



Research on the Reasons and Countermeasures of Domestic Pulp Price Rising

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Abstract. In the second half of 2020, China's domestic pulp prices began to rise. The main reasons are the appreciation of the RMB, the policy of banning the import of waste paper, the increase in demand for paper products at home and abroad, and currency overspending. The rise in pulp prices has increased the production costs of downstream paper and paper products, directly led to the increase in product prices, and indirectly pushing up economic operating costs. At the same time, it will also change the structure of market competition and some companies will expand production capacity. Measures to cope with the increase in pulp prices include the development of bamboo pulp papermaking, foreign direct investment to replace pulp imports, opening up new sources of pulp imports, and developing a circular economy to save resources.

Keywords: Pulp, price increase, bamboo pulp, international direct investment

1 Introduction

China is a major producer of pulp. According to the Annual Report of China's Paper Industry (2006-2019), since 2010, China's pulp production has remained above 72 million tons, with the highest proportion of waste pulp. However, since 2018, with the decrease in waste paper imports, the production of waste pulp has gradually decreased; The production of non wood pulp has been decreasing year by year since 2011; The production of wood pulp has been increasing year by year, surpassing that of non wood pulp since 2014. ^[1] Domestic pulp cannot meet the raw material demand of the domestic paper industry, and a large amount of pulp and waste paper should be imported every year. However, due to policy reasons, the import of waste paper will be prohibited from 2021, and the raw materials for waste pulp will be further reduced; Although there has been an increase in pulp imports, the growth rate is slow and cannot make up for the gap caused by the ban on waste paper imports. So since the second half of 2020, domestic pulp spot and futures prices have gradually increased, and futures prices can better reflect the trend of pulp prices. The significant price increase of pulp in this round has had a significant impact on the domestic paper industry. It is necessary to analyze the reasons and impacts of this round of price increase and provide corresponding policy recommendations.

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2 Analysis of the Reasons for the Price Increase of Pulp

The reasons for the increase in pulp prices in this round should be analyzed from two aspects: supply and demand. In terms of supply, the domestic paper industry heavily relies on imported pulp, which requires a large amount of imports. In 2018 and 2019, the imported pulp (including waste paper) was \$24 billion and \$19.24 billion, respectively. So it is necessary to focus on analyzing the import trade of pulp; In terms of demand, the main focus is on the development of downstream paper making industry, including production and export. Cai Xinyu et al. (2013) that the main factors affecting the changes in China's wood pulp imports include: China's waste paper imports, world wood pulp supply, actual gross domestic product, international wood pulp prices, and the real effective exchange rate of the Chinese yuan.^[2] This article mainly considers three major factors: exchange rate, waste paper imports, paper industry output, and exports, as well as currency oversupply factors.

2.1 Exchange Rate Factors

The appreciation of the RMB is beneficial for imports. At the end of 2019, since the outbreak of the COVID-19, production and life in many countries have been severely impacted. Among the big countries, only China has taken effective measures to control the epidemic and production. In addition, central banks of various countries adopt loose monetary policies, which puts pressure on their currencies to depreciate externally. In this context, from June to July 2020, the RMB began to appreciate relative to the US dollar. On March 2, 2021, the central parity rate between the RMB and the US dollar was 6.4648, while on June 1, 2020, it was 7.1315. During this period, the appreciation of the RMB against the US dollar was significant, which was extremely beneficial for imports and for pulp imports. At the same time, China is a major importer of pulp. Due to the existence of the power effect, the import of wood pulp in China has increased, while the import price has also increased, further causing an increase in domestic pulp prices.

2.2 Import Policy Factors

For a long time, waste paper has played an important role in China's imported papermaking raw materials, but with the improvement of economic development level, the government is paying more and more attention to environmental protection. In recent years, there has been an increase in the control of solid waste imports. From 2016, with the decrease in waste paper imports, the total amount of pulp imports has gradually decreased. In 2019, the number of pulp imports decreased by 23% compared to 2016. In the first half of 2020, the import of waste paper further decreased. On November 24, 2020, the Announcement on the Comprehensive Prohibition of the Import of Solid Waste was issued, which clearly prohibits the import of solid waste (including waste paper) in any form. This regulation has been implemented since January 1, 2021. After the ban on the import of waste paper, the supply of raw materials for domestic waste

pulp has significantly decreased, resulting in a decrease in domestic pulp supply and inevitably leading to an increase in pulp prices.

2.3 Demand Factors

After years of development, despite a shortage of domestic raw materials, China's paper industry has still made tremendous progress, becoming a major producer and exporter of paper and paper products. In addition, the domestic epidemic control measures are appropriate, and production has fully resumed. However, many countries still have severe epidemics and are unable to carry out normal production activities, requiring the import of various manufactured products from China, including paper and paper products. The development of the paper industry will inevitably require more pulp raw materials, exacerbating the imbalance between pulp supply and demand.

(1) Increase in domestic demand for paper and paper products.

Since the reform and opening up, Chinese economy has continued to grow, the per capita income level has been continuously improving, and the national consumption of paper and paper products has shown a gradual increase trend. Whether it is household paper or packaging paper, the demand is constantly growing, and the corresponding output of paper and paper products is also growing rapidly. Li Zhen and Cheng Baodong(2013) analyzed the relationship between per capita GDP and paper product consumption in major countries in the world in 2011 and found a positive correlation between the two. With the growth of GDP, the consumption of paper products tends to saturate.^[3] According to a survey by the China Paper Association, "In 2019, the national production of paper and paperboard was 107.65 million tons, an increase of 3.16% compared to the previous year. The consumption was 107.04 million tons, an increase of 2.54% compared to the previous year. From 2010 to 2019, the average annual growth rate of paper and paperboard production was 1.68%, and the average annual growth rate of consumption was 1.73%.^[1] The growth in demand for paper and paper products is bound to be accompanied by an increase in demand for pulp.^[4]

(2)Export growth of paper and paper products.

The international market demand has driven China's paper and paper product exports, and paper and paper products have become important export products for China.^[5] The following is an analysis of China's paper and paper product exports using HS48 product data.

After years of development, China's paper industry has gradually grown and occupies an increasingly important position in the world market. After sustained growth in exports, China's paper and paper product exports reached 22 billion US dollars in 2019, surpassing Germany and ranking first in the world; In 2001, the export value of this product was only 1.48 billion US dollars. The international market share of Chinese paper and paper products has rapidly increased from 1.5% in 2001 to 12.9% in 2019. The rapid development of China's paper and paper products export is inseparable from the improvement of competitiveness.^[6]

2.4 Monetary Factors

Since the outbreak of the COVID-19, the central banks of all countries have adopted loose monetary policies, which has led to a serious oversupply of money. And the currency oversupply has not yet triggered widespread price increases, that is, there has been no hyperinflation. So where has the oversupply currency gone? Most of them have gone to the asset market: the stock market is booming, commodity prices are skyrocketing, and real estate prices are rising. Just before the outbreak of the epidemic, pulp also entered the commodity exchange and became the subject of futures trading: with the approval of the China Securities Regulatory Commission, pulp futures were officially listed on the Shanghai Futures Exchange on November 27, 2018, and relevant enterprises can avoid spot market price fluctuations through pulp trading. Benefiting from the abundant money supply in the market, the pulp futures prices on the Shanghai Futures Exchange have been rising since November last year.

3 Analysis of the Impact of the Rise in Pulp Prices

The significant increase in pulp prices will inevitably drive up the prices of paper and paper products while increasing downstream production costs. At the same time, it will have a series of impacts on downstream paper market competition and domestic pulp production capacity. Even by increasing the packaging and transportation costs of other commodities, the conference will drive up domestic prices. Specifically, the increase in pulp prices will change the competitive landscape of downstream industries, attract domestic manufacturers to expand pulp production capacity, and increase the overall operating costs of the society.

3.1 Changing the Competition Pattern of Downstream Industries

The rise in raw material prices has increased the production costs of downstream enterprises, inevitably leading to price increases for downstream products. In 2020, the domestic paper and paper product industry has experienced multiple rounds of price increases. However, different enterprises are affected to varying degrees by the rise in pulp prices. There are many domestic paper making enterprises, and only a few large enterprises produce pulp themselves, such as Chenming Paper, Sun Paper, and other forest paper integrated enterprises, which can produce all or part of the pulp themselves. The rise in pulp prices is beneficial for these large enterprises. Most enterprises rely on external procurement or the use of imported pulp, which has been greatly impacted, especially some small and medium-sized enterprises, which are unable to hoard a large amount of raw materials or avoid risks in the futures market. They can only purchase raw materials in the spot market. If the aforementioned large enterprises rely on cost advantages and increase prices less than the average level, they may gain more market share, and some small and medium-sized enterprises may be eliminated, leading to an increase in industry concentration.

3.2 Attracting Domestic Manufacturers to Expand Pulp Production Capacity

The price of pulp is rapidly rising in the short term, and in the future, waste paper cannot be imported, which means that the pulp industry has considerable profits and low risks. In order to obtain high profits, domestic manufacturers will take the opportunity to expand their pulp production capacity or build new production capacity. According to reports, major domestic paper companies are increasing their pulp production capacity. Since 2019, almost all large domestic pulp and paper enterprises, including Jiulong Paper, Liwen Paper, Asia Pacific Senbo, Chenming, Sun, etc., have launched plans to increase pulp production capacity. Giant companies such as Shanying International, Liwen, Jiulong, Sun, etc. have chosen to layout pulp production capacity in Southeast Asia that is closer to the origin of wood chip raw materials or overseas ports.^[7] The vast majority of Southeast Asian countries are ASEAN members and have good economic and trade relations with China, Under the framework of the China ASEAN Free Trade Area and RCEP, both institutional guarantees can be obtained and the convenience of free trade can be fully utilized to export products to other free trade partner countries.

3.3 Possible Increase in Overall Economic Operating Costs

Due to the wide range of applications of paper and paper products, in addition to printing paper and household paper, there is a greater demand for packaging paper, especially for the transportation of online goods that require a large amount of packaging cardboard or cardboard boxes. Not only has the cost of household paper increased, but after multiple rounds of price increases in 2020, the price of domestic packaging paper has increased significantly compared to 2019.^[8] After the price of packaging paper increases, the packaging costs of various enterprises also increase, inevitably leading to an increase in commodity prices; In order to compensate for the increased transportation and packaging costs, e-commerce enterprises will also increase their product prices, otherwise they will have to bear their own costs, resulting in reduced profits or even losses. Ultimately, it leads to an increase in the operating costs of the entire society.

4 Policy Recommendations for Responding to the Rise In Pulp Prices

Due to the time required for the construction of new pulp production facilities and the longer production cycle of wood, the main raw material for papermaking, the price of pulp should remain high for a period of time at least until the new pulp production capacity is put into operation. The following measures should be taken to cope with the increase in pulp prices.

4.1 Developing Bamboo Planting and Promoting Bamboo Pulp and Paper Making

We should continue to promote bamboo pulp papermaking.^[9] Li Zhen and Cheng Baodong (2013) used a model to predict that the demand for wood in China's paper industry will grow at an average annual rate of 9% from 2012 to 2020.^[3] However, China's forest resources are limited, and forestry policies do not support the use of domestic wood for papermaking. So we need to find alternative raw materials, and in this regard, we should learn from India to develop bamboo pulp papermaking. India is doing well in bamboo pulp papermaking, with approximately two-thirds of the pulp required for its paper industry coming from bamboo^[10]. Bamboo not only has a high content of cellulose, but also has longer fibers, making it suitable for papermaking. The performance of bamboo pulp paper is similar to that of wood pulp paper. In India, there are approximately 1500 departments that use bamboo, with the most important being the pulp and paper industry, which consumes approximately 40% of bamboo^[11]. Bamboo has a short growth cycle and can be harvested for many years in one planting. Developing bamboo pulp for papermaking can replace wood pulp, reduce deforestation, protect the natural environment, and also increase farmers' income. China is the country with the richest bamboo resources in the world, ranking first in terms of both types and bamboo forest area. It is even more important to develop bamboo pulp papermaking.

4.2 Encouraging Paper Enterprises to Make Foreign Direct Investment

China is already a major country in foreign direct investment. According to the *2019 Statistical Bulletin of China's Foreign Direct Investment* released by the Ministry of Commerce, China's foreign direct investment in 2019 covered 188 countries and regions worldwide, with an investment amount of 136.91 billion US dollars, second only to Japan in terms of traffic volume and ranking second in the world. China's "the Belt and Road" initiative, FTA strategy and China EU Investment Agreement have brought new opportunities for Chinese enterprises' foreign direct investment and provided institutional guarantee; At the same time, the appreciation of the RMB that began in 2020 has increased the purchasing power of the RMB, which is also beneficial for enterprises to go global. Due to the scarcity of wood pulp raw materials in China, papermaking enterprises should be encouraged to follow the trend and "go global" to directly invest in countries and regions with abundant forest resources or developed artificial forest industries, implement pulp and paper integration, produce pulp and paper locally, and then export finished products to other countries through trade. In this way, by directly investing in foreign production, foreign forest resources can be fully utilized while reducing the demand for pulp imports. For paper companies that currently have the opportunity or have started to engage in international direct investment, policy preferences can be given.

4.3 Opening up New Sources of Pulp Import

Although the sources of pulp imports in China are relatively scattered at present, with the ban on waste paper imports, the gap in wood pulp will be large, which is bound to increase the import of wood pulp. Such a large volume, if only to expand imports from several major countries, will inevitably lead to an increase in prices, so it is necessary to find new sources of pulp imports. Cai Xinyu et al. (2013) ^[2] and Xiong Xiaokun (2017) ^[12] both believe that there should be a diversification of pulp import sources to diversify risks. We should make full use of the international economic integration strategy and increase the pulp imports from the partner countries of the free trade area and countries along the the Belt and Road. The higher standard free trade agreement RCEP signed in 2020 covers 10 ASEAN countries, as well as China, Japan, South Korea, Australia, and New Zealand. Therefore, it is necessary to expand imports from member countries with relatively more pulp exports in RCEP, such as Chile, Indonesia, Japan, Singapore, New Zealand, Laos, Malaysia, Thailand, and Australia. In addition, the current import scale of bamboo pulp is still relatively small, and India's bamboo pulp papermaking scale is relatively large. It can be considered to import some bamboo pulp from India.

4.4 Developing Circular Economy and Saving Paper

Given that the development of the wood pulp industry will consume a large amount of forests, damage the natural environment, and exacerbate climate issues, domestic wood pulp production should be controlled. However, by developing a circular economy, the demand for paper products can be reduced, thereby reducing the demand for pulp. Developing a circular economy is the only way to reduce material consumption and achieve green development. Firstly, we should learn from the relevant practices of developed countries, promote the green packaging system, eliminate excessive packaging, and encourage recyclable packaging. Especially in the current domestic online shopping logistics process, transportation packaging does not affect sales like sales packaging, and should be recycled. It is possible to consider adopting appropriate policies to encourage users to unpack and return the transportation packaging to the courier company, and then return it to e-commerce enterprises for reuse. Secondly, waste pulp is an important papermaking raw material, accounting for a very high proportion of domestic pulp consumption. After foreign waste paper cannot be imported, a waste paper recycling system should be improved to fully utilize domestic waste paper resources.

5 Conclusion

Due to the ban on the import of solid waste such as waste paper, coupled with the appreciation of the RMB and the increase in demand for paper products, a round of domestic pulp prices in China has been rising since the second half of 2020. This round of price increases has been significant, but it has increased the costs for downstream users. The rise in pulp prices has increased the production costs of downstream paper

and paper products, directly leading to an increase in product prices and indirectly driving up economic operating costs. In order to cope with the rise in pulp prices and mitigate fluctuations in pulp prices, it is necessary to develop bamboo pulp papermaking to increase pulp supply, encourage paper companies to make direct investments abroad to obtain forest resources or establish pulp mills abroad, open up new sources of pulp imports to diversify risks, and develop a circular economy to reduce terminal demand in order to save forest resources.

Reference

1. Annual Report of China Paper Industry (2006-2019) [EB/OL]. Website of China Paper Industry Association: http://www.chinappi.org/report_annual.html.
2. Cai Xinyu, Tian Minghua, Cai Fei, et al., Empirical Analysis of Factors Influencing China's Wood Pulp Import [J] *Forestry Economy*, 2013(06): 58-69.
3. Li Zhen, Cheng Baodong, Prediction and Analysis of Wood Demand in China's Paper Industry [J] *Forestry Economy*, 2013(07): 49-52.
4. Rossato F.G.F.S., Susaeta A., Adams D. C., et al., Comparison of received comparative advantage indices with application to trade tensions of cell production from planted forests in Brazil, Canada, China, Sweden, Finland, and the United States [J] *Forest Policy and Economics*, 2018,97: 59-66.
5. Lin Weiming, Chen Jianling, Zheng Yi, et al Export Growth of Chinese Paper Enterprises: Innovation Driven or Factor Driven? [J] *Forestry Economy*, 2019,41 (10): 32-37,69.
6. Zuo Mingliang, Zhang Jian. Analysis of the International Competitiveness of China's Paper Industry [J] *Research on Technology Management*, 2011 31(04): 111-113.
7. The continuous rise in pulp prices has led to changes in industry competition [EB/OL] https://m.sohu.com/a/444244657_653175 January 13, 2021.
8. The price increase letters for paper products are continuously increasing, and the range of price increases is expanding [EB/OL] https://www.sohu.com/a/451627109_653175 February 20, 2021.
9. Jiang Shuzhu, Nie Ying. Analysis of the Causes of China's Pulp Trade Deficit [J] *Forestry Economic Issues*, 2007 27 (4): 331-334340.
10. Dwivedi A.K; Kumar A, Baredar P., et al., Bamboo as a complete loop to address climate change and livelihood – Insights from India [J] *Forest Policy and Economics*, 2019,102: 66-74.
11. Sawarkar A. D., Shrimankar D. D., Kumar A., et al., Commercial clustering of sustainable bamboo specifications in India [J] *Industrial Crops and Products*, 2020,154:112693.
12. Xiong Xiaokun. Research on the Development of China's Pulp Import Trade [J] *Reform and Strategy*, 2017,33 (08): 185-187.

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