Research on Enterprise Expansion Risk Early-warning Based on Financial Prosperity Monitoring

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Abstract: There exists objective and inherent logical relationship between financial prosperity and enterprise expansion risk. This paper divides financial prosperity monitoring indicators into leading indicators, coincident indicators and lagging indicators with the method of time difference correlation analysis; constructs diffusion index(DI) and composite index(CI) of financial prosperity; accordingly analyzes the dynamic development trend of financial prosperity; applies the method of gray correlation analysis to explore the correlation between leading indicators of financial prosperity and enterprise expansion risk indicators; constructs discrimination model of industry expansion risk. Moreover, this paper conducts the empirical test on 20 large real estate enterprises; operates positioning analysis on enterprise expansion risk early-warning. And it comes up with corresponding prevention and control paths for expansion risks in operating, investment and financing activities of real estate enterprises.

Keywords: Financial Prosperity Monitoring; Enterprise Expansion; Investment and Financing Matching; Risk Early-warning

An enterprise has to expand its capital when seeking for the value maximization. The capital expansion risk of an enterprise comes along with the financing risks. When enterprise financing crisis takes place, it is impossible for the enterprise to determine its future investment direction, which results in enterprise expansion risks. So, how to determine the future investment direction of enterprises?

The paper attempts to start from the linkage effects between financial prosperity and enterprise expansion risks, so as to operate analysis and early warning on enterprise expansion risks based on the Leading Composite Index of financial prosperity monitoring, which provides practical risk prevention and control methods for the assurance of steady operation ad stable development of enterprises.

1 Construction of Leading Composite Index Based on Financial Prosperity Monitoring

1.1 Selection of Financial Prosperity Monitoring Indicators

(a)Primary Election and Processing of Indicators

Industry prosperity index is a kind of comprehensive index reflecting industry alteration trend with the weighted formulation of various kinds of indicators reflecting industry conditions, while financial prosperity index is a branch of industry prosperity index. The paper constructs financial prosperity index, whose indicator layer contains 17 indicators, including Non-performing Loan Ratio, Foreign Currency Deposits, Foreign Currency Loans, M2/GDP, Actually Utilized Foreign Capital, M2/Foreign Exchange Reserves, Increase Rate of Foreign Exchange Reserves, Stock Market Capitalization/GDP, Total Retail Sales of Consumer Goods, Stock Turnover/Gross Stock Market, Industrial Added Value, GDP Growth Rate, Inflation Rate, Fixed Asset Investment, Real Estate Development and Investment, Bills Financing , Total Export-Import Volume.

(b) Indicators Classification

Financial prosperity index could be used to determine the overall trend of the financial development and the financial scale, and financial prosperity index is regarded as benchmark sequences in the paper. On a quarterly basis, alternative indicators lead or lag the benchmark index at eight cycles (one cycle is equal to a quarter). The correlation coefficient is calculated by Census X12 seasonal adjustment method which is to eliminate seasonal factor and irregular change. Based on such fundamental, the software of SPSS 19.0 is applied to calculate the time difference correlation coefficient of each alternative indicator and benchmarks with the method of time difference corre-

lation analysis, and divide the 13 indexes eventually selected into leading, consistent, and lagging indicators with larger time difference correlation coefficient, as shown in Table 1.

Table 1 Financial Prosperity Indicators System

Index Classification	Indicators	Time Difference Correlation Coefficient	Time Cycle (Negative for leading and positive for lagging)
Leading indicators	Real Estate Development Investment	0.671	-2
	Inflation Rate	0.662	-2
	the Actual Use of Foreign Capital	0.581	-2
	Foreign Currency Deposits	0.457	-8
	Increase Rate of Foreign Exchange Reserves	0.394	-8
	M2/Foreign Exchange Reserves	0.430	-8
Consistent indicators	Stock Market Capitalization/GDP	0.712	0
	Stock Turnover/Gross Stock Market	0.619	-1
	Foreign Currency Loans	0.571	1
	M2/GDP	0.531	-1
Lagging indicators	GDP Growth Rate	0.514	3
	Non-performing Loan Ratio	0.486	7
	Fixed Asset Investment Increase Rate	0.303	7

1.2 Construction of Leading Composite Index Based on Financial Prosperity Monitoring

(a) Compiling and Monitoring of Financial Prosperity Diffusion Index

Generally speaking, the expansion of financial prosperity cycle does not mean that all financial indicators are expanding. In order to evaluate the overall change trend of various financial prosperity indicators accurately, the paper introduces diffusion index to reflect prosperity trends of most indicators.

Diffusion index refers to the percentage of expansion index numbers in the total index numbers respectively in the selected financial prosperity indicator groups of leading, consistent and lagging, with which the leading, coincident or lagging diffusion index reflecting financial prosperity trends could be calculated and analyzed.

Therefore, the paper applies the basic method compiling diffusion index, and draws leading and consistent diffusion index curves of financial prosperity separately according to smooth sequence data in leading and consistent indicators of financial monitoring in detail, as shown in Figure 1.

Fig.1 Contrast Diagram of Financial Prosperity Leading Diffusion Index and Consistent Diffusion Index

(b) Compiling and Monitoring of Financial Prosperity Composite Index

Diffusion index could only approximately determine which prosperity space the financial operation is, but it couldn't clearly show the strength of the financial volatility. As a "barometer" of the financial situation, Composite Index could be applied to judge whether the financial activity is positioned at the rising or falling period, the size of which could be used to judge the fluctuation degree of financial prosperity. Therefore, the paper also selects indexes of leading and coincident groups for further compiling leading composite index of financial prosperity.

The first step is to calculate the symmetry change rate of each single indicator $C_i(t)$:

$$C_i(t)=\begin{cases}200\left[d_i(t)-d_i(t-1)\right]/\left[d_i(t)+d_i(t-1)\right], & d_i(t)>0\\ d_i(t)-d_i(t-1), & d_i(t)<0\end{cases} \quad \text{(Formula 1)}$$

In the Formula above: $C_i(t)$ is the value of sequence i at Time t, $C_i(t)$ is the sequence adjusted seasonally from original index sequence.

The second step is to calculate the change rate R(t):

$$R(t)=\sum_{i=1}^{K} S_i(t)\times W_i/\sum_{i=1}^{K} W_i \quad \text{(Formula 2)}$$

In the Formula above: $S_i(t)=C_i(t)/A_i$, $A_i=\sum_{i=1}^{n}\frac{|C_i(t)|}{N-1}$, N is the standardization quarter, K is the number of each sequence, W_i is the weight of Sequence i, R(t) of coincident index is P(t).

The third step is to calculate the financial prosperity leading composite index I(t):

$$I(t)=I(t-1)[(200+V(t))/(200-V(t))],\quad I(1)=100 \quad \text{(Formula 3)}$$

In the Formula above: $V(t)=R(t)/F$, $F=\sum_{t=2}^{K}R(t)/\sum_{t=2}^{K}P(t)$, F is a standardization factor between groups, which should divided by the number of samples when differences between molecules and denominator exist.

After respectively adjusting leading, coincident and lagging index groups seasonally, calculate its composite in-

dex in the same composite index compiling method. Then use the software of SPSS 19.0 to draw the contrast diagram of financial prosperity leading composite index and consistent composite index, as shown in Fig. 2.

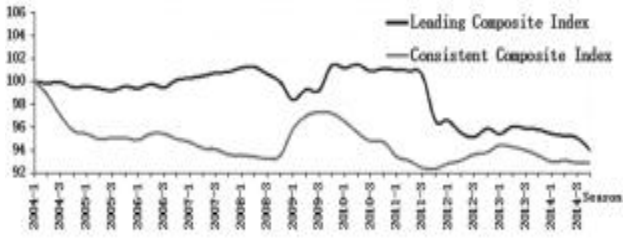

Fig.2 Contrast Diagram of Financial Prosperity Leading Composite Index and Consistent Composite Index

The leading time that financial prosperity leading index is relative to the coincident index can be seen from Fig. 2, the detailed information is shown in Table 2:

Table 2 the Leading Time of Financial Prosperity Leading Index

Period (cycle)	Leading Composite Index	Coincident Composite Index	Leading Time (Season)
1st	Season1,2004 ~ Season4,2005	Season1,2004 ~ Season1,2006	-
2nd	Season4,2005 ~ Season3,2006	Season1,2006 ~ Season4,2007	1
3rd	Season3,2006 ~ Season3,2009	Season4,2007 ~ Season3,2010	1
4th	Season3,2009 ~ Season4,2010	Season3,2010 ~ Season3,2011	4
5th	Season4,2010 ~ Season1,2012	Season3,2011 ~ Season4,2012	3
6th	Season1,2012 ~ Season4,2013	Season4,2012 ~ Season2,2014	3
6.5th	Season4,2013	Season2,2014	2
Average	-	-	2.3

2 Industry Expansion Risk Early-warning Linkage Mechanism Based on Financial Prosperity Monitoring

2.1 Linkage Effect between Financial Prosperity Inflation and Industrial Expansion Risk

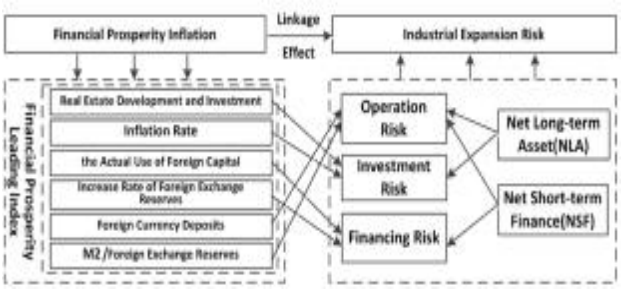

Fig.3 Linkage Effect between Financial Prosperity Inflation and Industrial Expansion Risk

Financial prosperity is always positioned in the condition of constant change. With a high degree of uncertainty, changes in the financial prosperity may bring opportunities for the industry, and it may also make the industry under threat. Financial volatility would have an impact on financial prosperity leading indicators, so leading index such as real estate development and investment, inflation rate, the actual use of foreign capital, foreign currency deposits, increase rate of foreign exchange reserves and M2/ foreign exchange reserves, which are chosen in the system of monitoring indicators to monitor the financial prosperity fluctuation.

Investment in real estate development reflects the overall level of investment in the real estate industry, therefore it could perfectly reflect the risk of investment activities; change in the inflation rate will cause different degrees of float of the sales price and the cost, thus affecting the economic benefits of investment, resulting in changes of expansion risk of in investing activities. As the Net Long-term Assets (NLA) increases in investment activities, risk in investment activities is associated with NLA. Therefore, financial prosperity and expansion risk has the linkage effects below: financial prosperity fluctuation→financial prosperity leading indicators of real estate development investment and inflation rate→NLA→risks in investing activities→industrial expansion risk.

The actual use of foreign investment and the growth of foreign exchange reserves are conducive to Chinese real estate industry to expand financing channels and to reduce financing risk, while susceptible to fluctuations of the exchange rate risk, causing changes in financing activities. Risk in financing activities is closely associated with Net Short-term Financing (NSF), so the linkage effects path here is: financial prosperity volatility→financial prosperity volatility leading indicators of the actual use of foreign investment and increase rate of foreign exchange reserves→NSF→risks in investing activities→industrial expansion risk.

The increase in foreign currency deposits will effectively raise the level of commercial bank lending and other financial institutions, thereby increasing the demand for real estate and reduce risks in operate activities. M2/Foreign Exchange Reserves, to some extent, reflect the actual money supply, along with the increase of which the real estate loans will expand but operating risk will reduce accordingly. As the acquisition or disposal of long-term assets(such as the fixed assets)and operate activities are closely linked, and NSF(the difference between short-term financing and currency) is closely linked with cash

flows, so the linkage effects path here is: financial prosperity fluctuations→financial prosperity leading indicators of foreign currency deposits and M2 / Foreign Exchange Reserves→NSF→risks in cash flows→NLA→risks in operating activities→industrial expansion risk.

It can be seen from the linkage effects between financial prosperity volatility and industrial expansion risk that the financial prosperity monitoring can play a role in early-warning of industrial risk. In this paper, the relevant relationships between financial prosperity leading indicators and industrial expansion index will be hypothesis tested in order to determine the influencing relationship between them.

There are 140 large scale public enterprises in china' s real estate industry, 67 in the Shenzhen Stock Exchange and 73 in the Shanghai Stock Exchange. This paper taking the real estate industry as an example, selecting data from 2003 to 2013, using Gray Correlation Analysis Method to determine the reference sequence reflected system behavior features and the comparative sequence impacting system behavior, processes data of the comparative sequence and the reference sequence in dimensionless form. Formula used to calculate gray correlation coefficient is below:

$$\zeta_i = \frac{\triangle(\min) + \rho\triangle(\max)}{\triangle_i(k) + \rho\triangle(\max)} \qquad \text{(Formula 4)}$$

Of the Formula above: ρ is the resolution factor, always between 0 and 1, usually take 0.5; $\triangle_i(k)$ is the absolute difference between the comparative sequence and the reference sequence. Gray correlation grade (r_i) is calculated based on gray correlation coefficient:

$$r_i = \frac{1}{N}\sum_{k=1}^{N}\zeta_i(k) \qquad \text{(Formula 5)}$$

Correlation coefficient between financial prosperity leading indicators and industrial expansion risk of the real estate industry is calculated by Matlab 7.0 Software. The results are shown in Table 3:

According to the results of Gray Correlation Analysis Method, each gray correlation index is higher than 0.5, which reflects that the financial prosperity leading index has a high correlation. Therefore, the test results support all hypotheses.

After selecting data from different industries in CSMAR database, further analysis of the data shows that the correlation assumed in hypotheses above in the real estate industry is higher than that in other industries such as manufacturing, hence the real estate industry shows stronger sensitivity of the financial prosperity fluctuations than other industries.

Table 3 Hypotheses Test Results of the Real Estate Industry Based on Gray Correlation

Hypotheses List	Gray Correlation Grade	Results
H1a:Real estate development investment has a positive effect on NLF of the real estate industry	0.67577	pro
H1b:Real Estate Development Investment has a positive effect on NSF of the real estate industry	0.69169	pro
H2a:Inflation rate has a positive effect on NLF of the real estate industry	0.70382	pro
H2b:Inflation rate has a positive effect on NSF of the real estate industry	0.65900	pro
H3a:The actual use of foreign capital has a positive effect on NLF of the real estate industry	0.69217	pro
H3b:The actual use of foreign capital has a positive effect on NSF of the real estate industry	0.64872	pro
H4a:Foreign currency deposits has a positive effect on NLF of the real estate industry	0.65350	pro
H4b:Foreign currency deposits has a positive effect on NSF of the real estate industry	0.72411	pro
H5a:Increase Rate of Foreign Exchange Reserves has a positive effect on NLF of the real estate industry	0.66365	pro
H5b:Increase Rate of Foreign Exchange Reserves has a positive effect on NSF of the real estate industry	0.70193	pro
H6a:M2/ Increase Rate of Foreign Exchange Reserves has a positive effect on NLF of the real estate industry	0.63599	pro
H6b:M2/ Increase Rate of Foreign Exchange Reserves has a positive effect on NSF of the real estate industry	0.64756	pro

2.2 Based on the monitoring of the real estate industry boom financial risk early-warning mechanism of expansion

Fluctuations in the financial prosperity is uncertain, if the real estate industry finance and invest in an unreasonable structure in the expansion, resulting in incompatible with the financial prosperity, thus resulting industrial expansion risk of the real estate industry. The real estate industry can monitor and position risks via matching model

for the expansion of investment and financing. The model is affected by exogenous variables (such as the financial boom leading indicators) and endogenous variables (such as the expansion risk factors in the real estate industry): financial prosperity→financial prosperity leading indicators→financial prosperity monitoring→external monitoring results→back to the internal adjustment mechanisms→identify the expansion risk factors in the real estate industry→find out critical expansion risk factors→advance warning→determine the early-warning prevention and control path of the real estate industry→realization early-warning and risk control of the real estate industrial expansion risk→avoid the formation of enterprise expansion risk from the roots. As shown in Fig.4:

Fig.4 Industrial Expansion Risk Early-warning Mechanism Based on Financial Prosperity

3 Discriminant Model of Expansion Risk in Real Estate Industry Based on Financial Prospective Monitoring

In order to reflect the expansion risk of the real estate industry more directly, this paper taking the 140 large real estate companies above as the example, design the formula based on investment-financing matching strategy formula:

Invesment-financing matching rate=NLA/NSF (Formula 6)

In the Formula above: NLA is net long-term assets minus depreciation and amortization, that is, the difference between short-term debts and the cash.

In Formula 6, if the result of this calculation is positive, it means investment and financing matching well. If the calculation result is negative, its meaning was "long-term rate of short-term loans." This rate is the first warning signs of the collapse of all enterprises, short-term loans long-term investment means that long-term assets are covered by short-term loans. Short-term financing is usually used to maintain working capital needs, rather than to meet the long-term capital needs. As the capital investing on fixed assets is generally not possible to recover in the short term, if the short-term financing is used to support long-term capital needs, while short-term financing expires, a new short-term financing has to be used to offset, in this case, the enterprise will fall into a trap called "short-term loans long-term investment".

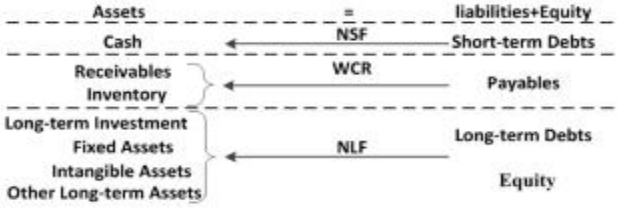

Fig.5 Accounting factors analysis of investment and financing structure

WCR=NSF+NLF (Formula 7)

In the Formula above: WCR is Working Capital Requirement; NSF is Net Short-term Financing; NSF=Short-term Finacing-Long-term Assets.

WCR is the working capital requirements of operate activities. That working capital is below or above the WCR is the affect that enterprise expansion brings to funds needed in operate activities. The relationship between WCR and NSF、NLF in formula7 shows in Fig. 6、Fig. 7、Fig. 8: in Fig. 6, matching type financing strategy refers Short-term Financing (SF) wanders between Working Capital Requirement (WCR) and Cash; in Fig. 7, when Short-term Financing (SF financing strategies are) is below the Working Capital Requirement (WCR), it is conservative strategy, in this strategy, enterprise's long-term funds is supported by endogenous capital regardless of value undervalued and inadequate investment; in Fig. 8, when short-term financing (SF financing strategies are) is higher than the working capital requirement (WCR), it is aggressive strategy. Under the aggressive strategy, enterprise's long-term funds need not only the endogenous financial support, but also need financing from debt and equity, this strategy will bear the risk of long-term debt risk or dilution of shareholders' interests.

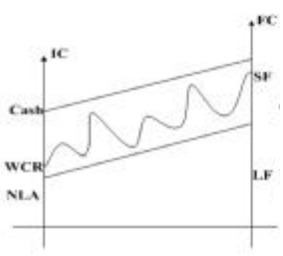

Fig.6 Matching Strategy

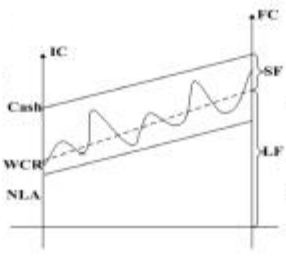

Fig.7 Conservative Strategy

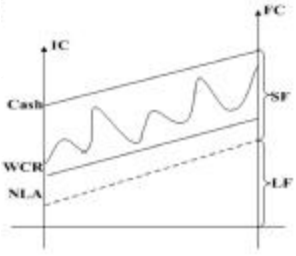

Fig.8 Aggressive Strategy

To reflect the average level of investment-financing matching rate in the real estate industry, this paper selects the data of NSF and NLA of the 140 major real estate companies in 2013 from CSMAR database (2013). Calculating with Matlab 7.0 software, the real estate industry investment-financing matching rate is 6%. Since this calculation is negative, it means that the real estate industry is characterized by short-term loans long-invest rate.

This paper uses "five-evaluation-system" to determine expansion risk early-warning level. In method of evaluation techniques, similar warning levels based on average data of the real estate industry is as follows: x_i represents the corresponding index of the sample companies; -6%、-10%、-20% and -30% is set for division threshold, vote investment-financing matching rate in Formula 6 is divided into five sections. According to the size of investment-financing matching rate, risk early-warning level is divided into no warning, light warning, moderate warning, severe warning and great warning. When $x_i \geq -6\%$, the risk level is "no warning"; When $-10\% \leq x_i < -6\%$, the risk level is " light warning "; When $-20\% \leq x_i < -10\%$, the risk level is " moderate warning "; When $-30\% \leq x_i < -20\%$, the risk level is " severe warning "; When $x_i < -30\%$, the risk level is "great warning ".Industrial expansion risk early warning "five-evaluation-system" level position is shown in Figure 9.

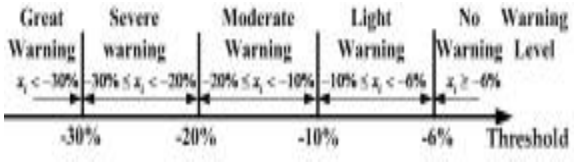

Fig.9 Industrial expansion risk early-warning "five-evaluation-system" level position

4 Positioning System and Control Path of Expansion Risk Early-Warning of the Real Estate Enterprises

4.1 The Real Estate Enterprise Expansion Risk Early-warning Level Positioning

To position the early-warning level of china's real estate enterprises' expansion risk, this paper selects 20 real estate companies of all sizes with and various expansion risk degrees from the 140 large real estate companies, picking index data in 2013, calculates the investment-financing matching rate according to Formula6, the results is shown in Table 4:

Table 4 Early-warning Level of Sample enterprises

Stock Code	Company	Matching Rate	Early-warning Level	Risk Analysis
000046	Oceanwide Holdings Co., Ltd.	-9.24%	Light Warning	Too much short-term debts results in risk of short-term loans long-term investment
600340	China Fortune Land Development Co.,Ltd.	-10.90%	Moderate Warning	Too much fixed assets construction in the case of negative short-term debts
600684	Guangzhou Pearl River Industrial Development Co., Ltd.	-9.04%	Light Warning	Too much fixed assets construction in the case of negative short-term debts
000043	Shenzhen Catic Real Estate Co., ltd.	-39.56%	Great Warning	Excessive use of borrowed cash from bank to for fixed asset investment
000517	Rong An Property Co.,Ltd.	-17.04%	Moderate Warning	Over-dependency on short-term debts
600053	Jiangxi Zhong Jiang Real Estate Co.,Ltd.	-8.40%	Light Warning	Too much short-term debts but too little cash
000031	COFCO Property (Group) Co.,Ltd.	-23.11%	Severe Warning	More construction of fixed assets than disposal
601588	Beijing North Star Company Limited	-7.38%	Light Warning	Too much short-term debts results in risk of short-term loans long-term investment
600747	Dalian Daxian Enterprises Holdings Co.,Ltd.	-41.99%	Great Warning	Excessive use of borrowed cash from bank to for long-term asset investment
000002	China Vanke Co., Ltd.	-6.21%	Light Warning	Too much fixed assets construction in the case of negative short-term debts
000918	China Calxon Group Co., Ltd .	-13.13%	Moderate Warning	Too much short-term debts
600862	TONTEC Technology Investment Group Co., Ltd.	-33.56%	Great Warning	Too much short-term debts for long-term assets
600675	China Enterprise Company Limited	-10.68%	Moderate Warning	Too much short-term debts for long-term assets
000040	Baoan Hongji Real Estate Group Co.,Ltd.	-9.52%	Light Warning	Too much short-term debts but little cash
600275	Hubei Wuchangyu Co., Ltd.	-53.76%	Great Warning	Too much short-term financing for long-term assets
600696	Shanghai Duolun Industry Co.,Ltd.	-14.23%	Moderate Warning	Little cash
000506	Zhongrun Resources Investment Corporation	-25.38%	Severe Warning	Over-dependency on short-term debts
600649	Shanghai Chengtou Holding Co., Ltd.	-13.83%	Moderate Warning	Too much short-term financing for long-term assets
000620	Macrolink Real Estate Co., Ltd.	-12.60%	Moderate Warning	Too much short-term debts
000573	Dongguan Winnerway Industrial Zone Ltd.	-39.99%	Great Warning	Too much short-term financing for long-term assets

Note: If the matching rate is negative, it refers to "short-term loans long-term investment" rate.

4.2 The Expansion Risk Control Path of Large Real Estate Companies

As is seen from empirical analysis from data of 20 real estate companies in 2013, China's real estate enterprises' expansion risk can't be ignored. Based on expansion risk warning positioning from discriminant model, this paper respectively propose appropriate risk prevention and control paths for operate activities, investment and financing activities in the real estate enterprises' expansion.

(a) Operate activities' risk control path in enterprise expansion

Operate activities' risk primarily comes from cash flow risk. If lack adequate and continuous cash flow, it is difficult for enterprise to achieve normal company operations and asset appreciation. Enterprises can use many methods to reduce the operate risk in expansion, but a variety of methods should be based on risk prevention and control on cash flow.

For Shenzhen Catic Real Estate Co.,ltd., "short-term loans long-term investmentment" crisis is distinctive. In the company's financial report in 2013, the cash was 1393210565.24 Yuan, short-term borrowing was 1094000000.00 Yuan, net long-term assets value was 118357799.49 Yuan, net short-term financing was -299210565.24 Yuan. To avoid falling into a crisis of "short-term loans long-term investment", enterprises should reduce short-term financing and increase cash. Aggressive investment and financing strategy should be avoided and conservative strategy should be chosen in this situation, to avoid long-term assets investment covered by short-term loans. The prevention and control path is as follows: to reduce short-term financing→ to increase cash flow→enhance solvency ratio→to improve solvency→to reduce risks in operate activities.

(b) Investment activities' risk control path in enterprise expansion

The macro-financial environment and different financial operation system both have decisive influences on enterprise's development ways and development pace of investment. Movement of investment capital runs throughout the process of enterprise's investment. That funds can be able to smoothly turnover is an indispensable condition of the financial markets.

TONTEC Technology Investment Group Co.,Ltd. also has a serious problem of "short-term loans long-term investment". In 2013, the company's cash was 730195 123.45 Yuan, short-term borrowing was 460009400.00 Yuan, net long-term assets value was 90670533.25 Yuan; net short-term financing was -270185723.45 Yuan. In response to this situation, enterprise should have investment plans, contract the scale of production to a certain extent, reduce the amount and proportion of receivables, and make it into liquid cash liquidity, as part of the update or reset fixed assets. Enterprises can reduce the expansion by following prevention and control path to reduce Investment activities' risks in expansion: to reduce net long-term assets→ full use of long-term assets→increased depreciation and amortization of long-term assets→to dispose idle long-term assets.

(c) Financing activities' risk control path in enterprise expansion

In the overall analysis, the country's financial prosperity can to some degree have impact on the enterprises' financing risk in expansion. This is mainly due to the frequent huge financial market environment changes, which will have direct impact on enterprises' finance, and even some negative impact on enterprises' normal operation. Therefore, enterprises should fully take into account the element of financial prosperity in the financing process.

In 2013, Zhongrun Resources Investment Corporation's cash was 159106945.26 Yuan, short-term borrowing was 108172235.29 Yuan, net long-term assets value was 12924729.40 Yuan, net short-term financing was -50934709.97 Yuan. The main reason is that: the rise in interest rates→the cost of capital increases→over-dependency on short-term borrowing→rate of "short-term loans long-term investment" increased→The shares fell→ equity shareholders sell stocks→average shares fell. Path companies can take is to reduce short-term borrowings→ seek and obtain new investment→long-term loans by way of security.

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