

A Reformulation of A. V. Chayanov's Theory of the Peasant Economy

James R. Millar
University of Illinois

I

This paper suggests an alternative theoretical vehicle for the data and generalizations presented by A. V. Chayanov in his recently translated, *Peasant Farm Organization* (1925)¹: a reformation which nevertheless retains the spirit of Chayanov's efforts.

Students of economic development, economic anthropology, and the economic history of Russia and the Soviet Union will find Chayanov's careful, systematic description of peasant economic behavior, synthesizing as it does a wealth of empirical data drawn largely from post-Emancipation European Russia, excitingly relevant to a number of contemporary concerns and problems. However, his attempt to formulate a unique theoretical model to account for what he believed were irreconcilable discrepancies between the observed behavior of the bulk of peasant farms and the profit-maximizing canons of either Marxist or neoclassical doctrines is much less successfully executed and of dubious merit.

II

Chayanov's analysis of the peasant economy is founded upon four major empirical findings. First, investigation showed that the bulk of peasant farms were strictly (extended) family operations. In Chayanov's terminology, the "family labor farm," which employed no, or very occasionally, nonfamily labor, was the typical form of peasant enterprise. Second, the

¹ Daniel Thorner, Basile Kerblay, and R. E. F. Smith (eds.), *A. V. Chayanov on the Theory of Peasant Economy* (Homewood, Ill.: Richard D. Irwin, Inc., published for the American Economics Association, 1966), pp. 29-269. Unfortunately the translation from the Russian by R. E. F. Smith is rather clumsy, and the editors have done only a half-hearted job in the elimination of errors in the original text (e.g., figs. 3-4, 4-5, 4-12, 4-18; and tables 4-1, 4-42). It is also a shame that the editors did not see fit to clarify and modernize the presentation of Chayanov's numerous tables and figures.

intensity of family labor application (i.e., working days per year per family member) was found to be directly related to the ratio of consumers to workers in the family (measured in adult male equivalents) and, within broad limits, inversely related to real hourly earnings. Third, economic differentiation among the peasantry, particularly by farm size, was more a measure of relative family size and composition than of differential economic success, that is, farm size tended to follow a cycle coincident with the peasant family life cycle, increasing as family members matured into workers and declining as the family aged and disintegrated with the formation of new families. Economic stratification due to these causes Chayanov called "demographic differentiation," to distinguish it from differentiation attributable to a persistent and cumulative process of petty capitalist accumulation with which it was usually confounded by Marxists and neo-classicists alike. Fourth, the evidence indicated that the family labor farm could survive, and in some cases prevail, in competition with commercial farm enterprises.

In Chayanov's view these four characteristics were inconsistent with the hypothesis that peasants manage their farms so as to maximize profits, that is, as rational petty capitalists. He thought that he had found the theoretical key to the peculiarities of peasant economic activity in the fact that the family labor farm did not contract wage payments with its own members. Instead, the family as a whole was a residual claimant to the farm's proceeds. Since wages were indeterminant, he argued, so too, must be profits and economic rent (where the family worked its own land). On the premise that the family could not maximize what it could not measure, Chayanov reasoned that the absence of these capitalist categories precluded profit as the motivation and guide to peasant economic behavior. Unlike capitalist enterprise, the peasant family worked for a living, not for profit. The spur to peasant economic activity was "the motivation of the worker on a peculiar piece-rate system which allows him alone to determine the time and intensity of his work" (p. 42).² Chayanov's theory of the peasant economy is simply the formal expression of this conception in what are essentially neoclassical terms: equilibrium of the family labor farm is depicted as the outcome of a subjective balancing of a marginal increment in family consumption against a marginal change in the "drudgery" of family labor application. The degree of "self-exploitation" of family labor was determined, therefore, not by capitalist criteria but by a hedonic calculus.

In Soviet Russia of the 1920s, Chayanov's theory presented a direct challenge to and an unmistakable contradiction of the accepted Marxist conception of the peasantry, and it raised a doctrinal dispute with immediate policy consequences. If, as Chayanov alleged, the mass of peasant

² Page references in parentheses refer to the Thorner et al. edition.

farms were not incipient capitalist enterprises, then the peasant economy could not be fitted into Marx's general evolutionary scheme as an antecedent stage of capitalist development. On the contrary, Chayanov's theory lent support to the worst kind of heresy: that the peasantry might have both social justification and the economic capability to coexist with socialism as it had done with capitalism. If so, the peasantry formed an economic category in and of itself. That Soviet Marxists found Chayanov's theory of the peasant economy static, apologetic, and subjective is no surprise.

However, if Chayanov was not an orthodox Marxist, neither was he a consistent neoclassicist. First, the premise supporting his deductive case against profit maximization as a peasant motive—that the peasant family could not maximize what it could not measure—is meaningless on neo-classical grounds. The absence of the wage contract and the residual determination of wages may preclude wages and profits as social categories in the Marxian sense, but they do not rule out profit-maximizing behavior in the neoclassical conception. As long as each separate exercise of economic discretion is guided by a rational comparison of the differential gain and cost attributable to the particular unit of business at stake, the enterprise will attain maximum profits (minimum losses) regardless of whether total period profits (losses) are actually computed or even computable. Accounting procedures certainly may improve the accuracy and consistency of enterprise decisions, but they are not logically necessary for profit maximization to occur. Chayanov's theoretical, or deductive, case against profit maximization as a possible determinant of peasant behavior is, therefore, insubstantial. Second, the alternative theory that Chayanov proposes, if modernized by substituting for the disutility-of-labor approach the conception of family leisure as a want-satisfying alternative output of the farm, may readily be incorporated under the contemporary theory of household behavior. However, it is not true, as Chayanov apparently presumed, that utility and profits necessarily represent alternative and mutually incompatible guides to the exercise of economic discretion. The doctrinal controversy, in which Chayanov was engaged essentially as a partisan of the peasantry, made it desirable to distinguish unambiguously the peasant and the capitalist farmer. Unfortunately, Chayanov's theoretical attempt to do so resulted in the translation of the whole of his empirical findings into purely subjective terms—utility-disutility comparisons—and his explanations of peasant decisions, whether regarding investment, land purchase, or work intensity became, consequently, little more than rationalizations with no predictive power whatever.

There are two kinds of discrepancy, and thus two standards of comparison, implicit in Chayanov's argument differentiating the peasant economy from the capitalist. First, Chayanov is certainly correct in asserting that the observed behavior of the family labor farm was inconsistent with

the tenets of the neoclassical (or Marxist) theory of the firm, and in this context one of the main discrepancies was most certainly that the family labor farm did not maximize profits in the sense of pushing output to the point at which marginal cost was equated with marginal revenue. The question involved in this comparison has to do with the appropriateness of the theoretical model to the facts in hand. The second kind of discrepancy, however, has to do with differences between the observed behavior of the family labor farm and the actual behavior of commercial farm enterprises. Chayanov apparently assumed that this second kind of discrepancy was a consequence of the first, but this is probably wrong and certainly unnecessary. It is in this context, however, that his emphasis upon the presence or absence of the wage contract and his division of agricultural enterprises into those employing hired labor and those that did not are crucial; for, to the one, labor costs are variable and avoidable, while, to the family, labor represents an unavoidable overhead cost. Thus, quite apart from the doctrinal dispute in which he was engaged, Chayanov's emphasis upon the presence or absence of the profit motive was misplaced, for he assumed that the prescriptive standard of the neoclassical model could be taken as a reasonably accurate description of commercial farm behavior, that is, one that was comparable with his description of peasant farm behavior.

It will be maintained in the argument that follows that the peculiar features distinguishing the family labor farm from the commercial farm do not turn on the question of profit maximization but, instead, stem from differences in the shape and behavior of their respective costs. Most, if not all, of the peculiarities of peasant economic behavior may be derived from the fact that its labor force was, according to Chayanov's evidence, fixed (i.e., determined by exogenous, noneconomic factors) and its labor bill, consequently, both unavoidable and predominantly invariant to changes in the level and composition of the farm's output.³

III

If we grant the indivisible integrity of the family labor farm as a consumption and labor unit, as Chayanov suggests, then it will be seen that the peculiar characteristics of peasant farm organization largely result from the fact that labor presents itself as an overhead rather than as a variable cost. That decisions concerning the proportions of inputs, the level and assortment of output, sideline activities, etc., would differ substantially

³ Most neoclassical models are designed to minimize or avoid overhead cost problems, a fact that helps to account for Chayanov's conclusion that the failure to maximize profits lay at the root of the discrepancies he found. The reference for the analysis that follows is another neglected classic: J. M. Clark, *Studies in the Economics of Overhead Costs* (Chicago: University of Chicago Press, 1923).

from those taken by an enterprise for which labor is predominantly a variable cost is quite obvious and proper, even if both seek to maximize profits. Furthermore, since the peasant family could not avoid these costs even by shutting down the farm altogether, the tenacity of the family labor farm in competition with commercial establishments employing hired labor is explicable, provided that the family had no competing alternative outlets for its labor, or that these alternatives were either physically or culturally remote.

Treating the family's labor cost as predominantly overhead also makes understandable the discovery that peasants were prepared and able to outbid capitalists for land and that, frequently, the poorer the peasant family, the higher the purchase or rental price it would pay. An increment in sown area, permitting a more optimal utilization of the family's fixed stock of labor, would be worth more to the peasant family than to an enterprise that must include the additional labor costs for working it in the total differential cost of the projected expansion. Given the remoteness of alternative employments, the more land-poor the peasant family, the greater the land cost it would be able to absorb.

The particularities of capital investment decisions of peasant families, as described by Chayanov, are largely related to the fact that field work poses a "peak load" problem. Given the size of the family's own labor resources, labor requirements of the peak season determine the maximum feasible size of the farm as a production unit. It follows that, although receptive to capital innovations that reduced peak season labor requirements, the family labor farm would show little interest in the saving of labor during off-peak periods of the year, unless the labor so economized could readily find alternative employment. We have in this approach a simple and straightforward explanation to substitute for Chayanov's almost unintelligible, inconsistent, and subjective interpretation of capital investment decisions on the family labor farm (chap. 5). Chayanov cites, as cases peculiar to the family labor farm, the difficulties that were encountered in attempting to introduce threshing machines, "in areas where there are no crafts and trades in winter and, apart from threshing, nothing else with which the population can occupy itself. . . . Since these hands can find no other work to do, this does not increase peasant family income by a kopek. The cost of the thresher, though, is a considerable deduction from the meager peasant budget" (pp. 211-12). The converse is seen in the case involving small farms in the southeast of Russia (pp. 212-13), which introduced harvesting machines to compensate for a short harvest season that did not permit the family to reap as much as it could sow and cultivate, even though the effect was to reduce the return per unit of family labor time expended. However, the increased intensity of labor application, spread more evenly over the year, yielded a larger total family net income than was otherwise possible because the harvester expanded

the sown area one family could work. These two cases are fully consistent with our approach.

Chayanov demonstrated that the intensity of family labor application, for example, working days per year per family member, was a function of the ratio of consumers to workers ($c:w$) in the peasant family (in adult male equivalents). Other things being equal, the higher the ratio, the greater the labor expenditure per family worker and, conversely, regardless of the fact that the real wage per unit of labor expenditure ordinarily moved inversely with labor intensity. Thus, changes in family composition may be classed as favorable or unfavorable much in the same fashion as changes in the family's economic environment, for example, a change in the terms of trade. Chayanov considered it peculiar that the family generally reacted to unfavorable changes with an increased expenditure of family labor and to favorable changes with decreases in family labor expenditure. It is quite clear that such behavior is inconsistent with strict profit maximization on the one hand and with the behavior that might be expected of a farm enterprise that relied predominantly upon hired labor, on the other; and the behavior of labor costs provides an important insight into both of these discrepancies.

Where the alternative is involuntary idleness, the differential cost (opportunity cost) of labor is negligible, whether one works for another or is self-employed. The same proposition holds for a family enterprise, such as the family labor farm, given the integrity of the family, that is, given that economic support is not contingent upon, or a function of, labor effort. Thus, for the family labor farm, the only costs that varied significantly with the expenditure of family labor were the alternative costs of other employments available to family members. Therefore, if alternative income opportunities were nonexistent or remote, whether for reasons of low remuneration, costs connected with their location and exploitation, or because of cultural and legal bars, the only cost that might have varied with family labor application would have been the cost of giving up leisure (within the limits of permanent physiological damage).

As Chayanov somewhat dimly perceived, it was only by assigning a cost to family labor expenditure per se, for example, disutility, that the family's responses to either adverse or favorable changes in its economic environment might be accounted for in rational terms. For the fact that the family could respond to an adverse change with an increase in labor intensity is proof that, prior to the change, the family had foregone a utilization of family labor that would have more than paid its own way *in pecuniary terms*, that is, that there had existed idle family work capacity. From the standpoint of overhead costs, the elastic character of the family's work capacity makes it impossible to assign, or trace, the added costs of additional family effort. The fundamental problem is that the family has unused productive capacity, the utilization of which "costs" only the alternative "nonproductive" activities that must be forgone, and these are

costs for which it is often extremely difficult or impossible to assign pecuniary evaluations.⁴

Unlike the family labor farm, a commercial farm enterprise relying upon hired, nonfamily labor can respond to an adverse change in its non-labor costs and/or its product prices, by laying off workers. By reducing its output, such an enterprise can avoid a portion of its labor costs. This is the analytic significance of the wage contract and hired labor: the conversion of what are overhead costs for the worker into direct, avoidable costs to the employer. The family labor farm could have obtained no such cost reduction by decreasing output. And, if the differential cost of family labor was negligible, then it is not at all unlikely that its response to an adverse change would be an increase in the intensity of family labor application, especially if there existed any conventional notion of a minimum acceptable standard of living, or if the previous level of living exerted any continuing influence.⁵

Responses of the family labor farm to changes in its economic environment had important policy implications in the Soviet Union at the time Chayanov published his monograph, and they have quite general significance today in the many fields concerned with economic development in predominantly peasant economies. From the analysis above, it is clear that the response of the family labor farm to a general deterioration in its terms of trade is likely to be, as Chayanov indeed found it to be, an increase in the intensity of family labor application, for there are virtually no costs that might be avoided by acting otherwise.

It has sometimes been assumed that the peasantry might respond to a general deterioration in its terms of trade with other sectors by reverting to "subsistence," thereby avoiding some portion of the impact of this adverse change in circumstances. However, Chayanov's careful examination of peasant budgets makes clear why this is not likely to be the case, for the assumption predicates two misconceptions about the peasant farm. First, the budget studies (see especially pp. 118-26) show that "subsistence"

⁴ Chayanov, in subscribing to the utility-disutility analysis, assumes that a cost is always attached to the surrender of leisure, i.e., the disutility of work. This is highly unrealistic. It is quite clear that there exists for any individual or family a level of real income below which leisure is not a meaningful alternative. Otherwise there could be no such thing as involuntary idleness. Furthermore, the term "leisure," as utilized in contemporary neoclassical analysis, encompasses a variety of activities, most of which—e.g., education, travel, hobbies, religion, drinking, unlike general laziness—require an income to be enjoyed. To this extent leisure and income are complements, not substitutes. Hence, potential working time is not the only cost of enjoying leisure. It follows that, over some range, the cost of giving up leisure increases with the level of income, not conversely.

⁵ Which Chayanov shows was generally the case (see pp. 105-6).

did not mean the same thing as complete self-sufficiency, at least in European Russia. The subsistence farm family budget contains necessary expenditure items for which the production of substitutes on the family labor farm would be impossible or highly unlikely, for example, salt, condiments, sugar, milling services, spiritual needs. Moreover, it would be virtually impossible for a single family farm to produce in the necessary quantities a sufficiently diversified output even of those items in which self-sufficiency is technically feasible, and especially to do so year in and year out. According to Chayanov, even in the "most obscure, nonmonetary corners of the country," money disbursements, in 1910, averaged 22 percent of total family consumption expenditures (pp. 121-23). Even more interesting perhaps, these budget studies reveal that the subsistence farm entered the market for as many or more separate items and sold a much more diversified output on the market than the more monetized farm. The principal difference in the market behavior of subsistence and monetized farms is to be found not in the number of market transactions in which they engaged but in the total volume of products transacted. Reverting to subsistence would not mean, therefore, leaving the market altogether but simply a diminution in the volume of marketings.

Second, Chayanov shows that as the family labor farm moves away from subsistence and enters the market in greater volume it simplifies its production plan by eliminating from production those items that are less advantageous to produce, and "only that which *either gives a high labor payment or is an irreplaceable production element for technical reasons* remains in the organizational plan" (p. 126). Therefore, although an adverse change in relative market prices could be avoided or minimized by resuming production for own use those products affected, reversion to subsistence does not provide a means by which the monetized farm could evade a *general* deterioration in its terms of trade.

Thus, withdrawing from the market was not a feasible course of action for the subsistence farm, and reverting to subsistence did not provide a costless alternative to the monetized farm in the face of a general adverse change in the terms of trade. The response to be expected for both types of farm is then, in the absence of alternative employment opportunities, an increase in the intensity of family labor application. It is reasonable to suppose a similar response to the imposition of a quit-rent, poll tax, redemption payment, or other general and unavoidable charge on the peasant household. It is important to note in this connection that the family labor farm's response to an adverse change, whether in family composition, fixed money charges, or the terms of trade, did frequently occasion a change in the assortment of farm output toward more labor-intensive, higher-value products in the face of constant relative prices, as the family attempted to compensate with an increased labor effort.

In this light, it is not difficult to understand how the family labor farm might prevail in competition with "capitalist" commercial farms during

hard times. At best, the commercial farmer could close out his farm altogether in favor of an alternative line of endeavor, while, at worst, he could simply lay off his hired workers and convert his enterprise into a family labor farm. The survival value of the family labor farm in hard times, then, rests on the family having no alternative but to stick it out to the end.

The implication is what one might expect: that it takes a combination of hard times and relatively lucrative alternative (e.g., industrial) employment possibilities to destroy the peasant economy. Neither by itself is sufficient. Of course, what is immediately destroyed thereby is not the integrity of the peasant family—as remittances to the village in Russia verify—but its sole or predominant reliance upon agricultural and other home industries, although geographical separation may eventually undermine the unity of the peasant family as well.

If the survival value of the family labor farm under conditions of prolonged adversity can be readily explained in terms of the behavior of costs, Chayanov's data permit only a highly tentative explanation of the persistence of demographic, as opposed to economic, differentiation in more prosperous times. There are two questions involving the use of hired labor. First, why was permanent or year-round hired labor so rare? Second, was temporary or seasonal labor employment infrequent—and, if so, why?

With regard to permanent or long-term employment of nonfamily labor, a number of explanations are possible. The most simple, perhaps, is that times of general prosperity were sufficiently infrequent and short-lived to preclude significant economic differentiation in European Russia during the period subjected to study. It is likely that this was a significant factor, and the small relative size of Russia's industrial sector, and thus of alternative industrial employment, would support this argument. Moreover, the diminishing but still potent influence of the repartitional commune and of other legal bars to differentiation would also have pushed in this direction.

Two additional considerations are worth mentioning. First, the employment of permanent hired workers would have exacerbated the ordinary family's problem of finding adequate off-season employment for its labor supply. Second, population pressure would have tended, by driving up the purchase prices and rents of land, to restrict the size of farm enterprises. On the one side, land-hungry peasants would be led to make the highest bids for available land, and, on the other, families with land in excess of their own labor capacity might very well have found it more advantageous to rent or sell the surplus at the advantageous rates so established rather than to assume the risk and costs of working it with hired labor.

There are, then, a number of factors that would have operated to limit hiring of year-round nonfamily labor, but the same cannot be said for the hiring of seasonal labor. What is more, Chayanov shows that peasant

families were prepared to invest in equipment and other innovations that served to economize family labor requirements in peak seasons; and it would be curious if the same families failed to employ seasonal labor for the same purpose, unless it was somehow culturally anathema, which is not suggested by Chayanov.

One factor is that seasonal labor may not have been available in peak seasons either because of the geographical distribution of surplus labor or because of the flexibility of family demand for its own members' labor. There may also have been some advantage to crafts and trades activity as an alternative family labor application as opposed to seasonal farm work. Another possibility is that the small farm enterprise found it easier to finance capital investment expenditures than wages for temporary workers, since capital equipment provides its own security to the lending institution, and since payments can be scheduled to coincide more nearly with the time shape of farm receipts than can wage payments to seasonal workers.

IV

The alternative theoretical interpretation of Chayanov's findings that has been presented above focuses upon the integrity of the peasant family, not principally upon the question of profit maximization or of the profit motive. For it is the integrity of the peasant family that causes its labor costs to behave as overhead rather than as variable and avoidable costs of production. The integrity of the peasant family in times of relative adversity is easy enough to explain and, with it, the main outlines of peasant economic behavior. However, the preservation of the integrity of the peasant family, given prolonged prosperity, seems highly doubtful on the basis of the evidence Chayanov presents. The question comes down to this: Did the peasant family refuse to take on hired labor, permanent or seasonal, that would have paid more than its own way? If so, it would be worthwhile attempting to ascertain the factors underlying such behavior.

Whatever may be the case regarding the design of an alternative theoretical explanation of Chayanov's data, it is obvious that his careful and detailed description of the Russian peasant economy is important in its own right and that it has significant implications for a number of subjects of contemporary interest. Most directly affected, perhaps, is the analysis of Soviet economic development. The commonly accepted interpretations of the 1924 "scissors crisis" assume that the response of the peasantry to a general adverse change in the terms of trade would be a diminution in the volume of agricultural marketings.⁶ This assumption does not square with Chayanov's findings, which, as we have seen, would lead us to expect

⁶ See, e.g., Maurice Dobb, *Soviet Economic Development since 1917* (New York: International Publishers, 1948), chap. 7; Alexander Erlich, *The Soviet Industrialization Debate, 1924-1928* (Cambridge, Mass.: Harvard Uni-

just the contrary. If so, then the so-called industrialization debates of the late 1920s also rested on a false premise, that is, that an increased volume of voluntary agricultural marketings would require an improvement in the terms of peasant trade. Chayanov's description of peasant economic behavior suggests that discriminatory price and tax policies might have been more effective instruments than is (and was) generally credited in forcing up the volume of Soviet agricultural procurements through market channels. Thus, disregarding political considerations, collectivization may not have been as appropriate, or as "necessary," to the Soviet industrialization drive as it has generally been considered.⁷ Ultimately, the appropriateness or desirability of the "Soviet model" of economic development depends upon the realism and the accuracy of assumptions made about the economic behavior of the peasant sector.⁸

It will be obvious to students of economic development that Chayanov's concept of self-exploitation of family labor has an important bearing on the notion of disguised unemployment in agriculturally backward economies, and it helps to explain the difficulties that are encountered in its operational specification. Similarly, demographic differentiation and the survival value of the peasant farm are highly relevant to development policy. Finally, the family labor farm is merely one member species of a genus of family-owned and operated enterprises. Such enterprises can be expected to have in common the fact that a large proportion of their labor costs behave as overhead rather than variable cost. It would seem to follow that such enterprises would also share many of the behavioral traits of the family labor farm. The significance of Chayanov's pioneering study of the family labor farm, therefore, may have broad implications for the formulation of development policy.

versity Press, 1960), esp. pp. 21–23, 32–36, 50–52, 117–21, 175–80; Nicolas Spulber, *Soviet Strategy for Economic Growth* (Bloomington: Indiana University Press, 1964), esp. pp. 56–70; A. N. Malafeev, *Istoriia tsenoobrazovaniia v SSSR, 1917–1963* [A History of Price Formation in the USSR, 1917–1963] (Moscow: Izdalel'stvo "Mysl'," 1964), chap. 1, secs. 4 and 5.

⁷ See, e.g., Alec Nove, "Was Stalin Really Necessary?" collected in *Was Stalin Really Necessary?* (London: Allen & Unwin, 1964).

⁸ It is interesting to note in this connection a recent article by Jerzy Karcz in which it is demonstrated that the so-called grain problem of 1926/27–1927/28 was a "magnificent Stalinist hoax." Karcz shows that, contrary to what we had been led to believe, gross agricultural output and marketings were rising substantially during the later part of the 1920s and that, to the extent grain marketings presented a problem, it was a problem created by state price policy which discriminated against grain and in favor of products for which grain was a farm input ("Thoughts on the Grain Problem," *Soviet Studies* 18, no. 4 [April 1967]:399–434).