

Research on High-Value Medical Consumables and Related Companies in China

Haoyang Wang^{1,*}

¹The University of Edinburgh, Edinburgh, Scotland, UK
 *Corresponding author. Email: s2090280@ed.ac.uk

ABSTRACT

This research analyzes the companies that can explode and continue to grow and the value they bring to society, and thus monitors the establishment of indexes for these companies with the same characteristics. There are market structural differences between China and the United States. This article will use excel to build a valuation model and compare it with the more mature leading companies in the same industry in the United States. It will compare the two industry leaders of Medtronic and MicroPort Medical to study the structural differences in the high-value medical consumables industry, the future trends of certain companies or even the entire industry, and their deep value.

Keywords: high value medical consumables, aging-market, GDP structural differences, China, United States

I. INTRODUCTION

According to data released by the National Bureau of Statistics of China in 2019, Chinese GDP is 14.3 trillion US dollars, while real estate accounts for one sixth, 2.4 trillion US dollars. The current wealth structure of Chinese households is too distorted. It is not in line with the economic conditions of developed countries to spend years of savings on buying houses to repay mortgages. Entering the ranks of developed countries in the future needs adjusting the market structure. Therefore, under the intervention of policy and economic environment, the development of new technology industries and the expansion of markets such as medical, chip, military industry and other fields have become indispensable lifeblood in China. These can greatly improve the quality of people's lives in such an environment. Even long-lived industries and companies are bound to usher in new development opportunities. As the population structure of our country becomes more and more aging, high-value medical consumables companies have gradually entered people's field of vision to meet the needs of the elderly to improve their quality of life ("Fig. 1"). This paper analyzes the relatively unfamiliar industry and related companies.

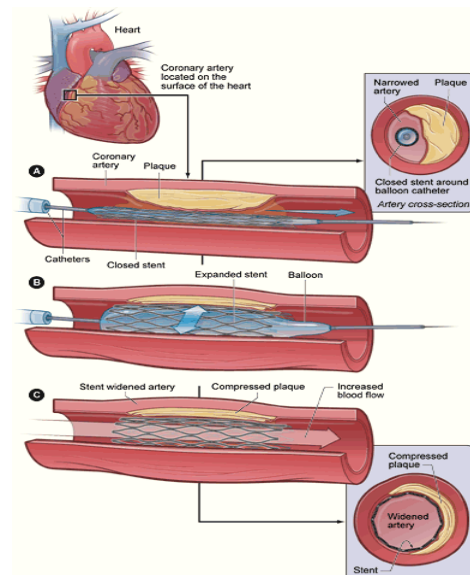


Fig. 1. High-value medical consumable: Coronary stent[10].

II. THE DIFFERENCE OF GDP

A. GDP data and the proportion of high-value medical consumables

In 2019, the United States is 21.43 trillion US dollars, China is 14.36 trillion US dollars, and the Chinese GDP is 67% of the US GDP. In 2018, the Chinese medical consumables industry accounts for 530 billion people, and the US medical consumables industry accounts for 2.34 trillion people's worth. In 2019, the Chinese medical consumables industry

accounts for 610 billion yuan, and the US medical consumables industry accounts for 2.8 trillion yuan. It could be expected that the Chinese medical consumables industry accounts for 700 billion yuan, while the US will exceed 3.3 trillion yuan in 2020. It is not difficult to find that Chinese high-value medical consumables are one-third of the United States in terms of percentage.[1]

From an absolute value point of view, it is about 4.4-4.7 times. In terms of Chinese economic strength, such gaps in the industrial scale structure must be filled. While gradually being filled, the development of some primary and secondary industries will slow down, and the year-on-year growth rate will drop. However, the filling of structural gaps will surely bring about the rapid development of Chinese medical technology and health care, which will affect the elderly in China. People's health and the soon-to-be-entered elderly society have laid the groundwork.

B. The demand for medical devices

The demand for medical devices grows faster than expected in recent years. The world market total is \$209 billion in 2006 and is projected to grow with an average annual rate of 6-9% through 2010. Driven by both the increasing demand in overseas markets and companies' ambition to pursue profit globally, the globalization of the medical device industry is intensified. So it is necessary to understand the global market.[2]

III. CHINESE AGING TREND AND ITS IMPACT ON HIGH-VALUE MEDICAL CONSUMABLES

For China, the peak period of fertility in China was around 1970, with a fertility rate of 3.34%. The formula for fertility rate is: birth rate = annual number of births / annual average number * 100%. In 1970, the Chinese had a population of 809 million. Excluding the assumption of unnatural death in 2020, 27 million people will reach the age of 50. This year, there will be more than 430 million 50-year-olds in China and 255 million people over 60, as shown in "Fig. 2".

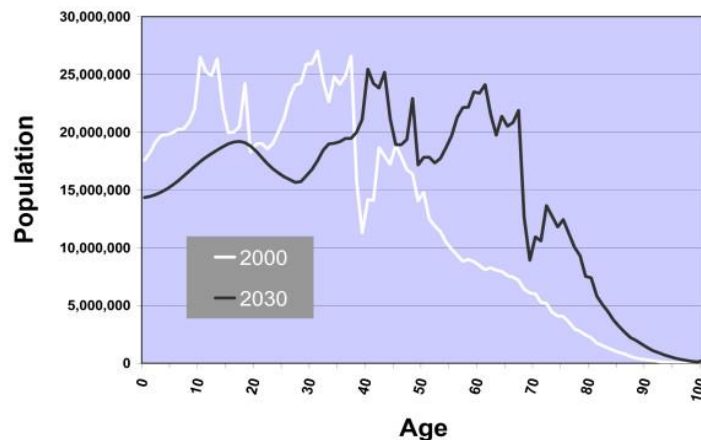


Fig. 2. Population [9].

China is facing a grim reality when it comes to chronic diseases in the country, which causes 86.6 percent of deaths in China. Statistics show that China now has nearly 300 million patients with chronic diseases, half of who are under 65 years of age.[2]

According to the United Nations, China is aging more rapidly than almost any country in recent history. Chinese dependency ratio for retirees could rise as high as 44% by 2050.[4]

In 2019, the scale of my country's home medical equipment market was 360.1 billion yuan, a year-on-year increase of 19.5%. In early 2020, a new type of coronavirus pneumonia broke out. Affected by the epidemic, and at the same time, as China's population is aging, people are paying more and more attention to a

healthy life, and the market demand is growing. Due to the sudden surge in equipment demand, the Industry Research Institute initially predicts that the medical equipment market will rise by 26% in 2020, and the market size will exceed 450 billion yuan.

IV. THE PRODUCTS OF MICROPORT MEDICAL AND THE BENCHMARKING MEDTRONIC

A. MicroPort

Since its establishment in 1998, MicroPort has become a leading interventional medical device provider in China. It promotes the development and popularization of interventional treatment as well as the development of inter-disciplines such as intelligent

manufacturing, biological materials, and 3D printing. There are currently 178 products on the market. The main products are coronary stents, artificial joints, aortic stents, cerebrovascular stents, and electrophysiological equipment. Among them, the coronary drug stent product is the first domestic drug stent system. The market share of joint products ranks fifth in the world. In addition to dozens of wholly-owned subsidiaries in 2014, it also established a joint venture with Italy's Sorin Company to develop, produce and operate pacemakers and other cardiac rhythm management products.

B. The background of Medtronic

Medtronic, Inc., headquartered in Minneapolis, Minnesota, is a world-leading medical technology company dedicated to providing life-long treatment options for patients with chronic diseases. Its main products cover arrhythmia, heart failure, vascular disease, heart valve replacement, extracorporeal heart support, minimally invasive heart surgery, malignant and non-malignant pain, movement disorders, diabetes, gastrointestinal diseases, urinary system diseases, spinal diseases, nervous system Diseases and ENT surgery and other fields.

C. Estimation

There are coronary drug stent systems, coronary metal stent systems, intracranial artery stent systems, thoracic aortic aneurysm and other supporting artificial vascular stents, balloon dilatation catheters, guiding catheters and related accessories, insulin pumps, orthopedic products, radio frequency Ablation electrophysiological catheter, etc.

Coronary stents are valued at 53.8 billion. From 2019 to 2022, profit will increase from 105 million US dollars to 230 million US dollars, with a compound growth rate of 30%, and a valuation of $2.3 \times 30 \times 7.79 = 53.8$ billion Hong Kong dollars.

The valve is valued at HK\$18 billion. Minimally invasive valve technology is superior to Qiming and coupled with the sales channels of minimally invasive coronary stents, it is likely to surpass Qiming Medical in three years. Corresponding to the MicroPort Xintong company has been listed, the shareholding is expected to be 50%, and the annual revenue growth will be at least 60%. Based on the double of Qiming's current valuation, it is 18 billion Hong Kong dollars ($=18$ billion Hong Kong dollars $\times 2 \times 50\%$).

Domestic pacemakers are valued at HK\$18 billion. The only domestic competitor of minimally invasive pacemaker is Lifetech, and other domestic competitors have several generations of technology. Lifetech's pacemaker is an OEM for Medtronic, and it has no control over R&D and sales, and it is not competitive.

Pacemakers are a bigger market than valves. The valuation is not lower than the valve.

Domestic orthopedics is valued at HK\$5.3 billion. From 2019 to 2022, MicroPort Orthopedics revenue will be from 28 million U.S. dollars to 113 million U.S. dollars, which may not be the first in China. According to PS=6 valuation, $1.13 \times 6 \times 7.79 = 5.3$ billion Hong Kong dollars.

The robot is valued at 1 billion Hong Kong dollars. The benchmark Da Vinci robot has entered the green approval channel and should be available in 2022. It is a blockbuster product comparable to stents and pacemakers, with a valuation of 1 billion first.

V. DISCUSSION OF FUTURE DEVELOPMENT

A. Industry development stage

The United States and other developed countries rely on the "brand + channel" business model to occupy the high value-added link of high-value medical consumables. The Chinese manufacturing process of high-value medical consumables is mature the volume is large, but the technology is not advanced, and the level of goods is too flat. China is the medical device market with the greatest potential in the world, and there is a lot of room for development. In 2005, China's medical device market has become the world's third largest market after the United States and Japan. The annual sales of medical devices reached 32.5 billion yuan, and the annual growth rate reached more than 40%. The sales of high-end medical equipment reached a growth rate of more than 20% speed. At the same time, the overall level of medical equipment in China's medical institutions is still very low. About 15% of the medical instruments and equipment owned by 175,000 medical and health institutions nationwide are products around the 1970s, and 60% are in the mid-1980s. For the previous products, the process of their upgrading is a process of demand release, which will ensure the rapid growth of China's medical device market in the next 10 years or even longer. Eco-type enterprises can better gain long-term competitive advantages. High-value medical consumables listed companies will build their own capital, industry, technology, market, talent and management platform with the help of scale, capital, market and technical advantages, and based on the agglomeration effect and empowerment of the platform Effect the ecological strategic layout.

In 2019, the total number of approvals for the second and third categories of medical devices in China reached 25,500, an increase of 53.6% year-on-year. Among them, the State Food and Drug Administration approved a total of 8,471 medical device registrations for the first time, renewal, and change of registration, an increase of 53.2% compared with 2018. According to the registered varieties, there are 5226 medical

devices, accounting for 61.7% of all medical device registrations and 3,245 in vitro diagnostic reagents, accounting for 38.3% of all medical device registrations.

B. Market space

The industry in developed countries like Europe and America tends to be saturated and the growth rate is slow. Due to domestic substitution, medical insurance policy reforms, the gradual increase in urbanization rate, and Internet dividends superimposed on consumption upgrades, the industries in China have opportunities for exponential growth.

Since 2016, the scale of the global medical device market has continued to increase, with a year-on-year growth rate fluctuating around 5%. In 2019, the global medical device market has reached US\$451.9 billion, with a year-on-year growth rate of 5.63%. It is estimated that the global medical device market will reach US\$477.4 billion in 2020, entering a stage of steady development. At present, the United States still occupies the largest market share in the global medical device industry, followed by Europe, with China accounting for only 4%, and the market size is far smaller than that of developed countries. Therefore, China's medical device industry still has a large room for development.

Since 1970, health care spending has grown at an average annual rate of 9.9%, or about 2.5 percentage points faster than GDP. In recent decades, the growth rates for health spending and GDP have slowed, but health spending growth remains consistently above GDP growth. As a share of the economy, health care has risen from 7.2% of GDP in 1965 to over 16% of GDP today, and it is projected to be 20% of GDP just 10 years from now.[7]

C. Industry channels

The most mature American market is still dominated by brand sales, and the various channels of domestic high-value medical consumables require a centralized procurement policy to reduce the channel fees earned by middlemen.

The centralized procurement policy is popularized in all provinces, and the price of most domestic medical devices has been reduced by 80%; Chinese per capita salary has risen, per capita GDP has risen, urbanization has increased, the rural population has decreased, and medical insurance has increased. Reform and targeted poverty alleviation have resulted in more elderly people being able to enjoy social medical benefits. The useful life of a high-value medical consumable is about 10-20 years, which effectively reduces the inconvenience caused by replacement. In terms of cost, the quantity of high-value medical consumables will increase, and the

80% price reduction brought by centralized procurement will also be deducted from the channel expenses earned by the intermediary between manufacturer and hospital. It does not affect the interests of the manufacturer, and the company is still in a state of normal profitability.

VI. CONCLUSION

The growth rate of Chinese GDP far exceeds that of the United States and there are structural differences in high-value medical consumables. Its percentage of GDP is much lower than in the United States. As the aging population increasing, the proportion of urban residents and the general consumption level of the population rising, and the policy of centralized procurement of medical devices released, the consumption of medical devices will increase significantly. MicroPort is a platform company. As mentioned before, it has innovative products in multiple medical fields and has extremely efficient management capabilities. It can become Chinese Medtronic from the current point of view, the penetration rate is low. Once the service is upgraded or the product price drops, there will be more market space. At present, most of the high-value medical consumables circulation companies in China are small and medium-sized distributors, with simple business models and mainly rely on the operators' own resources to carry out their operations. The daily operation and management are also judged by the operators based on their own experience, and a relatively complete internal management system and the business process standards have not yet been formed. Due to the small scale of operations, most of these companies have not established an information management system, which is difficult to meet the regulatory requirements of the regulatory authorities, and the overall technical level of the industry is low. With the emergence of various new business models, some powerful dealers have gradually established professional management teams and formed a quality control system. The information management system has been gradually improved, and the technical level has been improved. A few industry-leading large-scale distribution platforms or supply chain management service providers for high-value medical consumables have begun to try to combine new technologies such as digital inventory management, mobile Internet, and e-commerce with businesses to further improve the technical level of enterprises.

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