) The type of monetary policy response differs between countries. There are countries with a strong positive response, and there may be a negative response to the growth of industrial exports of the sample countries.

4. Research objective
Through this study, we seek to achieve many goals, the most important of which are the following:
1. **Identifying the influencing factors:** It helps in identifying the effective factors in the emergence and inflation of asset prices. Factors in which securities can be purchased that lead to increased demand for assets.

Research Methodology
To achieve the research objectives and test its hypotheses, the descriptive approach will be used in employing the theoretical and conceptual framework for the study variables, as well as the quantitative standard approach to measure the impact of monetary policy and asset price bubbles in selected countries based on the (ARDL) model.

Research structure
The research included four main axes, the first section of the research methodology, the second section of the theoretical framework of monetary policy and asset prices, and the third section of measuring the results of the study variables.

The second topic
Conceptual framework of monetary policy
Introduction
In the world of globalized economics, the importance of monetary policy is highlighted as a vital tool used by central banks to influence the course of the economy. It is considered one of the most controversial and challenging aspects in this context in the formation and collapse of economic bubbles. These bubbles are characterized by an excessive rise in asset prices, exceeding their intrinsic value and can lead to... It has wide-ranging repercussions on economic stability when they burst. This chapter aims to explore how monetary policy affects the life cycle of economic bubbles, from their formation to their collapse, and to evaluate the complex roles that central banks play in this context.

First: The concept of monetary policy
Ritter defined it as the measures used by the central bank with the aim of controlling the money supply in the national economy so that it is commensurate with the growth in commodity and service production (Al-Ghalbi *et al.*, 2017: 7) [14].
Also, monetary policy is the activities and procedures practiced by the monetary authority in order to control the supply of money and organize and manage the monetary mass in order to achieve economic goals that aim to influence prices and income. The goal of the monetary authorities in this intervention is to influence the volume of credit using monetary means. Certain measures are directed to achieve specific economic goals (Al-Hadidi, 2022: 6) [1].
There are two opinions about the concept of monetary policy, which is that the central bank controls interest rates and the quantity of money in order to achieve political and economic goals. In periods of contraction, it reduces interest rates and increases the quantity of money, and during periods of expansion it works to raise interest rates and reduce the quantity of money in order to preserve it. On economic stability (Al-Qatabri, 2012: 18) [2].
Monetary policy is also defined as the measures, procedures and decisions taken by the monetary authorities through the Central Bank through the use of its direct and indirect tools with the aim of controlling the prevention of credit, controlling the money supply, managing supply prices and controlling interest rates in order to achieve certain economic goals determined by the priorities of the local economic structure. (Al-Mususi, 2022: 13) [7].

From the above, monetary policy can be defined: It is a set of laws, measures and procedures that the state, represented by the central bank of the government, uses in times of crises or in order to achieve a set of goals that the state seeks to achieve, including reducing inflation in prices or controlling the circulating money supply and supplying the state's economy with the quantity it needs. It needs money in order to grow on the condition that it does not harm economic balances.

Second: Types of monetary policy
It is clear from the above that monetary policy has two types: expansionary monetary policy and contractionary monetary policy
1. **Expansionary monetary policy:** When the economy suffers from a state of recession, the central bank follows an expansionary monetary policy in order to increase the money supply by reducing interest rates and increasing the amount of money circulating in the market by increasing borrowing. This leads to an increase in demand for goods and services in the market and a decrease in the unemployment rate. By using the tools of the central bank, expansionary monetary policy works to increase the money supply, and these tools are represented in (open market operations, reducing the rediscount rate, and reducing the mandatory cash reserve) (Al-Barwari, 2022: 13) [8].
2. **Contractionary monetary policy:** It is one of the types of monetary policy adopted by central banks in situations in which the economy of a particular country suffers from inflation due to a rise in the general level of prices. The reason for this rise in the general level of prices is due to the fact that the total supply of goods and services tends to decline and in return. The total demand for goods and services will rise, meaning that the nominal cash flow is greater than the actual cash flow (Al-Saour, 2022: 15) [9].

Third: Monetary policy tools (introduction to monetary policy tools)
Monetary policy tools can be defined as the various means by which countries manage the money supply through sovereign measures and procedures designed to achieve the maximum amount of specific objectives. Below is the scope of the use of monetary policy tools and their types.

1- Quantitative tools for monetary policy (indirect tools):
A - Open market operations: This means the entry of the central bank as a seller or buyer of government securities in

the financial market, through which it aims to influence the money supply according to the needs of economic life, where the initiative is completely in the hands of monetary policy, as it is able to inject the monetary base into the national currency. Or withdrawing it at the appropriate time and amount, and it is done through the legislative responses made by the Central Bank through open market operations, and the Central Bank carries out these operations in two types.

1. Dynamic operations of the open market: Aim to achieve increases in bank reserves or reduce them by a certain amount in order to implement a specific policy objective, noting that there are difficulties for non-employees of the central bank to distinguish between defensive and dynamic operations. This is due to the lack of separation between them and the factors affecting deposits. Government operations must be taken into account by dynamic processes. For example, a decision aims to achieve a policy aimed at increasing bank reserves by reducing deposits with the central bank. Then there will be no need to go to the open market in order to buy government bonds, and perhaps (80-90%) of open market operations will be operations. Defensive and the rest of them are dynamic operations. The presence of an effective financial market in which securities are traded in a way that makes the central bank influence through buying and selling in addition to banking facilities. This will determine the effectiveness of the open market policy.

2. Defensive operations in the open market: When the central bank desires to cancel the changes occurring in banking reserves that result from factors that are not under its control, as the central bank buys and sells government securities, therefore, they are considered defensive operations carried out by the central bank in order to defend at the target level. To protect against the influence of external factors, examples of these operations are resisting the expected extravagance of bank reserves due to the increase in cash in circulation during holiday periods and occasions through buying and selling securities with the aim of canceling unexpected increases in automatic loans that occur as a result of delays in clearing checks (Al-Ghalibi et al., 2017). , 14-15) [14].

To ensure the success and effectiveness of open market operations, three basic conditions must be present: (Fatiha, 2009, 113) [10].
A - The extent to which it is possible to provide an effective money market for trading these securities.
B- Government bonds and their availability in quantity and quality.
T- Commercial banks and the extent of their response and interaction with the desires of the Central Bank.

3. The rediscount rate: The rediscount rate can be defined as the price that the central bank obtains when it provides loans and discounts commercial papers in the short term. This tool is considered one of the important tools in the indirect control of the policy practiced by the central banks since 1839, considering the bank The Central Bank of Banks has the right, in accordance with the objectives of monetary policy on the one hand, and in accordance with economic conditions, on the other hand, and it may change this rate from time to time. In periods in which an expansion

of credit is required, the Central Bank reduces the discount rate or encourages commercial banks to expand. In this mission, by restoring the discount, and when it is necessary to restrict credit as a step to contribute to reducing the severity of inflation, it reduces the discount rate with the aim of reducing the profitability of commercial banks as a result of granting additional credit to economic units as a result of the increase in the cost of lending from the central bank. Here it must be noted that The interest rate is usually linked to the discount rate, so the interest rate must be greater than the discount rate (Al-Zein, 2011: 8) [11].

Although the ability of commercial banks to grant credit to economic units is affected by the rediscount rate policy, this tool fails some times and this is due to the following reasons: (Al-Obaidi, 2009: 9) [12].
A - Selling securities held by commercial banks in the financial market in order to benefit from them to finance their lending operations.
B - When there are other sources of liquidity on which commercial banks rely, this tool fails to achieve its goals, especially branches of foreign banks in the region.
T - The expectations of businessmen and the nature of the economic situation. When businessmen expect that through investment operations, the rates of profits achieved will rise, and as a result of optimistic expectations, we find that raising the rediscount rate does not affect the lending movement, while we find that in periods of deflation, when the rediscount rate is reduced, and when businessmen expect Businesses: As a result of these pessimistic expectations, profit rates will decrease, as they do not encourage producers to increase their investments.
D- Expansion by commercial banks in their lending operations through additional cash reserves.

4. The legal cash reserve: The Central Bank requires commercial banks to maintain a certain percentage of their total deposits in the form of liquid cash. This percentage is called the legal cash reserve at banks. The purpose of this tool was originally to protect depositors from the potential risks facing the work of commercial banks, but now it has become one of the means used by monetary authorities to combat or reduce inflationary trends (Muhammad, 2017: 496)[15].

Conceptual framework for asset prices
Introduction
Over the past few decades, the world has suffered from clear instability, especially in countries subject to capitalist systems (the core and the periphery), as they are called in Marxist literature. They refer to the largest developed countries and groups and the developing countries related to them, and despite the fact that most of the theorists of capitalist economic thought who rely on the principle Fundamental is economic balance, and the imbalance that leads to the crisis is the exception. However, the events of many events after 1929 indicate the opposite, as instability has become the norm and balance is the exception, and there is something that generates this phenomenon within capitalist thought itself, as it also indicates. To accompany these economic crises, directly or indirectly.

First: The concept of economic bubbles
The term "economic bubble" included in its formulation a linguistic meaning that was used as a metaphor to accurately

and simplify the description of the phenomenon to be named. The Oxford Linguistic Dictionary is used in order to explain the concept in an easy way, given that this dictionary has provided a linguistic definition of the term "the bubble." It is defined terminologically as follows:

Economic bubble
It is a rise in asset prices that is quickly followed by a decline. It often arises from excess enthusiasm and speculation in the financial markets rather than an increase in the real value of traded assets. Thus, the economic meaning of the phenomenon of financial bubbles has become clearer, and there are many financial bubbles that have appeared historically. Among them are the price bubble, the real estate bubble, and the market bubble, which collectively formed what is called the bubble economy. Economist Robert Shiller defined it in his book Irrational Abundance: Speculative bubbles are a condition that occurs when investor enthusiasm increases, which is transmitted From one person to another due to psychological contagion, as this happens due to news indicating an increase in prices, and this would lead to attracting a greater number of new investors, and when the bubble bursts and a rapid collapse in prices occurs, it will lead to more investors leaving the markets, as the economist indicated. Brendan Brown, in his study, said that a bubble represents a situation in which the price of a commodity increases until the price of this commodity reaches high levels because of speculation on the price of this commodity until it reaches a stage of a sudden and sharp decline in the price of this commodity. This stage is called the stage of bubble bursting. Thus, the international financial crises that They were generated by financial bubbles and passed through the world, from which we obtain the conclusion that there is a fixed rule that states that there is no asset that continues to rise indefinitely, and that no matter how long-time passes, there is a ceiling to which prices can reach (Gharbi and Buka rami, 2021: 652) [6].

Second: Characteristics of the bubble economy
The bubble economy has a set of characteristics that characterize it, as it is known as a profit-taking economy, or a vacuum and air economy, or a wildfire harvesting economy. This economy also has its own nature that attracts individuals to it, as this economy is characterized by the following: (Al-Khudairi, 2014: 72 -73) [3].
1. The state does not supervise this economy, but rather leaves individuals the freedom to deal in this economy, and this freedom will be exploited by speculators to persuade others to join the bubble economy.
2. It is a weak economy and vulnerable to explosion at any moment, especially when individuals stop entering the bubble economy.
3. Greed and greed that have no limits dominate those entering this economy, with prices increasing.
4. It is a new economy in its transactions that occur gradually and gradually, and this suits non-specialists who do not want to make an effort in order to obtain profits.
5. He does not conflict with the current conditions and laws, but rather depends on them and uses them in a way that deceives customers and attracts them to him.

Third: The effect of the bubble bursting at the macro and micro levels: When the bubble bursts, it has repercussions and effects at the macro and micro levels, and we will explain the effects of the bubble bursting through the following: (Abdul Rasoul, 2019, 193-194).
1. **The effect of the bubble bursting at the micro level**: Asset prices decline sharply after the bubble bursts until they reach their natural levels, and the recession increases further and leads to huge losses that lead to the bankruptcy of many medium and small companies due to prices reaching below normal levels, and the final buyer is considered the biggest winner. This crisis, for example, means that this buyer buys the property at the point of major decline until he gets the property at half its price value, and also the major companies that have low debt that have not been affected by the crisis and have abundant liquidity.
2. **The effect of the bubble bursting at the macro level:** The effect of the bubble bursting depends on the volume of financing in the period preceding this explosion, as the severity of this crisis increases as the debts of companies, individuals, and investors rise, as these effects extend to other sectors such as banks, and this is followed by violent shocks on investment in a way. In general, this leads to the economy falling into recession, and this leads to weakness in economic growth.

Fourth: Types of economic bubbles throughout history:
There are many economic bubbles that have appeared throughout history. My agencies:

The tulip craze bubble in the Netherlands in 1637
The bubbles of the tulip craze in the Netherlands are considered the first economic bubbles recorded throughout history, although the tulip flower did not originate in Europe, but rather came to it from South Asia and was described as a rare thing, and because of the great interest of flower lovers in this flower and the investment of a lot of money, it led to a rise in its prices, and when it spread The news is that tulip flowers will be exposed to a mysterious disease, and that the beauty of this flower will be destroyed by this disease, and that the great demand for it is a demand for final copies of it, and that whoever buys it now will obtain large profits from it in the future, and this led to the spread of this news throughout the Netherlands. And from there to all European countries, which led to a significant increase in the price of this flower (Al-Khudairi, 2014: 47-48) [3].

The rescue plan followed by the United States of America
By the end of 2007, the US President announced a set of measures to help families who cannot repay mortgage loans, and he called these measures the (Hope Now Alliance) program. In December 2007, this program was officially launched by the US Secretary of the Treasury, and the goal of this program is to combat the spread of the crisis. And to help the neediest families. There are three basic principles for this plan, which are as follows:
a) Make organized efforts through which we can switch to mortgage-backed loans, and that freezing interest rates for a period of five years was the basic rule for some secondary mortgage loans.
b) Henry Boxun says that 50% of bankruptcies are the result of a lack of communication between loan originators and borrowers. Therefore, more efforts must

be made to enter into contact with homeowners who are facing difficulties in repaying their debts.

Work must be done to improve access to credit for borrowers who face reorganization of high interest rates, but these opportunities are directed not to homeowners who are currently able to repay the loan, and not to those who suffer from a deficit because of high interest rates. (Ben Ali, 2010, 105) [13].

The third topic
Measuring the results of the study variables

Econometric models are used to quantitatively analyze various realistic economic phenomena. Econometric models have become used in analyzing various economic problems and economic cycles, confronting economic crises, treating them and mitigating their severity, as well as in analyzing and studying economic shocks that occur in various economic variables, and to eliminate regression problems. In this chapter of the study and at the procedural level, a package of tests approved in modern econometrics was used, which is based on testing the properties of time series in terms of the stationary property and appropriate standard tests in the short and long term. Such as testing the stability of the extended Dickey-Fuller and Phillips-Perron time series, and the autoregressive distributed lag model was used, through which the ARDL model is estimated, to test the existence of an integration relationship. Long-term joint analysis using the Bound Test, choosing the short- and long-term relationship and the error correction parameter, and testing the stability of the models using the CUSUM test. In addition, other tests were used to ensure that the estimated models are free of standard problems, such as testing that the estimated model is free of a problem. Autocorrelation using the Breusch-Godfrey Serial Correlation LM Test, and testing for heterogeneity of variance using the.

First: The results of the unit root test at the level
The results of the unit root test showed that the study variables stabilized at level) and others stabilized at the first difference (1) I, as in the following tables:

Table 1: Unit root test results at level

Null Hypothesis: Unit root (individual unit root process)			
Series: Y, X1, X2			
Date: 04/04/24 Time: 22:51			
Sample: 2008Q1 2017Q4			
Exogenous variables: Individual effects			
User-specified lags: 1			
Total (balanced) observations: 105			
Cross-sections included: 3			
Prob.**	Statistic	Method	
0.0000	35.0970	ADF - Fisher Chi-square	
0.0044	-2.61294	ADF - Choi Z-stat	
** Probabilities for Fisher tests are computed using an asymptotic Chi			
-square distribution. All other tests assume asymptotic normality.			
Intermediate ADF test results UNTITLED			
Obs	Max Lag	Lag	Prob.	Series
35	1	1	0.0000	Y
35	1	1	0.9939	X1
35	1	1	0.0038	X2

Source: Table prepared by the researcher using (13Eviews) program.

The results of the above table, which are related to the unit root tests at the level, showed that some variables stabilized at the level, including (Y) and (X2), which stabilized at the level, but the money supply index ARDL.

Second: Results of the unit root test at the first difference.

Table 2: Results of the unit root test at the first difference

Null Hypothesis: Unit root (individual unit root process)			
Series: Y, X1, X2			
Date: 04/04/24 Time: 22:56			
Sample: 2008Q1 2017Q4			
Exogenous variables: None			
User-specified lags: 1			
Total (balanced) observations: 102			
Cross-sections included: 3			
Prob.**	Statistic	Method	
0.0000	95.6546	ADF - Fisher Chi-square	
0.0000	-8.15413	ADF - Choi Z-stat	
** Probabilities for Fisher tests are computed using an asymptotic Chi			
-square distribution. All other tests assume asymptotic normality.			
Intermediate ADF test results D(Untitled)			
Obs	Max Lag	Lag	Prob.	Series
34	1	1	0.0000	D(Y)
34	1	1	0.0081	D(X1)
34	1	1	0.0000	D(X2)

Source: Table prepared by the researcher using (13Eviews) program.

The results of the above table for the unit root tests on the difference showed that all variables have stabilized at the first difference, so there is no need to move to the second difference.
The second requirement: Estimating the impact of some monetary policy tools on the US stock price index.
The results of the unit root tests showed that the data are stationary at the level and some at the first difference. With these conditions available, we were able to apply the ARDL model test by using the Akaike criterion to detect the relationship between the independent variables (X2, X1) and the dependent variable (Y).

First: Test the number of time lag periods according to the Akaki criterion.

Table 3: Testing the number of time lag periods according to the Akaki criterion

Model Selection Criteria Table					
Dependent Variable: Y					
Date: 04/04/24 Time: 23:49					
Sample: 2008Q1 2017Q4					
Included observations: 36					
Specification	HQ	BIC	AIC*	LogL	Model
ARDL(1,1,1)	58.8037	58.9756	58.711681	-1050.81026	1

Source: Table prepared by the researcher using (13Eviews) program.

The results of Table (3) indicate all of the following:
*-The best model for studying the long-term relationship between some monetary policy variables and the stock price index is the model:
ARDL (1, 1, 1)

Second: The initial estimate is not the ARDL model.

Table 4: Results of the initial estimation of the ARDL model

Dependent Variable: Y			
Method: ARDL			
Date: 04/04/24 Time: 23:31			
Sample: 2008Q2 2017Q1			
Included observations: 36			
Dependent lags: 1 (Automatic)			
Automatic-lag linear regressors (1 max. lags): X1 X2			
Deterministics: Restricted constant and no trend (Case 2)			
Model selection method: Akaike info criterion (AIC)			
Number of models evaluated: 4			
Selected model: ARDL(1,1,1)			
378849519	Mean dependent var	0.897549	R-squared
364182915	S.D. dependent var	0.880474	Adjusted R-squared
0.23343518	Durbin-Watson stat	52.56470	F-statistic
		0.000000	Prob(F-statistic)
*Note: p-values and any subsequent test results do not account for model selection.			

Source: Table prepared by the researcher using (13Eviews) program

The results of the preliminary estimation of the ARDL model for the relationship between (monetary policy) as independent variables and the stock price index showed that the value of $(R^2 = 0.880474)$, which represents the explanatory power of the model, and the value of the F-statistic also reflected the significance of the model, which is less than (5%). Which requires moving to the subsequent steps of verifying the existence of an imbalanced relationship in the long run between the study variables according to the ARDL model through the Bound Test.

Third: Bound Test

Table 5: Bound Test results

Null hypothesis: No levels relationship						
Number of cointegrating variables: 2						
Trend type: Rest. constant (Case 2)						
Sample size: 35						
Value			Test Statistic			
6.410831			F-statistic			
1%		5%		10%		
I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	Sample Size
6.028	4.948	4.335	3.478	3.623	2.845	35
5.855	4.77	4.26	3.435	3.585	2.835	40
5	4.13	3.87	3.1	3.35	2.63	Asymptotic
* I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Source: Table prepared by the researcher using (13Eviews) program

The cointegration test results indicate that the calculated F-statistic value of 6.410831 is higher than the tabulated F-statistic value at a significance level of 5%. Therefore, we reject the null hypothesis and accept the alternative hypothesis, suggesting the presence of a cointegration relationship. The presence of a long-term equilibrium relationship was determined by conducting a bounds test, which indicated the existence of cointegration between the variables in the model. Based on these results, the short-term and long-term parameters were estimated and are presented in Tables (10) and (11).

Fourth: The short-term impact between some monetary policy tools and the stock price index

Table 6: Short-term estimates and error correction between some monetary policy tools and the stock price index

Dependent Variable: D(Y)				
Method: ARDL				
Date: 04/04/24 Time: 23:31				
Sample: 2008Q2 2017Q1				
Included observations: 36				
Dependent lags: 1 (Automatic)				
Automatic-lag linear regressors (1 max. lags): X1 X2				
Deterministic: Restricted constant and no trend (Case 2)				
Model selection method: Akaike info criterion (AIC)				
Number of models evaluated: 4				
Selected model: ARDL (1,1,1)				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	-5.311088	0.008311	-0.044140	COINTEQ*
0.0000	-4.482366	1.512881	-6.781288	D(X1)
0.0014	-3.481815	19390741	-6.751498	D(X2)

Source: Table prepared by the researcher using (13Eviews) program

The table clearly demonstrates an inverse connection in the short run between the money supply index (X1) and the stock price index (Y), with a significance level of less than 0.05. Specifically, when the money supply grows by one unit, stock prices decline by 6.7 units.

The table above clearly demonstrates an inverse relationship in the short run between the interest rate index (X2) and the stock price index (Y), with a significance level of less than 0.05. Specifically, when the interest rate increases by one unit, stock prices decline by 6.7 units.

The error correction factor is both negative and statistically significant, with a value of (-0.044140). The significance of this number is determined by the probability value, which is (0.0000), indicating that it is less than (0.05). This implies that the first condition has been satisfied, and it is worth noting that this value represents a 4% occurrence of term mistakes. In order to restore balance in the long run, the short-term deviation might be rectified within the time unit of a year.

First: Estimating the impact of some monetary policy tools on the stock price index in Japan.

The unit root tests indicated that the data exhibit stationarity at the level and partially at the first difference. Given the

availability of these circumstances, we successfully conducted the ARDL model test using the Akaike criteria to identify the association between the independent variables (X2, X1) and the dependent variable (Y).

Table 7: Testing the number of time lag periods according to the Akaki criterio

Model Selection Criteria Table					
Dependent Variable: Y					
Date: 04/07/24 Time: 23:56					
Sample: 1989Q1 1998Q4					
Included observations: 36					
Specification	**HQ**	**BIC**	**AIC***	**LogL**	**Model**
ARDL (1,0,1)	52.0668	52.210037	51.9901046	-930.821883	3

Source: Table prepared by the researcher using (13Eviews) program

The results of Table (7) indicate all of the following:
*-The best model for studying the long-term relationship between some monetary policy variables and the stock price index is the model:

ARDL (1, 0, 1)

Second: The initial estimate is not the ARDL model.

Table 8: Results of the initial estimation of the ARDL model

Dependent Variable: Y			
Method: ARDL			
Date: 04/07/24 Time: 23:59			
Sample: 1989Q2 1998Q1			
Included observations: 36			
Dependent lags: 1 (Automatic)			
Automatic-lag linear regressors (1 max. lags): X1 X2			
Deterministics: Restricted constant and no trend (Case 2)			
Model selection method: Akaike info criterion (AIC)			
Number of models evaluated: 4			
Selected model: ARDL(1,0,1)			
1118275223	Mean dependent var	0.985519	R-squared
3456729294	S.D. dependent var	0.983650	Adjusted R-squared
51.99010461	Durbin-Watson stat	527.4229	F-statistic
		0.000000	Prob(F-statistic)
*Note: p-values and any subsequent test results do not account for model selection.			

Source: Table prepared by the researcher using (13Eviews) program

The early estimation of the ARDL model for the link between monetary policy and the stock price index yielded a value of $R^2 = 0.983650$, indicating the high explanatory power of the model.
The F-statistic's value also indicated the model's significance, which is below 5%. The next stage involves proving the long-term presence of an unbalanced connection between the research variables using the ARDL model and the Bound Test.

Third: Bound Test.

Table 9: Bound Test results

Null hypothesis: No levels relationship							
Number of cointegrating variables: 2							
Trend type: Rest. constant (Case 2)							
Sample size: 36							
Value						Test Statistic	
46.88034						F-statistic	
1%		5%		10%			
I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	Sample Size	
6.028	4.948	4.335	3.478	3.623	2.845	35	
5.855	4.77	4.26	3.435	3.585	2.835	40	
5	4.13	3.87	3.1	3.35	2.63	Asymptotic	
* I(0) and I(1) are respectively the stationary and non-stationary bounds.							

Source: Table prepared by the researcher using (13Eviews) program

The cointegration test results indicate that the calculated F-statistic value (46.88034) exceeds the tabulated F-statistic value at a significance level of 5%. Therefore, we reject the null hypothesis and accept the alternative hypothesis, indicating the presence of a cointegration relationship. The presence of a long-term equilibrium relationship was examined by conducting a bounds test on certain variables. The results of the test indicated that there is cointegration among the variables in the model. Subsequently, the short-term and long-term parameters were estimated and the findings are presented in Tables (30) and (31).
Fourth: The short-term impact between some monetary

policy tools and the stock price index

Table 10: Short-term estimates and error correction between some monetary policy tools and the stock price index

Dependent Variable: D(Y)				
Method: ARDL				
Date: 04/07/24 Time: 23:59				
Sample: 1989Q2 1998Q1				
Included observations: 36				
Dependent lags: 1 (Automatic)				
Automatic-lag linear regressors (1 max. lags): X1 X2				
Deterministic: Restricted constant and no trend (Case 2)				
Model selection method: Akaike info criterion (AIC)				
Number of models evaluated: 4				
Selected model: ARDL(1,0,1)				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	-9.151774	0.022971	-0.210222	COINTEQ*
0.0010	3.623743	0.000128	0.000464	X1**
0.0002	4.103073	27641662	1.1341578	D(X2)

Source: Table prepared by the researcher using (13Eviews) program

The table above clearly indicates a positive short-term association between the money supply index (X1) and the stock price index (Y), with a significance level of less than 0.05. Specifically, when the money supply grows by one unit, stock prices rise by 0.006 units.

The table above clearly indicates a positive correlation in the short run between the interest rate index (X2) and the stock price index (Y), with a significance level of less than 0.05. This means that when the interest rate increases by one unit, stock prices rise by 1.1 units.

The error correction factor has a negative and substantial value, namely (-0.210222). The significance of this number is determined by the probability value, which is (0.0000), indicating that it is less than (0.05). This suggests that the first condition has been satisfied, and it is worth noting that this value represents 21% of the term mistakes. The short-term deviation can be rectified within the time frame of a year to restore balance in the long run.

Summary and recommendations

Conclusion
1. Price stability should be considered one of the important goals of monetary policy, above all other goals.
2. Using monetary policy to stop bubbles could lead to unacceptable costs to the economy
3. Unit root tests showed that the variables used in the study in the United States were mostly stabilized at the level and others were stabilized at the first difference, meaning the necessary condition for the ARDL model was met.
4. The results of the preliminary estimation of the ARDL model for the relationship between (monetary policy) as independent variables and the stock price index R in America were shown, as the value reached (R2 = 0.880474), which represents the explanatory power of the model.
5. The results of the statistical analysis showed that the relationship is inverse in the short term between the money supply index (X1) and the stock price index (Y) and at a significance level less than (0.05), that is, when the money supply increases by one unit, stock prices decrease by 6.7 units. As for the long term, the results showed that there is no effect between the money

supply index (X1) and the stock price index (Y) and at a significance level greater than (0.05), that is, when the money supply increases by one unit, stock prices will not be affected by this.

Proposals
1. Independence of the monetary authorities through implementing the set goals and reducing dependence on inflationary financing, thus the emergence of economic bubbles.
2. Preventive procedures and measures related to inflation, how to treat it, and addressing the causes that lead to economic bubbles.
3. Paying attention to activating the indirect tools of monetary policy, including open market operations, to diversify sources of income and reduce dependence in financing on one source, which is oil.
4. Applying the principles of transparency and disclosure in implementing monetary policy and activating communication with the public and departments concerned with these policies

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