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Reason Analysis and Risk Prevention of Soaring Price of Traditional Chinese Medicinal Materials

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Abstract In recent years, the price of traditional Chinese medicinal materials soars continuously, and the resulting price risk increasingly looms large, which has critically affected midstream and downstream industries and peoples' demand for drug, and imperiled healthy and orderly development of traditional Chinese medicinal industries. Based on the status quo of continuous skyrocketing price of traditional Chinese medicinal materials at present, we winkle out the root cause of soaring price as follows: the supply and demand lose balance; the production costs hike up; there are other factors responsible for soaring price. This paper further analyses the impact of sharp increase in price of traditional Chinese medicinal materials on all links of industry chain as follows: the medicinal herb growers never benefit from soaring price; the counterfeiters and forgers in midstream industry increase; the gross profit rate of Chinese medicine enterprises declines. In accordance with the risk arising from abnormal fluctuation in price of traditional Chinese medicinal materials, corresponding precautionary measures are put forward as follows: promote the quality of traditional Chinese medicinal materials through management of value chain; curtail the production and management cost of traditional Chinese medicinal materials through management of organization chain; stabilize price of traditional Chinese medicinal materials through management of information chain; reduce transaction cost of traditional Chinese medicinal materials through management of logistics chain.

Key words Traditional Chinese medicinal materials, Soaring price, Risk prevention, Industry chain, China

In recent years, the fluctuation phenomenon of price in traditional Chinese medicinal materials occurs frequently in China, and traditional Chinese medicinal materials jump from "plain drug" to "noble medicine". The price of traditional Chinese medicinal materials is soaring and the price is perplexing. Sudden increase to some extent scathes the majority of links in industry chain of traditional Chinese medicinal materials. Some Chinese medicine companies have already complained incessantly, and the drug growers are also under great risk, seriously influencing the sustainable development of Chinese medicine industry and people's daily life. Based on the status quo of continuous skyrocketing price of traditional Chinese medicinal materials at present, we winkle out the root cause of soaring price and point out the peril of skyrocketing price of traditional Chinese medicinal materials to industry chain of traditional Chinese medicine. In accordance with the risk arising from abnormal fluctuation in price of traditional Chinese medicinal materials, we put forward corresponding precautionary measures.

1 The status quo of fluctuation in current price of traditional Chinese medicinal materials

At present, the price of traditional Chinese medicinal materials in China soars continuously. In the period March 2009 – November 2010, the price of traditional Chinese medicinal materials undergone three waves of rapid price rise, the market index of traditional Chinese medicinal materials rose by 261.84%, and the frequency of sharp rise cycle increased gradually^[1]. Since

March 2011, traditional Chinese medicinal materials have entered the fourth round of price increase, and the price system of traditional Chinese medicinal materials has been in face of losing control. Heterophylla rose from 21 yuan per kilogram to 560 yuan per kilogram, ranking No. 1 in the list of varieties whose price is increased; the rise amplitude of *Isatis indigotica* Fort, *Panax*, *psoralen*, *balloonflower* root and other common varieties, is more than 500%, showing "hop-style rise in price". With the fourth wave of rise in price, the market sensitivity is also significantly improved, and if there is a slight sign of trouble, it will cause chain reaction of the price of related varieties.

2 Reason analysis of fluctuation in price of traditional Chinese medicinal materials

At present, the abnormal fluctuation in price of traditional Chinese medicinal materials is mainly affected by supply and demand change of traditional Chinese medicinal materials, climate disasters, inflation pressure, degree of development of Chinese herbal medicine market, hot money speculation and many other factors. The fluctuation in output of traditional Chinese medicine, increased production costs, and exuberant social demand, arising from social and environmental objective factors, are in line with economic laws, and the trend of soaring price of traditional Chinese medicinal materials is inevitable. However, the soaring price of some traditional Chinese medicinal materials is manipulated by someone, and idle fund and brokers capitalize on consumers' psychology hint, to speculate in concept and spread false information, resulting in skyrocketing price.

2.1 The supply and demand lose balance The imbal-

anced supply and demand is the main factor responsible for rising prices. On the one hand, as society's emphasis on Chinese herbal medicine is gradually ratcheted up, the demand for traditional Chinese medicinal materials tends to boom day by day. In recent years, outbreak of avian flu, pandemic influenza and other plagues also increase the new demand for traditional Chinese medicinal materials. On the other hand, multiple factors lead to the current serious shortage of supply of traditional Chinese medicinal materials. Long-term downturn of market of traditional Chinese medicinal materials directly results in "cheap price of medicine harming growers"^[2]; the growth cycle of traditional Chinese medicinal materials is long, and the expected risk is formidable, so in the case of the lack of incentives, many drug-growers "relinquishing growing drug and returning to farmland"; there is a shortage of rural labor forces; natural disasters occur frequently; the area of cultivable land dwindles year by year. So weak the upstream production is obviously difficult to sustain huge market demand, and structural supply and demand contradiction is imminent.

2.2 The production costs hike up Another objective factor responsible for universal rise in price of traditional Chinese medicinal materials is inflation pressure, and sharp rise in production costs. The costs of planting, harvesting, transportation of traditional Chinese medicinal materials, land cost, rent, and costs of water and electricity are increased year by year. The prices of all kinds of production factors also rise on the whole. In China's largest growing base of medicinal plant, Longxi in Gansu Province, the price of Astragalus, new seed of *Isatis indigotica* Fort, and *Codonopsis*, rises by 1–2 fold.

2.3 There are other factors responsible for soaring price

The market development of traditional Chinese medicinal materials lags behind. Many circulation links, and information asymmetry are the main factors for the inflated prices of traditional Chinese medicinal materials. The traditional Chinese medicinal materials may probably go through the process of "farmers growing drug-druggists purchasing drug-druggists reselling drug to the agents-the drug is transferred to consumers. There are multiple agents, and price increases layer by layer. In addition, irrational condition of traditional Chinese medicine market also drives the price of traditional Chinese medicine high. Influx of hot money, hot money speculation, and some drug dealers and drug growers corner the market so that the market takes on false prosperity, driving up the price of Chinese herbal medicines.

3 The impact of sharp increase in price of traditional Chinese medicinal materials on all links of industry chain

According to the meaning of industrial chain^[3], the industrial chain of traditional Chinese medicine can be defined as the industrial chain including various links from planting of traditional Chinese medicinal materials to consumers getting herbal medicine products or related products (Fig. 1). Through information flow, material flow, capital flow and knowledge flow, all industrial nodes in industry chain of traditional Chinese medicine, and the participating main body, interrelate, and restrain each other. Certainly they are also interdependent upon each other.

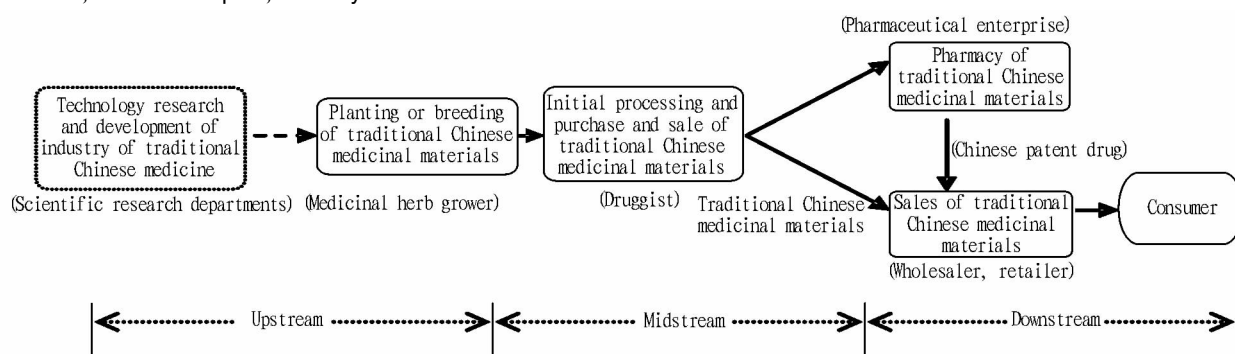


Fig. 1 Industry chain of traditional Chinese medicine

3.1 The medicinal herb growers never benefit from soaring price Skyrocketing prices are not translated into benefits for herbal growers, and more and more people swarm into distribution chain. At present, most of traditional Chinese medicinal materials are still in mode of scattered planting by individuals. There is small correlation between interests of traditional Chinese medicine manufacturers and interests of herbal growers, and prices reflect market conditions. The herbal growers bear dual risks of production and management.

3.2 The counterfeiters and forgers in midstream industry increase The soaring prices of traditional Chinese medicinal materials will cause drug dealers in midstream industries to produce fake products, and sell counterfeit products. And the means is ever-changing, such as For example, fumigating sul-

fur into angelica, mixing soil into "cicada clothing", adding lime to "stiff silkworm", adding flour to Pangolin Scales, injecting heavy metals into Chinese Insectgrass^[4]. The bad behaviours have seriously affected the healthy and orderly development of trade and circulation of traditional Chinese medicinal materials.

3.3 The gross profit rate of Chinese medicine enterprises declines Although the price of traditional Chinese medicinal materials increases universally, the price increase of Chinese patent drug is not significant. The increased production cost of downstream industry chain arising from rise in price of traditional Chinese medicinal materials, can only rely on internal digestion of pharmaceutical companies. Therefore, the gross margin of most traditional Chinese medicine enterprises lowers universally. Driven by economic interests, when purchasing medicinal

herbs, the enterprises acquiesce at some shoddy medicines, and even some medical institutions and pharmaceutical enterprises purchase traditional Chinese medicinal materials, posing major threat to drug use of the masses.

4 Measures of industry chain management to prevent price risk of traditional Chinese medicinal materials

Although some measures, such as intensive production, policy subsidies, increasing the stock of medicines demanded suddenly^[2], and establishment of early warning mechanism and e-commerce platform^[1], play a role in avoiding price risk of traditional Chinese medicinal materials in different aspects, from the overall point of view, strengthening industry chain management of traditional Chinese medicinal materials is a realistic choice for avoiding price risk of traditional Chinese medicinal materials.

The industry chain management of traditional Chinese medicinal materials^[5] integrates supply of means of production of traditional Chinese medicinal materials, production, processing, storage, marketing and other links of traditional Chinese medicinal materials into an organic whole, and organizes, coordinates and controls the flow of human, money, material, information, technology and other elements, to obtain added value of Chinese medicine products. Industrial management of traditional Chinese medicinal materials can improve productivity of traditional Chinese medicinal materials, reduce cost of traditional Chinese medicinal materials, improve quality of traditional Chinese medicinal materials, stabilize supply and demand relationship of traditional Chinese medicinal materials, and thus avoid price risk of traditional Chinese medicinal materials.

4.1 Promote the quality of traditional Chinese medicinal materials through management of value chain The source of price risk of traditional Chinese medicinal materials is supply and demand imbalance. In the current context of exuberant rigid demand for traditional Chinese medicinal materials, how to improve production and assure quality is the primary task of reducing the price risk. We should conduct control over quality of industrial chain in the whole process, determine production specification, variety, quality standards, seeds supply, and centralized production of traditional Chinese medicinal materials before production, carry out technical service and unified management in production, and carry out unified purchasing, processing, packaging, storage *etc.* after production, so that the specification quality of traditional Chinese medicinal materials is improved, to form virtuous cycle, address the supply and demand contradiction, promote international competitiveness of traditional Chinese medicinal materials and increase product price.

4.2 Curtail the production and management cost of traditional Chinese medicinal materials through management of organization chain We should rationally arrange the production of traditional Chinese medicinal materials, take intensive road. The industry chain management of traditional Chinese medicinal materials emphasizes the core business as leader, op-

timizes the function of whole industry chain and logistics system^[6,7]. Through "intermediary + herbal growers", "company + herbal growers" and other ways, the organization carriers of industrial chain management of traditional Chinese medicinal materials (such as companies, intermediaries, associations *etc.*), establish a stable relationship with growers of traditional Chinese medicinal materials. According to market demand, the organization carriers of industrial chain management of traditional Chinese medicinal materials carry out specialized, intensive and large-scale production, integrate scattered social resources, improve resource allocation efficiency of traditional Chinese medicinal materials, and reduce production costs. For bulk traditional Chinese medicinal materials, we can establish standardized planting base of traditional Chinese medicinal materials in line with requirements of GAP, or adopt the order supply mode of traditional Chinese medicinal materials to meet needs. Meanwhile, we should conduct unified management on production, processing and distribution of traditional Chinese medicinal materials, improve management efficiency and reduce management costs.

4.3 Stabilize price of traditional Chinese medicinal materials through management of information chain For a long time, due to information asymmetry of the market price of traditional Chinese medicinal materials, the imbalance between supply and demand of some varieties causes price fluctuations. Therefore, we need to develop information service industry urgently, to turn information services into eyes of growers of traditional Chinese medicinal materials. In April 2011, the first traditional Chinese medicinal materials index in China approved by the Ministry of Commerce was released^[8]. This index, as an important indicator reflecting price of traditional Chinese medicinal materials and industrial prosperity of traditional Chinese medicinal materials, will become an important way for the government to formulate policy, regulate the market, lead growing of medicinal plant, and monitor.

4.4 Reduce transaction cost of traditional Chinese medicinal materials through management of logistics chain

Through logistics chain management of traditional Chinese medicinal materials, we should organize herbal growers who adopt decentralized management, so that various links in whole production process of traditional Chinese medicinal materials are connected into a whole industrial system. The growers of traditional Chinese medicinal materials get logistics services regarding supply and marketing, transportation, and technology consulting in the process of planting and production of traditional Chinese medicinal materials, so that the decentralized growers of traditional Chinese medicinal materials and the leading enterprises are combined organically, to form risk-sharing, interests-sharing economic community, avoid the price risk arising from the uncertainty of future market, reduce the risk of growers of traditional Chinese medicinal materials, reduce the trading links, reduce transaction costs, decrease the price of traditional Chinese medicinal materials, and strengthen the market competitiveness of traditional Chinese medicinal materials.

5 Conclusion

The production of traditional Chinese medicinal materials is the source for industry of traditional Chinese medicinal materials. The volatility and fluctuation in price and yield of traditional Chinese medicinal materials and instability in quality of traditional Chinese medicinal materials, affect the quality and demand of final product of traditional Chinese medicinal materials, to make the entire industry of traditional Chinese medicinal materials lack market competitiveness. In this regard, in addition to using the government's macro-control, we should rely on market-based instruments to regulate the supply and demand, and avoid risks. By industry chain management of traditional Chinese medicinal materials, we should promote the cultivation, sales, storage and other links of traditional Chinese medicinal materials to take virtuous modernized, industrial and information-based development road.

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new farmers who are good at management and operation. Finally, we should vigorously develop advanced culture, support healthy and beneficial cultural activities, pay attention to morals and create a sound social environment, foster good manners, and promote cultural symbols that are conducive to interpersonal cooperation^[6].

3.4 Open up mind and encourage the outflow of labour forces

Through rural labor mobility, we should make the farmers increase income and social wealth, so that they can exchange ideas with the outside world and realize concept collision, absorb various kinds of external cultural information, and integrate into a new process of cultural development. Through the brunt of a new mode of production and living, we should change the current farmers' parochial mentality, thus the farmers and their future generations will face life with a new mentality, so as to gradually step out of the traditional agricultural society, integrate into the new production mode and lifestyle. Under the impact of external forces, we should make the farmers quickly establish survival and development pattern, concept and behaviour model that adapt to the market economy and industrial civilization, with the spirit of innovation, autonomy, self-reliance and active pursuit, so as to create internal driving force for shaking off poverty and becoming well

off and strengthening farmers' resolution to cast off poverty and set out on a road to prosperity^[6]. All in all, we should strengthen farmers' enthusiasm in the process of modernization and avoid mental poverty.

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