

determined by matrix A as well. Hence, we have conclusions as follows:

There are two mathematical characters in Marxist production price equations :

**First , they have unique solutions of profit rate and relative production**

**price which are positive real numbers ;**

Therefore, we have explained the mathematical characters of Marxist production price equations by the “Frobenius Theorem”. The existence of the mathematical characters of the Marxist production price equations is objective, which cannot be changed subjectively. It should be carried out on the bases of the Marxist production price equations themselves and their mathematical characters as well to study the issue of “value transformation”.

## Challenges For Modern Marxist Economics

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Dating back from the time 1857 to 1858, when the first edition of political economics manuscripts--the "Das Kapital" was completed by Marx, the Marxist economics has a history of 150 years. As a cornerstone of Marxist economics and the core thesis, the theory of surplus value is not outdated. The general law of capitalist mode of production, development and inevitable doom revealed by Marx remains correct. Some of the basic characteristics and requirements of society speculated by Marx is precisely the trend of development or economic characteristics of a socialist society. Marx's dialectical materialism is still the basic scientific method for economic research. However, the main target of the inspection by Marc is unfortunately the capitalist mode of production 150 years ago when socialist economy had not yet emerged, therefore, there exists historical limitations. It's not being Marxist if you

regard Marx's economics as eternal absolute truth and correct all the time. Conversely, Marxist economics should develop with the time and be modified, enriched and improved in light of new conditions and problems. 150 years later, modern capitalist mode of production has showed many new features and problems, meanwhile, socialist economics emerged but suffered from repeated setbacks during its development. Besides, the reality of socialist economy has significant differences from the one envisaged by Marx and Engels. All these pose a severe challenge to Marxist economics as well as new opportunities for its development. Under the new historical conditions, to uphold and develop Marxist economics, we must first clarify the challenges for modern Marxist economics and the problems we need to do in-depth study and resolve. In my point of view, there are at least four challenges facing modern Marxist economics.

#### 1. The modern capitalist economy Versus Marxist economics

After the Second World War, the Western capitalist countries generally learned a painful lesson from the big crisis in the 1930's and the two world wars. Various adjustments and improvements are made to the capitalist economic system in varying degrees. Compared with the previous capitalist economy, the modern capitalist economy has many new conditions, new features, and new problems which can be summarized in the following aspects: In terms of ownership, the state-owned economy has witnessed considerable development, a substantial increase in the number of shareholders, a rise in the extent of capital socialization. All these constitute the mixed economy with public ownership factors. In terms of the distribution of income, a progressive income tax and high inheritance tax was implemented, wage increased in the proportion of national income, the Gini coefficient fell and the income gap narrowed, forming a so-called "middle class". A comprehensive social security and welfare system was established which greatly eased the social contradictions. In terms of economic operation and management, the introduction of so-called "economic planning" and "management specialization and democratization," was successful. There is no big crisis of its kind like in the 1930s, and the USA even enjoyed a so-called new economy as long as 10 years characterized

by low inflation, low unemployment rate and high growth. These are the new situations and new changes that Marxist economics does not foresee, though new situations and new changes don't mean that capitalist system will exist forever. However, Marxist economics had declared that the capitalist system is decadent, dying and sounding the toll. So how to correctly understand and define these new situations and new changes is a must task for modern Marxist economics. Otherwise, it is difficult to convince people of Marxist economics.

## 2. The real socialist economy versus Marxist economics

The socialist society envisaged by Marx and Engels boasts a social ownership that the society directly takes the possession of all the productive materials, proportional and planned social production, planned economy without links between commodities and currency and the existence of capital, labor force which is no longer a commodity and a complete eliminated private ownership and exploitation. In fact, the socialist economy is a market economy with the link commodities and currency, the existence of capital and the coexistence of various ownership. Private ownership accounts for a substantial proportion and even has a trend of exceeding the proportion of public ownership. The labor force has the attributes of commodities. Exploitation exists in a large scale and the Gini coefficient is even higher than that of the developed capitalist countries. The reality of socialist economy has significant differences from the one envisaged by Marx and Engels. Marxist economics should offer scientific explanation for this phenomenon and the reason why significant differences occurred between the real socialist economy and the envisaged one. We should also answer such questions as whether the real socialist economy is the socialist economy in a strict sense, whether the socialist economic theory by Marx and Engels is outdated and whether the human society will go toward the social ownership, planned economy, distribution according to work and need. In addition, most former socialist countries have now evolved from the socialist economic system into a capitalist economic system peacefully. Why could it happen and how to evaluate this phenomenon? Does it mean that the conclusion that the socialism will

defeat and replace the capitalism is wrong? Is capitalism really superior to the socialism? We should answer these questions correctly or it's hard to convince people of modern Marxist economics.

Marxist economics in the past mainly focused on exploring the law of the birth, development and demise of capitalism, providing a theoretical basis for proletarian revolution. It's called "revolutionized economics" without complete, systematic and scientific socialist economic theory. Modern Marxist economics should offset such setbacks, take the socialist economy as its main research target and emphasize on how to construct socialist society and develop socialist economy in order to establish a complete, systematic and scientific "constructive economic theory".

### 3. Knowledge, information and service versus Marxist economics

Marxist economics mainly concerns on the economic activities and relations in the field of material production which took priority in the then socio-economic activities. At that time, the material capital in the field of material production is the scarcest dominant factor. The capital is in the hands of capitalists. The then economic relations mainly showed capital predominating labors. Mankind has now entered the knowledge economy or information economy era. The main socio-economic activities gradually shift from the production of goods to non-material production activities in the area of services. Intellect, skills, knowledge or human capital is increasingly becoming the most important and dominant productive factor. Human capital is mainly in the hands of workers. Socio-economic relations experienced a shift to human capital predominating material capital. Modern Marxist economics, targeting relations of production, should overcome the previous historical limitations of the study, and make in-depth analysis and scientific explanation on these new phenomena and new features in the information age.

The theory of the value of labor and residual value is mainly built on the basis of the analysis of the production areas. Only the production occurs in the area of material production can value and residual value be created. However, in

contemporary developed capitalist countries, the services sector is the leading industry, accounting for over 70% of GDP. Services labor can create value and residual value, and therefore we should expand the scope of productive labor. We should improve and develop the theory of the value of labor and residual value to enhance their scientific nature.

#### 4. The theme of world--peace and development Versus Marxist economics

Marxist economics believes that capitalism especially monopoly capitalism will inevitably lead to the contention for world market, resources and investment sites even colonial places. Capital export is an important tool for developed capitalist countries to exploit economically backward countries. Proletariat should overthrow the rule of bourgeois. Violent revolution, seizing power with armed force is indispensable to realize the replacement of socialism over capitalism. However, in today's world, peace and development have become two main themes pursued by people all around the world. Nuclear weapons and their enormous destructive power is sufficient to destroy humankind several times over. Both capitalist countries and socialist countries do not want to fight another World War, let alone a nuclear war. After the Second World War, while the war continues in a small scale in the world, the main capitalist countries no longer had a war. Capital is mainly exported to advanced capitalist countries rather than economically backward countries. Conversely, developing countries even take various measures to bring in foreign investment to boost their respective domestic economy. Developed capitalist countries make continuous efforts on the adjustment of the relations of production and superstructure to ease social conflicts. There exist no conditions for a violent revolution and the armed seizure of power. The capitalist economy even has some traditional socialist economic factors, such as public funds ownership, mixed economy, narrowed gap in income distribution, social security and welfare system, democratic management, and economic planning. There seems to be a possible peaceful evolution from capitalism to socialism. Moreover, developed capitalist economies contain some

traditional socialist economic factors while some socialist economies have also shown some economic features of the capitalist economy such as private capital, allocation according to capital, exploitation, the disparities of distribution of income, the market economy. Can all these lead to the conclusion that the traditional capitalist economy and traditional socialist economy are undergoing major changes and will reach to a more advanced social system which is neither capitalist nor socialist? Marxism calls on the proletariat to unite to overthrow the rule of bourgeois in the world. But now the United States, especially the traditional industries unions oppose imports from the socialist countries like China. Besides, unions and chambers of commerce which include employees and employers, or proletariat and the bourgeoisie stand in the same line on limiting imports from China. Nationalism seems to take a priority over proletarian internationalism. That's why we should utilize basic principles and methods of Marxism to revise some conclusions and views to state these new situations and problems correctly.

These problems are objective but hard and sharp questions for Marxist economists. Modern Marxist economics should meet all the challenges to correctly address and handle these problems. Only in this way can we uphold and develop Marxist economics in a scientific nature and ward off marginalization. Thus, Marxist economics will better serve our economy.

Frederick Engels and Karl Marx

about the world market

Eike Robert Kopf