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Research on microeconomic fundamentals of international financial Risk transmission : based on company data Angle

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Abstract: The Global spread of financial integration and financial turmoil is a prominent feature of international financial markets today . This , through corporate data research aims to uncover microeconomic fundamentals of linkage and contagion . specifically , This article is built _ Sample of macro-microeconomic characteristics of typical listed companies in China , subprime crisis in America machine and subsequent euro debt crisis for typical events , Study and reveal the contagion of international financial market to China's capital market Channel and its heterogeneity impact . results show : companies with export competition in crisis countries , Direct trade with crisis state easy to exchange company , And companies that are more reliant on short-term debt are performing worse during the crisis . Research conclusion Validate product competitiveness , revenue effects and credit crunch are the main channels for contagion. , and illiquid assets Combination adjustment pressure does not appear on our market .

Keywords: Global financial crisis financial contagion mechanism company data jel category number : F G[] [] [* *] G Ten

1. Introduction

century Since the age of , Financial Market Integration , The spread of financial turmoil is a prominent feature of international financial markets . from century The Latin American financial crisis of the era (common "" Tequila crisis ",Tequila " Crisis), Asian financial crisis (Is commonly known as Flu Asian Flu), Russia debt crisis (commonly known as virus ' Russian Virusto) 2007-2008 Global triggered by the US subprime crisis Financial shock (GFC , Globe Finance Crisis) and its subsequent European sovereign debt crisis and Dubai financial crisis , No Reflection new features of the financial crisis : Abrupt , , catastrophic , (, Generalized) contagious . especially in post-crisis times ,Local finance flush strike often renders cross-market , Cross-zone risk spillover , which can easily lead to global financial system risk (Systemic Risk) 0

New features of international financial markets present new challenges to the stable operation of financial systems in various countries , The same trend will also apply toThe microeconomic decisions of financial markets have a profound impact . first , the risk decentralization brought by the international portfolio will be lowered ; its time ,The high correlation and contagion effects of financial markets will exacerbate the global spread of financial risk , Financial regulation faces new challenges with uncertainties. Thus systematically studying the linkage of international financial market and the mechanism of risk contagion have urgent needs and important application price value , It not only helps to uncover the financial impact of the transnational (Border) propagation mechanism in particular the transmission mechanism of international financial risks, To benefit on financial regulation and financial stability policy formulation

and implementation , At the same time, it can promote the wind of the international investment portfolio by micro-financial entities insurance - revenue features , Financing structure and leverage , Rational knowledge and reassessment of peer relations .

In view of this , International academia attaches great importance to financial market linkage and contagion issues . But there are two aspects of the existing research limitations on the measurement and judgment of financial market linkage and contagion more , for infection How to occur the infection mechanism Less research ; Two most existing studies use the Add total data , focus on macro-economic and financial correlation mechanisms , Research more objects Limited to International , National or market macro-level , for global financial markets linkage and risk contagion micro-economic fundamentals or micro-The view mechanism is still poorly understood . We believe that the spread and contagion of financial risk or financial crisis eventually passed through the micro-body of the market. The implementation of individual decision behavior, Exploring the micro-basis of macro-linkage and contagion will be scientific response to global systemic risk-pick The only way to fight .

based on the above analysis , This article starts with the microscopic perspective of linkage and contagion , Use company data (firm^level) for analysis research , Try to reveal how the turbulence of the international financial market spreads to our country by influencing the microcosmic behavior of the company and market subject. , This will be City Farm participation parties rationally respond to potential international financial risk challenges and Prudential Financial regulation to provide useful empirical evidence for the .

2. Literature Review

Academia from century ERA in particular 1997 after the Asian financial crisis began to focus on cross-market linkage and contagion ask title . so far , definition of financial contagion still in dispute , measures and judgments on financial linkage and contagion are still the focus of research (kasch and caporin, 2013 ; another – Aspect ,The study of the cross-market linkage and contagion mechanism also made the – Progress . basis World Bank (World Bank) and related research results , Broad definition of financial contagion : Financial Shocks (Impact) Transnational propagate phenomenon , also known as the risk spillover effect of academia generally . Although infection is not _ set and crisis contact in _ up (Market complex can exist during and during periods of turbulence but because of the devastating effects of the crisis , People are more concerned about or specifically about the financial crisis Dyeing effect . This view is closer to the regulatory authorities and the public's perception of financial contagion . Forbes (a) more specifically the market for the General all Existing high dependencies are defined as interdependent (interdependence), and financial contagion (Contagion) defined as extreme negative face events (impact) Spillover effects to markets in other countries . Allen et Al . (2009,2012) also holds a similar view , considers financial contagion to be a single Default or bankruptcy of a financial institution causing the failure of other institutions or even the financial system shocks , similar to domino effect (Domino Effect). in addition to , Infection There are other forms of narrow definition , Although because of the difference between defining and measuring methods , to Whether there is a financial contagion this is a _ Big difference in the _ ,, But global market linkage promotion and risk spillover effects are indisputable The fact of (Forbes) .

In addition to verifying and determining whether a financial contagion occurred , We are more concerned about how financial contagion occurs , is the mechanism and channel of infection What is ? This is particularly important for financial regulation and policy makers . overall , The existing financial contagion mechanism research can be zoned is divided into two types of mechanisms :_ The class is a factor and channel called Fundamentals , such as a country and crisis countries face a common impact , There are trade relations or financial investment relationships ; another _ The class is not related to fundamental factors such as macroeconomics , such as the liquidity constraintissued asset adjustments , changes in investor expectations and Self-Realization , global risk aversion rose etc , This type of channel is typically associated with the irrational behavior of the "investor group ". discusses in four specific representative infectious mechanisms .

(1) Trade Channel . This is the most widely cited channel for infection by academics . reduction in bilateral trade due to declining demand in crisis countries Worsen economic fundamentals of trading partners ; The competitive devaluation effect would create a huge devaluation pressure on trade-competing countries . has a lot of research results (as claessens and Forbes, 2001; Forbes, ; Claessens *et al* .,) confirms the channel The plays a major role in the risk contagion . But this mechanism does not explain the global rapid spread of financial crises , even geographically Far away , Trade unrelated countries are also suffering from the reality of the characteristics .

(2) Financial channel . The crisis is transmitted globally through banks and other financial intermediaries . _ State Bank crisis will guide The banks involved in the whirlpool shrink the scale of credit to other countries , reduce liquidity and increase the cost of credit . If the bank also affects The sovereign debt solvency of the host country , has a high financial leverage and close internal dealings with other financial institutions relationship , The situation is worse , Localized crises are more likely to spread and infect . as Ireland's banking crisis triggers sovereign debt crisis , then The EU's proliferation has raised concerns about the deterioration of the European debt crisis . The vicious circle caused by deleveraging (diabolic loopalso) is the reason for the protracted European debt crisis _(Shin) . because the crisis of financial institutions such as banks will not only endanger itself , also through Interbank market , payment system , To cause a larger range of ongoing shocks from its own business network ; also , Financial institution asset structure Convergence [ ] initially motivated by risk decentralization ,, such as a large number of interchange transactions) and debt (Financing structure)Short term the combined effects of factors such as can exacerbate contagion and trigger systemic risk in the financial system. (Allen *et al* . . and Allen and Gale (2000,Allen*et al*. (2009),phylaktis and Xia (2009),Forbes then wamock is also parsed and verified The importance of financial channels .

(3) low liquidity and portfolio adjustment . Institutional investors represented by funds are major investments in international financial markets people , For spread risk ,considerations for mining potential investment opportunities , Institutional investors mostly use portfolio investment . However this _ Decision on no there is a huge external negative effect in the determined investment world . Kaminsky *et al*. (Watts) reveals this consequence , he finds International Mutual fund management artificially easing local liquidity pressures (If faced with a large redemption) tend to sell in other markets assets with better liquidity , Thus the financial crisis will not only impact countries with weak economic fundamentals , can also infect financial market flows better countries and regions . boysonetal. (2010),manconietal. (() The also confirms institutional investors ' financial contagion The has An important responsibility . through institutional investors , the turmoil in a country's financial markets triggers a sell-off in other countries ' markets , Its trading motives to meet liquidity requirements (if margin required , Cash needs or portfolio rebalancing). at the same time because institutional investors have an investment vane in the market , The rational decision-making behavior of the individual can easily lead to the market and herd behavior , will eventually cause a gold Contagion spreading in other countries .

⑷ Wakeup effect (wake~up Call)(, also called fundamental value revaluation , Fundamental Reassessment). Local finance A crisis or burst of information could trigger investors in other regions or countries of the world to reassess their investment risk. , play the equivalent of Ring Market " alarm " " The effect of the is . Especially when there are problems with the country's economic and financial fundamentals or investors are increasingly worried Similar problems may occur in the country, assets " Wake effect will highlight the . Market " Wakeup effect " will not only trigger foreign investors for National Macroeconomics , concerns and reassessment of financial and political fundamentals , will also induce investor uncertainty about the market want , That would weigh heavily on the country's financial markets . , can even lead to a systemic fall in asset prices and market integrity swing . Giordano *et al*. (2013) The analysis of the shows the market for the continued development of the European debt crisis in the process of fermentation and spread Wakeup effect should "" plays An important role .

Domestic Scholars on financial markets body and financial risk contagion are also of great concern , More literature focuses on linkage and contagion measures and judgments for relationships , Wei Yanhua and Zi Shutian (2008) , leaves 51 and Muberch (2009) , Wang Yongxia and Liu Shiwen , Li Hongquan , He Guanghui , and so on ; The has also commented more on contagion mechanisms , such as Dukedom , Pan Min , Wu Binghui and He Jianmin

(2014) , and so on ; There are also a few documents to analyze the mechanism of infection by means of metrology (is primarily a macro mechanism), like Joe Jing Zhuo (+), Ling and Yang Xiaoquan , yeqing and Hanli , and so on. These studies not only found the financial crisis . The evidence of trade and financial channels during the "" Webcast , and prove herding effect , Non-direct transmission mechanisms such as attention allocation also play the utility (Du Xiaozhong , 2014 Ling and Yang Xiaoquan) . But these analyses, which use macro data, sometimes get the completely inconsistent conclusion ,, etc. (a) The empirical research shows that the financial channel is the main channel of the subprime crisis. , International Trade The importance of easy channels is weaker than financial channels , and Wu Weifeng (2013) considers the contagion effect of trade links in the subprime crisis to be greater than that of gold on Market Links .

generally , Research on the mechanism of infection academia still attaches great importance to the , Although the study time is not long . Majority Research more about trading , macro mechanisms and channels such as financial investment links , In recent years (especially against the subprime mortgage crisis and the euro-debt crisis , mechanisms and channels such as liquidity constraints , However, for the global financial market linkage and the the research work on microeconomic or microscopic mechanisms of risk contagion is still very limited , urgent need to deepen and develop . also worth the heavy The point emphasis is : Most of the above research is done with the national , The aggregate data at the market level , and macro plus total data has include composite fallacy "" Many limitations . specifically , has the following three issues.

(1) synthetic fallacy . macro Plus total data is the final result of multiple factors that overlap ,, take market plus total

The empirical study of often gives a plausible , Even contradictory conclusions . as to 2007-2008 The contagion channel of the year subprime crisis [] research ,claessens *et al*.(2010),cetorelli and Goldberg(2009) think – The more you contact the international financial Markets tight , more vulnerable to crisis ; and Rose then Spiegel (2010,2011) the concludes with a large number of empirical studies and The does not support this explanation .

(2) It is difficult to distinguish between the channels and mechanisms that play a major role in financial contagion using aggregate data . For example , Add total data level , trade openness and financial openness are often highly relevant , It is difficult to differentiate between the effects of the two from an empirical perspective Away .

(3) does not reflect the heterogeneity of financial contagion effects . different countries , different industries and different idiosyncratic companies on financial crisismachines have different defenses. , that financial contagion effect has in country characteristics , heterogeneity between departmental characteristics and corporate characteristics , does not The same infection channel has a significant impact on the company associated with it , For other types of companies, the effect is weak .

Is based on this , leverages company based data (firmlevel) Research to determine exactly what communication mechanism is the dominant channel , and derive microeconomic features of contagion and impact of financial crises , facilitates different countries , Industries and companies to take targeted crises solution or precautionary measures . unfortunately ,, research using company data is very small. , Classic Research claessens *et al* . (() and Forbes has demonstrated the advantages and richness of financial contagion based on corporate data . so , article on this basis , using the data from listed companies of the Shanghai and Shenzhen Stock Exchange to study the sensitivities of enterprises with different characteristics in China to the international financial crisis sex , Revealing the main transmission mechanism of international financial shocks in China and the microeconomic conditions and characteristics of financial contagion , for prevention and relief The impact of the financial crisis on our country lay a theoretical and empirical basis .

3. Empirical Research

3.1 Sample selection and data source

to study the spread of the crisis from a microscopic perspective to build a corporate data sample , This article from

the resset balance sheet in database , Benefits Run -table, The cash flow statement and general company Information set off , using random sampling from the listing date in the 2006 before 1434 Home City Company extract25% Samples . cannot define a company's microeconomic properties with post-crisis economic and financial data , cause This article uses the resset Sample companies in information the data for the 2006 year before the financial crisis determines company properties , Verify on the basis of whether the prior classification of economic characteristics helps explain their ex post market performance . at the same time , because this article is with the previous City Company stock returns to assess the extent to which the enterprise is affected by the crisis , So remove the stock trading is not active or long-term suspension of the company , and Forbes processing method is similar to , We define stock trading activity as a given period , has more than 50% The transaction date has non 0 yield , The resulting dataset has 346 Home sample company , under Sec categories of listed Companies industry category , every All Businesses included in our sample set , If you divide the industry by three times , then , _, the second and tertiary industries have Ten Home , 232 Home and Home Company . in terms of size , + home sample companies in large companies (The Total market value is greater thanbillion) for has home , medium size has Home (The market value is greater than billion), A smaller size has a 171 Home (The market value is less than billion), specific situation condition : table 1 Show .

financial indicators and stock yield data for listed companies contain rich corporate information and market information , but use the Data sample The analysis of also has a prerequisite or constraint of _ . because we look at company prices from changes in the stock market returns of listed companies values before and after the financial crisis , This means assuming that our stock market is valid , The company's market performance can effectively to reflect company performance changes , Fundamentals and future prospects .

3.2 Basic research Methods

This article uses the Mackinlay (1997) Standard Event Research method for . in order to estimate the company's normal market conditions (non-event period) revenue features , This article uses the market model . More specifically , This article selects before the crisis , the 2006 Year pre-crisis period (length P), use OLS Estimate the following model :

$R_{lt} = a, + + s_{lt}$

^{E}uit) = $^{0;}$ Seoul (,) =4

I = 1,2, ..., = 1,2, ... ,P (1)

where R_{it} is a stock I in time T rate of return ; R_{mt} is T Time Market yield ; $_{Sit}$ is a random distractors .

This article initially sets the starting date for the subprime crisis event to be 2008 Year 3 Month , is mainly because in that month the US fifth largest investment bankLine Bear Stearns was bought by JPMorgan on the verge of bankruptcy, And US officials are predicting a recession for the first time ., This marks financial crisis . Machine further worsens , and start affecting the entity economy , will have a global impact on the world economy . This article set Year 11 Month to the event period for the European debt crisis , for two reasons : first 2011 year European debt crisis rapidly escalation , become influence global economy and gold The Number One risk event in the market , and not just in a euro-zone country , Moody's released report said , Europe's debt crisis is on its way . threaten all European sovereign countries ' credit situation ; on the other hand according to Baidu index , We find that domestic media are concerned about the European debt crisis on year One month peaked .

Next , This article uses the style (1) Pre-crisis parameter estimate for () , calculates the excess yield after each stock crisis . article define the time window for the subprime crisis is 26 week (time to 2008 year 9 month | Day (time window for Euro-debt crisis) 4 Week (when between dots to Year Month Day) . as an event window , These crisis periods are long enough . This article takes a longer time window , the main reason for is that the subprime crisis and the European debt crisis are A continuous fermentation process , The propagation and impact of information also requires procedure , especially for our market , Concerns about these events , Information Interpretation and impact results are procedure , instead of The is reflected centrally in a day or a few days . The last robustness analysis redefined

the time window and crisis period and made a supplement full Analysis .

Is based on the above settings , Company I in time T , length is C crisis period (is the event window) Excess yield (D is :

4 = ^{R}i - (a, + a ^{R}mT) T = n ... 匚 (2)

is defined in any period L the cumulative excess yield in is :

Car , = I L= ! ^(3)

3.3 Infection channel research based on grouped data

after calculating the cumulative excess yield for each stock , The first identifies what you have by comparing the proceeds of different types of stocks features companies are more susceptible to financial crisis . Theoretical Analysis of international contagion of financial crisis provides guidelines for determining the corporate-level variables that are propagated on the micro-level . This article focuses on four different crisis conduction channels : product competitiveness , revenue Effect should be , credit crunch ,low liquidity and portfolio adjustment pressure .

3.3.1 Product Competitiveness

A country's economic crisis or financial crisis can transmit and affect other countries ' businesses.The main way to is through the international trade channel Road ,Specific impact mechanisms include product competitiveness and revenue effects . If a crisis occurs in a country with an economic downturn , currency depreciation , then the the the country's exports will be relatively inexpensive in the international market . , Product competitiveness of other countries exporting similar goods in international markets decreases relative to . hereby , We present the first hypothesis to be validated H 1 : during the financial crisis , and the main export of the country where the crisis occurred diagram 1 and Diagram 2 reflects the changes in cumulative excess returns for each portfolio during the subprime and European debt crises . horizontal axis for events time , the dashed line of the point indicates the start date of the crisis . diagram 1 show , in the subprime crisis , with major U.S. exporters products have a competitive relationship. The average cumulative excess yield of a non-export competitive combination is lower than that of a generic group 13% Above (entire 130 Transaction Period). This difference is particularly pronounced when the US government takes over the 7, Month . two portfolios end to 2008 year 9 month | Day cumulative excess return sequence for two independent samples t check (was originally assumed to be CAK Export Competition = CAK not out of - Competition) , results in T = -2. (p =0.026) , is the 5% reject the original assumption at a significant level of , is Export The cumulative excess yield of a competitive combination of is significantly lower than the non-export competitive combination . diagram 2 shows the situation during the European debt crisis , The cumulative excess return of a company's stock portfolio competing with the EU's main export commodities relative to the non-export competitive portfolio low about 4% (on the entire transaction period). same , Two cumulative excess return sequence in euro debt crisis T Validation , Results t = - 3. (p = 0.000) , on 99% The confidence level of the rejection original assumption , that is the cumulative excess yield of the export competitive combination is significant is below the non-export competitive combination . These results indicate that , Product competitiveness factor is subprime crisis and European debt crisis Chinese companies the main mechanism of performance and market performance .

3.3.2 revenue Effect

When a crisis country has a financial crisis or a negative impact , general slowdown in economic growth , total demand drops , Enterprise for its trading partners faces adverse effects of reduced external demand . If there is a currency devaluation in the crisis country , the revenue effect will be magnified , in _ steps to worsen the balance of payments and economic fundamentals of its trading partners . affected , Foreign trade exposure higher companies Its performance will be under greater pressure , Capital market performance is also worse . , This article presents a second hypothesis H 2: with crisis country or The crisis area has direct trade transactions (also known as higher trade exposure) companies in have a worse market performance during the financial crisis , will be Calendar Lower Market cumulative excess yield .

To verify that this effect is real at the Chinese enterprise level , is similar to the construction method of export

competition , This article uses two digit Customs Code ,focus on the top ten major commodities imported from China in crisis areas . table 3 lists each crisis area from the HS Code and the corresponding major category of the SFC industry . According to this classification principle , dividing a sample into two portfolio : with crisis zone presence / There is no direct trade exposure to a company's stock portfolio .

for each portfolio CARs The is drawn separately in the diagram 3 and Diagram 4. as shown 3, Company groups with direct trade exposure to the United States The average cumulative excess yield of the is lower than the indirect trade-exposed combination of approximately 8%. in order to determine this _ difference in statistical sense is significant , This article gives two separate samples of the cumulative excess return sequence t check , results are t = 1. (P = 0.178) , is the 10% The original assumption cannot be rejected at the significant level of (H 0: Has no difference), This shows no statistics between the two Significant differences in the meaning of , Although the value of the U.S. trade-dependent companies have a lower rate of return . diagram 4 show , with The EU has direct trade exposure companies have low about 6% Cumulative excess gain . t Check results to t=-3.31 (P =0.002), show

Note : (1) The horizontal axis in the diagram is the event time , Dashed 0 indicates the start date of the crisis event , Subprime mortgage crisis 2008 Year 3 Month Day , euro debt crisis Year One Month Day , The vertical axis represents the cumulative excess yield .

(2) the cumulative excess yield per portfolio is the mean value of the cumulative excess return for all stocks in the portfolio .

in under the confidence level of , Trade-exposed enterprises with the European Union have significantly lower cumulative excess returns in the European debt crisis . thisresults show , revenue effect is an important way for the European debt crisis to spread to Chinese enterprises , and in the subprime crisis this a effect is not very significant . The difference between the income effects of the subprime crisis and the European debt crisis may be due to the fact that the EU's real economy has been affected by the European debt crisis More serious impact , economic downturn generally more severe , external demand shrinks significantly , affects the revenue effect of our enterpriseMore significant .

3.3.3 Insufficient liquidity and portfolio adjustment pressure

Another of the financial crisis _ The important propagation mechanism is through the liquidity channel . Financial shocks in crisis countries reduce institutional investors (with Fund as Representative) mobility , and force them to sell assets for margin or raise cash to respond to investor redemption pressure or meeting regulatory capital requirements . The lack of liquidity in crisis countries makes it harder to sell financial assets in the country. , investors will choose sell other parts of its portfolio , For example, a liquidity-better asset in a non crisis country is . , This , We present the Assumption H 3 : non-critical Machine-happening countries liquidity-efficient assets face selling pressure during the financial crisis , to have lower market yields . of course , The assumption is that financial markets in non-crisis countries are open , International investors can diversify their assets , Domestic investors can also To configure international assets .

to test the existence of this transmission channel in our financial markets , This article divides the samples into using the average daily turnover rate of the circulating stock . two portfolios , The average daily turnover rate below the median is listed as a illiquid portfolio of assets , Average daily turnover ratio High stocks are listed as a more liquid asset portfolio .

diagram 5 and Diagram 6 Shows the of a highly liquid and illiquid portfolio in each crisis CARs . the difference between two portfolio is very small in The euro debt crisis , test results are t = -0. (P =0.435) . However, in the subprime crisis ,, High Mobility stock Portfolio not only has not been the same as the hypothesis H3 Expected to have a lower cumulative excess yield , instead of a low liquidity stock portfolio High about 10% (entire 130 Transaction period), and t Validation results are significant (t = -1. ,=0.052 . This statement In our financial market, there is no phenomenon of international investors selling high liquidity assets because of the adjustment of their portfolios. ,This can has a direct relationship with our country's low financial openness during the crisis :_ Foreign

Institutional Investors Limited (QFII Amount degree Limited), otherThere are also very limited channels for domestic investors to invest directly in foreign capital markets, _ ..

3.3.4 Credit Crunch

The credit Crunch is another contagion of the international financial crisis _ Typical financial channel . The financial distress of financial institutions in a crisis country or the bad. the Accounting pressure will prompt these institutions to shrink the credit scale in other countries or regions , to reduce credit supply in non-crisis countries , The availability of credit resources is getting worse , Rising credit costs . If this appears one status , Corporate Finance in non-crisis countries will generally face pressure ,Especially for heavily indebted companies , The situation is worse . from this, This article assumes that H 4: for short-term debt dependency more High-listed companies will have worse market performance during the financial crisis .

to study the existence of this contagion mechanism in the subprime and European debt crises , This article is based on the high speed ratio / low samples into shortperiod debt dependency low / High two portfolios .

diagram 7 and Diagram 8 depicts two portfolios in the subprime and European debt crisis CARs Results of . diagram 7 description : in subprime crisis machine ,companies with high short-term debt dependence have lower market cumulative excess returns _ , better than less about [] 14%,t validation knot Fruit is t = -2. A (P = 0 006), is the 99% reject the original assumption under the confidence level of the (H 0: Has no difference), means assume H 4 set . results in European debt crisis similar to ,Cumulative excess yield variance to 3%, T validation results are T = -1. (P =0. 061 . This means that the credit crunch has played a role in the two crisis . also occurs during the financial crisis , Market overall liquidity austerity , Financial institutions such as banks shrink their credit scale ; at the same time , Enterprise's flow rate is lower , the weaker short-term solvency , on short term debt becomes more dependent , If debt cannot be renewed or rolled , Investors expect such companies to be in short supply and operating difficulties Difficult conditions , Thus the market performance of such listed companies is even worse .

4. Research on the mechanism of infection based on multiple factor regression analysis

Comparative research based on grouped data simple and intuitive , However, the company's market performance is affected by multiple factors , takes into account the multiple-factor The interaction of the child and the effects of important control variables , The previous research conclusions may be biased . so , This section and subsequent stability A multivariate regression approach is used in the health test to study in detail the significance and relative influence of the aforementioned four infectious mechanisms ..

Car , is the financial crisis event cycle L Company I Cumulative Excess return for , Exp represents export competitiveness interpretation variable , Trade is trade exposure ,IQ is stock liquidity , Debt represents dependency on short-term debt , X is the control variable vector , superscript The regression model for is represented as :

$$Car_{i\ L} = n + \wedge 1\ Exp_t + 0_2\ Trade_i + 0_{\ 1}\ liq_t + 0_{\ 1}\ debt_i + + _{;} \quad (4)$$

where 0 is the factor for each explanatory variable , is the factor of the control variable , is a random distractors .

to further enhance the explanatory force and significance level of the regression equation , We set four interpretation variables to be virtual variables (this The text also uses continuous variables , The basic conclusions are the same. , but regression coefficients and significant levels are reduced by) . Export competition is a virtual variable , when the main products of a company are in the same category as the major export products of a crisis country , 1, otherwise 0; The degree of trade exposure is that the main commodities of the company are the same as those in crisis countries when they are imported from China. 1; Stock

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