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A research on the phenomenon of sector rotation in China

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Abstract. The phenomenon of sector rotation is common in a country's economic development, and its impact on the stock market is particularly profound, and the rotation of sectors is undoubtedly an important consideration for investors, experts and scholars when studying China's stock market. Studying the reasons for the emergence of sector rotation and the relationship between sector rotation and economic cycles and industrial chains is conducive to better understanding and mastering the economic system, so as to formulate corresponding economic policies to promote better economic development. By discussing the definition, reasons and relationship between sector rotation and economic cycle and industrial chain, this paper draws out the impact of sector rotation on financial securities, and finally gives relevant policy suggestions from the perspective of sector rotation.

Keywords: Sector Rotation; Economic Cycle; Industrial Chain; Financial Securities

1. Introduction

By discussing the definition, reasons and relationship between sector rotation and economic cycle and industrial chain, this paper draws the impact of sector rotation on financial securities, and finally gives relevant policy suggestions from the perspective of sector rotation.

2. Organization of the Text

2.1 Sector rotation

2.1.1 The definition of the Sector rotation

There are various definitions of sector rotation, in this article we define the sector rotation as the follows: with the change of the economic cycle, a country's development environment and national policies change accordingly, so the beneficiary industries change, a certain industry may change from depression to prosperity, and some industries may also change from high-speed development to downturn. In fact, some sudden social hotspot events may also trigger the rise or fall of related sectors.

2.1.2 The reason for the rotation of the sectors

1. Economic cycles

The most commonly accepted way to divide the business cycle is: recession - recovery - overheating - stagflation - recession, and so on. Generally speaking, cyclical industries are more affected by economic cycles, such as non-ferrous metals, steel, chemicals and other industries, economic fluctuations are more correlated, and prices are also cyclical. National policies also

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change with the changes in the economic cycle, the state will give preferential policies to certain industries according to national conditions, investors will also pay close attention to national policies, and invest funds in hot industries, so the stocks in these industries will show an upward trend. For example, in 2015, Internet finance developed rapidly under the support of the national strategy, and in 2016, the Tibet revitalization sector remained high under the support of the government.

2. Industrial chain effect

When a leading industry develops at a high speed, its related industries will inevitably develop, this phenomenon usually appears in the relationship between products and raw materials, upstream industries and downstream industries, such as the rapid development of the real estate industry will drive the development of the construction industry, the development of the construction industry will drive the development of cement, steel and other building materials industry. In the field of financial securities, it is manifested as leading stocks driving other stocks in the sector up.

3. Social emergencies

Sudden hot events affect the public's investment sentiment by attracting the public's attention, and investors usually invest their funds in optimistic hot industries. For example, in 2021, there was a wave of boycotts of Xinjiang cotton by major foreign clothing brands, in this case, the Chinese brand Li Ning unexpectedly became popular because it has been writing Xinjiang cotton on the label, and the Xinjiang cotton incident made Li Ning's stock price soar, and the price of the product also achieved a substantial increase.

2.1.3 The relationship between sector rotation and economic cycles

Merrill Lynch formally proposed the investment clock in 2004, dividing a complete economic cycle into four phases: recession-recovery-overheating-stagnation. [1]

The following takes the average yield of various industries in the 1970-2004 US economic cycle as an example to illustrate that the phenomenon of sector rotation is closely related to the economic cycle:

Table 1 Average yields by industry during the U.S. economic cycle, 1970-2004

Sector type	Recession phase	Resuscitation phase	Overheating phase	Stagflation phase
Stable consumption	13.3%	-3.1%	1.1%	2.5%
finance	11.0%	1.4%	-1.8%	1.6%
Optional consumption	8.9%	3.8%	-5.8%	-8.9%
Healthcare	5.6%	-4.5%	2.9%	11.6%
Basic raw materials	0.5%	-2.4%	-3.6%	2.1%
industry	-4.5%	-0.4%	4.3%	2.1%
information technology	-4.6%	3.3%	4.7%	-12.5%
Public Utilities	-4.7%	-3.1%	-3.2%	6.4%
Telecommunications services	-10.2%	3.7%	-0.9%	0.0%
energy	-12.8%	-4.4%	4.2%	14.7%

As can be seen from the table above:

① Stabilizing consumption sector during the recession phase is the best choice;

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② Finance and optional consumption performed well in the recovery stage, because the central bank lowered interest rates, energy prices fell, and optional consumption costs such as automobiles and home appliances fell at this stage;

③ The energy sector performed best during the overheating phase and the stagflation phase, thanks to higher energy prices driven by higher commodity prices.

It can be seen that the phenomenon of sector rotation is closely related to the economic cycle.

2.1.4 The relationship between sector rotation and industrial chain

1. Synchronization effect between sectors

The synchronization effect between sectors is mainly reflected in highly correlated sectors. When a sector develops well, the highly related sectors will also be affected by it, and then strengthen. For example, the rapid development of the real estate industry will drive the development of the construction industry; the rapid development of the financial industry will promote the development of the insurance industry. This phenomenon is because there is a certain connection between the two industries, for example, raw materials and products, upstream industries and downstream industries, etc. The two industries affect each other through this connection, so there will be a synchronization effect between the sectors.

Logically, it is because the sector is in the same performance-driven logic. For example, with reference to a macroeconomic policy, investors will invest their money in sectors that are expected to be promising, so cyclical sectors will be subject to fluctuations and highly relevant sectors will fluctuate synchronously. [2]

2. Conduction effects between sectors

The rotation of the sectors involves the conduction mechanism, and the reason is that the human response lags. When a sector fluctuates, at first, people will only think about the reasons for the fluctuations and consider whether to invest or withdraw funds from the industry; but after a while, people will think about whether the fluctuations of the industry will have an impact on other industries, so they will pay attention to the sectors that are highly related to it, and consider whether to invest or withdraw funds from the related industry. For example, when the real estate industry is optimistic, shareholders will not hesitate to invest funds in the real estate industry, which will make the real estate industry's stocks rise and stop, at this time the shareholders will look for new breakthroughs, and naturally they will think of the cement industry and steel industry which are related to the real estate industry. So, money is invested in these industries, which in turn makes these industries rise. This is called the conduction mechanism. [3]

Then, we take the rotation relationship between the real estate development industry and the construction industry as an example to illustrate the conduction effect between the sectors.

Based on the closing price of each month of real estate's stocks, after trying several different time series models, we get a better fitting trend through the Simple Seasonal Model, as shown in Figure 1, the red line is the measured closing price, and the blue line is the fitted closing price. Where we select point A as the reference point for the trend, the corresponding time is February 2018.

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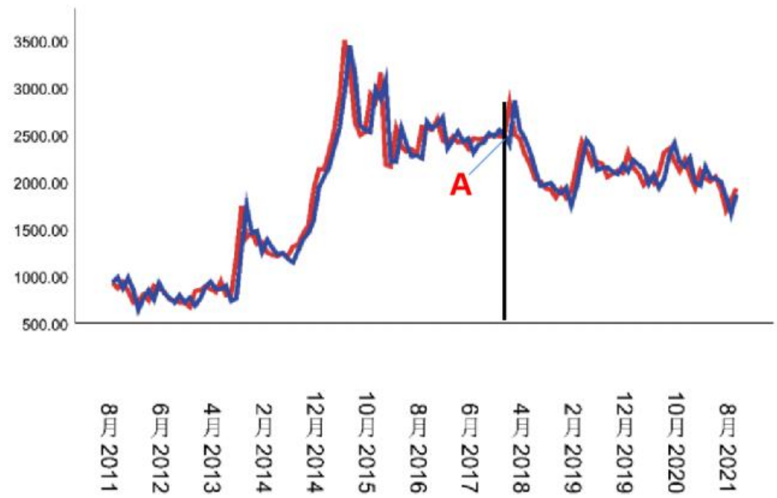
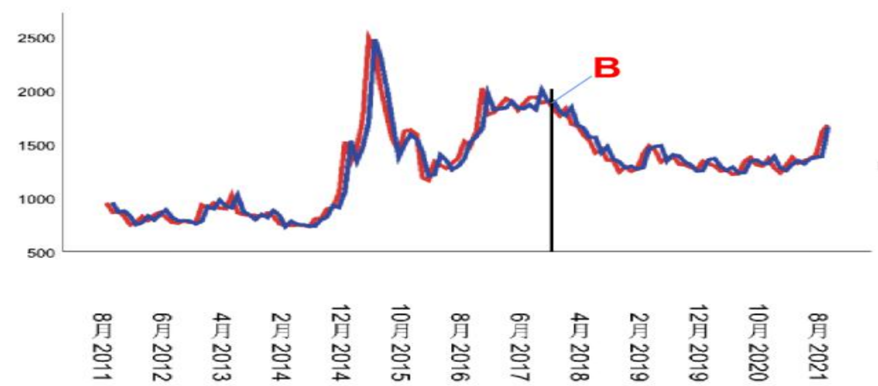
Figure 1 Fitted graph of closing price curve for real estate development



In the same way, we do a similar job with the construction industry. Based on the closing price of the construction industry's stocks every month, a good fitting trend is obtained through the SARIMA model, as shown in Figure 2, the red line is the measured closing price, and the blue line is the fitted closing price. The specific parameters are: ARIMA(0,1,9)(0,0,0). We chose B as the industry reference point for October 2017.

Figure 2 Construction Industry Closing Price Curve Fitting Diagram



Therefore, comparing the two points A,B, we conclude that in the Chinese stock market, the construction industry leads the investment heat of the real estate industry.

2.2 The impact of sector rotation on financial securities

The rotation of the sector is sometimes reflected in the trend of stocks, and the continuous rise in the price of a stock indicates that its sector is performing well; Conversely, the continuous decline in the price of a stock indicates that its sector is not performing well. Next, taking ping an insurance (group) company of china (601318) as an example, the impact of sector rotation on financial securities is analyzed.

Figure 3 shows the monthly K chart of ping an insurance (group) company of china (601318), from which it can be seen that it started on September 1, 2014 and continued until October 2, 2021. The stock price movement is roughly a complete eight-wave cycle. Among them, the stock price in

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2017 constituted the main wave of the third wave, and the stock price rose from 22.39 yuan to 67.03 yuan, an increase of 199.37%, achieving the largest increase. At this stage, people's insurance demand has increased significantly, the national policy is strongly supported, and the insurance industry is developing; the stock price in 2018 constitutes as adjustment wave, the stock price has dropped to 56.13 yuan, from the perspective of the sector, 2018 is a particularly difficult year for the insurance industry, the endogenous growth momentum is stalling, and the external environment changes are tightening.

figure 3 monthly k chart of ping an insurance (group) company of china (601318).

From this, we can conclude that the sector rotation effect will be reflected in the stock price, and the sector rotation has a non-negligible impact on financial securities.

2.3 Relevant recommendations under the rotation of the sector

2.3.1 Judge the business cycle

Think about which stage of the economic cycle China is in, and then make corresponding investment choices for the characteristics of the economic development at this stage. For example, In the recovery phase, we can invest in some well-performing stocks, such as telecommunications stocks; In the overheating phase, bonds should be sold to invest in some industrial stocks and commodities. At the same time, investors should always pay attention to investment risks, do not put eggs in the same basket, try to choose a reliable portfolio, and achieve continuous risk control.

2.3.2 Note the time lag effect

Always keep in mind that investing has a time lag effect. As mentioned above, because people have a lag in their reactions, the conduction effect between sectors also lags, and the errors caused by this lag can be fatal during the faster changes in the economic cycle. Therefore, it cannot be judged simply from the data, but also according to the specific situation at that time, such as the trend of different industries in the market, the overall situation of the domestic economy, and the attitude of the government, including monetary policy and fiscal policy. Therefore, in the investment process, we must always pay attention to external factors.

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