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Health Care Sector, Pharmaceuticals, Biotech & Life Sciences Industry
Shanghai Stock Exchange (SHSE)

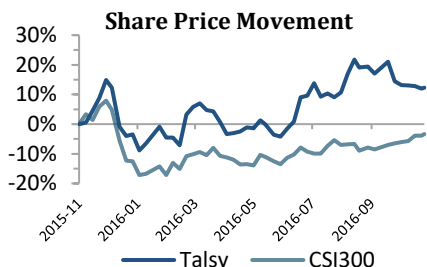
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Tasly CO., Ltd.

Date: 21/11/2016
Ticker: 600535.SH

Current Price: RMB40.42
USD1.00: RMB6.917

Recommendation: HOLD (0.92% Downside)
Target Price: RMB 40.05 (USD5.79)

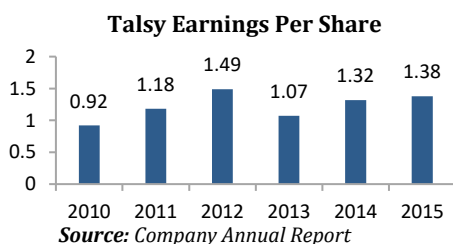


Market Profile	
Closing Price(RMB)	40.42
52-Week High/Low (RMB)	45.28/30.92
Average Daily Volume	4,755,388.21
Market Cap (RMB Million)	43,576.00
Shares Outstanding (Million)	1,080
Dividend Yield	0.80%
P/E	28.7
P/B	5.49
EV/EBITDA	20.9

Source: Wind

Valuation	Relative Multiples		DCF Model
Method	PE	PS	FCFF
Price	35.82	44.68	39.77
Weight	50%		50%
Weighted Price	40.05		

Source: Team Estimates



Rating Guide (over the next 12 months)

Buy	Hold*	Sell
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15% or greater

Flat returns

Negative returns

*A hold rating recommends that investors take a position slightly above the security's weight in the CSI300 Index.

Highlights

We initiate coverage on TASLY CO., Ltd. (Tasly) with a **Hold** recommendation based on a one-year target price of **¥40.05**, offering 0.92% downside from its closing price of ¥40.42 on November 21, 2016. Our recommendation is primarily driven by:

- Industry Opportunity** – Under the circumstance of rapid growth in China's aging society, a larger aging population contributes to a larger consumer base of drug market in general. Tasly, as a traditional Chinese medicine (tcm) manufacturer, whose star product particularly targets at cardiovascular diseases, has profited from the process, since elder people have a higher morbidity, which in turn increases the number of patients, and tcm usage is more prevalent in treatment of such diseases in China. Apart from that, drugs for these diseases' treatment are proved to have great potential of increasing price globally.
- Growth Drivers** – As a pharmaceutical manufacturer, Tasly has been maximizing its profits by new market penetration, cost control and synergy effect. Being an advanced biotech enterprise in the meantime, Tasly has always played an active role in patent protection of patent drugs and R & D process in new drugs, giving rise to a potential profit surge in the future. Besides, being able to conduct its own raw material production base, retail its own drugs and control industrial chain makes it more likely for Tasly to outperform peers and less likely to suffer when the whole industry suffers.
- Valuation** - Valuation methods indicate a current intrinsic value of ¥40.05 per share. Tasly offers a relatively flat return overtime and is expected to slightly outperform CSI300 through major improvements in various aspects stated above. The current price, however, has already reflected potentials in the company and is estimated slightly overvalued. We evaluated Tasly's intrinsic value primarily through discounted free cash flow to firm method and a relative multiples valuation.
- Main Risks to Tasly Include** – Changes in certain regulations and policies enforced by authorities, rise in material prices and energy costs, unaffordable R&D expenses, and failure of star product-PDS's FDA trials.

Recent News

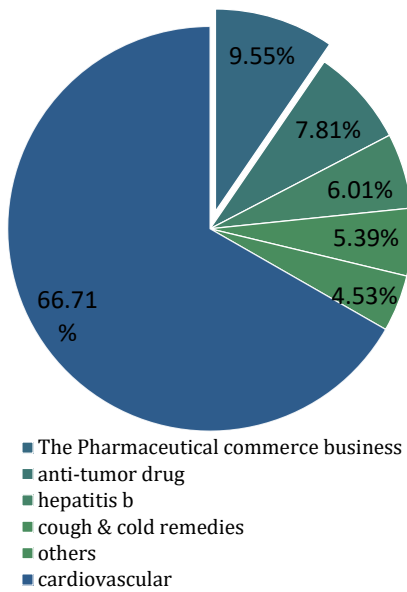
- Tasly was awarded "Demonstration Company of Intelligent Manufacturing in 2016" – 11/30/2016.
- Tasly received seeds bred in aerospace from CASC – 11/29/2016.
- Tasly has finished the clinical work of FDA clinical trial of Compound Danshen Dripping Pill – 03/16/2015.

Key Ratios	2013A	2014A	2015A	2016E	2017E	2018E	2019E
Revenue	11097.87	12566.90	13221.67	13393.71	14409.07	15539.31	16694.80
Growth Rate	19.33%	13.24%	5.21%	1.30%	7.58%	7.84%	7.44%
Net Profit Growth	43.04%	24.36%	8.06%	-14.87%	12.02%	18.70%	18.24%
AR Turnover	3.54	2.58	2.05	2.12	2.32	2.40	2.50
Debt/Asset	58.10%	58.92%	47.73%	43.91%	39.52%	35.83%	30.71%
ROE	10.51%	11.54%	11.52%	9.68%	10.08%	11.10%	12.22%
Diluted DPS	0.096	0.335	0.390	0.332	0.372	0.441	0.522
Diluted EPS	1.018	1.266	1.368	1.165	1.305	1.549	1.832

In RMB millions

Business Description

Figure 1. Gross Profit Breakdown



Source: Company Annual Report

Tasly Pharmaceutical Group Co., Ltd. (Tasly), founded in 1994, is a world-renowned innovator in pharmaceuticals, biologics and nutraceuticals. Its scope of business includes synthetic drugs, biological medicine, healthcare products, hospital services, as well as research and development.

Main business

The pharmaceutical commerce business and the pharmaceutical manufacturing constitute the whole enterprise. Although the revenue generated by the pharmaceutical commerce makes up about 52% of the total sales, it is not the main profit generator of the company. As we can see (Figure 1), the segment contributes to 9.55% of the total gross profit. Meanwhile, for the remaining 90.45% of the business, the cardiovascular segment ranks the first, which not only contains systematic product lines, but also owns a star product: Compound Danshen Dripping Pills, the top one oral Chinese medicine in cardiovascular drug market. Therefore, we can safely arrive at the conclusion that the main business of the company lies on the cardiovascular drugs segment.

Company Strategies

- **Overseas market expansion** - Tasly's strategy of internationalization is currently in full swing: key regional markets have taken shape in Southeast Asia, Europe, North America and Africa. Their major products are registered by regulatory bodies in 34 countries worldwide. Tasly's breakthrough Compound Danshen Dripping Pill (CDSP) for the treatment of stable angina pectoris, which has completed **FDA Phase II** clinical trials in the United States and is presently in **FDA III** clinical trials in 137 sites throughout North America and Europe, is the NO.1 prescribed Traditional Chinese Medicine product in the world. It is expected to be the first and only multi-herb based, chemical-free pharmaceutical product approved by the **FDA**.

- **Patent protection & research and development** - Tasly has already built a well-established patent protection system. Its greatest emphasis is to develop modernized medicines based on the principles and practices of Modern Traditional Chinese Medicine (mTCM), the multi-faceted medical practice that includes preventing, treating and curing disease with natural, chemical-free herbs, roots, and plants.

Corporate Governance & Social Responsibility

Corporate Governance

Tasly delivers decent practices in corporate governance with a thorough system of organizational structure. We evaluated Tasly's quality of governance in four main facets:

- **Management System** - Established thorough system of asset management, financial management, cost management and capital budgeting.
- **Board and Executives** - Established complete system of management, with Board of Directors, Board of Supervisors and Executive Committee; all fulfilled their duties, dealt with 67 proposals and elected new board in the year 2015.
- **Audit and Oversight** - Established internal audit department, conducting annual and periodical audit as well as daily audit; contracted external auditor (Pan-China Certified Public Accountants) to guarantee the objectivity and authenticity of the statements.
- **Independence** - Achieved independence in all five aspects including business, asset, personnel, institution and finance.

Social Responsibility

The company actively finds opportunities to create social value and protect social interests. (1)The company applies its advanced informational system GERP and EU endorsed management principles GMP to ensure drug safety throughout the whole industrial chain. (2)The company is one of the first batch of enterprises which were approved via the Cleaner Production process in Tianjin since it continuously protects the environment and improves its energy system. (3) The company has been developing its internationally innovative R&D, including establishing joint venture with Genexine from Korea and Transgene SA from France and providing international CRO services. (4)The company has been expanding its medical e-commerce platform, serving more than 16,500 diabetes patients, and actively carrying out community services via its public welfare activities.

Figure 2. Growth Rate of GDP and Pharmaceutical Industry

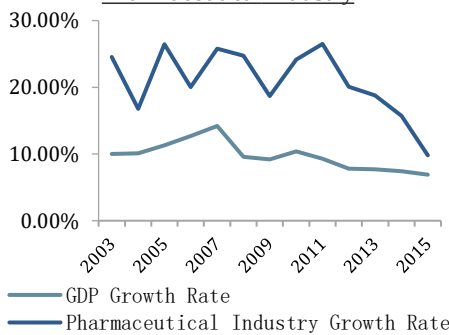


Figure 3. Population Pyramid of 2015

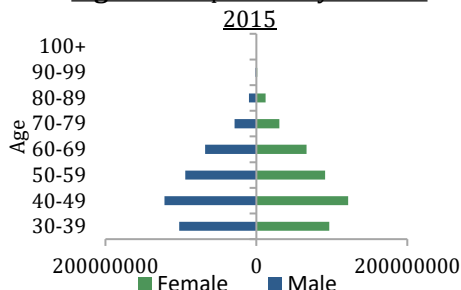


Figure 4. Population Pyramid of 2020

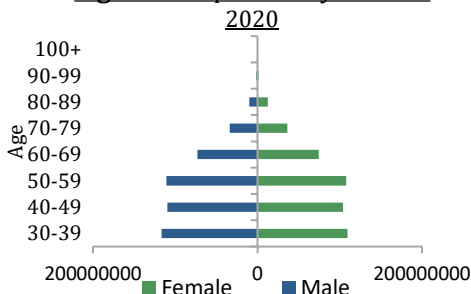


Figure 5. Population Pyramid of 2025

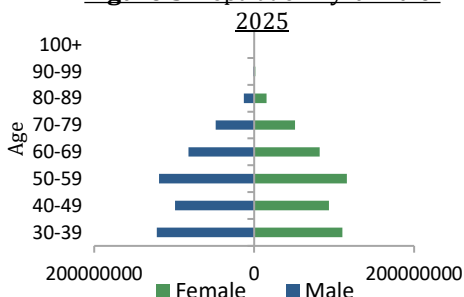
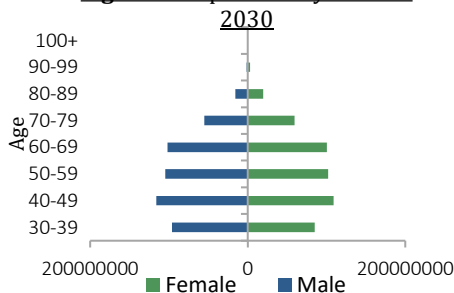


Figure 6. Population Pyramid of 2030



Source: United Nation

Industry overview and competitive analysis

Macroeconomic

GDP growth tends to become slower, decreasing by 0.8% in last two years and is expected to decrease continuously in the near future. Cyclical industries are influenced since they are more vulnerable to overall economic performance. The demand for medicines won't change despite change in overall economic performance, since the number of patients doesn't vary in accordance with the national economy, making the pharmaceutical industry a non-cyclical industry. It is found that the growth rate of the pharmaceutical industry is relatively high compared with the average of the GDP. (Figure 2)

Industry Overview

• Growing Market Size

Local experts from the Ministry of Healthcare expect that the period between 2001 and 2020 is a rapidly aging stage; China will increase an average of 5.96 million elderly populations each year, an average annual growth rate of 3.28% (Figure 3, 4, 5, 6). Statistics show that the prevalence of chronic diseases in people aged over 60 years is 3.2 times than that of the entire population, which gives rise to the demand of corresponding drugs. Besides, traditional Chinese medicines are used more often than synthetic medicine in the treatment of chronic diseases domestically, due to fewer side effects and lower drug resistance. Above all, the demand of traditional Chinese medicine is expected to increase in accordance with increasing morbidity of chronic diseases.

• Recent changes on industry profitability

Rising cost decreases industry profit margin

The decrease in number of medicinal farmers, resulted from the outflow of labour in rural area, caused the decrease of the planting area. Meanwhile, the reserves of wild materials dropped sharply due to the unlimited excavation. Therefore, the price of traditional Chinese medicine raw material has grown steadily recent years, leading to the increasing production cost of the Chinese medicine manufacturing enterprise and the decrease of profit margin of the pharmaceutical industry. (Figure 7)

Increasing bargaining power of hospitals lowers drug price

Since 2013 onwards, China's health care funds have reported expenses that exceed their revenues. Therefore, various hospitals have tried to control expenses by cutting purchase of drugs. Therefore, bargaining power of hospitals has become stronger. As a result, price of many drugs, mainly generic drugs, is suffering a drop in recent years, decreasing the profit margin of pharmaceutical industry.

Construction of raw material production base help improve profitability

In order to offset the rising cost pressure, some enterprises such as Tasly and Buchang Pharma begin to construct their own raw material production base. Therefore, Compared to those firms that rely heavily on raw material purchase, enterprises with own raw material production base often enjoy higher and more stable profit margin.

Patent drugs ensure price fixing right and profitability of their manufacturers

Though hospitals enjoy stronger bargaining power in the price of many drugs, few patent drug prices have dropped in recent years. Compared to generic drugs, patent drugs often face much fewer competitors. So patent drugs manufacturers often enjoy stronger price fixing right than generic drugs manufacturers. Therefore, pharmaceutical companies with more patent drugs often enjoy better profitability.

• Industry segments (segment opportunities)

As we have discussed in the business description, the cardiovascular segment is the main profit generator of the company (Figure 8). Thus we demonstrated in-depth analysis of this segment here, followed by the brief analysis results of other three segments, (Appendix 4) and the study of commerce segment is given.

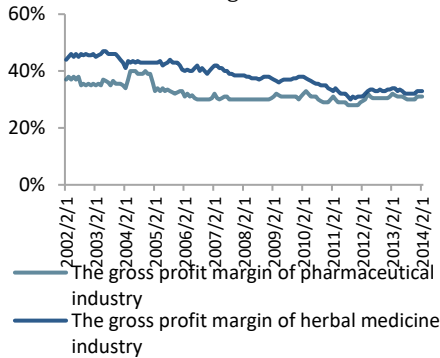
Analysis of the cardiovascular drugs segments

As a segment of pharmaceutical industry, cardiovascular drug industry inherits the conclusion made above. The demand of cardiovascular drugs is mainly influenced by the number of patients and the amount consumed per capita.

Aging society increases number of patients

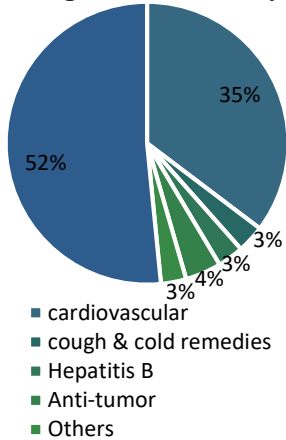
To receive the projected number of future patients, we employ the General Cardiovascular Risk Function, a highly acknowledged equation showing the possibility of getting cardiovascular diseases in different age group. With the help of estimated future population pyramid, we estimate that the number of patients having cardiovascular diseases will continue to grow from 265.8 million (2015) to 328.4 million (2030)(Figure 9), thus creating a large demand for the cardiovascular system drugs.

Figure 7. Industry Gross Profit Margin



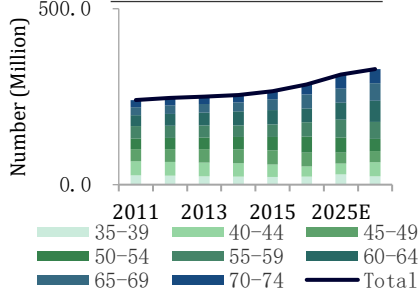
Source: CFDA

Figure 8. Sales of Tasly



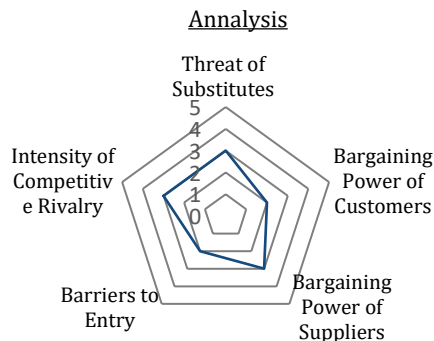
Source: Company Annual Report

Figure 9. Number of Patients of Cardiac Diseases



Source: United Nation, Team Estimation

Figure 10. Porter's Five Forces



Source: Team Analysis

Sustainable high growth rate of amount consumed per capita

As it is shown in Figure 2, in most cases, the annual growth rate of medical care cost is higher than that of GDP (3.46% higher on average), thus resulting in a high growth rate of annual medical care cost per capita cost (specifically 10.13% for that of cardiovascular drugs). Taking the proportion constituted by medical expenses in GDP into consideration, the proportion constituted by medical expenses in GDP of China is significantly lower than that of developed countries and some other developing countries, leaving China a great potential to increase its consumption in medical care. Therefore, it is reasonable to forecast that the high growth rate of amount consumed per capita of cardiovascular drugs is sustainable in the following years.

Change of market size

Taking the increase of number of patients and growth rate of amount consumed per capita into consideration, we estimate that the market size of cardiovascular drugs will grow by 11.3% annually.

Analysis of segments of other three drugs

We directly offer the result of our analysis of other segments in the following table. As for the detailed analysis. (Appendix 4)

Table 1. Analysis of Other Three Segments

Segment	Key Factors of Growth of Market Size	Competition	Change of Market Size
Drugs for cough & cold remedies	Growth Rate of Population	Strong	Increase slowly (0.16%)
Drugs for Hepatitis B	Morbidity of Hepatitis B	Strong	Decrease Steadily (1.5%)
Drugs for Anti-tumor	Brain Cancer	Moderate	Increase slowly (0.16%)
	Prostate Cancer		Increase significantly (2.82%)

Source: Team Analysis

Analysis of the pharmaceutical commerce segment

Profit margin of pharmaceutical commerce industry will remain stable-Since the 2001, Chinese pharmaceutical commerce has entered a low-profit era. Profit margin of it bottomed at 0.55% in 2004 and peaked at 4% in 2010. According to international common practice, Chinese pharmaceutical will remain in such low level stably.

Sales of pharmaceutical commerce industry will grow-As aging society increases the number of patients as well as the demand of drugs, pharmaceutical commerce sales will increase significantly.

Comparative Analysis (Appendix 2)

• Competitive Positioning

Bargaining Power of Customers | MODERATE

Government regulation downside pressure of drug prices V.S. the exclusivity of the Tasly's products.

Threat of New Entrants | LOW

It's hard for a new player to enter the market because of the unique trait of the industry.

Threat of Substitute Products | MODERATE

Tasly is difficult to be replaced because of the protection of its patents.

Bargaining Power of Suppliers | LOW

The pressure of upward price of raw material is mitigated by the construction of the supply base.

Competitive Rivalry within Industry | MODERATE

Although faced with fierce competition since many traditional Chinese medicines have similar functions, Tasly has a superior and proactive strategies, providing a competitive advantage against its rivals.

Investment Summary

We're issuing a hold recommendation on Tasly with a 12-month target price of RMB 40.05 using the Discounted Free Cash Flow to Firm method with a bottom up analyzing structure. This offers a 0.92% downside from its closing price of RMB 40.42 on November 21, 2016.

Although the pharmaceutical industry is treated as a single industry, there are striking differences between its various sub industries. Companies have different primary drugs for sale, and these drugs are targeting different classes of diseases. These different

classes of diseases have different benefits and risks traits. For instance, some drugs are proprietary. Proprietary drugs for example have a special nature and by definition have high barrier of entry due to being proprietary. We should also consider the characteristics of the drug itself, starting from the characteristics of the drugs to study the future sales changes. Thus, high levels of bias occur when the pharmaceutical industry is observed using top down analysis.

Therefore, we chose to use the bottom up research method, in which starting from analyzing the sales of four main types of drug market segments in detail, we eventually calculate a discounted free cash flow to firm, and get the target price of Tasly.

Sales Projection

• Drugs on sale

For some diseases, such as cardiovascular and cerebrovascular diseases & cancer, the morbidity is stable with respect to age group. Based on this feature, we developed a population-age dynamic incidence equation for different diseases, combined with a dynamic analysis of the company's market shares of the various drugs in the segmented industry. Then we obtained the projected sales of these drugs. For other diseases, such as cough & cold, the market size growth is more stable, so we predict the sales based on the competition in the industry, given the possible market share.

To be specific, for the star product CDSP, we conducted a sales prediction until 2031, and assumed a peak net margin of 30%, followed by the margin decreasing over time. These projections are made upon analysis and prediction of number of patients, drug amount consumed per capita, and market share of the drug through observations. For second line product YFLI, we used the same method, coming up with an annual sales growth rate of 19.58%. For other drugs on sale which contributed less to the revenue compared with the two drugs mentioned above, having taken the market size, competition, fungibility, and patents into consideration, we modeled peak sales for each of them.

• Drugs under development

We take a conservative and prudent approach to estimate the future cash flows. We estimate the possibility of success and the time of coming into the market of the drugs under development by its experimental stage, experimental status, and experimental classification. We arrive at the peak sales based on the effect of the current competitors and the development of the illnesses.

We modeled peak sales of drugs under development based upon their chance of entering the market. However, if the probability is less than 70% for now, we didn't take it into consideration, since it is less likely to enter the market in a short term.

Investment Concerns

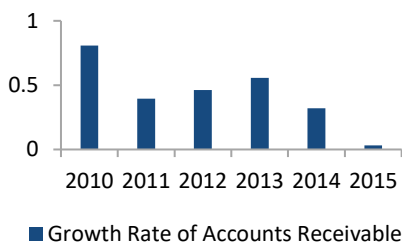
• Possible volatility of the projected sales

CDSP holds the largest portion of revenue for the company. Thus fluctuations in CDSP sales will drastically affect total revenue. CDSP is now entering its second phase of FDA trials. Whether it could pass the test will still be uncertain until 2018. If passed, the overseas markets for CDSP will expand, resulting in increasing sales. However, if not, ROI will drop, since the huge initial investment won't be paid back, and the stock price might drop accordingly. Our sales projections are based solely on the prevalence of cardiovascular and cerebrovascular disease in the country and does not take into account the impact of passing FDA trials, thus making it a conservative estimate. (the impact of valuation of the stock via FDA will be shown in the scenario analysis). We calculated a target price in 2018 of RMB47.68 with 1.55 EPS and 30.3x P/E ratio, offering a 19% upside respect to calculated 2017 target price of RMB40.05. In the best case and worst case scenario, however, the target price turns to RMB60.95 and RMB27.6, offering a 52% upside and a 31% downside respectively.

• Concerns for financial health

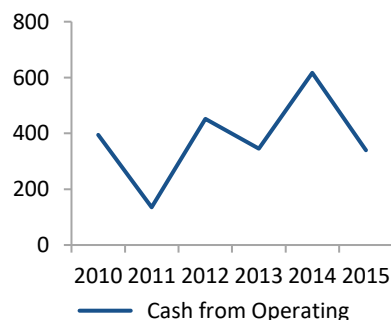
The 2016 third quarter report shows that sales were much lower than that of the same period last year. However, our analysis of cash conversion cycle shows that short-term performance decline is due to strict control of sales, by which the company adjusts sales policies to improve liquidity. Accounts receivable has been successfully controlled (Figure 11) and cash flow in the repayment declined. It seems that the decline in sales is only a temporary impact, which does not affect the company's competitiveness. However, we still are concerned that the trend might not continue. Apart from that, cash flow generated from operating activities fluctuated over time (Figure 12) appearing sharp decline in 2015. These factors all contribute to our concerns towards the company financials, which somewhat indicate the company's operation efficiency and profitability

Figure 11. Growth Rate of Accounts Receivable



Source: Company Annual Report

Figure 12. Cash from Operating Activities



Source: Company Annual Report

Table 2. Sales of Traditional Chinese Cardiovascular Medicine in Hospitals in 2014-2015

Rank	Drug	Producer	Market Share
1	CDSP	Talsy	18.68%
2	Tongxinluo Capsule	Yiling	9.17%
3	Shexiang baoxin pill	Hehuang	8.10%
4	Yixingshu Capsule	Xinbang	3.51%
5	Suxiaojiuxin Pill	Zhongxin	3.29%

Source: CFDA

Table 3. Sales of Traditional Chinese Cardiovascular Medicine in Retail Outlets in 2014-2015

Rank	Drug	Producer	Market Share
1	CDSP	Talsy	7.09%
2	Naoxintong	Buchang	3.97%
3	Suxiaojiuxin Pill	Zhongxin	3.57%
4	Ginkgo Tablet	Haigong	3.47%
5	Shexiangbaoxin Pill	Hehuang	3.43%

Source: CFDA

Table 4. Comparison among Major Competitors

Drug name	Daily cost	Side Effects	Comparison among other facets
CDSP	¥4.34 /day	Few & Mild	Quickly takes effect; better effect
Ranexa	¥56.2 /day	Severe T-wave extension	-
Biocoen	¥54/ day	Few & Mild	adjunctive therapy injection; gradually limited
Naoxintong Calpule	¥6/ day	Few & Mild	Capsule works more slowly than dropping pill;
Norvasc	¥5/ day	hypotension	-

Source: Team Analysis

Valuation Methodology

We derived our target price using a Sum-of-the-Parts approach, employing the following methodologies: Discounted Cash Flow to Firm, relative multiples (PE&PS). Our valuation supports an implied share price of RMB 39.77 at a multiple valuation of RMB35.82 by PE multiple and RMB44.68 by PS multiple, thus arriving at a 12-month target price of RMB40.05 by giving 50%-50% weighting on absolute and relative valuation.

Valuation

The target price for Tasly was computed using the valuation methods Discounted Cash Flow (DCF) and Relative Valuation.

DCF Model

We conducted an in-depth analysis on pharmaceutical manufacturing, which is the main profit contributor of the company. The analysis of it consists of three parts, main products, secondary products, and drugs under development.

The DCF model is based on the company's historical performance, our evaluations of the industry outlook, each medicine's competitive positioning, and management guidance. Assumptions were made on drug sales growth, margin expansion on unlevered free cash flow, and terminal value for each drug. The model also considers different scenario for the drugs under development. We weighted each situation by practicality. We employ a similar approach to evaluate the commerce segment. However, more moderate figures were used to compute the growth and margin expansion

Combining the valuation results of both segments, we get the final weighted target price ¥39.77. The accuracy of the medicine value for the manufacturing sector depends on the accuracy of the following modelling inputs:

Revenue Growth Analysis

Based on the previous analysis of different industry segments, we predict the future sales of drugs for sale by the following equation:

Sales of Drugs=Market Size* Market Share

=Number of Patients * Amount Consumed per Capita* Market Share

• Main product of Tasly - Compound Danshen Dripping Pill (CDSP)

CDSP is a cardiovascular drug. The cardiovascular drugs market is expanding, while the market share of CDSP, the main product of Tasly, ranks first in the market. (Table 2, 3)

High and stable market share is sustainable

CDSP has advantages in avoiding side effects - CDSP, if approved by FDA, is defined as "an innovative drug for the treatment of chronic stable angina." In the past 20 years, the FDA has only certified two new drugs in the field of chronic stable angina: Ranexa and another drug that has been withdrawn from the market. The growth of its sales may be limited because it may cause serious side effects like T-wave extension to patients. Other commonly used drugs also have side effects or other prominent disadvantages (Table 4). Therefore, CDSP, which has few and mild side effects, has absolute superiority in avoiding side effects.

CDSP has lowest daily cost- In terms of daily cost, CDSP is the cheapest one in the whole market. The price of Danshen dripping pills is only a third of similar synthetic drugs. Therefore, CDSP is highly competitive.

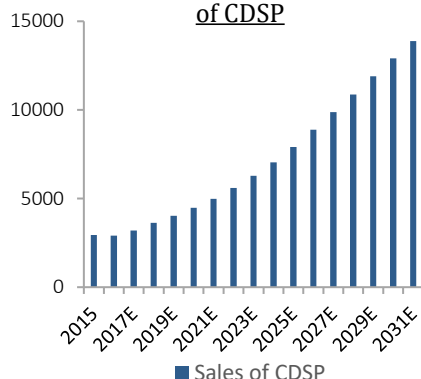
Other prominent advantages of CDSP - Compared to Naoxintong Capulse, CDSP has better effect and can take effect more quickly. As a kind of oral drugs, the sales of it will not be limited owing to the concern of side effect in recent years like Biocoen.

Taking side effects, daily cost and others into consideration, it is reasonable to predict that the high and stable market share of CDSP is sustainable.

Sales Prediction

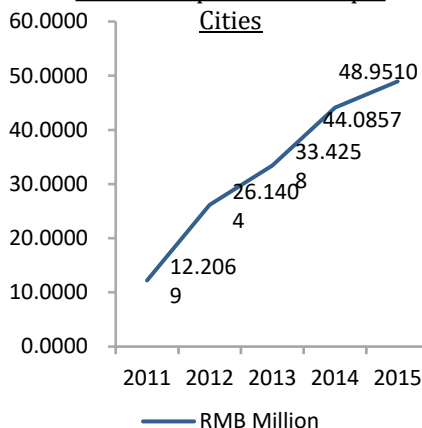
Based on the previous analysis of the cardiovascular drugs market and market share of CDSP, we predict the future sales of CDSP by the equation above. We project the number of sales until 2031 and assume a peak net margin of 30%, followed by the margin decreasing over time. As it is shown in (Figure 13), sales of CDSP will grow in a similar speed as the cardiovascular industry does and will peaked at 13877.02 million yuan in 2031.

Figure 13. Sales Prediction of CDSP



Source: CFDA, Team Analysis

Figure 14. Sales of YFLI in Public Hospital of 9 Sample Cities



Source: CFDA

We remind investors that we have only modeled the sales in China for the products, however ex-China opportunities could also be substantial for CDSP if the FDA approves of them in the future, which will be further discussed in the scenario analysis.

• Product with great development potential - Yiqi Fumai Lyophilized Injection

YFLI is a cardiovascular drug developed by Tasly. It is used for treatment of coronary heart disease, which is acute left-sided heart failure and angina. Sales of YFLI and its market share has been growing steadily after it was released.

Limitations of competitors give rise to the sales of YFLI

To get a better understanding of its future potential, we collected data from its the strongest competitors and made a comparison among them. As shown in the table, it is easy to find that SI costs least per treatment. However, owing to the increasing concern about severe side effects of injection in Chinese hospital, the market share for SI is expected to drop. With respect to DSLP, the costly treatment fee and uncertain contraindications (which poses potential risk to patients) also limited the application of it. Both disadvantaged factors of the competitors might give rise to a future sales boost of YFLI.

Sales prediction

Though the growth rate of annual sales of YFLI in the 9 sample cities (Figure 14), most of which are major big cities, is rather high (approximately 41.51% per year), sales in small cities with lower per capita income may be lower, owing to the nature of YFLI - a treatment for mid&high-end market. According to reports from CFDR, the annual sales growth rate of YFLI is 19.58%, a moderate forecast towards drug in rapid growth phase (roughly 20% on average). Taking into account the difference between income and population of cities, our team estimate that the market share of YFLI will grow up to 0.822% (Best case) or 0.559% (Worst case).

• Other drugs on sale

Other drugs for sale of Tasly except drugs studied above not only account for fewer proportion of the total sales but also are expected to contribute smaller sales. Taking the market size, competition, fungibility, and patents into consideration, our team have estimated the sales of other drugs on sale. Results are shown in the table below.

Table 5. Other Drugs for Sale

Drug Name (EN)	Drug Name (CN)	Market Size	Competition and Competitors	Patent	Fungibility	Peak Sales (RMBm)
Cardiovascular Drugs						
YXQN Granule	养血清脑颗粒	▲11.30%	Mild (0)	Yes	Strong (adjuvant)	900.40
YXQN Pills	养血清脑丸		Mild (0)	Yes	Strong (adjuvant)	139.01
ZSYQ Granule	芪参益气滴丸		Mild (0)	Yes	Strong (adjuvant)	848.50
SI	注射用丹参多酚酸		Mild (0)	Yes	Moderate (Second-line)	379.78
Drugs for Cough & Cold Remedies						
HXZQ Granule	藿香正气滴丸	▲0.16%	Strong (100+)	No	Strong (commonly use)	202.75
CXLNZ Granule	穿心莲内酯滴丸		Strong (100+)	No	Strong (commonly use)	208.16
Drugs for Hepatitis B						
Adefovir	阿德福韦酯	▼1.50%	Strong (23)	No	Low (First-line)	14.45
Silybin Capsule	水飞蓟宾胶囊		Strong (13)	No	Strong (adjuvant)	303.81
Drugs for Anti-tumor						
Flutamide	氟他胺	▲0.16%	Mild (1)	No	Low (First-line)	262.66
Temozolomide	替莫唑胺	▲2.82%	Moderate (3)	No	Moderate (Second-line)	594.50

Source: CFDA, Company Annual Report, Team Analysis

• Drugs Under Development

Following is the list of Tasly's drugs under development. We analyzed the detail of each drugs and the results are provided below. (Appendix 5)

Terminal Growth

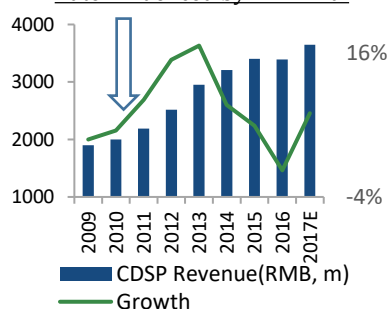
The terminal value was calculated using a combination of the terminal growth and terminal exit methods. For example, most of the CDSP's patents will expire in around 2030. Even though Tasly would make efforts to consolidate its advantages, the new intruders will increase the competition in CDSP's market. We assumed the inflation rate will remain at 2.5%. We analyzed the life cycle of each medicine, therefore we forecasted its degradation rate in different stage.

Table 6. WACC Assumption and Calculation

Assumption	
Risk-free Rate	2.87%
CSI300 Adjusted Beta	0.68
Market Risk Premium	6.43%
Corporate Tax Rate(Consider Tax Preference)	18.24%
Short-term Interest Rate	3.70%
Long-term Interest Rate	4.90%
Calculation	
Ke	5.29%
Kd	5.80%
WACC	5.49%

Source: Team Estimation

Figure 15. CDSP Growth Rate Influenced by FDA Trial



Source: CFDA, Team Estimation

WACC

The cost of equity was calculated using the CAPM. The risk free rate of 2.87% was based on the current yield of 10-year treasury bonds (November 2016). A beta of 0.6856 was computed with historical Talsy rate of return and the CSI300 Index rate of return from November 2011 to November 2016. The market risk premium of 6.43% is based on the 5 year return of CSI300 Index. Applying CAPM to the components above resulted in a cost of equity of 26.41%. The after tax cost of debt of 5.74% is based on relevant interest bearing liabilities. Based on the market value-weighted target capital structure, the WACC is 5.33%.

Scenario Analysis

The third phase of CDSP's FDA trial will be a milestone for both Talsy and traditional Chinese medicine, and the result will be published soon. According to the results of the second phase trial, we believe that there's a high likelihood of passing the third phase trial, in turn leading to:

1. CDSP entering the US market and other developed countries' markets
2. CDSP widening the scope of intended use
3. Talsy cooperating with multi-national companies
4. Creating new era for traditional Chinese medicine.

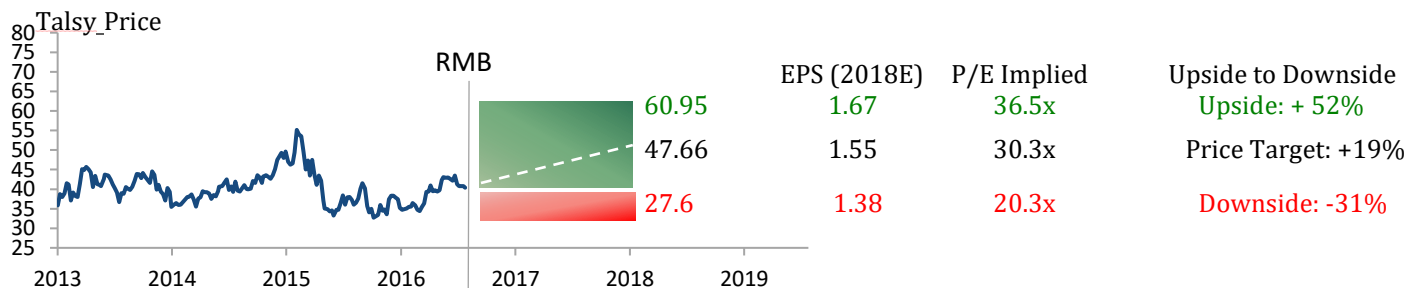
• US sales of CDSP could reach US\$1bn if it is approved by the FDA

In the past 20 years, the FDA certified only two new drugs in the chronic stable angina field: a withdrawn drug and Ranexa whose highest annual sales reached US\$700m. CDSP, which performed well in its phase II trial, boasts milder side effects. If CDSP demonstrates fewer side effects and more economical than Ranexa, we believe we can see the success of CDSP in US. With reasonable pricing, we estimate the highest US sales of CDSP could reach US\$1bn.

• Domestic market: CDSP growth poised to accelerate

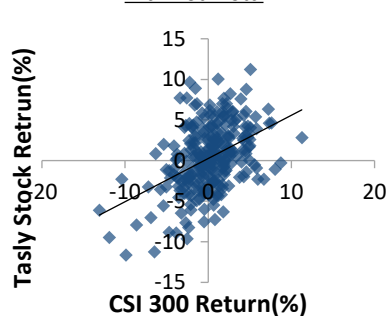
Only 30% of the doctors dealing with certain diseases have ever prescribed CDSP in Chinese hospitals. To gain approval by mainstream western markets is a key goal of CDSP, or even traditional Chinese medicine, to win success. After CDSP passed the second phase trial, its sales growth increased significantly. We expect that CDSP's sales revenue will see a restorative surge in domestic market if it successfully passed phase III trial.

Figure 16. Scenario Analysis



Source: Team Estimation

Figure 17. Regression of Market Beta



Source: Team Estimation

Relative multiples

While the DCF method was the main valuation approach, we also analyzed trailing the price of comparable firms. We treat P/E and P/S equally in our valuation, as there is no evidence of predominance of one over the other as well as we assigned equal weights for years taken under consideration. The price we obtained in such combination is equal to 40.25RMB per share.

Talsy is a pharmaceutical distribution and pharmaceutical manufacturing business. We identified the most appropriate comparable companies of Talsy as Tongrentang (600085), Yunnanbaiyao (000538), Baiyunshan (600332), Conba (600572), Jiangzhong (600750) and Mayinglong (600993) since they are also engaged in both distribution and manufacturing. (Appendix 6). Although we mentioned above that different medicine segments face different environments and their growth patterns are not identical, these companies have their advantages on different sub-markets. Talsy has a relative lower P/E and P/S ratio than peers because investors hold a relatively negative views of the performance of Talsy in this year due to the information asymmetry.

Table 7. Weighted Price

	Relative Multiples		DCF Model
Method	PE	PS	FCFF
Price	35.82	44.68	39.77
Weight	50%		50%
Weighted Price	40.05		

Source: Team Estimation

Figure 18. Sales Expenses/Revenue



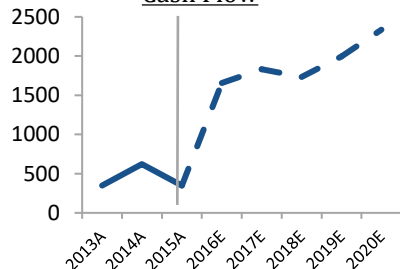
Source: Team Estimation

Table 8. Comparison on R&D

Main TCM Competitors	R&D Investment	R&D/Revenue
Tasly	503.1	3.81%
999	234	3.22%
Yunan Baiyao	158.64	0.84%
Tongrentang	60.277	0.62%
Dong'e Ejiao	126	3.13%
Baiyunshan	279.286	1.49%

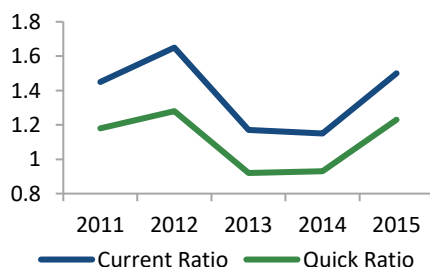
Source: Team Estimation

Figure 19. Net Operating Cash Flow



Source: Company Annual Report, Team Estimation

Figure 20. Better liquidity



Source: Company Annual Report

Financial Analysis

Financial Condition	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Profitability								
Return on Equity	28.71%	28.28%	19.79%	15.04%	15.04%	15.83%	16.51%	16.93%
Return on Assets	15.81%	16.37%	13.86%	10.59%	11.25%	12.36%	13.68%	13.86%
Net Profit Margin	10.51%	11.54%	11.52%	9.68%	10.08%	11.10%	12.22%	12.35%
Financial Leverage								
Debt/Asset	58.10%	58.92%	47.73%	43.91%	39.52%	35.83%	30.71%	26.12%
Debt with Interest/Debt	46.45%	58.40%	53.48%	51.26%	48.81%	45.61%	43.84%	32.76%
Liquidity								
Current Ratio	120.07%	113.33%	150.02%	157.47%	147.91%	161.53%	184.04%	216.14%
Quick Ratio	90.22%	88.25%	115.90%	119.21%	111.60%	120.53%	138.42%	159.23%
Asset Efficiency								
Account Receivable Turnover	354.49%	257.78%	205.47%	211.89%	232.08%	239.93%	250.33%	260.57%
Asset Turnover	112.24%	101.87%	89.54%	86.73%	89.39%	90.30%	92.00%	93.17%
Shareholder Ratio								
EBIT(million)	1563.09	2019.83	2047.14	1635.54	1812.97	2126.17	2482.97	2673.55
EBITDA(million)	1769.14	2282.99	2367.61	1863.15	2063.88	2401.66	2793.82	3015.65
NOPLAT(million)	1275.60	1673.81	1696.67	1364.43	1515.24	1781.46	2084.74	2246.73
Dividend Payout Ratio	0.24%	0.83%	0.97%	0.82%	0.92%	1.09%	1.29%	1.41%
Earnings Per Share	1.02	1.27	1.37	1.16	1.30	1.55	1.83	1.99

Higher margin benefited from the cut in promotion expenses

Benefited from the more restrict control of illegal pharmaceutical promotion activities, Talsy's sale expenses experience an obvious decline in the 2016. (Figure 18) However, the company's products were unique and outstanding in each of their segments, and their sales did not rely on heavy promotion. Therefore, the reduce of such promotion expenses will not possibly compromise the future sales.

Abundant R&D investment

Compared with other traditional Chinese medicines companies, Talsy has a high R&D expense/Revenue ratio. Its total R&D investment ranks the 1st in listed traditional Chinese medicine companies. The large R&D expense results in the success of CDSP. Therefore, we also hold a rigorously optimistic attitude towards future development of other product lines. Besides, Talsy has been focusing on acquiring other professional innovative institutions as an indispensable supplement to its own research. (Table 8)

Transition in Sales Policies Improves Cash Generating Abilities

Talsy adopted a relatively strict debt collection policy this year. The company's accounts receivable has declined a year earlier. We expect the company will keep the accounts receivable contracting strategy this year.

As a result, the operating cash flow witnessed a net y-on-y increase of 137.91%, up from 419 million RMB last year. (Figure 19)One of the direct results is that the liquidity of Talsy has been improving as well.(Figure 20).

Flexibility in Future Capital Structure

In the recent years, Talsy raised adequate funds through the methods of equity, bond and loan. The upward cash flow ensures a healthier financial position for the company. Although the interest rate of Talsy's current debt is not high, the interest is still kind of burden of the company. We assume that Talsy will seek to achieve a more proper financial structure of 0.25 debt-to-equity ratio by deleverage.

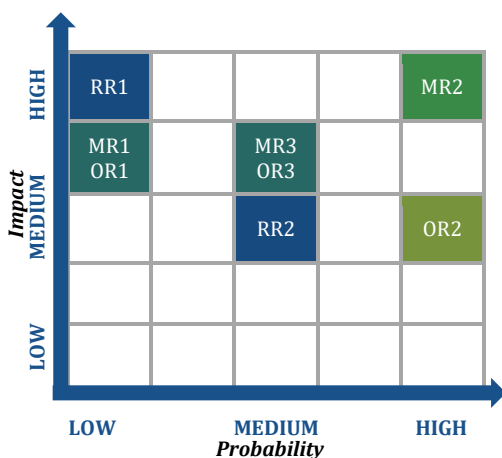
New Development Stage of commerce Sector

Talsy's pharmaceutical commerce sector enjoys a higher margin rate, about 7.14% higher than the average of its peers.

Table 9. Risk Factors and Mitigation Strategies

Risk	Mitigating Factors
Regulatory Risk	
Change in requirements of R&D experiment and inspection	Employ stricter rules in carrying out experiment.
Change in policies of drug sale	Increasing the R&D and sales proportion of highly-demanded patent medicine.
Market Risk	
Decrease in product price	Focusing more on selling of proprietary drugs
The uncertain development of new product	Making proper plan about the development of new drugs
The rise of material prices and energy cost	Building own raw material production base more and squeezing fee properly
Operational Risk	
CDSP's slowing or failure in FDA clinical trials	Foster new profit growth point
Subsidiary corporation management & risk of merger and acquisition	Enhancement of internal control
Too much R&D expenses focusing on CDSP	Making proper budget of R&D expenses

Source: Team Analysis



The company has decided to take the segment out of the parent financial statement to initiate an IPO in NEEQ for it. We believe that through this operation, the commerce sector will achieve higher efficiency of asset operation, gain more independent financial ability and expand future development capacity accordingly to promote its future performance.

In order to reduce the drug price actually paid by the patients, the Liang Piao Policy was introduced into the market. Generally, the policy will decrease the number of drug distributors and will not affect the drug manufacturers. Tasly, however, could be the sole distributor of its product and benefit from this change because the company itself has a commerce segment.

Investment Risk

Regulatory Risk | *Change in requirements of R&D experiment and inspection (Low Likelihood, High Impact) (RR1)*

The research and development of a drug needs to go through multiple trials and inspection process. The contents of clinical researches have criteria as well. Once the criteria and process changed, Tasly might face certain risks such as longer R&D period, or even not passing the trials, in turn influencing its sales projection.

Regulatory Risk | *Change in policies of drug sale (Moderate Likelihood, Moderate Impact) (RR2)*

Since Tasly's drugs for sale are mainly health-care drugs, the price fluctuation of health-care drugs and change in purchasing policy might influence sales of Tasly's generic drugs.

Market Risk | *Decrease in product price (Low Likelihood, High Impact) (MR1)*

Since 1997, the retailing price of some medicines has been reduced by the Chinese government, which has directly influenced the profits of medicine manufacturing companies. Since 2005, several policies, such as price control within Medicare, the standardization of the price and the bidding and the full liberalization of medicine price, have significantly affected the price of medicine.

Market Risk | *The development of new product (High Likelihood, High Impact) (MR2)*

New medicine development, with the long cycle of the early Research & Development and the multiple links, is easily influenced by some unpredictable factors. It may be possible that the development of some new products cannot be completed as planned and that the profits of some products cannot be as much as expected.

Market Risk | *The rise of material prices and energy cost (Moderate Likelihood, Moderate Impact) (MR3)* (Appendix 9)

Operational Risk | *CDSP's slowing or failure in FDA clinical trials (Low Likelihood, High Impact) (OR1)*

CDSP, Tasly's hit product, may complete FDA Phase III clinical trials in a near future and launch into American market. However, the result of the trials is uncertain. If it fails, the expectation of expanding to oversea markets will be damaged and the predicted future sales of CDSP will drop.

Operational Risk | *Subsidiary corporation management & risk of merger and acquisition (High Likelihood, Moderate Impact) (OR2)*

The great number of Tasly's subsidiary corporations, which distribute nationwide with various business, have different level of corporation management and enjoy distinguished corporate culture. Thus, the management of its subsidiaries can be a risky task for Tasly. In the meantime, the rapid development drives the strategic industry M&A to accelerate, during which risks may occur in the links. Another obstacle is also likely to appear during the joint process of acquired corporation and Tasly after the merge and thus may affect the coordination within Tasly and the execution of their strategies.

Operational Risk | *Too much R&D expenses focusing on CDSP (Moderate Likelihood, Moderate Impact) (OR3)* (Appendix 9)

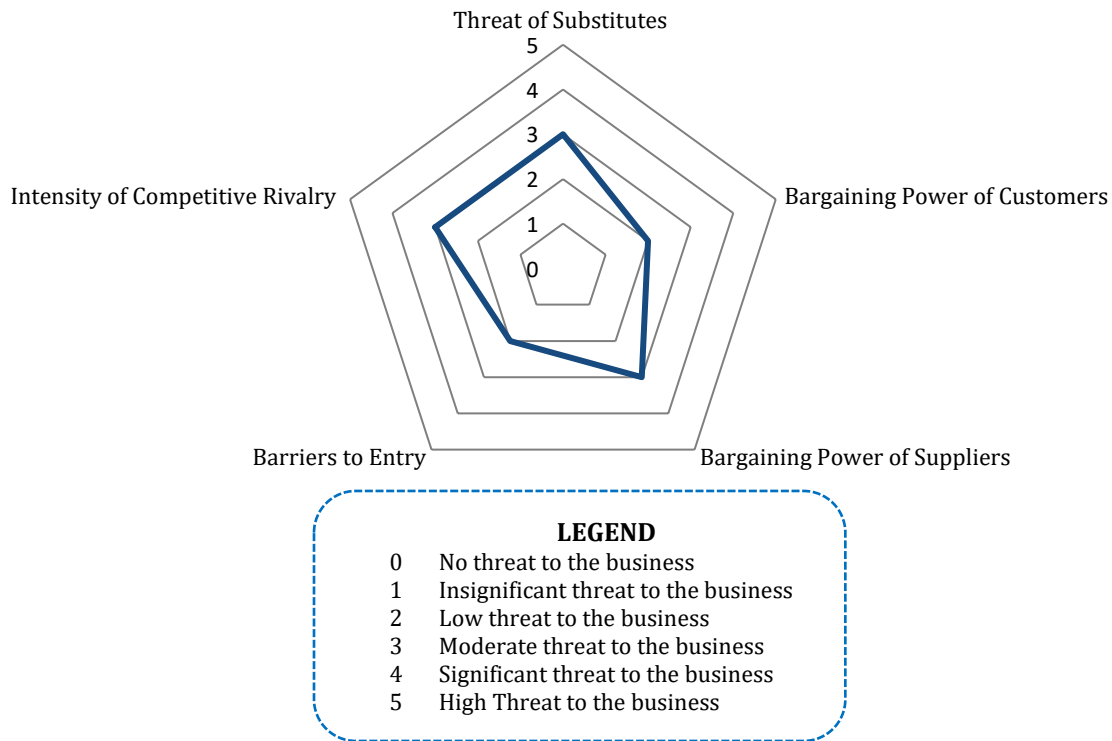
Appendices

Appendix 1: Terminology and Description

Term(EN)	Term(CN)	Description
Acute Left-sided Heart Failure	急性左心衰竭	a heart failure that may lead to short of breath, due to backed-up fluid in your lungs
Angina	心绞痛	chest pain caused by reduced blood flow to the heart muscle
Anti-tumor Drug	抗肿瘤药物	
Biocoen (drug for cardiovascular disease)	贝科能（心血管药物）	
Brain Cancer	脑癌	
Cardiovascular diseases	心血管疾病	a group of disorders of heart vessels
Cerebrovascular diseases	脑血管疾病	a group of disorders of blood vessels
China Aerospace Science and Technology Corporation(CASC)	中国航天科技集团公司	
Climacteric Syndrome	更年期综合征	
Clinical trial	临床试验	
Compound Danshen Dripping Pills(CDSP)	复方丹参滴丸(心血管药物)	
Contraindication	禁忌症	a specific situation in which a drug, procedure, or surgery should not be used because it may be harmful to the person
Coronary Heart Disease	冠心病	a disease in which a waxy substance called plaque builds up inside the coronary arteries
Deposides Salts from Salvia miltiorrhiza in Lyophilized Powder for Injection(drug for coronary disease)	丹参多酚酸盐(冻干粉针剂)（冠心病专用药）	
Diabetic Foot Ulcer	慢性糖尿病下肢皮肤溃疡	
US Food and Drug Administration(FDA)	美国食品和药品管理局	
Functional Dyspepsia	功能性消化不良	a chronic disorder of sensation and movement (peristalsis) in the upper digestive tract
Fungibility	可替代性	used to reflect competitiveness of products
Generic Drug	仿制药（通用药）	copies of brand-name drugs that have exactly the same dosage, intended use, effects, side effects, route of administration, risks, safety, and strength as the original drug
Hepatitis-b	乙肝	
Hypotension	低血压症	
Indication (Intended Use)	适应症	what your product is used for
Insomnia	失眠症	
Ischemic Stroke	缺血性脑卒中恢复期	
Naoxintong Calpulse	脑心通胶囊（心血管药物）	

Norvasc	络活喜（心血管药物）	
Nutraceutical	营养食品	
Patent Drug	原研药（专利药）	a drug that has a trade name and is protected by a patent (can be produced and sold only by the company holding the patent)
Pharmaceutical Commerce	医药商业	
Pharmaceutical Manufacturing	医药工业	
Prostate Cancer	前列腺癌	
Ranexa	雷诺嗪片（心血管药物	
The China Food and Drug Administration (CFDA)	国家食品药品监督管理局	
Shuxuening Injection	舒血宁注射液（冠心病专用药）	
Synthetic Drug	化学合成药（西药）	
T-wave Extension	T 波延长（影响心脏功能）	
Traditional Chinese Medicine(tcm)	中药	
Ulcerative Colitis	溃疡性结肠炎	
Vascular Dementia	血管性痴呆	
Yiqi Fumai Lyophilized Injection	注射用益气复脉（冠心病专用药）	

Appendix 2: Porter's Five Forces Analysis



Bargaining Power of Customers | **MODERATE**

Currently, over 70% of pharmaceutical sales are carried out by hospitals and the rest by retail pharmacies. The Chinese government has continuously made efforts to lower drug prices, both at retail and at auctions. In 2003, forced price decreases at centralized procurement biddings resulted in shortages of low-price drugs. Some companies even had to stop production as they could not cover their basic costs because of the artificially low prices. Due to the exclusivity in Tasly's products, Tasly has avoided such price decreases, in fact the bidding price of CDSP has ascended slightly. We assess the bargaining power of customers as **MODERATE**.

Threat of New Entrants | **LOW**

In general, it's hard for a new player to enter the market. With 7,000 enterprises engaged in the manufacturing of pharmaceuticals, rankings of top ten biggest companies vary each year. Players who want to play an active role in the market of cardiovascular and cerebrovascular diseases medicines face barriers in expertise, money, patent and distribution channels. Price pressure and lower profitability, as well as strict GMP licensing, are on the way to push small and inefficient players out of the market. On the other hand, foreign pharmaceutical players are engaged mainly in the non-prescription drugs segment. Recent changes in governmental policies encourage consolidation of Chinese group companies. These changes also introduce different restrictions, such that foreign players are not able to play alone, thus pushing them to form joint ventures with local leading companies if they want to grow. These significant barriers to entry are the basis of our **LOW** assessment of the threat of new entrants.

Threat of Substitute Products | **MODERATE**

Nowadays, traditional Chinese medicines account for only about 25% in total market. However, in some segment markets, such as cardiovascular and cerebrovascular disease medicine, traditional Chinese medicines take up 37.42% in the urban hospital market and a higher percentage in rural and retail channels. Besides the competition of synthetic drugs, Tasly faces many substitute drugs from other traditional Chinese medicines producers, such as Buchang in the cardiovascular and cerebrovascular diseases market and China Resources Group in the cold medicine market. These competitors have some advantages in some specific area or enjoy a good reputation because of their big name. However, Tasly is difficult to be replaced due to its unique drugs so we believe the threat of substitute products is **MODERATE**.

Bargaining Power of Suppliers | **LOW**

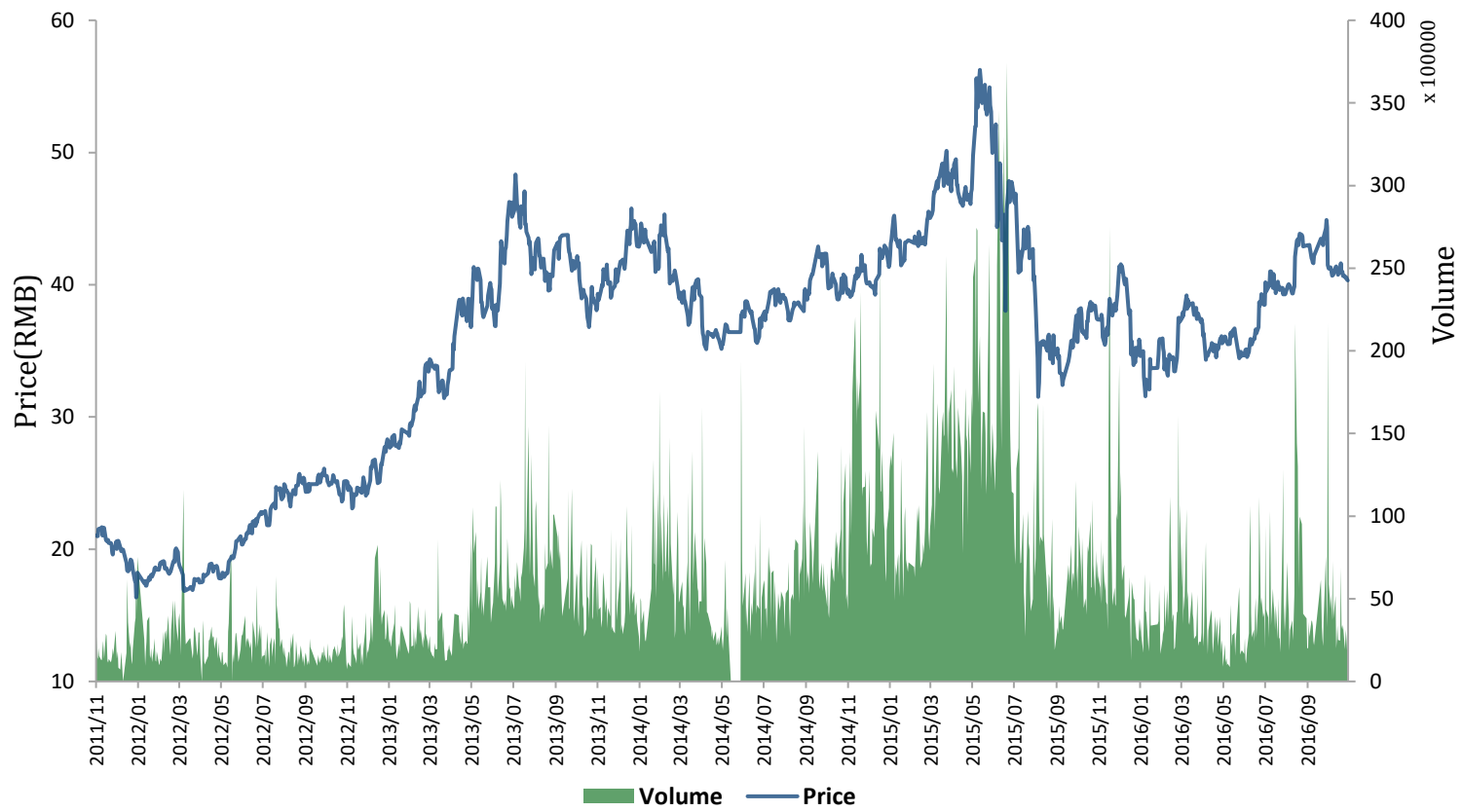
With relatively stable supply but increasing competition, there's upward price pressure on the raw materials. The increase of raw material prices increases the prices of products sold by traditional Chinese companies. Tasly successfully operates its own raw material base, thus improving bargaining power advantage towards its raw material providers. We assess the bargaining power of suppliers as **LOW**.

Competitive Rivalry within Industry | **MODERATE**

There are numerous small companies in this fragmented market, many operating at regional or even county level and supplying only small niche markets. The concentrated market has been squeezing out the small players. Price pressure and lower profitability, as well as strict GMP licensing, are on the way to push small and inefficient players out of the market. Small companies providing low quality products will no longer be able to play in the market. However, the top players have also been facing fierce competition since many traditional Chinese medicines have similar functions. Tasly has a superior treatment, providing a competitive advantage against its rivals. Consequently, we assess the competitive rivalry within industry to be **MODERATE**.

Appendix 3: Talsy Share Price and Volume

Figure 1. Talsy Share Price and Volume



Source: Wind

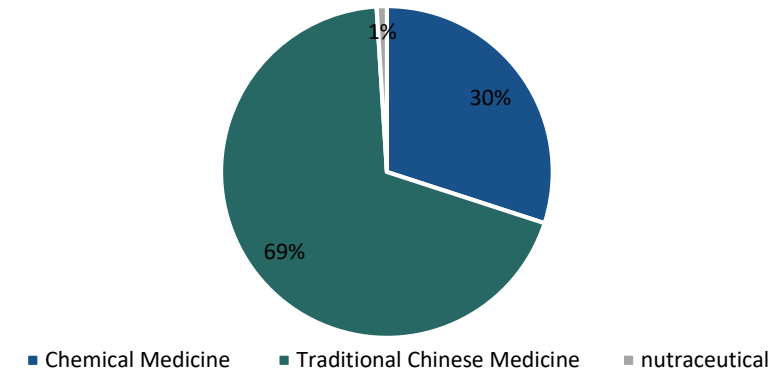
Appendix 4: Analysis of segments of other three drugs

Drugs for cough & cold remedies

There are over a thousand enterprises competing in the market of drugs for cough & cold remedies, making it the fiercest in the OTC drug market. However, renowned brands dominate the market, thus market share tends to be relatively stable. In the meantime, sales of traditional Chinese medicine are higher than sales of synthetic drugs. The morbidity of cough & cold are stable, thus the sales of drugs for cough & cold remedies are relatively stable. The major growth of the market size is driven by the increase in population and the increase in drug price.

However, it is hard to see an increase in price due to the fierce competition within the market and high consumer sensitivity towards drug price (low-price drugs which are 12RMB or less constitute of 92% of total sales). Besides, manufactures have relatively weak pricing power in hospital drug bidding, since there are many more substitutes. Therefore, the growth of market size of drugs for cough & cold remedies mainly comes from the increase in population.

Figure 2. Market Share of Coldrex in China 2015



Source: Grail Research

Drugs for Hepatitis-B

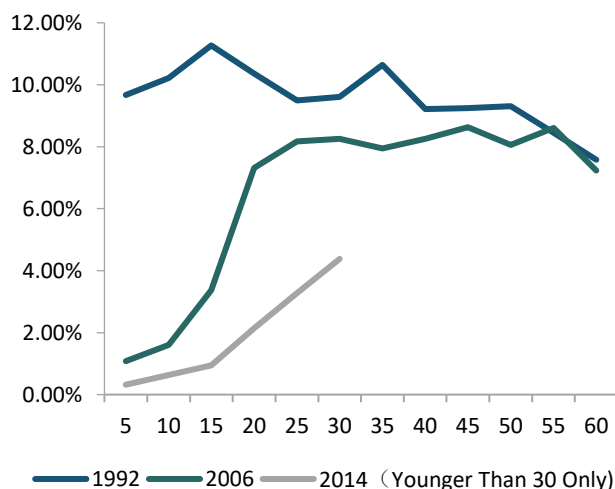
We conduct market size analysis towards hepatitis-b treatment drugs, one of Tasly's drugs on sale.

According to the National Hepatitis-B Serum Research, the hepatitis-b infection rate of people above 20 sees an overall decreasing trend. In the meantime, the hepatitis-b infection rate of people under 20 decreases dramatically (average infection rate decreases from 10.5% in 1992 to 1.5% in 2014 with a less than 1% infection rate of teenagers under 15) owing to the implementation of a hepatitis-b vaccination policy on newborn babies from 1992 onwards. According to authority estimates, by the time of 2020, infection rate of the whole population is likely to decrease to less than 6% and the infection rate of people under 30 is likely to decrease to a level of 2% or less. These figures are expected to decrease furthermore.

The price of drugs for hepatitis-b treatment is hard to rise, since there are lots of manufacturers of same product, leading to a weaker pricing power, and the combination of drugs remain steady due to the strictly standardized hepatitis-b treatment.

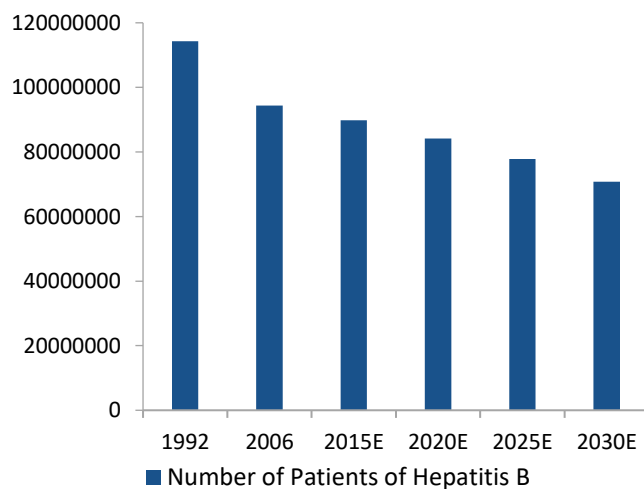
Since the population is barely able to grow substantially, the decrease in hepatitis-b morbidity will surely contribute to a shrinking market size of drugs for HBV. Under the circumstances that price of hepatitis-b generic drugs is less likely to rise, the market size of hepatitis-b generic drugs is expected to see a 20% decrease by 2030.

Figure 3. Morbidity Rate of Hepatitis B



Source: National Hepatitis-B Serum Research

Figure 4. Number of Patients of Hepatitis B

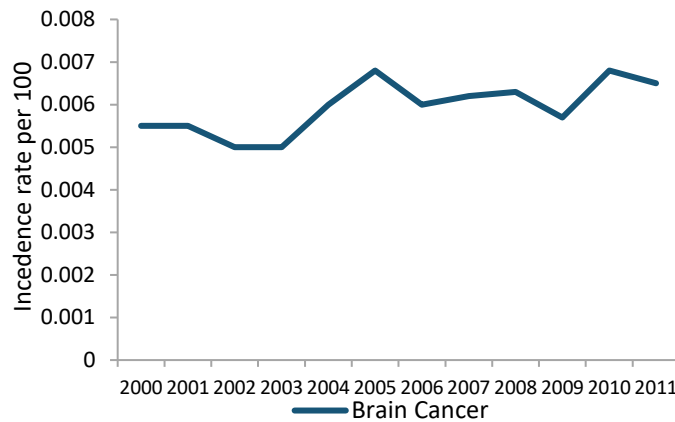


Source: National Hepatitis-B Serum Research, WHO, Team analysis

Drugs for Anti-tumor

Tasly's major drugs for sale are intended for brain tumor and prostate cancer, which are analyzed and shown below. According to the relevant medical data, the affected population of brain tumor has no significant characteristics and is randomly distributed, thus morbidity of brain tumor tends to be stable, keeping constant around 0.004%. However, the affected population grows in accordance with the natural growth of population, thus the market size tends to be stable and the growth is relatively slow.

Figure 5. Morbidity rate of Brain Cancer



Source: Cancer Statistics in China 2015

On the other hand, prostate cancer affects male only because prostate is a male organ. In the meantime, just like the morbidity of cardiovascular and cerebrovascular diseases, the morbidity of prostate cancer significantly increases as age increases. As a result, with the aging population growing, the incidence population of prostate cancer will dramatically increase, thus expanding the market size of prostate cancer drugs.

Table 1. Morbidity of Prostate Cancer

	Age					
	≤30	30-44	45-59	60-74	≥75	All
Prostate Cancer	0.01%	0.01%	0.34%	2.42%	3.24%	6.03%

Source: Cancer Statistics in China 2015

Appendix 5: Sales Projection of Drugs under Development

Table 2. Sales Projection of Drugs under Development

Drug Name (EN)	Drug Name (CN)	Application Number	Intended use	Stage	Status	Possibility of success	Peak Sales (RMBm)
Kuijiekang enema	溃结康灌肠液	CTR20132130	Ulcerative Colitis	Phase 3	Finish	80%-85%	8-10
Lianxiaxiaopi capsule	连夏消痞胶囊	CTR20140016	Functional Dyspepsia	Phase 3	Finish	80%-85%	7-8
rhPDGF-BB	重组人血小板源生长因子	CTR20132176	Diabetic Foot Ulcer	Phase 3	ongoing	70%-75%	600-700
Kunyining tablet	坤怡宁颗粒	CTR20140289	Climacteric Syndrome	Phase 3	ongoing	90%-95%	50-100
Salvianolic Acid for injection	注射用丹参多酚酸	CTR20132585	Ischemic Stroke	Other	ongoing	60%-65%	①
Xingnao dripping pills	醒脑滴丸	CTR20132595	Vascular dementia	Phase 3	ongoing	45%-50%	-
Anshen dripping pills	安神滴丸	CTR20131517	insomnia	Other	Finish	50%-55%	-

①As for the drugs with possibility of success lower than 70%, we think they will not enter the market in our forecast period. Therefore, their peak sales has little influence on our estimation.

Source: Team analysis

Lianxiaxiaopi capsule

• Distribution of functional dyspepsia

According to epidemiologic studies, the morbidity of FD has been quite stable in the past 20 years and the difference in urban and rural areas is prominent.

• Competition analysis

The population of digesting system disease patient is large, while currently people prefer to go straight to the drug stores to purchase medicine for their ailments because of the strained physician-patient relationship as well as the health-care system corruption. This led to the boom in the sales of stomach medicine.

However, the competition in this market sector is fierce. There are many plants that produce such kind of drug and they are a homogenized product whilst the purchasing decision of the patients largely relies on its brand appeal. It is predicted that in the short term, the market will not be occupied by any one of the producers, thus there's a good chance for the newcomer to take a share of the market.

rhPDGF-BB

Diabetes is a chronic disease that affects the body's ability to metabolize glucose. According to the International Diabetes Federation, there were approximately 100 million patients with diabetes in China in 2013, accounting for 26% of the total number of diabetes patients in the world that year. The prevalence rate of Chinese adults with diabetes was only 9.7% in 2008. However, the rate reached 11.6% in 2013, surpassing the US by 0.3% for the first time.

Despite the growing market of diabetes related medicine, we found that theGF-BB developed by Tasly is not a strong profit-maker based on the following points:

• Low morbidity, low rate of utilization

The drug mainly treats chronic lower limb skin ulcer. According to current research and data analysis of Tianjin Medical University, only 15% of diabetics suffer from such illnesses. And most of the patients might have to be amputated, resulting in less prevalent drug use. Compared with the earlier stage research and development investment on such kind of medicine, the sales opportunity of the drug might be hard to make both ends meet.

• Facing fierce competition before entering the market

The earliest exclusive medicine came into the market at 1997 and currently the competitor list is quite long.

Table 3. Competitors for Sale

Drug Name (EN)	Developer	Stage
Bilaycred cellular matrix, Orte	Oricc	Phase 3
ATG-002	Athenagem	Phase 2
MRE-0094	Aderid Pharmaceuticals	Phase 2
Talactoferrin alfa	Agennix	Phase 2
PDGF-B cardium	Cardium Therapeutics	Phase 2
β -1,3/1,6-glucan, Biotec	Biotec Pharmacon	Phase 2
HO-03-03	Healo-Or	Phase 2
Chrysalin	Chrysalis Biotechnology	Phase 2

Source: Team analysis

Table 4. Competitors under Development

Drug Name (EN)	Drug Name (CN)	Producer
Dermagraft	人造皮肤	Advanced Tissue Sciences
DWP-401	表皮生长因子激动剂	Dadwoong
hEGF	人表皮生长因子	Bharat Biotech
Becaplermin	贝卡普勒明	Chiron
PDGF	血小板衍生因子	Dr Reddy's
Apligraf	人工皮肤	Organogenesis
Artificial skin gel	人工皮肤凝胶	ProCyt
liposome	脂质体-前列地尔	Taisho
Acemannan	醋孟南水凝胶	Carrington Laboratories

Source: Team analysis

Kuijiekang enema

Ulcerative colitis is an inflammatory disease. It usually begins in the rectum, then worsens to involve some or all of the large intestine. Ulcerative colitis is a lifelong condition. Ulcerative colitis is also an autoimmune disease. This means that the immune system, which is supposed to attack foreign things that get inside our bodies, instead attacks a part of the body.

Medications are very effective for improving the symptoms of ulcerative colitis. Most of the medications used work by preventing inflammation in the intestine.

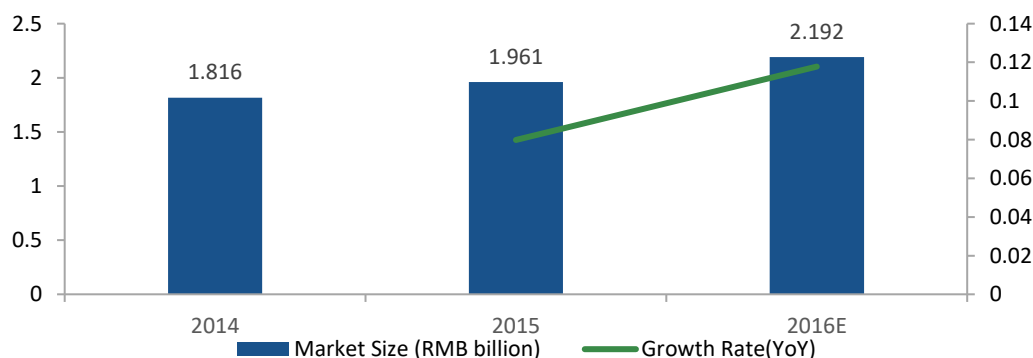
A group of anti-inflammatory medicines called aminosalicylates are usually tried first. These medicines are chemically related to aspirin. They suppress inflammation in the gut and in joints.

Other more powerful anti-inflammatory medicines are prescribed when the disease is very active or it cannot be controlled with an aminosalicylate. Often, the first choice of an anti-inflammatory drug is a corticosteroid, such as prednisone, Lialda, and Remicade. Newer biologic agents are being prescribed more frequently today. Some drugs such as prednisone have cheap prices as well as powerful treatment effect but few side effects.

Kunyining tablet

Climacteric Syndrome – a natural transition where women go from having normal menstrual periods to no periods at all. During menopause a woman's ovaries stop making eggs and they produce less estrogen and progesterone. It is thought that these hormone changes are responsible for menstrual disorders including mood changes, hot flashes, insomnia, pounding or racing heart, changes in sexual and urinary function.

CMH data shows that China's menopause medicine market size had risen steadily from 1.816 billion yuan to 1.961 billion yuan in 2015, increasing by 8%. In 2016, the market is expected to reach 2.192 billion yuan. Although traditional Chinese medicine maintains absolute superiority in the medication department of gynecological inflammation, in the menopause medicine market, chemical medicines occupies the absolute monopoly status. For a long time, menopause was mainly treated with hormonal medicine in our country. The CMH database shows that chemical medicine accounted for more than half of the top 10 menopause medicines in 2015. Using the method of supplementary estrogen treatment can only have a short-term recuperations on the ovary but liver and kidney cannot be treated at the same time and balanced the body's function. Also, chemical medicine has some side effects to the body; therefore, the western treatment methods tend to be more suitable for severe patients to alleviate symptoms of short-term, not suitable for long-term use.

Figure 6. Growth Rate and Market Size of Drugs for Climacteric Syndrome

Source: Zhongkang CMH

Appendix 6: Relative Valuation - Price Multiples Analysis

WACC Calculation

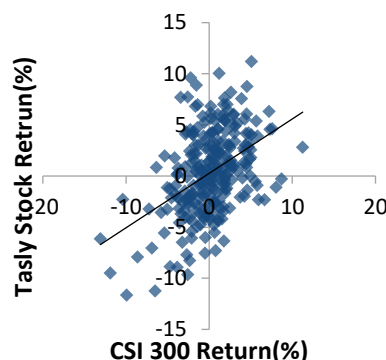
The cost of equity was calculated using the CAPM. The risk free rate of 2.87% was based on the current yield of 10-year treasury bonds (November 2016). An adjusted beta of 0.6856 was computed with historical Talsy rate of return and the CSI300 Index rate of return from November 2011 to November 2016. The market risk premium of 6.43% is based on the 5 year return of CSI300 Index. Applying CAPM to the components above resulted in a cost of equity of 26.41%. The after tax cost of debt of 5.74% is based on relevant interest bearing liabilities. Based on the market value-weighted target capital structure, the WACC is 5.33%.

Table 5: WACC Assumption and Calculation

Assumption	
Risk-free Rate	2.87%
CSI300 Adjusted Beta	0.68
Market Risk Premium	6.43%
Corporate Tax Rate(Consider Tax Preference)	18.24%
Short-term Interest Rate	3.70%
Long-term Interest Rate	4.90%
Calculation	
Ke	5.29%
Kd	5.80%
WACC	5.49%

Source: Team estimation

Figure 7 .Regression of Market Beta



Source: Team estimation

Methodology for Selecting Peers

The companies from the pharmaceutical and medicine commerce sub-sector of the Shanghai Stock Exchange (SHSE) and Shenzhen Stock Exchange (SZSE) were used as the initial pool for the selection of Talsy's appropriate peers. These companies were then reduced by leaving only companies invested in both the pharmaceutical and medicine commerce industry and have similar position in their respective sub-sector. This left six relevant companies: Tongrentang(600085), Yunnanbaiyao(000538), Baiyunshan(600332), Conba(600572), Jiangzhong(600750)and Mayinglong(600993).

Table 6: Competiting positioning

Competiting Positioning	Yunnanbaiyao	Tongrentang	Baiyunshan	Comba	Talsy
Market Capitalization (RMB bn)	72.09	43.86	41.39	18.35	41.65
Sales (RMB bn)	20.74	10.81	19.12	5.30	13.23
Net Profit	2.77	0.87	1.30	0.44	1.52
EV/EBITDA	21.45	22.60	22.65	20.56	20.09

Source: Team estimation

As China has relatively higher P/E rate than most stock markets and traditional Chinese medicine has its particular position in Chinese patients, we don't take other country's companies into consideration.

Price Multiples Analysis

In analyzing the fundamentals of profitability, growth, and risk for Talsy, our hold recommendation is supported by a number of reasons.

First and foremost, Talsy's figures are near the mean and median of its peers. We also take drugs under development's future performance into consideration to determine the P/E ratio.

Since all the selected peers have similar proportion of medicine commerce, we also use P/S ratio to help predict the target price.

Table 7: Relative Valuation-PE Method

The Estimated EPS	The Estimated P/E										
	24.09	25.30	26.56	27.89	29.28	30.75	32.29	33.90	35.59	37.37	39.24
0.91	21.99	23.09	24.24	25.46	26.73	28.07	29.47	30.94	32.49	34.11	35.82
0.96	23.09	24.24	25.46	26.73	28.07	29.47	30.94	32.49	34.11	35.82	37.61
1.01	24.24	25.46	26.73	28.07	29.47	30.94	32.49	34.11	35.82	37.61	39.49
1.06	25.46	26.73	28.07	29.47	30.94	32.49	34.11	35.82	37.61	39.49	41.47
1.11	26.73	28.07	29.47	30.94	32.49	34.11	35.82	37.61	39.49	41.47	43.54
1.16	28.07	29.47	30.94	32.49	34.11	35.82	37.61	39.49	41.47	43.54	45.72
1.22	29.47	30.94	32.49	34.11	35.82	37.61	39.49	41.47	43.54	45.72	48.00
1.28	30.94	32.49	34.11	35.82	37.61	39.49	41.47	43.54	45.72	48.00	50.40
1.35	32.49	34.11	35.82	37.61	39.49	41.47	43.54	45.72	48.00	50.40	52.92
1.42	34.11	35.82	37.61	39.49	41.47	43.54	45.72	48.00	50.40	52.92	55.57
1.49	35.82	37.61	39.49	41.47	43.54	45.72	48.00	50.40	52.92	55.57	58.35

Source: Team estimation

Table 8: Relative Valuation-PE Method

The Estimated SPS	The Estimated P/S										
	2.82	2.97	3.11	3.27	3.43	3.60	3.78	3.97	4.17	4.38	4.60
9.71	27.43	28.80	30.24	31.75	33.34	35.01	36.76	38.59	40.52	42.55	44.68
10.20	28.80	30.24	31.75	33.34	35.01	36.76	38.59	40.52	42.55	44.68	46.91
10.71	30.24	31.75	33.34	35.01	36.76	38.59	40.52	42.55	44.68	46.91	49.26
11.24	31.75	33.34	35.01	36.76	38.59	40.52	42.55	44.68	46.91	49.26	51.72
11.81	33.34	35.01	36.76	38.59	40.52	42.55	44.68	46.91	49.26	51.72	54.31
12.40	35.01	36.76	38.59	40.52	42.55	44.68	46.91	49.26	51.72	54.31	57.02
13.02	36.76	38.59	40.52	42.55	44.68	46.91	49.26	51.72	54.31	57.02	59.87
13.67	38.59	40.52	42.55	44.68	46.91	49.26	51.72	54.31	57.02	59.87	62.87
14.35	40.52	42.55	44.68	46.91	49.26	51.72	54.31	57.02	59.87	62.87	66.01
15.07	42.55	44.68	46.91	49.26	51.72	54.31	57.02	59.87	62.87	66.01	69.31
15.82	44.68	46.91	49.26	51.72	54.31	57.02	59.87	62.87	66.01	69.31	72.78

Source: Team estimation

Sensitivity Analysis

We performed a sensitivity analysis on several indicators of our pricing method to determine their impact on the value of Talsy. We determined how much change in the risk variable would prompt a shift in our recommendation. To supplement this analysis, we evaluated the impact of a change in these risk variables to the target price of Talsy

Based on the FCFF model, which is chosen to give the absolute valuation of the target stock, we perform a sensitivity analysis on WACC (Weighted average capital cost) and the sustainable growth rate (g) to see how these two factors potentially influence the final value, and the results are shown in the matrix.

We set the g at 2.9% as basic situation in the FCFF model, and for this sensitivity analysis, the stock price is tested as we change g while holding WACC at different levels. From the matrix we can clearly see that the rangeability of g under basic assumption of WACC is 5.49% and the fluctuation decreases as WACC grows.

And for WACC, we hold g constant at different levels to see how the change of WACC may influence the result of our estimation. The range of the valuation turns out to be relatively high despite of the level of g.

According to our sensitivity analysis, we can safely arrive at the conclusion that the pricing process is most vulnerable to the Talsy of WACC, thus the process of choosing WACC should be more cautious. With a stable cash flow, cautious investing strategies, consummate platform management and mature property operations, Vanke is capable of resisting risks deriving from capital expenditure fluctuation.

Table 9 .FCFF Results

In RMB millions	
Perpetual Growth Rate	2.90%
PV of Forecast Period	49,823.86
PV of Transitional Period	153,866.18
PV of Perpetual Period	277,141.78
Enterprise Value	480,831.83
Equity Value	440,844.43
Shares Outstanding(billion)	10.80
EPS(RMB)	40.05

Source: Team estimation

Table 10: Sensitivity Analysis

WACC	Perpetual Growth Rate(g)						
	2.18%	2.40%	2.64%	2.90%	3.19%	3.51%	3.86%
4.12%	56.93	64.23	74.73	91.03	119.58	182.04	424.56
4.54%	46.22	51.02	57.58	67.02	81.66	107.31	163.42
4.99%	38.07	41.35	45.66	51.55	60.02	73.16	96.17
5.49%	31.69	33.99	36.94	40.80	46.08	53.66	65.44
6.04%	26.58	28.23	30.29	32.93	36.39	41.11	47.90
6.64%	22.41	23.62	25.09	26.94	29.29	32.38	36.61
7.31%	18.97	19.86	20.93	22.25	23.90	26.00	28.76

Source: Team estimation

Appendix 7: Base Case, Historical and Projected Financial Statements

Consolidated Comprehensive Income Statement								
In RMB Millions	2013A	2014A	2015A	2016E	2017E	2018E	2019E	2020E
Revenue	11,097.87	12,566.90	13,221.67	13,393.71	14,409.07	15,539.31	16,694.80	17,978.80
Cost of Sales	7,042.66	7,856.88	8,101.60	8,638.94	9,221.80	9,758.69	10,267.30	11,038.98
Business Taxes and Surcharges	95.42	101.60	121.35	122.93	132.25	142.62	153.22	165.01
Operating Expenses	1,552.78	1,821.90	1,990.93	1,995.66	2,170.01	2,346.44	2,537.61	2,761.54
Administrative Expenses	814.25	810.09	959.15	971.04	1,041.78	1,134.37	1,221.89	1,307.06
Financial Expenses	147.62	291.12	260.57	117.46	112.18	106.48	93.90	72.19
Impairment Losses	57.80	-16.43	52.30	52.30	52.30	52.30	52.30	52.30
Investment Income	3.81	-0.80	5.60	-5.73	-5.73	-5.73	-5.73	-5.73
Changes in Fair Value	0.056	-0.074	0	0	0	0	0	0
Other Operating Income and Loss	10.20	8.22	5.85	8.09	8.09	8.09	8.09	8.09
Income from Operations	1,401.40	1,709.09	1,747.23	1,497.73	1,681.11	2,000.78	2,370.93	2,584.07
Other Non-operating Profit and Loss	16.53	23.98	48.19	29.32	29.32	29.32	29.32	29.32
Income before Income Tax from Continuing Operation	1,417.93	1,733.07	1,795.42	1,527.05	1,710.43	2,030.10	2,400.25	2,613.40
Income Tax	251.61	282.69	271.75	229.92	257.42	305.38	360.90	392.87
Net Income	1,166.32	1,450.38	1,523.67	1,297.13	1,453.01	1,724.73	2,039.35	2,220.53
Non-controlling Interest	66.06	82.11	45.12	38.41	43.03	51.07	60.39	65.76
NI to Common Shareholders	1,100.26	1,368.27	1,478.55	1,258.72	1,409.98	1,673.65	1,978.96	2,154.77

Consolidated Financial Position Statement								
In RMB Millions	2013A	2014A	2015A	2016E	2017E	2018E	2019E	2020E
Cash and Equivalents	719.45	624.58	528.31	535.75	576.36	621.57	667.79	719.15
Accounts Receivable and Others Receivable	3,404.88	5,054.71	6,691.44	6,571.18	6,510.85	6,785.35	7,019.37	7,274.20
Inventories	1,265.03	1,476.64	1,763.73	1,912.41	1,930.00	2,136.12	2,141.93	2,457.65
Other Current Assets	212.7466	137.46	361.58	368.82	376.19	383.72	391.39	399.22
Investments in Associates and Joint Ventures	411.72	400.63	522.51	522.51	522.51	522.51	522.51	522.51
Investment Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed assets and Construction-in-progress	2,924.26	3,516.30	3,687.77	4,089.60	4,482.17	4,717.38	5,018.14	5,125.14
Intangible Assets	732.36	819.50	972.97	1,246.62	1,567.74	1,928.76	2,315.00	2,768.63
Other Noncurrent Assets	217.56	306.91	237.30	195.70	154.10	112.50	70.90	29.30
ASSETS	9,888.01	12,336.73	14,765.63	15,442.58	16,119.92	17,207.90	18,147.03	19,295.81
Short-term Liabilities	1,799.46	3,432.19	2,970.66	2,677.5719	3,109.564	2,811.836	2,443.547	1,651.233
Accounts Payables and Others Payable	2,505.56	2,945.97	2,744.99	2,938.18	2,947.32	3,095.03	3,006.79	3,285.79
Long-term Financial Liabilities	868.63	812.23	798.45	798.45	0.00	0.00	0.00	0.00
Other Liabilities	570.86	77.88	533.75	366.47	314.23	258.75	123.33	103.28
LIABILITIES	5,744.51	7,268.27	7,047.85	6,780.67	6,371.11	6,165.62	5,573.67	5,040.30
Common Stock	1,032.84	1,032.84	1,080.48	1,080.48	1,080.48	1,080.48	1,080.48	1,080.48
Additional Paid In Capital	230.21	244.41	1,771.45	1,771.45	1,771.45	1,771.45	1,771.45	1,771.45
Retained Earnings	2,569.11	3,560.63	4,617.56	5,517.55	6,525.68	7,722.35	9,137.31	10,677.97
Total equity attributable to equity shareholders of the Company	3,832.16	4,837.88	7,469.48	8,369.47	9,377.61	10,574.27	11,989.23	13,529.89
Minority Interest	311.34	230.58	237.45	275.86	318.89	369.96	430.35	496.11
TOTAL EQUITY	4,143.49	5,068.46	7,706.93	8,645.33	9,696.50	10,944.23	12,419.58	14,026.00
Total Liabilities And Equity	9,888.01	12,336.73	14,754.78	15,426.00	16,067.61	17,109.85	17,993.25	19,066.30

Consolidated Comprehensive Statement of Cash Flows						
Cash flow generated from operation activities						
In RMB ,000	2015A	2016E	2017E	2018E	2019E	2020E
Operating Income after Income Tax	1,516,517.95	1,277,945.62	1,433,818.09	1,705,537.95	2,020,164.72	2,201,336.57
Depreciation and amortization	320,472.43	227,607.32	250,909.61	275,484.03	310,853.72	342,106.60
Provisions, net of settlement	52,295.64	52,295.64	52,295.64	52,295.64	52,295.64	52,295.64
Interest and other financial income	226,664.51	108,490.44	102,535.22	96,069.12	82,719.23	60,150.30
Inventory Reduction	-289,998.60	-148,683.90	-17,588.49	-206,112.58	-5,810.46	-315,724.09
Decrease in operating receivables	-1,899,923.76	113,032.07	52,956.44	-282,028.45	-241,693.63	-262,661.07
Decrease in operating payables	395,287.90	25,906.18	-43,102.89	92,237.33	-223,667.49	258,945.63
Cash flows related to other operating activities	18,686.01	-	-	-	-	-
Net cash generated from operation activities	348,856.13	1,656,593.37	1,831,823.62	1,733,483.05	1,994,861.73	2,336,449.57

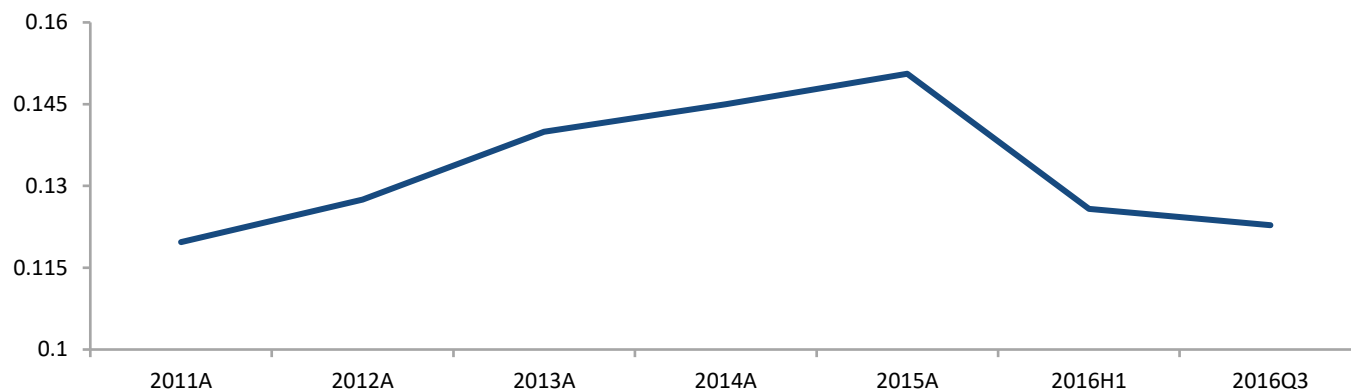
Cash flow generated from investment activities						
In RMB ,000	2015A	2016E	2017E	2018E	2019E	2020E
Cash received from investment income	7,833.22	-	-	-	-	-
Cash received from asset disposal proceeds	149,206.43	-1,773.62	-1,773.62	-1,773.62	-1,773.62	-1,773.62
Fixed assets investment	-	552,153.21	550,000.00	400,000.00	482,707.00	300,000.32
Intangible assets investment	-	361,617.30	395,299.40	442,408.58	475,846.27	543,439.05
Cash flows related to other investment activities	1,018.26	26,695.98	26,695.98	26,695.98	26,695.98	26,695.98
Net cash generated from investment activities	-910815.7583	-888,848.15	-920,377.04	-817,486.22	-933,630.91	-818,517.01

Cash flow generated from financing activities						
In RMB ,000	2015A	2016E	2017E	2018E	2019E	2020E
Equity financing	-	-	-	-	-	-
Long-term interest-bearing debt increase	-	-	-798,445.78	-	-	-
Pay common stock dividend	-	358,735.18	401,843.21	476,989.95	564,003.02	614,107.84
Pay interest	116,627.25	108,490.44	102,535.22	96,069.12	82,719.23	60,150.30
Cash flows related to other financing activities	897,132.66	-	-	-	-	-
Cash flow generated before accounting short-term debt	-	-467,225.62	-1,302,824.21	-573,059.08	-646,722.25	-674,258.13
Increase in short-term debt	-727,441.79	-293,083.90	431,991.98	-297,728.11	-368,288.98	-792,314.31
Net cash generated from investment activities	286,318.11	-760,309.52	-870,832.23	-870,787.18	-1,015,011.23	-1,466,572.45

APPENDIX 8: Financial Analysis

Selling General & Administrative Expenses (SG&A)

Figure 8. Sales Expenses



Source: Company Annual Report

Based on common size analysis of Talsy's historical financial statements, we gladly to find that the selling expenses has the dropping tendency. However, as Talsy may enter more foreign countries, we have to forecast the selling expense will suffer a slowly increase in the future. SG&A of Talsy have accounts for approximately 22% of total revenue. As Talsy continues to saturate more markets, they will be able to drive market share without a substantial amount of advertising expenses. This trend combined with benefits due to economies of scales, leads to a projection of SG&A keep stable as a percentage of total revenue today after several years.

Depreciation & Amortization

The funds raised from private placement will be used for building new plants. With the plant construction finished and the depreciation completed, the company will perform better in the future. Now, the company faces pressure from high inventory, but the channel destocking and the receivables strategy begin to play a larger role. As a result, the upward cash flow ensures a healthier financial position for the company and the liquidity of Talsy has been improving as well. One of the core competitive of pharmaceutical manufacture enterprise is patents and intangible assets, for applying PRC GAAP, we believe the amortization of intangible assets of Talsy will increase due to lots of investment in R&D in recent year.

Interest Expense

We analyzed Talsy's asset structure, lots of long-term debt will expire in the next few years. We also noticed that Tasly released SCP (Super Short-term Commercial Paper) and bank loan to supply working capital. As the cash flow condition will improve in the future and the central bank may increase interest rate, we believe that abundant cash flow will be used for pay back debt. However, over time as Talsy continues to approach their 80/20 target capital structure, the company will be able to keep their total interest expense as a percentage of revenue level.

Figure 9. Comparison on R&D investment

Main TCM Competitors	R&D Investment	R&D/Revenue
Tasly	503.1	3.81%
999	234	3.22%
Yunan Baiyao	158.64	0.84%
Tongrentang	60.277	0.62%
Dong'e Ejiao	126	3.13%
Baiyunshan	279.286	1.49%

Source: Company Annual Report

R&D Expense

Compared to other traditional Chinese medicines companies, Talsy has a higher R&D expense/Revenue ratio, which is even higher than some famous domestic synthetic drug producers. Tasly's total R&D investment ranks 6th among all the Chinese listed pharmaceutical companies and ranks 1st in listed traditional Chinese medicine companies. This is why we regard Talsy as the differential one with other medicine producers. The large R&D expense results in success of CDSP, and we also hold an rigorously optimistic attitude towards future development because Tasly endeavors to exploit the potential indications (the new spaces where medication can be applied) of current drugs and owns relatively reasonable products lines. What's more, Talsy has been focusing on acquiring other professional innovative institutions as an indispensable supplement to its own research. However, we still cannot find a drug can achieve success as CDSP, in the next few years. This increase our concern of relying on a single product. So we believe the R&D expense may be increase in the new few years.

Appendix 9: Investment Risk

Regulatory Risk | *Change in requirements of R&D experiment and inspection (Low Likelihood, High Impact) (RR1)*

The research and development of a drug needs to go through multiple trials and inspection process. The contents of clinical researches have criteria as well. Once the criteria and process changed, Tasly might face certain risks such as longer R&D period, or even not passing the trials, in turn influencing its sales projection.

Regulatory Risk | *Change in policies of drug sale (Moderate Likelihood, Moderate Impact) (RR2)*

Since Tasly's drugs for sale are mainly health-care drugs, the price fluctuation of health-care drugs and change in purchasing policy might influence sales of Tasly's generic drugs.

Market Risk | *Decrease in product price (Low Likelihood, High Impact) (MR1)*

Since 1997, the retailing price of some medicines has been reduced by the Chinese government, which has directly influenced the profits of medicine manufacturing companies. Since 2005, several policies, such as price control within Medicare, the standardization of the price and the bidding and the full liberalization of medicine price, have significantly affected the price of medicine.

Market Risk | *The development of new product (High Likelihood, High Impact) (MR2)*

New medicine development, with the long cycle of the early Research & Development and the multiple links, is easily influenced by some unpredictable factors. It may be possible that the development of some new products cannot be completed as planned and that the profits of some products cannot be as much as expected.

Market Risk | *The rise of material prices and energy cost (Moderate Likelihood, Moderate Impact) (MR3)*

The price of traditional Chinese medicine has fluctuated with a general upward trend. The prices of some manufacture subsidiary and some packing materials are rising as well. Energy, like water, electricity, coal and gas, also witnesses a mild increase.

Operational Risk | *CDSP's slowing or failure in FDA clinical trials (Low Likelihood, High Impact) (OR1)*

CDSP, Tasly's hit product, may complete FDA Phase III clinical trials in a near future and launch into American market. However, the result of the trials is uncertain. If it fails, the expectation of expanding to oversea markets will be damaged and the predicted future sales of CDSP will drop.

Operational Risk | *Subsidiary corporation management & risk of merger and acquisition (High Likelihood, Moderate Impact) (OR2)*

The great number of Tasly's subsidiary corporations, which distribute nationwide with various business, have different level of corporation management and enjoy distinguished corporate culture. Thus, the management of its subsidiaries can be a risky task for Tasly. In the meantime, the rapid development drives the strategic industry M&A to accelerate, during which risks may occur in the links. Another obstacle is also likely to appear during the joint process of acquired corporation and Tasly after the merge and thus may affect the coordination within Tasly and the execution of their strategies

Operational Risk | *Too much R&D expenses focusing on PSD (Moderate Likelihood, Moderate Impact) (OR3)*

From Tasly's annual reports of recent years, most of its R&D are laid on PSD. As a medicine company, it is not safe to rely merely on CPSD. Factors, such as the sole structure of first-line product, the multiple types of second-line products but no eyes-catching growing point and the inadequate expenses on R&D, will all shadow the long-term development of Tasly.

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