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A Study on China's Economic Cycle Classification and Asset Allocation Based on the Investment Clock Theory (2008–2024)

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Abstract:

This paper employs the Investment Clock Theory to evaluate China's economic cycles from 2008 to 2024 and examines the performance of four major asset classes—stocks, bonds, gold, and real estate—across different phases of the cycle. Drawing upon both literature review and empirical data analysis, the study categorizes China's macroeconomic fluctuations into four classic stages: Expansion, Recovery, Stagflation, and Recession. Each stage is associated with distinct patterns of asset rotation, which the paper identifies and quantifies through statistical methods. The results show that asset class behavior in China follows a discernible cyclical trend, aligning closely with the investment clock model, and provides valuable insights for macro-based asset allocation. By extending the investment clock framework to an emerging market context, our research not only enhances the theoretical understanding of asset allocation over business cycles but also offers practical implications for institutional investors seeking to optimize portfolio strategies in response to economic fluctuations.

Keywords: Economic Cycle; Asset Allocation; Investment Clock; Macroeconomics; China.

1. Introduction

Explanation of economic cycles dynamics and the effects of these trends on the assets performance has long been a primary interest of the financial studies. With growing market volatility and macroeconomic uncertainties, it is important to ascertain systematic links between economic shocks and asset classes performance both to the investor as well as the policy-makers. In this respect, the Investment Clock theory provides the conceptual model of relating macroeconomic indicators,namely, GDP growth and inflation, to the cyclical nature of various types of assets. The investment clock was originally formulated in developed financial markets to divide the economy into four phases which are; recovery, expansion, stagflation, and recession depending on directional interplay

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between economic growth and inflation values.

Although the model has been carrying increased empirical content in developed economies, not much can be said about its applicability and forecast value concerning emerging economies such as China. China is an interesting case in point because it has had a distinct macroeconomic environment, structural reforms and market-specific policies interventions during the last 20 years. The recent financial crisis in the world, the COVID-19 pandemic, and continuous regulatory changes have all caused a dramatic cyclical movement in the Chinese economy, and these movements prove to be a fantastic opportunity to experiment with a cycle-based asset allocation paradigm.

This paper will help address this research gap through the review of the investment clock theory in the Chinese economy between the period of the 1st quarter of the year 2008 and the 1st quarter of the year 2024. With the help of the quarterly growth of GDP and rates of inflation by CPI as the classification variables, the research breaks down the time period into separate economic cycles and analyzes the performance of four of the main asset classes: equities, bond, gold and real estate according to the following variables: equities (CSI 300 Index), bonds (Treasury ETF), gold (Huaan Gold ETF) and real estate (Lujiazui stock). Moreover, the investigation examines the action of assets over the cycles with the help of a range of performance measures, which includes annualized return, volatility, and Sharpe ratio, as well as rank analysis of the stability of asset leadership.

In the process of this empirical investigation, the study is able to give information on China macro-financial interactions and also assess the possibilities of developing the stable and data-driven asset allocation program through the economic cycle segmentation. It is anticipated that the results would have practical implication to institutional investors and would help in the localization of the global asset rotation frameworks.

2. Literature Review

The interaction between the economic cycles and assets performance has been a long area of interest between academicians and practitioners. In this chapter, the theoretical background and empirical research in the context of the business cycle identification and asset allocation, especially reported on the basis of the investment clock framework in the Chinese context are reviewed.

2.1 . Research on Business Cycle Classification

The example of a popular framework that analyses business cycles is the Investment Clock theory. This model divides the economy into four phases; recovery, expansion, stagflation, and recession, which depend on the growth of the GDP alongside inflation (usually in the form of CPI). The framework implies that every structure is attached to a distinct macroeconomic situation and hence, various asset classes will do better in each stage.

Investment Clock It has been modified to fit the economic system of China by the researchers. Some of the commonly used leading indicators are quarterly variations in the GDP and changes in the CPI on a year-over-year basis. Other literature also adds to industrial production or growth of credit to achieve better identification of cycle. The investment clock offers a more simplified, investor-friendly classification as compared to the business cycle dating methodology of the NBER that is based upon a wide-ranging range of macroeconomic indicators.

The traditional methods have been complemented by more up-to-date methods of classifying economic regimes: either methods like clustering algorithms (examples: K-means models) or Hidden Markov Models (HMM) [1]. Such approaches provide more data-oriented alternatives that are less understandable and more practitioner-unfriendly [2].

2.2 . Economic Cycles and Asset Performance

An important literature discusses the behavior of asset classes, at various stages of an economic cycle. The Efficient Market Hypothesis (EMH) developed by Fama (1970) states that, rather rapidly, the available information is incorporated into the markets and it is not an easy task to engage in systematic profiteering in relation to macroeconomic variations [3]. Nevertheless, empirical evidence and macro-finance literature indicate that asset returns are affected by regimes of the economy.

A debt cycle model was proposed by Ray Dalio (2012) who claimed that Dynamics of short- and long-term debts is at the center of understanding economic movements [4]. As Dalio argues, various assets, including equities, bonds, commodities, and gold behave in varying ways since each behaves according to the prevailing situation in the economy, and whether the economy is accelerating, decelerating, inflating, or contracting.

This difference is empirically argued. To give an example, stocks performed better in periods of recovery and expansion when there was strong growth and the mass control of inflation. The fact that the bond performs adequately in a recessionary period is because of the monetary easing given in such a period and gold and other commodities may provide hedge against inflationary risks in stagflation. In the past years Chinese research has grown in relation to this area. Other studies use the investment clock, or make their own on-shore cycle indicators. The results intimated that the general propositions are consistent with global tendencies, but the interrelation between China and global forces (such as policy intervention, credit cycles and the dynamics in the real estate market) can change the nature of the behavior expected of the assets.

2.3 . Asset Rotation Strategies

Strategies of asset rotation seek to deploy portfolio strategies in either anticipation or reaction to movement in economic cycles. Such tactics customarily rebalance the exposures to the components that have been doing well historically during the expected phase. As an illustration, rotating into equities in recovery, commodities in expansion, gold in stagflation and into bonds in recession.
In China, these sorts of strategies are not yet well established and the majority of empirical researches are still explorational. Early evidence indicates, however, there may be benefits in using cyclical asset rotation to provide greater risk-adjusted returns especially when used in conjunction with such clear macro indicators as GDP and CPI [5-7].

2.4 . Research Gap and Positioning

Although much literature has been developed on performance of asset over economic cycles in global markets, there have been limited research studies that have employed structured investment clock-based study to China [8]. Very little literature exists about the systematic classification of economic cycle stages of China based on the macroeconomic data and comparable dynamics of various main asset classes. This paper aims to address this gap by employing a modified version of investment clock model that was specific to the Chinese macroeconomic situation and assess its stocks, bond, gold and real estate through empirical analysis of their performance under various economic circumstances.

3. Theoretical Framework and Methodology

Through this chapter, the theoretical origin and the approach to the analysis of the relation between the economic cycles of China and performance of the main asset classes is described.

3.1 Theoretical Framework

The current study appropriates the theory of Investment Clock as one of the principal frameworks of analysis. This theory categorizes the economic cycle into four phases and depends on two of the most important macroeconomic indicators, the percentage growth of the GDP and the inflation rate which is normally represented by the Consumer Price Index (CPI). In particular, the recovery phase can be described as GDP will grow and CPI will reduce, meaning the economic output will improve and the inflation pressure will keep low. Expansion phase is a period where some activities are improving and GDP and CPI are rising depicting a strong economic growth and rising inflation. Conversely, the stagflation phase implies the situation when the growth of GDP decreases, but inflation (CPI) persists, and the economy experiences stagnation and steady inflation. Lastly, the recession phase is characterized by co-dependent declining GDP and CPI and reflects an economic downturn of general character, weak demand and deflationary pressure.
It is also believed that each phase prefers certain classes of assets with respect to macro-economic conditions and investor expectations. The rationale is that the economic growth aids the performance of equity, inflation helps the performance of real assets such as commodities and recessionary times help the performance of defensive assets such as bonds.

3.2 Research Questions

This paper will help to answer some of the major questions about how the macroeconomic business cycles affect the performance of assets in China. First, it aims at answering the question of the possible effectiveness of the macroeconomic indicators, namely, the GDP growth rate and CPI in dividing the phases of the cycle of the economy of China. Second, it addresses the performance of different asset classes such as equities, bonds, gold and real estate in various economic cycle phases. Third, it examines the possibility of locating a stable pattern of asset momentum in the Chinese setting and hence offer a prospective avenue on which dynamic asset allocation strategies can be founded.

3.3 Data Collection

The study is conducted between the first quarter of 2008 and the first quarter of 2024, whereby information was gathered after every quarterly interval. It uses two important macroeconomic indicators; the rate of growth in GDP and year-to-year changes in Consumer Price Index (CPI). Moreover, information on asset performance is gathered in four big categories. The CSI 300 index is used to represent equity performance which has acted as the proxy to the broad stock market in China. The trend on the bond market is measured in terms of the ChinaBond Composite Index or a 10-year Treasury Bond ETF. The Huaan Gold ETF (code: 518880) is used as a proxy of returns on gold and the Wind Real Estate Index or chosen representative stocks give a proxy of the performance on real estate.

3.4 Methodology

The categories of economic cycles employed in this research are grouped in a combined forum related to GDP development and CPI inflationary rates [7]. In particular, the state of the economy will be assessed by implementing the use of threshold values; e.g. median- or quantile-based cutting lines over the sample period to assign each quarter

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of the sample into the high growth and inflation or low growth and inflation states. It allows one to divide the economic cycle into four stages in correlation with the Investment Clock theory.

In measuring the performance of assets depending on the economic cycles several performance measures are used. They are annualized volatility, annualized return, Sharpe ratio and maximum drawdown. The indicators provide an overall picture of returns and risk-adjusted results of every asset class.

This method will allow a systematic analysis of the performance of various asset classes in varying economic environments in China, and with this purpose, a solid theoretical framework will guide the analysis [9].

4. Empirical Analysis

The study derives the year-on-year GDP growth rate and CPI growth rate in China based on the quarterly data of the first quarter of 2008 to the fourth quarter of 2024. In this paper, the dynamic role of identifying and staging the economic cycle in China is played upon using the theory of the investment clock. Besides, the paper analyzes the difference between the performance of the major assets at various levels, in an attempt to expose the rotation law of assets [10].

4.1 Data Sources and Processing Methods

GDP and CPI data come from the National Bureau of Statistics and the public financial database, respectively. The GDP growth rate is based on the monthly year-on-year growth rate and the quarterly average is taken to enhance the forward-looking and reduce the volatility of the data; The CPI is the official quarterly year-on-year data, which has been smoothed and standardized to facilitate cycle identification. The data sample of this research extends to 68 quarters between 2008Q1 and 2024Q4.

In this paper, the following four examples of representative types of assets will be taken to examine their performance in various economic phases of the cycle:

This paper will choose CSI 300 Index as the representation of high-quality equity available in the Chinese capital market, Huaan Gold ETF (518880) as an instrument representing the safe-haven assets of the gold, 10-Year Treasury Bond ETF (511010) to capture the performance of the bond market, and Lujiazui Co., Ltd. (600663) to represent the real estate space. Such choices are made to resemble diversified asset performances to macroeconomic change.

It is necessary to note that it is due to the reasons that the research chooses Lujiazui Co., Ltd. (Stock Code: 600663) as a proxy. Lujiazui is a leading listed developer that specializes in hi-end commercial and financial properties in Shanghai fame of being one of the most important economic cities of the Chinese sphere. Its performance is regarded as a good pointer of the of the internal Chinese main city, real estate market.

Any asset returns are computed using the quarterly end closes taken by such sources like Orient Wealth, Wind and other publicly available database.

4.2 Cycle Division Logic

Based on the “Investment Clock Theory”, this paper uses two macro indicators, GDP growth and CPI inflation, to classify the business cycle, as shown in Table 1.

Table 1. Classification of the business cycles according to the theory of the investment clock

The stage of the business cycle	Year-on-year GDP growth	Year-on-year growth rate of CPI	Description
Expansion	≥ 6%	< 2%	High growth + low inflation, the stock market is doing well
Recovery	≥ 6%	≥ 2%	High growth + high inflation, strong economy and tight policies
Stagflation	< 6%	≥ 2%	The economy is weak but inflation is high, making asset selection difficult
Recession	< 6%	< 2%	Slowing growth + low inflation, safe-haven assets prevail

Among them, the thresholds of 6% and 2% refer to China’s long-term potential growth rate and the global inflation stability target: 6% is the common red line of policy, and 2% is the central level of international inflation. Even though this process is an oversimplification of classification, this approach can be very good at printing fluctuations in macro cycle.[11-12].

4.3 Cycle Division Results

Based on the above criteria, this paper divides each quarter from 2008 to 2024 into different economic cycle phases. The following is the result of the division (see Figure 1):

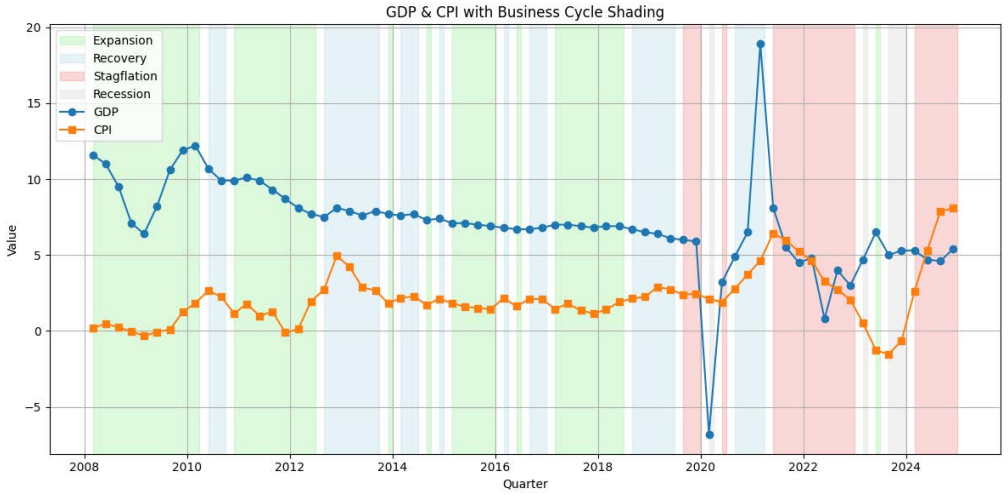

Figure 1. China's economic cycle from 2008 to 2024 [13-14]

From Figure 1, the main observations are as follows:The economic cycles of China between 2008 and 2024 can be partly described as having had several pivotal periods. Between 2009-2010, policy-driven stimulus pushed the economy into the state of growth and improvement. The period between 2012 and 2014 brought about slow growth momentum coupled with high levels of inflation creating a stagflation environment. The short-cycle fluctuation has been observed in 2015-2016 when recovery was followed by a slightly strong increase. Due to an outbreak of COVID-19 pandemic in the first half of 2020, the GDP decreased dramatically, and the economy entered a recession and stagflation. Between 2020, 3Q and 2022, the economy has been showing a post-pandemic recovery, although increasing inflationary pressure slowly brought it to the verge of stagflation. This phase has been underscored by sustained feeble improvements and inflationary threats that have been witnessed between the years 2023 and 2024, a prolonged stagflation phase.[15]

4.4 Asset Performance in Different Cycles

We calculated the quarterly average return vs. standard deviation for four asset classes at different cycle stages, and the results are as follows:

Table 2. Asset Performance in the Economic Cycle [14-16]

The stage of the business cycle	CSI 300 Index	Treasury ETFs	Gold ETFs	Lujiazui
Recovery	6.8%	0.9%	2.5%	7.2%
Expansion	5.4%	0.5%	1.8%	5.9%
Stagflation	-1.2%	1.6%	3.3%	-0.5%
Recession	-2.8%	2.3%	2.7%	-4.6%

Table 2 shows that equities and real estate do well during the expansion and recovery phases and do relatively poorly during the recession and stagflation phases; - Bonds, on the other hand, do well during the recession and stagflation phases; - Gold also perform strongly during the stagflation phase due to its inbuilt resistance to inflation [15].

This conclusion verifies the asset rotation hypothesis described in the investment clock theory, that is, different cycles adapt to different assets. Rational investors have the ability to dynamically optimize assets allocations as per macro signals [17].

5. Discussion

Based on macroeconomic and financial market data from 2008 to 2024, combined with the investment clock theory, this study divides China's economic cycle into four stages, and evaluates the performance differences of four asset classes, including stocks, bonds, gold and real estate, in different cycles. Following the analysis, the following important conclusions were made:

5.1 Adaptability and Limitations of Investment

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Clock Theory

Even though the investment clock was initially utilized in the developed economies, the logical scope of its application is high in the case of China [18]. The empirical findings indicate that the growth and recovery cycles are the most friendly to the equity asset performance whereas the predictability of the stagflation and recession cycles are friendly to the performance of the bonds and gold with relatively stable returns. The observation contributes to the notion that the economic machine is the driver of returns on assets as described by Ray Dalio besides adhering to what Fama termed as the principle that inflation is against the real returns on assets [18].

Nevertheless, because of the policy-oriented nature of Chinese economy, the question of data transparency, and cyclical uncertainty it is still possible to speak about certain flaws in real use of investment clock theory. As an example, the stock market correction in 2015 took place on the background of GDP remaining in the growth zone, which means that macroeconomic factors are not a complete representation of the systemic risk in the market. It is against this background that cyclicality of CPI and GDP as a single variable is not sufficient in detecting altering volatility in asset prices due to policies interventions or shocks outside.

5.2 Relativity and Practical Implications of Asset Rotation Law

The findings reveal that the performances of different assets in different phases of economic cycles vary significantly and they are not absolute. For example, although gold is inflation-resistant during the stagflation phase, its volatility is also high. During recession period, the Treasury bonds have been stable in terms of returns and they are not prone to volatility. In addition, real estate assets (represented by Lujiazui) have performed positively in the expansion and recovery stages, but they are significantly affected by policy regulation and control, and it is difficult to rely solely on macroeconomic variables to judge their trends.

The above analysis shows that asset rotation is more suitable as a reference for strategic allocation, and investors need to dynamically adjust the asset weight in the process of operation, rather than adopting a static matching strategy [19].

5.3 Reference value for policy regulation and asset allocation strategy

The cycle division and asset performance results of this study reveal the chain transmission mechanism between "macro signals, market reactions, and asset returns". At key junctures such as the economy moving from recovery to stagflation, or from recession to expansion, asset allocation can be optimized if turning signals can be identified in advance. Therefore, the investment clock theory has high practical value in policy formulation, institutional allocation and risk management, especially for pension management, fund portfolio optimization and macro hedging strategy.

5.4 Future Research Directions

In order to further improve the scientific and applicability of this study, further research can be carried out in the following directions in the future:

First, incorporating high-frequency macroeconomic indicators—such as the Purchasing Managers' Index (PMI), M2 money supply growth, total social financing, and granular CPI components—can improve the timeliness and sensitivity of phase recognition. Second, statistical and machine learning techniques, including K-means clustering, Markov regime-switching models, and LSTM neural networks, may help improve the objectivity and accuracy of cycle segmentation. Third, expanding the range of financial assets to include A50 index constituents, Hong Kong-listed equities, U.S. Treasury bonds, REITs, and broad commodity indices could enhance the generalizability and cross-market validity of the investment framework. Finally, integrating perspectives from behavioral finance may help explain the irrational volatility of asset prices by investigating the interplay between market expectation deviations and policy interventions during specific economic phases.

In summary, the investment clock theory provides an effective framework for constructing a macro-economy-based asset allocation strategy, which has certain promotion value in the Chinese context, and can be further improved in the future by combining multi-dimensional data.

6. Conclusion

The research based on a framework of the investment clock theory outlines the economic path of China between 2008 and 2024 into four distinct periods of economic growth which are namely expansion, recovery, stagflation, and recession. It is carefully analyzing the difference in performance of different asset classes, be it equities, bonds, gold or real estate, during these phases. The results indicate that there was accumulation of cycle specific correlations in macroeconomic variables on asset returns and the characteristics of asset rotation were serious in various cycles therefore, confirming the applicability of investment clock theory in the Chinese market.

However, the impacts of policy variables, latency of data, and mood of the market on defining the cycle cannot be discounted. There is potential to obtain high frequency data, use a broader range of asset classes and utilize a ma-

chine learning approach in future research to improve the accuracy of cycle detection.

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