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Article

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China Political Economy (CPE)

Provided in Cooperation with:

School of Economics, Nanjing University

Suggested Citation: Liu, Fengyi; Chen, Shenghui (2020) : Political economy analysis of the properties of doctors' labour and medicines, China Political Economy (CPE), ISSN 2516-1652, Emerald, Leeds, Vol. 3, Iss. 1, pp. 75-91,
<https://doi.org/10.1108/CPE-05-2020-0003>

This Version is available at:

<https://hdl.handle.net/10419/319419>

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Political economy analysis of the properties of doctors' labour and medicines

Political
economy
analysis

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Received 7 May 2020
Revised 15 June 2020
Accepted 15 June 2020

Abstract

Purpose – Doctors' labour and medicines are special necessities for human survival and evolution. Since China launched the healthcare reform, the theoretical circles' discussions have not yet clarified the respective special properties of doctors' labour and medicines as goods and the internal relations between doctors' labour and medicines at the level of the theoretical basis.

Design/methodology/approach – Health is a prerequisite for people's all-round development, a precondition for economic and social development and the people's common aspiration. The all-round moderately prosperous society could not be achieved without people's all-round health.

Findings – The authors believe the socialist relation between doctors' labour and medicines with Chinese characteristics should be one that is people-oriented, and the corporatization of hospitals or the capitalization of doctors' labour should be avoided.

Originality/value – In this paper, the authors explore the particularity of doctors' labour, particularity of medicine production, circulation, consumption and the internal relations between doctors' labour and medicines by using the analytical approach of Marxist political economy while considering the special roles of doctor's labour and medicines in the reproduction of labour power and put forward the theoretical basis for the segregation of doctor's labour and medicines.

Keywords Doctors' labor, Medicines, Corporatization of hospitals, Capitalization of doctors' labour

Paper type Research paper

1. Introduction

"Health is a prerequisite for people's all-round development, a precondition for economic and social development, and the people's common aspiration. The all-round moderately prosperous society could not be achieved without people's all-round health. We will give strategic priority to developing the people's well-being", said Chinese president Xi Jinping (cited in [People's Daily, 2016](#)) in his keynote speech at the National Health and Wellness Conference in August 2016. A healthy population is one of the criteria for a moderately prosperous society. Since China's reform and opening up the healthcare reform has made certain progress, certain problems have also remained unaddressed, such as the notable corporatization of hospitals, significant capitalization of medial labour and relatively high pricing of medicines. Due to these problems, some people are encountering the problem of "hard-to-seek and expensive medical services" and "illness-related poverty".

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Funding: This paper includes the findings of a study supported by the National Social Science Fund of China's key project, Gongxiang fazhan yu zhongguo tese shehui zhuyi zhengzhi jingjixue chuangxin yanjiu [Sharing Development and Innovative Research of Socialist Political Economy with Chinese Characteristics] (17AJL001).



China Political Economy
Vol. 3 No. 1, 2020
pp. 75-91
Emerald Publishing Limited
2516-1652
DOI 10.1108/CPE-05-2020-0003

China's theoretical circles have made in-depth research into such issues as on reasons for China's healthcare problems since the launching of reform and opening up and methods and approaches for solving China's healthcare problems, among others. For example, [Dai and Dai \(2008\)](#) state that obstacles to the decision-making mechanism of fiscal expenditure and blurred boundaries of public goods led to the inadequate supply and structural imbalance of healthcare goods, which was the main reason for China's healthcare problems. [Zhu \(2007\)](#) states that high entry barriers and distorted price mechanism caused by inappropriate government regulations resulted in inadequate supply and healthcare resource misallocation and thus led to healthcare problems in China. [Zhang and Huang \(2010\)](#) believe that access to medical care was difficult and expansive because there was asymmetric information, and a self-regulating market was not in place to respond to patients' demands. [Feng and Yu \(2008\)](#) attribute the rise of healthcare problems to the absence of health insurance system. [Liang \(2006\)](#) defines the lack of overall solutions for the healthcare market reform and the lagging-far-behind reform as the direct factors that resulted in many current problems related to China's healthcare sector. Some scholars also explored relevant methods and approaches for solving the healthcare problems in China. For example, [Feng and Yu \(2008\)](#) suggest that China's healthcare reform should rebuild the medical organizations' incentive mechanism, and the government should focus on playing the role of a healthcare financing contributor rather than a healthcare provider. Wang *et al.* (2007) argue against the addition of pharmaceutical service fee for solving the persistent problem of expensive medical bills and suggest that the fundamental method to make the people accept the upward adjustments in skill-based service charges is to significantly improve the quality of healthcare services, and that the Chinese government needs to invest more heavily in the comprehensive coverage of health insurance, achieve major upgrade of protection level and, more importantly, reinforce government regulation. [Li \(2009\)](#) points out that the solutions for China's healthcare problems should get down to the public welfare nature of health care, which needs to rely on the leading role of the government and make full use of the market mechanism. These findings are of certain reference value for understanding and boosting the healthcare reform, but scholars have not yet reached the deeper level of the theoretical basis, which explores the essential properties of doctors' labour, the special properties of medicines as goods, the internal relations between doctors' labour and medicines and their social properties and the essential characteristics of healthcare problems.

Based on the fundamental principle and analytical method of Marxist political economy, this paper tries to build a Marxist political economy-based analytical framework for healthcare issues by analysing the special properties of both doctors' labour and medicines as goods and the internal logical relations between doctors' labour and medicines, so as to establish a theoretical basis for solving healthcare problems. Healthcare issues concern the entire society, including needs of not only labourers but also vulnerable groups. However, this paper will explore healthcare issues from the perspective of the reproduction of labour power because, even though all kinds of patients need health care, different groups of patients are of different theoretical significance in political economy studies. Generally, patients fall into three categories: The first category is labourers who possess and provide labour power; the second category is labourers who possess but do not provide labour power (e.g. capitalist class); and the third category is labourers who do not possess labour power. For the second category such as the capitalist class, their purchasing power is strong enough to meet their healthcare demands. For the third category such as those who do not have labour power, their healthcare demands are covered by the wider society or government. Therefore, these two categories can be put aside in this paper. Therefore, we will study how the group of patients who have labour power and provide labour deal with the healthcare problems in the reproduction of labour power. The word "patients" used in this paper shall refer to this particular group.

2. Properties of doctors' labour and labourers' reproduction of labour power

Social and economic activities are premised on the existence of labourers as the subject, i.e. the reproduction of labour power. Its production needs to consume a quantity of the means of subsistence, to the "extent of his so-called necessary wants", according to Marx (2004). Obviously, the labour provided by doctors who are labourers needs to be restored, which shall also be included into the "extent of necessary wants". Doctors' labour has both the common properties of general service labour and peculiarities, which dictate that doctors' labour cannot be managed in the same manner as general service labour.

2.1 Common characteristics of doctors' labour and general service labour

As doctors' labour is a type of service labour, it comes inevitably with the nature of general service labour. With regard to the nature of service labour, Marx (2009d, p. 409) notes in the Economic Manuscripts of 1861–1863 that service is "nothing more than an expression for the particular use value provided by labour, just like other commodities; but it is a specific expression for the particular use value of labour, because labour does not provide services as an object but as an activity, which however by no means distinguishes it from a machine or a clock". Thus, service labour, in nature, is the practical use value in certain economic relations, which is brought to production and life in the form of living labour. In relations of commodity economy, this "activity" is identical to a general material product, demonstrated in the form of commodity. Marx (2009d, pp. 409–410) states that "a worker can buy . . . commodities which are provided in the form of services, and when he expends his wage in such services this expenditure does not differ from the expenditure of his wage to buy any other commodity . . . he can buy the services of a doctor or a priest, just as he can buy bread or spirits". Commercial services, financial service, among others, are not part of the scope of economic relations mentioned herein. As service labour and general material products take the form of commodities under the conditions of commodity economy, service labour must have the properties of both value and use value. Use value is a property that enables service labour to meet people's demands, and value is a congelation of ordinary physical power and intelligence expended in a labour process. Therefore, compensation equivalent to the value should be made based on labour expended in the provision of service labour.

Judging from whether or not service labour results in material products, service labour can be divided into two types. For the first type of service, its fruits of labour can be congealed or materialized into products. Such labour can attain a palpable result independent of the person who provides this service, which means the result of labour becomes a tangible production independent of the producer, such as a barber's labour. There can be an interval of time between production and consumption. In other words, the consumption of use value from this kind of service can take place after the production has been completed, and therefore, its production and consumption do not have the intrinsic identity. For the other type of service, its fruits of labour can be neither congealed nor materialized into any specific objects. Such service labour cannot attain a palpable result independent of the person who provides this activity. Its production and consumption have the intrinsic identity. As the process of production ends, so does the process of consumption accordingly. Marx (2009e, p. 570) points out that this product is different from other commodities, as it is sold while still being produced, but it is not sold after being separated from the process of production, that is to say, use value created by a labourer cannot be separated from the process of production. For example, "the service a singer performs for me satisfies my aesthetic needs, but what I enjoy exists only in an action inseparable from the singer himself, and once his work, singing, has come to an end, my enjoyment is also at an end; I enjoy the activity itself—its reverberation in my ear" (Marx, 2009d, p. 410). Similarly, the consumption of living labour provided by speakers, teachers, doctors, among others, comes to an end when the process of labour ends. The intrinsic identity between the production and consumption of this type of

service restricts further division of labour when it is performed, or limits the decline in the exclusivity of this type of services.

2.2 Special properties of doctor's labour different from those of general service labour

The special nature of doctor's labour rests on its use value. Doctor's labour provides use value in the form of living labour. This kind of use value can train and preserve patients' labour power for the purpose of and changing its form or maintaining its vitality, so as to ensure labourers are "able to repeat the same process in the same conditions of strength and health" (Marx, 1995f, p. 194), thus possibly creating more social fortune. The special nature of the subject of doctors' labour determines the three special properties of doctors' labour, namely, the particularity of use value of doctor's labour, doctors' labour skills and labourers' consumption of doctors' labour.

2.2.1 The direct influence of doctors' labour on patients' (labourers') labour power. A labourer is an active element in material production and plays a dominant role in the entire production. That is to say, material production is driven by human beings' subjectivity and wisdom, and physical and mental capabilities are wasted. Physical and mental capabilities are labourers' capacity for labour. According to Marx (1995f, p. 190), labour power or capacity for labour could be understood as the aggregate of the physical and mental capabilities existing in a human body, which he/she exercises whenever he/she produces any use value. Labour power herein can be interpreted as containing two notions: (1) "labour power" or "force of labour", which refers to "force" and "power" provided by labourers, and (2) "capacity for labour", which refers to labourers' skills, similar to "ability to labour" (Liu, 2016a). Strength and intelligence are wasted in any labour process, so a labourer must secure the "force" or "power" necessary for the labour process; otherwise, there will not be any application and practice of intelligence, let alone the proceeding of material production. In other words, a person is the foundation of his/her own material production, as well as the foundation of other productions by himself/herself. Therefore, all situations that affect human beings, i.e. the subject of production, can change human beings' functions and activities to a greater or lesser extent, and thus change those functions and activities carried out by human beings who create material wealth and commodities (Marx, 1995e, p. 300). As labour power possesses the traits of both "power" and "capacity", the reproduction of labour power also implies the reproduction of both "power" and "capacity". The reproduction of capacity can be achieved through education. The function of education is to develop labourers' skills, i.e. "capacity for labour".

The reproduction of "power" is mainly achieved through the physiological functions of labourers as living organisms, and this process obviously cannot be dependent on doctors' labour. Therefore, unlike the use value of education, the use value of doctors' labour lies in the reproduction of "force" or "power" of the "object of production" and the "muscles, nerves, bones and brains" of the labourers. The ultimate purpose is that the doctor "maintains health and so conserves the source of all values, labour-power itself" (Marx, 2009a, p. 229), which means to restore labourers' use value so that labourers can return to production activities in good health. When Marx was examining the restoring activities for means of labour, such as machines and buildings, he ever compared doctors' labour to the maintenance activities performed on machines in the process of material production. He states that "a machine being repaired is not used as means of labour but rather as material of labour. Instead of being used for labour, it is processed so as to restore its use value. For our purposes, we can assume that this repair labour is always included in the labour necessary for producing means of labour" (Marx, 1995d, p. 231). Thus, labourers are doctors' "labour material" in the process of doctors' labour, which reveals the relation between doctors and patients on the theoretical basis. The process of doctors' labour is a process in which doctors "process" this "labour material", and the doctor's role is to restore the use value of this "labour material". The wasted doctors' labour should be included in the "production cost" necessary for labourers' reproduction of labour power.

2.2.2 Sills related to doctors' labour are distinctively exclusive and experience-based. All labour processes required a certain accumulation of skills and experience. Doctors' labour has the identity of production and consumption as well as the complexity of restoring human physiological function, which indicates that doctors are subject to higher requirements in terms of skills and experience, and have stronger dependence on the exclusiveness and experience of their skills.

2.2.2.1 Exclusiveness. Doctors' labour has the intrinsic identity of production and consumption. This property wards off the "erosion" of division of labour on doctors' labour process, which delays the "degeneration" of doctors' labour skills, and enhances the exclusiveness of doctors' labour skills to a certain degree. People's labour is premised on the pre-existence of conception, i.e. "conception must precede and govern execution". But, "the unity of conception and execution can be dissolved . . . Someone's idea can be executed by others" (Braveman, 1979). In the production of material products, as the division of labour is evolving, the basis of labour process has changed from the experience and skills of workers to science and technology. Moreover, after the modern management rose to meet the demand of capital, the labour process has been separated into "local operations" by capital and assigned to different workers, while the planning, design, directing, among others, are controlled by management so that "conception and execution" [1] are separated. Workers do not need to understand the technical principles of the production process to execute relevant operations. With occupational undermined, workers are gradually transformed into local machines' "accessories" without "conception" and regarded as "organs" that can be used by different categories of operating labour. They become interchangeable "components". Workers have been "bound to the simplest operations since their earliest years" and have missed the opportunity to become skilled workers by accumulating experience. This process will always continue for manual labour, but also for brainwork.

However, the special nature of the labour object of doctor's labour makes a higher degree of unity of "conception and execution". Medicines, treatments and examinations all depend on doctors' judgements on the workers' physical condition. In doctors' labour process, no matter how state-of-the-art the machines are, the phenomenon of "lifeless" labour controlling living labour is impossibly as significant as in common material production. Machines are an extension of human organs. With the emergence of new machines, especially the development of information technology leading to the integration of automation, digitalization with medical equipment, especially the integration of intelligentization with medical equipment, as well as their application in the process of doctors' labour, the separation of conception from execution also occurs in doctors' labour, and machines replace part or all of doctors' labour. On the one hand, compared with the doctor's own organs, artificial intelligence devices can collect more information for diagnosis or treatment. On the other hand, artificial intelligence can analyse in depth and learn doctors' diagnosis or treatment, replacing doctors' labour to a certain extent. In this sense, doctors' skills show a tendency to degenerate, which makes exclusiveness of doctors' skills breakable, thereby creating more choices for patients. However, this process does not show a tendency of a linear decline. With the emergence of new medical devices, doctors are required to acquire new knowledge and skills that are aligned with such machines, thus increasing the doctors' learning costs, which in turn increases the exclusiveness of their labour skills. Indeed, with the development of medical science and technology, doctors' labour will also be further broken down or specialized, and there will also be "local doctors". However, human organs are interconnected and complex organisms. This fundamental characteristic will limit the excessive "localization" of doctors' skills. This is reflected in the trend towards general practitioners. In a word, the "erosion" of doctors' labour by division of labour in the process of material production can only occur to a limited extent and can only occur in certain sectors based on the nature of the medical service industry.

However, the fact that doctors' internal skills are hierarchical cannot be denied. Therefore, on the one hand, the degrees of doctors' expertise are different, which is why doctors' incomes are different for the same fields under the same socioeconomic conditions. On the other hand,

only using market methods to allocate doctors' labour power resources will inevitably lead to "market failure" and distort the essential property of doctors' labour for satisfying demands.

2.2.2.2 Strong dependence on practical experience. Experience itself is the embodiment of exclusiveness, and it can also increase the exclusiveness of techniques. The production of both handicrafts and manufacture often finds the right technology suitable for them through experience, and the technology is fixed in the form of production tools when it reaches a certain level of perfection. Such fact is proved by all technologies that have been passed down generations after generations. Medicine is seen as an empirical discipline, and the dependence of doctors' labour on practical experience makes doctors' labour skills exclusive. The structure of a material product is relatively stable, as, in the production process of material products, it is easier to "copy" techniques and experience, and the invention of new technologies reduces the dependence of the production process on techniques and experience to a certain extent. Due to the complexity of a human body, generally speaking, a highly skilled doctor requires long-term education, training and the accumulation of clinical experience. The richer the doctor's experience is, the more skilled he or she is, and the more exclusive his or her skills are. In other words, the doctor's skills are difficult to "copy" quickly and easily. Such "copy" can be understood from two of its peculiarities. Firstly, to copy means to learn and obtain certain medical skills. Secondly, a treatment cannot be applicable to all patients with the same disease mainly due to huge individual differences among patients. Thus, apart from education and training, the reproduction of doctors' labour skills can only depend on the accumulation of experience.

2.2.3 *Special properties of doctor's labour consumed by patients.* 2.2.3.1 Property of "forced need". A characteristic of the consumption of general commodities by patients is active selection, which means the consumption decision rests with the labourers. However, the consumption of healthcare services is passive, forced and even beyond the control of one's will. When people are ill, seeking medical service is not an option for the patient; they have no choice. Therefore, the patients' need for healthcare service is not merely an objective need, but rather a "forced need". Doctors' labour is a process of restoration applied to failures occurring in labourers' normal reproduction of their labour power. When labourers' normal reproduction of labour power proceeds normally, purchasing and consuming a doctor's labour will serve no function of safeguarding health, but instead interfere with the normal reproduction of labour power. As Marx (2009d, p. 410) said, "If I am healthy and do not need a doctor . . . then I avoid paying out money for medical . . . as I do the plague". The passive nature of the consumption of doctor's labour shows that once there is a need, labourers are not free to choose whether they should purchase doctor's labour, and doctors make the ultimate decision on how to treat them. The consumption of doctors' labour can be of direct relevance to workers' health and even lives. Patients and their families are in a passive position when they are suffering from any threats to their health and potential threats to their lives. Whether the treatment is affordable or not, patients must choose to accept it. Whether they can afford the treatment or not is another concern. This property makes the consumption of doctors' labour not marketable; otherwise, doctors will be placed in a position where they have the power to fleece the patients.

2.2.3.2 Property of continuity. The results for a doctor's labour are uncertain, because the effect of treatment depends on (1) whether or not the doctor can apply the appropriate treatment to the patient and (2) a variety of factors such as the use value of medicines, the labourers' physiological conditions and their environment. Just as what Marx (1995a, p. 59) mentioned in his letter to Engels, "Medically . . . taking a ship will help me restore my health, and I have just recovered from rheumatism the day before yesterday". In another letter to Engels, Marx highlighted the influence environment has on the outcome of doctors' labour. He asked Engels to "restore health by the help of seaside air and a relaxed life" (Marx, 1995a, p. 59). The uncertainty of the treatment effect objectively requires continuity in the consumption of

doctors' labour. Rather than uninterrupted in time, this continuity refers to the continuity of doctors' labour. The recovery of the "machine failure" of labour power is a natural physiological process of labourers as living organisms. It takes some time, and the recovery process is constantly changing with the operation of the labourers as organisms and the environment in which they are in. Due to the limitation of expertise, labourers cannot judge how the "machine failure" recovers, while doctors have the expertise advantage, which dictates that the consumption of doctors' labour should be a continuous process. As Marx (1995c, p. 371) put it, once the treatment starts, one "cannot change doctors as with shirts". Meanwhile, subject to doctors' expertise, "these gentlemen only know a part; hence, it is preferred to have one examined by the other" (Marx, 1995b, p. 146). In addition, diseases may recur under certain conditions, which also requires that the consumption of doctors' labour should be a continuous process. Hence, when Engels learnt that Marx found a skilled doctor, he said, "It is always nice to have a doctor around someone who is recovering" (Engels, 1995a, p. 103).

2.2.4 Special nature of compensation for the value of doctors' labour power commodity.

Doctors' income can be examined from two aspects: the value of labour power commodity and monetary wage. Monetary wage is a transformed form of labour power value, which falls in the phenomenon category, and is affected by economic, non-economic and multiple other factors, including economic factors such as inflation, supply and demand of doctors' labour, as well as non-economic factors such as social morality and historical factors. The value of labour power commodity falls in the essential category and is objective. Hence, we mainly look at the special nature of doctors' income from the perspective of doctors' labour power value. The special nature of compensation for doctors' labour power commodity is mainly manifested in two aspects: on the one hand, the compensation amount is not related to the treatment outcome; on the other hand, the compensation process occurs before the consumption of doctors' labour power commodity.

Firstly, the compensation for doctors' labour power value is not related to treatment outcomes. Affected by historical and moral factors, the value of doctors' labour power commodity is composed of three elements: the value of the means of subsistence required for the reproduction of doctors' labour power, the cost of the means of subsistence required by doctors' family and the cost of education and training. In addition, compared with ordinary labourers, doctors need to receive specialized, time-consuming education and training. The job of a doctor is comparatively more demanding in terms of on-the-job knowledge renewal and training. Hence, the reproduction cost of doctors' labour is comparatively high. The compensation for doctors' labour power value depends on the reproduction costs of doctors' labour power commodity, which, however, is not related to the doctors' labour result, i.e. treatment outcome, which mainly depends on the labourers' physiological functions and thus is full of uncertainty. Criticizing bourgeois classical political economists for confusing productive and non-productive labour, Marx (2009d, p. 437) pointed out, "Consequently it also does not affect the *economic character* of this relation whether the physician cures me". Doctors' labour does not create value directly. Labour power value is compensated by the redistribution of various incomes in society through economic or non-economic means – for labourers, it is the redistribution of labour power value wage and property income; for capital owners, it is the redistribution of social surplus value. Objectively, the relatively strong reliance of doctors' labour skills on practical experience grants them exclusiveness, i.e. a certain degree of monopoly. In terms of wage, doctors' income includes a part of income derived from such monopoly, in addition to labour power value wage. The reasonable level of doctors' income should be equivalent to the average wage level in the service industry.

Secondly, the compensation process for doctors' labour power value has its particularities. The compensation process for the labour power value of doctors is different from that of hired labourers under the capitalist production mode, under which the labour power value of hired labourers is compensated after the use value of labour power commodity has been exerted

within the time stipulated in the contract. As Marx said, “in all countries where the capitalist production mode dominates, compensation for labour-power comes after it has been functioning according to the time specified in the purchase contract, such as every weekend. Hence, everywhere in the world, labourers advance the use value of labour power to the capitalists; labourers allow the buyers to consume their labour power before they get the payment from the buyers for their labour power, therefore, everywhere in the world, labourers give credit to capitalist . . . labour-power has been sold, although compensation has not been paid until later” (Marx, 1995f, pp. 197–198). In addition, the price for labour power commodity is determined by signing contracts in an equal and free manner when they meet each other as commodity owners in the market. Doctors’ labour power value is compensated before the use-value of doctors’ labour power commodity is exerted, and its price is not determined by both parties signing contracts in an equal and free manner. In other words, it is not regulated by the market, and labourers have the “freedom” only to accept the price passively, not to decide it. This is because doctors’ labour process is filled with various uncertainties, such as the uncertainty of consumers’ own physiological conditions, the uncertainty of diagnosis and treatment and the expected results of labour depending on the subjective feelings of consumers. Hence, doctors’ labour power value is compensated before the use value is exerted; otherwise, there may be a problem that the doctors’ labour power value is not compensated. For other service labour products, compensation is also paid before the use value is exerted, such as a concert. However, consumers are relatively sure of the expected utility for the use value of such services.

3. Properties of medicines and reproduction of labour power of labourers

Doctors and medicines are naturally connected. After the general and special properties of doctors’ labour are clarified, those of medicines should be analyzed. As drugs are commodities, they must have the dual properties of general commodities, i.e. value and use value. The special properties of medicines lie not in their value but their special use value, i.e. curing diseases and saving lives, and therefore they are relevant to the life and health of labourers.

3.1 General properties of medicines as commodities

As medicines are commodities, they must have the commonalities of all commodities. According to Marx’s theory of commodities, any commodity is a unity of value and use value possessing the dual properties of value and use value. On the one hand, medicines have the properties of use value, which is the usefulness of the commodity. On the other hand, the use value can only be realized in use or consumption, i.e. only in consumption can it meet people’s needs with its inherent properties when the commodity becomes a realistic commodity; otherwise, it can only be referred to as a potential commodity. Then, the nature of needs herein mainly depends on objective human needs, and how they can be met depends on whether the commodities are used as consumer goods or means of production. In general, the use values of different commodities are different and irreplaceable. However, in a specific stage and environment of people’s material life, the significance and urgency of various use values for people’s basic life needs are different. As a result, different labour products constitute a sequence that differs in the significance and urgency for people’s needs (Zhang, 2015). As a kind of commodity, medicines also have the properties of use value, where the objective needs of labourers for treating or preventing diseases are met with their intrinsic properties. Medicines are commodities that are produced by producers for social consumption instead of their own. The social consumption properties of medicines can be realized through market exchanges, i.e. allocating medicines to the hands of labourers who use medicines for their use value.

On the other hand, medicines have the properties of value. Any commodity has inherent requirements for realizing its value and bringing material benefits to its producer. Under commodity economic relations, the material benefits of producers are mainly realized through market exchange. As a commodity, medicine is a means to realize the material benefits of its producers, which can be achieved through market exchange. Same as the value of general commodities, the value composition of medicines can also be expressed as “ $W = C + V + M$ ”. To continue the reproduction process, pharmaceutical manufacturers must continuously compensate for the constant and variable capital consumed in the production process. As medicines are commodities, this compensation can be implemented through commodity exchange. In other words, medicines have the properties of commodities, which determine that medicine allocation can be implemented by market means.

3.2 Special properties of medicines different from general commodities

The special properties of medicines are not about their value but their use value. Medicines, also known as “pharmaceutical commodities”, are substances used to prevent, treat and diagnose human diseases; regulate human physiological functions purposefully; and have their respective functions, indications, usage and prescribed dosage (China, 2015). The special properties of medicines lie in that their use value is related to the life and health of labourers. Hence, in the process of realizing the use value, it will present special properties different from those of general commodities, which also resulted in the fact that the management of pharmaceutical production and distribution is stricter than that of general commodities.

3.2.1 Duality of the use value of medicines. The use value of commodities comes from the inherent properties of the commodity. Some commodity can meet the specific needs of labourers that cannot otherwise be met by other commodities, i.e. the use value of a commodity not available in the other commodities. The use value of medicines is treating diseases and saving people, which are relevant to human life, health, safety and irreplaceable by the use value of other commodities. The inherent natural properties of medicines objectively determine that their use value has duality, i.e. they can be used as a cure to treat diseases, or as “poison” that harms human health or even life. For food consumption, people can choose bread, steamed buns, biscuits, etc. They are highly substitutable in use value, while the use value of medicines has very weak substitutability. Medicines should be administered based on the condition. All medicines have toxic and side effects to various degrees. The realization of their use value depends on multiple factors such as the time, dosage and method of use. Due to the lack of professional medical and pharmaceutical knowledge, patients can hardly understand the use value of medicines correctly. Hence, the peculiarity of medicine consumption is closely related to medical science. Patients can only achieve the purpose of treating diseases and protecting health by consuming medicines reasonably following to the guidance and advice of doctors. To “administer medicine based on the condition”, the right medicine should be administered to treat the corresponding medical conditions. Similar or non-similar medicines cannot be substituted imprudently, let alone medicines that are prone to being abused. Otherwise, unreasonable use can make medicine poison, endangering the health or even life.

The duality in the use value of medicines objectively determines the strictness of medicine quality requirements. General commodities can be divided into different grades, such as first, second and third grades, or qualified/unqualified goods. Different grades or even unqualified commodities can enter the distribution process. Unlike general commodities, medicines can only be classified as conforming and non-conforming ones. The safety, stability and effectiveness of medicines must meet the standards set by the state. Only medicines that meet the national standards can enter the distribution and guarantee the therapeutic effect.

3.2.2 Passive nature of medicine consumption. Medicine consumption is related to the passive needs of patients and therefore of passive nature. Such passive nature is mainly

shown in two aspects: firstly, medicines are passively consumed; secondly, medicines are passively selected in the consumption process. The consumption of medicines, like that of doctors' labour, is also a passive process. Consumption of medicines only occurs when the "machine" of labour power "fails". As Marx (2009c, p. 168) put it, for medicines, "the demand does not depend solely on how producers want to spend their wages or profits; on the contrary, if . . . becomes necessary, or if it makes itself necessary, it is partly due to physical illness". The passive nature of medicine consumption also suggests that labourers' consumption of medicines is rigid. Labourers will not stop consuming medicines because of high prices, nor will they increase consuming them because of low prices. Different from the consumption choices of general commodities, in the consumption choices of medicines, patients do not fully understand the value of medicines in most cases. They must rely on the guidance of doctors or pharmacists to learn the use value of medicines. Only by "administering medicine based on the condition" can the outcome of "curing disease with effective medicine" be achieved, which has reduced labourers' freedom in the consumption choice of medicines to some level. As doctors and pharmacists are professionals with expertise, this guiding role provides profit-seeking possibilities for doctors.

3.2.3 Complexity of medicine production and distribution process. The special properties of medicines with use value related to life and health determine the special nature of medicine production and distribution. In general, medicines have a lengthy research R&D cycle, high technical complexity and long production time. Some medicines, such as biologicals or traditional Chinese medicine, are subject to varying durations of natural effects (such as physical, chemical, and biological effects) as required by their properties. These factors have prolonged the production time of medicines. Such constraints become the threshold for entry into the production area and prevent other pharmaceutical manufacturers from entering this area. In this case, the producer of a new medicine is temporarily in a monopoly position in the market and gaining a monopoly profit therefrom. In addition, the R&D of some medicines require a huge amount of fixed and variable capital investment, and the organic composition of capital is relatively high. As a result, the production of these medicines is left without anybody who "shows any interest" in capital investment. Specifically, medicines with long production time, low production dose, many batches, high costs and low profits, such as paediatric drugs, rarely attract the interest of producers. On the other hand, the distribution of medicines is special. It requires animal experiments and clinical trials before they can be put into distribution. This is not the case in general product distribution. Some medicines are subject to the limitation of temperature and other conditions during the distribution process, which is highly technical and complicated. The special nature of the medicine production and distribution process determines that the allocation of medicinal resources cannot rely entirely on the market means but requires the intervention of the state or government.

The special nature of medicine production also determines that when medicine enters a hospital, its connection with doctors must be established. Doctors need to understand the properties of medicine and be willing to use it. Once a specific drug is used by doctors, especially authoritative hospitals and their doctors, it is virtually a promotion. On the one hand, it opens the market for medicine; on the other hand, it provides a breeding ground for the doctor–medicine "collusion".

4. Theoretical logic of the relationship between doctors and medicines

For a long time, traditional theories and established concepts hold that doctors and medicines have a natural internal connection and are inseparable, i.e. they have inherent unity, which actually provides a basis for the indiscrimination of doctors and medicines. So, what is the actual situation of the doctor–medicine relationship from the scientific perspective? What is

the result of distorting the essential relationship between doctors and medicines? What are the social properties of doctors' labour and medicines? These questions need to be answered based on the basic principles and analytical methods of Marxist political economy.

4.1 Doctors' labour and medicines have no inherent unity

From a patient's perspective, doctors' labour shares the same properties as the use value of medicines, both of which play a role in the reproduction of labour power. What we discuss here is that doctors' labour and medicines have no inherent unity from the perspective of value compensation. Based on whether medicine is required in the process of doctors' labour (we only study the doctors' labour related to medicines, those unrelated are obviously separated from medicines), doctors' labour can be divided into two categories: the one where medicines are not required during the doctors' labour, such as the labour of a clinic doctor, and the other where medicines are required during the doctors' labour, such as the labour of a doctor in the injection department.

In the first category, i.e. doctors' labour that requires no medicine. Taking clinic doctor as an example, the labour of these doctors is to make judgements based on the physical conditions of labourers, e.g. what medicines are required, what tests should be performed and what treatments should be performed. As far as medicines are concerned, such doctors can work perfectly without medicine involved. Moreover, they need no medicine at all to diagnose the physical conditions of patients. They can determine the kind of medicine to be administered for treatment merely based on their basic medicinal knowledge and judgement of labourers' physical conditions, i.e. the so-called "administering medicine based on the condition". By contrast, if doctors diagnose and treat patients based on the knowledge of what medicines are available, "administering medicine based on the condition" is changed into "treating the condition based on medicines available". The labour of such doctors is issuing prescriptions. Marx (2009e, p. 299) pointed out when he criticized a senior for misunderstanding productive labour that: "if the child is no better after treatment, the doctor's *service* has to be paid for just the same", where Marx emphasized that the doctors' labour lied in issuing the prescription. Hence, this type of doctors' labour involves no medicine at all, i.e. this type of doctors' labour and medicines have no inherent unity. Secondly, the second type of doctors' labour, such as the labour of doctors in the injection department. In this type of doctors' labour, although medicines are involved, i.e. the existence of some medicine is a prerequisite for the doctors to work. However, medicines are used as a means of labour and involved in the doctors' labour process. From the perspective of value compensation, the value compensation for this type of doctors' labour products is related only to the amount of labour consumed by doctors, but irrelevant to the value of medicines. From the perspective of value, this type of labour is not necessarily connected with medicines.

Thus, whether medicines are involved in doctors' labour process or not, doctors' labour and medicines have no inherent unity. In other words, they are separable. The non-intrinsic unity between doctors and medicines takes different forms in different forms of society. In their initial form, doctors' labour and medicines can be closely linked. Historically, professional physicians trace their origin back to medicine collectors or sellers. With the accumulation of medicinal knowledge, some of them became the earliest professional medical practitioners when physicians and medicines were still closely connected, and, in the meanwhile, due to the undeveloped social division of labour and commodity economy, the production of medicines is forced to be tied to the labour of physicians, making them inseparable, with the evident characteristics of doctor–medicine combination and industry–trade integration. On the other hand, the technological exclusivity formed because of doctors' reliance on medical experience, acted like a curtain that masked the medicine production process. However, with the development of social division of labour, industry "shredded this

curtain . . . the solidified form of social production process decomposed into the consciously planned application of natural sciences and systematically classified applications to achieve the expected use effects” (Marx, 2009b, p. 533), enabling the advancement of medical science and pharmacy, making the boundaries between them increasingly distinct. Hence, the separation of doctors and medicines became possible.

4.2 Distorted relationship brought about by the corporatization of hospitals and the capitalization of doctors' labour

There is no inherent unity between doctors and medicines, which are separable and can be separated. However, they do not need to be separated. In Marx's opinion, the nature of man is the sum of all social production relations, and human labour is the fundamental force that drives human social progress. Hence, the reproduction of labour power has not only personal but also social properties. Doctors' labour is an indispensable component of the “means of survival and development” required in the reproduction of labour power. Objectively, it should meet the common basic needs of social existence and development, i.e. the needs of labour power reproduction, with the properties of public goods, presenting equality and non-exclusiveness in consumption. In other words, the consumption of doctors' labour is regardless of social class or rank. However, under the conditions of the market economy, the corporatization of hospitals will inevitably make the properties of public goods undergo alienation towards “private consumer goods” of hospitals, as a for-profit tool for hospitals to gain maximum profit, i.e. the capitalization of doctors' labour, where hospitals provide doctors' service no longer to meet the objective needs of labour power reproduction. The corporatization of hospitals or the capitalization of doctors' labour will inevitably distort the doctor–medicine relationship that is supposed to be people-oriented, i.e. to meet the objective needs of labour power reproduction.

The corporatization of hospitals refers to the shift of the operating goal of hospitals towards profit maximization under the market economy. A series of activities or processes carried out by hospitals to provide medical services are centred around this goal. The social function of hospitals is to manage life and maintain health. If the business purpose of hospitals is alienated towards profit maximization, hospitals will gradually develop the essential properties of all corporations – chasing capital proliferation, i.e. the alienation of hospitals, which would otherwise be dedicated to saving people and protecting their health, into corporate ones. Under the condition of the market economy, there are two ways for corporate hospitals to obtain profits: one is through economic means, i.e. the exchange of commodities, in other words, the redistribution of labour power value wages and property income of labourers; the second is through administrative means, i.e. the redistribution of social surplus value. From the perspective of economic means alone, hospitals should obtain reasonable income through the services of diagnosis, treatment, testing, inspection, hospitalization, beds, treatment, physiotherapy, surgery and nursing care to compensate for the medical equipment consumed in the production process and the subsistence value required for doctors' labour power reproduction. However, for corporate hospitals under the market economy, these methods are still a means for hospitals to obtain income, where doctors are the hub. For example, what tests to be performed, how to treat patients, whether they need to be hospitalized, etc. are closely related to doctors. The corporatization of hospitals leads to over-treatment problems such as repeated examinations, repeated diagnosis, over-diagnosis, over medication, abuse of interventional treatment, induction of unnecessary surgery, expansion of indications and scope of surgery, etc. Over-treatment means that the examinations and services provided in the medical process are based not on the objective needs of disease treatment, but rather on the principle of meeting the needs of hospitals for profit. Under the condition of socialist society, the doctor–medicine relations

(including the unity and segregation of doctors and medicines) are to meet the objective needs of individual survival and development. However, under the condition of the market economy, another way for corporate hospitals to achieve maximum income is to sell more drugs. The “alienation” of the doctor–medicine relationship is to meet the demand for profit. Due to the asymmetry of information and the limitation of labourers’ professional knowledge, labourers themselves do not have the ability to make judgements about medication, examination and hospitalization. In particular, their judgement of their own conditions is far inferior to that of doctors. This means that doctors have an evident information advantage. For patients, medicine consumption has the property of “objective needs” [2]. However, for corporate hospitals, it must be configured according to the principle of “hospital demand”, and then rely on sales of drug to gain more income. The sales of drugs depend on the hospital’s needs to maximize profits rather than the “objective needs” of labourers. Doctors will prescribe more drugs and expensive ones to “generate income”. For a long time, the remuneration of doctors in our country has been generally low, which cannot reflect the value of doctors’ technical services in general, hence the inherent motivation of doctors to prescribe more drugs and expensive ones. In the case of the corporatization of hospitals and the capitalization of doctors’ labour, the unified doctor–medicine relationship is more likely to bring more medical problems, such as “expensive prescription” and “foreign drug prescription”.

Therefore, just as idea that “houses are built for living in rather than for speculation”, houses should not be capitalized as investment goods and neither should hospitals be corporatized, as they are built for saving lives and maintaining health. Doctors’ labour is for meeting the objective needs of individual survival and development and should not be capitalized either or severe social impacts will follow.

4.3 Social properties of doctors’ labour and medicines

In terms of labour power commodity value, doctors’ labour and medicines are essential components of the “means of survival and development” required for the reproduction of labour power, which necessarily involves their social properties. Doctors’ labour and medicines can be provided as public goods, private consumer goods or semi-public goods, while different social properties have different impacts on the reproduction of labour power. Western mainstream economics and Marxist political economics have fundamentally different understanding of this issue, as it adopts an individualistic mind-set without considering the variable of social production relations at all or the fact that labourers are considered as atomic rational individuals who can always maximize their utility based on the cost–benefit principle. Reproduction of labour power is entirely seen as a private matter for individual labourers whose consumption of doctor’s labour and medicines is a personal behaviour, and doctors’ labour and medicines have the properties of private consumer goods only. A researcher will never succeed in identifying and recognizing social properties represented by doctors’ labour and medicines by the approaches taken by the western mainstream economics.

Marxist political economics adhere to the analytical approach of historical materialism and materialistic dialectics, with social production relations as the fundamental object of research and people as the sum of social production relations for examination. The reproduction of any society is both the reproduction of material goods and social production relations. The reproduction of labour power also has dual properties: it is both the labourers’ own business and social affairs; it reproduces the labour power of labourers themselves as well as certain social production relations (Liu, 2016b). Doctors’ labour and medicines are the material conditions for a society to reproduce labour power. Because of the duality of labour power reproduction, doctors’ labour and medicines also have dual properties. From the

perspective that the reproduction of labour power is the labourers' own property, doctors' labour and medicines are the labourers' own business, which needs to be purchased by the labourers in the market with the labour product value wage. In terms of social properties of labour-power reproduction, doctors' labour and medicines also possess social properties, which are not just the labourers' own business. The social form of doctors' labour and medicines that labourers receive depends on the nature of social production relations, and different medical models are formed therefrom.

In a society where capitalist production relations dominate, individual capital owners often "betray" the interests of the whole capitalist class by treating the reproduction of labour power as the mere business of labourers and completely ignoring the social properties of labour power reproduction. The intrinsic motivation for chasing the maximum surplus value drives capitalists to treat doctors' labour and medicines as private consumer goods. They do not care about the health and life of labourers and, instead, they see the life and health of labourers as the cost of capital increment, so much so that the compensation they pay for the value of labour power cannot even meet the normal needs of labourers for basic medical services. As Engels (1995b, p. 388) pointed out in *The Condition of the Working Class in England*, the British working class had "no access to skilled doctors for treatment when they are ill", and that "British doctor's consultation fees are too high to be affordable by labourers. Hence, they have no choice but not to seek any medical advice at all or turn to cheap quacks and fake drugs which proved to do more harm than good". However, for the whole capitalist class, the social properties of labour power reproduction could not be ignored. The normal reproduction of labour power in the whole society is the prerequisite for the protection of the interests and the dominance of the capitalist class as a whole, hence the intervention by the governments of capitalist countries. To ease labour-management relations so that capitalist production relations is sustainable and the dominance and interests of the whole capitalist class is ensured, the medical security system arose in response to the issue as the "cradle or shelter" for capitalism. It is due to the social defects that the medical security system becomes useful and necessary and its existence "can only be attributed to social defects". Nevertheless, without considering class attributes, the medical security system still possesses a generality adapted to all social forms. After all, any form of society may have various risks, such as natural disasters and diseases. Due to the existence of non-socialist factors, there is still a gap in income distribution at the current stage in China, which justifies the existence of the medical security system, whose purpose is to adjust the income distribution relationship and ensure that all members of society, especially low-income and vulnerable groups, have their "objective needs" of doctors' labour and medicines met, which is also the inherent requirements of the essential properties in socialist shared development.

5. Conclusion

The ultimate purpose of theoretical analysis of properties of doctors' labour and medicines is to serve China's medical reform and provide a theoretical basis for the top-level system design in the medical field. According to the above analysis, doctors' labour and medicines are special necessities for the survival and development of labourers. The process of consumption of doctors' labour is characterized by rigidity and continuity, while doctors' labour skills are exclusive, which dictates that doctors' labour resources cannot be freely allocated by the market mechanism based on the principle of "market demand". Instead, it must be guided and interfered by the government based on the principle of "objective needs" to achieve reasonable allocation and meet the "objective needs" of labour power reproduction. On the other hand, the process of medicines consumption has characteristics that ordinary goods do not possess, such as the passivity of consumption needs and the duality of use value. It requires the government to apply stronger safety supervision to medicines in addition to allocating medicine resources in the market. The fact that there is no inherent

unity between doctors' labour and medicines implies that, indeed, separate management of doctors and medicines is possible; however, it does not mean that segregated management of doctors and medicines must be implemented, as in practice, whether or not to separate doctors' labour and medicines depends on which one of them is more conducive to the facilitation of labour power reproduction. While the corporatized operation of hospitals distorts the non-inherent unified relationship between doctors and medicines, it will inevitably give birth to endogenous capitalization of doctors' labour. Hence, in the process of China's medical reform, China must stay people-oriented, adhere to reason and scientific spirit when handling the relationship between doctors and medicines and remain vigilant of the corporatization of hospitals and capitalization of doctors' labour. Meanwhile, China must ensure that the "objective needs" for doctors and medicines of the entire labourer population is met by giving full play to the "social stabilizer" function of the medical security system and regulating the income distribution relationship.

Notes

1. "Conception and execution" was put forward by American economist Harry Braveman when discussing the capitalist labour process based on Marx' analytical method. He believes that human labour and animal "labour" are totally different. Animal "labour" is an innate and instinct activity, while human labour is a conscious and purposeful activity that is carried out under the guidance of intelligence. Human labour contains conception in advance and is not subject to instinct like animal "labour". Therefore, for human beings, "the unity of conception and execution can be dissolved. Conception must precede and govern execution. One person's idea can be executed by another person" (Braveman, 1979). So far, there are different translations for the term of "conception and execution" in China, such as "guoxiang he zhixing [conception and execution]" (You, 2006) and "sheji yu shishi [design and implementation]" (Zhang and Guo, 2016).
2. In the perspective of Marxist political economy, "need" and "demand/want" are different. "Need" refers to the objective need of people in their production and life; "demand/want" refers to the need that can be satisfied by purchasing power and desire in the market exchange behaviour. To facilitate the distinction, we can use "objective need" and "market demand" to differentiate these two concepts (Liu and Yang, 2017).

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