

# *The Influence of Inflation, Corporate Management and Investor's Sentiment on Stock Price*

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**Abstract:** In the past, many studies on stock investment are based on empirical studies of large sample data, but, logical analysis is applied in this paper to find three most essential and basic factors which determine the stock price based on the economic law. One of this three factors is inflation, which will influence the price of company's assets and liabilities, the price of materials and labor, and the price of company's products and services. It ultimately affects company's stock prices. The second factor is corporate management which will determine the intrinsic value of company and influence company's stock prices. The last factor is investor's sentiment, when investor's sentiment is generally optimistic, the stock prices will higher than intrinsic value, and when investor's sentiment is generally pessimistic, the stock prices will lower than intrinsic value. A perfect investment strategy is proposed at the end of this paper.

## 1. Introduction

Stocks are part of the company's ownership, the value of stock equal the value of company. Discounted cash flow valuation model tell us company's intrinsic value is equal to the sum of the present value of future cash flows:

$$V = \frac{D_1}{1+K} + \frac{D_2}{(1+K)^2} + \frac{D_3}{(1+K)^3} + \dots = \sum_{t=1}^{\infty} \frac{D_t}{(1+K)^t} \quad (1)$$

Where V is the intrinsic value of company,  $D_t$  is the cash flow of company in t-phase, K is the discount rate.

This model is theoretically perfect, but difficult to use, because no one can predict all of company's future cash flow. But this model tells us that the company's stock has intrinsic value, which is determine by company's cash flow (determine by corporate management) and discount rate.

Since stocks have intrinsic value, what is the relationsh about stock price and stock intrinsic value?

Low of value tell us the price of a commodity fluctuates around its value because of the relationship of supply and demand. We could treat the stock as a commodity that can be traded. So

stocks' value and price follow the law of value, the difference is that the intrinsic value of the stock changes over time because of the corporate management. The company can be divided into three types according to the corporate management: well-managed company (intrinsic value increases over time), normal-managed company (intrinsic value stay the same), bad-managed company (intrinsic value decreases over time).

For the well-managed company, company's asset, revenue, profit, cash flow increase due to Good management, as the same time, company's intrinsic value also increases over time, the price and value relationship of well-management company is show in the bellow picture:

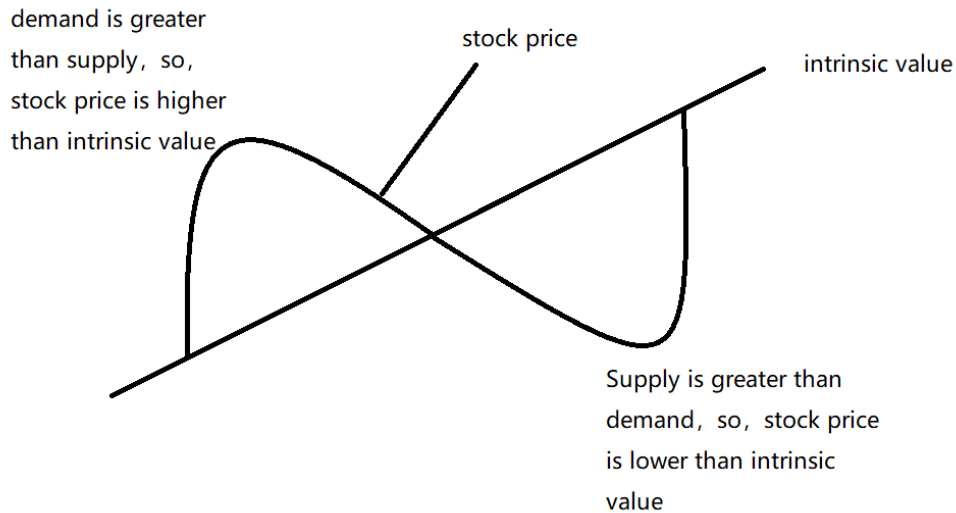


Fig.1

For the normal-managed company, company's asset, revenue, profit, cash flow stays the same, as the same time, company's intrinsic value also stays the same over time, the price and value relationship of normal-management company is show in the bellow picture:

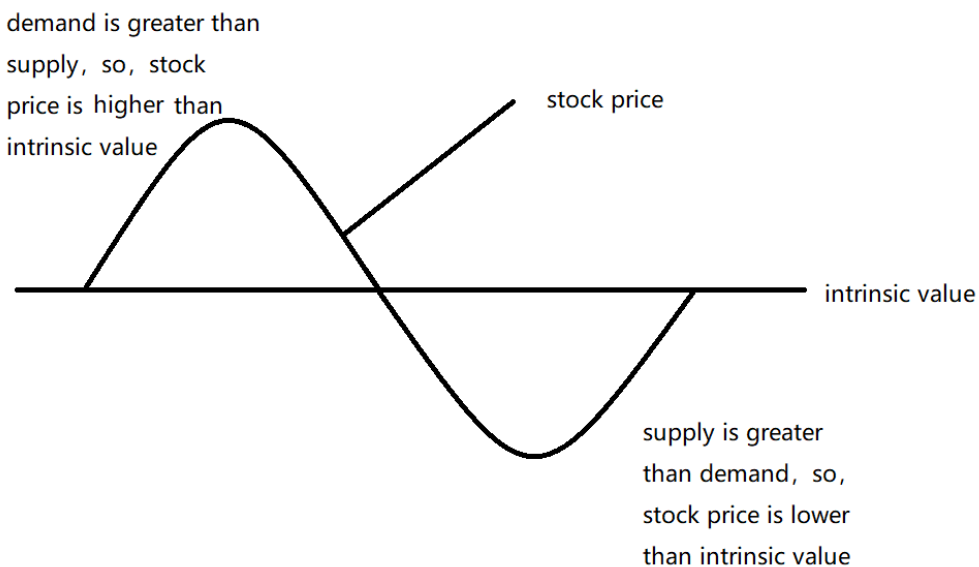


Fig.2

For the bad-managed company, company's asset, revenue, profit, cash flow decrease due to bad management, as the same time, company's intrinsic value also decreases over time, the price and value relationship of normal-management company is show in the bellow picture:

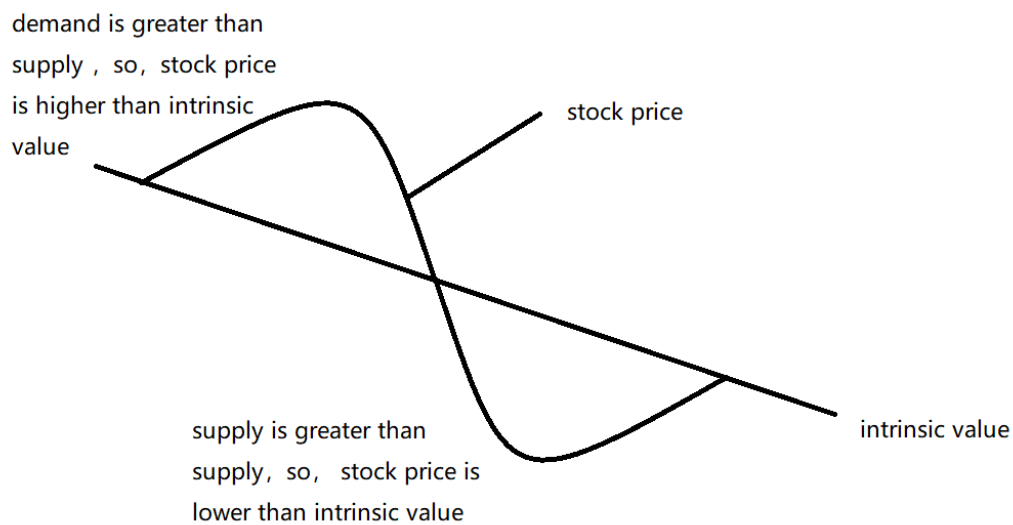


Fig. 3

Expand the value law into the stock market, the price of a stock fluctuates around its value because of the relationship of supply and demand. At first, the main factor determine stock price is it's intrinsic value, which is the present value of the company's future cash flows. But, stock price is not equal it's intrinsic value, The supply and demand of the stock will cause the stock price to deviate from its intrinsic value, and the main factor affecting supply and demand of stock is investor's sentiment. When investor's sentiment is generally optimistic, stock holder thinks that the stock price will rise in the future and keep holding, People who don't have stocks also think that stock price will go up and they want to buy, so the demand is greater than supply which lead to stock price rise. When investor's sentiment is generally pessimistic, stock holder think that the price of a stock will fall in the future and choose to sell, people who don't have stocks also think that stock price will go down and they won't buy the stock, so, the demand of stock is less than supply which lead the stock price go down. And market participants have herd behavior, It is easy to form uniformly optimism and uniformly pessimism. Once this uniformly optimism or uniformly pessimism forms, stock price will go up or go down because of investor's sentiment. When stock price rise and fall as investor expected, It reinforces people's belief that they are right, which boosts investor's optimism and pessimism. That is George Soros' reflexion theory. Reflexion theory reveal the reinforce effect between investor sentiment and market performance.

There some study on the impact of investor sentiment on stock prices: Barberis through drawing the investor sentiment of Bayesian reason, explain the underreaction and overreaction of market participants in stock investment. Lee's Empirical studies confirm that investor sentiment is a priced systematic risk, the excess return of stocks is positively correlated with investor sentiment. CAGCH-M model proved that investor sentiment not only affects the yield of stock investment, but also affects the volatility of stock. Jiang Yumei' research shows that investor sentiment can have a systemic effect on stock returns.

## 2. Organization of the Text

### 2.1 The effect of inflation on prices.

Inflation will bring about a general increase in goods and service prices, and company's asset price, product and service price, revenue, cost, expense will increase at the same time.

Make a simple assumption: company's asset price, product and service price, revenue, cost,

expense increase at the same speed with inflation, the operation of the company remains unchanged, in the  $t_0$  company's net asset is 100, product price is 5, product sell volume is 12, cost and expense is 50, Inflation rate is 5%. company's total market value is 200. (revenue is 60, PB is 2, PE is 20).

Then in the  $t_1$  company's net asset is 105, product price is 5.25, product sell volume is still 12, so revenue is 63, cost and expense is 52.5, if valuation remain unchanged, company's total market value should change into 210. The company's market value growth is just equal to the rate of inflation.

So even though company's operation stay unchanged, the stock price will rise at the speed of inflation rate if valuation unchanged.

So stock price is positively correlated with inflation. In other word, stocks are a good hedge against inflation.

In the long run, all global stock indexes are up. Inflation is an important reason.

## 2.2 The effect of corporate management on prices.

Stock are part of the ownership of the company, so the intrinsic value of the company is the basis of stock price. Expand the value law into the stock market, the price of a stock fluctuates around the intrinsic value of the stock due to the relationship between supply and demand. What ultimately affects the company's intrinsic value is the corporate management.

The development of a company goes through initial period, growth period, maturity period and decline period, company's stock price changed follow the company's business cycle. As analyzed in the previous article, for a well-management company, asset, revenue, profit, cash flow increase over time, so, intrinsic value will increase at the same time. For a normal-management company, asset, revenue, profit, cash flow stays unchanged over time, so, intrinsic value stay unchanged at the same time. For a bad-management company, asset, revenue, profit, cash flow decrease over time, so, intrinsic value decrease at the same time.

Make a simple assumption, at  $t_0$  a company's net asset is 100, sell volume is 10 and revenue is 60, costs and expenses is 50, so, net profit is 10, don't consider dividends and financing, market value is 200(PB is 2, PE is 20). Suppose company's management is good, so, sell volume increase 2 every year, product price remain the same.

For the assumption above, after 5 years, company's net asset will increase to 170, net profit will increase to 20, if PB valuation not change, company's market value will increase to 340, made an increase for 140 because of good management, if PE valuation not change, company's market value will increase to 400, made a increase for 200 because of good management.

So, corporate management has a strong influence on stock price.

## 2.3 The effect of investor's sentiment on prices.

Corporate management has an influence on stock price in a long term, but investor's sentiment has an influence on stock price in a short term. The change in investor's sentiment could change investor's action, investor's action determined the relationship of demand and supply, if the investor's sentiment is general optimistic, the demand will excess supply of stock, which lead to stock price higher than intrinsic value. Then the increased stock price will strengthen optimistic sentiment, because the increased price confirm investor's expectation of stock price will increase, at that time, investor is over-confident, and there is an obvious herding effect on this over-confidence among investors, which lead to overbought in the market, so, stock price bubble appears. Bubble means stock price is significant higher than intrinsic value. The bubble will not burst immediately once it appears, even though the bubble will expand because of the reinforce in investor's sentiment. New fund will come to the market because of the price rise, Du mian collect new stock account

number from 2009 to 2015 and found that the fluctuation of the stock price index has a great influence on the number of new accounts and A steadily rising share price would help to attract more new money into the stock market. If more and more money enters into the market the price bubble will become bigger and bigger.

On the contrary, if the investor's sentiment is general pessimistic, the supply will exceed demand of stock, which leads to stock price lower than intrinsic value. Then the decreased stock price will strengthen pessimistic sentiment, because the decreased price confirms investor's expectation of stock price will decrease, which leads to oversold in the market, so, stock price lower than intrinsic value.

There are also three levels of investor optimism, the first level is the optimism of the whole market, this situation is happened in the run-up case to a big bull market.

The second level is optimism about an industry, investors are generally bullish about the future of an industry and lead the share price of an industry is higher than its intrinsic value. The third level is optimism about a company, investors are generally bullish about the future of a company and lead the share price of company is higher than its intrinsic value.

In most cases, investor sentiment is not concentrated, there are both optimists and pessimists, when the two forces are almost the same, the stock price deviates from the intrinsic value to a very small extent. Once investor sentiment began to converge to optimistic or pessimistic, the stock price tended to a significant increase or decrease.

### 3. Conclusion

This article analysis from the logic of true word rather than statistical data, we found three most essential factors which influence the price of stock. One is inflation which leads to a rise in all stocks in a long term. The second factor is corporate management which could determine the intrinsic value of stock to influence price. The third factor is investor's sentiment, which influence the relationship of demand and supply to influence stock price in short term.

Based on the above analysis, a perfect investment strategy has three main elements: The first element is hold for a long time, because in a long time inflation will lead stock price rise. The second element is buy the well-management company, because the intrinsic value of well-management company will continue to increase. The third element is buy at investor's sentiment is extreme pessimistic and sell at investor's sentiment is extreme optimistic, this could benefit from mispricing.

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