Economic Equilibrium in the System of the USSR

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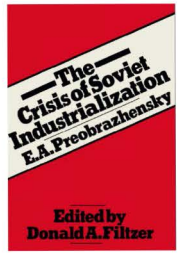

The Economy of War Communism

In the present article we will apply everything we said earlier about reproduction under concrete capitalism to an analysis of equilibrium in the present-day Soviet economy. But before we move directly to the situation today, let us say a few words about the period of "War Communism." We in the Soviet Union often underestimate the legacy that the New Economic Policy (NEP) received from War Communism in the sphere of interrelations between the state and private sectors of the economy. Thus, it would not be out of place to recall the true magnitude of the changes that were introduced into the interrelations between the private and state sectors by the transition to NEP.

The most characteristic feature of the period of War Communism in the sphere of interrelations between the state and private sectors of the economy was, if we may put it thus, the economically separate existence of petty production (primarily peasant production) on the one hand and the state economy on the other. No regular market exchange existed between these two sectors, although generally speaking an illegal and semilegal market did continue to exist throughout War Communism. The exchange that occurred in the form of requisitions on the one hand and deliveries of goods from urban production to the countryside through the People's Commissariat of Supply on the other was of a highly specific nature. The specific features of the interrelations between city and country, to the extent that they were regulated by the state, derived from the general political and economic

conditions of War Communism. The principal goal of all production and distribution at that time (a goal that was imposed upon rural petty production from the outside) was not expanded reproduction within the state and private sectors. Rather, the aim was to produce the maximum amount of consumer goods for the army, the urban proletariat, and the rural poor and to produce arms for defense, without any concern for depreciation. Planned distribution of existing stocks played an equally important role in the economy. This distribution, too, was subordinate to the needs of defense rather than to the tasks of expanded reproduction. This was the economy of a beleaguered city that was pursuing the goal of holding out as long as possible to win a war, not the goal of normal reproduction in the economy. Disregarding the type of production relations, our economy under War Communism was one of declining reproduction: it thus resembled the declining capitalist production in Europe during and after the world war, which we discussed above. But in our case—speaking now of the state sector—this was declining reproduction in a *socialist* economy, and herein lies the uniqueness of this stage of our economic history.

Now, is it possible to illustrate the exchange within this economy—an economy marked by declining reproduction and a widening gap between its state and private sectors—by the same arithmetical schemes that we used in analyzing capitalist and petit bourgeois reproduction?

In principle, such an illustration is impossible. We must remember that what we want to illustrate here is by no means a process of reproduction of a commodity capitalist society where all operations are subject to the law of value. Rather, we are dealing with exchange based on *other law-governed regularities*, primarily the needs of defense, with total disregard for any sort of equivalency whatsoever, whether in the exchange of the total sum of articles of consumption of rural origin against urban products or in the internal distribution of the goods that the peasantry received according to the plans of the People's Commissariat of Supply. Marx's schemes are not suitable for illustrating reproduction in an economy of this type: Marx used his arithmetical examples to illustrate equilibrium conditions of exchange of values under pure capitalist reproduction. His schemes are no longer applicable once an economy has become "naturalized" and has largely ceased to be a money economy, when equilibrium in the exchange of

values has been replaced by proportionality in the distribution of the material elements of production in kind, when measurements in terms of value are being replaced by measurements of labor time or by substitutes for that measurement, and when, finally, production is subordinate not to the needs of accumulation or even to those of simple reproduction but rather to the task of consuming constant capital with deliberate intent and converting it into articles of consumption and armaments. For this reason, the categories of value are not appropriate for a scientific analysis of the concrete economy of War Communism. However, we know at the same time that our economy under War Communism had been in existence for too short a time to have worked out the accounting methods that were organically inherent in it, that is, an accounting of the material elements of the economy and the means of consumption, elements that could in the final analysis be reduced to labor costs and thus be rationally measured by labor time—in other words, those that could be measured in a socialist manner. Under War Communism we used surrogate devices for socialist accounting, such as the prewar ruble, the commodity ruble, and grain and other rations (forms of accounting in kind). We used a *quantitative* accounting of industrial output, a quantitative accounting of what had been received from requisitions on peasant production, and so on. This measurement in kind had no value parallel, as it does now, but rather constituted the basis for all our calculations. If we could draw up even an approximate balance for the national economy of Soviet Russia for each year of War Communism, that is, in part for 1918 but primarily for 1919 and 1920, we would discover that these were not annual balances of reproduction. We would establish the following basic economic facts:

(1) The complete elimination of capitalist production and capitalist trade from the economy left us with only two sectors: the sector of the state economy and the sector of petty production, which to a considerable extent had lost the character of *commodity* production because of the "naturalization" of the peasant economy and the collapse of craft and artisan industry.

(2) Only a very minor portion of the fixed capital of the state sector that was used up during each year of War Communism was replaced. Consequently, it was systematically eroded. The fact that all production in the state sector was earmarked for consumption had its consequences: since the fixed capital of light industry,

which emerged from production in the material form of articles of consumption, was not replaced, the net result was an increase in the production of means of consumption at the expense of compensation for wear and tear on existing equipment. This situation radically upset the relation between the rate at which the fixed capital part of II*c* was being consumed in department II and the rate at which it was being reproduced in material form in department I. Not only did the resulting imbalance preclude expanded reproduction, it did not even meet the requirements of simple or even slowly declining reproduction. On the other hand, the part of the petty economy's means of production that previously had been produced in department I of the capitalist sector (or had been imported) was now also being consumed without replacement in department I of the state sector. Finally, the means of production of department I of the state sector that consisted of fixed capital were not replaced within that same sector, insofar as they were worn out in producing arms, including military transport vehicles. That is, they were swallowed up by nonproductive military consumption. All this meant the paralysis, above all, of the section of heavy industry whose function was to replace the fixed capital of II*c* of the state and private sectors.

(3) The part of constant capital of the state sector that consisted of fuel, imported raw materials, and raw materials of peasant origin could not be reproduced in sufficient proportions, since we had lost control of basic fuel-producing regions (the Donets Basin and Baku) for long periods during the war; we were subjected to blockades; and the peasants had cut back production of industrial crops at the same time as they began processing more of these same crops for their own use.

(4) As regards exchange between city and country, the single most important fact explaining the inevitability of the entire system of War Communism is the following: Even if normal market exchange had taken place between the city and the countryside, an overall reduction of peasant production to 50 percent of its prewar level would have prevented the peasant economy from supplying the city—*on the basis of exchange*—with the quantities of articles of consumption, industrial raw materials, and direct labor (freight transportation and so on) needed by the state during the Civil War. And, conversely, even if the countryside had been able to supply all these values through normal market exchange, then state production, considering that the volume of its output was at a

minimum whereas nonproductive consumption brought about by the war was enormous, would have been objectively unable to replace the goods that it received from the peasantry, even through grossly nonequivalent exchange and even with a high monetary tax on the countryside. This becomes quite obvious if we take the total production of means of consumption in state industry (in prewar rubles), subtract what was consumed by the city and the military, and then compare what might have been left over for exchange with the value (also in prewar rubles) of everything that was obtained through the requisitions on the peasantry. Although the discrepancy was not so great during the first year of War Communism —the Soviet government still had available old, prewar stocks—by 1920, the year that most typified War Communism, the peasantry was already delivering much more to the cities than it was getting in return. This demonstrates that market exchange relations between the state economy and petty production were completely impossible in that period.

The fact that the economy of that period was geared to military consumption was expressed in another way as well. When industrial products were supplied to the countryside in accordance with the state plan, the Committees of Poor Peasants distributed these goods among the rural inhabitants in a special way: it was not the strata that had supplied the greatest amounts to the state under the requisition that received the most in return. Rather, it was just the opposite. It was the poorest peasants who got the most, the peasants who had given nothing material to the state but who were lending it their political and military support in the Civil War. Hence, distribution of urban products was doubly nonequivalent, first in the sense that much less was returned to the countryside than had been obtained from it, and second in the sense that there was a principle of unequal distribution within the countryside itself. This class-based distribution, which ignored the exigencies of reproduction in the peasant economy, was countervailed to some extent by illegal exchange between the city and country, "bag trading," as it came to be called.[1] Here, the countryside took a measure of revenge, as it were, upon the distribution system that had been imposed upon it by the city. By exchanging grain, potatoes, and other foodstuffs, it bought for a mere trifle the cloth, footwear, furniture, and other items that had been stored in the cities for years.

The contradiction between city and country grew, and the peasant uprisings in late 1920 and early 1921 brought attention to bear on the urgent question of how the system of exchange in the Soviet economy could be adapted to the conditions of commodity production in agriculture. This adaptation took place with the transition to NEP. But the reasons for going over to NEP were rooted within the state economy itself, since it was entering into a peaceful period of existence. In our peasant country, the transition of the state economy from the declining reproduction of wartime to the expanded socialist reproduction of peacetime required changes in the relations between proletarian industry and the peasant sector. It demanded a market system of exchange and incentives for the production of peasant raw materials needed for state industry, the growth of exports, and so on. In examining these changes, however, we must be careful to distinguish between two different categories. First, certain changes were made in the methods of managing the state economy in order to squeeze everything of value from the usual capitalist techniques of accounting, calculation, and so on in the first stages of socialist construction; in other words, these were changes introduced in the interests of the state economy itself at a given level of socialist culture. These changes in the country's economy must not be confused with those that were imposed upon the state economy by the predominance of petty commodity production in the country. Had it been a question of the first years or the first decade of socialist construction in a country such as contemporary Germany, then the general conditions of development of a socialist economy might perhaps have required us, too, to maintain a market system of exchange until the methods of distribution appropriate to the socialist form of production had been discovered through experience. We, too, would perhaps have left not only petty trade but also medium-scale trade where the state sector still had dealings with the relatively insignificant private economy. But the conditions conducive to the *development* of commodity relations, i.e., the development of private capital in its various forms, would not have existed. However, in the USSR such a development, especially in agriculture, is an unavoidable fact, imposed upon the country's economy by the enormous preponderance of petty commodity production combined with the relative weakness of the state sector. This fact forces the state economy into an uninterrupted economic war with the tendencies of capitalist development, with

the tendencies of capitalist restoration, which are reinforced by the outside pressure exerted on our economy by the world capitalist market. For this reason, our economic system cannot enjoy the internal stability that characterized the countries of youthful capitalism as it dissolved feudal relations and subordinated petty commodity production to itself. This solitary battle, waged by the socialist elements of the economy against the capitalist elements that are buttressed by the huge block of petty commodity production, leads as well to a dualism in the sphere of control or, in other words, to specific equilibrium conditions within the system as a whole.

Preliminary Observations

An analysis of equilibrium conditions in the present-day Soviet economy necessitates the division of the economy into three sectors: (a) the state sector, (b) the private capitalist sector, and (c) the sector of simple commodity production. The nature of the investigation, however, will frequently require us to counterpose the first sector to the other two taken together, since the two combined represent the private economy as a whole, and the lack of necessary data on the capitalist sector means that the only way to make a concrete study of reproduction is to divide the economy into two sectors.

The second feature—and this is what makes the investigation so difficult—is the fact that equilibrium of the system is not attained on the basis of the law of value of equivalent exchange, but rather on the basis of a clash between the law of value and the law of primitive socialist accumulation. For this reason we cannot, in analyzing equilibrium, start from Marx's assumption that commodities are usually sold at their value. In volume II of *Capital*, Marx, in posing the question of analyzing reproduction, makes the following reservation in connection with this point:

> It is furthermore assumed that products are exchanged at their values and also that there is no revolution in the values of the component parts of productive capital. The fact that prices diverge from values cannot, however, exert any influence on the movements of the social capital. On the whole, there is the same exchange of the same quantities of products, although the individual capitalists are involved in value-relations no longer proportional to their respective advances and to the quantities of surplus-value produced singly by every one of them.[2]

As we have already shown, this assumption by Marx is quite correct when one is analyzing equilibrium in a capitalist economy. However, when we analyze reproduction in our system, we start from the rule that prices diverge from values, as a rule, when we compare our domestic prices with world prices. From the standpoint of equilibrium, the distinguishing feature of our economy during the period of primitive socialist accumulation is precisely that it lacks the equivalent exchange toward which a capitalist economy naturally gravitates, and which it attains with greater or lesser deviations, primarily on the basis of free competition and by giving free rein to the law of value in the distribution of social labor. Under capitalism equivalent exchange may be considered the dominant tendency, no matter how numerous the variations in the general pattern and no matter how much these deviations accumulate historically as capitalism enters its monopoly stage. In the Soviet economy, on the other hand, during the period when the entire technological basis of the state sector is being replaced, the rule is *non*equivalent exchange. This nonequivalence underlies the whole existence of the state economy, and it constitutes one of the most important features of our system at the present stage of its development. War Communism meant, first, nonequivalence of exchange (*razmen*)*[3] of the products of state industry for the products of the countryside alienated from the peasantry through requisitions and second, absence of the market, commodity-money form of such exchange (*razmen*), that is, the absence of market exchange (*obmen*). Under War Communism the level of development of the productive forces in both the state and the peasant sectors was so low, and nonproductive military consumption so high, that the market form of exchange (*obmen*) would not have stood up under the pressure of the redistribution of national income necessitated by the Civil War. Conversely, if the market system of exchange (*obmen*) had held up, then the specific pattern of income distribution demanded by wartime conditions could not have been sustained, and with that the chances for victory might have been destroyed. As regards the period of NEP or, more precisely, the period of primitive socialist accumulation, the development of the productive forces in both sectors not only permits but even de-

* I use the word *razmen* instead of *obmen* in order to avoid using a term referring to commodity economy with an established meaning for an economy of quite a different type.

mands a market form of exchange (*obmen*) capable of guaranteeing the state economy the necessary conditions for its existence and development. But exchange (*razmen*) of the products of the state and private sectors, especially between state industry and the peasant economy, can still not be equivalent, either in terms of relating the labor actually expended on the products exchanged or in terms of their relation to the proportions of exchange (*obmen*) prevailing in world economy. Our system could not have sustained an equivalent exchange (*obmen*) controlled by the world market, and the whole process of reconstruction of the state economy would have necessarily come to a halt.

Thus, economic equilibrium in the Soviet system during the period of primitive socialist accumulation differs from the period of War Communism in two respects: we have now reestablished the link between the state and private sectors on a market basis and, additionally, the capitalist sector has reappeared on the scene. On the other hand, the present system resembles War Communism in the nonequivalence of exchange, which continues to exist, although in a much less extensive form as compared with 1919–20. This circumstance does not hinder all those investigators who build an unbridgeable gulf between War Communism and NEP and are incapable of scientifically establishing the historical continuity between the two forms of economic regulation. Apart from the fact that NEP did not in the slightest alter the system of ownership of large-scale industry and transportation, it retained a continuity with the era of War Communism and maintained an attenuated version of nonequivalence of exchange. To uncritically hold War Communism responsible for things that spring from the general economic backwardness of our country amounts to no more than childish stupidity and a failure to understand cause and effect in our economic history. To whom, indeed, is the complaint addressed that the level of development of the productive forces in our country was low and will continue to be so for a long time to come? One has to understand the consequences to which this leads at various stages of the existence of the Soviet system.

However, although during the period of primitive socialist accumulation we *hold to* nonequivalent exchange (*obmen*), using it for the reconstruction of our technological base, that does not mean that we will *hold out* for very long in such an extreme position if we do not overtake capitalism but continue to lag behind

it or, while moving forward, nevertheless maintain the same relative distance from it in technology and in the development of our productive forces. Nonequivalent exchange (*obmen*), with all the apparatus for safeguarding it, such as the foreign trade monopoly, planned imports and rigid protectionism, may be an obligatory condition for the existence of the Soviet economy, with its state sector, but if our economy is to *continue* to exist, it is just as necessary that nonequivalence be gradually overcome and that our productive forces be brought to the level of the most advanced capitalist countries. These are the two equilibrium conditions of our system, insofar as they are connected with expanded reproduction of socialist relations, that is, with precisely that which distinguishes us from capitalist economy, and insofar as it is a question of the reproduction of capitalist relations in an economically backward country at a time when that backwardness is in the process of being overcome.

We must now make some preliminary observations on the capitalist sector of the Soviet economy. We have seen that as long as our economy lags behind capitalism both economically and technologically the existence of the state sector is the main source of nonequivalent exchange (which essentially comes down to a tax on the whole economy for the benefit of socialist reconstruction). But it is quite incorrect to infer from this that the capitalist sector of the Soviet economy, *taken as a whole*, is the domain of equivalent exchange or that it in general has inherent tendencies toward more equivalent exchange even within the bounds of the Soviet economic system. We must bear in mind that the commercial and industrial segment of the capitalist sector on the one hand and its agrarian segment on the other do not gravitate toward equivalent exchange to the same degree. The basic proportions of the domestic price structure are established by the interplay between state industry and transportation and the peasant economy. *Private industry is incapable of altering these proportions*, nor is it the least bit interested in doing so. It plays a passive, parasitic role here. Whereas nonequivalent exchange is for the state sector the material source of technological reconstruction and a prerequisite for the development of the productive forces in coming years, *private industry merely clings fast to the existing situation.* It finds its way into the pockets of nonequivalent exchange between large-scale Soviet industry and the countryside in order to accumulate, but without ever embarking

upon productive industrial accumulation. Hence it can itself never help lower production costs, nor can it ever begin to compete with state industry in a positive manner. The only place where private industry successfully competes with state industry is in a few branches of light industry where expensive machinery does not yet play an important role or is inapplicable and where the role of personal initiative and energy, of personal involvement in the business, is relatively great. And even in these industries, the private entrepreneur's success rests chiefly on the extreme exploitation of labor power, often that of his own family. The bourgeoisie prefers to keep its accumulated resources in money form and feels that it is risky to convert them into the hard and fast form of new instruments of production. This is precisely the predicament in which private merchant capital finds itself. When a goods famine is compounded by poorly organized distribution in the state system of cooperatives (especially when that system has only existed for a few years), the private trade apparatus takes advantage of market trends to augment its normal profit and, in general, trades at higher prices than the state cooperative system. Here too, private capital plays chiefly a parasitic role in the sense that *it takes advantage of the favorable economic situation provided by nonequivalent exchange—a situation that it itself did not create—while doing nothing to help attain greater equivalence.*

The agrarian half of the capitalist sector, represented by the kulak and the well-to-do peasant, who is already halfway along the road toward systematic exploitation of the labor of others, finds itself in a different situation. Later on we will discuss the relative influence of this element of the capitalist sector and its growing importance in the country's economy. For now, let us merely note that the main weight of the capitalist sector, insofar as it will develop at all, will undoubtedly shift to its agrarian segment, where accumulation occurs in the form of means of production and of land leased from the poor peasants. It is the agrarian capitalism of the Soviet system that suffers first and suffers most from nonequivalent exchange, because the kulak buys more than the middle peasant and hence overpays more at our domestic prices as compared with world prices. The kulak sector sells more, and expanded reproduction within that sector can take place only through market exchange. Only through market exchange can the kulak sell the growing volume of his output, including the part that constitutes his surplus value. That is why the kulak is so

pointedly and consciously hostile to the present economic order, although indeed to a certain extent the entire peasantry suffers from nonequivalent exchange insofar as it is dependent on the market and has not withdrawn into the shell of a natural economy. The kulak tries to offset the nonequivalence of exchange with the town, hoping that by not selling in months when the poor and middle peasant strata are marketing grain at the prices fixed by the state, he can thereby drive up grain prices in the spring. He experiments with replacing certain crops with other, more profitable ones. He tries to avoid the market and accumulate in kind by raising more livestock and poultry from his own production, by constructing new farm buildings, and so on. But the possibilities for such economic maneuvers are not very great, and in the end the kulak is forced into a confrontation with the entire Soviet system. And the longer it takes for this confrontation, the more the kulak will be inclined to seek a solution to the problem not by economic means within the Soviet system, not in a partial adjustment of the equilibrium in his favor, but by attempting to force his way through to the world market by counterrevolutionary means. Here, the problem of economic equilibrium rests squarely on the problem of social equilibrium, that is, the relation of class forces for and against the Soviet system. Two systems of equilibrium are struggling for supremacy: on the one hand, equilibrium on a capitalist basis—which means participation in the world economy regulated by the law of value—by abolishing the Soviet system and suppressing the proletariat, and on the other hand, equilibrium on the basis of temporarily nonequivalent exchange serving as the source of socialist reconstruction and *inevitably signifying the suppression of capitalist tendencies of development, particularly in agriculture.*

Marx's analysis of proportional distribution of labor under pure capitalist reproduction began with equivalent exchange as a necessary premise. In our own earlier analysis of equilibrium under concrete capitalism, we also began with this same premise. But from what we have just said above it is clear that the investigation of reproduction in the economy of the USSR that we are about to begin must start with nonequivalent exchange, even though the latter is to be gradually and systematically eliminated. *But this means that we always have to assume that the entire process is based upon the existence of two different systems*

of ownership of the means of production, and two different regulators of economic life, that is, the law of value and the law of primitive socialist accumulation.

An Algebraic Scheme of Reproduction in the USSR

If we take the terminology Marx used to describe the capitalist economy and apply it in a conditional sense to the state economy and to the petit bourgeois sector, we will obtain the following algebraic scheme for the three sectors of the economy:

State Sector

Department I. $c + v +$ surplus product $+$ (surplus product
Department II. $c + v +$ surplus product $+$ from other sectors)

Capitalist Sector

Department I. $c + v + s$
Department II. $c + v + s$

Petit Bourgeois Sector

Department I. c + consumption fund + surplus product
Department II. c + consumption fund + surplus product

However, the above scheme is inadequate for our purposes, because it fails to give an idea of how the individual magnitudes are broken down from the standpoint of their exchange with different departments of different sectors. A more detailed scheme, which we will use in the rest of this discussion (although we will often be taking the two private sectors together), would need to have the following form: [see pp. 182-83].

Let us say a few words to clarify this scheme, which even in the form presented far from exhausts all the various directions along which exchange proceeds in expanded reproduction in our system.

From the standpoint of exchange, the constant capital of department I of the state sector can be broken down into three parts: the first part is reproduced within the department itself; the second is reproduced by exchange with department I of the capitalist and petit bourgeois sectors; the third is reproduced by imports of means of production from abroad.

Wages of department I of the state sector are divided into two parts: one part is exchanged for means of consumption produced in department II of the state sector; the second part is reproduced by exchange with departments II of both the capitalist and petit bourgeois sectors.

The surplus product of that same department can be broken down into (1) an accumulation fund that is distributed proportionally between c and v, with the appropriate exchange of the additional v for means of consumption, and (2) a nonproductive consumption fund. The latter fund is consumed *in natura* in the same department only in the form of means of production for war industry, whereas the remaining part is exchanged with departments II of all sectors.

The constant capital of department II of the state sector is reproduced in the following ways: by exchange of means of consumption against one part of the wages fund of department I of the state sector, by exchange with the consumption fund[4] of the capitalist and petit bourgeois sectors (chiefly for peasant raw materials), or by imports of means of production (in the form of both machinery and raw materials such as cotton, wool, rubber, and hides).

The wages of department II of the state sector are reproduced in part within the department itself, in part by exchange with the consumption fund of the petit bourgeois sector, and in part by mutual exchange for IIv of the capitalist sector.

The surplus product of department II of the state sector can be broken down in the same way as the surplus product of department I, that is, it consists of an accumulation fund and a nonproductive consumption fund. The latter is consumed *in natura*; the former can be broken down into two parts: one consists of additional v and is reproduced on the lines of the entire IIv of the state sector; the other, which is earmarked for the purchase of means of production, is reproduced on the lines of IIc of the state sector.

We will not make a detailed examination of exchange between the capitalist sector and the other sectors, since this process is clear from the above analysis of the departments of the state sector. The difference lies in the apportionment of the surplus value. Here we have two additional elements: the consumption of the capitalist class, which modifies the exchange of means of production for the means of consumption produced in the individual

STATE SECTOR

All of the fixed capital c	*The part of the constant capital annually reproduced on an expanding scale:*	*Wage fund:*	*Surplus product:*
Department I	(a) via reproduction within the department	(a) the part that is replaced by means of exchange with *IIc* of the state sector	(a) accumulation fund: (1) For expanding existing enterprises; (2) For constructing new factories
	(b) by means of exchange with other departments *I*	(b) by means of exchange with *IIc* of other departments	(b) the fund of nonproductive consumption of the Soviet system, which passes into *IIc* of all sectors and into *c* of military industry
	(c) via imports		
c	*The part of the constant capital annually reproduced on an expanding scale:*	*Wage fund:*	*Surplus product:*
Department II	(a) by means of exchange with department *I* of the state sector	(a) the part replaced within the department itself	(a) accumulation fund in the department itself (additional *v*, additional increase to its own *c*)
	(b) by means of exchange with the consumption funds of the departments *I* of other sectors	(b) the part replaced by means of exchange with the consumption funds of other departments *II*	(b) the fund of nonproductive consumption of the Soviet system
	(c) by means of exchange with part of fund of nonproductive consumption of department *I*		
	(d) via imports		

Surplus fund of socialist accumulation*

* The movement of the material composition of the fund of socialist accumulation is clear from the entire scheme of reproduction. More detail about this will be given in the numerical analysis of the Control Figures of Gosplan.

CAPITALIST SECTOR

c	*c*	*+v*	*+s*
Department I	Same as in the state sector, except for imports	Same as in the state sector	(a) accumulation fund (b) fund of capitalist consumption (c) fund of nonproductive consumption of the Soviet system (d) expropriation for the fund of socialist accumulation
Dept II	Same as in the state sector	Same as in the state sector	Same as in department *I* of the capitalist sector

PETIT BOURGEOIS SECTOR

c	*Means of production for the production of means of production, which are annually reproduced on an expanding scale*	*Consumption fund*	*Surplus product*
Department I	(a) reproduced within the department	(a) reproduced by means of exchange with *IIc* of the state sector	(a) accumulation fund: (1) the part that remains within the department; (2) the part exchanged for addition to the consumption fund; (3) for additional means of production from other sectors
	(b) by means of exchange with *Ic* of the state and capitalist sectors	(b) by means of exchange with *IIc* of the capitalist sector	(b) fund of nonproductive consumption of the Soviet system
	(c) via imports	(c) by means of exchange with *IIc* of its own sector	(c) expropriation into the fund of socialist accumulation
c	*Means of production for the production of means of consumption annually reproduced on an expanding scale*	*Consumption fund*	*Surplus product*
Department II	(a) created within the department	(a) produced internally (predominant part)	(a) accumulation fund: (1) fund of additional comsumption produced internally; (2) exchange for additional means of production from other departments of other sectors; (3) own additional means of production
	(b) reproduced by means of exchange with the consumption fund and a part of the fund of nonproductive consumption of its own sector	(b) by means of exchange with a part of *IIv* of the state sector, and *IIv* of the capitalist sector	(b) fund of nonproductive consumption of Soviet society, in natural form
	(c) by means of exchange with *v* and a part of the fund of nonproductive consumption of department *I* of the state sector		(c) expropriation into the fund of socialist accumulation
	(d) by means of exchange with a part of *v* and *s* of department *I* of the capitalist sector		

sectors; and the deduction from *s* for the socialist accumulation fund, which also complicates the analysis of reproduction.*

The means of production for department I of the petit bourgeois sector, which consist of machinery, cattle, seed, fertilizer, and so on of peasant farms engaged in producing technical crops, as well as of the equipment and raw materials of a certain part of handicraft industry, are divided into two parts. One part is reproduced within the department itself; the other may be obtained by internal exchange for I*c* of the state sector or (at least in part) by imports.

The consumption fund of department I of the petit bourgeois sector, which has the material form of means of production, is exchanged in two directions: for II*c* of the state sector and the capitalist sector on the one hand and for a part of the means of production fund of department II of the petit bourgeois sector itself on the other.

The surplus product of department I of the petit bourgeois sector is divided into three main parts: (a) an accumulation fund; (b) a nonproductive consumption fund,[5] whose size is determined by the extent to which the department in question is compelled to help cover it; and (c) a socialist accumulation fund, which goes into the state sector.

The accumulation fund, in turn, consists of (a) additional means of production produced within the department itself, which go to increase its own *c in natura*, by way of internal redistribution, that is, without engaging in exchange with other sectors; (b) means of production that are exchanged for means of production produced in department I of the state and capitalist sectors; (c) means of production *in natura*, which serve as an extra consumption fund for new workers and which therefore, in order to be consumed, must be exchanged for means of consumption from the departments II of all three sectors in the same proportions as the overall consumption fund of this particular department.

The nonproductive consumption fund, which is similar to the nonproductive consumption fund of department I of the state sector (excluding means of production for war industry), must

*For the time being we will disregard the question of how to calculate reproduction which is complicated by the alienation of the surplus value of the capitalist sector and the surplus product of the petit bourgeois sector into the socialist accumulation fund. This is a methodological problem of major importance. Its solution brings up the question of the relationship between domestic prices and those on the world market.

be transformed into articles of consumption by exchange in the correct proportions with *departments II* of all three sectors, replacing their constant capital.

The portion of the surplus product that goes into the fund of socialist accumulation consists, first of all, of the part of taxes levied on petty production that is destined not for the nonproductive consumption of the employees of the state and the trade network but rather for increasing the capital funds of the state sector, including state funds for agricultural credit. Secondly, it includes the part of the fund of primitive socialist accumulation formed by exchanging the export fund of petty (chiefly peasant) production, which is valued in terms of domestic prices (which are lower than world prices), for the import fund of means of production for the state sector, also valued in terms of domestic prices (which are much higher than world prices).[6] If we consider the entire process of reproduction in the USSR in terms of the value relationships of the world market, we have to include in this fund the entire balance resulting from the exchange[7] of state output for private output, taking the output of both the state sector and the private sectors in terms of world market prices and deducting from the total the part that is absorbed by nonproductive comsumption.

The means of production of department II of the petit bourgeois sector consist of four parts. The first and largest part is reproduced in department II itself, since we are concerned primarily with peasant agriculture. Included here are seeds set aside from the harvest, the peasant's production of his own work stock, his own production of feed for his livestock, his own fertilizer, his own buildings, and so on. The second part is reproduced by exchange for the consumption fund of department I of the petit bourgeois sector or for part of Iv of the capitalist sector. The third part is exchanged for part of the wages fund of department I of the state sector. The fourth part is reproduced through imports.

The consumption fund of department II of the petit bourgeois sector consists of two parts: the first and by far the greater part is reproduced within the department itself; the second, considerably smaller part is exchanged for part of the wages fund of department II of the state and capitalist sectors.

As regards the fund of surplus product of department II of the petit bourgeois sector, it can be broken down into the same four

parts as the surplus product of department I of that sector; the difference consists in all the changes in the system of exchange *that are associated with another material form of the aggregate product.* More precisely, the accumulation fund is divided, above all, proportionally between the extra consumption fund and a fund of additional means of production, where the extra consumption fund has the same composition as the basic consumption fund. The distinction between the process of reproduction of this fund and the reproduction of the same fund in department I of the petit bourgeois sector consists in the fact that in department I, before exchange occurs, this fund has the material form of means of production, all of which must be exchanged for means of consumption, whereas here—that is, in department II—this fund has, from the very beginning, the natural form of means of consumption, and the bulk of it is also consumed here. Only its minor part is exchanged for means of consumption of the other two departments II. The fund of extra means of production, in turn, has the same composition as the means of production of that department in general. This means that part of the fund of extra means of production is created in the petit bourgeois sector itself, whereas the other part is obtained through exchange with other sectors.

Here, as earlier, we use the term "nonproductive consumption" to mean the part of the surplus product of a given sector that enters into the income of groups in Soviet society that represent nonproductive consumption: expenditures for the state apparatus, the army, the nonproductive part of expenditures on trade, and so on. The difference between the second and first departments of the petit bourgeois sector is that in department II the nonproductive consumption fund has, from the very outset, the material form of articles of consumption and is not subject to further exchange with other departments, as is inevitable for the nonproductive consumption fund that consists *in natura* of means of production.

As regards the surplus product destined for the fund of socialist accumulation, everything that we have said with respect to department I of the petit bourgeois sector applies without change to department II as well.

The scheme of reproduction in the system of the USSR that we have just presented enables us to define the general conditions of proportionality in an economy of the particular type and in the

particular period of its existence that we are investigating. We must define these general conditions before we use the above scheme to analyze numerical data from specific years and before we attempt to replace the algebraic symbols with specific arithmetical figures, such as those of the economic years 1925–26 or 1926–27.

The First Condition of Equilibrium

Let us begin with the conditions of equilibrium between the entire state sector and the two sectors of the private economy taken together, from the standpoint of ensuring expanded reproduction in the state sector. For the time being we abstract from the material composition of the output being exchanged.

Let us assume that the gross annual output of the state sector is equal to 12 billion chervonets rubles (in present prices) and that it can be broken down as follows: $8c + 2v + 2$ surplus product. (In 1925–26 the gross output of the state economy, in producer prices, together with revenue from transport, communications, municipal services, and forestry, plus the gross output of construction, was 14.35 billion rubles, not including some minor items.)

Let us further assume that the exchange fund with private production as a whole totals 3 billion rubles, that is, that the state sector sells means of production, articles of consumption, and transportation services for 3 billion chervonets rubles to the private economy and obtains from the latter an equivalent amount of means of production (chiefly peasant raw materials), articles of consumption, and an export fund.[8] We thus have an even balance of exchange between the two sectors, that is, without any one-sided accumulation of undisposed-of commodity surpluses. Let us now assume that the entire economy of the USSR is integrated into the world economy on the basis of the free operation of the law of value, and that world market prices are forcibly imposed upon our industry, which maintains the same volume of exports and imports—that is, we disregard, for the time being, the possibility of changes in foreign trade flows. The entire equilibrium will then be upset, particularly that between the state sector as a whole and the sector of the private economy. To be more precise, let us assume that the entire output of the state sector is now valued at world market prices, that is, at one-half—or less—the prices it is valued at now. If within the state sector the part

of the output of department I that goes to replace part of the constant capital of department II (machinery, fuel for the production of means of consumption) is approximately equal to the part of department II's output that in turn goes into department I (that is, textiles, shoes, sugar, and so on), then the forced lowering of prices will not essentially change the material proportions of exchange within the state sector itself, provided that the relative price increase on the output of heavy and light industry of the state sector does not differ appreciably from the relative price index of heavy and light industry of the world economy (if, say, means of consumption produced in our state industry are twice as expensive as the output of light industry in the world economy, and the prices of machinery are twice as high as the prices of machinery produced abroad). To take a hypothetical example, if one of our machine-building trusts now sells its machines to our textile industry at half the present price, then the textile industry will in turn sell its textiles, which are earmarked for the consumption of the workers and employees of the machine-building industry, at half the present price as well. In short, since the purchasing power of money changes simultaneously for both sides, the material balance of exchange will remain the same as if they valued their output not in terms of 1927 chervonets rubles but in another monetary unit, say, in terms of the purchasing power of the pound sterling on the world market. All this may entail gains or losses for particular branches whose prices are either less than or more than twice world prices. In such an event, when exchange between departments I and II of the state sector does not balance and the remainder is covered by exchange with private production, the principal loss is borne by the department of the state sector that proves to be more dependent on exchange with the private sectors.

In this particular case, however, the most important change occurs in the interrelations between *the state sector as a whole and private production as a whole*. The link between the state sector and the whole of private production is by no means limited by the size of the balance that is not covered internally, that is, through exchange within the state sector. Department I of the state sector must under all circumstances sell to private production a quantity of means of production equal in price to the part of the wages of its workers that is used to purchase consumer goods of peasant

origin plus a corresponding part of means of production to compensate for a portion of the nonproductive consumption of department I of the state sector, excluding means of production for war industry. The volume of exchange between department II of the state sector and the private economy is even larger. By means of this exchange, this department replaces a considerable part of both its constant capital and its wages fund. In our example, which is numerically close to the actual figures for exchange between the state sector and the private economy during the economic year 1925–26, purchases by the private sector from the state sector and those by the state sector from the private sector each came to a total of 3 billion rubles.

If the private economy sold this 3 billion of its output at world market prices, then sales by the state sector to the private economy at world market prices—that is, at half-price—would mean that the state sector would make only 1.5 billion rubles on its output instead of 3 billion. That is, the state sector would receive only half of what it would obtain in an economic year in which conditions of nonequivalent exchange prevailed. A mere glance at our numerical example shows quite clearly the kind of disruption this would create in all aspects of reproduction in the state sector. The shortage of 1.5 billion absorbs, first of all, the entire accumulation fund. Secondly, it affects a certain part of nonproductive consumption. Thirdly, it makes it impossible later on to properly amortize fixed capital, as well as to replace the part of circulating capital that consists of peasant raw materials. On the whole, this would mean total breakdown of the process of expanded reproduction and, as long as nonproductive consumption remains substantial, could preclude the possibility of even simple reproduction at the previous year's level.

An even greater disturbance would occur if the establishment of world market prices on raw materials and means of consumption produced in the private economy would mean an effective price rise as compared to the way things stand now.

We thus arrive at a first and most highly significant conclusion: *Given a discrepancy between world industrial prices and domestic industrial prices in the USSR, that is, when domestic prices of Soviet industry are much higher than world prices, an economic equilibrium that will ensure expanded reproduction in the state sector can only be brought about on the basis of nonequivalent*

exchange with the sectors of private production. This means that, given this sort of price discrepancy, the law of primitive socialist accumulation is the law that maintains the equilibrium of the entire system, above all in its relations with the world economy. This law must of necessity operate until we have overcome the economic and technological backwardness of the economy of the proletarian state as compared to the advanced capitalist countries.*

The Second Condition of Equilibrium

Let us now proceed to the next condition of equilibrium of the system, once again confining our attention for the time being to the interrelations between the state sector as a whole and private production as a whole.

Let us take our numerical scheme for the state sector and assume that a new economic year starts out with the results of the previous year's accumulation. We assume, therefore, that if we have a surplus product of 2 billion in the state sector—of which half goes to nonproductive consumption and half to productive accumulation—and if the exchange fund with private production increases from 3 billion rubles to 3.25 billion,[9] equilibrium in the entire economic system will be ensured. Let us now consider the opposite case, namely, that actual accumulation for some reason—either because of a sharp drop in disposal prices not justified by costs of production or because of a growth of nonproductive consumption—is only 700 million rubles instead of 1 billion. What will be the inevitable consequences of this underaccumulation in the state sector?

It is quite obvious that this will upset the proportionality between the state and private sectors of the Soviet economy. Underaccumulation by 300 million rubles will mean that the reproduction of c cannot be expanded within the bounds required

*This thesis, which underlies my theory of the law of primitive socialist accumulation, has evoked numerous laments from my critics, who clamor about "disrupting the peasant-worker alliance, a policy of raising prices, and so on." But despite my invitation to my critics to prove that at the present stage of development of the state economy expanded socialist reproduction is compatible with equivalent exchange, no one has responded. And it is easy to understand why. The formulation I have used merely states what is actually the case. I am simply trying scientifically to understand what is the case. If we already had equivalent exchange, then the very problem of the worker-peasant alliance would not exist at all.

in both departments: there will be a deficit of 240 million rubles in means of production. At the same time, the expansion of v in both departments of the state sector will be 60 million rubles below normal, which, in addition to everything else, will mean a slower increase in the number of workers employed in production and therefore a relative increase in unemployment. Finally, this would result in a 60-million-ruble decrease in the surplus product in the state economy as a whole. With respect to the total output of the state sector, we will have at the end of the year a shortage of production of 360 million rubles as compared to the first example.[10] If, as we have said, the share of the state sector's output absorbed by the private sector is 3.25 billion rubles, that is, almost one-quarter of the total gross output of the state sector, a shortage of 360 million rubles in production can mean a shortage of goods for the private sector of at least 90 million rubles.* But this will give rise to that well-known phenomenon we call the goods famine. If two-thirds of this 90 million rubles represents means of consumption produced in the state sector, the failure to satisfy the effective demand of the private economy, above all, that of the peasant sector, will mean a forced cutback in the peasantry's individual consumption of the products of state light industry and to the substitution of domestic handicraft output for factory products—that is, it will encourage the processing of raw materials (leather, wool, flax, and hemp) by primitive domestic methods and thus tend to delay economic development in this sector. Second, the peasants will refrain from selling their output for export and will consume more of their own foodstuffs themselves. Third, this disproportion will increase the discrepancy between retail and wholesale prices in the trade network, especially in private trade. As regards the remaining one-third, which consists of unmet demand for means of production, the disproportion will have much more harmful consequences: one cannot, after all, smelt metal, produce complicated agricultural machinery, and so on by handicraft methods. Under conditions of expanded reproduction, peasant agriculture will not be able to increase the quantity of machines, stocks, and other means of production it needs. In both departments of the petit bourgeois sector, recurrent goods famines will inevitably—since sales cannot be followed

*We say "at least" because the urban demand for goods of state production is naturally to be satisfied first of all; and in the present case, the *bulk* of the deficit may be transferred to the demand of the private economy.

by purchases—cause the peasantry to refrain from selling a part of its output and will encourage the appearance of the familiar phenomenon of accumulation of unsold stocks in kind in the peasant economy. This disproportion can be alleviated only by monetary accumulation in the peasant economy, which is generally possible only if there is either a stable currency or if the purchasing power of money is rising because of falling prices. However, it is self-evident that such accumulation, insofar as it corresponds to the part of the peasant economy's reserves that ought to have been converted into means of production produced in the state sector, inevitably means an artificial delay in the process of expanded reproduction in the peasant economy as compared to the possibilities for expansion that actually exist within it.

It follows quite clearly from this discussion that (1) the volume of accumulation in state industry at a given price level is not an arbitrary magnitude but is subject to iron laws of proportionality, the revealing of which constitutes one of the most important tasks of a theory of the Soviet economy and of the practice of planned management of economic life, and (2) any perturbation in the necessary minimum of accumulation not only is a blow to the state economy and to the working class but also retards the development of the peasant economy by artificially slowing the pace of expanded reproduction in agriculture.

Let us now look at the same question, but from a different angle: let us look at what some economists, who draw an uncritical analogy between the Soviet system and capitalism and who fall into petit bourgeois philistinism, at one time tended to call "overaccumulation in state industry" and "industry running ahead." To begin with, we have to decide what we mean by the term "overaccumulation." If by overaccumulation we mean a relationship between production and consumption throughout society such that new means of production put into operation in both departments lead in the final analysis to so sharp an increase in the production of means of consumption that these goods cannot be absorbed by the consumer market at existing prices, as a result of which the corresponding accumulation in department I proves to be useless—well, then, such a phenomenon is quite well known in capitalist economy and must inevitably lead to a sales crisis, the ruin of numerous enterprises in both departments, a forced lowering of prices, and a fall in the rate of profit. If, in a theoretically conceivable case, our state economy were on the basis of the pre-

vious year's accumulation to turn out means of consumption in excess of the effective demand of both the workers and the entire state economy at given planned prices, then the situation would be much less serious than in a capitalist economy. The reason for this is as follows. Dynamic equilibrium in our system presumes among other things: (1) a growth of workers' wages, (2) a gradual decline in industrial prices, (3) reequipment and expansion of the entire technological base of the state economy. The appearance of a sales crisis may, under such conditions, mean one of three things:

(1) We have miscalculated the time needed to carry out the first two points of the program. In this case, equilibrium can be attained either by raising wages above the levels called for in the program or, more radically, by lowering the general level of prices on articles of consumption produced in the state sector more rapidly than the program calls for. In that case the disproportion may be overcome very quickly and without any special perturbations, and "overaccumulation" will prove to be a crisis in the production plan only in the sense that the plan incorrectly estimated the time needed to fulfill the first two tasks. Moreover, we must not forget that, given our general shortage of reserves in the areas of credit, production and trade, *the disproportion cannot long continue to build up in hidden form*, as is usual under capitalism, and that its elimination must inevitably begin much earlier, before the whole process goes too far. The harmful consequences of this sort of planning error will reveal themselves later, in that there will be a delay in fulfilling the third task mentioned above.

(2) The sales crisis may mean that we have miscalculated the time needed to carry out the third task. That is, we have expanded the production of means of consumption, *at prevailing prices*, too far and too fast: the technological base of the state economy and the degree of rationalization of labor that has been achieved are inadequate to permit a lowering of the cost of production, a lowering of selling prices or, in the worst case, even just an increase in wages. In this situation, "overaccumulation" proves to be the result of an incorrect distribution of the productive forces within the state economy, the result of the fact that the process of technological reequipping of industry has lagged behind the overall development of the economy as a whole. What we have here is an internal disproportion within the state sector,

not overaccumulation in terms of the interrelations between the state economy and private production. Solving this crisis by lowering prices—a lowering of the cost of production for which the economic basis has not been prepared—could temporarily delay the entire process of expanded reproduction, just as it would be delayed if we tried to solve the problem by letting a part of production remain in the form of a nonliquid fund while maintaining the prevailing price level. This lack of correspondence would continue until a redistribution of productive forces restored equilibrium.

(3) The reequipping of fixed capital, which proceeds unevenly, draws so many means of production into the production of means of production that themselves do not begin turning out goods until several years later, that all this retards the growth of the population's consumption fund and, with the occurrence of a goods famine, arrests the process of lowering prices. In that case *we will have not general overaccumulation* (otherwise a goods famine could occur, even if only with respect to means of consumption) in the state sector but a temporal disproportion in the particular tasks of expanded reproduction. We would then be confronted not so much with an error in drafting the plan as with the natural result of the transition from the restoration process to the reconstruction process. We would be confronted with the natural consequences of the situation wherein the country's fixed capital, which had been severely depleted by the failure to make up for the depreciation losses of previous years, was being renewed under conditions of limited ties with the world economy and of a general shortage of internal accumulation in the material form of means of production. *What appears superficially as overaccumulation in heavy industry is merely a special form of underaccumulation throughout the state economy, taken as a whole.* The very nature of the renewal of fixed capital under the conditions we have described is such that this process must necessarily occur unevenly. To expand the annual production of means of consumption in state light industry by, let us say, 100 million rubles, we first have to increase the production of means of production by 400–500 million. This may temporarily slow down the necessary rate of production of means of consumption, bring about a special kind of goods famine, and delay the lowering of prices, especially in the case when a shift in the structure of the peasant budget leads to a heavier demand for means of consumption than before the

war. But in return, it will within a few years enable us rapidly to reduce the cost of production, lower selling prices, and rapidly increase the consumption fund. Instead of a systematic lowering of prices (let us say, 2–3 percent per year), and a systematic increase in the production of means of consumption (let us say, 6–7 percent per year), the same program can be carried out in three to four years, only in more uneven form. If we disregard the political difficulties of this period, the harmful economic consequences of such a development of the state economy will essentially amount to the fact that production of export crops will be slowed down in the peasant economy and the production of industrial crops will prove to be lower than the demands made upon it by the rapid development of state light industry. For the most part, this latter difficulty for our economy still lies before us, whereas the artificial cutback in peasant exports is already at hand. In terms of the overall progress of the state economy, the case we are examining will imply not a crisis of overaccumulation and overproduction in the strict sense but simply the material impossibility of harmoniously coordinating the development of all aspects of expanded reproduction *with respect to time*. In the transition from restoration to reconstruction this will, generally speaking, be unavoidable, because the transition itself, as we will see in more detail below, implies a sharp change in the overall proportions of distribution of the country's productive forces. The fact that new plants do not start turning out goods until three to four years after their construction has begun is more the result of technical than economic necessity. An initial delay and then a forward jump are inevitable. The only possibility of partially evening out this jump is through greater exports and foreign credits. But these latter alternatives are impossible precisely because in the Soviet Union we have not merely expanded production but expanded *socialist* production of industry—a process that world capitalism is not inclined to assist.

Thus, we arrive at the conclusion that the volume of accumulation in the state economy in any given year is not an arbitrary magnitude, but that a certain minimum of accumulation is harshly dictated to us by the overall proportions of the distribution of the productive forces between the state and private sectors, as well as by the extent of our ties with the world economy. Second, we arrive at the conclusion that overaccumulation in the state sector, given the tremendous task of rapid reequipment and expansion

of the fixed capital of industry (a task that will take decades to complete), is an absolute impossibility. This reequipping constitutes essentially a domestic market of colossal capacity, not to mention the growth of the domestic market on account of increased demand from the private sectors of our economy. Rather than talk about a crisis of overaccumulation in the state economy, a sector that does not have as its goal the production of surplus value, we can speak of a colossal underaccumulation, which is reflected in the peasant economy as well, in that it slows down its development. We may also speak of insufficient accumulation in the sphere of peasant production of industrial raw materials. We will deal with this sort of disproportion when we analyze the material composition of exchange between state and private production.

It must also be noted at this point that the two general conditions of equilibrium that we have so far examined differ from one another in the following respect. Equilibrium of nonequivalent exchange when there is a gap between domestic prices and world prices—that is, equilibrium of an economy regulated by the law of primitive socialist accumulation in struggle with the law of value—is a distinguishing feature of our economy; it is the law of our existence as a Soviet system throughout the entire period of struggle to overcome our economic backwardness relative to advanced capitalism. Here, equilibrium is attained as a result of the constant struggle waged by still backward collective production, the struggle waged by the only country with a dictatorship of the proletariat, against the capitalist world and against the capitalist and petit bourgeois elements in its own economy. Equilibrium of this type is the unstable equilibrium of a struggle between two systems; it is not attained through the workings of a world-wide law of value but on the basis of constant violation of this law, on the basis of constant violation of the world market, on the basis of the withdrawal—if not complete, then partial—of an enormous economic area from under the regulatory influence of the world market.

Things are considerably different when we talk about the second condition of equilibrium, that is, the proportions of accumulation in the state sector needed to maintain equilibrium in the economic organism after the first condition of equilibrium has already been met for a certain length of time. Maintaining equilibrium within an economic organism that is divided into a

system of collective production and a system of private production *brings state planning policy, guided by the law of primitive socialist accumulation, into a different sort of conflict with the law of value.* If we do not in planned fashion hit upon the required proportions of distribution of the productive forces, given the existing correlation between domestic and world price levels, the law of value will burst through with elemental force into the sphere of regulation of economic processes and, forcing the planning principle into a disorderly retreat, will thereby encroach upon those specific proportions of the distribution of labor and means of production that will have been created as a result of the existence of the collective sector of the economy—those specific proportions that guarantee not merely expanded reproduction, but expanded reproduction in a system of the Soviet type.

The Third Condition of Equilibrium

Let us now go on to the third condition of equilibrium, which has to do with the extent of our participation in the world division of labor and the specific conditions under which this participation takes place.

Let us take our previous numerical example relating to reproduction in the state sector. Now, however, the nature of the question we must answer requires us to divide the annual production of the state sector into two departments. Let us assume that the distribution of the productive forces and of the output between the two departments is as follows: department I, 40 percent; department II, 60 percent.* To stick to reality, let us assume further that the organic composition of capital in department I is lower than in department II (in contrast to Marx's scheme; details on this later). The ratio $c:v$ in department I is 3:2, whereas in department II it is 2:1. Let us further assume that the surplus product equals 100 percent of the wages and that it is broken

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* In 1925–26 the output of means of consumption was 58.8 percent, and the output of means of production 41.2 percent, of total industrial output. See *Perspektivy razvertyvaniia narodnogo khoziaistva SSSR na 1926/27–1930/31 gg.* [Prospects for the Development of the National Economy of the USSR for 1926/27–1930/31], Gosplan SSSR, pp. 123–24, and the table on pp. 54–58. The corresponding data for 1913 and 1924–25 presented in the *Kontrol'nye tsifry na 1926/27* [Control Figures for 1926–27], p. 163, seem incorrect to me, but more about that later.

down in both departments into two equal parts: one part goes to accumulation in the same department, and the other goes into the nonproductive consumption fund of Soviet society. The entire scheme will then have the following form:

I. 2,100*c* + 1,400*v* + 1,400	surplus product (700 to the accumulation fund; 700 to the nonproductive consumption fund)	= 4,900
II. 3,550*c* + 1,775*v* + 1,775	surplus product (887.5 to the accumulation fund; 887.5 to the nonproductive consumption fund)	= 7,100

Even a cursory glance at this scheme shows a major difference as compared to the corresponding schemes used by Marx to illustrate capitalist production. Not only is II*c* of the state sector considerably greater than wages and nonproductive consumption in department I of the state sector, but it is also greater than the wages plus the entire surplus product of department I. All this is quite natural in a peasant country where a very large part of II*c* of the state sector is reproduced by exchange with the the petit bourgeois economy, which provides our light industry with such means of production as cotton, flax, hemp, hides, wool, sugar beets, oil seeds for the oil-extraction industry, grain for the mills, and potatoes for the alcohol industry. Let us assume that half of II*c* of the state sector, or 1,775*c*, is reproduced through exchange with private production.[11] That is, we choose in advance a figure that exceeds the actual size of what II*c* reproduces through exchange with petit bourgeois economy. The question now arises: How can the other half of II*c* be reproduced?

For the reproduction of that half, we have first of all a wages fund of department I that is equal to 1,400. However, not all of this sum can go to replace half of II*c*, because part of the wages of department I must be exchanged for peasant means of consumption. Let us assume that the latter exchange required one-third* of

*A study of workers' budgets shows about 40 percent, that is, more than the proportion we have chosen. However, when we take into account the processing of grain into flour and bread in state flour mills, the volume of state and factory woodcutting, and so on, the figure we have chosen will not be very far from the truth.

1,400, or 466.6. A fund of 933.4, which has the material form of means of production, then remains for exchange against II*c*. Furthermore, since 700 of the surplus product goes to accumulation in department I, a nonproductive consumption fund of 700 remains from the surplus product to be exchanged with departments II of the other sectors. If we take the same proportion of exchange of that fund with department II of the state sector on the one hand and with the private economy on the other, as we did with I*v*—that is, if we assume that two-thirds, or 467, goes to department II of the state sector, whereas the remaining 233 goes to private production—then the entire exchange fund of department I of the state sector that goes to replace half of II*c* will be equal to 933.4 + 467 = 1,400.4 or, rounding off, 1,400.[12] However, the amount to be replaced was equal to 1,775. Thus, there is a deficit of means of production in the state sector to the tune of 375 million.

Let us go further. If we assume that this deficit is somehow covered, then all we need do is construct a scheme of expanded reproduction for the following year on the basis of the data of the initial scheme in order to see how the disproportion that we have noted will persist, decreasing somewhat under certain conditions, increasing under others. To be precise, of the 887.5 of surplus product in department II that is subject to accumulation, 295.8 will go to increase *v*, and 591.7 to increase *c*. Thus, II*c* will now equal 4,141.7, whereas the part of it that must be covered by exchange with department I will be equal to 2,070.8. At the same time, as a result of the growth of *v* and of nonproductive consumption, the exchange fund of department I increases proportionately, and the part of it that must go to replace II*c* will now be 1,680 instead of 1,400. This means that in the following year the deficit of means of production will equal 2,070.8 – 1,680 = 390.8 million instead of 375—*with the same rate of growth of nonproductive consumption*.[13] Conversely, maintenance of the same absolute volume of nonproductive consumption must necessarily increase the disproportion because maintenance of the old volume, or a reduction of the rate of growth of nonproductive consumption, will cause a depletion of the exchange fund of department I of the state sector at the same time that II*c* of the state sector is growing in relative terms.[14] The question arises whether the disproportion that we have discovered is the result of the numerical relationships we have chosen as an illustration (although

the proportions are close to the actual ones) or whether it represents a real disproportion in our economy.

There can be hardly any doubt that the example we have chosen illustrates precisely the real disproportion that exists in our economy and that is caused by (1) the suspension of foreign capital investment in our industry; (2) the reduction of the nonproductive consumption of the bourgeois class; (3) the failure to make up for depreciation losses on fixed capital in previous years; (4) the withdrawal of a part of the means of production for the construction of new plants that have not yet begun to yield any output; (5) the general necessity of more rapid accumulation in department I during a period when the country is undergoing industrialization.[15]

Thus, we observe a sharp and continuously growing deficit of means of production in our state economy. The question now arises: What role in eliminating this disproportion can be played by foreign trade, which we must now introduce into our analysis? This role is an extremely important one. Let us assume that the deficit of means of production in department II signifies a deficit of machinery for light industry, the electric power industry, the basic chemical industry, and so on, and that the deficit in heavy industry expresses itself in a shortage of equipment in the fuel industry, in engineering plants, high-power turbogenerators, air compressors, and other equipment of ferrous and nonferrous metallurgy. What is the effect of introducing foreign trade?

The introduction of imports achieves the following:

(1) Light industry will not be arrested in its development and will not have to wait for the moment when department I can, on the basis of its own development, provide it with the elements of c that are in short supply. Instead, it can cover its deficit immediately from abroad. That is, the problem of time is solved. In contrast, trying to solve the problem by the long, roundabout way of developing our own department I would lead to a growing crisis and to one difficulty piling up on top of another, including those in the area of exchange between the state sector and private production. In this connection we must keep in mind another extremely important circumstance: To increase its output by 100 units, light industry must expend its constant capital correspondingly—in the present case the part of c that is reproduced in department I of the state sector. But if in that department there

happens to be a general deficit of means of production required by light industry, then the additional demand of light industry can be satisfied only by constructing new enterprises in heavy industry. This construction, however, necessitates each year the withdrawal—for the entire construction period—of resources from the general accumulation fund of the state economy that far exceed the value of the means of production needed to supply light industry with additional elements of fixed capital. The addition of a new 100*c* to the constant capital of department II may require a simultaneous investment of 400 to 500 in new capital in department I. Yet, if we turn to the world market we can solve this problem, directly and without delay, by importing the necessary amount and type of means of production for department II.

(2) Heavy industry will not have to wait until its own deficit of means of production is covered by its internal development, nor will it have to equip new industries with machinery of its own production, which would mean an extreme delay in putting new enterprises into opeartion and lead to a crisis within department I itself, as well as in its exchange relations with department II. Instead, heavy industry can cut through the contradictions by importing equipment that, if produced domestically, would intensify the crisis by channeling an already inadequate accumulation into enterprises whose construction is hardly of primary importance as long as we have links with the world economy.

(3) Both light and heavy industry solve not only the temporal problem of developing their production, but also, to a certain extent, the problem of accumulation at the expense of the private economy. Let us illustrate this concretely. In our example, the state sector has a shortage of 400 million rubles, calculated in domestic prices, in means of production for replacing fixed capital. To cover this deficit, our state has only to export, let us say, consumer goods from the peasant economy for 200 million rubles or $100 million and buy foreign equipment for that same sum. This foreign equipment, which in world prices costs $100 million or 200 million chervonets rubles, costs 400 million rubles inside our country, if we consider the difference between our domestic industrial prices and foreign prices. Thus, thanks to the import of means of production, we profit by the difference between world prices and domestic prices and automatically accumulate fixed capital in our developing industry.

Thus, the link with the world market, which solves the temporal aspect of the problem of reconstruction and expansion of fixed capital of both departments in the state sector, also solves to a certain degree the material aspect of the problem of accumulation, specifically, by methods of primitive socialist accumulation.

In addition to the case we have just examined, however, there is another disproportion that can also be solved by imports. This involves replacing a certain part of the elements of IIc in their material form, since our own domestic production of raw materials is insufficient in certain areas. We would probably retard the normal development of our textile industry by a decade if we were to wait for our own cotton production to develop to the point where it could satisfy the entire demand of this industry for raw materials.

In addition to the cases we have just listed, reliance on imports is an absolute necessity in cases where, for natural reasons, we simply do not produce a particular raw material (for example, natural rubber) or certain means of consumption (for example, coffee). But I deliberately avoid going into that aspect of our link with the world economy, because in that case participation in the world division of labor is advantageous and necessary for us *in general, regardless of the structure of the economy and the degree of its development.* Rather, I am speaking of the import of those means of production that we can, in general, produce ourselves and whose domestic production we will in fact expand, but which, at the present stage of the state economy's development, we have to import—first to maintain equilibrium in the system of expanded socialist reproduction, and second to promote the accumulation of fixed capital.

Thus we arrive at the conclusion that the third precondition for equilibrium in our system is the closest possible link with the world economy, built upon the very distinctive nature of our exports and imports. When there is a general deficit of domestic production of means of production, in particular, when heavy industry is underdeveloped relative to the demands of the domestic state and private market and relative to the overall rate of industrialization necessary for the country, *our planned import of means of production must be of such a volume and material composition as to serve, so to speak, as an automatic regulator*

*of the entire process of expanded reproduction without ceasing to be a source of accumulation.**

The Fourth Condition of Equilibrium

Let us proceed further. The fourth condition of equilibrium of our economic system is proportionality in the distribution of labor, in particular, proportionality in exchange between the state economy and the entire private economy within the country, both with respect to the value of that exchange at given price levels and with respect to its material composition. Here we assume equilibrium of value exchange to be understood in a conditional sense, that is, in the sense of an equilibrium of nonequivalent exchange, or exchange as the mechanism of socialist accumulation. To give a more graphic picture of this fourth condition of equilibrium, let us take our provisional numerical example for the state sector and add to it an arithmetical scheme of reproduction in the private economy. To simplify matters, we will for the time being not divide the private economy into two sectors, capitalist and petit bourgeois, as should be done in a more detailed analysis. As was done in the state sector, we will divide the surplus product of each department of the private economy into two parts: an actual accumulation fund and a fund of nonproductive consumption.

Let us set the total annual output of the entire private economy at 17 billion.** We shall assume that this gross output is divided

*Of course, the above disproportion could also be resolved, from the standpoint of private production and its interests, by direct imports of means of consumption, but it is quite clear that such a solution of the question would mean a most serious delay in, if not the elimination of, expanded socialist reproduction. Generally speaking, many of the problems of the private economy could be solved by eliminating socialist industry or even by merely eliminating the monopoly of foreign trade. The entire struggle between the state and private sectors of the Soviet economy is reduced precisely to the question of the basis on which equilibrium can be attained within that economy: on the basis of integration into the world economy "on general terms," that is, on the basis of the law of value, or in a new way, unprecedented in economic history, through planned imports subordinated to the task of primitive socialist accumulation.

**In the 1925–26 economic year the total output of the private economy, according to the Control Figures of Gosplan, was 16,397 million rubles in terms of producer prices.

between the two departments of private economy as follows:

I. 2,200*c* + 2,200 consumption fund + 1,100 surplus product = 5,500

II. 3,300*c* + 6,600 consumption fund + 2,100 surplus product = 12,000

Department I includes the production of industrial crops in the peasant economy, as well as all raw materials in general, plus those enterprises in artisan and craft industry that produce means of production—for example, private smithies and repair shops; artisan production of agricultural implements, wheels, and carts; and animal-drawn freight transportation for transferring goods destined for further processing.

All production of means of consumption in the peasant economy takes place in department II, and it will constitute the overwhelming part of that department's total output: field cultivation, animal breeding (the part of it that yields consumer goods such as milk, butter, and meat), truck farming, fishing, and manufacture of homemade clothing. Department II also includes handicraft and private capitalist production of fabrics and clothing, the private leather industry, and the private food industry.

Having divided the peasant economy into two departments in this fashion, we must always keep in mind that this division is a methodological abstraction. The same indivisible peasant farm almost always figures in two departments at the same time, because no matter how many means of consumption it produces, it must also produce a certain quantity of means of production; and conversely, a peasant farm that specializes in industrial crops always produces a certain amount of means of consumption.

Reproduction in department I occurs in such a way that part of the means of production for the peasant economy, which produces both raw materials and means of production for craft and artisan industry, is produced within the same department I of the private sector. This includes production of seeds in the cultivation of flax, cotton, sugar beets, and hemp that are to be used for further cultivation of the same crops. The same sector produces dray animals and animal feed grown on cultivated or natural meadows, and also breeds animals for raw materials (sheep that give wool are the means of production of wool, and the breeding of such sheep is production of the means of production of wool).

However, there remains another part of the means of production that can only be obtained from department I of the state sector. This includes metal and coal for smithies and small repair shops, agricultural machines for peasant production of raw materials, artificial fertilizer, rail and water transport to service the replacement of I*c* of the private sector, etc. The following question arises: Department I of the state sector, which is composed of the engineering and fuel industries, metallurgy, the construction and supply of electrical power, etc., purchases very little from department I of the private economy—in any case, less than this department must buy from heavy industry. Yet, everything that heavy industry sells to replenish its wages fund requires corresponding sales of means of consumption from the other sectors, which department I of the private economy is unable to provide. This is the source of an extremely complex set of relationships that extend throughout the entire system of reproduction and that Marx did not investigate directly in his famous chapters on accumulation in vol. II of *Capital*, because he was assuming purely capitalist reproduction, where the entire equilibrium of exchange is concentrated solely on the relationship between the volume of II*c* and its rate of growth on the one hand and the magnitude of $I(v + s/x)$ and its rate of growth on the other. The part of I*c* of the private sector that is not covered by its own production of means of production or by internal exchange with I*c* of the state sector may still fall into department I of the private sector via realization of the nonproductive consumption fund of department I of the state sector. This problem may also be partially solved by foreign trade: flax, hemp, raw wool, bristles, etc., are exported, and the required amounts of means of production are obtained in return.[16]

Thus, we see that reproduction of one part of I*c* of the private sector represents a rather complex task, which can be solved by drawing into exchange all the departments of all the sectors, mainly through the channel of nonproductive consumption plus foreign trade. It is not enough that this particular part of I*c* of the private sector, which initially has the material form of industrial raw materials or means of production of private industry, be sold. It is also necessary that the money thus earned can buy a sufficient quantity of precisely those means of production that are needed. The systematic shortage of means of production described above, mainly in the form of fixed capital (a shortage that characterizes the period of reconstruction of the state sector's technological

base) must increase still further as a result of that disproportionality in the exchange of I*c* of the state sector for I*c* of the private sector of which we have just spoken.

Before it is exchanged, the consumption fund of department I of the private sector consists of the same elements—that is, all types of industrial raw materials produced in the peasant economy, as well as means of production of craft and artisan origin (the output of smithies, repair shops, and cart shops; the production of all other types of agricultural implements; and the cutting of wood for further processing). Part of these means of production is realized within the private sector itself and goes to reproduce that sector's II*c*, which in our example totaled 3,300*c*.[17] Department II of the private sector offers means of consumption in exchange with department I of its own sector. The other part of the means of production of department I of the private sector that is destined to replace its consumption fund goes to department II of the state sector in the form of raw materials for the textile, leather, sugar, dairy, and alcohol industries and is exchanged for cloth, footwear, and sugar.

The surplus product of department I of the private sector, at least as regards its main and most interesting part—that is, the surplus product in the production of industrial crops in the peasant economy—consists of three basic parts: (1) the portion of the nonproductive consumption fund that falls to that particular department and from which is paid a proportionate share of state taxes, expenditures on the trade apparatus, and so on; (2) a productive accumulation fund within the department itself; and (3) a fund that goes to socialist accumulation in the state sector. In our example, the entire surplus product of department I of the private sector is equal to 1.1 billion, of which 500 million, let us say, goes to the accumulation fund, 400 million to the nonproductive consumption fund, and 200 million to the socialist accumulation fund.

As regards the nonproductive consumption fund, the bulk of it must be exchanged for means of consumption of department II of the state and private sectors, since means of production are not consumed individually. The conduit for such exchange is the reproduction of *c* in the departments II of all three sectors of the economy. As regards the accumulation fund of 500 million, this fund must also be divided into two quite distinct parts: (1) a fund of additional means of consumption for expanded repro-

duction, that is, the part of this 500 million that must be exchanged for means of consumption and serve as a consumption fund for new workers who will be employed in production; and (2) a fund of additional means of production in the strict sense. If we assume that the division between the consumption fund and the fund of means of production occurs in the same proportions as in the preceding year, then the accumulation fund of means of production will be 250 million. Let us now examine the elements that make up this latter figure. The smaller part of this 250 million will consist of means of production that department I of the private sector must purchase from department I of the state sector, that is, from state heavy industry. The greater part of this 250 million consists of means of production that are produced within the peasant economy itself and are added, to use the term imprecisely, to the capital of production. This includes (1) seeds of industrial crops, which are obtained within the department itself and go to *expand* the sown area; (2) the expanded reproduction of cattle, fodder, and manure; (3) all types of land improvements aimed at extending the area of cultivation of industrial crops and increasing soil fertility; (4) farm buildings constructed of peasant timber by the peasant's own means; (5) additional means of production obtained within the department itself, but through exchange with private and craft industry.

It is quite obvious that expanded reproduction of industrial crops is most intimately connected in its development with the conditions of reproduction and accumulation in state heavy industry, since it requires means of production from the state sector. On the other hand, however, expanded reproduction in department II of the state sector is intimately connected with progress in the expanded reproduction of industrial crops in the peasant economy, from which it obtains its raw materials. Thus, as a result, expanded reproduction of department II of the state sector requires *the prior* expanded reproduction of department I of the private sector—specifically, the part of it that produces industrial crops—whereas expanded reproduction of industrial crops requires *the prior* expanded reproduction of the part of department I of the state sector that provides it with the necessary additional means of production. Thus both state light industry and peasant production of industrial crops have a common interest in seeing that accumulation in heavy industry, which must always *precede* the expanded reproduction of these branches, be as rapid as possible.

Let us present one more particular example that is often encountered in practice in a peasant country and is related to the question we are examining. It is a well-known fact that in our peasant economy the process of accumulation takes place unevenly, in years of good harvest. In one year of good harvest hundreds of thousands of peasant farms manage to "put themselves in the black" and increase their means of production to an extent that they may not be able to achieve again for perhaps another five years. Let us assume that we have an above-average harvest of flax, cotton, oil-bearing seeds, and so on. As a result, the peasant economy can put into the accumulation fund a sum that exceeds the usual average annual increment of accumulation. This also gives rise to an increased demand for, among other things, means of production produced by state industry, as well as for those produced in handicraft production. However, since there is no such thing as a good harvest of machines, metals, and so on in heavy industry, the peasant economy's demand for additional means of production will not be satisfied unless accumulation in heavy industry takes place at a consistently faster pace than in other branches of the economy, specifically, unless it can ensure that the necessary commodity stocks are on hand. If this does not occur, then in the best of cases the accumulation fund earmarked for the purchase of means of production in heavy industry will be temporarily frozen in monetary form, and provided there is a well-developed credit system, it will, on the basis of a redistribution of the country's monetary accumulation, permit credit expansion and thereby also make possible additional production in the corresponding branches of heavy industry. At worst, however, this accumulation fund will be exchanged for means of consumption and will simply be consumed within the peasant economy, having increased the consumer budget of the peasant department producing industrial crops. This is not to mention the fact that the disproportion will be even greater in the case where heavy industry has already exhausted all its reserves of old equipment, and the new additional demand can be satisfied only by new fixed capital investments that far exceed the total commodity deficit for the year in question.

Let us now move on to department II of the private sector. If we exclude private industrial production of means of consumption (craft and artisan production of footwear, clothing, and fabrics;

the private food industry),* we will be left mainly with peasant production of means of consumption. The reproduction of the constant capital—in our example, equal to 3,300*c*—occurs as follows. The bulk of *c* consists of means of production obtained within peasant production of means of consumption itself. This includes seeds of grain crops, cattle fodder, manure, reproduction of cattle, buildings constructed from the peasant's own timber by his own means, land improvements, the clearing of forests to provide new arable land, and cultivation of virgin soil. The second part of the means of production is obtained by the exchange of articles of consumption of the department in question for means of production from department I of the private sector of the economy. Finally, the third part of the means of consumption of department II of the private sector that go to replace its *c* is sold to the workers in heavy industry of the state sector. In return, heavy industry provides means of production in the form of agricultural machines, equipment, nails, roofing iron and other forms of iron, freight transportation and so on.

The overwhelming part of the consumption fund of department II of the private sector is produced and consumed within the department itself, and in fact most of it does not enter at all into the "commodity" part of the output of the peasant economy. In addition, only a minor part of this fund participates in internal exchange with the wages fund of department II of the state sector, that is, with state light industry. In other words, if we take the wages fund of state light industry to be 1,000, and if we take the part of the fund that consists of articles of consumption of peasant and other private production to be 400, then according to the makeup of his expense budget, the worker in light industry will use that amount to buy what he needs (grain, butter, and so on) from the consumption fund of department II of the private sector, whereas the peasants and the craftsmen of department II will buy articles of consumption produced in the state sector.

However, this does not at all mean that we must have the same sort of complete or approximate arithmetical equality as Marx establishes in his analysis of capitalist reproduction, where II*c*

*In 1925–26 total private industrial production—capitalist, handicraft, and artisan—was 2.165 billion chervonets rubles, including the production of both means of production and means of consumption.

is exchanged for $(v + s/x)$. When we analyzed exchange between department I of the private sector and department I of the state sector, we already established that department I of the private sector—because of the material composition of the commodities exchanged—must obtain more from heavy industry than heavy industry can buy from this department. However, this means that department I of the private sector must make up the balance by selling its means of production elsewhere and using the money earned to buy means of production from heavy industry. It is quite obvious that this problem may be solved by means of foreign trade. Part of the flax, hemp, and so on is exported; heavy industry obtains the equipment it needs by import; and the sellers of flax, hemp, and so on purchase, in chervonets rubles, the means of production they need from Soviet heavy industry. In this way, the disproportion in the material composition of exchange between department I of the private sector and department I of the state sector is eliminated by drawing on the foreign market, which makes it possible to regroup the elements of production within department I itself and to free the resources needed for exchange with department I of the private sector. The problem may be solved even more simply in a direct way, that is, by importing machinery and other means of production for department I of the private sector. If the problem cannot be solved in the requisite quantitative proportions—either because of underdevelopment of the domestic machine-building industry or the production of artificial fertilizers, or because of limitations on the import quota allotted the private economy—we have a goods famine in means of production of heavy industry, that is, one of the forms a disturbance in the equilibrium between the state and private economies takes as a result of the underdevelopment of our heavy industry.

In precisely the same way, let us assume that the part of the peasant economy that produces means of consumption must exchange more of its products for means of consumption of industrial production than the wages fund of light industry, which we mentioned above, can provide; then the problem can, generally speaking, also be solved by resorting to foreign trade. Whether or not recourse to the foreign market is practically possible under present conditions is another question. To take a hypothetical example, let us assume that the workers and employees of state light industry purchase 400 million rubles' worth of means of

consumption in the private sector, whereas the private sector's department of means of consumption requires 600 million rather than 400 million rubles' worth of goods in exchange for its consumption fund; that is, its effective demand, accompanied by sale, is 600 million, and it manifests a demand in that amount for products of state light industry. Specifically, the peasantry has an extra 200 million rubles' worth of grain, butter, eggs, and so on to sell, and it wants to use this extra 200 million to purchase an additional amount of clothing, footwear, sugar, and other manufactured consumer goods. But let us assume that department II of the state sector, that is, state light industry, provides only 400 million rubles' worth of goods and no more. Foreign trade could offer a solution in this case as well: an additional 200 million rubles' worth of peasant products could be exported, and the money earned could be used to import foreign manufactured consumer goods for the peasantry. In practice, however, given the shortage of resources for export, even for the importation of vital means of production, this method turns out to be impossible for the Soviet state during the first years of the reconstruction process. To draw this 200 million rubles' worth of additional export resources into circulation, we would first have to purchase the products of light industry abroad, for which we would have to dip into the import fund for the year in question, that is, we would have to cut down on imports of means of production, which are already in short supply. Because such a measure is impossible, and because its own state light industry is still insufficiently developed, the Soviet economy will also find itself faced with a protracted goods famine of industrially produced means of consumption. As a result, part of the liquid resources from the fund of means of consumption produced in the peasant sector are not drawn into commodity circulation, and the Soviet village begins the familiar process of increasing internal consumption of eggs, butter, and so on, increasing grain stores beyond the emergency reserves kept in case of bad harvests, and a number of concomitant phenomena. *As a result, agriculture as a whole effectively produces relatively less for the market than would be objectively possible with a more rapid development of Soviet industry, even with the existing very high prices,* not to mention the possibility of a still greater growth of the marketed share that would result from a more rapid reduction of production costs and industrial prices. This is the source of a second disproportion

between state industry and the peasant economy, one that under the present circumstances can only be overcome by the more rapid development of state industry.

It is theoretically possible to solve the problem in another way as well. As mentioned above, the additional export fund of means of consumption comes to 200 million rubles. Of this, only 100 million goes to buy consumer goods from abroad, and these goods are sold within the country by taking advantage of the difference between domestic and foreign prices—that is, for a sum that is perhaps equal to that 200 million. At the same time, the other 100 million rubles of the export fund is used to purchase means of production from abroad. As a result, at the same time that the peasantry's consumer demand is being met, the problem of how to accelerate the development of domestic industry also finds a partial solution. But, although such a solution to the problem is fully possible in principle, it is quite obvious that under present circumstances it will, in practical terms, do no more than alleviate the difficulty pointed out earlier, not eliminate it. The point is, even in this case, that it is necessary to *advance* 100 million rubles out of the import fund for the purchase of means of consumption.

Our study of the present question would be incomplete if we did not point out that the disproportion we have indicated has one positive aspect: the hoarding of unsold surpluses of means of consumption in the village makes it possible to hold agricultural prices at a stable, low level. What seems here to be fully the product of the planning principle in economic life, and evidence of the strength of that principle, is in fact to a much greater degree the result of the disproportion we have indicated—that is, a phenomenon that is familiar to every commodity economy. The fact that we hold prices more or less stable results from the planning principle; the fact that we hold these prices stable at *a low level* is to a very great degree the result of the obstruction of the development of agriculture in the sphere of production of means of consumption, an obstruction that stems from the underdeveloped nature of our industry and the inadequate actual accumulation within it.

In analyzing the internal conditions of equilibrium between state industry and the private economy, we have so far disregarded the changes introduced into this whole process by the presence of the nonproductive consumption fund. We will return to this

question below, in our concrete study of reproduction in the economy of the USSR in 1925–26, and will only touch upon it in the theoretical part. This question cannot be examined without an investigation of several new questions that are only peripherally related to the topic under consideration.

After all we have said so far, we can now formulate the following very important proposition on the law of proportionality of exchange between the state sector of our economy and the two sectors of the private economy.

If in the Soviet economy II*c* of the state sector plus II*c* of the private sector, minus the means of production obtained by department II of the combined private sector within its own department is equal to *v* plus the nonproductive consumption of department I of the state sector, plus the consumption fund and the nonproductive consumption fund of department I of the combined private sector,* then: (1) when department I of the combined private sector suffers a deficit of means of production of department I of the state sector, the disproportion may be eliminated only through ties with the world economy; (2) the part of the consumption fund of department II of the combined private sector that consists of means of consumption from state light industry must equal the part of the wages fund of department II of the state sector that consists of means of consumption purchased from department II of the private sector with wages—that is, the part that to a very great extent consists of means of consumption of peasant production; (3) if internal exchange of the consumption fund of department II of the combined private sector against a corresponding portion of II*v* of the state sector reveals an excess of demand on the part of the private sector, the disproportion may be solved either with the aid of ties with the foreign market or by redistributing the national income in such a way as to provide resources for additional development of department II of the state sector—a solution that, however, would require an even more rapid development of heavy industry; (4) if the disproportion in the economy cannot be solved in any of these ways, a goods famine arises throughout the private economy, affecting both means of production and means of consumption produced in the state economy.[18]

*Minus means of production of war industry, as is clear from the entire preceding account.

Throughout our analysis we have assumed a division of the peasant economy into two departments, along the same lines as Marx did with respect to the capitalist economy. Is this method correct, if we consider that there is an extreme lack of differentiation in the peasant economy as regards the division of labor among the various branches of agriculture? Is it not true that the same medium-size peasant farm, growing predominantly grain crops, produces raw materials such as wool and hides at the same time that it produces means of consumption such as grain, butter, and meat? Is it not true that cotton- and flax-growing regions simultaneously produce meat, butter, eggs, grain, and so on?

This is all quite true. Nevertheless, Marx's method—which we have applied in dividing peasant production into departments I and II—remains the most appropriate. First of all, we must not forget that both departments in Marx's analysis included capitalist agriculture, which, though more differentiated in the sense of specialization of crops, is nevertheless always characterized by a close intertwining of the production of means of consumption and the production of means of production. For example, a modern large-scale capitalist farm in Germany combines livestock breeding and field cultivation with the production of sugar beets. Second, if we were to begin the analysis from the other direction, if we were to take the peasant economy of the USSR as a whole in its relationship to state industry, we would still find it necessary to use the same method. To be more precise, let us determine, say, the total amount of raw materials the peasant economy can provide for our industry and export; without this a solution to the question of proportionality in the development of agriculture and industry is inconceivable. As we determine the total raw materials potential of the peasant economy, we will necessarily distinguish the part of its output that makes up department I. Similarily, as we determine the marketable surpluses of food production, we will set apart "department II." Just as in Marx's analysis one part of the output of every large-scale capitalist farm figures in department I and another part in department II, in our calculation each individual peasant farm that produces a mixed output figures sometimes in department I and sometimes in department II. Thus, the same plow, horse, and so on figure simultaneously both as means of production of means of production and as means of production of articles of consumption. This may complicate the general analysis of reproduction, but it is not

sufficient grounds for rejecting Marx's method of investigation. There is no other method of investigation to replace it. If we want a detailed analysis of reproduction in agriculture, all we need do is make an additional study concerning the relative extent to which these means of production figure in department I and department II.

We have yet to consider the role of nonproductive consumption in the economy of the USSR from the standpoint of its influence on the conditions of equilibrium between the combined state and combined private economies.

To better deal with this question, let us take one of Marx's schemes of expanded capitalist reproduction. Let us take, for example, the following numerical scheme:

I. $4{,}000c + 1{,}000v + 1{,}000s$ (500 accumulation fund + 500 capitalist consumption fund)

II. $1{,}500c + 500v + 500s$ $(500/x + 500/y)$

In this case 1,500 IIc is exchanged for $1{,}000v$ plus 500 capitalist consumption fund of department I. Assume now that nonproductive consumption is reduced by one-half in department I, but total production remains the same. We will then have in department I

I. $4{,}000c + 1{,}000v + 1{,}000s$ (750 accumulation fund + 250 consumption fund)

In this case, because of the growth of accumulation at the expense of nonproductive consumption, department I reduces its exchange fund with department II from 1,500 to 1,250, whereas the reproduction of IIc requires 1,500 worth of means of production from department I (providing no changes have occurred in department II). Even if that reduction of nonproductive consumption is relative rather than absolute—that is, the nonproductive consumption fund of department I either remains unchanged at the level of 500 while the accumulation fund grows, or both these magnitudes grow but the accumulation fund grows more rapidly than the nonproductive consumption fund (in other words, if the change is not so drastic as in our example)—the tendency will nevertheless remain the same. This tendency con-

sists in a growing deficit of means of production for department II. This is because the exchange fund of department I systematically lags behind the demand for maens of production on the part of department II.

If a corresponding cutback in the nonproductive consumption fund also occurs in department II, then all we need do is perform the same operation with department II that we did with the numerical example of department I in order to see where it must lead. In this case the additional accumulation fund obtained by the cutback in nonproductive consumption is distributed between *c* and *v* of department II proportional to the organic composition of capital, and department II will no longer require 1,500 worth of means of production from department I, but considerably more. This means that the disproportion will grow from both directions at the same time: as a result of the relative reduction in the exchange fund of department I and as a result of both the absolute and relative growth of II*c*.[19] How this disproportion in the economy can be eliminated in the future is another question. (Obviously, it can be done by a general reapportioning of the productive forces between departments I and II.) However, when we simply take the transition to a lower level of nonproductive consumption and to a higher level of accumulation, this inevitably alters the proportions of exchange between departments I and II, increasing department II's demand for means of production and decreasing their temporary supply. *In that case, the country's economy becomes more progressive from the standpoint of the development of the productive forces, the surplus product grows throughout society, and the aggregate gross and net output of society, as well as accumulation, grow more rapidly; however, the actual transition onto the new path—the growth of the relative share of department I—must cause a temporary disproportion throughout the economy.* From this general theoretical proposition we are obliged to draw the following important conclusion for the economy of the USSR. If, throughout the economic domain in which the state sector has replaced private prewar capitalist production,* the accumulation fund increases as a result of a decline of the nonproductive consumption of the industrial bourgeoisie, this must necessarily mean a decline in the exchange

*We assume here that the production of surplus product remains at the same level.

fund of department I of the state sector, along with a simultaneous *increase* of accumulation in department II, that is, a relative growth of II*c*, and an increase in II*c*'s demand for means of production. However, since the means of production of department II of the state sector consists not only of machinery, fuel, and other means of production obtained from department I of the state sector but also of a tremendous quantity of peasant raw materials, the actual transition to a system of reduced nonproductive consumption and more rapid accumulation (assuming that production in department II of the state sector and production of raw materials in the peasant economy have reached their prewar levels) must necessarily give rise to a *chronic crisis in the supply of raw materials to state light industry*. Thus, even if we disregard the changes in the structure of the peasant budget associated with the revolution (which will be discussed below), the cutback in nonproductive consumption in industry alone must result in both more rapid accumulation and more rapid growth of the shortage of means of production.

But the state economy of the USSR eliminates only a *part* of the nonproductive consumption that existed in the bourgeois economic system. To take a practical example, let us assume that out of every 100 units of surplus product of prewar capitalist industry 40 went to accumulation, of the remaining 60 the capitalists nonproductively consumed 20, and 40 went to the nonproductive consumption of the entire capitalist system (that is, these units represented industry's share in maintaining the bureaucratic apparatus and the army, paying the interest on foreign loans, covering the nonproductive expenditures of the trade apparatus, and so on). Our state industry can use this 20 percent of the surplus value for additional accumulation, but instead of capitalist nonproductive consumption it has its own Soviet nonproductive consumption: we still have the army, the state apparatus, expenditures on the nonproductive consumption of the trade apparatus, and so on. Moreover, if nonproductive outlays of this type had turned out to be larger in our economy than they were under capitalism, they would have eaten up the entire saving of 20 percent and even reduced the accumulation fund as compared to the prewar level, especially if the fund of surplus product in Soviet industry had turned out to be less in absolute terms than before the war. I will not, in this connection, go into how matters actually stand, that is, as it is expressed in numerical terms. It should

be mentioned that some of our nonproductive outlays have grown (the trade apparatus), whereas others have been reduced (the state budget). For the moment, it is important only that we establish two facts. First, if the nonproductively expended part of our surplus product is declining or has declined as compared to the prewar level, this must of necessity alter the proportions in the distribution of the productive forces, giving rise to stronger demand for means of production. Second, to one extent or another nonproductive consumption* unavoidably continues to exist in our economy. However, this in turn implies different proportions in the distribution of the productive forces as compared to the scheme that could be constructed for the Soviet economy if we were to abstract from nonproductive consumption. To be more precise, if we allow for the presence of nonproductive consumption in the Soviet system this means we must set aside a certain part of the general consumption fund of the country for the maintenance of nonproductively employed strata of the population. To produce this nonproductive consumption fund, the means of production for the fund must be produced somewhere. But this means that all departments of all sectors of the economy must be employed to some extent, in supplying nonproductive consumption. However, this does not at all mean that the distribution of the bulk of nonproductive consumption between the individual sectors of the economy and between the individual departments of these sectors must be proportional to the changes that the very existence of nonproductive consumption provokes in the equations for exchange between these departments.

Concretely, the situation with respect to the individual departments is as follows: The nonproductive consumption fund of department I of the state sector has the material form of means of production. One part of this fund, which will go directly into nonproductive consumption in the form of means of production themselves, will provide everything that will be used for war industry: equipment for arms plants, metal for the production of armaments, fuel consumed in production, and so on. The second part of the nonproductive consumption fund of department I must enter into exchange with departments II of both the state and pri-

*The term "nonproductive" is used here in a socioeconomic sense and not at all in a moral sense. There is, after all, *necessary* nonproductive consumption as well.

vate sectors. The situation is approximately the same with respect to the nonproductive consumption fund of department I of the private sector, the only difference being that the role of war industry in absorbing the means of production of the department in question, with the possible exception of horses for the cavalry, is very small. As regards the departments of production of means of consumption, their nonproductive consumption fund, in its material form, enters into the consumer budget of the groups of the population that are not employed in productive labor. It is quite obvious that in value terms the entire fund of personal nonproductive consumption will be less than the share of the total burden of nonproductive consumption that will be borne by the departments II of both sectors, since one part of this nonproductive consumption will be covered by the departments I in the form of supplying the departments II with their own means of production, minus the means of production that go to war industry. But this means that, on the one hand, the existence of nonproductive consumption in Soviet society reduces accumulation and the rate of growth of society's gross and net output, but on the other hand it also reduces—albeit by purely negative means—the disproportion between departments I and II of both sectors which we discussed earlier and which amounts to a shortage of means of production. In particular, as regards the exchange of a part of the consumption fund of department II of the private sector for a certain part of the wages fund of the workers of department II of the state sector, the relative decline in the growth of IIv of the state sector reduces the exchange fund with that department, while the decline in accumulation in department II of the private sector reduces its demand for additional means of consumption coming from department II of the state sector and its demand for means of production from the state sector's department I.

On the other hand, when nonproductive consumption declines, both the gross and net income of society and accumulation increase, yet at the same time there is also a growing goods famine of means of production. However, as we have already shown, the development of the economy as a whole on a broader basis will in the future create within the economy itself the means for overcoming the disproportion, specifically on the basis of exports and imports.

To conclude the question of nonproductive consumption, we still must go into one very important methodological question

whose practical significance will become more evident later on.

How do we correctly determine the volume of nonproductive consumption in the USSR and the influence of this consumption on the entire process of production?

There are two possible methods for doing this. The first of these is the method Marx used in his analysis of capitalist reproduction in vol. II of *Capital*, where v represents the part of the advanced capital that is *actually* spent by the working class as income. Hence, Marx classifies all taxes on wages as surplus value. The advantage of this methodological approach is that the entire v then participates fully in exchange, uncomplicated by the part of v that, although *formally* representing wages, essentially goes to pay for a part of the nonproductive consumption of the bourgeoisie. If we want to make a detailed investigation of the economy of a particular country, we have then only to make an additional study of exchange within the nonproductive consumption fund, a study that is necessary, in particular, for determining both the role of war industry in this consumption and that of the nonproductive part of the expenses of the trade apparatus. This will also require additional investigation of the money savings of the working class. As regards the petit bourgeois sector, this method means that we must take into account *only the real consumption fund of independent producers engaged in production*, whereas their entire real accumulation in the economy, plus the part of the nonproductive consumption of the society in question that falls on this sector, must be classified as surplus product. This by no means prevents us from making an analysis of the exchange of the real magnitudes of the means of production of departments I, which, in exchange for means of consumption, go to replace the constant capital of the departments II. Generally speaking, the difficulty here is that it is impossible to define precisely the necessary consumption of the class of petty producers, since the consumption fund of the petty producers, as we have already shown, is not regulated by the law of value, even under concrete capitalism, and in our economy it is also governed to a certain extent by the law of primitive socialist accumulation. Furthermore, we must remember that the meaning of the term "productive labor" changes as compared with its meaning in Marx.*

*In discussing our economy, the concept of productive labor as labor creating surplus value is one of the several concepts of Marxist political

The second method would consist in simultaneously drawing up two balance sheets, one for production and one for consumption. This second method does not exclude the first but must, in our opinion, follow it, since beginning immediately with a double balance would mean beginning not with a simpler general balance but with a complex concrete one, not to mention that without a preliminary general balance this double balance might simply hide an *inability* to draw up a single general one.*

Furthermore, we must emphasize at this point the great practical difficulty in distinguishing the part of the outlays on trade that goes to pay productive labor from the part that goes to pay for the nonproductive consumption of the apparatus. The trade markups involved in the payment of transportation expenses are easily allowed for and included in the production balance of transport as one of the branches of *production*. Similarily, all taxes on trade, with the exception of that which returns to production via the state budget, should be included in the nonproductive consumption fund. On the other hand, it is much more difficult to distinguish the productive labor used in moving a commodity to the site of its individual consumption, storage expenses, and so on from the numerous other outlays that are connected not with this physically specific labor but rather with social expenditures on the given *system* of distribution, including primarily the nonproductive consumption of the agents of private merchant capital, and the useless agents of the state and cooperative network, as well as the educational expenses involved in passing on the science of how to carry on trade in a "civilized" manner.

Another very important methodological question is the general question of the indexes that should be used to calculate social production and consumption. It is quite obvious that we will have to use a dual system of accounting: accounting in prewar prices, which represents a form of *in natura* accounting, and accounting

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economy that must be replaced by another definition. Without going into this question in detail, we will simply note that we use the term "productive labor" in the *social* economy of the USSR to mean the social labor of workers and independent petty producers that creates means of production and articles of consumption for all of Soviet society.

*The derivation of a general balance on a methologically correct basis, is, among other things, one of the most important methods of verifying all the data of our industrial and general statistics.

in real wholesale and retail prices in chervonets rubles, which represents a form of value measure.

With this let us wind up for the time being our general investigation of the conditions of equilibrium between the state and private sectors of the economy. For the moment we shall leave aside the question of how the conditions of equilibrium, particularly the rate of expanded reproduction in the state sector, are influenced by quantitative changes in the distribution of the bulk of society's nonproductive consumption between the socialized sector of the economy and the entire private economy.

The Fifth Condition of Equilibrium

The fifth condition of equilibrium of the entire economic system of the USSR is the systematic growth of wages. We are speaking here not of the natural growth of the entire fund of v of the state sector that results from a growth in the number of persons actually working but rather of the growth in this fund that results from an increase in the average wage of the individual worker. The social structure of our state economy is such that, if there is a systematic rise in the level of the productive forces in it, the gap between the price and value of labor power must widen steadily, and thus the very concept of labor power as a commodity must be gradually eliminated. A rise in wages is also inevitable because of the very fact of the industrialization of the country, since a change in the technological base of the entire state economy and increased rationalization of labor inevitably require a rise in the skill level of the workers. The collective ownership of the means of production in the state economy inevitably demands that the cultural level of the proletariat be raised and that the elements of a new socialist culture be created. If the growth of socialist culture lags behind the development of the productive forces of the collective sector of the economy, this lag itself can become an obstacle to the further development of the productive forces. As every system of social production develops, it works out a system of a labor discipline and incentives that is most suited to it and develops an average worker that is most appropriate. Socialist industry, too, must mold its own type of worker and develop its own work incentives. This type of worker can emerge only if the working class has a sufficiently high general material standard of living, a standard considerably

higher than the one capitalism can provide for workers under the same technology.*

The enormous nonproductive expenditures of the state and cooperative trade and industrial apparatus, which has yet to develop even the rudiments of the methods of work suitable to the collective mode of production, are due not only to the general low level of development of the productive forces in the state sector but also *to the rudimentary level of socialist culture of the working class itself.* The culture of all bodies of society always tends to be drawn to the same level as that of the ruling class. Raising the cultural level of Soviet society means above all raising the culutral level of the working class. A steady rise in the proletariat's material standard of living is necessary not only for social reasons but for economic ones as well.

Furthermore, we must not forget the fact that we established earlier: if the country cannot import large amounts of industrially produced means of consumption for the peasantry, which produces means of consumption, then the increase in internal exchange of means of consumption between state light industry and department II of the petit bourgeois economy will be limited for the latter by the proportion of IIv of the state sector that goes to purchase peasant means of consumption and, indeed, privately produced means of consumption in general.

Even if we grant that this exchange may increase as a result of occasional additional imports of means of consumption, it is still the part of IIv of the state sector we have mentioned that constitutes the basic exchange fund. This means that at a given price level an increase in the wages fund of the workers of light industry (and this increase may result from an increase in the

*It must be clearly understood that the peasant protest against the growth of wages and improvement of labor protection and of the workers' entire mode of life is profoundly reactionary not only from the social and class standpoint but also from the narrowly economic one. Socialism knows only one way of equalizing the material conditions of the town and the village, and that is (if we disregard the temporary improvement in the situation of the petty producers) the elimination of the very foundations of individual petty production. A highly developed collective economy in agriculture is capable of providing its workers with a level of material welfare no lower than that in urban socialist industry. We cannot overcome the contradiction between the town and countryside, which constitutes one of the historical tasks of socialism, by turning the urban worker into something like a village blacksmith, who plays a subsidiary role in the petty economy.

number of workers, as well as from an increase in the average wage level) *must precede* an increase in the effective peasant demand for articles of consumption produced in state light industry. State industry's leading role becomes evident in this sphere of the economy as well. Along with a general reduction of prices, the growth of wages appears here as a factor that helps decrease the disproportion of exchange between agriculture and industry, doing so not in a negative form but in a socially and economically positive form.

The Sixth Condition of Equilibrium

The sixth condition of dynamic equilibrium in the economy of the USSR is a systematic reduction of prices on the output of the state economy. An equilibrium of this type is simultaneously economic and social.

Let us begin by discussing the economic aspect of this equilibrium.

We have already shown earlier that one of the bottlenecks in the development of state light industry is now to a certain extent, and will be in the future to an even greater extent, the lag in peasant production of industrial crops behind state industry's demand for raw materials. However, an increase in the production of industrial crops requires, above all, an increase in accumulation in that branch of the economy. And, to increase accumulation given the same level of individual consumption in that department, there must be (1) a cutback in nonproductive consumption in general, and hence also in the part of it that involves the department in question; (2) an increase in prices of industrial crops; (3) a reduction in prices of articles of consumption; (4) a reduction in prices of the means of production that department I of the peasant economy obtains from department I of the state sector; (5) a cutback in individual consumption in department I of the peasant economy itself; and (6) an increase in labor, using the existing means of production. Some of these possibilities are purely theoretical. A decrease in individual consumption in this particular department is impossible, or almost impossible, since it is already quite low. A reduction of prices of means of consumption of peasant production is, on the whole, also impossible, because relative to prices of industrial articles these prices are much lower than prewar prices, which were also quite low. The only thing that can

be done is to bring the selling prices of grain in regions producing industrial crops closer to the procurement prices of grain-producing regions—that is, essentially, to reduce the nonproductive consumption of the trade network, to lower transport costs, and to improve the means of transportation, above all highways and rural roads. A systematic increase of the prices of industrial crops is also impossible—except for the correction of occasional, clearly incorrect calculations made by the purchasing bodies—because such an increase of prices would tend also to raise the prices of the output of state light industry. The remaining alternatives, then, are to raise the intensity* and productivity of labor and of soil fertility in peasant production of industrial crops, reduce nonproductive consumption throughout the political and economic system of the USSR, cheapen the means of production produced in department I of the state sector, and cheapen the means of consumption produced in state light industry. In this last case, it is by no means a question of artificially reducing accumulation in these branches, but rather of reducing real production costs through reequipment of the technological base and rationalization of production. On this point, the interests of state industry coincide with those of the peasant production of raw materials: a reduction of industrial prices is an incentive to expanded reproduction in department I of the peasant economy. In addition, on the basis of increased accumulation in that department of the peasant economy it will be easier to achieve decisive successes in improving land cultivation, enhancing livestock breeding, and increasing the productivity of labor in general, which will increase the aggregate annual production of industrial crops.**

As regards the peasant production of means of consumption, the situation differs somewhat in the following way. The domestic market of the USSR does not absorb all the articles of con-

*It must be emphasized at this point that, even with the existing means of production, peasant agriculture in the USSR could considerably increase its gross output by a greater expenditure of physical labor, in particular by putting into effect a number of simple agronomic improvements. The struggle against rural fear of work and traditional laziness is one of the most important problems in the industrialization of the country.

**This is why the Soviet government's policy of selling agricultural machinery at artificially low prices is absolutely correct. In the future this must become a systematic pattern: means of production must always be sold at lower prices and means of consumption at higher prices, given identical costs of production.

sumption of the peasant economy, and their export is quite necessary to maintain a general equilibrium throughout the system. But, under the conditions of reproduction in state industry that we discussed above, the state's import fund obtained from these exports cannot be devoted to any considerable extent to imports of peasant means of consumption and can be used only in part for imports of agricultural means of production. This contradiction, along with unfavorable exchange ratios of peasant output for the output of state industry, plus the purely material shortage of the latter, acts as a brake on the entire process of expanded production of peasant means of consumption and reduces both the economic effectiveness of accumulation and the purchasing power of the part of the consumption fund that is exchanged for the part of v of light industry mentioned above. All this inhibits the development of the marketable share of peasant production of means of consumption, increases the nonproductive consumption of the peasant masses themselves, and inhibits the growth of the export fund. However, even when agricultural production has reached the prewar level and the volume of exchange of agricultural output of means of consumption has approached that of prewar Russia, the decline in the nonproductive consumption of the bourgeoisie, the elimination of the nobility's ownership over the land, and the elimination of foreign debts will create the preconditions for very significant growth of the surplus product of agriculture, capable of contributing to the fund of expanded reproduction. Here, too, the way out of the partial impasse and disproportion is to more rapidly reequip industry, reduce costs of production, systematically lower prices, and, finally, raise the productivity of labor in the peasant economy itself. For every 100 units of its output that the peasant department of means of consumption exchanges for a part of Iv of the state sector and that replaces its means of production, this department will obtain more of those means of production in their material form. On the other hand, every 100 units of the consumption fund will permit the acquisition of more means of consumption in exchange for part of IIv of the state sector.

However, a systematic reduction of industrial prices is important not only from the standpoint of maintaining the economic equilibrium but also from that of maintaining the *social equilibrium of the entire Soviet system.* The sharp divergence between

domestic industrial prices and world market prices—that is, a system of far-reaching nonequivalent exchange—is an exceptional system and one that by its very nature is temporary. It corresponds to the period of infancy in the development of the state economy in a backward peasant country. It is historically destined to provide state industry with the necessary economic resources to replace its technological base, to enable it to accumulate on the basis of modern, improved technology rather than old, obsolete technology. It is not until this process has been completed that the state economy will be in a position, as we have repeatedly stated, to develop all the advantages that collective production provides over capitalist production. In that period, however, the peasant economy also must develop. The peasant economy is unconcerned with the stage of development through which socialist reproduction is passing: what it needs is cheaper industrial goods in the necessary amounts and of the appropriate quality. This economic contradiction turns into a social contradiction, into the growth of peasant dissatisfaction with the foreign trade monopoly and into efforts to eliminate the peasant market's compulsory bonds to Soviet industry—efforts to break through to the value relationships obtaining on the world market and to avoid paying the multibillion-ruble tax into the fund of primitive socialist accumulation. This social contradiction represents a whip that drives the state economy to bring domestic industrial prices of the state economy closer to world market prices. Rapid success along this path, accompanied by the expansion of state credit to organize the economy of the middle and especially the poor peasants and provide then with additional means of production, will weaken this social contradiction. A delay along this path will heighten the contradiction and expose the socialist sector to the risk of a revolt by, above all, the capitalistically most developed elements of the peasant economy and the corresponding groups of the peasant population, which are most impeded in their development along the bourgeois path by the process of expanded socialist reproduction.*

*Here we have arrived at the most fundamental question of the relationship between socialist development of the city and capitalist development of the countryside. In the present, difficult period, the Soviet system can exist only on the basis of a proportionality between their respective rates of growth. A more rapid rate of socialist development will permit a larger dose of capitalist development as well, without any great danger for the system as a whole.

The Seventh Condition of Equilibrium

Finally, the seventh condition of equilibrium of the Soviet system is the gradual absorption of the country's excess population by the developing state economy and by intensified agriculture, an absorption that includes both the overt and the hidden unemployment inherited by the Soviet system, primarily from the agrarian relationships of the old regime. It is in this respect that the situation is most difficult and most contradictory. Improving the technology of the state economy and rationalization of labor—which are the natural preconditions for lowering production costs and disposal prices—essentially means reducing the expenditures of labor power per unit of output. Even in the best-equipped Soviet enterprises these expenditures are considerably higher than in advanced European industry, not to mention America. The only way to keep the whole process of rationalization of labor from leading to stagnation in increasing the number of key personnel employed in state industry is to ensure that it is accompanied by a sufficiently rapid expansion (in absolute terms) of the industrial base of the country. But such rapid expansion presupposes a considerably more rapid accumulation in industry than we now have (1927). Since the Soviet economy is presently developing in breadth, not at the level of advanced capitalist technology but only while it is in the process of catching up to that level, there must necessarily be a relative slowdown of the rate of growth of the labor force and a relative slackening of the pace of absorption of the army of the unemployed. In the history of the Soviet economy a similar process was to a certain extent observed in the transition to NEP, when a more rational use of the labor force and means of production in 1921–22, together with a sharp rise in the overall level of output as compared to 1920, led to a reduction in the labor force in state enterprises relative to the last year of War Communism. Gosplan's five-year plan for the economic development of the USSR provides for a 70.4 percent increase in the total output of state industry by 1930–31 (that is, at the end of the five-year period), whereas the employed labor force will increase during that time by only 27.9 percent or 2,053,000 persons.* As regards unemployment associated with the migration from the village to the town and the in-

*See *Perspektivy* . . . , op. cit., appendix, pp. 2 and 21.

crease in the work force within the town itself, its possible extent is defined by the five-year plan in 1926–27 as 1,189,000 persons, with a gradual, slow, almost imperceptible reduction to 1,146,000 at the end of the five-year period. However, in the first half of 1927, unemployment already exceeded the projected Gosplan figure by several hundred thousand. This shows that Gosplan's calculations, which are in themselves highly pessimistic, are actually turning out to be too optimistic. And from the standpoint of the ratio of the work force employed in the socialized sector as compared to the capitalist and petit bourgeois sectors, we can expect only very modest success: the proportion in the socialized sector has risen from 11.2 percent to 12.6 percent—that is, a total of 1.4 percent. The situation with agrarian overpopulation, which Gospan sets at 6.8 million* turns out to be even more serious. At best, this figure, according to Gosplan calculations, will not decline. Most indications show that it will rise, and thus that the figure for urban unemployment will rise considerably as well.

On the other hand, the intensification of agriculture, *whose possibilities are directly proportional to the backwardness of our farming as compared to foreign peasant economy*, will mean the absorption of new labor power by agriculture on the one hand and increased productivity of labor in agriculture—that is, a relative decline in expenditure of labor power per unit of output—on the other. However, intensification in agriculture requires increased accumulation in agriculture. At the same time, if this accumulation were to occur at the expense of the part of the fund of surplus product that the village provides to the town for socialist reconstruction, this would lead to a slowdown in the rate of expanded reproduction in state industry, that is, in precisely the sector that is decisive in the sense of overcoming in the future all the basic contradictions of the transition period.

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We have had only to present the very broadest outlines of the foundations of dynamic equilibrium in the economic system of the USSR in order to show the totality of economic and social contradictions that are inevitably revealed by our development toward socialism under conditions of our isolation:

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*The data are those of Narkomzem [People's Commissariat of Agriculture].

(1) Accumulation based on nonequivalent exchange versus the necessity of eliminating this nonequivalence—together with the lack of correspondence of these processes in time.

(2) Accumulation at the expense of the surplus product of the workers versus the inevitability of a systematic growth of wages.

(3) The necessity, in the interests of reducing the "birthpangs of industrialization," of the fastest possible integration into the world division of labor and an increase in foreign credit versus the growing hostility toward the USSR shown by the entire capitalist world.

(4) Accumulation at the expense of peasants who produce industrial raw materials and of the peasantry in general versus the necessity of stimulating expanded reproduction of these raw materials as much as possible.

(5) Accumulation at the expense of peasant exports of articles of consumption versus the necessity of stimulating these exports under conditions of an extremely slow reduction of industrial prices.

(6) The economic necessity of having the peasant economy produce more for the market versus the social necessity of materially maintaining the part of the peasantry that produces least for the market–namely the poor peasants and the weak groups of the countryside.

(7) The necessity of lowering prices on the basis of the rationalization of production versus struggle with growing unemployment.

The sum of these contradictions shows how closely our development toward socialism is connected with the necessity–for not only political but also economic reasons–to make a breach in our socialist isolation and to rely in the future on the material resources of other socialist countries.

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We conclude our general survey of the equilibrium conditions in the economy of the USSR. This outline is far from complete, even in its purely theoretical part. It undoubtedly suffers from a number of shortcomings, as does every first attempt of this nature. But even on the basis of what has been presented here we can proceed to a study of the concrete figures of our economy for particular years. From here on, our task will consist in filling in

the algebraic scheme of reproduction in the USSR that we have outlined here with concrete data provided by Soviet statistics and, above all, by the Control Figures of Gosplan. We will focus the primary attention of this concrete study on the economic years 1925–26 and 1926–27, as the most typical years for the end of the restoration period and the beginning of the reconstruction process. Our concrete study will also compel us to touch upon certain theoretical questions that, in the interests of shortening the purely methodological section of the study, we prefer to illustrate with figures from the present-day living Soviet economy.

EDITOR'S NOTES

[1] Soon after the October Revolution in 1917 a system of illegal trade grew up that rivaled the "official" trading network right up to the institution of NEP. "Bag trading" (*meshochnichestvo*) came to be so called after the practice of private traders who scoured the countryside, buying up whatever food or other items they could acquire, and smuggled them into the cities in sacks, where they resold them at extremely high markups. Despite repeated attempts at repression and control over this type of black-market trade, the Soviet authorities never succeeded in doing away with it—the drastic shortages of the War Communism period made this a virtual impossibility. Eventually, in the last years before NEP, it became a more or less accepted fact of life. For a fuller discussion of the phenomenon, see E. H. Carr, *The Bolshevik Revolution*, vol. II (London: Macmillan, 1969), pp. 118-19, 240-44.

[2] *Capital*, English edition, vol. II (Moscow: Progress Publishers, 1967), p. 397.

[3] It is difficult to precisely render into English the difference between the Russian terms *razmen* and *obmen*. *Obmen*, as is perhaps clear from its usage in the passage at hand, refers to the system of market exchange, that is, to a system of exchange that presupposes the need to establish a basis of equivalence between the items being exchanged. In short, it implies an *exchange of values*, and in Russian the terms for "exchange economy" (*obmennoe khoziaistvo*) and "commodity economy" (*tovarnoe khoziaistvo*) are synonymous. The term *razmen* refers to the concrete act of exchanging, or changing, for instance, to change money.

[4] The consumption fund of the capitalist sector here refers to the sum of the variable capital plus the fund of individual capitalist consumption.

[5] That is, the fund of nonproductive consumption within the state sector, which the peasantry must help cover.

[6] Preobrazhensky discusses this point in greater detail on pp. 201-02 and 212. Essentially, the prices the state pays for peasant grain are below those prevailing on the world market. Its costs of producing its own means of production are generally higher, given the relative backwardness and inefficiency of Soviet industry. If the state exports peasant grain and sells it at world market prices, it receives a "commercial profit" equal to the difference between the domestic and world prices. At the same time it obtains hard currency from capitalist countries, which can then be used to purchase capitalist-produced means of

production; this gives the state a second source of "profit," since it is able to acquire more means of production (in terms of use values) than it could produce for the same aggregate price at home.

[7] There is a misprint in the Russian text, which reads *razmer* ("scale" or "size") instead of *razmen* ("exchange").

[8] The export fund is the commodities purchased by the state at its own procurement prices that it will export for foreign currency.

[9] Accumulation in the state sector would give, at the end of the year's production, $8.8c + 2.2v + 2.2$ surplus product = 13.2 billion. This is an increase of 10 percent over the previous year. Technically speaking, therefore, the exchange fund with private production should increase by the same figure, to 3.3 instead of 3.25 billion.

[10] The total drop in productive capital in the state sector would be 240 million in constant capital and 60 million in variable capital. Assuming that the rate of exploitation is 1:1, a cut in variable capital by 60 million will produce an equal drop in the level of surplus product, giving a total cut in state production of 360 million.

[11] There is an error in the Russian text (either a misprint or a calculating mistake by Preobrazhensky), which gives half of II*c* as 1,755. This error is carried through all the subsequent calculations and produces a result directly contradicting Preobrazhensky's argument to the effect that the deficit in means of production is growing from year to year.

[12] Here there is a further miscalculation, which gives the sum of 933.4 + 467 as 1,300.4, rather than 1,400.4. This sum was then subtracted from the already incorrect figure for half of II*c*, thus giving a deficit of 1,755 - 1,300 = 455. The correct figures are given in the English text here. As is clear from the subsequent calculations for a further year's production (which give a deficit of means of production in the state sector equal to 390.8 million), this would have contradicted Preobrazhensky's argument that the shortage of means of production is becoming increasingly severe. For this reason it is unlikely that the errors here are Preobrazhensky's but are either misprints or "creative editing" by the editors of *VKA*.

[13] Department I accumulates 700 of its surplus product. Of this 60 percent, or 420, goes to increase I*c* and 40 percent, or 280, to augment I*v*. This will give an increase in the surplus product also of 280, of which half, or 140, is devoted to nonproductive consumption. Thus, the total rise in I's exchange fund is 420, of which two-thirds, or 280, is exchanged against II*c* of the state sector. The original arithmetical errors are carried over here. The Russian text lists the original level of I's exchange with II*c* as 1,300 and gives the old deficit as 455.

[14] This is true only in the short term. A reduction in the level of nonproductive consumption will create new conditions of proportionality between the two departments to the initial disadvantage of department I, but it will also raise the rate of accumulation out of *s*. If this rise in the rate of accumulation is uniform in the two departments, the increase in their rates of growth will be the same. If the drop in the share of nonproductive consumption is greater in department I this will, in fact, tend to decrease the shortage of means of production over time. Preobrazhensky provides more detailed treatment of the consequences of reducing the level of the state sector's nonproductive consumption in the next section of the article, and we have added a fuller explanatory note there (see below, note 19).

[15] It is again important to recognize why the disproportion Preobrazhensky has identified here is taking place. The organic composition of capital is actually lower in department I than in department II, and so we would have expected the shortage of means of production to decrease over time. It is increasing only because the total size of the productive capital in department II is so great that the accumulated part of its surplus value is able to provide for a greater increase in II*c* than the amount by which department I's accumulation fund is able to raise I($v + s/x$). This, however, hides the tendency for the rate of increase of this deficit of means of production to slow down. After three years the deficit would start to contract, although under the conditions prevailing here it would take quite a substantial time before the lower organic composition of capital in department I would allow it to overcome its insufficient production.

This is only one side of the matter. The other is that this situation, whereby department II has a more advanced technical structure than department I, is a legacy of the backwardness of the Soviet Union's economy and of the devastation that war and civil war wreaked upon its industrial base. It is not a state of affairs that could persist for very long. As soon as department I begins to restore its fixed capital and embark upon positive accumulation, it will replace old, technically outmoded plant and equipment with that embodying modern technical improvements. Thus, the organic composition of capital in department I will start to rise rapidly. At a certain point, once department I has begun to fill the gaps in its fixed capital stock left by the preceding decade, its organic composition of capital will exceed that in department II, and there will appear that very tendency toward underproduction of means of production that Preobrazhensky outlined in the first article of this series, in *VKA*, no. 17. In addition, it is likely that this "switch point" would occur before the already existing deficit of means of production, which is the product of the economic structure inherited from the Civil War, had been overcome. The tendency for underproduction in department I would, therefore, appear on top of this basic famine of means of production (primarily of fixed capital), and the problem would be compounded. Short of a thoroughgoing rearrangement of productive capital in the state sector, which would shift resources into department I and thereby give it greater weight in the economy, the only other way out of this impasse would, of course, be material assistance from other countries.

[16] We can illustrate this by slightly modifying the scheme for simple reproduction under concrete capitalism that Preobrazhensky presented in *VKA* 17 (see above, p. 80) where he broke the scheme down to show which part of each department's product went in exchange with the peasant and capitalist sectors. For the sake of simplicity we will keep his designation of K (and k) and P (and p) for the different sectors. The only other modification is that we have altered the scheme to reflect expanded rather than simple reproduction, so that only half the surplus value, or surplus product, goes toward capitalist (or nonproductive) consumption. The other changes in the figures in brackets reflect the different situation that Preobrazhensky has here described.

KI. $4{,}000(3{,}900k + 100p)c + 1{,}000(500k + 500p)v + 500(250k + 250p)s/x$
KII. $1{,}500(600k + 900p)c + 375v + 187.5s/x$

PI. $750(500p + 250k)c + 1{,}500(750p + 750k)$ consumption fund
PII. $1{,}500(750p + 750k)c + 4{,}000$ consumption fund

Here the balanced exchange between the two departments I no longer per-

tains. Department I of the capitalist sector (which we can take as the same as the state sector in Preobrazhensky's example) requires 100 in means of production from the peasant sector. Department I of the peasant sector, however, needs 250 in means of production from the capitalist sector. They can exchange 100 of these directly. But how is PI to acquire the other 150 in industrially produced means of production? It can do so only because compensating imbalances exist in the exchange between department II of the capitalist sector and that sector's department I. Here is how exchange would proceed under these conditions:

KII will buy from KI 600 in means of production. This allows KI to realize the entire part of KIv that comes from KII, as well as 100 of KI$s/x(k)$. KI, however, must both purchase 750 in means of consumption from KII and sell that many means of production. KII can sell another 150 means of consumption to KI by dipping into the 900 it had set aside for exchange with PI, from which KII must acquire 900 in raw materials and other peasant-produced means of production. In this way KI receives all of the means of consumption it needs from KII, but to do this it has had to advance 150 in money (since KII still only purchased from KI 600 means of production), whereas it has 150 in means of production left unsold.

Now we must account for the exchange between KII and PI. Here KII had set aside 900 in means of consumption to allow it to purchase a like quantity of means of production from the peasant sector's department I. Now, however, it only has 750 with which to effect this exchange, since it sold 150 of this 900 to KI. It can still *purchase* this many means of production from PI, since in addition to the 750 in means of consumption KII also has on hand 150 in money that it received from KI when it sold means of consumption to KI without making a corresponding purchase. PI, on the other hand, needs only 750 in means of consumption from KII in any case and had allowed only 750 in means of production to carry out this exchange. As things stand the exchange can still proceed. PI, after all, has 150 left over from its very first exchange *with KI*, to which it could only sell 100 in means of production out of a constant capital replacement fund of 250. If PI takes this 150 in means of production and adds them to the 750 it had already designated for exchange with KII, it can sell KII the full compliment of 900 means of production that the latter requires. In return, PI will receive 750 in means of consumption (which is what it demands) plus 150 in money (the same money that KI had advanced in its own exchange with KII).

Thus KII will now have acquired all the means of production it needs from both departments I. PI will have disposed of all its available means of production, and will have 150 in money. Clearly it can take this money and use it to purchase the 150 in means of production from KI that it could not do in the beginning. KI, on the other hand, can sell 150 in means of production to PI since it had this many left unsold after its exchange with KII.

Therefore, PI is only able to realize all of its constant capital by means of the capitalist (or nonproductive) consumption fund of KI. To do this necessitated an extremely complex circuit of exchanges involving three of the four departments (PII had a balanced exchange with both PI and KI). At any point in this series, exchange might have broken down because the products offered for exchange by one department might have been in the wrong material form or available in the wrong quantity for the needs of another department. Had this happened, or had there been a general shortage of means of production in KI, as was actually the case in the Soviet Union, PI could not have obtained the industrial means of production it required. The only other recourse

would have been for PI to sell its surplus 150 abroad and purchase foreign-made means of production.

[17] There is a misprint in the Russian text, which gives II*c* as 3,500.

[18] The condition Preobrazhensky is describing here can be put more simply in terms of the scheme we used in note 16. Designating the state sector as S (instead of K), if SII*c* plus PII*c* (less the means of production PII produces on its own) equals SI($v + s/x$) plus PI's consumption fund, then (1) if PI*c*(s) is greater than SI*c*(p), the disproportion can only be solved by exporting PI's excess and importing the means of production it needs. This is not entirely true, as we have shown. A complex circuit between the various departments could allow PI to obtain these means of production, *provided that they are available through prior production in SI.* (2) The part of SII*v* not covered by SII itself but purchased from PII must equal the part of PII's consumption fund not covered within PII and purchased from SII. If these conditions are not satisfied, as they were not in the Soviet Union during this period, Preobrazhensky's third and fourth conclusions prove valid.

[19] The example Preobrazhensky has chosen here is somewhat misleading, for the same reasons as was his discussion of the effects of a rise in the organic composition of capital in *VKA* 17. The scheme he presents here has a built-in disproportion, in that the organic composition of capital in department II is lower than that in department I. If their organic compositions of capital were the same, and if they each reduced their nonproductive consumption by exactly identical shares, then their exchange funds would continue to grow at the same rate, all other conditions being equal. There would still be an initial disproportion, however, which would necessitate a rearrangement of the social capital and a shift of resources into department I. If we modify Preobrazhensky's scheme here, so that the organic composition of capital is 4:1 in both departments, we will, if we also change the ratio of accumulated to nonproductively consumed surplus product to 3:1, have the following:

I. $4{,}000c + 1{,}000v + 250s/x + 750$ for accumulation
II. $1{,}500c + 375v + 93.75s/x + 281.25$ for accumulation

Here I($v + s/x$) has fallen to 1,250, whereas II*c* has remained at 1,500. If we were to carry out accumulation and production in the following year we would have

I. $4{,}600c + 1{,}150v + 287.5s/x + 862.5$ for accumulation
II. $1{,}725c + 431.25v + 107.8s/x + 323.4$ for accumulation

There is a rather massive deficit of means of production, equal to 1,725 – 1,437.5 = 287.5. What would be necessary would be a rearrangement of the productive forces in the state sector as a whole, so that proportionality was reestablished between I($v + s/x$) and II*c*. Then, given the conditions we have assumed, that is, equal organic compositions of capital and equal, though larger, rates of accumulation, proportionality would be maintained with each successive period of expanded reproduction.

This does not change the essence of Preobrazhensky's argument. As long as the state sector was able to reduce its levels of nonproductive consumption, there would need to be more or less constant rearrangements of the newly available productive resources in order to meet society's increased demand for means of production.