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Using Analytical Hierarchy Process Methods in Cash Holding and Corporate Working Capital Management: an Asian Perspective

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Using Analytical Hierarchy Process Methods in Cash Holding and Corporate Working Capital Management

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Using Analytical Hierarchy Process Methods in Cash Holding and Corporate Working Capital Management

ABSTRACT

CASH HOLDING behavior is an important financial behavior of the company, which reflects the company's financial strategy and management strategy. What are the factors that affect corporate cash holdings? How does the change in these factors affect the change in corporate cash holdings? Starting from two aspects of national macroeconomic environmental factors and microeconomic environmental factors, this paper tries to analyze these factors and how they affect corporate cash holdings.

WORKING CAPITAL MANAGEMENT is an important part of the company's financial management, which is closely related to the value creation of the company. What is the content of working capital management? How to manage the working capital effectively? This paper expounds the contents of working capital management from the perspective of process management, and expounds how to effectively manage working capital from the perspective of situational management.

In my long-term practice, I found that in order to effectively manage the liquidity of the enterprise, it is necessary to link the above two areas. First, corporate cash holdings are subject to a series of internal and external constraints, which of course including the efficiency of working capital management and working capital management policy; secondly, enterprise working capital management is the core of the management of cash flow, in order to achieve this goal, will inevitably be affected by corporate cash holdings them.

For example, a foreign capital enterprise needs a management tool to reveal what factors affect the cash holdings of enterprises, and how these factors change the cash holdings of enterprises. How does the change of cash holding demand affect the management of working capital? Through this management tool, the enterprise can regularly track or predict the impact of each corporate cash holdings factors, considering the impact of changes in demand factors hold on cash, hold out all the factors affect the level of demand for the overall change in cash, according to the level of deviation from the past 12 months average level, divided into three the degree of changes in demand situation of cash holdings, combined with the situation of working capital management from the perspective of process management, timely adjustment of working capital management strategy of the enterprise, to achieve pre adjustment, reduce liquidity risk to enterprises.

This paper uses the questionnaire survey and the AHP (analytic hierarchy process) as the research and investigation method.

Key words: cash holding factor operating fund management tool AHP
Introduction

Cash holding is an important financial behavior of the enterprise, and it is also an important financing channel for enterprises. It is more and more significant to the enterprise's financial strategy and investment decision. Because when enterprises are hard to get the external financing they need, cash holdings as an important source of corporate investment are directly related to the long-term development of enterprises. At the same time, as an important part of resisting financial liquidity risk, cash holdings not only attract the attention of business managers, but also attract more and more attention from outside investors. Especially in the background of the global economy by the financial crisis in 2008 out of the business situation is good, many enterprises are "liquidity trap" over, this has prompted the liquidity risk of enterprises have a new understanding, so the corporate cash holdings also began to pay attention.

Since the 1990s, western scholars have carried out a lot of research and Discussion on corporate cash holding behavior, and have formed rich research results. However, most of the researches on cash holding behavior in China only follow the ideas of foreign scholars, and make an empirical analysis of cash holdings of domestic listed companies, in order to verify whether foreign companies' cash holding factors are reflected in the data of domestic companies.

Working capital management is an important part of financial management, but the theory of enterprise working capital management is not enough attention, studies tend to complex mathematical model and theoretical calculation, not only the research results and the results of these studies in the practice of management has not been used, too. However, business innovation of working capital management practices has not stopped, especially the U.S. consulting firm REL and CFO magazine (Wang Shaquan, Feng plum, Sun Jianqiang, 2007). They emphasized that the management of working capital of enterprises should be liberated from complex mathematical models. They should be seen from the simple financial statement data, and guide enterprises to manage working capital from the whole. However, there is no research yet on the internal relationship between corporate cash holdings and working capital management, because most of the researches on cash holding factors are empirical studies.

I am in the financial management practice, experience to the management of working capital, must jump out of the balance sheet, look to the financial management strategy, enterprise supply chain management and enterprise survival of the domestic economic environment and international environment, firmly grasp the cash management of working capital management of the core content in advance, sensing factors related to a variety of changes in demand change on cash holdings, and take
measures to adjust the working capital management strategy, can help enterprises to calmly face the risk, no risk and reasonable risk prevention solutions in an orderly manner. In fact, there is an urgent need for a management tool to link the factors that affect the company's cash holdings and the management of working capital, and transform these factors to the influence of cash holdings on the management of working capital. By tracking and predicting these factors, we can know the impact of
these factors on the management of working capital, so as to adjust management strategies and ensure the smooth operation of working capital management.

**Research methods**

This paper uses the theory research, the questionnaire survey method and the AHP (analytic hierarchy process) as the research and investigation method. The theoretical research is mainly based on the theoretical results of cash holdings and some latest empirical research conclusions, to determine which factors affect corporate cash holdings, and to clarify the relationship between the direction of these factors and the direction of changes in demand for cash holdings. The questionnaire was conducted through a pre-designed questionnaire based on the AHP method and investigated the importance of the factors affecting the corporate cash holding factors. The survey will be on the bank's credit control staff and the financial decision-making and financial management of the foreign-funded enterprise. Finally, the AHP (analytic hierarchy process) is used to analyze the feedback results of the questionnaire survey. Finally, the weight of each influence cash holding factor is determined.

On the one hand, the internal data of a foreign enterprise, by tracking or predict future changes during each degree of factors, combined with the weight of each factor, calculate the future period all influence the corporate cash holdings factors of the weighted average, according to the numerical deviations from the average of the past 12 months, the changes in the demand of cash holdings divided into three kinds of situations. On the other hand, from the perspective of the management situation of working capital management can be divided into three situations, three scenarios corresponding to cash holdings change in demand, finally from the process of working capital management, to adjust the working capital management strategy for corporate cash holding changes in demand.

**Research significance**

The core of working capital management is cash management. Reasonable cash holding is an important goal of enterprise financial management. It not only affects the value of enterprises, but also affects the safety of enterprises. The factors that decide corporate cash holdings not only come from inside the enterprise, but also from the external factors of enterprises, their changes will inevitably lead to changes in the cash holdings of enterprises, and the change of core content is bound to create new requirements for the management of working capital of enterprises. How to find a practical management tool to manage this change in practice is a problem that many financial workers urgently need to solve. This paper takes a foreign-funded enterprise as an example, combined with some achievements of current theoretical and empirical research, trying to build a management tool, hoping to have some enlightenment to solve this problem.
Literature Review

In a realistic trading environment, the transaction is costly. The company's cash holdings behavior is also composed of a series of transactions; a rational investor should also have to consider the cost factors. When companies need cash, raising money from outside requires paying interest to creditors and paying dividends to shareholders; if they cannot get money from outside, companies must start from the inside and raise money by cutting investment, cutting dividends, or selling assets. If this happens, cash-strapped give the company a very high opportunity cost of holding cash and will lose the opportunity (Amy Dittmar, Jan Mahrt-Smith *profitable investment*, Henri Servaes, 2002). The model of transaction cost held by cash holds that the company has a trade-off between the cost of holding cash and the cash-holding gain, so the model is also called the trade-off theory.

Take the stock market as an example. When there is information asymmetry between the firm and the market, from the perspective of the external investor, they hope that the price of the stock to be purchased is not overestimated and therefore needs to be appropriately adjusted according to the average market level. The stock price discount. From the insider's perspective, they want the stock price to be sold not to be underestimated, because internal managers know very well inside information about the company's research and development, so they want the stock price to reflect the company's potential value, and the discount Price will undoubtedly underestimate the value of corporate stock. From the perspective of corporate cash holdings, in the case of asymmetric information, the enterprise in order to avoid the high costs of external financing, we will take the initiative to hold more cash to avoid missing a good investment opportunity.

(1) Optimal Financing Theory

Pecking order theory does not believe there is an optimal amount of cash held there. As the cost of external...
financing is generally relatively high, so companies prefer lower-cost internal financing. Only when there are insufficient internal funds, companies will consider external financing, but must be when external financing would also prefer the lower cost of debt financing. In contrast to the trade-off theory, MOF believes that the increase or decrease of a company's cash holdings is related to the company's profitability.

According to the agency cost theory, management may hold large amounts of cash to meet their own interests, because a lot of cash can make the management of cash shortage is not likely to occur, reduce the difficulty of its management. And with management facing favorable investment opportunities, there is enough internal cash to protect them from external regulation of external financing (Rekik Kytönen, 2005). Therefore, for the sake of self-interest, the management of the company is often willing to leave the cash in hand instead of distributing it to the shareholders.

With the increase of its stake in the company's internal management, the interests of shareholders and executives will converge, agency costs will be gradually reduced, forming the so-called incentive
effects of intra-corporate ownership of the company's cash holdings (Zhang Hengyang, 2007).

However, the company's cash holdings and company internal management personnel shareholding ratio is not necessarily linear, because with the increase of the proportion of shareholding of the internal management of the company's internal management personnel will find that due to external shareholders the proportion of shares is less and less, to effective restriction and supervision more difficult, so the internal managers will choose to hold more cash to meet their own interests, it has formed the proportion of shareholding of the company's internal management personnel hold against the effect of the amount of the company's cash.

Some studies put the relationship between banks and enterprises as a separate theoretical factor. In fact, it does not constitute an independent theoretical framework. Most of them can be explained by the theory of information asymmetry and the theory of agency costs. Because banks have certain advantages in supervising the company's activities and collecting and organizing information, banks are willing to provide loans to enterprises to convey the positive information of the enterprises to the outside, so that the external investors believe that the enterprises have good reputation and solvency. On the other hand, debt contracts between companies and banks are more likely to be extended or renewed through negotiations than other debt contracts, and it is easier for businesses to treat debt as one of the sources of cash. Therefore, firms with more bank debt Will hold less cash.

Some studies also put forward the protection of shareholders' rights as a theory. In countries with better shareholder rights protection, listed companies will tend to reduce their cash holdings (Zhang Hongyan, 2007). The protection of shareholders' rights and interests is rather complicated, involving a country's legal and political system, so sometimes it is also called the theory of corporate cash holdings under the institutional school theory framework. In fact, the problems it solves are still beyond the problems of agency costs and information asymmetries controlled by management, better protection of shareholders’ rights and interests, lower management agency costs and more perfect information disclosure requirements. It is also helpful to reduce the information asymmetry between management and external investors.

(6) related theory review

The theory of cash holdings is widely recognized as the trade-off theory. It has a solid theoretical foundation of economics. Since the theory of marginal cost and marginal revenue has been widely accepted, it is not only easy to understand in practice, but also confirmed by many empirical research institutes.

The agency cost theory is accompanied by the separation of ownership and management of modern enterprises and developed, business owners no longer come forward to run, but they are replaced by
professional managers to manage the business, but the behavior is not always professional managers and business Consistent with the interests of the owners, agency costs are generated. Of course, the behavior of corporate cash holdings also belongs to the professional managers of agency behavior, agency costs will inevitably appear. Of course, agency costs are, in a broad sense, still a category of marginal costs.
The information asymmetry theory is to explain the adverse selection problem when the market buyers and sellers do not understand the information about the traded goods asymmetrically. Applied to business management practice, corporate managers always have more than third-party internal corporate information, third parties can not exactly grasp the case of inside information of the target company, can only make a decision based on the average on the market, at this time, the real value of the enterprise out of the market due to the price is underestimated, resulting in the problem of adverse selection. The information asymmetry theory can explain the reason of agency cost to a certain extent.

Pecking order theory and the theory of trade-off theory appears to be contradictory, but it is also supported by a lot of empirical research. In fact, each theory has its specific scope of application, recent studies have shown (Richard A Brealey, Steward C Myers, Franklin Allen, Corporate Finance, Ninth edition). The application of the theory of optimal financing is well suited to large and mature enterprises, especially those large and mature enterprises that often finance the bond market. The trade-off theory applies to small and young growth companies that have better opportunities for growth, are more ambitious and prefer equity financing.

Empirical Study on Cash Holdings

The earliest foreign empirical research on cash holdings is mainly to verify what kind of theory about cash holdings is supported by the actual data, which is usually used to examine the factors that determine the cash holdings of enterprises: book value, firm size, cash flow, net working capital, leverage ratio, capital expenditures, dividend policy, anti-directors and management rights and other stake. These studies can be divided into three types: (1) research using data from U.S. companies (2) research using data from single-country companies outside the U.S. (3) research using data from multiple countries. The purpose of all these studies is to try to find out what factors affect the cash holdings of companies and to try to find a theory that can better explain the data. But on the relationship between corporate cash holdings of several theories is not very clear, but according to cash holdings of these factors determine the theoretical sometimes overlap each other, it is difficult to clearly support one theory while opposition Another theory.

Recent research has shifted to the estimation of cash value (A-MAHAJAN, 2007), but the macroeconomic factors have largely been neglected. However, the economic and political environment in which enterprises depend inevitably will have an impact on cash holdings have an impact, such as the nature of a country's real estate and financial asset markets on corporate cash holdings have a significant impact.

Peng Tao Ying and Zhou (2006), HU Guo Liu and Jiang Yongming (2005), Xing whole, Sun Jie (2006) and Yu Dongzhi et al (2006) were also domestic listed company data for the study sample, come to their own
conclusions. Research scholars cash holdings above factors can be summarized as shown in the following list (Wang Chunfeng, Huang Xiaobin, Frequency Data, 2010):

Table 1 List of influencing factors of cash holdings of domestic listed companies
Table 1 List of influencing factors of cash holdings of domestic listed companies

| Influencing Factor | Literature |
|-------------------|------------|
| Firm Size         | A: insignific | B: - | C: | D: |
| Profitability     | + | | | |
| Growth            | + | insignificant | Positive |

Literature: A: Peng Taoying and Zhou Wei (2006); B: Hu Guoliu and Jiang Yongming (2005); C. Yang Xingquan, Sun Jie (2006); D. Yu Dongzhi et al. (2006);

Literature on the working capital management

After 1980, with the convergence of theoretical circles' understanding of the goals of financial management, scholars both at home and abroad have gradually accepted the maximization of corporate values as the goal of financial management. People working capital management is no longer confined to the study of balance sheet items, but consider collaboration and business management strategies, along with research and enterprise supply chain management and other activities, the affected companies increasingly value theory greater (MA Zariyawati, M. N. Annua, H. Taufiq, A. S. Abdul Rahim, 2009).

Juan Colima (2002) reinterprets working capital management from a management perspective. He noted that working capital management should include three parts - revenue management (sales and receivables), supply chain management (inventories and logistics) and expenditure management (purchasing and payment), companies can refine the management of working capital classification to bring the best for the company operating results.

The company exists on the theory of optimal occupancy level of working capital, and to determine the optimal level study factors on working capital management cannot be separated (Haitham Nobanee, Wasim K. Al Shattarat, Ayman E. Haddad, 2002).

Kenneth Nunn (1981) is an early reveal the strategic impact of working capital due to factors scholar, and his research led to the recognition of corporate working capital management and its strategy are
closely related. However, his research only focus on the areas of production, the project also includes only the assets of accounts receivable and inventory of two parts. In later studies, the factors affecting the appropriate level of working capital gradually went beyond the production area, expanding to the production and business activities of the entire company, and even taking into account the external environment of the enterprise. Companies must consider not only the factors that affect all working capital both inside and outside the organization, but also their sensitivity to changes in the environment.

John Antanies (2002) that companies almost impossible to achieve both minimization, asset utilization levels and inventory levels to maximize the most satisfactory of customer service, because when companies are trying to optimize one area, they often ignore the optimization. The negative impact of the process on the other two areas led to the second-best choice of the entire company’s policy. The company's course of business uncertainty facing adds to the difficulty to solve this dilemma, therefore, working capital management must account for the interaction with other management areas of the company.

Additional research on the management of working capital is from the 1990s began, with the implementation of new accounting standards, people are increasingly aware of the "working capital" concept, began a study of its. From Mao Fugen's (1995) paper, "On the Fundamentals of Working Capital Management" to Wang Zhuquan and Ma Guanglin (2005) published "Control of Distribution Channels: The Focus of Working Capital Management in Trans-regional Distribution Enterprises" in Accounting Research, Scholars have gradually turned their research perspective to balance sheet items and started to find the best ways and means of working capital management in their internal management. More and more, companies such as working capital management and supply chain management and customer relationship management relationships with other management activities, and strive to achieve a relatively balanced between corporate working capital management and other business management activities.

First, we introduced and evaluates the main theories about the cash holdings of enterprises. They are the trade-off theory, the agency cost theory, the order-wise financing theory, the information asymmetry theory and other theories. Then I make a brief review of the empirical research on the influential factors of foreign cash holdings, revealing that the research trend has gradually expanded beyond the corporate factors. This is why the macroeconomic factors that affect the cash holdings of enterprises discussed previously. Domestic factors related to cash holdings focused on the study of domestic listed company data, mainly to verify some of the traditional factors whether the body is now in China's company data. For working capital management, this chapter introduces the main results of the study of foreign working capital: the concept of working capital management, working capital
management factors of two ways. It can be seen that the management of corporate working capital has also come out of the balance sheet limit, beginning with the enterprise supply chain management and other production and management strategies together, more and more by other factors within the enterprise or even external factors influence, which of course also includes factors affecting corporate cash holdings.

(1) Influencing Factors of Cash Holdings in Working capital management efficiency

Firms

Previously, we observed that the current research has no conclusion on the factors affecting the cash holdings of enterprises. Many empirical studies will draw some relevant factors, but none of them can theoretically explain why these factors are not other. From the point of view of practical work, each company's situation is different. When referring to these commonly used influencing factors, it must be analyzed according to the special circumstances of its own company. In this paper, taking into account factors affecting cash holdings of extensive business, joined the country's macroeconomic environment factor analysis.

The Case of a firm

We observe a firm which is a wholly foreign owned enterprise, a 50% owned joint venture between France and the United States, producing and selling glass-ceramic panels. The product is mainly used for kitchen heating appliances, especially now widely used induction cooker, Western countries use it to make electric heating panels, as the kitchen's main cooking appliance, has gradually replaced the traditional gas stove.

Also known as Machin able crystallized glass ceramic, mica is a synthetic mica crystal phase based glass ceramics, generally domestic colloquially by Exterior Features. This material into several categories, including white plate, black crystal plate, color plates, Transparent plate and so on. One of the common market for the white panel and black crystal panels, is currently on the market more common induction cooker panel. Choi board and transparent board for the differentiation of products, mainly in the high-end line, the general sales of smaller. Glass-ceramic suppliers in the domestic market can basically be divided into two camps: imports of sheet metal represented by Germany's SCHOTT, Japan's NEG, France's Okey and other enterprises; domestic products represented by Kanger, Daxian and Cody plates. Although the two plates in the basic composition of the same, but the performance of imported plates is much better than the domestic plate, the price is higher, there is no coincidence of the basic positioning. Because in previous years' domestic cooker industry expansion too fast, prompting the domestic micro-crystal glass panel production increase, price drop, while imports by the board price is too high, the market share is
shrinking. Due to the financial turmoil in 2008 and the severe damage to the real estate industry in the United States, the market for foreign electric cookers also started to shrink as about half of the demand in foreign markets came from the renovation of new houses, which is closely related to the rise and fall of the real estate industry. At the same time, benefiting from the strong stimulus policies of the central government, the domestic demand for induction cooker instead of exuberant, prompting foreign suppliers to step up the snatch of the domestic market efforts, the market price dropped again and again to a level not much different from the domestic plate price.

**Company's financial department functions and operating mode**

The company's finance department is primarily responsible for the day-to-day financial operations of the company. The major functions include preparing the annual financial budget, tracking the progress and effectiveness of the implementation of the financial budget, working capital management, risk assessment and internal control, promoting cost savings and other Routine work in the finance department.

The financial department's mode of operation is a two-line model and is led by the French CFO and the local general manager. All major issues are discussed and decisions are made together. The chief financial officer focuses on the financial budget, internal reporting and internal control. The general manager, on the other hand, focuses on day-to-day financial operations, control of production costs, and supply chain related working capital management.

The important problems facing the company's working capital management include several items. The company has a total of four factories, one of which is a glass smelting plant located in France. The remaining three are glass processing plants responsible for cutting the large glass out of the glass smelter into small pieces after the crystallization process according to customer needs, and then selling to customers. Since the original glass is from the smelter inside the group, most of the raw materials belong to the Group's internal sales. Processing plant production process is relatively simple, are generally based on customer orders production, production cycle is shorter. The current sales target is mainly several internationally renowned household appliances manufacturers, domestic customers, but not large-scale.

The main problems facing the current working capital management are:

1. How to determine the level of cash holdings: It is not clear what factors will affect the cash demand, only to see short-term changes in demand, but for those long-term factors are not aware of. Sometimes the wait for the long-term impact factors began to show when it was too late to take the most appropriate action, not only the company's capital management becomes inefficient, and increases the risks facing financial difficulties.

2. How to choose working capital management strategies: Although the working capital management and cash holding needs are closely linked, but the interaction between the two is
not yet clear. Sometimes, although the demand for cash holdings is forecasted, how to deal with this change from the strategic changes in working capital management is still not available.

At present, most of these problems are solved based on work experience, which may not provide a convincing argument for change. Hence, difficulties in communication with other managers of the firm to take corrective action. Therefore, objectively, there is a need for a management tool that can combine the changes in the demand for cash holdings with tactics for the management of working capital to provide a relatively objective basis for the firms’ adjustment to the demand for cash holdings and relatively simple operational strategy. The following attempt to use the previous theories and methods involved to build a management tool for the company, the idea is to influence the cash holdings of enterprises to analyze the factors that combine the actual situation of the company to determine the direction of each factor and Cash holds the relationship of the change direction, and then uses the questionnaire combined with the AHP method to obtain the weight of each factor on the cash holdings of the enterprise, so as to calculate the overall level of influence of all the factors in the comparative period. According to this overall level, the average monthly differences in the level of corporate cash holdings need to be divided into three situations, combined with the situation management of working capital to adjust its management strategies to achieve the corporate cash holdings and corporate funds management purposes combined with each other.

**National macroeconomic factors influencing cash holdings**

The macroeconomic of a nation is formed by the common participation and interaction of all the economies in the country. As the environment in which an individual life, the impact of the macro economy on the enterprise is obvious. One of cash holdings of daily management activities of enterprises, of course, inevitably affected the country and its macroeconomic changes, especially a country's financial and monetary policies, tend to produce long-term cash holdings of companies influences. The macroeconomic impact of the enterprise is many to choose from the perspective of the impact of corporate cash holdings, we can analyze these focus on the following aspects. GDP (Gross domestic products) has become a common macro-economic indicators of countries to measure the speed of development. With the rapid development of a country's macroeconomic, due to the overall market continues to expand, individual micro-enterprises usually present sales booming.

Operating activities remain at relatively high levels, and the demand for cash is also on the rise.

From the business process to analyze the business is facing the prospect of growing sales, in order to meet a steady stream of orders, companies need to continue to invest funds to purchase raw materials, expand production. The increase of sales will also make the funds occupied by the sales channels of the enterprises gradually increase. At this moment, the cash holdings of the enterprises have an increasing
demand to cope with the continuous expansion of the scale of production and operation.

From a business investment process to analyze, then companies are often faced with various sorts of investment opportunities. For large mature companies, according to the pecking order theory, they are more inclined to use internal funds, then cash holdings companies have increasing needs in order to accumulate more funds from the inside, to avoid losing a good investment Opportunity. However, for those small and medium-sized growth enterprises, although they do not have the preference of using internal funds, according to the trade-off theory, holding moderate cash can reduce the financing cost of the enterprises, so the cash holdings of the enterprises also increase continuously demand.

From the process of corporate financing to analyze, when a country's GDP continued to grow, the country's overall supply of funds will be more adequate, then the business financing channels will be more, the cost of capital is relatively low. Enterprise business if relatively easy access to credit, it will tend to maintain relatively low levels of cash, but this will be particularly affected by the country's financial policy and credit policy, the impact on corporate cash holdings is not as big business activities and investment activities.

Based on the above three factors, in general, GDP changes and corporate cash holdings demand changes in the same direction. Inflation is usually measured by the CPI indicator, indicating the extent of price increases. In a macroeconomic environment with a rising inflation rate, as a micro-individual enterprise, their business activities are dull due to the ever-shrinking market they face.

From the business process to analyze, in a long-term inflation channel, due to rising product prices, according to the economics of supply and demand theory, market demand will continue to decline. Faced with the uncertain market prospects, companies generally reduce their sales forecasts and reduce their production, so the funds used to purchase raw materials will continue to decrease. As a result, the demand for cash holdings will continue to decline. Of course, this is only based on long-term trends. In the short term, because the company predicted the advent of inflation, the face of the sharp rise in raw material prices could, some companies will be large quantities of the advance purchase, the enterprise is a sudden increase in demand for cash, then the impact of inflation on corporate cash The change is positive. Therefore, in determining the direction of the impact to analyze specific issues, if only a short-term inflation expectation will rise will have to take into account the positive impact on its cash holdings; if long-term inflation in the state, in which case the Consider its reverse impact on cash holdings. Combined with the reality of our business, the short-term effects of inflation can be controlled through short-term plans of the company. The focus of the company is to predict and monitor the impact of changes in long-term factors on corporate cash holdings, so here we only consider inflation Long-term impact.
From the investment process of enterprises to analyze, as inflation led to the continuous devaluation of the purchasing power of money, then holding cash will bring about the devaluation of the currency, the marginal cost of cash holding companies continue to increase, according to the trade-off theory, the best cash holdings will be reduced. In the real work environment, enterprises often turn to invest excess cash in interest-bearing assets in the face of this situation, which leads to the continual reduction of cash holding needs of enterprises.

From the perspective of the fund-raising process of an enterprise, when a country is in an inflationary state, it usually means that there is ample capital in the market. In this case, the enterprise is more capable of financing and therefore tends to hold only a small amount of cash, so at this time The demand for corporate cash holdings is reduced.

3.1.3 Short-term loan interest rates

Short-term loans refer to loans with a loan term of not more than one year, which is the main channel for short-term financing of enterprises. This factor is not to companies producing too much impact the process, it primarily affects corporate investment and financing activities. It is foreseeable that with the rise of short-term loan interest rates, corporate financing costs continue to rise. According to the trade-off theory, the cost of cash holdings will continue to decrease. As a result, enterprises will gradually reduce their reliance on bank loans and shift their cash reserves. To reduce the financing costs of enterprises. On the other hand, the rise of short-term loan interest rate will also lead to an increase in the expected rate of return on investment. This will reduce the number of projects that meet the ROI criteria of enterprises.

Therefore, as short-term lending rates rise, the investment activities of enterprises will be further weakened. Thus reducing the need for corporate cash holdings. One-year bank loan interest rates as measured by corporate demand for cash holdings and short-term lending rates in the same direction changes.

3.1.4 Government deficit

The fiscal deficit is the difference between the financial expenditure and the fiscal revenue. Since the accounting is handled in red, it is called the fiscal deficit. The fiscal deficit is a manifestation of the failure of fiscal balance to reach a balance and is a worldwide financial phenomenon. Due to the large differences between the total national economies, it is internationally accepted that the fiscal deficit as a percentage of GDP to measure the level of a country's fiscal deficit, with 3% as the standard, exceeding this ratio means that the country's high level of fiscal deficit.

The deficit on the impact of cash held by companies not directly, it mainly is by changing people to
influence inflation expectations determine corporate cash holdings, a leading indicator of inflation.

Because a country's deficit eventually to make up, but the most direct way than to print money to solve, which will directly promote people's expectations of future inflation, thereby affecting the cash holding decision.

Cash holdings as a corporate working capital management activities, cannot do without which it is cast inside the enterprise environment, subject to the constraints of their own set of conditions, and it does not only suffer financial enterprise management activities affected, will also be companies other impact of management activities. On this subject, many scholars at home and abroad have used empirical methods to study these factors respectively, but most of them are the researches of external researchers on the public information of listed companies. Few actual workers from the enterprises Internal management needs to start, with some of their own characteristics to analyze. Therefore, this article in selecting which of these factors, it is already fully taken into account the actual situation of enterprises, such as corporate governance factors associated with the very companies it is not in the select list.

Whether the existing theoretical research and empirical research, are not carried out proper classification of factors affecting the company's cash holdings, and some simply divided into corporate governance factors and non-corporate governance factors. In fact, these factors are always around cash factors play a role in, and the financial cash flow statement have a natural link, entirely possible in accordance with the structure of the cash flow statement to classify them into "business operations elements," "corporate investment activities elements" and "elements of corporate finance activities."

Business activities is measured from the receipt of customer orders began, procurement of raw materials, production, and finally the products to the customer a range of value-added activities, the balance sheet included in the main stream of the majority of current assets and current liabilities project.

The conversion of working capital from asset form to cash is converted into raw material during the procurement process. Raw materials are converted into work-in-process and finished products in the
process of production. Finished goods are converted into accounts receivable during the sales process, and finally from accounts receivable Convert to cash to complete a cycle of cash (Danny Biao, 2009). This cycle is the most major part of the value chain, the concept of the value chain, the company has a dual identity suppliers and customers, companies need special attention to the interests of customers whose survival in the chain, because the loss of customers will lose the market, it is Will lose the foundation of business survival. Enterprises should be the focus expanded from the enterprises themselves to their living environment, the value of the relationship between competition and cooperation between enterprises on the chain to fully understand and grasp, so as to formulate and implement phase to be a strategy to enable enterprises to get value.

As the main activity carrier of enterprise value chain, the working capital management of enterprises occupies an important position in the management activities of enterprises, and a good index system is needed to measure the management efficiency (Yin Yong, Song Yan, 2009). In order to overcome the traditional indicators such as inventory turnover, accounts receivable turnover, accounts payable turnover only focus on the part of the overall lack of understanding of the drawbacks, this paper uses the cash cycle (CASH CONVERSION CYCLE) to assess the working capital management efficiency.

Cash Cycle= accounts receivable + inventory turnover payback period - accounts payable turnover
Receivables Payback Period = 360 * Average Accounts Receivable Balance / Net Sales Revenue
Inventory turnover period = 360 * average balance of inventories / sales costs
Accounts Payable Turnover = 360 * Average Accounts Payable Balance / Net Purchases

From the above analysis, we can see that the higher the management efficiency of working capital, the shorter the cash turnover period, the less time for cash to stay in other assets. In other words, the cash needed to invest in other assets The less the company's cash holdings, the lower the need.

Kim et (1998) to " (inventory turnover + accounts receivable recovery period a payable turnover) " as the average turnover of cash, their empirical research shows that corporate cash holdings and the company's cash flow Significant negative correlation (Chen, 2006).

(2) Growth ability - sales growth rate

Enterprises are facing a changing market, whether the overall market changes or changes in the market share of enterprises, will have an impact on business sales. Growth of Firms is embodied in the company's sales growth, because sales is a key part of the enterprise value of the activities of all
qualitative change, no sales, all the activities of enterprises do not have the market bearing recognize, even survival has become a problem (Zhang Xia, Sun Shusha, 2009). Therefore, sales growth is a crucial indicator of a company's ability to grow. The measure of sales growth can be evaluated in terms of the ratio of net sales to the base period.

When the company's sales revenue continues to grow, usually need to invest more money to the supply chain. To cope with the ever-expanding scale of production, companies need to purchase more materials, produce more in-kind products and finished products, and sometimes generate large amounts of inventory when distributing them through channels. As usual sales scale constantly expanding, accounts receivable occupancy will grow, then the company's cash holdings demand will rise.

It is worth mentioning that, not only the actual sales growth will bring about capital occupation, but also the expectation of sales growth will bring about capital occupation, because enterprises generally respond to this expectation in advance, and they will make relevant purchases in advance. We call them active capital occupation. The actual performance of the work is usually based on the annual sales budget to see if the production capacity is not keep up, if there is a gap, the company will generally carry out a planned expansion of capital expansion, which will make the amount of capital expenditures increased. Even without increasing production capacity, enterprises will be based on sales budget procurement arrangements in advance, thereby increasing the company's capital.

Corporate profits, as the ultimate source of cash, have a significant and long-term impact on the cash flow of an enterprise. A long-term loss of business, although the temporary cash flow through financial means, but the impact is short-term, is lent, and ultimately to be returned. If you cannot get your own cash flow from operating profit, businesses will sooner or later face the situation of cash depletion. A normally run business may have always been profitable, but if there is not enough vigilance about the long-term declining trend in profitability, there will be a gradual cash flow problem, especially as business sales continue to grow. The growth of sales will make enterprises occupy more and more funds. All of these will require enterprises to make up for the shortage of funds through the form of profits. The long-term drop in profit margin means the decrease in the efficiency of capital utilization, resulting in the escaping effect of cash and ultimately Make ends meet.

In order to better measure the change of the efficiency of production and business activities, this paper uses the pre-tax interest income minus the depreciation and amortization as the measure of corporate profits.
The change of corporate profit margin is a long-term factor that affects the cash holdings of enterprises. When the profit rate of enterprises keeps steady growth or remains basically unchanged, the company expects the cash from the latter profits to be relatively stable and reliable, thus reducing the current cash holdings. Conversely, businesses will increase the current cash holdings.

3.3.2 business investment activity due to factors

(1) Investment opportunities

The loss of profitable investment opportunities means that if the company does not have enough cash, it will be forced to forgo good projects. Therefore, the more such investment opportunities, the stronger the need for cash holdings (Sun Jie, 2008). Because the net present value of corporate profits of investment projects in the enterprise occurred financial difficulties to time to be almost disappear. So have more profitable investment projects of enterprises will tend to maintain a high level of cash holdings, in order to avoid the occurrence of financial distress probability. Ozkan, etc. (2004) to "(book assets value of a company's equity book value + market value of company equity) the book value of the assets and the" investment opportunities proxy variables by UK listed companies from 1995 to 1999 data research shows that the company's investment opportunities and the company's cash holdings are significantly and positively correlated (Chen, 2006).

The investment opportunities of an enterprise generally appear in the form of a capital expenditure budget, which is a long-term fund occupation of an enterprise. If it is an enterprise's internal investment, its recovery generally takes the form of depreciation of fixed assets and amortization of other assets. If it is an enterprise of the external investment, its recovery is usually received in the form of dividends or interest in the form. Business investment time is not regular, some months will invest a lot of money, and some may not have the investment, which makes tracking this indicator between the months is very difficult. In order to accurately measure the impact of corporate investment on cash holdings, we use the yearly indicator of investment, that is, the growth rate of total investment in next year as compared with the total investment in the base period, as a tracking indicator. In each month of the year, this indicator is all the same.

(2) Cash substitute ratio

Cash substitutes are current assets that can be quickly converted into cash, with lower conversion costs, including short-term investments and bills receivable. Short-term investments refer to bonds, treasury bonds and bank time deposits that can be traded in the open market within 12 months. Bonds
and bonds can be sold on the open market for cash, and bank time deposits of up to 12 months can also be requested from the banks to be due for early maturity to cash. Bills receivable refers to the receipt of the customer's bank acceptance bills, commercial acceptance bills, bank bills and other financial instruments, which can be quickly converted into cash discounted bills.

Cash-alternative ratio = (short-term investment notes +) / flow property

The higher cash alternatives ratio, indicating that business flowing assets can be quickly converted into cash assets ratio is also higher, in other words, back-up source of cash is also more fully, so companies need to hold cash is not so strong.

(3) The stability of cash flow

Since the production and operation activities of the cycle resistance, coupled with the company's investment and financing activities are also full of uncertainty, and the resulting cash flow is not stable. Sometimes customers focus on payment, cash income surge, and sometimes to focus on payment, cash payments and surge, coupled with the dividend distribution or corporate finance factors, corporate cash flow is always the same as the tide, sometimes high and sometimes low. The measure of cash flow stability can be evaluated by the variance of cash balances.

Average cash balance = average cash balance over the past 12 months

Variance of Cash Balance = SQUARE (Cash Balance for the Period - Cash Average Balance)

The larger the variance of the cash balance, the poorer the stability of cash flow, the more unpredictable factors of business activities. In order to cope with these contingencies, enterprises often need to prepare extra cash, and the demand for cash holdings of enterprises will also increase.

Opler et al. (1999) take the standard deviation of the cash flow of the company as the proxy variable of the company's cash flow uncertainty. Based on the data from 1952-1994 of American listed companies, the uncertainty of the cash flow of the company and the cash holding There was a significant positive correlation (Chen, 2006).

Dividend is the return paid by the enterprise to investors. There are common stock dividends and cash dividends. From the impact on corporate cash flow, cash dividends are usually the object of inspection. From the perspective of the company's dividend policy, the cash dividend is rigid and has strong policy
continuity. As a result, it becomes a fixed cash outlay for the enterprise. Companies that adopt a high payout policy usually need to hold large amounts of cash to meet the expenses until the dividend payout date.

However, the dividend payment is usually a one-time, a large number of cash payments paid in the month, while the addition of time and there is no cash outlay. In order to better predict the impact on the dividend payment of cash holdings, annual targets we can use dividend payments, that is expected next year with respect to dividend payment of dividend payments based on years of growth to measure its cash holding companies. In some cases, the same indicator is used for each month of the following year.

Liabilities and rights and interests together constitute the source of corporate funds, liabilities refer to the enterprise to borrow funds from external creditors, is creditors transfer of cash right of use. Because the replacement of cash flow, so that companies may use the funds to invest in profitable investment projects, but also because of the replacement of cash flow, companies need to pay creditors royalties human capital, that interest.

As for the influence of debt level on the cash holding behavior of enterprises, there is not a unified conclusion in the existing theoretical research. Some theories think that the high debt level reflects the firm's strong debt-servicing ability (Luo Jinhui and Wan Di Fang, 2008). According to the theory of information asymmetry, an external creditor may think that since someone dares to lend money to this enterprise, indicating that this enterprise has an unknown solvency ability, so I should lend it to the question should not be large, then business as easy access to external financing, it will tend to reduce cash holdings, this time cash holdings of corporate debt levels and negative correlation.

Another theory is that the higher the level of corporate debt, the greater the risk of financial distress, so companies need to maintain a high level of cash to meet the payment risk may occur at any time (Luo Jinhui and Wan Di Fang, 2008). According to the trade-off theory, the cost of holding cash by an enterprise at this time will be lower than the cost of externally financing the enterprise, so the enterprise will hold more cash to replace the external high-cost financing. The level of debt at this time is positively correlated with the cash holdings of the firm.

These two seemingly contradictory theories, from logic is the unity of, because when the low level of corporate debt, this time asymmetric information theory prevail, low debt level so that the external creditors worried companies have nothing to hide debt, this When the financing of enterprises is more
difficult, it tends to increase cash holdings. And when company's higher debt levels than the level of risk acceptable to external creditors, in which case companies also difficult to obtain external financing, will tend to increase cash holdings. Only when the debt level of the enterprise is modest, the cash holding of the enterprise will have a reverse change with the level of the enterprise's debt.

Considering that the asset-liability ratio of the Company in 2009 was only 9.6%, it should belong to a very low level of debt. Therefore, for this factor we only consider its positive impact.

(1) The term structure of the debt

Term structure of debt refers to the proportion of long-term debt and short-term debt in the corporate debt. According to information asymmetry theory, companies to choose debt maturity is in fact reflect the corporate level of information asymmetry (Tan Yue, Li Yuanqing, 2008). There is a more and more asymmetry of information companies are more likely to choose short-term debt, because short-term debt for general corporate information disclosure requirements less stringent. The higher the level of short-term liabilities of enterprises, external creditors will think that the higher the degree of asymmetry of enterprise information, enterprise the possibility of obtaining loans are also lower, because this company needs to hold more cash to meet capital requirements of production and operation. Also due to the short-term liabilities of the period are less than one year, the pressure on the company's large debt service, so the higher the level of short-term liabilities of enterprises, the financial difficulties they face greater risks, in order to avoid the occurrence of financial difficulties, companies that when will choose to hold more cash to deal with potential risks. Long-term liabilities, by contrast, the higher the level of long-term debt and short-term liabilities, meaning strong external supervision so that the enterprise information asymmetry of degree lower, then enterprises to obtain external financing probability is higher, the cost of financing more Low, so businesses tend to reduce cash holdings. Also due to the long-term debt repayment of the term relatively long, financial pressure is not so big, companies face financial distress risk will be relatively low, so companies need cash held by the less.
For each factor, this paper focuses on how the factor has an impact on the cash holdings of enterprises, clarifies the relationship between the direction of its change and the direction of cash holdings, and lays the foundation for building management tools. The various effects can be summarized in the following table:
### Table 3-1 List of Factors Affecting Cash Holdings by Business Unit

| Categories of Cash holding factors | Cash holding factor | Impact on cash holdings |
|-----------------------------------|---------------------|-------------------------|
| **Macroeconomic Factors**         | GDP                 | +                       |
|                                   | Inflation           | -                       |
|                                   | Short-term Interest Rate | +                   |
|                                   | Government Deficit  | -                       |
| **Enterprise Operational Activities** | Working capital managerial efficiency | - |
|                                   | Growth Capability   | +                       |
|                                   | Profit Capability   | -                       |
| **Enterprise Investment Activities** | Investment Opportunities | + |
|                                   | Cash Flow Stability  | -                       |
|                                   | Ratio of Cash Substitutes | -    |
| **Enterprise Financing Activities** | Dividend Payments   | +                       |
|                                   | Debt level - debt ratio | +    |
|                                   | Term structure – current ratio | + |

- GDP: Gross Domestic Product
- Inflation
- Short-term Interest Rate
- Government Deficit
- Working capital managerial efficiency
- Growth Capability
- Profit Capability
- Investment Opportunities
- Cash Flow Stability
- Ratio of Cash Substitutes
- Dividend Payments
- Debt level - debt ratio
- Term structure – current ratio
Chapter IV Building the Management Tools

In the third chapter, this paper discusses various factors that affect the cash holdings of enterprises, including external macroeconomic factors and internal enterprise environmental factors. Although we already know the impact of each factor changes the direction of corporate cash holdings, but it is not very clear on the relationship between these factors, which in the end affect factors on changes in corporate cash holdings of the largest, which but also relatively small, no matter at this stage of theoretical research or empirical research, did not give a clear answer. There may be no answer at all, as the circumstances of each business are different. The same factor may be a significant factor for Company A, but it may be a negligible factor for Company B. Therefore, this is a need to judge in practice to solve the problem.

According to our vision, first from a number of factors of, the theoretical analysis and practice situation, screened out of most likely influential factor in the company's cash holdings, which have been addressed in chapter 3. Second, we should also know the relationship between the changes of these selected factors and the direction of changes in cash holdings. This is also solved in Chapter Three. The remaining questions are how each of these factors affects the size of the change in cash holdings. Only by answering this question can we determine the overall level of impact on cash holdings after all factors have changed so as to further select the appropriate working capital management strategy.

This paper argues that AHP (Analytic Hierarchy Process) can be introduced in determining the impact of each factor on the change of cash holdings. Questionnaires are also made on the representative major groups to obtain feedback. Then AHP is used in the analysis of the collected data. This is a comprehensive approach, not only can avoid purely subjective assumptions can avoid unrealistic the mathematical model operation.

3.1 AHP (Analytical Hierarchy Process) Methodology

4.1.1 AHP of the basic concepts

Analytic Hierarchy Process (AHP), for some the situation is more complex, more ambiguous judgment conditions and problems were analyzed an effective method proposed by T. L. Saaty. It has been successful in the applications to actual cases, and more suitable for the qualitative and quantitative problems.

Cash holdings weightings factors is one kind of the problems that people can not entirely depend on pure numbers to make decisions, while on the other hand the complete qualitative analysis seems to be too subjective or unreliable. On the issue of the weight factors for holding cash, companies face with multiple factors that are interrelated and interdependent, this systematic problem of complexity and lack of quantitative data is more suitable for applying with AHP method.

4.1.2 The basic steps of AHP

Analytical modeling using AHP, there are roughly the following steps (Shen Shi Yang, Bao Xiaolan, Zhi Wei, Xia Hu, 2007):
To establish a hierarchical model

Application When AHP, we must first question hierarchy, a hierarchical structure of the structure model, the elements according to their properties and levels of mutual relations constitute several levels, the level element as a criterion of judgment for the next analysis. The relevant elements of the hierarchy play a dominant role. This hierarchical relationship can be divided into three layers:

- Target Layer (G): There are only target elements in this hierarchy, which is the intended target for analyzing the problem.
- Guidelines for layer (C): This level contains the middle part of the goals involved, it is to implement the elements or criteria to consider for target sub-criteria.
- Program layer (S): The level of to achieve a variety of measures, the decision to choose programs target composition.

Construction level judgment matrix

According to the relative importance of the adjacent element to the previous element, it is assigned to form the elements in the judgment matrix. It means for determining a matrix on a level of the factor in this hierarchical element and the relative importance of the factors of the upper layer of twenty-two comparisons, typically using a 1 - 9 scale method proposed by Saaty.

Level single order and consistency test

Corresponds to the judgment matrix of the Largest [lambda] m AX eigenvector referred to as W is, W is a same level factors corresponding to a level of the relative weight of importance of a certain sort of factors, which a process is called single-level sorting. Then we need to check the consistency of hierarchical order to calculate the consistency index:

\[ CI = \frac{\lambda_{\text{max}} - n}{(n - 1)} \]

If the random consistency ratio \( CR = CI / RI < 0.1 \), we think the result of hierarchical single-rank basically meets the requirement of complete consistency. If CR is slightly larger than 0.1, we think it is acceptable in most cases. However, if CR is much larger than 0.1, then there is a conflicting assignment in the judgment value, and the element assignment of the judgment matrix needs to be readjusted.

(2) The overall ranking and consistency test

The weights that calculate the relative importance of all the factors at the same level to the total goal are called the total ranking of the levels. Similarly, when the total CR < 0.1, we think the result of the total ranking of the hierarchy basically meets the requirement of complete consistency. If CR is slightly larger than 0.1, we think it is acceptable in most cases. However, if CR is much larger than 0.1, there is a conflicting assignment in the judgment value, and the element assignment of the judgment matrix needs to be readjusted.

The Questionnaire
Because matrix judgment calculations are based on the initial assignment of elements, the initial assignment must be objective, accurate, and representative. In order to obtain this data, we can conduct a questionnaire survey on the relevant target groups. For example, the target group can be divided into decision-maker groups, expert groups, managers group, and then conducted a targeted questionnaire survey of these groups. This San of groups is cash holdings company factors in the most intimate of the group. The group of decision makers - the CEO and the CFO - are the decision-makers of the business. Their opinions are the most crucial, but their opinions are often influenced by the opinions of other groups. Expert group - bank credit control personnel, as experts to assess the credit risk of enterprises, their opinions are usually more scientific or theoretical basis. Manager group ---- financial manager, is the actual implementation of cash holdings of enterprises, so their views should also be taken seriously. Different groups are likely to have different or even controversial views or feedback.

After the group feedback data collected we can use AHP method were calculated and analyzed, and then find a reasonable weight to all the factors that may affect the company's cash holdings to calculate the overall impact of a change in the level of all the factors, according to This classification of the extent to which changes in corporate cash holdings need to be made correlates this classification with the situational management of working capital so that management tools can be successfully constructed.

We have already figured out in Chapter 3 the direction between the changes in cash holdings of companies and the changes in cash holdings. To build this management tool, we also need to know the weight of each factor in the changes in cash holdings. point, we have been in front of the way to achieve this goal are discussed, and the rest is how to use AHP method to build the specific tool of the process.

Construction Management Tools Preparation

Here, we select those listed in Table 3-1 directly as the program level, and then use the classification of these factors as the guideline level and the target level to determine the degree of need for changes in cash holdings. Each factor has a corresponding index to track, but also to determine the direction of each variable factors impact on cash holdings, with " + 1 " represents a positive relationship that will lead to the rise of index companies need cash holdings of the rise, with "-1 " that the reverse relationship, that is, the rise of the index will result in the decline in corporate cash holdings, the details please see the table below:

| Degree of Necessity for changing Cash Holding | Categories of factors for Cash Holding | Factors for Cash Holding | Impact Direction |
|---------------------------------------------|----------------------------------------|--------------------------|------------------|
| Macroeconomic Factors-C1                    | GDP-S1                                 | 1                        |
|                                             | Inflation-S2                           | -1                       |
|                                             | Short-term Interest                    | 1                        |
Next, we must determine the impact of changes in each factor on the cash holdings of enterprises, the weight. This paper intends to use AHP method combined with the questionnaire to draw the weight of each factor.

Before conducting a survey, you should first identify the group of people, that is, to clarify which stakeholders should be investigated. Whether they are adequately related to the matter under investigation, whether they have enough knowledge and ability to answer the questionnaire, and whether they have any unsuitable factors that may lead to their unwilling reply. According to the above requirements, this article divided the respondents into three groups:

Group of Policy Makers: There are two CEOs and CFOs of the Group

Managers Group: There are four financial managers in each of the four factories in the Group

Group of Experts: Foreign bank credit control staff a total of three

Policy-maker groups are the makers of business strategies. They can grasp the direction of the enterprises as a whole and often have a crucial influence on their investment and fund-raising strategies. The manager group is the actual executor of the enterprise financial management, and their actual experience of the enterprise cash management determines their important position in this investigation. As a group of external experts, foreign-funded corporate credit control personnel have
rich experience and sufficient information sources to judge the macroeconomic impact on the enterprises, and their sensitivity to the liquidity risk of enterprises will be made on this investigation

4.3.2 Conduct a questionnaire survey

Referring to the above-mentioned AHP method, the questionnaire shown in Appendix A are designed using the criteria shown in Table 4-2 for determining the relative importance between two factors

| Relative Degree of Importance | Definition                                      | Remark                                      |
|-------------------------------|------------------------------------------------|---------------------------------------------|
| 1                             | The two factors are equally important          | No preference between the two factors      |
| 3                             | One factor is slightly more important than the other | Slight preference on one factor            |
| 5                             | One factor is obviously more important than the other | Obvious preference on one factor         |
| 7                             | One factor is strongly more important than the other | Strong preference on one factor         |
| 9                             | One factor is extremely more important than the other | Extreme preference on one factor       |
| 2 4 6 8                       | These are at the middle of the nearby weights of odd numbers |                                           |
| The reciprocal of the above weights | If one factor gets the relative degree of importance over the other factor (say 5), then the other factor will get the reciprocal of that degree of importance over this factor (e.g. 1/5) |                                           |

In this survey, nine questionnaires were sent out and all of the nine feedback successfully. Based on the arithmetic mean of these fed back data, the following matrix can be constructed:

|                | C1 | C2 | C3 | C4 |
|----------------|----|----|----|----|

Table 4-3 Guidelines Layers Element Matrix
| C1  | C2  | C3  | C4  |
|-----|-----|-----|-----|
| S1  | S2  | S3  | S4  |
| S5  | S6  | S7  | S8  | S9  | S1  | S1  | S1  |
| S1  | 1/6 | 1/7 | 1/2 | 5   | 7   | S8  | 1   | 7   | 2   | S1  | 1   | 7   | 5   |
| S2  | 1   | 1/5 | 3   | S6  | 1/5 | 1   | 3   | S9  | 1/7 | 1   | S1  | 1/5 | 1/7 | 1/3 |
| S3  | 7   | 5   | 1   | S7  | 1/7 | 1/3 | 1   | S1  | 1/2 | 5   | S1  | 1/5 | 3   | 1   |
| S4  | 2   | 1/3 | 1/7 | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |

Table 4 - 4 Scheme Layers Element Matrix

4.3.3 AHP Analysis

(1) Construction hierarchical model: Shown as the following Figure 4 -1
FIG. 1 Hierarchical Layers

Consistency check rule layer matrix, as shown below FIG. 2
1. 现金持有需要变动的程度  判断矩阵一致性比例: 0.0904；对总目标的权重: 1.0000

| 现金持有需要变动的程度 | 国家宏观经济要素-C1 | 企业投资活动要素-C3 | 企业经营活动要素-C2 | 企业融资活动要素-C4 | Wi  |
|------------------------|----------------------|----------------------|----------------------|----------------------|-----|
| 国家宏观经济要素-C1  | 1.0000               | 0.2500               | 0.3333               | 0.2000               | 0.0757 |
| 企业投资活动要素-C3 | 4.0000               | 1.0000               | 0.5000               | 1.0000               | 0.2506 |
| 企业经营活动要素-C2 | 3.0000               | 2.0000               | 1.0000               | 3.0000               | 0.4341 |
| 企业融资活动要素-C4 | 5.0000               | 1.0000               | 0.3333               | 1.0000               | 0.2395 |

FIG. 4 -2 Judgment matrix consistency check rule layer

(2) National macroeconomic elements of judgment matrix consistency test, see Figure 4 -3

2. 国家宏观经济要素-C1  判断矩阵一致性比例: 0.0760；对总目标的权重: 0.0757

| 国家宏观经济要素-C1 | GDP-S1 | 通货膨胀率-S2 | 政府财政赤字-S4 | 短期银行贷款利率-S3 | Wi  |
|----------------------|--------|---------------|-----------------|----------------------|-----|
| GDP-S1              | 1.0000 | 0.1667        | 0.5000          | 0.1429               | 0.0531 |
| 通货膨胀率-S2      | 6.0000 | 1.0000        | 3.0000          | 0.2000               | 0.2215 |
| 政府财政赤字-S4    | 2.0000 | 0.3333        | 1.0000          | 0.1429               | 0.0893 |
| 短期银行贷款利率-S3| 7.0000 | 5.0000        | 7.0000          | 1.0000               | 0.6361 |

Figure 4 -3 Consistency Test for National Macroeconomics Judgment Matrix

(3) Consistency test of judgment matrix for business operation, as shown in FIG 4-4 below
4. 企业经营活动要素-C2  判断矩阵一致性比例：0.0624；对总目标的权重：0.4341

| 企业经营活动要素-C2 | 营运资金管理效率-S5 | 成长能力-S6 | 盈利能力-S7 | Wi  |
|----------------------|----------------------|------------|------------|-----|
| 营运资金管理效率-S5 | 1.0000               | 5.0000     | 7.0000     | 0.7306 |
| 成长能力-S6          | 0.2000               | 1.0000     | 3.0000     | 0.1884 |
| 盈利能力-S7          | 0.1429               | 0.3333     | 1.0000     | 0.0810 |

Figure 4-4 Consistency test for business activities judgment matrix

(4) Judgment matrix consistency test for investment activities, Fig 4-5

3. 企业投资活动要素-C3  判断矩阵一致性比例：0.0136；对总目标的权重：0.2506

| 企业投资活动要素-C3 | 现金流的稳定性-S9 | 投资机会-S8 | 现金替代物比例-S10 | Wi  |
|----------------------|-------------------|-------------|-------------------|-----|
| 现金流的稳定性-S9   | 1.0000            | 0.1429      | 0.2000            | 0.0751 |
| 投资机会-S8          | 7.0000            | 1.0000      | 2.0000            | 0.5917 |
| 现金替代物比例-S10  | 5.0000            | 0.5000      | 1.0000            | 0.3332 |

Figure 4-5 Judgement matrix of investment activity consistency test

(5) Consistency test matrix for financing activities, see below FIG. 4-6
5. 企业融资活动要素-C4  判断矩阵一致性比例: 0.0624; 对总目标的权重: 0.2395

| 企业融资活动要素-C4 | 债务期限结构-S13 | 股利支付-S11 | 负债水平-S12 | Wi  |
|----------------------|------------------|--------------|--------------|-----|
| 债务期限结构-S13     | 1.0000           | 0.2000       | 3.0000       | 0.1884 |
| 股利支付-S11         | 5.0000           | 1.0000       | 7.0000       | 0.7306 |
| 负债水平-S12         | 0.3333           | 0.1429       | 1.0000       | 0.0810 |

Figure 4-6 Financing elements of the business judgment matrix consistency test

(6) Obtaining each weight factor, as shown in FIG. 4-7

| 最终结果                  | 备选方案          | 权重   |
|---------------------------|------------------|-------|
| GDP-S1                    |                  | 0.0040|
| 通货膨胀率-S2             |                  | 0.0168|
| 政府财政赤字-S4           |                  | 0.0068|
| 短期银行贷款利率-S3      |                  | 0.0482|
| 现金流的稳定性-S9        |                  | 0.0188|
| 投资机会-S8               |                  | 0.1483|
| 现金替代物比例-S10        |                  | 0.0835|
| 营运资金管理效率-S5      |                  | 0.3172|
| 成长能力-S6               |                  | 0.0818|
| 盈利能力-S7               |                  | 0.0351|
| 债务期限结构-S13         |                  | 0.0451|
| 股利支付-S11              |                  | 0.1750|
| 负债水平-S12              |                  | 0.0194|

FIG. 4-7 Weight of each weight factors

4.4 Build management tools
The Figure 4 in -7 heavy weight of each factor to convert percentage than can be drawn upon various factors affecting each change 100% of corporate cash holdings of force , a negative sign indicates the rise of the factors that will lead to a drop in demand in the cash holdings . See the table below

| Factors for cash holding | Indicators                  | Impact direction | Weight | Impact |
|-------------------------|-----------------------------|------------------|--------|--------|
| S1                      | GDP growth rate             | 1                | 1%     | 1%     |
| S2                      | CPI change rate             | -1               | 2%     | -2%    |
| S3                      | One year interest rate      | 1                | 5%     | 5%     |
| S4                      | deficit/GDP                | -1               | 0%     | 0%     |
| S5                      | Cash conversion cycle       | 1                | 28%    | 28%    |
| S6                      | Sales growth rate           | 1                | 8%     | 8%     |
| S7                      | Sales profit margin         | -1               | 3%     | -3%    |
| S8                      | Capital expenditure annual growth | 1   | 14% | 14% |
| S9                      | STD of cash                 | 1                | 2%     | 2%     |
| S10                     | Cash substitute/current asset | -1             | 14%    | -14%   |
| S11                     | Growth in dividend growth   | 1                | 17%    | 17%    |
| S12                     | DEBT/Asset                  | 1                | 2%     | 2%     |
| S13                     | Current debt ratio          | 1                | 4%     | 4%     |

Regularly tracking the value of each index, comparing the increase or decrease of the value of the comparative period with the increase of the base period, and the influence of each factor, we can calculate the impact of each factor on the demand for cash holdings. As can be seen from the above table, some factors will increase the demand for cash holdings, some factors will reduce the demand for cash holdings, the summary can be drawn to all the factors that affect the overall level of cash holdings needs.

Then compare the total comparison period with the average total over the past 12 months, the following table can be drawn:
Table 4 - 6 Comparison table of working capital management

| Average difference in the past 12 months | Degree change in cash holding need | Scenario of cash holding needs |
|----------------------------------------|-----------------------------------|--------------------------------|
| very positive                          | Strongly ascending                | steadily moderate              |
| pretty negative                        | Strongly descending               | drastic                        |
| Between very positive and pretty negative | Not strong in ascending and descending | neutral                        |

4.5 Summary of this chapter

This chapter utilization factors affect cash holdings of Chapter III of explored and change direction, and then use the fourth chapter introduced the AHP method, come to the weight of each factor on corporate cash holdings varying weights, which can successfully calculate the overall level of impact of all factor changes during each comparative period can be constructed in the light of the relationship between changes in cash-holding demand and the working capital management contexts as defined in Table 4-6. The last remaining is just how to apply this management tool to realize the dynamic management of working capital issues.

Chapter V Working Capital Management and Application

Mention working capital. It is generally defined as the balance of current assets less current liabilities. This definition has a certain reference value when the creditors evaluate the liquidity of the enterprise assets, however, there is not enough for how to carry out the management of the enterprise working capital. The disadvantages are mainly as follows:

First, the object cannot be clear. There is no distinction between working capital of different nature, the balance sheet item is only the result and reflection of the actual production and business activities, different types of projects reflect the different nature of the production and business activities, while the traditional definition of these different nature of these projects and their Behind the business activities to be distinguished. Second, the responsibility cannot be implemented. Because different working capital items cannot be distinguished, they cannot be combined with the corporate activities behind them, and management responsibilities cannot be implemented in specific businesses and specific personnel.
In order to effectively combine the changes of cash holding and the management of working capital, this paper intends to discuss it from the perspective of process management and situation management of working capital. Because the situation management of working capital and corporate cash holdings corresponding to the overall level of change, is the link between the two. The process of working capital management is a means to deal with changes in working capital management situation, process management, more operational, the effect will be better.

5.1 Process Management of Working Capital

Through the process refers to a specific set of ordered activity through time and space, has a beginning and end, clearly defined inputs and outputs, including of course the appraisal process efficiency index (Liuzhou Hai, Qi Shi, 2008).

In front of the analysis of the factors that affect the cash holdings of enterprises, we have based on the structure of the cash flow statement, the impact of internal factors is divided into three parts: the elements of production and operation activities, investment activities and funding elements. In fact, in the process of working capital management model, the same can refer to the above classification, the process of many working capital management classified as three processes: the process of production and management activities, investment activities and the process of financing activities, which also proved that cash The inherent logical consistency between holding and working capital management.

5.1.1 Business is managed process

The production and business activities of a company are the main activities of the company. From a supply chain perspective, it covers a series of closely related processes from the moment a business issues a purchase order to purchase raw materials and finally delivers the product to the customer. It is an enterprise value added The main part is also the key process that determines the market competitiveness of enterprises (Zhang Honiara, 2009).

In accordance with the natural order of capital flow, the process of production and business activities of enterprises can be subdivided into the procurement process, the production process and the sales process. Of course, according to the order of the enterprise information flow, the sales process can also be started from the sales process to develop a production plan, which ultimately determine the appropriate procurement plan.

(1) The procurement process management

Procurement process refers to the company’s procurement plan, from the release of the order to the warehousing of a series of processes. If broadly speaking, the procurement process can include a series of extension processes such as supplier selection, information sharing with suppliers, and subsequent warehouse management.

Balance sheet items relating to working capital management in the procurement process include: prepayments, accounts payable, raw materials and materials in transit.

Funding for Procurement Processes = Advance Payment + Raw Materials + Transit Materials - Accounts Payable
Cash Turnover for Procurement Processes = 360 * (Prepayments + Raw Materials + Transit Materials - Accounts Payable) / Net Sales

Strictly speaking, the raw materials here include only the parts purchased and warehoused, and some enterprises also use some of the raw materials for production on the production line. This part of the raw materials should be counted as the capital used in the production process.

Here is an example of a typical purchasing process:

(2) The management of the production process

The production process refers to a series of processes according to the production plan of the enterprise, from the receipt of the materials from the warehouse to the completion of the finished product inspection. However, after this process, the raw materials have only changed in physical form. The products have become able to meet the customers' needs for use in some aspects, but have not yet got the recognition from customers. Therefore, the value of the raw materials has not changed yet.

Production processes and working capital management related projects include:

Fund occupation categories: online raw materials, work in progress, finished products, low value consumables, prepaid expenses, packaging, other receivables

Funding sources: wages payable, benefits payable, other payables, taxes payable, accrued expenses

Occupation of funds in the production process = the balance of the above-mentioned funds occupied account - the above-mentioned source of funds account balance

Cash Turnover of Production Process = 360 * (balance of the account occupied by the above funds - the balance of the account of the above-mentioned source of funds) / net sales

Production process can be subdivided into a series of sub-processes, such as production planning process, production preparation process, the actual production process, equipment maintenance process and so on.

It is noteworthy that there are usually some finished products are occupied in the sales channels, this part of the finished product should be counted as the sale of funds occupied. Some industries also spare parts for aftermarket repairs, this part of the spare parts should also be counted as the sales process of funds.

(3) sales process management

The sales process refers to a series of processes from the beginning of the product sales to the end of payment recovery. During this process, the product has undergone changes in the value form and has become cash or accounts receivable, but also added value.

Balance sheet items related to working capital management in the sales process include:

Fund occupation categories: accounts receivable, notes receivable, installments sent goods

Funding sources categories: advance payment,
Funds occupied in the sales process = the balance of the above-mentioned funds occupied account - the above-mentioned source of funds account balance

Cash Turnover of Sales Process = 360 * (balance of the account occupied by the above funds - the balance of the account of the above source of funds) / net sales

Sales process can be subdivided into a series of sub-processes, such as customer management process, quotation process, orders and follow-up process, logistics process, dealer management process and so on.

5.1.2 Investment Activity Process Management

The process of investing activities refers to the process by which an enterprise converts cash into other forms of assets with a view to obtaining future cash flows. Its essence is the replacement of cash flow, with the present confirmed cash flow in exchange for future uncertain cash flow, which contains the risk of not being able to be recovered and therefore requires an additional compensation corresponding to this level of risk, namely investment income. Investment activities can usually be divided into short-term investments and long-term investments by the length of the payback period. From the perspective of influencing working capital management, we mainly consider short-term investments.

Short-term investments refer to investing cash in investment projects with a payback period of less than one year. The targets of investment are mainly financial instruments, short-term borrowings and time deposit of banks. Short-term investment can be seen as a cash substitute, as a strategic reserve of cash, the impact on cash holdings is very direct.

Short-term investment process according to the content of the decision-making points are mainly to determine the level of investment, investment direction and when a series of related processes, according to the investment object can be divided into open bond market investment, bank financial investment and short-term corporate loans Related process.

Short-term investment process in the balance sheet of the relevant projects are: other monetary funds, short-term investments, bills receivable, interest receivable

5.1.3 Financing Process Management

The process of financing activities is exactly the opposite of the process of investment activities, in which an enterprise obtains an instant cash flow at the expense of paying future cash flows. Corresponding to the investment income, the risk compensation for investors contained in the future cash flows paid by an enterprise is Enterprise financing costs. Financing activities can also be divided into short-term financing and long-term financing according to the term of financing. From the perspective of affecting working capital management, we mainly study short-term financing.

Short-term financing refers to the financing within a period of one year, including short-term bank loans, short-term bills and short-term bonds. Short-term financing of the general procedure is relatively simple, can help businesses quickly get the cash they need to make up for the temporary lack of liquidity. Short-term financing process according to the content of the decision-making points mainly include determining the level of financing, financing and when to end a series of related processes, according to the object can be divided into bank short-term loan financing process, short-term bills
financing process, short-term bond financing process and a variety of liquid assets mortgage financing process.

Short-term financing in the balance sheet items are: short-term loans, bills payable, bonds payable, interest payable.

5.2 Situational managements of working capital

Situation management refers to different management strategies for different situations. Enterprises usually pre-set several kinds of situations that are most likely to occur, and also stipulate what kind of response measures should be taken when such situations occur. In this way, not only can the enterprises be encouraged to guard against the worst situation and avoid the extreme sadness, but also make measures to deal with them beforehand so that they can keep their food in their hands and keep their minds in mind and minimize the potential risks brought about by the environmental changes to their business operations.

Situational management of working capital, but also draws on the characteristics of situational management, management of working capital preset three scenarios, i.e. robust, radical and moderate, respectively correspond to the three levels of corporate cash holdings demand changes (Zhou Wen Plume, 2009). In short, if the business expects the demand for cash holdings to rise more drastically and urgently, the management of working capital at this time can be categorized as one of the scenarios - stable and the corresponding working capital management strategy has also been transformed into a stable one. If the firm expects a more drastic and pressing decline in the demand for cash holdings, working capital management at this time may fall into one of the scenarios - the radical, corresponding aggressive working capital management strategy. When enterprises expect that the demand for cash holdings will not rise sharply or not, the working capital management at this time can be classified as moderate and the corresponding working capital management strategies are also transformed into moderate ones.

Situational management using working capital is easier to align with changes in corporate cash holding needs and can be managed dynamically. Although it is impossible to quantify, it is sufficient for the management of the enterprise.

5.2.1 prudent working capital management

(1) Steady operation management

At this point the company's procurement activities should re-evaluate the procurement plan to see if there are any projects can be canceled, there is no project may be postponed. Inventory and consumption should be promptly tracked to reduce the overall procurement scale to reduce the capital occupation of raw materials. Should consult with the supplier, whether it is possible to extend the payment period or delay the delivery of some raw materials, qualified enterprises and suppliers can explore the possibility of implementing JIT supply.

At this point the production activities of enterprises should also re-evaluate the production plan to see if there is any product may cancel the production, there is no product may delay production. Timely tracking of inventory and sales, adjust the total production plan, reduce the capital of finished products. For enterprises with long production cycles, we also need to evaluate the possibility of reducing the
work in progress. For a variety of production consumables, spare parts and accessories must also be strictly managed to control the stock, limit the new purchase. For high-energy-consuming enterprises, it is necessary to promote various forms of energy-saving emission reduction plans, mobilize staff and strengthen training, starting from the daily behavior to reduce the energy consumption of enterprises in order to reduce the pressure on cash expenditures.

At this point the company's sales activities to re-evaluate the sales plan, there is no possibility of expanding sales to reduce the inventory. Is it possible to reassess the level of inventory used in sales channels to speed up turnaround? Is it possible to reduce or delay marketing activities to reduce cash outlays? Is it possible to negotiate with customers to shorten the credit limit or to speed up the recovery of accounts receivable?

(2) Steady investment management

At this point enterprises should increase the proportion of short-term investments, corresponding to reduce long-term investment. In short-term investments, the proportion of open-market transactions such as treasury bonds and corporate bonds with strong liquidity should be gradually increased. For banks with term deposits or various wealth management products, their maturities should be gradually shortened. In long-term investment, investment in fixed assets should be gradually strengthened control, to cancel as much as possible to cancel, cannot be canceled but also to choose the right time, do not overlap with the peak cash flow. Long-term debt investments and long-term equity investments also need to consider possible ways to recover them as soon as possible.

Robust management of investment activities should hold a larger proportion of current assets, including cash in total assets, to meet the liquidity needs of enterprises, with a lower risk of insolvency. However, in the long run, it will adversely affect the profitability of enterprises because excess funds are used for risk prevention instead of high-profit investment projects.

(3) Steady fund-raising activities management

At this point, enterprises should first consider converting existing short-term liabilities into long-term liabilities so as to delay the occurrence of cash payments and avoid overlapping with the peak of future cash flows. The possibility and timing of seeking loans should be sought immediately with banks and the possibility of equity financing should also be taken into account. Mortgage collateral for fixed assets should be given priority, and possibilities for trade finance should also be considered, such as acceptance bills, letters of credit, factoring in accounts receivables, mortgages for inventories, etc. To study and formulate options.

5.2.2 aggressive working capital management

(1) radical management activities

At this point the company's procurement activities should re-evaluate the procurement plan, the procurement of related items may be appropriate to scale the procurement plan to be expanded in order to negotiate with the suppliers to obtain greater price concessions. Procurement cycle can be properly accelerated; the supply process may be unexpected conditions should be sufficient room to ensure that will not affect the supply of raw materials. Appropriately increase the inventory of raw
materials to cope with unexpected emergency production tasks. For the key components of the product or scarce resources, strategic sourcing arrangements can be made. Through the financial support of suppliers, the establishment of reliable sources for the supply of key resources to enterprises. The payment progress to suppliers can also be moderately accelerated in order to accumulate the reputation and reputation of the suppliers in the suppliers. The accumulated reputation and reputation in the price negotiations with the suppliers can not only help the enterprises to obtain more price discounts, but also make more reasonable The terms of the transaction and the more preferential supply, and in the event of a short-term payment difficulties in the enterprise, the supplier can easily understand and cooperate with it without affecting the supply.

At this time, the production activities of enterprises should be re-evaluated their production plans, and the production scale can be moderately increased to reduce the unit production cost of the products because the part constituting the fixed production costs of the enterprises can be diluted with the expansion of the production scale and the cost is reduced and for the next part of the sales laid a good foundation. It can not only reduce the capital occupation of products, but also reduce the production cost so as to reduce the capital occupation of finished products of enterprises. With regard to the production of consumables and various spare parts and tools, it is possible to moderately increase its stock levels and increase safety stock standards so as to ensure that the enterprises' production will not be interrupted by stock outs of consumables and various spare parts and tools.

At this point the company's sales activities to re-evaluate its sales plan, to take measures conducive to promoting sales. For the product's fund occupation, the safety stock can be appropriately increased to deal with possible emergency sales orders. The occupation of product funds for the sales channels can speed up the development of sales channels and extend the space occupied by the products of the enterprises. At the same time, the products in the existing channels can be appropriately increased, and more space for dealers can be obtained for the initiative of the market. Can consider the financial support to dealers, in this way to reduce the financial pressure to increase dealer initiative. The customer's receivables may be due to extend its payment period, or increase the credit limit and scope of application in order to stimulate sales growth.

(2) radical management of investment activities

At this time enterprise should increase the proportion of long-term investment, corresponding to reduce short-term investment. In short-term investments, the proportion of readily available open market transactions, such as government bonds and corporate bonds, will gradually decrease. Instead, medium and long-term bonds with relatively high yields should be added. For bank time deposits or various wealth management products, the proportion of the total investment quota should be reduced while the proportion of trust products with higher return on investment should be increased correspondingly. For moderate expansion of long-term investment in the proportion of fixed assets in order to increase production capacity to increase production capacity, occupy the initiative in the future position. Can also increase the long-term debt investment and long-term equity investment ratio. Especially for long-term equity investment, enterprises can increase some equity investments from the perspective of strategic arrangement and from the point of view of competition in the enterprise.

In this context, the cash the total flow less assets of the enterprise should reduce the use of funds in low-yielding projects as much as possible and instead invest in high- return projects, but business at the
same time get a higher expected profitability, also bear a higher financial risk (Han Yun, Wei Lin, 2007).

(3) Radical fund-raising activities management

Radical fund-raising activities will encourage enterprises to use more temporary liabilities, not only to finance temporary financial needs, but also to solve some of the long-term funding needs. At this time, enterprises should make the best possible use of lower cost of current liabilities, try to avoid using long-term financing. As the proportion of temporary liabilities is larger, and the cost of capital is generally lower than the long-term debt and equity capital, so the cost of financing lower. Therefore, the existing long-term debt financing can be re-evaluated to see if it is possible to convert it into short-term debt or to return it early. If the agreement cannot be returned in advance, you can also try to renegotiate the terms of the contract with the bank. On the other hand, in order to meet the long-term financing needs of enterprises, temporary liabilities will inevitably have to be repurchased or applied for postponement of debt after maturity, thus increasing the difficulty and risk of fund-raising.

5.2.3 moderate working capital management

(1) Moderate management of business activities

At this point the company's procurement activities should re-evaluate the procurement plan, the procurement of related items should be based strictly on the scale of the production plan to arrange at the same time can use the economic order quantity model to determine the number of each order to obtain the lowest total purchase cost. Procurement cycle should be reasonably determined, close communication with suppliers according to changes in the actual situation at any time to adjust the arrival period, the safety of inventory set should be based on changes in daily needs timely adjustment. Part of the strategic procurement arrangements for key components or scarce resources of the product can be established through the active consultation with suppliers to establish a stable source of supply for the company's key resources. The progress of payment to suppliers should be strictly in accordance with the agreed payment cycle, so that neither advance nor delay, establish a timely payment of the image.

At this point the production activities of enterprises should re-evaluate the production plan, the production scale should also be determined in strict accordance with the sales plan, the production volume can refer to the economic order quantity model, balance the production time and equipment adjustment time to find the most suitable batch to reduce the total production time, improve production efficiency. Investment in technological transformation of production shall be arranged strictly in accordance with the budget. According to the principle of determination of investment projects, their net present value and internal rate of return can be calculated for each project, sorted according to certain rules, and priority is given to those with net present value Items with high value or internal rate of return. For the production of consumables and a variety of spare parts and tools, should be based on the production plan to determine the number of its procurement and inventory levels, so that will not result in waste will not be caused by the supply is not leading to production interruption.

At this point the company's sales activities to re-evaluate the sales plan, in accordance with the sales budget to promote the progress of sales arrangements for the inventory but also according to the actual
progress of sales adjusted at any time. The occupation of product funds for sales channels should be
based on the planned plan to expand new channels, the existing channels of product occupancy levels
should also be adjusted according to the actual performance of dealers at any time to prevent the long-
term occupation of product funds in the channel lead loss. Financial support for distributors can be
considered, but strict screening criteria should be established to ensure that only those dealers with the
best prospects for development can obtain financial support and improve the efficiency of the use of
funds. The customer's receivables should be strictly in accordance with the agreed time to track
customer payments, those who overdue payment of goods customers may consider collecting interest,
lower credit rating, requiring advance payment and even stop the supply of measures to strengthen
management to prevent bad debts produce.

(2) moderate investment management activities

Moderate investment activity is between radical and prudent. At this time, enterprises should pay
attention to the proportion of long-term investment and short-term investment. If the proportion of
short-term investment is too high, the short-term investment should be reduced correspondingly. If the
proportion of long-term investment in the previous period is too high, A corresponding reduction in
long-term investment. In short-term investments, highly liquid investment products such as publicly
traded bonds and corporate bonds should be matched with long-term and long-term bonds with high
returns, which cannot be neglected. The basic principle is that the duration of investment is consistent
with the period of idle cash of the enterprise. Long-term idle cash is used for long-term investment while
short-term idle cash is used for short-term investment.

(3) Moderate financing activities management

Moderate fund-raising activities to promote business and more use of temporary debt to meet a
portion of the temporary funding needs, the other outside the temporary part of funding requirements
and all of the long-term nature funding needs, both long-term debt and equity capital to solve. At this
moment, the temporary liabilities of the enterprises make up a small proportion of the total funds of the
enterprises and the risks of the enterprises unable to repay the due debts are also low. At the same
time, due to the long-term liabilities and equity of the capital in a high proportion of funding sources in
the enterprise, and the cost of capital both are higher than the provisional debt costs, making
companies operating in the off-season still higher burden of interest, thereby reducing Corporate
profitability (Han Yun, Wei Lin, 2007).

5.3 working capital management application

In order to accurately grasp the three scenarios of working capital management, we need to calculate
the actual data of the enterprise. This article collects the data of the case companies from the second
quarter of 2006 to the first quarter of 2010. Since the impact of "government fiscal deficit" in
macroeconomic factors is almost zero, the data for this project are not collected in this paper. The data
of other macroeconomic indicators are all from the annual reports of the National Bureau of Statistics.

Table 5-1 Cash demand changes in each quarter index calculation table

| Metrics |
|                | 1Q 07 | 2Q 07 | 3Q 07 | 4Q 07 | 1Q 08 | 2Q 08 | 3Q 08 | 4Q 08 | 1Q 09 | 2Q 09 | 3Q 09 | 4Q 09 | 1Q 10 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **method**     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| **GDP growth** | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
| **CPI growth** | -4%   | 0%    | 0%    | 0%    | -1%   | 0%    | 1%    | 1%    | 3%    | -1%   | 1%    | 5%    | 0%    |
| **One-year**   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| bank loan      | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    | -1%   | 0%    | 0%    | 0%    | 0%    |
| **interest**   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| rate           |       |       |       |       |       |       |       |       |       |       |       |       |       |
| **Cash cycle** |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 5%             | 19%   | 67%   | -3%   | 6%    | -33%  | -36%  | -16%  | 2%    | -2%   | 1%    | 1%    | 1%    | 1%    |
| **sales**      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| growth rate    | -1%   | 4%    | 4%    | -3%   | -1%   | 0%    | 1%    | 0%    | -2%   | 7%    | 1%    | 0%    | 0%    |
| old            |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 1%             | 0%    | -2%   | 1%    | 1%    | -3%   | 0%    | -2%   | 1%    | 1%    | -1%   | -1%   | 1%    | 1%    |
| **Capital**    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| expenditure    | -8%   | -8%   | -8%   | -8%   | 29%   | 29%   | 29%   | 29%   | -11%  | -11%  | -11%  | -11%  | -11%  |
| -9%            |       |       |       |       |       |       |       |       |       |       |       |       |       |
coefficient
Variance of
cash  0%  1%  0%  0%  0%  0%  0%  2%  1%  0%  1%  1%
balance
Cash
substitutes  -twenty
          4%  -12%  -5%  4%  7%  -3%  9%  7%  6%  2%  -38%  11%
/ current   two%
assets
Dividend
payout  0%  0%  0%  0%  0%  0%  0%  6.24%  6.24%  6.24%  6.24%  14.88%
ratio
Assets and
    1%  1%  1%  1%  0%  0%  0%  0%  0%  0%  0%  0%  0%  0%  0%
liabilities
Current
liabilities  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%  4%
ratio
This season  -twenty
          16%  55%  -5%  -1%  3%  14%  48%  6%  13%  3%  -30%  28%
total     three%
12-month
          134.55%  35.08%  13.98%  10.63%  6.40%  -6.50%  2.67%  15.96%  17.79%  20.26%
17.52%  -1.93%  3.38%
As can be seen from Table 5-1, the largest negative difference of -118.75% occurred in the first quarter of 2007 compared to the average of the past 12 months, with the largest positive difference of 31.75% appearing in the fourth quarter of 2008. Companies from the first quarter of 2007 to the beginning of the end of the first quarter of 2008, experienced a "and the average difference " for the period of negative (except second quarter of 2007, but will not affect the trend), during which the company's cash flow constantly improved, the demand for holding cash is declining. Taking into account the negative first quarter of 2007, the difference is too large, and the case did from the end of 2007 began to adopt a more relaxed working capital management policy, this paper takes the next highest negative point of negative -36.81% in the third quarter of 2007 as a reference point. The company ended the period from the second quarter of 2008 to the end of 2008, experiencing a positive "number-of-average" cycle. During this period, the company's cash flow efficiency...
declined and the demand for cash held up. Considering that the case company did take a cautious working capital management policy from 2009, this paper takes the positive quarter point of the fourth quarter of 2008 as the reference point of 31.75%. Based on the above positive and negative reference points, this paper considers that using 30% plus or minus as the critical point of the working capital management scenario is more appropriate.

Table 5-2 Critical points for working capital scenario management

| Compare the period with the average of the past 12 cash holdings varies | Working capital situation |
|------------------------------------------------------------------------|----------------------------|
| "= + 30%                                                               | Rising demand is intense steady |
| "= -30%                                                                | Decreasing demand radical    |
| -30% <X <+ 30%                                                         | Rise and fall demand is Moderate |

5. 4 Summary
This chapter separately analyzes how to carry out the daily management of working capital under these two perspectives from the perspective of process and situation. We divide the numerous operations management activities into three main processes, business activity process, investment activity process and fund raising process, in which business process can be subdivided into purchasing process, production process and sales process. Once again, cash and cash The intrinsic link between the holding factors. We again divided the dynamic working capital management into three scenarios: steady, moderation and radical. They introduced in detail how the working capital management process was adjusted in each of the above three scenarios. For details, see the following table:

Table 5 - 3 working capital management and process management control situation

| The degree of change in Situational Working capital demand for cash management of management holdings working capital |
|----------------------------------------------------------|
| Steady business                                           |
| Rising demand has steady activity management changed dramatically Steady investment management |
| Steady financing management                               |
| Radical business                                           |
| Decreasing demand has radical activity management changed dramatically Radical investment |
activity management

Radical fund-raising activities management

Moderate management
Moderate of business activities

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The demand for ascent Moderate investment
and descent is not activity management
severe Moderate financing
activities
management

Di Liu Zhang Conclusions and Outlook

This article from the impact of starting a business cash holdings factors, combined with the actual situation of the company's case, the national macro-economic and micro-economic enterprises launched two levels for each analysis factors, and with reference to the classification of the cash flow statement enterprise microeconomic factors points For three categories: business operating factors, business investment activities and business financing activities, to better understand the relationship
between these factors provides a new perspective. This article continues to contact the actual situation of the company, further discusses the relationship between the change direction of the influencing factors of cash holdings and the change direction of cash holdings, and draws a conclusion. At the same time, using the AHP method combined with the questionnaire survey, the influence of various factors on the change of cash holdings has been analyzed, and the conclusion has been drawn. Using these two conclusions, we can calculate the impact of changes of various factors in the comparison period on the changes of the cash holdings of the enterprises. By comparison, we can know the overall level of changes in the cash holdings of the enterprises during the comparison of all the factors in the comparison period. Compared with the average level of the past 12 months, we can determine which period of cash holding needs change during the comparative period. Combining with the situation management of working capital, we can make an analysis on the working capital management strategy from the perspective of process management Adjust to effectively manage the company's liquidity. This not only helps to understand the relationship between corporate cash holdings and corporate working capital management, but also provides a new method and new tool for the management of corporate working capital from the perspective of practical work. At present, most of the studies on the factors that affect the holding of cash in enterprises are in the empirical stage. There is no theoretical research and no unified conclusion. For practical workers, what factors should be selected should be combined with the situation of the enterprises. There is no standard and more difficult Great hope that future research will improve the situation. Another question is how to reasonably determine the weight of each element of change in cash holdings, which may also be an unanswered question. On the one hand both theoretical research and empirical research are rarely involved in this, there is no ready-made results for reference. On the other hand, even a reference is hard to use in practice because the situation varies greatly for each company. AHP method is a more eclectic way, but this is affected by the choice of the group when conducting the survey, the choice of different groups may have different results, how to further refine the process of research and to regulate, and this is the hope that later The research can be further improved.

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Appendix I

The Questionnaire

First, the questionnaire description

The purpose of this questionnaire is to determine the relative weight between the various factors that affect the cash holdings of an enterprise. Questionnaire root according to the Analytic Hierarchy Process (AHP) in the form of design. This method is to compare the importance of influential factors the same level. The measurement scale is divided into five levels, which are absolutely important, very important, more important, slightly important, and equally important, corresponding to the values of 9, 7, 5, 3, and 1, respectively. On the left scale to measure represents an important factor in the left column, by measure of the right represents an important factor in the right column. Depending on your view, the counterpart tick to cell. If you feel that a level does not accurately express your opinion about a comparative question, you can express your opinion by circling the two squares. The goal of this questionnaire is to define the weight of each factor that could affect corporate cash holding. It’s designed according to AHP method, by this way, we can compare the weight of two factors which located in the same level one by one. The measurement is divided by 5 grades which are "extremely important", "very important", "comparable important", "important" and "same" means 9,7,5,3,1 respectively. factor is more important and the same for right. In terms of your view please tick on the corresponding formula, If the listed cannot fully disclose your view then you can circle between two formulas.

Cash holds the influence factor weight questionnaire

Cash holding factors weight investigation questionnaire

Sample Table: Relative Importance of Each Influencing Factor in Evaluating Automobiles

Evaluate car relating factors comparable importance

| An | Evaluation Criteria | B |
|----|---------------------|---|
|    | Price               |   |
| 9  | 7                   | 5 |
| 3  | 1                   | 3 |
| 5  | 7                   | 9 |

Safety
Note: The measurement scale is divided into five levels, respectively, are absolutely important, very important, more important, slightly important, with Important, corresponding to 9, 7, 5, 3, 1, respectively.

Note: Measurement divided by 5 level, which are " extremely important ", " very important ", " comparable important ", " important " and " same " means 9,7,5,3,1 respectively.

Second, the content of the questionnaire

| Influencing Factors | Description |
|---------------------|-------------|
| To the country's macroeconomic factors -C1 |
| Including GDP, Inflation, short term loan interest rate and government deficit |

ND

- Level 2 element the 2 level factors for change of cash holding
Corporate investment Including capital expenditure, stable of cash flow and percentage of cash activities to Su -C3 equivalent

Corporate investment

Business activities to Su Including working capital efficiency, growth ability and profitability -C2

Corporate operation

Corporate finance Including dividend, liability ratio and current liability ratio activities to Su -C4

Corporate financing

The following groups of elements of comparison for the "cash holdings need to change the degree of" the relative importance of how?

Compare relative importance for cash holding change between the below factors

| An | Evaluation Criteria | B |
|----|---------------------|---|
| 9  | 7                   | 5 |
| 3  | 1                   | 3 |
| 5  | 7                   | 9 |

National Corporate Investment

macroeconomic Activities - C3
elements- C1  Corporate investment

Macroeconomic

9 7 5 3 1 3 5 7 9

National  Elements of business

macroeconomic activities -C2

elements- C1  Corporate operation

Macroeconomic

9 7 5 3 1 3 5 7 9

National  Corporate Financing

macroeconomic Activities -C4

elements- C1  Corporate financing

Macroeconomic

A  Evaluation criteria  B

9 7 5 3 1 3 5 7 9

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Corporate Investment  Elements of business
Activities - C3
Corporate investment financing

9 7 5 3 1 3 5 7 9

Corporate Investment
Corporate financing

Activities - C3
Corporate investment financing

9 7 5 3 1 3 5 7 9

Elements of business
Corporate Financing

activities -C2
Corporate operation financing

Activities - C4
Corporate financing

● 3rd level factors the 3rd level factors

Assessment of "national macro-economic factors -C1 by Macroeconomic " the relative importance of the Comparable Importance the

Evaluate F or by Macroeconomic

Influencing Factors Description
GDP-S1 include

Inflation-S2 include

Short term loan interest include

rate - S3

Government deficit - S4 include

The following groups of elements of comparison for the " national macro-economic factors -C1 by Macroeconomic " how the relative importance? Compare relative importance for Macroeconomic between the following factors

| A   | Evaluation criteria | B   |
|-----|---------------------|-----|
| 9   | 7                   | 5   |
| 3   | 1                   | 3   |
| 5   | 7                   | 9   |

GDP-S1 Inflation-S2

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| 9   | 7   | 5   | 3   | 1   | 3   | 5   | 7   | 9   |

GDP-S1 Short term loan interest rate - S3

| 9   | 7   | 5   | 3   | 1   | 3   | 5   | 7   | 9   |
GDP-S1  Government deficit - S4

9 7 5 3 1 3 5 7 9

Inflation-S2  Short term loan
interest rate - S3

9 7 5 3 1 3 5 7 9

Inflation-S2  Government deficit - S4

9 7 5 3 1 3 5 7 9

Short term loan interest  Government deficit - S4
rate - S3

Assessment "operations elements of corporate -C2 Corporate Operation " of the relative importance of the Comparable Importance

the Evaluate F or Corporate Operation

Influencing Factors  Description

Working capital  include

efficiency-S5

Growth ability-S6  include
The following groups of elements of comparison for the "business activities elements of corporate\n-C2 Corporate Operation" how\nthe relative importance?\nCompare relative importance for Corporate operation between the below factors A\n
| Evaluation criteria | B |
|---------------------|---|
| 9 7 5 3 1 3 5 7 9 |

Working capital \nGrowth ability-S6

efficiency-S5

| 9 7 5 3 1 3 5 7 9 |

----------------------- Page 40 -----------------------

Working capital \nProfitability-S7

efficiency-S5

| 9 7 5 3 1 3 5 7 9 |

Growth ability-S6 \nProfitability-S7
Assessment of "corporate investment activities elements - C3 Corporate Investment," the relative importance of the Comparable

Importance the Evaluate F or Corporate Investment

Influencing Factors   Description

Capital expenditure-S8  include

Cash flow stablity-S9  include

% of cash equivalent-S10 include

C3 Corporate investment - Compare relative importance for corporate investment between the below factors

| A  | B  |
|----|----|
|    |    |
| 9  | 7  |
| 5  | 3  |
| 1  | 3  |
| 5  | 7  |
| 9  |    |

Capital expenditure- Cash flow stablity-S9

S8

| A  | B  |
|----|----|
|    |    |
| 9  | 7  |
| 5  | 3  |
| 1  | 3  |
| 5  | 7  |
| 9  |    |

Capital expenditure- % of cash equivalent-

S10

S8
Cash flow stability-S9 % of cash equivalent-S10

Assessment of " corporate finance activities elements - C4 Corporate Financing," the relative importance of the Comparable

Importance of the Evaluate F or Corporate Financing

Influencing Factors Description

Dividend- S11 include

Liability ratio-S12 include

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Current liability ratio-S13 include

C4 Corporate financing - Compare relative importance for Corporate financing between the below factors

| A     | measurement | B     |
|-------|-------------|-------|
| 9 7 5 3 1 3 5 7 9 |

Dividend- S11 Liability ratio-S12
Dividend - S11

Current liability ratio - S13

Liability ratio - S12

Current liability ratio - S13