e. the enterprise strategy differs from the previous strategies in that it is fuelled by a widely understood project for a future farming enterprise rather than by memory of the past. Farming does not yield rapid and easy profit and therefore this strategy does not attract wheeler-dealers who want to make money quickly and effortlessly (or at least not as many of them). This strategy has many varieties just as there are many types of agricultural enterprises and entrepreneurs. In terms of type of enterprise we have either family farming enterprise projects or projects for large farms based on hired labour. In terms of the entrepreneurs themselves we have entrepreneurs of necessity who are struggling to make a living or defend their achieved status, "occasional"

entrepreneurs and entrepreneurs of choice.

When analysing all these real, economic appropriation strategies we must remember that the majority of new agrarian owners have remained passive. This passivity "is not a strategy deliberately chosen by the owners. First and foremost, their passivity expresses their lack of real means of realising their ownership rights. Lack of information, competence and behaviour patterns, lack of or the embryo state of financial markets and land markets explain why most owners were unable to utilise their ownership rights effectively" (Simon 1995, p. 265). This in turn gave way to the second type of economic appropriation, i.e. managerial appropriation. The managerial, non-proprietor type of appropriation had several variations anchored by two extreme strategies. The classic strategy is based on dispersed ownership. This enables the manager to control the owners' doings. We find this classic managerial appropriation strategy in many new production co-operatives but also in joint-stock or employee-owned companies. The managers behave like active owners, i.e. they manage the property, but they do so on behalf of the owners who have delegated their rights to them. This classic, managerial type of appropriation often degenerates and this degeneration is facilitated - as Jaques Sapir points out - by 'soft' ownership rights: the managers are used to governing shared property (that is nobody's and therefore mine) and the owners are not yet in the habit of executing their rights. Here, appropriation was very seldom overt and direct. It was usually based on various networks, mutual ownership, buying up stock with the help of various funds, e.g. social benefit funds. If, in the previous, classic version we had control of property through delegation (delegation property control), then here we have a different strategy: network property control. Is this, we wonder, just property control or is it a novel, post-collective type of ownership which we may call manageriate?

### Concluding remarks

At the beginning of this analysis we called decollectivisation a process of change of property relations in the organisation structures of agrarian production and their functional rationale. When analysing decollectivisation as a social process we must pay attention to several important and characteristic features such as the cyclic (serial) nature of changes, dynamics and sequence of changes and their mutual dependence. We may analyse changes in property structure either from the point of view of the process's social dynamics or from the point of view of its outcome. Process dynamics have an ideal dimension and a real dimension. The ideal dimension is externalised in the phase of social projects for change and three different aspects of this dimension merit our attention: the liberal aspect, the agrarian aspect and the moral aspect.

When analysing the appropriation process as it really takes place we must pay attention to its rhythm and results. When discussing rhythm we must take note of the spontaneous versus schematic nature of the process on the one hand and its obligatory versus autonomous nature on the other. In Central Europe, meanwhile, it took a much more schematic turn and stuck to the limits defined by law. In other words, it was legal, followed fixed legal procedures, was carried out by legally designated institutions and was obligatory.

The real dimension of the appropriation process pertains, above all, to the consequences for the current property structure in Central European agriculture. Three situations merit our attention. First, not all agrarian property has found a rightful owner. The second factor is the agrarian property structure resulting from decollectivisation. We have also mentioned several aspects of this problem such as the multiplicity and diversity of owner categories and the inherent conflict-generating potential. This also implies — and this is the third situation to which I would like to draw attention — that the present agrarian structure in Central Europe is liable to change.

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# Household Capital, Sources of Income and Stratification in Rural Russian Villages\*

#### Abstract

Survey data from households, gathered at different intervals from 1995 to 2006, show important shifts in sources of income and the effects of different types of household capital on income stratification in rural Russia. Income from household enterprises continues to play an important role in the rural economy but improvements in the macro-level Russian economy have produced significant gains in income from salary and wages. Another important shift has occurred in the role of different types of household capital on the economic well being of households. Household labour continues to play a critical role in household enterprises, but amount of land held by the household has both direct and indirect effects on total income that are independent of household labour. Education plays a minor role in differentiating income between households in the survey samples. The implications of these findings for neo-institutional economic and sociological theories of stratification are discussed.

Keywords: Rural Russia, Household Economy, Stratification and Survey Research.

#### Introduction

This paper examines how different levels of household capital and sources of income contribute to overall household income stratification in rural Russian

<sup>\*</sup>Portions of the research reported in this paper were funded by the National Science Foundation (USA) and the National Council on East European and Eurasian Research (USA).

households. Our analysis is intended to contribute to the understanding of how the rural Russian economy has changed in recent years, as well as the way in which these changes have affected inequality in income distribution between households. The first part of the paper provides a brief overview of the shift in sources of income from the early part of the post-Soviet period to the present. The second part of the paper looks at how these formal institutional changes have affected the manner in which specific kinds of household capital, notably household labour (a mixed form of human and social capital) and access to land (a form of physical capital) affect the distribution of total household income in the countryside, directly and indirectly, through the mediating mechanisms of salary and wages and household small business enterprise income.

Our central theme is that shifts in sources of income and their association with specific types of household capital reflect a significant shift in the larger macro-level formal and informal institutional environment that has been occurring in rural Russia and Russian society as a whole. The most obvious effect of this institutional change has been the growth of wages and salary income as a proportion of total household income since 2000, reversing the sharp decline in that income source that occurred during the 1990s. At the same time, access to land and the overall legitimization of market institutions has produced an important indirect positive effect on household income through its support for household enterprise development.

The conceptual framework for understanding the process of institutional change and the manner in which rural households have adapted to this change is the inter-disciplinary "new institutional" paradigm that draws upon the disciplines of economics and sociology. The data for this analysis is drawn from the authors' surveys of rural Russian households from 1995 to 2006<sup>2</sup>. Findings from earlier surveys have been presented in other EEC publications<sup>3</sup>.

Household labour can be viewed as human capital in labour intensive peasant household production, but this labour is "embedded" in the social relations of the household and can thus also be viewed as social capital. See James S. Coleman, "Social Capital in the Creation of Human Capital," American Journal of Sociology 94 (special supplement 1988): 95-120; and Jimmy M. Sanders and Victor Nee, "Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital," American Sociological Review 61 (April): 231-249.

<sup>&</sup>lt;sup>2</sup> A chronology of the surveys from 1991 to 2003 are found in David J. O'Brien and Valery V. Patsiorkovsky, *Measuring Social and Economic Change in Rural Russia: Surveys from 1991 to 2003* (Lanham, MD: Lexington, 2006), pp. 201-203.

<sup>&</sup>lt;sup>3</sup> See, David O'Brien, Valeri Patsiorkovsky and Larry Dershem. "The Transition to the Market Economy in Rural Russia: Assertions and Findings," Eastern European Countryside 3 (1997): 75–90; Valery Patsiorkovsky, David O'Brien and Larry Dershem, "Changes in Households and Institutions in Rural Russia from 1991–1999," Eastern European Countryside

# A Neo-Institutional Overview of the Rural Russian Household Economy

The term "new institutionalism" refers to a social science paradigm that examines the way in which institutions, both formal and informal, encourage specific types of economic behaviour while discouraging others, and how this, in turn, has an impact on the way in which economic resources are distributed between households. Although there is a considerable overlap in theory and methodologies, neo-institutional economists and sociologists have had somewhat different foci in their investigations. For new institutional economists4, the primary concern of research has been to document the impact of different kinds of formal institutional arrangements - e.g., secure property rights, third party enforcement - on economic behaviour and the distribution of economic benefits, while new institutional sociologists tend to focus on the way in which economic relations are embedded in informal social networks<sup>5</sup>. Together, the insights of these economists and sociologists provide us with a dynamic picture of how stratification systems can be altered by the interaction between macro-level changes in formal institutions that are initiated by government and micro-level informal economic responses by households to these formal institutional changes.

The new institutional framework is especially useful in understanding the social and economic transformations that have occurred in the Russian countryside during the 1990s and the early part of the 21<sup>st</sup> century because of the strong inter-dependence between formal and informal institutional change in this time period. The early years of the post-Soviet transition "shock therapy" created a macro-level formal institutional environment that contained a great deal of uncertainty. The response of rural households at this time was to be wary of new institutional arrangements, such as the government-sponsored

<sup>6 (2000): 55-66;</sup> Valery Patsiorkovsky, David O'Brien and Stephen Wegren, "Land Reform and Land Relations in Rural Russia," Eastern European Countryside 11 (2005): 5-17; and Iwona Leśniewicz's review of Household Capital and the Agrarian Problem in Russia, in: East European Countryside 7 (2001): 145-148.

<sup>&</sup>lt;sup>4</sup> Oliver E. Williamson, The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting (New York: Collier Macmillan, 1985); Douglass C. North, Institutions, Institutional Change, and Economic Performance (New York: Cambridge University Press, 1990).

<sup>&</sup>lt;sup>5</sup> See, for example, Mary C. Brinton and Victor Nee, The New Institutionalism in Sociology (New York: Russell Sage, 1998); Mark Granovetter, "The Strength of Weak Ties," American Journal of Sociology 78 (May 1973): 1360-80; Mark Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness," American Journal of Sociology 91, No. 3 (November 1985): 481-510.

position of fermer (private farmer). Instead, households, by and large, relied almost exclusively on their own human and social capital (i.e., household labour and social exchange helping networks) to provide income from their private plots as substitutes for the income from the kolkhozy (collective farms) that had been lost following the collapse of the command economy<sup>6</sup>. For rural households, as for their urban counterparts, this was a time to develop survival strategies.

Gradually, however, formal institutions in support of a market economy became more legitimized and the process was accelerated rapidly following the adjustments to the 1998 collapse of the ruble and the election of President Putin in 2000<sup>7</sup>. Earlier, we reported findings from our panel surveys that a substantial shift in household economic strategies had occurred from 1995 to 2003. The stabilization of the formal institutional environment, along with the steady growth of the Russian economy, including the agricultural sector, created incentives (and eliminated many of the disincentives associated with the political and economic uncertainty in the Yeltsin period) for households to rent land upon which to increase their agricultural output and sales. The increased impact of access to land on household income, largely through rental agreements, has become a more important factor in differentiating the material well-being of rural households<sup>8</sup>.

<sup>&</sup>lt;sup>6</sup> O'Brien and Patsiorkovsky, Measuring Social and Economic Change in Rural Russia: Surveys from 1991 to 2003, pp. 75-94.

<sup>&</sup>lt;sup>7</sup> A recent World Bank assessment of the degree to which Russia has moved toward a market economy concludes that "In the 15 years since the Soviet Union's collapse and the start of its economic transition, the institutions and structure of the Russian economy have greatly changed. Although much can be said about the inconsistency of the transformation and the incompleteness of many structural reforms, there is little doubt that Russia has moved from a centrally planned economy to a genuine market economy. All three main goals of economic reform initiated 15 years ago have been largely achieved. Prices are liberalized. Privatization is more or less complete. And the economy is now at least as open to international competition as many other market economies" See, Raj M. Desai and Itzhak Goldberg, "Enhancing Russia's Competitiveness and Innovative Capacity, http://info.worldbank.org/etools/docs/library/240216/Enhancing%20Russia%" Website 27s%20Competitiveness%20and%20Innovative%20Capacity%20Book.pdf, p. 11. Somewhat surprising, given the constant bad publicity given to the Russian economy, and Russia in general, in the American press, the authors of the World Bank study found that compared to Brazil, China and India (the three other "BRIC" countries that currently receive a great deal of attention from investors) Russia does quite well on certain dimensions that researchers have found to be associated with a good investment climate. For example, the number of procedures and the number of days needed to start a business is 17/152 in Brazil, 13/48 in China, 11/71 in India and 8/33 in Russia.

<sup>&</sup>lt;sup>8</sup> David J. O'Brien, Stephen K. Wegren and Valery V. Patsiorkovsky, "Income Stratification in Russian Villages: From Profession to Property." *Problems of Post-Communism*, 54 (2007): 37-46.

Another dimension of the formal institutional adjustment of the Russian economy that has an important bearing on rural households is the process by which economic growth, as measured by an increase in GDP, has resulted in the renewed importance of salaries and wages as a source of household income. In contrast to the early years of the post-Soviet economy, in which households were forced to obtain most of their income informally (i.e., outside of the formal taxed economy), much of the income growth of recent years has been located within the formal economy, in part due to the institutionalization of a more reasonable and predictable tax code<sup>9</sup>.

While the growth of household income from salary and wages in the Russian population as a whole can be well documented, two critical questions that remain are: to what extent does salary and wage income as compared to household enterprise income play a role in the rural household economy nowadays as compared with earlier years in the post-Soviet transition? To what extent does the relative importance of these different sources of income affect our understanding of the informal institutional underpinnings of the rural household economy?

## Household Capital and Sources of Income

Much of our earlier work has focused on the manner in which the role of the informal institutional environment of the Russian household and village has evolved as households have adapted their strategies to deal with changes in the formal institutional environment surrounding the emerging market economy. Initially, household labour (a mixed form of human and social capital) could be seen as a "path dependent" strategy insofar as it simply increased the utilization of a production system that had been a supplementary part of the Soviet economy to provide a larger share of household income through increased sales to local and regional farmers' markets. Gradually, however, what had been a survival strategy, based on a traditional peasant "moral economy" became

<sup>9</sup> See, URL: http://ns.worldbank.org.ru/files/rer/RER\_6.2\_eng.pdf.

The peasant household "moral economy" refers to a non-divisible collective organization in which members are connected to one another by strong emotional as well as economic bonds. In this respect, the social organization of the moral economy differs from the economist's typical conceptualization of the "firm" in a capitalist economy in which members are viewed as "individual wage or salary units." Most important, while the primary purpose of the firm is to make a profit, the primary purpose of the peasant household moral economy is to survive. See, for example, Robert Mc. Netting, Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable

for some households an increasingly important element in a new agrarian economy, where the social organization of the household (i.e., its human and social capital) began to resemble the "petit bourgeois" household and "ethnic economies" in post-industrial western societies<sup>11</sup>.

At the same time, the gradual institutionalization of mechanisms to support access to land provided households with access to an additional form of capital (i.e., physical capital) that increased the potential of their enterprises to generate income. Thus, the distribution of income between households in the village was a function of a traditional form of household capital, especially household labour, and a more recent form of physical capital, access to land, which was a result of changes in the formal institutional foundation of the Russian economy. This hybrid adaptation has generated a unique path alternative for development in the Russian countryside<sup>12</sup>.

The recent increase in income from salary and wages raises an important question about the role of different types of household capital in generating household income and inequality between households. While the adaptation of rural households has relied heavily upon household labour and more recently

Agriculture (Stanford, CA: Stanford University Press, 1993), p. 59; James C. Scott, The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia (New Haven, CT: Yale University Press, 1976).

<sup>11</sup> Typically, the peasant household "moral economy" is viewed as a pre-modern social organization that is resistant to participation in a capitalist market economy. There is considerable empirical evidence that shows, however, that even during the early years of the post-Soviet transition rural Russian households held entrepreneurial attitudes and desired greater participation in the emerging market economy. The reluctance of these households to engage in "risky" expansion of their enterprises was not due to any inherent cultural conservatism or resistance to the marketplace. This is shown clearly by the fact that once the formal institutional environment became more stable, after 2000, these same households began to expand their operations. See, e.g., O'Brien and Patsiorkovsky, Measuring Social and Economic Change in Rural Russia, pp. 190-191 and Stephen K. Wegren, The Moral Economy Reconsidered: Russia's Search for Agrarian Capitalism (New York: Palgrave Macmillan, 2005), pp. 42-43. In addition, it is important to note the strong parallels between the social organization of Russian peasant households and the social organization of "ethnic economies" in advanced post-industrial societies. In both cases, it is the strong social and emotional bonds of attachment between members of the household that provide a competitive edge in certain niches. The emerging niche of household production in vegetable production, for example, is analytically similar to what has been observed in studies of ethnic enterprises in western countries. See, for example, Stephen S. Fugita and David J. O'Brien, Japanese American Ethnicity: The Persistence of Community (Seattle: University of Washington Press, 1991); Ivan Light, Ethnic Enterprise in America: Business and Welfare Among Chinese, Japanese, and Blacks (Berkeley: University of California Press, 1972); and Sonya Salamon, "Ethnic Communities and the Structure of Agriculture," Rural Sociology 50, No. 3 (fall 1985): 323-340. 12 O'Brien, Wegren and Patsiorkovsky, "Income Stratification in Russian Villages".

upon access to land, studies of samples from the Russian population as a whole have found that education is the best predictor of wage and salary levels. There is a statistical correlation between the lower levels of education among rural workers and their occupational and educational disadvantages vis-à-vis urban workers<sup>13</sup>. Thus, to what extent are variations in education between households within rural regions associated with differences in income, especially in relation to the effects of household labour and access to land?

### Research Design

### Samples

Two sources of data were used to answer the questions raised above. The first were Russian government statistics showing macro-level trends in the agrarian economy during the 1990s and in the present decade that reflect the formal and informal institutional changes described earlier. The second data source were four cross sectional sample surveys conducted by the authors in 1995, 1999, 2001 and 2006<sup>14</sup>. The four surveys provide indicators of the relative contribution

Neil Fligstein, "The Economic Sociology of the Transitions from Socialism," American Journal of Sociology 101, No. 4 (January, 1996): 1074-81; Dennis J. Donahue, "Human Capital and Income Inequality," in: Rural Reform in Post-Soviet Russia, eds. David J. O'Brien and Stephen K. Wegren (Washington DC and Baltimore, MD: Woodrow Wilson Center Press and Johns Hopkins University Press, 2002): 203-220.

<sup>14</sup> The 1995 and 1999 surveys were part of a panel study, funded initially by the National Science Foundation, beginning in 1995 and ending in 2003, in Belgorod, Rostov and Tver' oblasts. See O'Brien and Patsiorkovsky, Measuring Social and Economic Change in Rural Russia, pp. 201 – 203 for a chronology of the surveys and a description of the methodology. The 2001 survey sampled households from Belgorod, oblast, Volgograd oblast, Krasnodar krai, Novgorod oblast and the Chuvash Republic. See Stephen K. Wegren, David J. O'Brien and Valery V. Patsiorkovsky. "Russian Agrarian Reform: The Gender Dimension," Problems of Post-Communism 49, No. 6 (November - December, 2002) for details of the methodology. The 2006 survey sample was drawn from Krasnodarskii krai, Voronezh oblast, Moscow oblast, Leningrad oblast, Kurgan oblast, Altai krai, Krasnoyarsk krai, Amur oblast, and the Republic of Tartarstan. A stratified random sample, reflecting the proportional representation of seven types of households in rural villages was employed in each of the surveys cited above. The seven types included: (1) single adult household; (2) retired couples; (3) employed couples without children under age 18; (4) employed couples with children under age 18; (5) employed couples with children under age 18 and other adults; (6) single parents with children under age 18; (7) mixed type of family (included in this type are households comprised of a brother and a sister, or an aunt/uncle with a niece/nephew, or some other combination of adults living together other than the extended family described in type 5).

of different sources of income to total household income at specific points in time during the 1990s and the current decade. The 2006 survey was used to examine causal relationships between different forms of household capital, different sources of income and total household income.

#### Measurement

Indicators of income generated from (1) salary and wages, (2) household enterprises (i.e., self-employment in agricultural and non-agricultural activities), and (3) total household income were based on self-reports by respondents. The interviewers worked with the respondents to obtain an accurate accounting of different sources of income in rubles, averaged on a per monthly basis.

The traditional peasant moral economy indicator of household human and social capital was measured by an index that assigned weights to each member of the household depending on his or her age and then summed those weights to create an index of "household labour potential." The weights, which draw upon Chaianov's work<sup>15</sup>, were: 0 (less than 8 years old, and 80 and older), 0.25 (8–11 and 75-79), 0.50 (12–14 and 71-74), 0.75 (15–16 and 66-70) and 1 (17–65).

Education, the typical indicator of household human capital<sup>16</sup> that is used by economists, was measured by the number of years of education reported by the household respondent. Access to land was measured by the actual amount of land that a household was able to cultivate. This included the household plot, rented land (formally or informally) and land that was given to a household to use by family, neighbours or friends.

# Statistical Analysis

The initial part of the analysis was a simple breakdown of the contributions of different sources of income to total household income at different points in time. The AMOS structural equation programme was used to measure the direct and indirect effects of different types of household capital on total household income<sup>17</sup>.

<sup>&</sup>lt;sup>15</sup> A. V. Chaianov, The Theory of Peasant Economy (Homewood, IL: R. D. Irwin, 1966);
O'Brien and Patsiorkovsky, Measuring Social and Economic Change in Rural Russia, pp. 76-80.

Gary Becker, Human Capital: A Theoretical and Empirical Analysis (Cambridge: Cambridge University Press, 1964).

<sup>&</sup>lt;sup>17</sup> James L. Arbuckle, AMOS 6.0 User's Guide (Spring House, PA: AMOS Development Corporation, 2005).

## **Findings**

## Changing Income Sources from 1995 to 2006

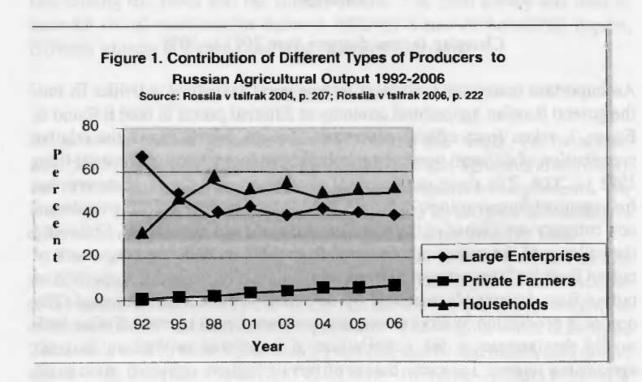
An important macro-level indicator of how rural household activities fit into the general Russian agricultural economy at different points in time is found in Figure 1, taken from official government figures, which shows the relative contribution of different types of agricultural producers to overall output from 1992 to 2006. The three categories of producers were the large enterprises (re-organized former collective farms), private farmers (the officially registered new category established in the post-Soviet period) and households. Following the collapse of the command economy, from 1992 to 1998, the proportion of output from the large enterprises dropped substantially, while the proportion of output from households increased by an almost commensurate amount. The decline in production by large enterprises, however, began to level off after 1998 as did the increase in the contribution of household production to total agricultural output. The contribution of private farmers remained quite small during the nineteen nineties, but began to increase after 1998, accounting for a significant proportion of output in specific categories, especially grain, sugar beet and sunflower production<sup>18</sup>.

Nonetheless, the contribution of household production to total Russian agriculture is by no means insignificant, still accounting for more than half of all production. Moreover, households have established niches in certain production areas; 91.6 per cent of potatoes, 80.3 per cent of vegetables, 51.8 per cent of cattle and poultry in 2005<sup>19</sup>.

Figure 2 shows three key trends in the Russian rural household economy from 1995 to 2006. These trend lines are based on data from our household surveys conducted at four different points in time. The line labelled "non-monetized" income shows the proportion of a household's total income that consists of food that they produce and consume themselves. Even in wealthy countries many rural households consume a portion of what they produce. When a high proportion of a household's income is non-monetary, however, it is an indicator of a "survival strategy," which is what occurred

<sup>&</sup>lt;sup>18</sup> In 2004, for example, private farmers accounted for 17.4 per cent of grain, 10.2 per cent of sugar beets and 24.5 per cent of sunflower produced in Russia. *Rossiia v tsifrakh 2005* (Moscow: FSGS, 2005), p. 211.

<sup>19</sup> Rossiia v tsifrakh 2006 (Moscow: FSCS, 2006), p. 223.



during the nineteen nineties in Russia. In the 1995 survey non-monetary income accounts for 37 per cent of total household income and lowers only slightly, to 35 per cent in 1999.

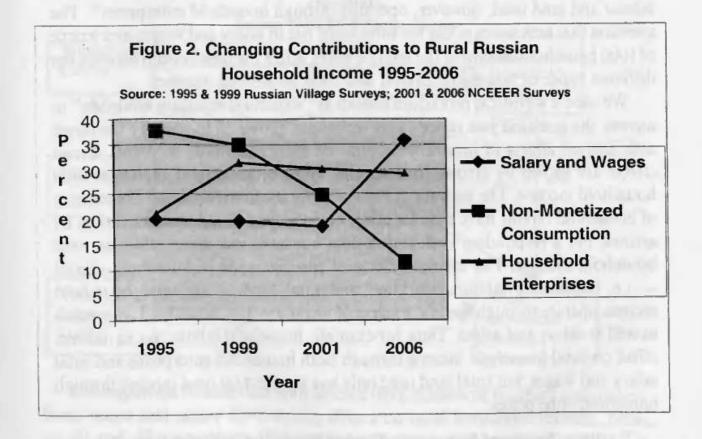
On the other hand, a reduction in the proportion of household income that is non-monetary means that the household is moving beyond mere subsistence and with a larger amount of monetary income can purchase more goods and services. This is what occurred from 1999 to 2006 when the proportion of total household income derived from non-monetary sources dropped from 35 to 10 per cent. This shows a strong growth of the rural economy, reflecting the growth in the Russian economy in general.

The second trend of interest is the rise and then levelling off of the proportion of household income that is derived from household enterprises that is mainly from agricultural sales. This mirrors the official figures on agricultural production that we showed earlier in Figure 1.

The third trend to be found in Figure 2 is the increase in salary and wages as a proportion of household income from 2001 to 2006. Salary and wages account for only 20 per cent of household income in the 1995 survey, reflecting the decline of employment resulting from the financial crises facing large enterprises after 1991. The response to this early demise of traditional sources of income

was the rise in the proportion of household income from their own enterprises, largely plot production, which we referred to earlier (see Figure 1). This pattern of household enterprise income essentially serving as a substitute for lost wage and salary income is still found in the 1999 and 2001 surveys. Although household enterprise income remained fairly steady, the amount of income from salary and wages jumped from 18.7 to 35.9 per cent from the 2001 to the 2006 surveys, i.e. more than a 90 per cent increase in a brief five year period.

We now turn to the manner in which changes in the relative importance of specific sources of income have affected the relationship between types of household capital and total household income.



In this part of the analysis, we look at sources of income — i.e., salaries and wages, and household business income — as intervening or mediating variables through which household capital affects total household income.

# The Direct and Indirect Effects of Household Capital on Total Household Income

During the early and mid-1990s, when the primary source of income for rural households was generated by their own enterprises, the amount of labour available was the best predictor of total household income. Towards the end of the 1990s, the amount of household labour continued to be an important predictor of household income, but the amount of land a household was able to cultivate gradually became an important factor as well. These relationships strengthened as we moved into the early years of the 21st Century. Up through the 2001 surveys, however, most of the effect of household capital, i.e., household labour and land used, however, operated through household enterprises<sup>20</sup>. The question that now arises is: did the substantial rise in salary and wages, as a source of total household income in the last few years, affect the relationship between the different types of household capital and total household income?

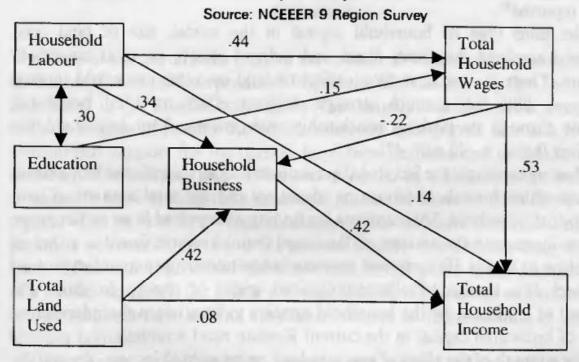
We used a statistical procedure known as "structural equation modeling" to answer the question just raised. This technique allows us to identify the direct and indirect effects of household capital on total household income<sup>21</sup>. Direct effects are shown by arrows from specific types of household capital to total household income. The amount of land used by the household and the amount of household labour have a direct effect on total household income, shown by arrows, but a respondent's education does not have any direct effect on total household income. The indirect effects of specific types of household capital — i.e., household labour, education and total land — on total household income operate through specific sources of income — i.e., household enterprises as well as salary and wages. Thus, for example, household labour has an indirect effect on total household income through both household enterprises and total salary and wages, but total land used only has an effect on total income through household enterprises.

O'Brien, Wegren and Patsiorkovsky, "Income Stratification in Russian Villages".

The goal in structural equation modelling is to adjust the theoretical relationships between the variables, which are represented by the arrows in the model, until they "fit" the empirical (i.e., real) relationships between the variables in the data. The measure of "fit" is the Chi-Square Statistic. In this case we use the Chi-Square Statistic exactly opposite to the way that we traditionally use it. We are seeking to obtain a non-significant Chi-Square, which means that there is no statistically significant difference between the theoretical model and the empirical one. The model shown in Figure 3 has an excellent "fit." Chi-square = 4.645 (5 df) p = 0.461; CMIN/DF = .929. The authors will be happy to send the detailed "estimates" of the model — model fit, covariance, regression coefficients, and variance explained — to anyone who is interested. The model as a whole explains 60 per cent of the variance in income between households in the sample.

The numbers placed at the middle of each arrow are the standardized regression coefficients or Betas, which show the strength of the relationship represented by the arrow. The strength of the effect of household labour is almost two and half times stronger (beta = .44) than the effect of education (beta = .15) on household wages. The two-headed line between education and total household labour indicates a "covariance" relationship between these variables. Households headed by younger adults typically have more labour and are more educated than other types of households.

Figure 3. Contributions to Rural Russian Household Income in 2006 (N=900).



It is important to note that both income from household business and income from wages and salary have strong effects on total household income; betas = .42 and .53, respectively. This indicates that the rural economy in Russia is becoming more "mixed" in terms of how households generate income. The fact that households are no longer only dependent on their own enterprises is another indicator of health in the Russian economy as a whole and offers some hope for the development and maintenance of sustainable rural communities.

Our primary interest is in the direct and indirect effect of different types of household capital on total income. The most interesting finding in this regard is that education is the least important form of household capital in explaining which households do better than others financially. Education, which is seen as

the primary indicator of "human capital"<sup>22</sup> in typical models of household economies, does not have a direct effect on total household income and only a modest (beta = .15) indirect effect on total income through its association with wages and salaries.

Household labour, the core asset in the peasant moral economy, has a much larger effect on total household income, including a modest direct positive effect (beta = .14) and two stronger indirect effects, one operating through salary and wages (betas = .44 and .53) and the other operating through household business enterprises (betas = .42 and .42). The positive associations between higher household labour values and the two sources of income are not surprising. These findings are consistent with earlier research findings that we have reported<sup>23</sup>.

The third type of household capital in the model, size of land used by the household, has both direct and indirect effects on total household income. There is a modest direct effect of land on total household income (beta = .08), but a much stronger indirect effect on total household income through its positive relationship with income from household enterprises (betas = .42 and .42).

Most interesting is the fact that there is no statistically significant relationship between either household labour or education and the total amount of land used by the household. This confirms the finding we reported in an earlier paper that an increase in the amount of land used is not a simple function either of education or family life cycle, but operates independently as a manifestation of the level of a household's "entrepreneurial spirit" or energy. In short, the amount of land used by the household appears to be a relatively independent form of household capital in the current Russian rural economy.

The strength of the effect of access to land on household income, despite the growth of wage and salary income, suggests a very important shift in mechanisms of stratification in the Russian countryside. The traditional association between life cycle and wealth in the Russian peasant household, made famous by Chaianov<sup>24</sup> continues to operate in the 21<sup>st</sup> century, but the economic advantages that households can acquire by gaining more land, largely through rental agreements, suggests a more stable (i.e., not as strongly impacted by life cycle considerations) factor in the development of a stratification system

<sup>22</sup> Becker, Human Capital: A Theoretical and Empirical Analysis.

<sup>&</sup>lt;sup>23</sup> O'Brien and Patsiorkovsky, Measuring Social and Economic Change in Rural Russia, pp. 95-110.

<sup>24</sup> Chaianov, The Theory of Peasant Economy.

that is not merely cyclical in nature. This means that the emerging institutional arrangements in the Russian countryside may continue for some time to exhibit a hybridization of traditional and newer elements.

Finally, we should note the substantive as well as statistical significance of the coefficient showing a negative relationship between income generated from working for others (salary and wages) and income generated from household self-employment. This relationship suggests that there are some tradeoffs and choices which households are experiencing with respect to working for others versus creating an independent small business of their own.

#### Discussion

The focus of this inquiry has been on the manner in which formal and informal institutional changes have produced important shifts in the way that income is distributed in the Russian countryside. Our longitudinal data show some key shifts in sources of income during the relatively brief period in which formal institutional support for the market have been implemented in the agrarian economy. The early to mid- 1990s was a period in which most households struggled to survive, using their household plots as the main source of income to replace what was lost following the collapse of the collective farms. During this period, a substantial portion of household income was non-monetary in the form of food that it produced and consumed. In this phase of the development of a market economy, the primary source of household capital was household labour, which in turn, became the primary source of differentiation in income between households.

Towards the end of the 1990s, however, the gradual institutionalization of formal supports for a market economy appears to have increased the opportunity for households to gain access to land to increase their agricultural output. This process was accelerated by the overall stabilization and growth of the Russian economy following the election of Vladimir Putin in 2000. While household labour remained an important factor in differentiating income between households, the amount of land used gradually also became a more important factor in the village stratification system.

The same formal institutional changes in the Russian economy contributed to another major change in the household economy of rural areas. In contrast to the early and mid-nineties when it was necessary for households to generate the bulk of their income from their own enterprises, the growth of the national

economy, especially after 2000, has made it possible for them to obtain a substantial share of income from wages and salaries.

Our analysis has shown that the aforementioned formal institutional changes, generated by the Russian central government, along with other macro-level factors associated with the economy at national level, have produced a much more complex rural household economy than we had found in the early and mid-nineteen nineties. Labour, the household capital mainstay of the traditional peasant economy continues to play an important role in generating household income, both through household enterprises and through salary and wages. But access to land has become a more important factor in differentiating total household incomes, through its strong association with household enterprise income, at a time when the proportional contribution of household production to total agricultural production in Russia appears to have reached its ceiling.

Thus, at the same time in which many households may be foregoing household sales as the primary source of their income, in favour of working at re-generated or newly formed firms, other households are continuing to increase their niche as more sustainable small business enterprises, agricultural and non-agricultural, within the rural economy.

On a more general note, the emergence of more heterogeneity in the Russian agrarian economy, along with the apparent dual roles of traditional formal institutional supports (i.e., household labour) and formal institutional supports (i.e., access to land) is consistent with a growing appreciation among social scientists that the possible parameters of viable national economies within a global economic system are much greater than we had heretofore realized<sup>25</sup>. After much speculation in the early nineteen nineties about the "path dependency" of the Russian economy we are coming to see the development of an alternative Russian path that may be quite different to Western Europe and the United States on the one hand, and China on the other.

<sup>&</sup>lt;sup>25</sup> See, for example, William J. Baumol, Robert E. Litan and Carl J. Schramm, Good Capitalism, Bad Capitalism and the Economics of Growth and Prosperity (Yale University Press, 2007).