

ANALYSIS ON DEVELOPMENT OF SPECIFIC HUMAN RESOURCE IN NATIONAL DEFENSE ECONOMY

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Abstract: *The fields of national defense economy have more special high-intensive and high-level professional relative to other areas of society nowadays, furthermore, development and management of such a dedicated human capital are more important, especially in the current high-quality military personnel construction. At first, this paper analyzes the current situation for specific human capital stock in the field of national defense economy, and comparing the phenomenon of usage for dedicated personnel with which in civil industry; secondly, pointing out the "rip-off" issues that may arise in the condition of incomplete contract, and then combining with psychological contract theory to analyze the development and management of dedicated human capital in national defense; moreover, the author make a comparison of the four western countries' experience in defense personnel training, military research and management, as well as the requirements of current military information technology transform under conditions of military personnel quality construction, and carrying out the comparative analysis; finally, making suggestions, refer to specific human capital's development and management issue in the field of national defense economy.*

Keywords-*national defense economy; specific human resource; incomplete contract*

1. INTRODUCTION

In recent years, the field of the development of the national defense economy increasingly reflect the characteristics of the high-tech talents and the change of this kind of high-tech human capital stock also affects the speed of economic development of China's national defense.

Technology professionals involved in the defense and military secrets unauthorized depart and inaugurate in foreign-funded enterprises, even to study abroad.

This phenomenon is shocking, and more than 60 national defense science and technology personnel leave an aircraft manufacturing company in the last decade, 32 person depart from a weapons research institute.

It is reported that a similar problem exist in a lot of defense-related research and military enterprises [1].

High-tech talents in national defense economic field are special kind of talent, the loss of such a talent, not only the loss of the dominant material, information, knowledge, technology, and more importantly, it is possible to make the defense cutting-edge technology

leak and the failure of intelligence, bringing the invisible loss of potential for development of national defense science and technology, research and innovation and talent reserve capacity, and thus directly affect the safety of the state, nation and the rise and fall of the armed forces.

Therefore, the world attaches great importance to national defense science and technology talent retention and reserves.

2. THE FACTS

The specific human capital in the field of national defense economy is the only specific businesses and post valuable, and corresponds to the concept of general human capital, apart from specific businesses and jobs there is no value of human capital.

The general human capital refers to the skills and knowledge in any work and any enterprise are the same value. A large number of facts show that specific human capital, especially in the new era of highly skilled specific human capital determines the development of a modern enterprise.

Dedicated highly skilled human capital is the main source of power to promote technological innovation, and the gradual establishment of unconventional products or services competitive advantage of enterprises. In the defense economic sphere, for example, R & D personnel who is responsible for the quartermaster equipment, camping gear, ground transportation and equipment, these dedicated highly skilled human capital to create value far exceeding the value of general human capital.

In the field of civil industry, highly skilled personnel, the same as the "gold collar" and "white-collar" management of decision-making and perform layer "blue collar", are Employees of enterprises whom are important part of corporate human resources.

But highly skilled personnel, who have proficient expertise in technology, with superb operational skills, be able to solve manufacturing problems, constitute enterprise scarcity of specific human capital.

Personally, the frequent changes in the industrial structure in China in the process of economic development, the risk of specific human capital investment is relatively large.

In conclusion, no matter what field specific human capital investment is subject to a specific enterprise or industry, investment event cannot be metastatic.

And different from the investment in general human capital, its knowledge structure is more specific, skills applicable narrower, limited employment opportunities under the influence of, easy to make a loss of "crowding out specific quasi-rent" (when the trading party, such as sellers made specific investments, seller firmly "bundle" deal if he quit the contract will bear the high cost, this is crowding out specific quasi-rent.)

It's positive correlation with dedicated assets. In extreme cases, if the specific assets cannot be diverted, the crowding specific quasi-rents should at least not less than the full cost of the specific investments.

3. SPECIFIC HUMAN CAPITAL DEVELOPMENT IN THE REALM OF NATIONAL DEFENSE ECONOMY

Signing in a world of uncertainty, it is necessary to predict all possible state is almost impossible; predicted to accurately describe each state is also very difficult; even if described, because of the afterwards asymmetry, when the actual conditions happens, the parties may also debated on the actual situation; even if information symmetry between the parties, the court can not be confirmed; execution cost may be high even if the court confirmed. Thus, the contract which total matter not listed in this contract is incomplete contract [2]. Under incomplete contract conditions, it's very prone to have the phenomenon of "rip-off". According to Klein et al study [3], when the transactions included some key specific investments, even prior transactions is competitive, but once put into specific assets it is difficult for its intended purpose, so after the transaction often in the seller monopoly or monopsony situation. In this case, one is "stuck", and the other exist opportunistic behavior to take the quasi-rents generated by specific assets as their own, that is a "rip-off" phenomenon. Simply put, the "rip-off" is refers to traders' post-contract opportunistic behavior, that seeking for crowding out quasi rents from the trading partner's specific investments in incomplete contract. The special nature of the asset is stronger, can occupy resistance quasi-rent more, thereby resulting greater the likelihood of the generated "rip-off" problem.

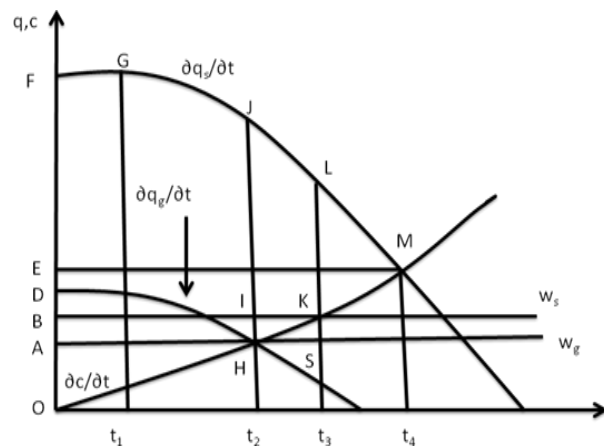


Fig.1 Specific human capital to participate in the sharing of organizational rent

As it shows, the horizontal axis represents the efforts of the staff, and the vertical axis indicates the output performance and the efforts of the owners of human capital costs.

The marginal product curve in the military organization for member S is $\partial q_s/\partial t$, in which member S have defense specific human capital.

And marginal product of military organization for general members of human capital is $\partial q_g/\partial t$, both of which marginal cost is the same as $\partial c/\partial t$. W_g and W_s represent the price of general and specific human capital respectively. For specific human capital, its equilibrium point is M, that is total output is O_t4MF . By the comparison with the general human capital's marginal product line $\partial q_g/\partial t$, we can find that only if line $\partial q_s/\partial t$ above the line $\partial q_g/\partial t$. Specific human capital owners do not have to worry about to be pushed by general human capital out of the competition, and thus their lack of effort, and will not reach t_4 , then to form "Rip-off" phenomenon.

National defense scientific research in the field of enterprise, some personnel in accordance with enterprise system management is mainly distributed in the military industrial enterprises; the part of the staff is active duty military, mainly located in the Institute and other institutions to grasp the core R & D technology. Gaps from the national education system in accordance with the personnel of the enterprise system management, many specialty are both of the military and general-purpose, such as computer, medical, flight, and because of highly comparable and frequent exchanges between the military and civil, and the existence of gaps of benefits, which make talent involving high-tech proprietary became executive search and local competition enterprise's prey. Moreover, flow more freely and frequently, appear phenomenon before mentioned. Increasingly serious loss of leak problems due to the movement of persons is the current focus of our military to prevent the problem. In addition to taking signed confidentiality agreement and the constraints of the formal labor contract, but no other restrictions. Type of "rip-off" phenomenon for specific human capital is inevitable. Under the condition that formal indentured is invalid; the theory of psychological contract is an option to alleviate this problem.

Specific human capital is attached to the body of the individual owners, so this paper studies the individual level psychological contract.

4. WESTERN COUNTRIES EXPERIENCE

Nowadays, Western powerful countries in defense technology like the United States, Britain, France, Germany and other countries are all focused on the establishment of national defense science and technology institutions of higher learning to develop academic, technical talent as the main purpose, or of a similar nature. Proved, these institutions play an important role in national defense personnel training and military science. At the same time, these countries also take full advantage of the disciplines of national colleges and universities and civilian research institutions, human resources, equipment and facilities; provide services for defense personnel training and military scientific research.

Respective regimes need to select defense personnel training and military research management mode; they played a key supporting role in the process of the modernization of national defense.

4.1 U.S. U.S. defense talent's sources from three ways: the culture of the military academies, the delivery of the national education system and absorbing common culture talent worldwide, in which the role of the national education system is particularly evident.

The national education system in the United States is the world's most developed education system, through the national education supply and joint military personnel training mechanism, it provides a broad space and a solid foundation for the U.S. military with high-quality personnel and high-tech. The U.S. main relying on ROTC established in the local University to train officer.

4.2 U.K. Defense personnel training, U.K. is very high regard for the military academies and local colleges and universities, "marriage", this will not only highlight the professional characteristics of the military academies, but also use the advantages of a well-known University disciplines.

British military research institutions mainly are National Defense Science and Technology Research Institute, Kinetic, the British National Space Centre and the Atomic Energy authoritative technical institutions, including National Defense Science and Technology Research Institute is both a scientific research institution and the functions of the Board of the British Ministry of Defense.

The British Ministry of Defense is not engaged in basic research work, mainly in the form of a contract, this part of the work entrusted to institutions of higher education, such as commissioned by the University of London, Imperial College and the City University, and other colleges and universities to participate in military research, covering electronics, aerodynamics, material and a fuel system, etc..

4.3 France. Most of the French army's junior officers and senior military officers should through the academy training to receive their training and promotion.

France's military academies are mainly to be higher military institutions, mid-level military academies, junior military schools and preparatory military academy.

French land, sea and air force has Military Academy Command in the General Staff, so as to have unified leadership and management of the institutions. Some technical forces requirements, the officers of the military academies do not have to or unable to set a professional culture, taken from local institutions receiving or selected officers commissioned to entrust training. France also establishes a junior military academy and direct access to the higher military academies after graduation. Military research task is completed by three parts which directly under the Department of Defense research and experimental institutions, universities and the military industrial enterprises, scientific research institutions. Government research institutes, in addition to the direct leadership of Education and Research and Technology Ministry to the National Research Centre, the rest implement dual or multiple management from the Education Research and Technology Ministry, the Industry Ministry, the Department of Defense Ministry and other departments.

French government military research cooperation with universities mainly through two ways: First, the use of the contract system of indirect management; procure external research institutions and universities in close cooperation.

5. CONCLUSION & ACKNOWLEDGMENT

Accelerate the revolution in military affairs with Chinese characteristics, building computerized armed forces and winning the information war, the key is to train and bring a large number of high-quality new military personnel. Central Military Commission awarded the army to the implementation of the "military talent strategic project planning", and implementing the strategy of strengthening the army, and implementing the strategic project, the key is the implementation of effective incentive especially proper compensation, creating an environment conducive to training to attract and retain mechanisms, and with good talent.

The "five teams" is a talent group, which must adhere to the principle of unity of mental stimulation and material interests.

On the basis of a general increase in military wages, construct the innovative talents income distribution incentive mechanism to attract talent, and let the first-class talent to get first-class treatment.

Building computerized armed forces need a large number of knowledge-based high-tech talents, however, knowledge-based personnel, especially the cultivation of high-tech military cycle length is long, input is large, more difficult to retain. If you do not increase investment and provide more favorable growth conditions for high-tech military personnel to generate, to create a favorable environment conducive to the growth of talent, it is difficult to protect the construction and stability of the high-tech military personnel.

5.1 Use of Psychological Contract to mitigate "rip-off" problem.

5.1.1 Psychological contract can reduce insecurity of both organizations and individuals, because it can fill the blank of the formal contract to a certain extent, of reducing insecurity is conducive to enhanced mutual trust between the two sides, so that the human capital owners and organizations as possible maintain fair trade in order to achieve a win-win state;

5.1.2 Psychological contract can regulate the behavior of individuals, military organizations to give their own responsibility to measure every act of their own treatment of tissue, make it as the standard regulating individual behavior, norms of individual behavior can reduce their "lazy" and "free-rider" behavior, that can reduce both the specific investments opportunistic behavior;

5.1.3 Psychological contract allows individual emotional reaction on the organization of the event, the two sides after the negotiations may lead to less willingness to change the intended contract, which enables individuals are more willing to comply with the original contract, to prevent the generation of "rip-off" behavior.

In short, the introduction of the psychological contract in the organization can be to some extent alleviated the problem of specific human capital "rip-off". But need to pay attention to the psychological contract is based on a foundation of trust between the two sides, so once the trust is broken psychological contract violation formation (Turnley & Feldman, 1999) [4], the relationship between the individual and the organization will become more tradable, individual more attention to the direct economic benefits and lead to opportunistic behavior.

5.2 Relations contract incentives to reduce the brain drain. If you can establish a good relationship between the parties contract, you can very well alleviate the risk of specific human capital exit; the existences of relationship contract, as well as the importance of relationship values of the both sides, making the organization more stability. Thus, in order to encourage specific human capital investments, the organization through the effective action to strengthen the relationship outside the formal contract. Specific measures include: offered long-term contracts; uncertainty too much makes it impossible to sign a long-term contract in the future, to unilaterally increase the dedicated physical capital investment to enhance the confidence of the specific human capital owners; prior agreement a fair re-negotiation mechanism to respond to the crisis of the organization possible.

5.3 With the disciplines advantage of the local colleges to develop the special talent of the national defense economy. China mainly by recruiting local college graduates directly on active duty, and relying on local college to culture national defense students, two ways to train defense personnel, while you can see from the experience of Western countries for many years, defense personnel training have a flexible and comprehensive system of standardized system, adequate well-established faculty and stable source of funding. The military and joint training of defense personnel has formed a certain scale and a mature teaching system. However, in this regard, China is in the exploration and the initial stage, the relatively small scale of local colleges and universities to train defense personnel. Therefore, in order to increase the intensity of relying on local colleges and universities to train high-quality personnel for the military, and institutionalize standardized. Many universal Professional can completely with the completion of the national education system. To strengthen the military and university cooperation, the one hand, local colleges and universities should take positive measures to provide training and education opportunities for officers in active service; on the other hand, we can take joint enrollment, joint training and cooperation in scientific research, information exchange and discipline to build various forms of cooperation, each play a role in the defense personnel training, and accelerate the speed and efficiency of the Professional Training for the troops.

5.4 Material incentives to increase efforts to reduce the gap between the military and civil industry. For the dedicated professional personnel in the field of national defense economic sacrifice, dedication and the risk, their material benefits should also be better than other members of society. Incentive to meet their material needs it to reduce the survival and development pressure due to a lack of material resources and dissipative forces, which worry about their work, and to contribute to national defense and army building.

In Fig. 1 in order to avoid "rip-of phenomenon, military organizations should be raised to pay specific human capital, and to motivate specific human capital owners pay a higher level of effort. Otherwise, potential competitors would replace, then lose income higher than the opportunities cost of market in specific tissues. So the proprietary nature of human capital will be efforts to t_4 , but due to incomplete information and asymmetric, the optimal level of effort is difficult to achieve, so the pricing of specific human capital may be in the t_2 to t_4 middle of a point, by adjust the level of remuneration, to specific human capital also will adjust the level of effort to reach an equilibrium. Our military has the foreign armies unmatched political advantage, introduction and cohesion of the military high-tech talent, strengthen ideological education at the same time, starting from the adjustment of policies and systems, and continuous improvement of high-tech military personnel benefits, more dedicated personnel to promote the national defense economy worry about their work, resist the temptation to make up for a formal contract imperfect problem.

Specific human capital investment is of great significance for military organizations to maintain the core fighting. Defense specific human capital is largely from individuals through the process of "learning by doing" which have accumulation of specific human capital. Therefore, the management of specific human capital of the national defense economy, on the one hand the need to strengthen the incentive to avoid slack, on the other hand, through the psychological contract to make up for the lack of a formal contract, making this part of the special human capital to better service for the national defense.

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