

Examination of the effect of asset price bubbles on the economic welfare indicators in terms of the monetary policies

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Abstract

This research aims to find the most effective components of the asset price bubble, economic welfare and monetary policies in Iran to investigate the effect of the asset price bubble on the economic welfare indicators in terms of the monetary policies and investigate its effect on the components of the economic welfare by specifying the characteristics of asset price fluctuations in different financial markets such as the currency market, stock market, gold market, housing market through the monetary indicators. The subject of price bubbles was stated historically for the first time in the early 17th century and scientifically for the first time in the US stock market crisis from October 1929 to June 1932. For the first time, Samuelson [18] showed that the bubbles complete the existing markets, and as a result, they can enhance welfare. Still, since the structure and components of the economy in Iran are different from many countries, the use of these indicators and tools will not be effective without paying attention to these differences and taking into account these special features. For this purpose, in the present research, the survey finds the effective components and finally, the formulation of hypotheses is done. Identifying the factors affecting the creation of a bubble in the asset prices and ultimately expanding it to the real sector of the economy of Iran is the fundamental goal of this research. The results of the study showed that income distribution and the poverty line are the most effective welfare indicators in the country. Furthermore, inflationary expectations are the most important indicators for measuring the asset bubble and government policy packages and liquidity are also the most prominent indicators of our country's monetary policy. Of course, among the welfare indicators, the intellectual property and environment, as well as among the asset bubble indicators, news and information, had the least weight and importance, and the exchange rate fluctuations index was also the least important monetary policy indicator.

Keywords: asset price bubbles, economic welfare, monetary policies, economy of Iran
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1 Introduction

The price bubble is one of the theories proposed in the field of macroeconomics and is frequently used in the financial markets. In fact, it is said that the bubbles are the main source of instability in the macroeconomics [6].

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Also, based on the most accepted definition, if the price of an asset deviates from its base price, it can be said that there is a bubble [14].

Many economic crises have always been accompanied by the bursting of asset price bubbles, and in recent years, a wave of rapid increase in asset prices (stocks, housing, ...) has occurred simultaneously in many countries [15]. As a result, one of the major issues considered by the central bank authorities of countries for successful control of inflation is financial stability. Because financial markets, as one of the channels of financing and resource allocation in the economy, can play an important role in the general balance of the economy and transmission of economic shocks in the society, and the conditions of these markets strongly affect the real sectors of the economy [1].

Therefore, what is very important in the field of bubble investigation is its effect on the macroeconomic variables, including welfare, economic growth and inflation. For this reason, the topic of price bubbles in the markets has become one of the important topics for investors and is financially attractive for researchers, and the identification of bubbles in the financial markets; for example, in housing, it is the subject of many theoretical and empirical articles. Andrew Graczyk and Toan Phan [13] analyzed the attractiveness of investment during the bubble period and the welfare effects of property bubbles in a model with income inequality and financial friction. They stated that because housing is a durable asset that is basically needed and useful for all members of society, therefore the bubble that appears in the value of housing has regressive welfare effects and the results of their research showed that the bubble works in favour of high-income savers with the increase in housing prices but negatively affects the low-income borrowers.

But further, Jarrow and Lamichhane [15] stated about asset price bubbles that the bubbles can be created due to heterogeneous beliefs, heterogeneous preferences, and binding trade restrictions that exist between agents whereas some of them may see the bubbles given this economic structure while some others may not. Therefore, what is important even in macroeconomic policies is to identify and measure the impressionability of the factors that are related to the price bubbles, which one of these cases is the economic welfare of individuals and society. Therefore, in the present research, the factors affecting the asset bubble on the economic welfare indicators and also the relationship between them in terms of the monetary policies are discussed.

2 Theoretical Basics

The subject of price bubbles was first investigated by Shiller [20] regarding the stock exchange in 1981, and the scope of studies was expanded to the formation of price bubbles in the other assets after it. The larger the financial markets, the greater their potential to affect the real economy. Although the relation between the global economy and the asset price bubbles is not a new subject, but the importance of the issue is because the asset price bubble has strange economic consequences and sometimes people invest during the bubble. The reason why investing in bubbles is attractive is itself an important issue [17]. In this regard, some empirical theoretical models investigating the relationship between asset price bubbles and economic performance have proposed that these bubbles are welfare enhancers and some other models stated that the bubbles can reduce welfare. In this regard, Graczyk and Toan Phan [12] showed that the housing bubble, or in general, the bubble connected to a useful basic asset, has heterogeneous welfare effects on the households, depending on their savings and borrowing demand. Providing an additional investment method increases the investment returns for savers and thus improves their welfare. But with the increase of the debt interest rates and increase of the housing prices, the housing bubble has a negative effect on the welfare of borrowers who need debt to finance the purchase of housing. High-income inequality leads to a low interest rate environment that facilitates housing bubbles, which in turn have regressive welfare effects. The key implication is that savers' demand for housing assets for investment purposes imposes a negative externality on the borrowers by creating a bubble in the market price.

On the other hand, the recent financial experience of the USA government showed that the payment of mortgage loans to low-income people may initially be favourable to policymakers, but it can disrupt the banking and financial system after a while. Therefore, learning from this crisis and having accurate knowledge of it can improve housing policies for low-income people. Tirole [22] also analyzes the subject that the markets create bubbles to eliminate inefficient investments. In fact, in general, there is no agreement in the literature on the definition of a bubble and the causes of its occurrence.

3 Definitions of the bubble

Considering the potential adverse effects of this event, the current state of knowledge about bubbles is not very promising. In fact, we still don't have a good definition of asset bubbles, and we still don't know how to identify them,

what causes them to grow or burst, or what their welfare implications are. More research needs to be done to address these questions.

A rapid increase in the price of one or a range of assets in a continuous process that increases the initial price creates the expectation of the future price, and attracts new buyers to the market. The traders usually use the profit from buying and selling rather than the consumption of goods. The price increase falls with the reversal of expectations and usually causes a financial crisis.

In the past studies, special aspects of the above definition have been focused on as follows [4]:

1. Rapid raising of the prices
2. Unrealistic expectations of future price increases
3. Deviation of prices from the basic value
4. Great fall in prices, after the bursting of bubbles

Smith, defines a bubble as a situation in which the price of some assets such as stocks and real estate market quickly rises above its current price and is obtained through calculating and forecasting the flow of income.

The second definition, from the point of view of Stiglitz [21], states that a housing price bubble is created when the current price is at a high level, precisely because people think that the price of that property will increase in the future. If a bubble is formed, a group of people will benefit and the other group will lose.

4 What factors cause an asset bubble?

John Geanakoplos identifies leverage as the main cause of asset bubbles. Also, Graczyk and Toan Phan [13] stated that in an economy without financial friction, households can obtain their best allocation by borrowing and receiving loans in the credit market. However, in the presence of financial friction, such as incomplete contract performance, young borrowers face a binding credit constraint, which indicates itself as an exogenous constraint on the debt capacity of borrowers. In equilibrium, this restriction effectively limits the number of savers who can save their income by investing in the credit market. Therefore, in an economy with high-income inequality, there is a shortage of savings for savers, which can lead to an equilibrium interest rate that is lower than the growth rate of the economy. A low interest rate environment, in turn, facilitates the emergence of asset bubbles.

On the other hand, Jose Scheinkman and Wei Xiong [19] stated in an important article that asset bubbles are characterized by high trading volume and high price fluctuation. They developed a behavioural model of asset bubbles assuming short selling constraints and showed that an asset buyer is willing to pay a price above the basic values. Because the buyer gets the option to sell the asset to other traders who hold more optimistic beliefs compared to its future value in addition to the asset.

Bashirimanesh and Shahnazi [5] showed that the emotional and collective behaviour of investors is the source of many anomalies such as price bubbles and the formation of extreme fluctuations in the market. Also, the managers have behavioural tendencies such as overconfidence, short-sightedness, and narcissism, which lead to the presentation of a favourable image of the business unit and delay in presenting bad news, and as a result, creation of the stock price bubbles. Chen and Haga [6] also showed that stock returns are more dependent on the investors' emotional behaviour than on the stock price by using the EGARCH model and investigating the impact of the emotional behaviour of investors on the stock returns regarding the fall of the capital market.

4.1 Consequences of creation of the asset price bubble

The evidences suggest that some bubbles can have a significant adverse macroeconomic impact if they burst. Also regarding whether there is any evidence that asset bubbles may have other adverse effects or not, Robert Chirinko and Huntley Schaller emphasize the perverse effect of asset bubbles, regardless of their bursting, on the total investment. A fundamental function of the stock market is the efficient allocation of capital to its most productive uses. Chirinko and Schaller confirm the empirical evidence that overvaluation of the stock market is a bubble can lead to overinvestment in the bubble sector.

Graczyk and Toan [13] also showed that the housing bubble has adverse effects on the borrowers and savers. The housing bubble increases the return on real estate investment for high-income savers who want to store value.

Therefore, it increases their welfare. On the other hand, it reduces the welfare of borrowers because it increases housing prices and leads to speculative demand by savers for assets such as housing. In addition, Ventura [23] develops a light model of international trade and asset price bubbles. The main point of Ventura's model [23] is that due to the bubbles acting as a substitute for international capital flows, inefficient investments are eliminated, leading to a relatively more efficient allocation of resources. In other words, bubbles allow the world economy to operate at a higher level of efficiency. In this way, asset price bubbles contribute to the economic welfare. Several studies also showed that in economies in which very little capital is accumulated, speculative bubbles divert savings from physical capital and reduce the economic welfare and growth as a result [17].

4.2 Economic welfare and asset price bubbles

Although none of the studies specifically consider whether asset prices empirically contribute to economic welfare, there is theoretical evidence that the bubbles can be positive [23] or negative and predict economic welfare as a result. The empirical findings of Narayan et al [17] confirm these theoretical predictions, although more evidence has been found that the bubbles predict welfare positively. Therefore, it can be said that the bubbles increase welfare. The empirical findings of Narayan et al [17] also support another group of studies, which show that the stock markets affect economic welfare through productivity growth positively [24]. But on the other hand, Fallah Shams et al [10] believe that bubbles have negative effects on the economy, and it is important to pay attention to the price bubble trend in the housing market because it causes a lack of optimal allocation of resources and increases the level of speculative activities. The collapse of the bubble, which usually follows the formation of an economic bubble, can also waste large amounts of economic wealth.

This point of view is also in line with the research of Graczyk and Toan Phan [13] because, in the balance of the housing bubble, young savers acquire more housing than the saturation level, because they want housing assets as an investment tool for saving in their old age. This "speculation" demand for a housing asset by savers is similar to the demand for a bubble asset in the standard model of rational bubbles: an agent buys an asset because she/he expects to be able to sell it to someone else in the future Graczyk and Toan Phan [12]. Generally, Graczyk and Toan Phan [13] results suggest a feedback loop on inequality: high-income inequality reduces the interest rates, thereby facilitating the existence of housing bubbles, which in turn have regressive welfare effects. The key insight is that, by creating a bubble in the housing market prices, the demand of savers for housing assets for investment purposes imposes a negative financial externality on borrowers who demand housing assets just for their own convenience and welfare.

4.3 Monetary policies

Given that the bubbles may negatively affect the macroeconomy, if any, what is the appropriate public policy response? For at least the past 25 years, the Federal Reserve has tended to follow an asset approach the bubble management in which there is little or no restrictive monetary policy action during the formation and growth of the bubble, but there is a rapid decline in the market interest rates after the bubble burst. In fact, scientific theories about bubbles focus on two elements. One of them is the macroeconomic factors that have a great effect on stock prices and can contribute to the formation of bubbles. One of the important issues in this field is the monetary policy and the interest rate, and the other is the microeconomic factors, such as the role of information on shareholder behaviour and the effect of shareholder behaviour on the price changes and ultimately bursting the bubble [20].

The adoption of monetary policies is the process by which the central bank or the monetary authority of the country controls the supply of money or other monetary variables, as one of the economic policies, it imposes fluctuations on the economy. These policies are usually used to achieve a set of goals focused on economic growth and stability, which include things like accelerating economic growth, creating full employment, stabilizing the general level of prices, etc [1]. In Iran's economy, mainly the monetary policy is applied through the direct means of controlling bank interest and determining the credit limit, as well as indirect means, the ratio of legal deposits, the participation bonds of the central bank and the special deposits of banks with the central bank.

4.4 Monetary policies and asset price bubbles

To assess the role of monetary policy on the development of asset bubbles, Lawrence Christiano, Cosmin Ilut, Roberto Moto, and Massimo Rostagno developed different models to simulate 18 factors of US stock market booms and showed that if inflation is low during stock market bubbles, a central bank interest rate rule that targets the inflation can actually destabilize financial markets and the macroeconomy. In fact, every stock market bubble in the past 200 years, except for the war years, has occurred in low inflation years.

Gali et al [11] also reviewed and compared four articles that studied the effects of monetary policies on the asset markets and discovered that the environments of these studies have common features that the agents have access to an alternative asset (bonds or deposit accounts) that pays the interest rate in each period. All these studies show that the existence of alternative investment is not enough to eliminate the asset bubble completely. Market liquidity is another dimension of asset markets that interacts with the asset price bubbles to affect the macroeconomy. When the market is booming, market liquidity tends to be abundant. When the prices fall, the market liquidity often dries up, accelerating the decline as borrowing limits become binding. The market liquidity is modelled as a random quantity effect of transactions on price. Bubbles are larger in cash markets as well when trading limits are more binding [15].

4.5 The experience of price bubble, inflation and recession in different countries

4.5.1 Experience of the sudden increase of land prices in Japan

Similar to what happened to Iran's housing market in the summer and autumn of 2006 and Tehran's securities market in the spring and summer of 2004; the land market and stock exchange of Japan have also experienced it. Of course, with the difference that the growth and fall of the price in the stock market and land in Japan have experienced together. Due to its special climate, Japan is facing limited production resources and even land. Congestion in the areas related to the big cities of Japan led to a rapid and sudden increase in the price of urban land. This phenomenon occurred in the late 1980s, in such a way that the growth of land prices was never at such a level in the past 50 years. When Japan's economic bubble collapsed in the early years of the 1990s; In fact, at the end of the 1980s, with the prosperity of Japan's economy and the realization of the country's development plans, a class of speculators emerged, by creating a psychological atmosphere among the people of this country, have aroused the desire to buy stocks and land, thus creating a wave of pressure. In this way, a wave of inflationary pressure threatened all the industries and economy of Japan and caused the price to become acute, which became known as the price bubble in the land and the Tokyo Stock Exchange. Japan's economic policymakers adopted an anti-inflationary and contractionary policy. With the government's intervention, the land and stock market price bubble suddenly collapsed. All prices fell unbelievably so that after more than a decade, the previous prices have not been repeated in the land market.

4.5.2 The financial crisis of the housing market in United States

The data and statistical information of the United States government show that the adjusted inflation of housing prices in all American states was unchanged on average in the period from 1953 to 1995. Robert Shiller [20] presented a time series of data that goes back to the year 1895 and shows that basically the real housing prices after inflation adjustment, and in a period of almost 100 years until 1995, were not been changed. Until 2002, housing prices had increased by only nearly 9% after adjusting for inflation. It should be clear that the increase in housing prices was caused by a speculative bubble rather than the structural foundations of the housing market.

The great recession that began in the United States in December 2007 affected not only the global financial markets but also the commodity and oil markets. The housing bubble started to burst in 2007, and following the global financial crisis, the price of oil fell sharply, especially in the second half of 2008, and reached 145 dollars per barrel on July 14, 2008, to only 30.28 dollars in December 2008, which decreased by nearly 12% in less than 2 months [2].

4.6 Housing market status in Asia

Two years after the beginning of the financial crisis in East Asia, now some economic experts are worried that the region will go towards another crisis. The reason for this concern is the abundant liquidity of people and the low interest rate that caused the stock and economic market bubbles to burst. The bursting of the real estate and housing bubble in 1997 had a big role in the economic and financial crisis of this region. The average housing price in most East Asian countries has decreased 20% to 50% from 1997 to 2003. Housing market studies around the world show that the main factor driving the increase in housing prices in the long term is income. The ratio of housing prices to income in the United States, England, and Spain and several other developed countries in the world have risen sharply right now. But in China, the housing prices rise much slower than the income, unlike the aforementioned countries.

4.7 Precautionary and strict regulations and their effect on the price bubble

Relying on the monetary policies whereby interest rates rise in the face of a growing asset price bubble is often advocated as a tool to deflate such bubbles. On the other hand, other theoretical arguments show that such a policy can have the opposite effect. Douglas et al [9] also stated that the policymakers may need to reconsider the importance

of financial stability as an overt goal and achieving it may require additional policy tools. Macroprudential regulation and its associated suite of instruments may be more effective in addressing bubbles than traditional monetary policy instruments, as macroprudential instruments can be used to directly target the bubble sector. Process changes in the US financial regulatory framework are a step in this direction.

Also, Zhengxun et al in 2022 [25] investigated the effect of monetary policies on housing prices in China in the period before and after 2017. They stated that there was an anomaly in the Chinese housing market before 2017 and it seems that this anomaly has been reversed since 2017. Since 2017, the government has reinforced successive austerity policies, leading to a continuous expectation of more austerity policies. This is the key to stabilizing housing prices in China. Numerical analysis shows that the continuation of strict policies and public expectations are the most important factors affecting housing prices in China.

4.8 The role of the central bank in facing the financial crises

The central bank can play a very important role in macroeconomic variables, such as inflation and growth, by using monetary instruments, because the monetary instruments are part of the components of the monetary base and the increasing coefficient of liquidity. For example, an increase or decrease in the legal reserve rate and additional reserves are considered contractionary and expansionary policies that cause a decrease or increase in the liquidity multiplier, followed by a decrease or increase in the inflation rate. Douglas et al [9] also stated how the banking sector may help in the formation of asset bubbles in case of access to abundant liquidity.

Even in the global financial crisis of 2007-2008 and the subsequent great recession, many authors and policymakers emphasized a more active role of central banks in preventing excessive asset price increases through monetary policies [11]. However, due to the significant adverse consequences of the recent financial crisis, there has been a rethinking of whether central banks should address asset bubbles or not. But even if a decision is made to address the bubbles, it is not clear that the monetary policy is the most appropriate policy tool. In an important paper first published in 2003, Claudio Borio recommended the use of macroprudential instruments to protect against financial volatility (from bursting bubbles or other sources).

5 Study literature

In the period of Corona, Robert Jarrow and Lamichhane [16] created a dynamic general equilibrium asset pricing model with heterogeneous beliefs to study the effects of monetary policy on prices, risk premiums, asset price bubbles and financial stability in research entitled “risk premium, asset price bubbles and monetary policy”.

Christophe et al [8] presented an asset pricing framework that allows for logical bubbles in the United States, the United Kingdom, and Canada to assess how the bubbles might affect the response of house prices to monetary policy contraction. According to the results, they found that the housing prices respond negatively to the interest rate increases.

Gali et al [11] investigated the effect of monetary policies on asset price bubbles in empirical research with the structure of overlapping generations in research titled “Monetary policy and asset price bubbles”. They observed that the bubble increases (decreases) when the interest rate is lower (higher) during the policy change period. However, the opposite effect is observed in the following period, when higher (lower) interest rates are associated with more (smaller) bubble growth. A direct measure of expectations shows that traders expect prices to follow past trends and tend to correct past errors in their predictions.

In research, Wang et al [24] examined the relationships between asset bubbles, banking stability and economic prosperity from both theoretical and empirical points of view, and by using data from 26 representative economies for the periods 2000 to 2014, they showed that the intensity of monitoring leverage ratio and credit expansion has a significant effect on bank stability, which is consistent with the theoretical results. Also, the domestic and foreign stock bubble shocks are important driving forces of banking stability. Finally, the empirical evidence of this research showed that banking instability will be harmful to economic growth.

Narayan et al [17] sought to provide empirical evidence on how asset price bubbles predict economic welfare in a study titled “asset price bubble and economic welfare”. Their final data set is quarterly and uses daily time series data on stock price indices and dividend yield to test for explosive behaviour (bubbles) and focuses on six developed countries, namely Japan, Germany, Canada, France, The United Kingdom and the United States showed that the asset price bubbles both positively and negatively predict the economic welfare. However, the evidence that the asset price bubbles increase the welfare is much stronger.

Bashirimanesh and Shahnazi [5] measured the effect of the behaviour of investors and managers on the stock price bubble during the years 2013 to 2019 by examining 129 companies admitted to the Tehran stock exchange. To test the hypotheses, they used the multivariate regression method with combined data. The results of the research showed that the behavioural biases of investors (emotional and mass behaviour) increase the gap between the inherent price of the company's stock and its value determined by investors and lead to the formation of a stock price bubble.

Amiri and Beyranvand [3] showed that inflation has an inverse relationship with the economic growth rate and excess reserves and has a positive relationship with the variables legal reserve rate, interest rate, facility growth rate and monetary base both in the short and long term in the period of 2015-2016 in an article titled "the impact of monetary policy tools on the inflationary stagnation in Iran". The economic growth rate is also inversely related to inflation and the monetary base. On the other hand, among all the mentioned variables, only the monetary base has caused a simultaneous increase in inflation and a decrease in the economic growth rate, resulting in stagflation.

6 Research methodology

In this study, a kind of qualitative research method is used, which inductively uses a series of systematic procedures to create a theory regarding the studied phenomenon. Since this study is questionnaire type, our goal is to select people who are full of information for the purpose of research to help us in forming our theoretical model, and this work continued until the classification related to the data and information saturation and all influencing factors were carefully described. For this purpose, 13 interviews have been conducted with university professors and experts in economic sciences according to the topic of research.

After collecting the questionnaires, at first, the results obtained from the implemented text of the interviews are presented in a systematic structure in the form of tables that convert the statements of the interviewees into codes, then, in the next step, the codes are selected and named. After that, the codes become concepts. In the next step, the concepts become categories. Also, the current research is cross-sectional research in terms of time and applied research in terms of nature.

6.1 Information analysis

The data analysis method in this research is based on the systematic approach theories of Strauss and Corbin in the three main steps of open coding, axial coding and selective coding, which is based on continuous comparison.

6.2 1st step-open coding

In this type of coding, the events, actions and interactions are compared with each other to check the similarities and differences, and they are labelled as concepts. In the process of open coding, the data were broken down, analyzed, compared, labelled and conceptualized. The meaning of conceptualization is that every part of the interactions, opinions and ideas in the text is extracted, which in fact, the concepts extracted from each questionnaire are coded.

6.3 2nd step-axial coding

The purpose of this step is to establish a relationship between the concepts produced in the open coding step. The basis of the communication process in the axial coding is to focus and determine one category as the central category and then place the other subcategories of the same gender under the main category. In the following, by examining the concepts and placing close and similar concepts around a class, the axial category has been extracted. The categories extracted according to Strauss and Corbin's model should be placed in 2 sections: conditional (causal, ground and intervention) and the main category.

3rd step-selective coding

In continuing, the major categories are related to each other in the form of a paradigmatic model (grounds model) around the core category. In fact, the drawn model deals with the formal description of the category and its analysis and explanation. This process is referred to as combining the core category and refining and decorating the resulting structures. The mentioned model can be drawn as a formal model or diagram, but meaningful and conceptual.

Table 1: main category

Welfare indexes	Weight and importance of each category
Poverty line	16
Distribution of income	16
Security	14
Hygiene	13
Trust in government and financial institutions	10
Education	9
Uncertainty and risk	9
Distribution of wealth	9
Employment	8
Compulsory saving	8
National saving	7
GDP per capita	6
Peace of mind	5
Individual freedom	5
Portfolio	4
Effectiveness of laws and regulations	3
Being leader in technology	2
Environment	1
Intellectual Property	1

Table 2: Causal conditions

Asset bubble	Weight and importance of each category
Inflationary expectations	37
Emotional behaviors	26
The equilibrium value of the variables being greater than the real value	21
Converting consumer assets into the capital assets	11
Inflationary stagnation	11
Speculation	10
Shortening the horizon of investors	6
Price shocks	6
Dollarization of the country's economy	5
Queue	5
News and information	4

Table 3: Contextual and intervening conditions

Monetary policies	Weight and importance of each category
Government policy packages	18
Liquidity	17
Central bank policies	15
Government intervention	9
Interest rate	8
Exchange rate fluctuations	2

7 Conclusion

The results of coding the components of the questionnaires and checking their weight showed that according to the opinions of professors and economic experts, among the welfare indicators in the country, which is the central category of this research, "income distribution" and "poverty line" with the weight of 16 is one of the most important measuring structures of this index. Security, hygiene (society health) and having trust in the government and the financial institutions by the weights of 14, 13 and 10 are the other important structures.

In the present study, the explanatory variable of economic welfare, the asset bubble, has been proposed. The asset bubbles are also defined by different dimensions and structures. "Inflationary expectations" have been emphasized with a high weight of 91. After that, "the emotional behaviour" with a weight of 26 and the equilibrium value of the variables being more than the real value with a weight of 21 have been considered. Also, the next important structures of inflationary stagnation and the conversion of consumer assets into capital assets with a weight of 11 have

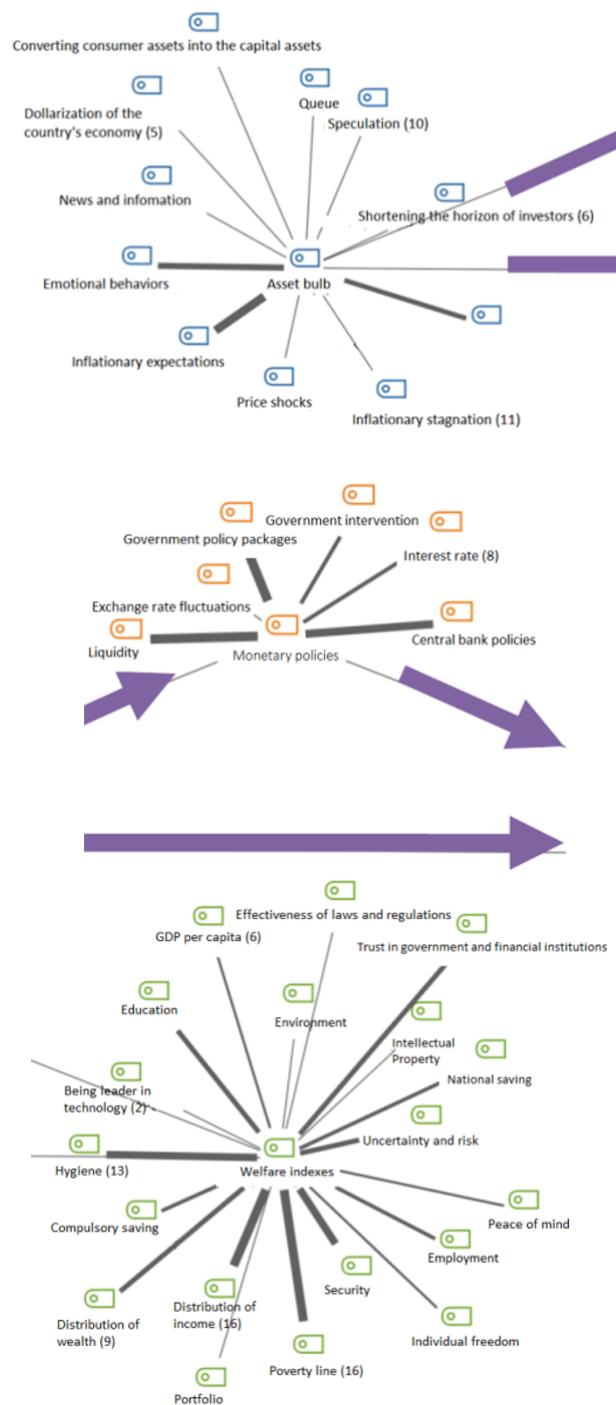


Figure 1: final model with the codes

been stated. The results of previous studies have also shown that the asset price bubble has different effects on the economic welfare of different groups of people in society. For example, in the housing market, the increase in housing prices in the group of wealthy people with financial support; who buy housing intending to invest and increase its price in the future will increase their welfare. However, this price increase harms the welfare of low-income people whose housing is a basic asset for their lives and who have to take a loan to purchase it.

Finally, monetary policies as a mediating variable can strengthen the relationship between wealth bubble and welfare or harm it, and according to the findings of this research, the most important structure of this variable is

“government policy packages” and “liquidity” with weights of 17 and 18. Also, the policies of the central bank with a weight of 15 are the next priority. Government intervention and interest rates are also mentioned in structures 8 and 9. Economic and financial crises caused by the bursting of asset price bubbles impose huge costs on the country’s economy, so, logically, the financial and banking systems of the country seek to curb such crises by making different decisions. For this reason, it is suggested that the central bank should seek to establish financial stability in the country by adopting appropriate monetary policies. Of course, there is no consensus in this field, on whether the central bank should use monetary policies in the conditions of tax instability, the existence of bubbles and asset price fluctuations or not.

However, according to Jacopo Bonchi [6], relying on monetary policies, which are often advocated as a tool to reduce such bubbles, may sometimes have the opposite effect on the economy. In this regard, Zhengxun et al [25] showed that sometimes macro-prudential regulations and the set of tools related to them are much more effective than the traditional monetary policy tools by examining China’s housing market until 2017 and in fact, they introduced the adoption of strict laws as the key to stabilizing the housing prices in China. Therefore, it can be said that the government can take a better step in price stabilization by strengthening the successive strict regulatory policies.

In the studies carried out so far, government interventions and the role of monetary policies by monetary authorities have not been the subject matter, and most of the studies have only investigated the price bubble in one market, assuming the stability of the other parallel markets.

But since in Iran, the asset price bubble has been experienced simultaneously in all financial markets, and the financial markets are also one of the important channels of financing and allocation, resources in the economy can play an important role in the general balance of the economy and transfer of economic shocks in the society. Therefore, it is suggested that the index of monetary conditions and strict regulatory laws be taken into consideration as variables involved in this field at the same time in different markets. of course, according to the components found in the current research, hypotheses can also be put forward to be investigated in future research.

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