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Executive Summary*

Gur Ofer and Aaron Vinokur have undertaken an analysis of the Soviet urban household sector on the basis of a full-fledged family budget survey conducted on a sample of 1,250 families that emigrated from the Soviet Union during the 1970s. This survey, which represents one of the few systemic micro data bodies that have become available to Western scholars in recent years, concerned the economic situation of the respondents prior to their decision to leave the Soviet Union and covers such areas as work and wages, income from private sources, education, family structure, expenditures, housing and wealth. Among the more significant findings of the authors are the following:

- There is no question that the level of Soviet income equality is higher than in the United States, Canada, France and a number of less developed European countries. This may also prove to be the case with respect to Sweden and the United Kingdom. In contrast, the level of income inequality in the Soviet Union is higher than in most if not all of Eastern Europe.

- The major factor that gives the Soviet Union an edge in equality over market economies is the existence of entrepreneurial and property income and its extremely unequal distribution in the latter.

- Renumeration for women is kept at only 60 percent of the comparable market wage for men. This differential is a major exception to the general Soviet pattern of wage equality. It is also the only wage differential that has not diminished over the course of the last thirty years.

- Gains for Soviet women in employment opportunities are offset by retarded services, by the additional press on their time and energies created by household burdens, and to some degree by labor-market and household discrimination and prejudices.

- The earnings functions for Soviet workers behave in the same way as similar functions in market economies. There are, however, important differences in the size and patterns of the coefficient of the major variables that reflect specific Soviet conditions.

- The 1973 rate of savings of about seven percent of income, the volume of liquid savings (including cash), and the predictable well behaved estimate of the saving function do not point to a serious problem of forced savings.

- The development of a private sector is not necessarily conditioned on a repressed inflation situation in the public sector and thus is not proof of it. Rather, it is a clear manifestation that people are not happy with what the public sector has to offer.

- On average, a Soviet urban family earned about 42 extra rubles per month of private income from a variety of services in 1973, an addition of 15-20 percent of public income.

- Basic Western economic theory is indeed applicable and appropriate in the analysis of Soviet household behavior and market patterns.

* Prepared by the Staff of the National Council for Soviet and East European Research
Finally, Ofer and Vinokur conclude that whenever there is a conflict among the goals of Soviet leaders, the goal of rapid economic growth prevails over others. In the case of income equality, such precedence means that equality among households that is consistent with growth is permitted and even encouraged. On the other hand, wide wage differentials persist when their reduction would require substantial reallocation of resources away from priority sectors, as would be the case in efforts to diminish differentials between men and women.
Chapter 1: Introduction

I. Introduction

Much of the existing knowledge and understanding of the operation of any economic system is gained through the study of the records of individual economic units. Economists interested in questions of household behavior, (i.e., work, consumption, fertility), in questions of market behavior of wages and prices, in questions of distribution (i.e., wages, incomes, welfare) will turn to one of many available data bodies for records of household or firm behavior. This is the case in many countries including the Soviet Union where household and firm surveys are conducted by both the central statistical authorities and individual social scientists. In a centrally planned system, the government must have more use for such surveys and records of individual units than in market economies. Nevertheless, in order to assure secrecy of most results there are severe limits in the Soviet Union on the use of centrally collected records, and on the conducting of independent surveys and even more severe restrictions on the publication of detailed results not to speak of restrictions on the underlying data. The quest for secrecy, even for domestic purposes, and ideological inhibition have also impeded the full development of theoretical models and statistical methods needed in the analysis of such records. Theoretical and statistical methods are behind Western developments, as far as can be ascertained from published work. In most cases the analysis is confined, when information is released at all, to cross tabulation of two or three variables. Secrecy also demands that in many cases no information is provided on the nature of the underlying data. It follows without saying that in only very few cases do Western scholars gain access to the data sources, permission to conduct their own surveys, or an
opportunity to repeat the analysis done in the Soviet Union.

Western scholars are thus almost completely deprived of one of the most important types of data needed to understand the Soviet system and the behavior of its main economic units. This is in quite sharp contrast to the increased volume of macro-economic information that was available to students of the Soviet economy between the mid-fifties and the early seventies when renewed restrictions were introduced.

The present study on the economics of the Soviet urban household sector is based on one of the few systematic micro data bodies that have become available to Western students in recent years: a full-fledged family budget survey conducted on a sample of 1,250 families that emigrated from the Soviet Union during the 70s. This survey is concerned with their economic situation in the Soviet Union prior to their decision to leave and covers such areas as work and wages, income from all sources, education, family structure, expenditures, housing, and wealth. This survey is designed to accommodate analysis through the application of Western economic theory and statistical methodology.

Such analysis can improve the knowledge and understanding of the Soviet economy in four ways. First, it provides additional basic information on the Soviet economy in areas where official data have been especially limited, for example, on the extent of private economic activity, on wage differentials across a number of socio-economic vectors, and on measures of income inequality, to mention only a few. On the basis of the survey's returns many figures which are available in official Soviet statistics are independently estimated. They are used both as a check on the quality and accuracy of the sample's data and in the opposite direction as a check on Soviet official statistics.
Second, the micro-economic data are used in the context of multivariate analysis to study the behavior of households on key aspects of their economic activity: for example, decisions on work and the amount of work provided, on consumption and savings, on second economy activities, and on fertility. Micro-economic data add not only new information but another dimension that provides opportunity for a better understanding of behavior under the particular conditions of the Soviet system.

Likewise, the new data allow one to study in a thorough way the determinants of key parameters on various Soviet markets. In this work we put special emphasis on the determinants of wages and wage differentials but, in a similar manner, prices can also be studied.

Finally, a number of macro-economic topics are also studied, such as the determinants of income distribution and income differentials, the incidence of the welfare system, the importance and impact of the private economy, and the general issue of repressed inflation.

What kind of economic theory should be applied to the study of Soviet household behavior? Of the Soviet labor market? Of the level of savings? An extreme, though not entirely uncommon, view on the issue of the appropriate theory is expressed in the following statement by Igor Birman. After presenting his evaluation of the dangers hanging over the Soviet economy in the form of a huge surplus of unwanted cash balances, he says:

Why do most American sovietologists disagree with me on the issue? Because they unreservedly believe in modern Western economic theories which, they think, are universal. Not true, since their premises are not universal, since the subject—a Western economy and/or an economy of the Third World—are very different from a Soviet-type economy. That is why scholars who follow the theory make mistakes in judgements on financial matters, standard of living, GNP accounts, etc. That is why a special theory of the Soviet-type economy is badly needed. (Birman, 1981, p. 162)
There is an opportunity below to address the specific issue in dispute here. It is not even clear that Mr. Birman really means that a different theory is needed so the quotation is used partly as a strawman and a pretext for an exposition of the question. The absence of micro-economic data on the Soviet economy could have helped to support the assertion that Western economic models are unfit. It at least stood in the way of seriously testing such questions. This work uses basic Western economic theory in the analysis of both household behavior and market patterns under the working hypothesis that such theory is indeed applicable and appropriate. The test of this proposition is another goal of this study.

The rest of the introduction is devoted to a short discussion of the issue of the appropriate theory (Section II), to a summary description of the data and to an evaluation of its quality and biases, (Section III), and to a short exposition of the general framework of topics to be analyzed (Section IV). A summary statement of the main findings and conclusions is presented in Chapter Two.

II. Western Theory and Soviet Reality

There is wide agreement that of the three major subdivisions of the Soviet system— the macro system, the production sector and the household consumption sector— the latter is most similar to its counterpart under Western type market systems.

On the macro-level central planning and the market system in their pure forms are miles apart. Even so, a number of observers find some similarities between the modus operandi of Soviet production units and corporate production sectors in the West (See Berliner, 1959). In contrast, the immediate environment of the household in the Soviet Union is made up of market or quasi-market
structures so that household members face choices and options which are similar in nature to those of households under a market system. They face set wages and they have a large degree of choice regarding occupation, place of work and even the amount of work. They are confronted with given prices and are free to choose how to spend their income— for example, on goods and services available in the market or in the private sector. And they can make their own decisions on savings and on the size and development of their families. At least from the household point of view both the labor market and the consumer goods markets may be viewed as not too different in principle from those in a market environment (but see below).

One possible approach to the question of the applicability of Western theory to Soviet conditions is to check how every element of the economic optimization decision— the common element of all economic models of household behavior— fairs under such conditions. We will limit the discussion to the question of possible differences in behavior under the assumption of homus economicus under both systems. We assume that Soviet households have a material utility function similar in its general characteristic to those of households in market systems and that they are aiming at its maximization under their budget and other constraints. This does not mean that tastes must be identical to those observed in other systems, only that major wants have similar signs.

One abstract case where this may not be so is contained in the concept of the 'New Soviet Man'. Under full Communism such a new personality is expected to work out of inner conviction without need for material incentives. When this happens the basis for the market optimization model is taken away. But this basis will not be affected if Soviet educational efforts succeed in pulling Soviet society in the direction of a higher level of altruism than is
common elsewhere. In such a case one may find, for example, that efficiency in the labor market can be achieved with a somewhat lower level of wage inequality than realized in market systems. But the general formulation of the model is unaffected.

This brings us to the examination of the nature of the constraints imposed on the decision units by different economic systems. It seems in this area that there is more room for the claim of a different model for the Soviet case. The absence of real markets, the planning mechanism, the intensive intervention of the state in the determination of the product mix, of prices and of rules of behavior are obvious pretexts for such a claim. In weighing the burden of such claims on the nature of ordinary optimizing decisions it is helpful first to distinguish between two kinds of constraints: parametric constraints, specified mostly in terms of prices and wage rates given to the decision units as inputs in their decision-making process; and institutional, administrative and regulatory constraints that limit the field of choice allowed by the parametric constraints, or that override choice altogether, as does rationing.

Parametric constraints vary across countries, over time, and between different economic systems. The differences may reflect different economic conditions, different government policies, or different ways used to determine them. Such differences result in different economic behavior, in different levels of the decision parameters-- all other things being equal-- irrespective of the initial cause of such differences. Government intervention in the determination of the level of the parameters cause changes in the economic behavior of families. Such interventions serve as indications that authorities believe that some kind of optimizing model is working and the resulting changes serve as a proof that they are right. In such cases, government intervention
serves as additional support to the actual operation of the optimizing model and not, as sometimes claimed, as a factor that undermines its operation. If government intervenes, the final behavioral variables are expected to take different values than those arrived at under conditions of non-intervention. This is true in the West to the same degree that it is true in the East, and governments in the centrally planned economies use price and other choice indicators as policy tools in many spheres to shape and influence economic behavior. In the Soviet Union prices are set to affect consumption patterns, wage differentials are determined to create work incentives, minimum wages and welfare payments are set to influence work and fertility— all in recognition of the relevance of ordinary models, not their rejection.

The second kind of constraints results in most cases from outside interventions or institutional structures that restrict or ration action thereby either changing the conditions under which individuals optimize or strictly preventing them from reaching an optimal solution. But even here the cases where optimizing behavior completely disappears covers only part of the entire range. In many cases such constraints play the role of just another parameter that affects behavior according to the regular model and thus must be taken into account but the optimizing principles remain unaltered. (See Portes 1981; Pickersgill, 1980.) The equilibrium reached is said to be 'constrained' and the optimum point 'second best'. In other cases the constraint dominates the decision completely leaving no room for maneuver for ordinary optimizing forces. An example may clarify these distinctions. A decision to limit the production of household goods that substitute time needed for household chores will affect the decisions of women to seek outside work, the household distribution of work, investment in human capital, and fertility— but not the model that must take the availability level as given. Thus, while the study of
the supply of household goods indeed requires a different theory, the study of
decisions on work, fertility etc., will take that supply as given and go on to
analyze them with the regular model. It seems reasonable to assume that while
such quantitative interventions also exist in the West, they are more frequent
in the Soviet economy and create more limitations on choices.

The case of savings that prompted the reaction of Birman is a case in
point. What Birman is actually saying is that because of different conditions
the level of voluntary savings by Soviet households should be lower than in a
Western economy where all other things are similar. In the Soviet Union, he
claims, one doesn't have to save for a house, to pay for his children's educa-
tion or for retirement, since these are all supplied by the government. In
addition, investing in production assets is excluded and the rate of interest
offered for savings is a mere two percent. From this, he concludes that sa-
vings are accumulated involuntarily— they are forced savings and as such
they endanger the stability of the system (Birman 1981, Ch. VI, VII). We
leave for now the discussion of the substantive argument. But if one reads
the nature of Birman's argument carefully one finds that it is based on an ac-
ceptance of the Western theory of saving rather than on a rejection. Birman
assumes similar preferences but different conditions with different expected
results— low savings— under optimal behavior. Finally, if indeed savings
in the Soviet Union are (mostly) involuntary then again established theories
are available to analyze the potential pressures they create.

The same kind of argument applies to the analysis of wage differentials
in the labor market. True, wage rates are determined in the first place by
state organs. But considering that the supply of labor is in large measure in
the hands of households, and that people can choose jobs and can, rather free-
ly, change jobs, these facts put pressure on the labor market to adjust wages
in order to accommodate the supply and thus to come closer to a market situation. Therefore, the general human capital approach can be used to study wage differentials (as indeed suggested by some Soviet economists. See for example Rabkina and Rimashevskaia, 1972; McAuley, 1979, pp. 186-188). The results are expected to reflect special Soviet conditions, like the schooling system, as well as possible impacts of government intervention.

In conclusion, it should be emphasized that the application of Western economic theory to the study of Soviet household behavior is approached as a hypothesis and as an effort to distill from the evidence those elements that fit the models and those that have to be accounted for outside the models.

III. The Sample, Data and Biases

The data for this study come from returns of income survey questionnaires of 1,250 Jewish Soviet families who emigrated to Israel during the mid-70s, and reported retrospectively on their lives in the Soviet Union during the last 'normal' year there. This last 'normal' year, before life started to be affected by the decision to emigrate, turned out to be for most families, 1972, 1973 or 1974 in about equal shares. Therefore, 1973 is considered to be the reference year for most comparisons with Soviet data.

The 26-page questionnaire included questions on place of residence, family size and structure, educational attainment, work status experience and position of all adults (17 years of age or older) in the family. Each family reported in great detail on the income of each working member from wages, and on all other sources of family income; on expenditures by type and items and place of purchase; on savings, possession of durables and other assets, and on housing conditions. All questions were 'closed' questions and related solely to the life of the family being interviewed. They all related to facts of
life, none to ideas or opinions.

The interviews were conducted by interviewers and all entrees were introduced by them. An average interview lasted about 90 minutes. All interviewers were Soviet immigrants who arrived in Israel a few years earlier and most of them had academic degrees. This may be the reason why there were very few refusals to be interviewed and why in the great majority of cases the information was provided with no difficulties.

With a number of exceptions the sample was not preselected nor prestructured. Interviews were made 'randomly' in the lay meaning of this term with only general guidelines as the interviews were accumulated. One such guideline was to try and locate as many families with blue-collar workers as possible. As the field work proceeded and 'enough' observations from certain occupational groups were at hand, interviewers were instructed to discontinue the interviewing of new families belonging to these groups.

The decision not to preselect the sample was made partly on the basis of budgetary and logistic considerations and partly because the final sample was designed to represent more than one target population, each with a quite different structure: the population of migrants, the Jewish population in the Soviet Union, and the Soviet urban population. Since this study is concerned with the latter we will concentrate on problems relating to the representativeness of the sample to this particular population.

The predominantly urban residence of Jews in the Soviet Union preempts the possibility of studying the rural population in any systematic way. The sample and study are thus confined exclusively to the urban sector. Two further restrictions were imposed on the sample in advance. First, only families of European origin were included. This was dictated by difficulties of establishing reliable communication with Georgian and Buchari families of the Asian
republics. The target population is thus confined to the urban-European sector. Second, in the first stage of the survey only two-parent families with heads in the working age (15-60), and working, were included. At a later date an additional 250 household units, singles and one-parent families, were interviewed with almost identical questionnaires. Most of the present report is confined to the first stage, the exceptions being the discussion of income distribution and the welfare and social security systems, topics where the exclusion of this population segment would seriously bias the results.

It is clear from the above that direct estimates derived from the samples are not accurate estimates of the Soviet European urban population (UP). Two types of problems arise. One, to what extent the data collected truly describe the lives of the families interviewed. Second, how can this data be used for inferences on the urban population.

Errors or biases of the first type could have resulted from imperfect recall, from difficulties of relating fully to a 'normal' year and of avoiding the interjection of various changes connected with the decision to immigrate; as well as from intentional misrepresentation of facts for a variety of real or assumed motives. The nature and structure of the interview, the emphasis on complete anonymity and on the academic (non-governmental) nature of the project may have reduced the incidence of some, but by no means all, of the most common reasons for misreporting. On the other side, the fact that the survey was conducted outside the Soviet Union may have raised the level of reliability of answers (on income for example) as compared with similar surveys conducted in the Soviet Union by either government or academic agencies. Some errors, intentional or not, may be and have been detected through consistency tests in cases where the same data was sought through different and independent sets of questions. Still, possible biases remain and their significance
must be evaluated in turn in relation to each aspect under investigation.

Even if the information gathered is accurate it clearly reflects the sample rather than the target population. The demographic and economic characteristics of the sample are reasonably similar to those of the immigrant population or the European Jewish minority in the Soviet Union; many remain far apart from those of the target population. In very general terms the sample population (SP) has a much higher level of education, higher occupational structure and higher earnings and incomes than the urban population (UP); and concentrated in larger urban centers and in the western parts of the Soviet Union annexed since 1939. Demographically, however, the differences are much narrower though SP families seem to have somewhat fewer children. The main characteristics of SP and UP are presented in Table 1-1*. We will discuss this comparison further in the following chapters and explanatory notes. Let us simply note here that the very high proportion of families from the post-1939 Soviet areas reflect the immigration structure at the time of the survey. We consider it an oversight on our part; we should have obtained a much higher proportion of families from Russia proper. Still, it must be pointed out that so far we have failed to identify one equation where residing in the post-1939 areas made a difference.

How can the sample's data be used in order to study UP? A distinction must be made between two situations; one in which the composition of SP is biased but all the characteristics that are represented in UP are also represented as non-zero cells in SP. An example is the distorted occupational structure of SP: proportionally SP has fewer blue-collar families than UP, but still about a quarter of SP are blue-collar workers. In such cases the

*A more detailed exposition of the main characteristics of SP, UP, and the Soviet Jewish community is included in (Ofer and Vinokur, 1979, Appendix A).
bias can be overcome in different ways depending on the questions being studied and on the nature of the statistical analysis used. When the behavior of a certain sub-section of the population is investigated the structural bias becomes irrelevant, for example when one studies blue-collar workers in isolation. When the question under investigation lends itself to most kinds of multivariate, regression analysis, then the effect of the structural bias is sharply reduced because what mostly counts is the representation of all the relevant characteristics and not so much their relative weights or frequencies. Finally, when true UP averages or distributive statistics are sought, SP can be and has been reweighted so as to conform to UP, the target population. Reweighting can be done as long as the true distribution of UP by the relevant variables is available from Soviet sources. Such reweighting is done, for example, for the analysis of income distribution of UP.

When the structural bias of SP involves empty cells the problem of representativeness becomes more serious. The absence of rural families restricts the discussion to the urban sector and such is the case with respect to the Asian republics. Extension of the analysis to include the entire Soviet population demands inferences based on outside information, and the findings of this research are used as guidelines. The same is true when a shift is sought from two-parent active population to the entire active population or to the entire urban population. Here, however, data of the second stage of the study can be of much help.

Two key cells in SP are completely empty. Since all families are Jewish and all are migrants there are no control groups for non-Jews or nonmigrants. None of the above mentioned methods can help to take into account the migration or the Jewish biases of the sample's returns, nor is it intended to limit
the analysis to the Soviet Jewish community or to immigrants. The way to attempt to account for these potential biases is to evaluate their direction and importance on the basis of outside information on relevant characteristics of these two groups.

Until recently the state of the art in migration theory held that voluntary economic migrants are positively (self) selected from amongst their peers. If so the economic performance of would-be emigrants from the Soviet Union may present an overly positive picture of Soviet economic conditions. However, lately the possibility of negative selection of migrants is working its way into the migration literature so that even the direction of a possible bias is not that clear. In the case of emigration from the Soviet Union to Israel a number of factors may contribute to the muting of a possible positive bias or even to creating a negative one. First, one should consider the possibility that some migrants chose to leave because they failed to make it in the Soviet Union. Second, applying for migration involves the risk of refusal and punitive action—the risk being higher the higher the status and position of the applicant. Further, the significance of economic self-selection in any direction may be smaller in this case of migration to Israel (as distinct from migration to the U.S.) since some of the underlying motivating forces behind such migration have to do with national aspirations and traditions and with dissatisfaction with the Soviet system on other than economic grounds. Finally, the migration bias may have special effects on particular activities. One possibility, for example, is that would-be migrants are both more industrious and more disenchanted with the Soviet system, in which case they would engage more deeply than average in private-second economy type activities. The bottom line of this discussion, while inconclusive, leads us to speculate that the migration bias is probably not very distorting.
The most serious question raised concerning the use of the sample data to study Soviet conditions is the fact that it consists exclusively of Jewish families. Jews are not only a tiny fraction of the Soviet population—less than one percent in 1970—but they are very atypical of the Soviet population in many relevant aspects.

It should be emphasized at the outset that mere differences in economic, demographic and residential attributes are not in themselves a reason for scepticism or worry. The critical distinction is between specific Jewish patterns of behavior that can be accounted for by reweighting the sample, and those that cannot be so amended. If Jews tend to concentrate in certain occupations and to shy away from others—reweighting can correct the bias as long as there are no empty cells. If, however, Jewish physicians, for example, are different in their pattern of behavior from non-Jewish doctors through unobserved variables, the difference cannot be discovered for lack of the appropriate control groups. Since in practice reweighting cannot be based on the ultimate most detailed disaggregation, a degree of the differences in structure—occupational structure for example—is left in the unmeasured specific 'Jewish' bias (for example if Jews tend to concentrate in specific fields of medicine). But, in addition to the above, there might be specific Jewish patterns of behavior that are completely unobserved. One method that may help to estimate the bias is to control the analysis for the degree of 'Jewishness' assuming that the level of identity with Jewish life, traditions, etc., is positively correlated with Jewish behavior in the economy and society. Our sample does not include the data needed to perform such an analysis. Only external information on particular modes and tendencies of Jewish behavior may help to guessimate possible directions and extent of biases.

The problem may be best illustrated through a key example of potential
Jewish bias in estimating earnings. A number of studies on American Jews show that Jews tend to have more education and a higher occupation structure than other groups and that they tend to concentrate in urban areas and particularly in major cities. All these attributes contribute to earnings higher than those of other groups (See Chizwick, 1982, 1983). The same is true for Soviet Jews but at least in principle differences in earnings attributed to education, occupation and residence can be estimated and eliminated through reweighting or can be washed away in a regression analysis. However, the Chizwick study also demonstrates that some earning advantage remains even after the above mentioned attributes are controlled. This additional advantage is shown to be strongly correlated with the level of education. It thus supports the hypothesis that rates of return to education among Jews are higher than for other groups (Chizwick, 1983). This constitutes a Jewish bias that, if not correlated with other observable expressions of Jewish behavior, cannot be corrected by statistical methods. As put clearly by Chizwick, higher rates of return to education can result from a more intensive or more efficient production of human capital per year of education and/or from better application on the job of acquired human capital. Chizwick's tentative explanation of these phenomena is that the better use of schooling is achieved through more intensive upbringing of children in Jewish families. Jewish families studied tended to have a smaller number of children and a lower labor force participation rate of mothers (Chizwick, 1983). Whether further study will substantiate this explanation or not, the hypothesis provides another example where a behavioral bias can be corrected if the model or reweighting can include labor force participation and fertility.

Chizwick claims that his findings rule out the dominance of direct discrimination in education or at work, because discrimination must result in
lower rates of return to education. If anticipated discrimination causes Jews to study more years, then this is controlled by the analysis.

One possible effect of discrimination that Chizwick does not fully consider is that Jews may make special efforts to excel in school and on the job in order to reduce the risk of discrimination by raising its 'cost' to the potential discriminator. Fear of discrimination may also explain the higher investment by parents in their children. This seems to us a very important consideration. If true, then the positive effect of expected discrimination may offset the negative effect of actual discrimination. In countries where discrimination is declining over time, like the U.S., fear of discrimination may be more important than actual discrimination, thus contributing to a higher rate of return on education. This is less likely in countries, like the Soviet Union, where discrimination is constant and long-standing or rising. There, the Jewish earning premium may be lower or nonexistent.

Chizwick estimates the 'pure' Jewish earning advantage at about eight percent of earnings, which we consider to be an upper limit, unlikely to be realized by the Jewish community in the Soviet Union. We can illustrate these hypothetical considerations with actual figures on wages. On the basis of Soviet data the net monthly wage of a Soviet non-agricultural earner of the European USSR in 1973 is estimated at R124.1 (See Ofer, 1979 and Vinokur, 1979). The corresponding SP unweighted return is 149.0. When reweighted by the composition of sex, work status (blue vs. white collar worker) and level of education, 18 cells in all, the wage figure declines to R135.8. Reweighting thus explains almost two-thirds of the gap. This reweighting does not account for place of residence or for a more detailed occupation structure. Even so the upper limit for a Jewish advantage is only about nine percent.

Other particular 'Jewish' modes of behavior sometimes mentioned are
stronger family attachment (higher investment in children may be just one aspect), lower alcohol consumption and, possibly, higher inclination to engage in private economic activities. The case of alcohol consumption is probably the best example of a topic that cannot be studied for the Soviet population on the basis of our Jewish sample. According to SP returns, families spend on wine and spirits about two percent of their income as compared with 13 percent in the Soviet population (Treml, 1982, p. 81). As we shall discuss, even the direction, let alone the size, of a possible Jewish bias with respect to private activity is open to question. We are convinced that the Jewish bias—following reweighting when needed—is much more modest than some popular views have it. Nevertheless, its consideration will come up in relation to every question discussed below.

IV. A Framework of Analysis in the Soviet Environment

Analysis of household behavior calls for a general equilibrium approach where all the constraints are considered together and all the decisions are interdependent. Such an approach can ensure, for example, that no family decides to overwork and at the same time accumulates unwanted cash balances. The present work does not go that far. Every aspect of behavior is analyzed separately or in conjunction with only one or two others; but the analysis makes an effort to stay consistent when reaching conclusions on various household decisions.

The following decisions are considered;

1. Work outside the household: who works; how much to work; how to distribute work efforts among family members; how to allocate working time between the public and the private sectors.

The underlying rule is to equate on the margin and in all
directions the utility value of units of labor time used.

2. Saving vs. Consumption.

3. Consumption patterns by categories of goods and services and by different markets—public or private.

4. Family formation (fertility).

The 'price' constraints that are studied are:

1. The formation and determination of wages in the public and private sectors.

2. Prices of goods and services in the two sectors.

Some of the rationing and institutional constraints imposed by the Soviet system and authorities considered are:

1. 'Pressures' to work and the availability of part-time jobs; price constraints, for example, in the form of very low wages to husbands that influence wives to work by their own choice.

2. Rationing of goods and services. On a general level such rationing may take the form of repressed inflation with people accumulating unwanted saving balances in the short run. It may also take the more illusive form of dissatisfaction with the assortment of goods or their general availability even after all adjustments to eliminate unwanted balances have been made.

In a particular form rationing may impose specific pressure in specific areas of household lives. An example is the short supply of goods and services that help relieve the time pressure of household chores, like decent appliances, better housing, more retail services, domestic help, child daycare
centers. Rationing in these areas, with relatively limited
opportunities of substitution elsewhere, seriously affect the
environment under which women function.

3. Rationing or in some cases the complete elimination of invest-
ment opportunities in productive (and 'nonproductive') capital.
This must influence decisions on savings but also the determina-
tion of wage differentials in the public sector and the level of
activity in the private sector.

Decisions on the allocation of time under such constraints help shape the
size and structure of family earnings and incomes, and together with the
emerging demographic structure and patterns of taxation and the distribution
of the Social Consumption Fund, help form an income distribution pattern for
the entire society.

The final picture that emerges from analyzing the individual household
and the broader features of Soviet society is the outcome of the interaction
of Soviet family and the Soviet system. Three major elements of the system—
elements that are interrelated and interdependent—help shape the particular
outcome. These are the nature, structure and rules of operation of the cen-
trally planned system, the particular strategy for economic development and
growth chosen, and the underlying body of ideological doctrines. It is inter-
esting to trace their individual impact on the outcome and if possible to make
a balance sheet among them.
Chapter II. Summary of Main Findings

This chapter summarizes findings reached so far in the areas of work, the second economy, savings, wage determination, wage differentials and income distribution. It does not cover work done on the level and structure of wages and incomes and on consumption. Also the findings presented and the conclusions drawn should not be viewed as final until the entire work of the project is completed.

A. The Family Work Effort: The most singular phenomenon of Soviet household life is the very high rate of labor force participation by women. Most women at working age (16-55) in the European parts of the country are at work throughout most of their post school lives. This produces a rate of participation among women of working age of above 80 percent. This high rate translates into a major contribution by women to the family's work effort and earnings. In the sample women contribute about 45 percent of the family's labor input outside the house and bring in almost a third of all earnings, about 28 percent of total income. The lower share of women than of men in total family earnings is due in part to the lower participation rate of women, in part to their fewer hours—women work an average 40 hours compared to 44 hours for men—but most importantly, to their lower pay. Women earn on average about 60 percent of men's earnings per month, about 70 percent of men's earnings per hour worked. Put differently, had women earned the same hourly wage as men their share in family earnings would rise from 32 to 42 percent. We come back below to discuss the reasons for the lower pay for women. Despite women's lower earnings, the Soviet family distributes outside labor more evenly between husband and wife and as a result its earnings are
less concentrated in the husband's paycheck than in most market economies.

What determines the decision of women to join the labor force? Can an economic explanation be offered for the very high participation rate? The answer to the first question is that economic parameters, the same ones that are relevant in the West contribute to the decision to participate in the same manner as in the West. But that apparently cannot account alone for the high participation level.

Participation of women in the labor force was estimated once as a short-run phenomenon—participation during the last normal year of life in the Soviet Union before migration—and once as a long-run phenomenon—the proportion of years in the labor force over the entire life, following the termination of formal study. Both estimations produced expected, Western-type results:

The participation decision in a given year in the Soviet Union, as everywhere else, is affected positively by higher wage rates offered and negatively by other family income sources and by the number of small children present.* As can be seen in the footnote, these relationships are very robust.

*An example of one logit equation with 978 observations would be:

\[
WFPART = 5.67 + 4.54 \text{LNWFWG} - 1.17 \text{WFAGE}^2 - 0.0086 \\
(10.7) \quad (6.6) \quad (-4.5) \quad (-2.5)
\]

\[
\text{NWFINC} - 0.011 \text{PRINC} - 0.66 \text{CH03} \\
(-4.2) \quad (-2.7)
\]

Where:  
\text{LNWFWG} - is the wives' estimated hourly wage.  
\text{WFAGE}^2 - the wife is between 45-54 years of age.  
\text{NWFINC} - percapita nonwife family income derived from the public sector, mostly consists of husband's earnings.  
\text{PRINC} - percapita family income from private sources.  
\text{CH03} - the number of present children aged 0-3.

Figures in parentheses are 't' values.
As in most Western studies the response to the wage offer is the strongest and actually dominates the equation, as well as past, and to some extent future trends. That is to say a trend of equi-proportional growth in the wages of both husband and wife—with fertility (and all other variables) will project a continuation of the increase in the participation rate of women. The negative effect of non-wife family income on participation is relatively weak (See below).

The long range commitment to the labor force (COMMIT) was estimated with longer term variables— the level of education and the level of overall fertility. Since fertility and participation are codetermined a simultaneous estimation procedure was followed. The results indicate that the proportion of years spent in the labor force following formal study is strongly and positively affected by the level of education and negatively by the number of children born.* According to the equation each child born reduces the labor force commitment by 5.4 percentage points, and a lower level of schooling by between 2.5 and 7.5 points.

*The COMMIT equations were estimated for a subsample of 'complete' families— with younger child above 3 years old or wife above the age of 30. The following is a typical equation:

\[
\text{COMMIT} = 1.01 - 0.045WETS - 0.17WFGS2 \\
(24.4) \quad (-2.5) \quad (-8.1) \\
-0.22WFGS1 - 0.10WFAGE2 + 0.03WFRLD1 - 0.054BIRTH \\
(-7.4) \quad (-5.6) \quad (1.1) \quad (1.8)
\]

Where: -WETS, WFPGS2 and WFPGS1 are dummy variables respectively for completed technical school, general school (at least years) and lower schooling; all as compared to having university degree. 
-WFAGE2 - being between 45-54 years of age. 
-WFRLD1 - having a managerial job. 
-BIRTH - the number of children ever born.

Figures in parentheses are 't' values.
Part of the higher participation rate of Soviet women can be explained by different levels of the determining parameters: Soviet women are more educated, and Soviet families have lower levels of fertility and of nonwife income, as compared with the situation in other countries with a similar level of economic development. It is also possible that Soviet women enjoy a higher relative wage (to that of men). It is highly doubtful, however, that these differences in parameters can explain the entire difference in participation. A direct approach to explain this difference requires an international comparative study which is unavailable now. Indirectly, we reach the conclusion that since it takes much too much in terms of changes in parameters to bring down the Soviet rate to a 'normal' level, something else must be keeping it up. One such other factor, we believe, is 'persuasion', a term that extends over a wide range of means from sincerely motivated ideological education in school to more abrasive propaganda and social pressures. The reason that the latter end of the possibility range is brought up is because relatively little is done to make it easier for women to join the labor force in the sphere of housing and the provision of household services. The poor state of the household economy is indeed a missing variable that would have had a negative participation coefficient had it been included. Another piece of indirect evidence that other factors are involved is that the participation equation over-predicts changes in the participation rates over time since the late 30s. To us this is an indication that some other factors—probably 'persuasion'—were much more important in the past in enlisting women to work more recently; that over time, as a result of 'persuasion' women have adjusted their behavior to accommodate a working life, both by going to school more—among other reasons in order to avoid hard physical work on a job—and by planning to have smaller families. Both phenomena are observed in the historical record and in
the results of the COMMIT equations. It is possible to hypothesize that over time 'persuasion' was increasingly internalized into the long-range behavioral parameters conducive to work. This process was compressed into a shorter period of time than is observed in the West, so that today much of what had to be achieved by pressure in the past is achieved through internal conviction.

An alternative explanation for the over-prediction of the rise in participation rates over time is that the coefficient of the income effect in the cross-section analysis does not correctly represent the income effect over time. It is a widely accepted view that the best means of 'persuasion' the Soviet authorities have used to lead women to work has been to keep their husbands' rate of pay low, thereby making it necessary to have two salaries to survive. In the statistical analysis this does not show up and the only explanation we can offer other than statistical-technical problems is that the income effect was indeed much stronger in the past but now with higher incomes it is no longer as important.

Whatever the right explanation, this issue of female participation presents a classic example of the methodological argument advanced above, namely that personal behavior in the Soviet Union can be explained through the use of established Western models, that different behavior is partly caused by differences in the levels of the parameters, and that there may be other specific Soviet factors outside the model that share responsibility in determining behavior.

In our survey there are no data on time budgets of the participants. But data published in Soviet sources indicate that the extra burden on women in the work place is not compensated by a higher degree of sharing by husbands in household chores. That is to say, husbands of working women take more active part in household work than husbands of non-working women, but not to a larger
extent than American husbands. And working wives in the United States work fewer hours outside the home by taking advantage of part-time work opportunities not available to Soviet women. Also, the household burden on American families with working wives is on average lighter than in a corresponding Soviet home (more Soviet women are working while having young children). It follows that, Soviet husbands are at most as cooperative as American husbands of working wives and very likely less.* The implementation of socialism for women in the labor market (in terms of work, not wages) without its implementation in the household creates the extra pressure that shows up in low relative wages for women and in reduced fertility.

In addition to deciding on work at home versus work in the market Soviet families also must decide on the distribution of work between the public and the private sector and on the amount of extra work. Three facts are worth mentioning here. First, most outside work beyond the demand of a regular job in the public sector is done by men. Men work on average 4.2 hours a week on top of regular hours while women work only 1.8 hours extra (on average). This provides evidence of the extra non-wage earning burden on women (extra hours were accounted for when the distribution of work was calculated.) Second, extra hours uniformly come at the expense of regular hours. Finally, ten percent of all men and five percent of all women devoted some time to private work. The total reported time devoted to private work is just two percent of total family work time. We come back to this point below.

B. Explaining Lower Pay for Women: The topic of wage determination and wage differentials is dealt with below. But the fact that renumeration for women

*The statements are based on calculations from data in Szalai, 1972, Table III.3, p. 601.
is kept at only 60 percent of the comparable market wage for men should be noted here. It is the exception among wage differentials in the USSR today—the Soviet wage distribution is more equal than in the West—and, according to McAuley, it is also the only wage differential that has not diminished over the last 30 years when all other differentials have declined substantially. The particular reason, in addition to the possible existence of discrimination as elsewhere, is exactly the heavy burden on women discussed above. To some extent women earn less because they have fewer opportunities to invest in human capital on the job, (not, as in the West, because they do not have long working careers, but because, during their careers, they don't have enough time to invest either on the job or after work at home). Aware of this situation they opt for the kind of jobs that can accommodate limited efforts. In the West, it is claimed, the prospect of a shorter work career for women causes less investment in human capital in formal schooling and on the job—leading to lower wages. For Soviet women the effect is the same—fewer units per year—except that a short working career, measured in years of work, is substituted in the West for a short working career measured in limited ability to invest in human capital while on the job. In addition to the circumstantial evidence provided in the previous section, the most important piece of direct evidence that this is so derived from is the much lower premium per year of experience estimated in the earnings function for women in comparison with that of men (2.5 and 6 percent respectively). This finding implies that in the Soviet Union, as in the West, the life profile of earnings of women is much flatter than that for men. A second factor that may affect women's wages is the structure of the Soviet economy—where relatively few jobs are available in the service sector, the middle (and lower) white collar occupations. On the other hand there is a vast demand for women as blue
collar workers. The compensating factor is that a number of traditionally 'male' occupations, such as medical doctors, engineers, economists and the like, are open to women. The case of medicine is interesting. It is dominated by women, with more than 70 percent of all medical doctors being women, and wages are set at very moderate levels. The same is true with respect to rank and file engineers, among whom women are also a majority.

The formal analysis of male-female wage differentials is made through the estimation of earning functions for both genders, a calculation of the hypothetical wage of each gender had it been paid according to the coefficients established for the other, and the assignment of the differences between actual and hypothetical wages to the various explanatory factors. The earning functions include variables for hours worked, schooling, work experience, age and marital status, occupational class, and industry. Of an average wage advantage for men of about 40 percent, approximately half can be explained by inferior labor force attributes of women and the other half is left to be explained by discrimination, occupational segregation and the qualitative factors discussed above. The inferior labor force attributes of women do not include the level of education as the educational level of working women is equal to that of men. Historical data show that women have been catching up with men on this score very rapidly. The slight wage advantage for men that originates in the educational factor (less than 1 point out of 20) results from a higher concentration of men in work which requires advanced university education, and of women in semi-academic professions. About a third of the explained earnings gap (7 points out of 20) is attributed to the shorter work tenure of women, but about half of it is due to the younger age of wives in our sample. More than half the explained earnings gap results from choice of occupational role and industry. The main items causing this
gap are the absence of women from managerial roles and their concentration in low paid, semi-academic professions, especially in health services. One interesting and telling finding is that both the wage differential and its breakdown into individual factors are very similar to findings about the same phenomenon in the United States (Malkiel and Malkiel, 1973; Oaxaca, 1973). And this is despite sharp differences in rates of participation and in the size of the service economy. It seems that the gains of Soviet women in the labor force are offset by retarded services, by the additional pressure on their time and energies created by household burdens, and to some degree by labor-market and household discrimination and prejudices.

C. Private Incomes: In addition to income earned or received from the public sector, we estimate that on average a Soviet urban family earned about 42 extra rubles per month of private income from a variety of sources in 1973. This amount is an addition of 15-20 percent of public income and is a very important supplementary source of income. About 28 percent of all families reported private sources of income. For these families, total private income is on average about 120 rubles—a much higher percentage of total income. Private income comes from a variety of sources only some of which are revealed in our survey. Nor do we know the level of legality in obtaining most of this income. In the case of private incomes there is almost no possibility of checking the estimates with official Soviet statistics, and over the years, since the first draft of our paper on private incomes appeared, we have accumulated a long list of claims of possible biases in both directions—that is, reasons why estimates based on a sample like ours are too low or too high. Clearly the anecdotal evidence that is available (for example, Grossman, Smith, Simis) makes our estimate look too low. What should be
remembered, however, is that the anecdotal evidence provides information on those who have private incomes but does not mention those who do not. If our finding that about 30 percent of households have private income sources is reasonable, then our results look much more consistent with such evidence.

Our estimates of private income distinguish only four different sources: income from private work, income from private agricultural plots, income from rent, and income from 'all other sources' with an obvious implicit but not explicit emphasis on illegal sources of all kinds.

The estimate of this last category comes partly (40%) from direct reporting by the respondents and mostly from our independent estimates based on reported gaps between expenditures and incomes. Of the total, private plot and rent add up to 2.7 rubles, private wages are 18.7 rubles and 'other income' 20.6 rubles, all per family per month.

One of the most striking findings with respect to private incomes is the strong correlation between incomes from a particular source and the occupation or branch of the recipient of income. In table 2 we present a breakdown of private income by the occupation of the head of family (for 1,016 two parent working families). Despite the fact that the effects of the occupation of the wives are ignored, the patterns are very clear. As can be seen, private wages concentrate very heavily among workers in the medical professions, workers in housing and communal services, and production workers in consumer goods industries. These people can provide services which are in short supply or of low quality in the public sector, along with the materials and tools which are needed. Private work is much less common for engineers, technicians, management, trade, and heavy industrial workers. Other evidence (not in the table) shows that individual male physicians earn on average 220 rubles of private income compared with 150 rubles in public wages; communal service male
workers make 152 rubles of private income compared with 162 rubles in public wages; and consumer industry male workers make 158 rubles of private income compared with 172 rubles in public wages.

'Other income' which is much more integrated into one's working place—selling under the counter, accepting 'favors', providing preferential services (in hospitals for example)—is indeed concentrated among workers in trade and again in communal services and medical services. The occupational breakdown fails to focus on the role of public administration, but when this is done we find that heads of families in public administration bring home about 30 extra rubles (on average) of this type of income.

In addition to the occupational patterns of private incomes we find that private work comes at the expense of regular hours worked in the public sector, that people with lower public wages tend to engage in it more, and that it is more prevalent in Moscow than in all other places. Finally, women tend to engage in private work much less than men. This does not seem to reflect a less favorable occupational structure, quite the opposite; it seems to reflect the recognition of the heavier time and responsibility burdens imposed on women by household labor noted above.

The wage rate (per hour) in private work is on average three to four times higher than in the public sector. It tends to be higher, the higher the regular hourly wage and level of education of the performer and (communal services excluded) the higher the perceived demand for the service. The very high differential between public and private wage rates is probably explained by the greater effort and better quality of private work; by its irregular nature; by the lack of the equivalent amount of social benefits that come with public employment; and by the risk element associated with most private work. All these factors are elements in optimizing the division of labor between
public and private work, so that overall the net marginal benefit of both is equal. It is possible, however, that part of the premia for private work manifests disequilibrium—the inability to reduce hours of public employment as much as is necessary to reach equilibrium. (If, instead, effort in public employment is reduced it shows up on the optimal pay differential.) Private work thus becomes the marginal unit of work and demands higher compensation.

Why do people engage in private work, or take the risk and extra effort to provide 'special services' for special fees on the job, especially given the very heavy time burden on families without such work? The immediate standard answer is that there is great demand for the services involved since people have excess money balances that they cannot spend in public stores for lack of goods; in other words, the repressed inflation explanation. To some extent the demand for private services is directly motivated by the time pressure on families in that they are ready to pay more in order to substitute money for time spent in lines or searching for goods. This is clearly one possible explanation of the development of private activities. As Joyce Pickersgill has shown, the availability of privately supplied goods and services may even cause people to increase their work efforts in the public sector as this new supply is treated as an increase in real wages (Pickersgill, 1980). But this argument is based on the assumption that total supplies are increased or more efficiently distributed, and not, as is the frequent case, that a preferential service to some is offset by less service to others. In any case, as we have seen above and is stipulated in Pickersgill's model, those people who possess comparative advantage in supplying such services reduce their hours of work in the public sector. The net benefit to the public sector is unknown. Finally, on this score, repressed inflation may result from the inability of families to reduce their work load in the public sector.
There seems to be some evidence to support this in our study of obligatory full time work for women. A backward bending supply curve for hours worked for women may indicate some preference for part-time work, which is usually unavailable (Ofer and Vinokur, 1983).

But the development of a private sector is not necessarily conditioned on a repressed inflation situation in the public sector and thus is not a proof of it. Assume a situation in which the wage fund in the Soviet Union exactly matches the supply of consumer goods at official prices, all markets are cleared, and people hold the optimal amount of money balances. When an opportunity is opened to work more and get better services in an alternative sector the situation changes and people become interested in exchanging more leisure for those better goods. One sure way to be able to finance additional purchases in the private market is to engage in private activities (it is difficult to finance them with ordinary wages). We haven't yet estimated the connection between the degree of household dependency on the private market for consumption and the level of its activity in private work in order to finance those extra purchases, but two observations support this notion: first expenditures in private markets are estimated (for the unweighted sample) at 16-18 percent of total expenditures which is a few points higher than the proportion of private income (12 percent for the unweighted sample). The difference is taken up by purchases of food in collective farm markets. The second observation is that private purchases have uniformly higher expenditure elasticities than purchases from the public sector so clearly people with higher incomes buy more of them. And as we shall see below, people with high incomes derive a high proportion of it from private sources. The only element missing in such a story is an increased money supply to facilitate the additional transactions. A private sector can thus exist without repressed
inflation in the public sector, in the conventional sense of the term, and the size of the private sector is not a measure of the extent of repressed inflation. The development of a private sector is a clear manifestation that people are not happy with what the public sector has to offer, but not necessarily that they have unwanted money balances to spend somewhere else.

D. Savings: The issue of repressed inflation arises once again through the debate on what explains the secular rise in savings by the Soviet population. To what extent does this increasing volume of savings represent forced savings? To what extent does it represent the accumulation of voluntary savings, reflecting household choices?

Our contribution here involves the evaluation of the savings issue on the basis of a cross-section saving function, its properties and parameters. In such an evaluation we take into account the special environment affecting voluntary savings in the Soviet Union. The conclusion that we have reached is that the 1973 rate of savings of about seven percent of income, the volume of liquid savings (including cash), (See Table 3), and the predictable well-behaved estimates of the saving function do not point to a serious problem of forced savings, at least in 1973 (for details see Ofer and Pickersgill, 1980.) In addition, we believe that voluntary savings should be lower in the Soviet Union than in comparable countries with market systems, for the following reasons:

a. In the Soviet Union life-cycle profiles of incomes are flatter than in the West and are more stable, creating less need to shift incomes over the life-cycle though savings. The universal, though modest, pension plan extends a significant income stream beyond retirement. In addition, annual incomes—derived mostly from wages—contain fewer transitory income elements and are
much closer to permanent income. Again there is less need to shift incomes from year to year. This reduces the expected level of the marginal saving rate in a cross-section analysis. The only exception on the income side is the existence of private incomes which resemble entrepreneurial incomes in a market economy. Such income tends to be unstable, unpredictable, and risk intensive and thus calls for much higher saving rates.

b. On the consumption side, Soviet citizens are faced with less need to save money for large expenses that are concentrated in a short period of time. Most of them will never purchase a house; they don't have to finance their children through college; they have free medical service; and, they are insured against accidents or illnesses that will prevent them from earning a wage. All these make their consumption patterns more uniform over the life cycle and reduce the need for savings.

c. In the Soviet Union there are very limited investment opportunities—almost no investments are permitted in productive assets—and the rate of interest on government bonds and savings accounts is very low (2-3 percent). The relatively vast opportunities to invest in human capital further limit the attraction of money or asset savings.

On the other side, in addition to private incomes which stimulate savings, savings must be encouraged by the irregular and unpredictable supply of consumer goods and by the almost total lack of public credit institutions available to families. Money should be held ready in anticipation that desired goods may appear in the market, and in general money must be presaved for any significant expenditure that is planned. Availability of credit, in the United States for example, is an important factor that discourages savings. In the Soviet Union the opposite is true.

Finally, people may increase their rate of savings if they are not
satisfied with the present assortment or quality of goods, and they have reasons to believe or hope that supplies will be better in the future. This motive, it can be argued, borders on forced rather than voluntary savings. In some sense this is true but not in what is really significant: such savings are voluntary in the sense of choice and they are not likely to change as long as underlying conditions and beliefs do not change. Even with these offsetting factors we expect the rate of savings in the Soviet Union to be low by international standards.

The savings equations estimated are very stable and have relatively high coefficients of determination. They indeed generate lower marginal rates of saving by international comparison, and even lower ones out of public income. Only marginal rates of saving out of private income are high and comparable to those found elsewhere.* On the basis of the above arguments it is difficult to judge whether the seven percent average rate of savings is low enough to exclude the possibility of substantial amounts of forced savings; the rate is low by most international comparisons, and the entire picture, together with the data on accumulated saving, does not support the forced saving notion.

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*a. The equations are:

for the entire sample $S = -36.8 + 0.174Y$

for families with no private incomes $S = -18.5 + 0.115Y$

for families with private income $S = -66.5 + 0.25Y$

where $S$ are savings in rubles, $Y$ net family income.

b. In an equation for all families the coefficient for regular income is 0.13 and for coefficients privately earned income range between 0.14 - 0.40.
The repressed inflation hypothesis is further weakened when a more general equilibrium approach is taken. It is especially difficult to support in light of the very high pressure on time of household members and the exceptionally high participation rate of women. A prolonged situation of repressed inflation should reduce unwanted cash or saving balances by reducing the time spent in work or work efforts. Factors such as the many women that work in undesirable physical jobs, the quite large proportion of people engaged in extra work, the fact that premia and bonuses still constitute some 15 percent of wages in the main place of work, all seem to support the claim that most families are engaged in earning more money and are interested in higher incomes. Add to this the argument advanced with respect to the private sector, and one must reach a final minimal conclusion that repressed inflation is a much weaker phenomenon—at least in 1973—than is generally assumed.

What remains to be explained is the secular trend of increasing savings rates. We do not have a full explanation for this trend and the survey cannot provide the answer. But it may be explained by the rise in incomes; by the increased share of purchases of durable goods, such as cars, private apartments, and travel; by an increased effort to improve on government pensions for retirement; by the expansion of private activity in the urban sector; and, by raised expectations resulting from a clear trend to improvement in the standard of living between the mid-50s and the early-70s. (See also Pickersgill, 1976; 1980.)

E. The Determination of Wages: The doctrine of pay in accordance with work performed governs, at least in principle, the formal determination of basic rates in the Soviet Union. In practice a method of skill evaluation for each job with emphasis on the nature of the tasks to be performed and the
conditions of work predominates as opposed to the amount or kind of training needed (Kirsch, 1972, Chapters 4, 5; and Chapman, 1977). If one formally rejects the human capital approach as a theory to explain wage differentials under socialism, a number of Soviet labor economists use it nonetheless, or at least a disguised version of it. A few even advocate the formal inclusion of schooling and training as a criterion in the determination of wage scales by the authorities. (Kapustin, 1974; Kunel'skii, 1972; Meier, 1968; Rabkina and Rimashevskaia, 1972.)

In our work we use the human capital approach to explain actual wage determination in the Soviet Union. Even if actual wages directly correspond to prescribed wage rates, the analysis according to a partially different set of criteria than those used to determine these rates, may discover to what extent human capital theory factors are adhered to unintentionally and in an indirect fashion. In reality, however, actual wages are different from prescribed wage rates, partly because of formal rules on payments of bonuses, premia and other flexibilities; and, because of responses of the labor market to pressures of demand and supply for particular kinds of labor. With relatively free choice of profession, location and place of work, the predetermined rate can never conform directly to labor market needs. As in other parts of our work, here too the human capital approach helps to distinguish between common and particular features of the Soviet labor market. Formally, the analysis is based on estimating earning functions of the general form: $W = f(SCL, EXP, Xi)$, where $W$ stands for different concepts of 'wages'; $SCL$ for schooling variables; $EXP$ for work experience; and $Xi$ is a vector of other variables like place of residence, occupation or branch of the economy. The actual specification of the function varies but wages are always presented in natural-logarithm form as specified by Mincer and others (Mincer, 1974).
so that the coefficients of schooling represent rates of return to years invested in school. The discussion here concentrates on earnings functions for men.

The most significant result emerging from this work is that earnings functions for Soviet workers behave in the same way as similar functions in market economies. The usual independent variables explain anywhere from 20 to 40 percent of all wage differentials, the variables have the expected signs, and in the majority of cases they are statistically significant. In the Soviet Union, as in other countries, there is a positive premia for both formal schooling and on-the-job training. There are, however, important differences in the size and patterns of the coefficient of the major variables that reflect specific Soviet conditions.

The most significant departure of the Soviet estimates from similar estimates made for American earning functions is that, in the Soviet Union, the premia for one additional year of schooling is much lower: it is between three and four percent of the annual salary compared with more than ten percent in the United States. Put differently, the maximum spread in the Soviet Union among wages between a worker with only four years of schooling and one with an advanced university degree—all other things being equal—amounts to no more than 50 percent. In the United States, the same schooling gap can produce a wage differential of more than 350 percent (Mincer, 1974, pp. 92-3).

*A typical 'short' earning function for men in the Soviet Union is as follows:

\[
\log W = 2.8 + 0.44 \, \text{hours} + 0.023 \, \text{regular school} + 0.027 \, \text{tekhnikum} + 0.050 \, \text{university} + 0.063 \, \text{advanced studies} + 0.051 \, \text{experience} - 0.0007 \, \text{experience}^2 - 0.0077 \, \text{age}.
\]

\[
R^2 = 0.32. \text{ Hours are weekly and all other variables are measured in years. } W \text{ is wage from main jobs; all coefficients are significant at one percent except age which is significant at five percent.}
\]
The lower premia for schooling in the Soviet Union reflect lower rates of return to investment in schooling and lower private (and perhaps social) investment in a year of schooling. Lower rates of return to schooling are possible in the Soviet Union for a number of reasons. First, there is no material capital market with high rates of return to compete with investment in human capital. The rate of interest paid on saving accounts is at most three percent so people should be ready to invest in education for approximately the same rate. Second, rapid expansion of the education system over the post-war period produced an ample supply of professionals and semi-professionals and eliminated the need to pay high quasi-rents as may be the case in other countries at similar rates of development. The Soviet authorities can definitely eliminate any attempt to block entry to certain professions and to establish monopoly wages. Finally, the absence of the alternative of becoming an independent entrepreneur (yet another limitation imposed by the abolition of private productive property) also reduces the competitive pressure to pay high salaries to highly trained professionals who in a different system entertain such alternatives. It is interesting to note that so far the explanations of lower rates of return should not affect efficiency considerations as they are all consistent with free market forces under the system's constraints. In this respect we agree with Peter Wiles that top bureaucratic salaries can be cut without effects on efficiency (Wiles, 1974, Chapter 4). In a broader sense, however, the efficiency problem is how to make public employees in the Soviet Union perform like entrepreneurs, or at least managers of big corporations, in market economies, rather than like public employees. Here an argument may be made in favor of increasing the premia for schooling in the Soviet Union in order to encourage non-bureaucratic responses. Finally, it may be that lower rates of return are achieved by administrative success in the arti-
ficial suppression of schooling premia below what they should be. This can be partially checked by comparing the schooling premia for basic wage rates with those for actual total wages and this we intend to do.

Private investment in schooling is lower in the Soviet Union for two reasons. First, a comparatively high proportion of students study at night or by correspondence and work full time. The amount of forgone earnings for the student as well as for the society is thus lower.* Second, all schooling is free and regular day students in professional schools and universities get a stipend of 40 rubles per month (compared to a minimum wage of 60-70 rubles) along with other subsidies, which cover a substantial part of their living cost.

A second deviation of Soviet earning functions from those estimated in the West is that rates of return to higher stages of schooling are higher, not lower, than for general schooling. While a year of general school adds 2.3 percent and of technical school 2.7 percent, a year of university education adds 5 or 6 percent to wages. The regular explanation in the West for a decline in the rates is the general tendency of rates of return to decline with the volume of investment. We do not have a clear explanation for why the reverse is true in the Soviet Union. It may still reflect the relative abundance of graduates of general schools and the relative shortage of university graduates. This may be caused by the small service sector in the Soviet economy, a sector that usually employs many high school graduates. Most such graduates take blue collar jobs in the Soviet Union where the differences created by a few years of schooling are possibly not very central.

*In the regression shown above we accounted already for lower investment in night and correspondence schools.
Work experience is introduced in the earning function in the form of the number of years actually worked and the square of this number to allow for the effect of declining investment in human capital over the life-cycle. A typical pattern of premia for investment on the job is a starting increment of 5.1 percent, declining to 4.8 percent per year at average experience of about 20 years and further declining to 4.5 percent after 30 years of work. This pattern is very similar to that found in similar studies in market economies but both the basic premia and the rate of decline are lower by comparison to these other studies, and lower still is the compensation for years of schooling. The lower coefficients may be partially explained by the above mentioned factors that reduce the rate of return to formal schooling. The fact that they are not lower may be explained by the more formal role played by seniority in Soviet wage determination.

Several other conclusions emerge from the estimates of the earning functions. First, wages in large cities tend to be higher than wages in small cities. Second, compared to workers in academic professions, workers in managerial roles get a premium of 12 percent and highly-skilled blue collar workers get a premium of 16 percent, while semi-professionals (graduates of tekhnikums) are paid about 9 percent less. Finally, among branches of the economy, using manufaturing as a reference, we find all other branches with negative branch coefficients, the largest deviations being in services (-23 percent), trade (-15 percent), and science (-11 percent). These findings may represent to some degree the preferences of wage setters in addition to market forces.

F. Inequality of wages and incomes. Having discussed the known determinants of wages we will now examine their overall level of equality. Of the many
measures of inequality we use here two groups; one consists of percentile ratios \((P_x/P_y)\), ratios between the wage rate of a worker with \(x\) percent of all workers above his wage and the wage rate of a worker with \(y\) percent below his wage. The most commonly used percentile ratio, especially in the Soviet Union, is the decile ratio \(-\frac{P_{90}}{P_{10}}\). The second group are Lorenz measures—the percent of wages accruing to a given top or bottom proportion of the population. Both measures emphasize differentials between people at the extreme ends of the wage (or income) range and ignore what happens in the middle. We agree with Peter Wiles (Wiles, 1974, p. 2) that this is the major aspect of inequality.

The decile ratio of net wages from the public sector for the weighted population of all workers is estimated at 3.31 and as we move further to the edges of the distribution it widens for \(P_{95}/P_5\) to 4.52 and for \(P_{98}/P_2\) to 5.83. That is, excluding on each end two percent of the lowest and top earners respectively, 96 percent of all employed workers have wages that are at most six times higher than each other. Clearly there are more extreme cases of up to 15:1 but they are indeed more exceptional cases. Turning to the Lorenz measure, the top decile of earners collects 21.4 percent of all public wages and the bottom decile gets only 4.4 percent. Finally, it is worth mentioning that due to the minimum wage the average wage at the lower end of the wage distribution \((P_2)\) is almost half the median wage which is very high. All disparity measures for earnings from the main public job are only slightly narrower; however, when private wages are added, inequality widens quite significantly: with private wages, the decile ratio rises to 3.77 and the total wage share of the top decile rises to 23.9 percent compared to only 1.9 percent for the lowest decile. The main force here is that people who have private wages tend to move up to the top decile and stretch the distribution.
According to Soviet sources the decile ratio for gross wages from the main place of work declined from a high level of 7.24 in 1946 and 4.44 in 1956 to a low point of 2.83 in 1968 when it started to climb again to 3.1 in 1972 and 3.46 in 1976 (Rabkina and Rimashewskaiia, 1978, p. 20). One can assume that the figure for 1973 may have been 3.3 compared with our figure for gross wages from main job only of about 3.4. This ratio is typically somewhat above corresponding ratios in other East European countries, lower than American ratios, and certainly not lower, but perhaps higher than ratios in the developed countries in Western Europe (higher, for certain than the ratios reported for the United Kingdom and Sweden) (Wiles, 1975, p. 33; Bergson, 1983, pp. 2-4 and Table 3). Finally, as Abram Bergson has argued, the Soviet rates may be somewhat lower than those for market economies at similar levels of economic development (Bergson, 1983, p. 66). Considering the discussion in the previous section, it seems clear that the main forces that have brought down wage differentials are the rapid expansion of the educational system and the establishment of higher levels of minimum wages. The main force preventing wages from becoming more equal is the failure to narrow the gap between male and female pay scales.

How does the distribution of wages translate itself into income distribution per capita? It is easy to see that this transformation involves a long list of factors only some of which are directly policy or system determined. The most important among the latter are how other sources of income are treated, such as entrepreneurial and property incomes (including capital gains) on the one side and, on the other, government transfers in the form of taxes, welfare and social security type payments and the supply of free services (education, health, etc.). Among the other factors that determine income inequality are the composition and distribution of households by size, by number
of children and by the work status of household members (for example, the number of workers employed, their composition, and the number of retired family members).

Taking all of these diverse factors into account, the following are our main findings about the per capita income distribution of the Soviet urban population:

a. The decile ratio of net disposable personal income from all sources for the entire urban European population is 3.15. \( P_{95}/P_5 \) is equal to 5.10 and \( P_{98}/P_2 \) is equal to 8.33. The top decile of the population receives 22 percent of all incomes and the bottom decile 3.6 percent.

b. Without private income the decile ratio is slightly higher as are the income shares of both the lower and the top deciles: 3.3 and 20.8 percent respectively. Private incomes are thus more concentrated in relative terms at the extreme ends of the range than in the middle. At least some people at the lower end of the income range supplement their income with privately earned incomes.

c. Monetary government transfers are a major source of equalization of income for the entire population. These transfers help reduce the decile ratio based on earnings only from 4.66 down to 3.26 and raise the share of the lowest decile from 0.6 percent of income to 3.3 percent. The main factors here are pension payments to the retired which in the Soviet Union are in their entirety part of the so called Social Consumption Fund (SCF) and are not paid by employers.

d. The level of equality achieved with the help of the SCF for the entire population is only slightly lower than that obtained by wages alone for the active part of the population; that is, for households with working heads. This should be considered a significant achievement.
Finally, on this score, the level of inequality is further reduced for the active population with the help of SCF payments so that the decile ratio for this group declines to 2.84 when SCF payments are included but climbs back to 3.05 when private income is also included. Among the working population, private income gravitates upwards.

The most appropriate figures based on our sample for comparison with estimates based on Soviet official data are those for public incomes for the urban active population. Soviet surveys include only a small portion of private incomes and their sampling procedures have excluded until recently households with no workers. Finally, their target population is in principle that of families of workers and employees in the public sector for the entire country. (See McAuley, 1979, pp. 50-5; Migranova and Rabkina, 1979). The decile ratios for 1970-72 for pre-tax incomes based on these official Soviet surveys are put at 3.2-3.3 (Migranova and Rabkina, 1979, p. 106; Nemchinova I.I., 1975, p. 38) compared with our post-tax ratio of 2.84. With tax our decile ratio would probably go up about 0.2-0.3 to around 3.1. In addition, our figure does not include the Asian urban population nor any representation of public sector employees in agriculture. There are other reasons for which we believe our estimate is on the low side. But in any case on top of either ours or the Soviet decile ratio one has to add the influences on equality of incorporating the non-active segment of the urban population—about 0.4 points—to reach a pre-tax ratio of about 3.5-3.6. As stated above, the inclusion of private income on top of this figure may reduce the ratio by about 0.1 point.

One can find one Soviet source which reveals a decile ratio that is supposed to include the collective farm population, presumably also without non-active units (Migranova and Rabkina, 1976, p. 62). That ratio is 3.59 for 1972. If we add to this 0.4 points on account of the non-active population
we approach a decile ratio of 4.0.*

Still, two income elements are missing. The first is the value of free or subsidized services provided by the government to households. Our efforts to estimate the value of such services and their distributive impact lead us to a provisional conclusion that they are distributed nearly evenly per capita to everybody regardless of income (actually high income brackets may get up to 20 percent more) (Ofer and Vinokur, 1982). We value them at about 20 percent of net public income when money SCF payments are included in income, and they thus may have a significant additional equalizing effect on the distributive measures. A very crude provisional calculation shows a possible decline of the decile ratio by about 0.6 points.

The second missing element, that we did not and could not estimate, is the value of the special consumption privileges of the Soviet elite. While such privileges gravitate down the hierarchy to many 'ordinary' people, most of them are concentrated at the real top which, according to Mervyn Matthews, constitutes a mere 0.2 percent of the labor force (Matthews, 1978). Clearly their incomes do not belong to the decile ratio but they do belong to the overall measure of equality. On the basis of data compiled by Mervyn Matthews, Bergson estimated that privileges add about 1.5 percent to the total income accruing to the top decile of the labor force (Bergson, 1983) and presumably a similar increment to the top decile of per capita income. While the

*a. McAuley estimates a comparable figure for 1967-8 to be 3.1-3.2 which may not be entirely off the mark if the differentials in income per capita started to rise again after 1968 as wage differentials did. (See McAuley, 1979, p. 65).

b. We suspect that private incomes in agriculture may have the same equalizing effect on income of the entire population as is the case with urban private incomes. We don't know how they are treated by Soviet surveys.
overall effect on equality is slight, we fully share Matthews' final judgement that this phenomenon by itself "removes much of the social justification of the Bolshevik Revolution" (Matthews, 1978, p. 185). If specific elements of inequality could be weighted we would assign a very high weight to this hypocritical source of inequality under 'socialism'.

It must be clear from the above that international comparisons of equality present many definitional and methodological problems, especially when data for other countries are not much better than those for the Soviet Union. Our conclusion is that there is no question that the level of Soviet income equality is higher than in the United States, Canada, France, and a number of less developed European countries like Spain and Italy. It is our belief that this may also prove true with respect to Sweden and the United Kingdom, but the available data preclude a definite conclusion (See Bergson, 1983, pp. 27-31 and Table 6, and Sawyer, 1967). In contrast, the level of income inequality in the Soviet Union is higher— or at least it was so in the early 70s— than in most if not all of the East European countries (Wiles, 1975).

The major factor that seems to give the Soviet Union an edge in equality over market economies is the existence of entrepreneurial and property income and its extremely unequal distribution in the latter. Differences across systems of the distribution of wage incomes are narrower though with respect to the United States, for example, still very significant.

Conclusions

We hope that this summary chapter demonstrates the contribution of microeconomic data on Soviet households to a better understanding of this sector in the Soviet Union; that, while important aspects of the economic environment are different under the Soviet system, a meaningful and revealing
discussion can be carried out through the use of the basic assumption and
theories that are used in the West for similar kinds of analysis; and that
precisely this kind of approach helps to insulate and define the areas where
the differences in economic systems really matter. We further hope that the
interaction between the available Soviet statistical information and data
generated from the income survey has reinforced the credibility of both.
Though we have not discussed a number of potential sources of bias, the gen-
eral correspondence of our estimates with Soviet data supports the proposition
that these biases cannot be very great.

The main overall substantive conclusion that can be reached is that while
the three major systemic elements of the Soviet system contribute to the pat-
terns of behavior of households and to the economic environment around them,
whenever there is a conflict between the goals of the Soviet leaders the goal
of rapid growth prevails over the others. This is observed mostly in the in-
teraction between the goals of growth and equality. As long as increased
equality is consistent with growth, as when it is facilitated by expanding the
education system or eliminating non-competitive wage differentials, equality
is advanced. In contrast, wide wage differentials between men and women have
been allowed to persist because removing them could involve directing substan-
tial resources of the public sector to the household services required for
women to direct more attention and efforts to the labor market. Likewise,
most welfare payments are work related and at least until recently very little
has been distributed as 'pure' welfare out of fear that it would negatively
affect labor force participation.* The goal of growth maximization at minimum

*This conclusion is demonstrated in our work on the SCF elsewhere.
acceptable rates of consumption also contributes to the degree of tolerance of private economic activities. We do not claim that the size of the private sector is pre-planned and optimal or fully controlled by the center; still, a case can be made that such activity improves the well-being of the population at a lower net cost to the system in terms of 'growth' than if public production provided the service currently provided by the private sector. Of course, private activity is tolerated at a high cost to socialist ideology.

The Soviet growth strategy has followed the extensive pattern in that it has achieved growth through the maximization of the non-consumed surplus for investment purposes and the enlisting of the maximum possible supply of labor. In addition to an attempt to bring everybody that could work into the labor force, this strategy imposed heavy additional time-burdens on households in the spheres of household services, retail services and indirectly, in the private sector.

One household response that has imposed a heavy price on further growth potential has been reduced fertility. It is difficult to judge to what extent private activity may have increased and public work efforts may have been reduced as additional responses. At the present time when growth rates are very low the Soviet authorities will have to pay much closer attention to possible household responses to future policies.
Table 1: General Characteristics of the Sample and The Soviet Urban Population (Seven Western Republics)

<table>
<thead>
<tr>
<th>Sample Pop.</th>
<th>Urban Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circa 1973</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Residing in the RSFSR (%)</td>
<td>19.3</td>
</tr>
<tr>
<td>(2) &quot; in the 'Annexed' areas</td>
<td>61.6</td>
</tr>
<tr>
<td>(3) &quot; in the cities of one million or more (%)</td>
<td>20.5</td>
</tr>
<tr>
<td>(4) &quot; &quot; of 1/4 million or less (%)</td>
<td>35.0</td>
</tr>
<tr>
<td>(5) Average size of family</td>
<td>3.39</td>
</tr>
<tr>
<td>(6) Average number of children per family</td>
<td>1.14</td>
</tr>
<tr>
<td>(7) Population of working age (%)</td>
<td>70.9</td>
</tr>
<tr>
<td>(8) Population below working age (%)</td>
<td>22.2</td>
</tr>
<tr>
<td>(9) Population above working age (%)</td>
<td>6.9</td>
</tr>
<tr>
<td>(10) Workers per family</td>
<td>2.1</td>
</tr>
<tr>
<td>(11) Education of Labor Force -years</td>
<td>13.0</td>
</tr>
<tr>
<td>(12) Working Population with higher education (%)</td>
<td>43.1</td>
</tr>
<tr>
<td>(13) &quot; &quot; &quot; less than 7 yrs.</td>
<td>5.5</td>
</tr>
<tr>
<td>(14) Blue Collar Workers (% of working)</td>
<td>28.7</td>
</tr>
<tr>
<td>(15) Working in Manufacturing</td>
<td>30.2</td>
</tr>
<tr>
<td>(16) Working in Services</td>
<td>55.5</td>
</tr>
<tr>
<td>(17) Total monthly net income per family</td>
<td>389.0</td>
</tr>
<tr>
<td>(18) Monthly net wage per worker</td>
<td>152.3</td>
</tr>
</tbody>
</table>
Notes and Sources to Table 1

1974.

2 RSFSR Only.

3 Not including singles.

4 Working age for men 16-60 and for women 16-55.

5 Percent of nonagricultural workers and employees in the USSR.

Sources: Sample population -- our own data.
Soviet data -- Soviet official sources and calculations based on Ofer and Vinokur, 1979 various tables
Table 2: Private Income by Source and Occupation of Family Head.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>No. of families</th>
<th>Public earnings (1)</th>
<th>Private incomes (2)</th>
<th>Private wages (3)</th>
<th>Other Private income (4)</th>
<th>(3) ÷ (1)</th>
<th>(2) ÷ (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All families</td>
<td>1011</td>
<td>335.3</td>
<td>42.2</td>
<td>18.7</td>
<td>20.6</td>
<td>7.5</td>
<td>16.9</td>
</tr>
<tr>
<td>Engineers</td>
<td>283</td>
<td>365.1</td>
<td>29.0</td>
<td>7.5</td>
<td>18.2</td>
<td>2.8</td>
<td>8.7</td>
</tr>
<tr>
<td>Technicians</td>
<td>72</td>
<td>319.9</td>
<td>24.5</td>
<td>9.0</td>
<td>14.8</td>
<td>3.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Medical Workers</td>
<td>57</td>
<td>350.4</td>
<td>87.1</td>
<td>57.4</td>
<td>29.7</td>
<td>24.9</td>
<td>35.8</td>
</tr>
<tr>
<td>Education, culture and science</td>
<td>140</td>
<td>381.4</td>
<td>39.1</td>
<td>18.9</td>
<td>-18.3</td>
<td>6.7</td>
<td>15.3</td>
</tr>
<tr>
<td>Management and administration</td>
<td>45</td>
<td>339.3</td>
<td>20.6</td>
<td>3.2</td>
<td>12.7</td>
<td>0.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Trade workers and employees</td>
<td>76</td>
<td>311.2</td>
<td>58.0</td>
<td>3.6</td>
<td>51.5</td>
<td>0.8</td>
<td>24.8</td>
</tr>
<tr>
<td>Communal workers and employees</td>
<td>44</td>
<td>302.7</td>
<td>88.8</td>
<td>56.8</td>
<td>30.4</td>
<td>14.5</td>
<td>26.4</td>
</tr>
<tr>
<td>Production workers (a)²</td>
<td>127</td>
<td>295.5</td>
<td>65.0</td>
<td>44.1</td>
<td>16.6</td>
<td>20.0</td>
<td>14.3</td>
</tr>
<tr>
<td>Production workers (b)²</td>
<td>167</td>
<td>296.2</td>
<td>28.6</td>
<td>10.0</td>
<td>13.9</td>
<td>5.9</td>
<td>31.0</td>
</tr>
</tbody>
</table>

1 Calculated as averages of individual responses, not as the quotient of col. 3 (col. 2) entries divided by col. 1 entries.

2(a) Include consumer good industries, construction and transportation.

3(b) Include heavy industry.

Sources: Sample data.
Table 3: **Savings and Wealth**

(1014 Families of Survey Population; Rubles)

<table>
<thead>
<tr>
<th></th>
<th>All families</th>
<th>Families with no private income</th>
<th>Families with private income</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of families</td>
<td>1014</td>
<td>765</td>
<td>249</td>
</tr>
<tr>
<td>Monthly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>net income</td>
<td>392.6</td>
<td>367.9</td>
<td>488.6</td>
</tr>
<tr>
<td>Private income</td>
<td>42.3</td>
<td>4.3</td>
<td>158.9</td>
</tr>
<tr>
<td>Savings</td>
<td>32.6</td>
<td>24.0</td>
<td>59.1</td>
</tr>
<tr>
<td>Total Wealth</td>
<td>3116</td>
<td>2454</td>
<td>5150</td>
</tr>
<tr>
<td>Monetary Assets</td>
<td>2034</td>
<td>1524</td>
<td>3608</td>
</tr>
<tr>
<td>Real Assets(^1)</td>
<td>1082</td>
<td>930</td>
<td>1542</td>
</tr>
</tbody>
</table>

\(^1\) Including private apartment, car, dacha, garden.

Source: Sample data.
References


Rabkina, N. E. and Rimashevskaila, N. M., Osnovy differentsiatsii zarabotnoi platy i dokhodov naseleniia, Moscow, 1972.


Wiles, Peter, Distribution of Income East and West, North Holland, Amsterdam, 1974.

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