

opment is undesirable (for example, usury in all its forms, illegal drugs, prostitution, and other immoral types of business).

The conception of physical economy envisages that the government will observe a humanistic principle of justice in raising taxes from various layers of society. A heavy tax burden on working families is not only immoral, but also regressive, because it destroys human life and puts a brake on the progressive development of society. Taxation of private capital should also be flexible: A high tax ought not to be levied on high incomes for punitive purposes, but it should be taken into account how this income is being used. For example, it is advisable to establish certain tax rebates for investments seen as useful from the standpoint of physical economy.

The rise of inflation

Questions of taxation are closely linked with problems of inflation. Physical economy shows correlations of monetary inflation, with inflation from expenses and taxes. Money or its substitutes (securities as a means for transactions, credit as a means of payment, and so forth) put into circulation, serve as a means of payment for physical goods or labor. Irrecoverable losses occur in the payment on accounts of financial usurers or ground rent. The recipient of such money renders nothing in exchange. It is simply a removal of money. In essence, the payment of debt service functions as a tax, which adds to the price of physical goods or labor. Expenditures grow correspondingly, which raises prices. More has to be paid for the same volume of output of goods, without receiving anything in exchange. This causes the growth of inflation.

Later on, this money again can be used for usury, ground rent, and so forth. Thus, usury expands like a cancerous tumor, sucking the economy ever drier of monetary resources. If this disease is not stopped, the production of physical goods and services will contract, and stagflation will ensue, that is, economic stagnation in conjunction with inflation, which inevitably becomes stronger as monetary incomes grow, being withdrawn from the economy into the hands of usurers.

As the usurers wring out more and more resources from the national economy, the structure of social and productive processes changes, the nonproductive sphere of activity expands, including the financial swindle and other bubbles on the body of the economy. And finally, the components comprising national income are altered. Now monetary inflation assumes the form of cost inflation.

The figures for Gross National Product, for example, show income from the narcotics trade together with other indicators of fictitious growth, having nothing in common with the productive growth of the economy. The "post-industrial" horrors are fully confirmed.

The monetarists believe that too rapid economic growth causes inflation and, therefore, to struggle with it, one must regulate monetary emissions under conditions of a decline of production. From the standpoint of physical economy this is

'Use physical economy to develop agriculture'

The fruitful ideas of physical economy, thanks to the work of professor Lyndon LaRouche and his followers, promote economic theory to a category of the exact sciences and give clear reference-points for the development of technological systems. The key thesis of physical economy, on the development of society through technological progress, appears to us representatives of the engineering sciences to be irrefutable. However, there exists a real problem of distinguishing true and imaginary progress, and of adequate assessment of the processes of development of technological systems on the macro- and micro-levels.

We undertook an attempt to establish a hierarchy of criteria for the development of agrarian technological systems, starting from the key connections of nature, society, and production. The development of technological systems (production) is evaluated by its efficiency in relation to society and its ecological quality in relation to nature. To establish qualitative evaluations of the ecological quality [*ekologichnost*], it was necessary to define its connections with the net usefulness of the results of the system, with the costs for attaining this usefulness, as well as with the harmful consequences of the functioning of the technological system.

The usefulness of the system is evaluated by the end

not so. For the struggle against inflation it is necessary:

- to stimulate high rates of technological progress in the production of physical goods and production infrastructure;
- to increase the quantity of money in circulation (not excluding emission) with the aim of extending special purpose loans only for appropriate productive investments;
- to impose high taxes on usury and kindred wasteful activity (such as currency speculation and so forth), creating the conditions for their complete disappearance.

One must not hurt production

In Russia, the monetarist policy is leading not to the suppression or restraint of inflation connected with the costs of production, but only to an acute shortage of means of payment in the country. As a result, the artificial restraint of monetary inflation leads to a crisis-level decline of production and other negative phenomena (such as the notorious non-payments). In other words, a slowing of the rise of prices turns into a fall of production, which is fraught with new inflation.

Therefore, one must seek methods for the struggle against inflation which would lead not to a decline of production, but to its stabilization and to ensuring the social support of the

results of the work, which may be expressed by qualitative indicators in natural, monetary, or energy units. The attainment of net usefulness demands certain expenditures of resources and labor, which can be expressed quantitatively in analogous units. The indicators of usefulness and expenditures make up the lower hierarchical level of the criteria of development of technological systems.

The relationship of net effect to outlays, as is known, characterizes the efficiency of a system. In particular, for agrarian technological systems, it is convenient to use the criterion of efficiency of labor, which corresponds to physical economy's notion of economy of labor as the criterion of progress. The criteria of efficiency of technological systems comprise the second level of generalization.

If, besides the harmful consequences of a technogenic nature, the level of net usefulness of the results in the concept of the ecological quality of a system and the system's consumption of natural resources are included, then one can create a more general indicator, which we call the ecological quality indicator. For this we proceed from the fact that inefficient technological systems cannot be ecologically propitious, since they consume natural and labor resources without a proper return to the maintenance of the vital functions of society. The level of consumption of non-renewable resources is also a determinant of the viability of society, and thus weakens the viability of society and is a component of the ecological quality.

Using such a broad interpretation of the ecological

quality, it becomes possible to construct a hierarchical system of criteria of development of technological systems, to establish the quantitative interconnections between net usefulness, efficiency, and the ecological quality of production. For the practical purposes of improving agrarian technological processes and technologies, particular and generalized criteria are provided, as well as limitations on some individual characteristics of technological systems. The ordered totality of goals, criteria, restraints, and preferences forms a system of professional values, which allows specialists to take effective and ecologically propitious decisions in the course of making innovations.

While conducting structural and functional analysis of agrarian technological systems, we are frequently convinced of the valid emphases of Lyndon LaRouche concerning the importance of developing the infrastructure of technological systems on both the micro- and macro-level. This allows us to develop a methodology for the rationalization of technological systems, as well as models for the development of technological systems on the basis of Lyndon LaRouche's concepts of free energy of the system, information as a qualitative characteristic of development processes, and the use of conical-spiral functions.

This report has only briefly showed the productivity of the ideas of physical economy, which gives a powerful impulse for the theory and practice of developing technological systems.

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population.

Unfortunately, in the developing countries, where stimulative and anti-inflationary measures are used as recommended by Keynesians, monetarists, and structuralists, success has not been achieved. Inflation in these countries stimulates the flight of capital not into productive sectors, but into spheres relatively protected from the negative impact of inflation (finance, foreign trade, foreign holdings, etc.), and also into nonproductive consumption. The factor of hidden unemployment also acts negatively. In these countries, unfortunately, the principles of physical economy are still little studied and have not received widespread application.

Questions of property, the implementation of privatization in particular, occupy an important place among economic reforms in Russia. The method chosen in Russia may be called compulsorily revolutionary, political (not economic): They decided to introduce a new form of property (private) at the expense of the total destruction of the former (state) form. This is a purely Bolshevik path of appropriation of someone else's property, only in an inverse direction, that is, "dekulakization"¹ of the state. Unfortunately, Ukraine today has taken this road.

Lyndon LaRouche has perfectly correctly noted, that the development of an economy requires state regulation. In a number of sectors, state ownership is preferable. Moreover, the state has no few constructive methods and means for monitoring and intervention both in the organization of the work of the private sector, and in the processes of price formation.

Contemporary economic life in Russia is being kept afloat by trade mainly in imported goods. But it is well known that this path leads to nowhere. Essentially, the economy faces the choice: either destructive processes will be continued and will "get" the "still breathing" islands of the economy; or the state will take the path of selectively prioritized, but sufficiently substantial stimulation of the national economy through injecting monetary means (including emissions) into the productive sectors and infrastructure, through investment. Purely monetarist methods of struggle against inflation can ruin the economy itself. The lessons of Russia should be taken into account in the conduct of social-economic reforms in Ukraine.

Notes

1. Dekulakization: dispossession of the peasantry, executed with special cruelty in Ukraine in the 1930s under Stalin.