

Understanding on the Background of the Era of Independent Innovations in China¹

COMPRÉHENSION DU CONTEXTE À L'ÉPOQUE D'INNOVATION INDÉPENDANTE EN CHINE

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Abstract: "Independence" in the independent innovation emphasizes that innovation (or realization of the principal) is belong to our country; from the perspective of overemphasizing the "technology-dependent" to understand the point of "independence"; from the perspective of safeguarding national security to understand the "independence" ; from the perspective of adjustment of the economic structure, and the transformation of the mode of growth to understand the point of "independence"; from the perspective of economic efficiency to improve understanding of the manufacturing industry's "independence"; from the perspective of building a resource-saving society to understand "independence" .

Key words: Independent innovation, Innovation, Reliance on technology, National security, resource-saving society

Résumé: L' « indépendance » dans l'innovation indépendante souligne que l'innovation appartient à notre pays, on doit comprendre le point d' « indépendance » dans la perspective de la sur-accentuation la « technologie-dépendance », de la sauvegarde de la sécurité nationale, de l'ajustement de la structure économique, de la transformation du mode de croissance, de la construction d'une société économe de ressources et de l'efficacité économique.

Mots-Clés: innovation indépendante, innovation, dépendre de la technologie, sécurité nationale, société économe de ressources

In the China's socio-economic development process, we have never stressed the importance of independent innovation as it is now. General Secretary Hu Jin-tao of the CPC Central Committee at the National Conference on Science and Technology stressed that: "As part of a national strategy to enhance our capability for independent innovation permeating all aspects of modernization." In my opinion, stressing the importance of independent innovation is not accidental, but there is a profound historical background. So that all sectors of society must be made a profound understanding of the historical background of independent innovation, in particular, to deepen the "independent" knowledge and understanding.

1. FROM THE PERSPECTIVE OF STATE'S SELF-IMPROVEMENT, SELF-RELIANCE AND CATCHING UP TO UNDERSTAND THE POINT OF "INDEPENDENCE"

Innovation is a universal concept. Now people have long been accustomed to use "innovation" in the name of science, technology, arts and many other areas of the "new things" in different occasions, People in the "Innovation", add appropriate adjectives can be qualified to speak more accurately convey the meaning.

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"Innovation" with "independence" as a qualifier, in my view, emphasizes that innovation main body (or realization of the principal) is our country. We stressed the need to fully rely on our own strength to achieve the goals, which is to have our own core technologies, have independent intellectual property rights on innovation. From the political and economic point of view, a country does not have its own core technologies will always be in a passive position. From this perspective, independent innovation is the independence of the country, is of the country's interest, and is the independence standing for a country's standing in the world. "Innovations" and "independent" to the Chinese people is to emphasize self-sufficiency, innovation, we can not always think of "buy" or "use" advanced foreign technology. The concept of independent innovation is not a Chinese invention, having appeared^[1] in Japan and South Korea before. Only independent innovation, it is only natural for those who have advanced technology, it is self-evident, but for those who are technologically backward stresses the independent is for the need of catching up. At present, China's economy is increasingly integrated into the world in the new situation; simply imitate has no future, OEM hardly lucrative. Follow the road will be forever behind others. Therefore, from self-improvement, self-reliance and catching up perspective, the proposal of the independent innovation is also based on "Backward people will be bullied", a summation of the historical experience, not strengthen innovation will be always behind, to catch up with developed countries relying on independent innovation.

2. FROM THE PERSPECTIVE OF OVEREMPHASIZING THE "TECHNOLOGY-DEPENDENT" TO UNDERSTAND THE POINT OF "INDEPENDENCE"

"Independence" is the "introduction" of targeting a period of over-reliance on China in the past in terms of technology. China's reform and opening up policy has been in place in the industrial and technical progress, mainly two aspects: one is that "importing, digestion and absorption, innovation"; Another one is "market for technology." These two have a fundamental starting point, will rely on access to foreign technology, that technology is dependent on some more direct. Research and practice show that although these two principles will certainly play a positive role, but there is an obvious inadequacy. Countries around the world have paid attention to strengthening the protection of intellectual property rights and core technology under the control of the situation. The technology we bought is not the latest technology, but the backward technology is at best a second-rate technology, the real core technologies can not be purchased. Promoting independent innovation is a reflection of the past and adjusts to technological dependence. International experience shows that the

output of the key technologies that are commonly used in developed countries and multinational companies of a very serious level, the control measures either blockade or out expensive, but if we make a breakthrough in the relevant technical and develop corresponding products they would immediately relax caliber or substantial price reductions, independent innovation is conducive to improving the conditions of international trade. Therefore, "independence" and the "dependency" of the concept should be stressed that "independence" is to reduce the "dependency" to the extent thereby raising the level of endogenous development, changing the competitive position of the disadvantaged situation due to the lack of independent intellectual property rights.

3. FROM THE PERSPECTIVE OF SAFEGUARDING NATIONAL SECURITY TO UNDERSTAND THE "INDEPENDENCE"

In the world today, international economic competitiveness depends increasingly on the pace of scientific and technological progress and independent innovation capability. Technological innovation have replaced natural resources have become the decisive factor in the country's competitiveness. Since the beginning of China's opening up, China's technology imports in the introduction of a larger vicious circle extent -- backward -- then imported, one important reason is not enough on its own, consistent innovation not enough, and think that our country can not bear the cost of innovation and the proliferation of advanced technology from developed countries to benefit. The current stage of China's economic development is facing many challenges, such as : the degree of dependence on foreign trade growth, increasing trade friction highlights; low innovative ability, the lack of independent intellectual property rights, core technologies being manipulated by others, being in the poor situation international competition; developed countries in order to undermine our international competitiveness of China's military technology and key technology industries putting forward blockade strategy , serious impacting on our country's national security and economic security. Therefore, whether it is to safeguard economic security, national security situation, or from the international science and technology to strengthen the protection of intellectual property rights and competition trends, We have to enhance our capability for independent innovation must rely more on economic development and improving the quality of laborers to the historical stage, independent innovation is to enhance China's international competitiveness and risk-resisting ability to ensure that the important support of national security.

4. FROM THE PERSPECTIVE OF ADJUSTMENT OF THE ECONOMIC STRUCTURE AND THE TRANSFORMATION OF THE MODE OF GROWTH TO UNDERSTAND THE POINT OF "INDEPENDENCE"

Since the beginning of reform and opening up, China's economy has maintained rapid growth, but the quality of economic growth is not high, still at high input, high consumption, high pollution and low output, the extensive mode of development, adjustment of economic structure, changing the mode of economic growth remains an arduous task. At present, China's large industrial aggregate, but for low independent innovation capability, many industries does not own the intellectual property rights of the core technologies that many enterprises and technology "hollowing out" rely on imports of key components, at the lower end of the global production chain, resulting in a considerable number of enterprises and industries in a passive position. At present, the key technologies of the self-sufficiency rate low, especially in aviation equipment, precision instruments, medical equipment, Engineering machinery and other high-tech products of strategic importance, yet more than 80% dependence on imports, and heavy equipment manufacturing, 70% of CNC machine tools, 76% of petrochemical equipment, and more than 80% of the IC manufacturing equipment, Fiber 100% of the manufacturing equipment for foreign products occupation. The key technology being manipulated by others, adjusting of economic structure, changing the mode of economic growth is an empty phrase. Therefore, in order to avoid being manipulated by others, not to be the low-end products assembly workshops, we should develop new technologies, new products, relying on independent innovation to find a new breakthrough for the promotion of independent innovation and upgrading industrial technology, considering Optimizing the structure and changing the mode of growth as the central link.

5. FROM THE PERSPECTIVE OF ECONOMIC EFFICIENCY TO IMPROVE UNDERSTANDING OF THE MANUFACTURING INDUSTRY'S "INDEPENDENCE"

With the continued expansion of the scale of China's manufacturing industry, especially the production of 100 kinds of industrial products ranked first in the world. Many people began to regard China as a "world factory." However, careful analyzing of the "World Factory" content, the size is large; benefit is low, and many of the questions worth considering. For example, the total added value of China's high-tech industry accounted for 8%, far below the developed country's 40%; 90% of

China's exports of high-tech products are "three-capital" enterprises. Although the current car output is high, however, the joint venture is 90% foreign brands, a lot of money to be earned abroad. While many industries in China have constantly expanded their size, but due to lack of core technologies, the benefits should has been lost a lot. If our television production, for the key chip needs import, the average profit was less than 10 RMB, the gross profits of computers is less than 5%, OEM cell phone at about 20% of the royalties, 30% the price of computers, 20% to 40% prices f the CNC machine tool to be paid to foreign patent holders. China manufactured DVD machines sold in the U.S. market 29 dollars, of which royalties accounted for 20 U.S. dollars, with minimal profits. Despite the rapid growth of China's exports, but most of the products are low value-added. This low-value-added product exports are constrained future economic development. The low profitability of our products, the majority of workers would be very difficult to raise the wage level, so that the expansion of domestic demand, promoting development of the modern service industry national strategy difficult to come true. Therefore, China's manufacturing industry to change "large but low" in the situation, truly being the "world factory", relies on independent innovation.

6. FROM THE PERSPECTIVE OF BUILDING A RESOURCE-SAVING SOCIETY TO UNDERSTAND "INDEPENDENCE"

China has a large population, natural resources, economic development facing tremendous pressures on resources and environment : the one hand, China's per capita energy consumption is less than half the world average (for the tenth such as oil, water for a quarter, one-third of arable land), the source of supply is not enough; Meanwhile, China's extensive economic growth mode increased consumption of energy and other resources, is the world's biggest national consumption, such as coal, iron ore, steel consumption in the third world, more than 40 per cent of the world's cement; then the other hand, China's inefficient use of resources ,China's energy utilization rate of 33%,electric energy, coal consumption per dollar of GDP, is 3-4 times the world average,11.5 times that of Japan; water consumption per 10,000RMB GDP in China is four times than the world's average level, 10 times than United States, 24 times than Japan. Since China's opening up over the past 20 years by the rapid economic growth mainly depends on labor and capital resources, driven by factors such as energy, but the reality of our resources on this scale can not sustain in the long expansion of the mode of economic growth, and the high consumption of energy and resources, the utilization rate is not very high also brought serious environmental pollution problem. Sacrifice for the benefit of future generations depends on the economic growth and

development of this difficult; expense scarce and valuable resources and the environment in the international division of labor and competition, the price is too high. If things go on like this, not only would increase the cost of development, the advantage will be reduced, the dynamism will drop, consumption of natural resources caused by growth and the destruction of the environment then we can not afford. Thus, in order to achieve sustainable economic and social development, based on in the past, continue to maintain relatively fast growth for a long time. It must make the transition from a resource-dependent changes in innovation-driven, so as to enhance the energy efficiency of resource use of independent innovation. Enhancing economic and ecological benefits, and the basic means for the effective protection of the environment, independent innovation

has become the most important engine of economic growth. Taking these aspects of the factors that the independent innovation of the "independent" is to convey important information strategy, is self-improvement, self-reliance and catching up, is to overemphasize the "technology-dependent.", is to safeguard national security, is an important measure to determine the quality of China's economic growth, determine the implementation of the concept of scientific development, determine the status of China's economy in the world economy, is strong support muscles of the country, the core of the country's competitiveness, related to national security and strategic interests, related to abilities of sustainable development, so, we need to deepen the strategic height of the "independent" understanding.

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