

HOUSEHOLD CAPITAL AND STRUCTURAL CHANGE IN EMPLOYMENT & INCOME IN RURAL RUSSIA FROM 1991-1999

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During the last decade of the twentieth century, the Russian countryside underwent substantial changes in its institutions and social organization. We have described these changes in a number of books and articles.¹ Our research findings are based on

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- 1 D.J. O'Brien, V.V. Patsiorkovski, L.D. Dershem & O. Lylova, "Peasant Household Production and Symptoms of Stress in Post-Soviet Russian Villages," *Rural Sociology* 61 (1996), pp. 674-698; D.J. O'Brien, L.D. Dershem & V.V. Patsiorkovski, "The Transition to the Market Economy in Rural Russia: Assertions and Findings," *Eastern European Countryside* 3 (1997), pp. 75-90; D.J. O'Brien, V.V. Patsiorkovski, L.D. Dershem, A. Bonanno & C. Timberlake, *Services and Quality of Life in Rural Villages in the Former Soviet Union* (Lanham, Maryland: University Press of America, 1998); D.J. O'Brien, V.V. Patsiorkovski & L.D. Dershem, "Rural Responses to Land Reform in Russia: An Analysis of Household Land Use in Belgorod, Rostov and Tver' Oblasts from 1991 to 1996," in S.K. Wegren, ed., *Land Reform in the Former Soviet Union and Eastern Europe* (London: Routledge, 1998), pp. 35-61; D.J. O'Brien, V.V. Patsiorkovski & L.D. Dershem, *Household Capital and the Agrarian Problem in Russia* (Aldershot: Ashgate, 2000); D.J. O'Brien and S.K. Wegren, *Agrarian Reform in Postcommunist Russia* (Washington, D.C.: Woodrow Wilson Center Press & Johns Hopkins University Press, 2002); V.V. Patsiorkovski, "Institutsional'nye preobrazovaniia i izmeneniia uslovii zhizni naseleniia v sel'skoi mestnosti Rossii v 1991-1999," in E. Nureev, ed., *Transformatsiia ekonomicheskikh institutov v postsouetskoi Rossii* (Moscow: MONF Publishers, 2000), pp. 124-146; V.V. Patsiorkovski, & D.J. O'Brien, *Research Methodology and Quality of Rural Life in Russia and the USA* (Moscow: Institute for the Socio-Economic Studies of Population, Russian Academy of Sciences, 1996); V.V. Patsiorkovski, V.V. Patsiorkovskaia & others, "Izmeneniia uslovii zhizni sel'skogo naseleniia," in N. Rimashevskaiia, ed., *Rossia 1997: Sotsial'no-demograficheskaia situatsiia* (Moscow: ISESP, Russian Academy of Sciences, 1998), pp. 215-254; V.V. Patsiorkovski, V.V. Patsiorkovskaia & others, "Izmeneniia v strukture naseleniia i domashnikh khoziaistv v sel'skoi mestnosti," in N. Rimashevskaiia, ed., *Rossia 1998: Sotsial'no-demograficheskaia situatsiia* (Moscow: ISESP, Russian Acad-

six longitudinal surveys in three villages from different regions of Russia from 1991 to 1999. One village is located in South European Russia (*Rostov Oblast*), a second village is located in Central European Russia (*Belgorod Oblast*) and the third village is located in Northwest European Russia (*Tver' Oblast*). The surveys from 1995 to 1999 constitute four waves of a panel study of the same households and the same respondents over time.

The analysis of our survey data has been on two levels. The first has been to identify long-term aggregate trends in economic behavior and emerging incremental institutional changes at the local area. The second level of analysis has examined differences between households and villages with respect to their abilities to take advantage of new opportunities for entrepreneurial activity from 1991 to the present.

Our view is that the last decade witnessed the beginning of a fundamental change in what had been the *status and functions* of the rural Russian household during the Soviet period. Sheila Fitzpatrick points out that during the 1930s, Soviet leaders expected that the peasant household (*dvor*) "...would simply lose its significance as a socio-economic unit in the village. Collectivization 'destroys the concept of the peasant *dvor*', said a senior labor official in 1930. Jurists in the early 1930s assumed that the *dvor* had lost its standing as a legal entity."² The Soviet leaders eventually made some accommodation to the peasant household, permitting it to retain a small private plot to grow food for household consumption. But, during the whole Soviet period, the household never was able to attain a status apart from the *kolkhoz* or *sovkhoz*, as an independent economic production unit.

emy of Sciences, 1999), pp. 255-283; V.V. Patsiorkovski, D.J. O'Brien & L.D. Dershem, "Changes in Households and Institutions in Rural Russia," *Eastern European Countryside* 6 (2000), pp. 55-66; V.V. Patsiorkovski, V. Patsiorkovskaia and others, "Izmeneniia uslovii zhizni sel'skogo nasaleniia," in N. Rimashevskaiia, ed., *Rossia 1999: Sotsial'no-demograficheskaia situatsiia* (Moscow: ISESP, Russian Academy of Sciences, 2000), pp. 316-343.

2 S. Fitzpatrick, *Stalin's Peasants: Resistance and Survival in the Russian Village After Collectivization* (New York: Oxford University Press, 1994), p. 112.

The changes that we have observed from 1991 to 1999 show the beginning of a return of the peasant household (*dvor*) to a status as *a significant socio-economic unit in the village*. This process has not resulted yet in the legitimization of the peasant household as a legal status. Nonetheless, the changes in employment opportunities have produced a substantial shift in day-to-day household activities, not only in the area of production and sales of agricultural products, but also in the development of other types of household enterprises, in both agricultural and non-agricultural areas. This, in turn, has produced a substantial shift in the sources of income for rural households in Russia.

The conceptual approach used in our research emphasizes the differential effects of household capital, both human and social, in producing a new system of stratification in the Russian countryside. With respect to human capital, our research has measured the effects of education, health and the availability of household hand labor. In the case of rural Russian households overall educational levels are relatively high – our data show that on average adults have more than nine years of schooling. Nonetheless, households that contain members with advanced training, especially agricultural specialists and those with managerial experience have advantages in relation to households with less education. The lack of material infrastructure, poor physical capital and small plot size, however, also increases the relative importance of household hand labor as a form of human capital.

Two types of social capital have been identified in this research. These are social exchange helping networks, which typically are highly dense in character, and community attachment, which involves more inclusive or “bridging” linkages to the larger social organization of village life.

The social organizational character of rural Russian household enterprises can be understood within the rubric of Scott’s³ and Netting’s⁴ descriptions of the *moral economy* of small holder

3 J.C. Scott, *The Moral Economy of the Peasant; Rebellion and Subsistence in Southeast Asia* (New Haven, Yale University Press, 1976).

4 R.M. Netting, *Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable Agriculture* (Stanford, California: Stanford University Press, 1993).

agriculture. This type of organization is based on rational principles, but these principles are fundamentally different than the principles by which large-scale bureaucratic wage-for-work enterprises are organized. Because the social organization of labor is based upon highly dense networks of mutual trust and inter-dependence, rather than individualistic wage-labor contracts, these types of enterprises are able to substantially reduce transaction costs involving relationships between workers and “monitoring” of work performance.⁵

There is considerable evidence that small-scale enterprises based on principles of a moral economy can be an efficient way to adapt to certain types of economic exigencies in advanced industrial as well as in traditional societies. Examples include early twentieth century Japanese American labor intensive agriculture in the Central Valley of California⁶ and small grocery stores, liquor stores and restaurants owned by Cuban and Korean immigrants to the United States.⁷ Coleman’s oft-cited essay on social capital used several examples of highly dense social networks, such as those among the Hassidic Jews who control the diamond trade in New York City.⁸

Perhaps the most relevant example for our purposes is provided by Sonya Salamon’s⁹ ethnographic comparison of German-Catholic and Yankee farm families in Illinois. For Yankee farmers, the primary goal of farming was to maximize profits

5 Netting, *Smallholders, Householders*, pp. 71-74.

6 S.S. Fugita & D.J. O’Brien, *Japanese American Ethnicity: The Persistence of Community* (Seattle: University of Washington Press, 1991), pp. 47-62.

7 J.M. Sanders & V. Nee, “Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital,” *American Sociological Review* 63 (April, 1998), pp. 231-249; I. Light, *Ethnic Enterprise in America* (Berkeley: University of California Press, 1972); A. Portes & J. Sensenbrenner, “Embeddedness and Immigration: Notes on the Social Determinants of Economic Action,” in M.C. Brinton & V. Nee, eds., *The New Institutionalism in Sociology* (New York: The Russell Sage Foundation, 1998).

8 J.S. Coleman, “Social Capital in the Creation of Human Capital,” *American Journal of Sociology* 94 (special supplement 1988), pp. 95-120.

9 S. Salamon, “Ethnic Communities and the Structure of Agriculture,” *Rural Sociology* 50:3 (1985), pp. 323-340.

and in the 1970s this meant specialization. Alternatively, the primary goal of German Catholic farm families, which operated culturally more along the lines of the moral economy model, was to preserve the family farm at all costs. This meant adopting a more conservative strategy of diversification that produced lower profits during boom periods in agriculture but also protected their farms against downturns, such as those that occurred in the American Midwest in the mid-nineteen eighties.

Because the vast majority of Russian peasant households have remained tied in some fashion to the large enterprise in their village, it may seem inappropriate to conceptually link them to the aforementioned examples of petit bourgeois enterprises. Yet, the fundamental worldview of preserving the household and therefore adopting a conservative economic strategy is similar in both cases. Rural households in Russia, by and large, have opted for the more conservative strategy that preserves the household through the development of human and social capital. This strategy builds upon highly dense ties that were developed during the Soviet period but these relationships have become the basis for penetration into developing niche markets rather than merely household subsistence.¹⁰

In this paper we will first examine trends in employment and sources of income in the study villages from 1991 to 1999. The second part of the paper will examine how different amounts of household labor (human capital) and social networks and community attachment (social capital) have produced differences between households in the extent to which they have been able to adapt to the new institutional environment of post-Soviet rural life.

10 L.D. Dershem, *Community and Collective: Interpersonal Ties in Three Russian Villages*. Unpublished Ph.D. dissertation (Columbia, MO: University of Missouri, 1995); L.D. Dershem, "Prevalence, Sources and Types of Informal Support in Latonovo and Mayaki," in O'Brien et al., *Services and Quality of Life in Rural Villages in the Former Soviet Union*, pp. 163-198; V. Shlapentokh, *Public and Private Life of the Soviet People: Changing Values in Post-Stalin Russia* (New York: Oxford University Press, 1989).

CHANGES IN WHERE RURAL RUSSIANS WORK

The standard practice in Russian villages during the Soviet period of collectivization from 1929 to 1991 was for working age adults to have as their primary employment a position in either the collective (*kolkhoz*) or state (*sovkhos*) farm. These two basic types of large enterprises were required by Soviet labor law to employ all working age adults. Virtually all individuals and organizations in the village were dependent on the large enterprise for support. Teachers and doctors, for example, received salaries from the government but the building, upkeep and equipment of the local school and clinic was provided by the budget of the local *kolkhoz* or *sovkhos*. Retired and disabled persons received pensions from the federal government but they too received various types of material support from the large enterprise.

Our findings from the 1991 survey show the persistence of the Soviet employment pattern. Table 1 shows that 86 percent of working age adults were employed by the large enterprise in their local area in 1991. The remaining 14 percent were public service workers, including medical, educational and cultural service personnel. There were no other types of employment recorded at this time.

We can observe two main types of structural changes in the study villages even within the short period of time from 1991 to 1993. There is evidence of agricultural employment outside of the large enterprises, officially registered private farmers (*fermery*), other types of non-agricultural businesses, including new retail trade and services in the areas of construction and transportation, and self-employed household enterprises. The proportion of village residents in each of these new types of employment is small but there is a decline in employment in the large enterprises of slightly less than 6 percent.

The aforementioned trends have continued and have produced a dramatic shift in the structure of employment in the Russian village. By 1999 the large enterprises employed only 50.8 percent of working age adults. Within the category of large enterprises there has been an increasing diversification of orga-

Table 1.

The Distribution of Types of Enterprises Where Working-Age Adults Are Employed in Russian Villages from 1991 to 1999* (in %)

Type of Enterprise	1991 (n=300)	1993 (n=252)	1995 (n=563)	1997 (n=547)	1999 (n=525)
Large Enterprise:	86.0	80.4	70.5	62.3	50.8
<i>Kolkhoz</i>	86.0	-	14.3	13.3	9.7
<i>TOO</i>	-	80.4	56.2	49.0	17.9
<i>SPK</i>	-	-	-	-	23.2
Public Services	14.0	14.1	14.9	18.5	15.6
Farmer (official)	-	0.4	2.3	2.9	4.4
Other Agribusiness	-	-	1.1	0.5	1.7
Other Business	-	1.6	1.9	4.0	4.0
Household Enterprise (Self-Employed)	-	3.5	9.3	11.8	23.4
Total	100.0	100.0	100.0	100.0	100.0

* 1991 and 1993 surveys are longitudinal. The 1991 and 1993 surveys are from the village of Latonovo. The 1995-1999 panel surveys are from the same households and respondents in Latonovo, Vengerovka & Sviattsovo.

nizational types. A new type of large enterprise created in 1993, the *TOO* (joint stock company of the closed type) still incurred large debts. The more recently developed *SPK* (Agricultural Production Cooperative) is organized more like a true cooperative. It employed slightly more than 23 percent of the sample in 1999. The proportion of the sample employed in the *TOO* declined from 49 to 18 percent from 1997 to 1999.

Those persons who have left the large enterprise entirely are found in an increasingly diverse number of employment situations. Officially registered private farmers, those in other agribusinesses and those employed in other non-agricultural businesses totaled more than 10 percent in 1999. One of the most significant changes is the growth in the number of persons who identify their primary employment as a household enterprise. This figure has climbed from 0 in 1991 to close to one-quarter, 23.4 percent, of the adult workforce in the villages.

The changes in the kinds of enterprises where rural Russians are employed have resulted in equally significant changes in different types of employment positions (analogous to occu-

Table 2.
The Distribution of Employee Position of Persons Eighteen Years of Age and Older in Respondents' Households in Russian Villages from 1991 to 1999* (in %)

Position	1991 (n=300)	1993 (n=252)	1995 (n=563)	1997 (n=547)	1999 (n=525)
Management	2.3	4.7	6.0	6.0	3.6
Specialist	16.4	16.7	11.5	10.1	8.4
Clerical	11.3	11.5	9.8	11.7	12.2
Worker/kolkhoznik	70.0	63.1	61.1	57.2	50.3
Private Farmer	-	0.4	2.1	1.8	2.1
Self Employed	-	3.6	9.5	13.2	23.4
Total	100.0	100.0	100.0	100.0	100.0

* 1991 and 1993 surveys are longitudinal. The 1991 and 1993 surveys are from the village of Latonovo. The 1995-1999 panel surveys are from the same households and respondents in Latonovo, Vengerovka & Sviattsovo.

pational categories). This is shown in Table 2. The three most important changes that have occurred in occupational positions from 1991 to 1999 are found among the specialists, the worker/*kolkhoznik* and self-employed.

Table 2 shows that the number of persons in the specialist category, which includes agronomists, agricultural engineers and veterinarians, declined almost 50 percent from 1991 to 1999. These highly educated workers have increasingly moved out of employment in the large enterprises and have moved into various types of private small business enterprises. These persons are now employed in the growing number of new types of enterprises listed in Table 1, including farmer, other agribusiness and other nonagricultural business, as well as to a lesser extent in management. These shifts in employment illustrate the relative advantages of households with different levels of human capital in terms of educational attainment.

The decline in the number of persons identifying themselves as worker/*kolkhoznik*, almost 20 percent, is more than matched by the growth in the number of self-employed. The slightly more than 23 percent increase in the number of self-employed adults reflects the separation of one or more adults in the household from employment in the large enterprise in order to devote

Table 3.

The Distribution of Employee Positions of Persons Eighteen Years of Age and Older by Year and Gender in Russian Villages from 1991 to 1999* (in %)

Position	1991 (n=300)		1993 (n=252)		1995 (n=563)		1997 (n=547)		1999 (n=525)	
	M n=159	F n=141	M n=127	F n=125	M n=295	F n=268	M n=288	F n=259	M n=279	F n=246
Management	2.5	2.1	7.9	1.6	7.2	4.8	6.2	5.8	3.9	3.2
Specialist	14.5	18.4	11.8	21.6	8.1	15.4	8.0	12.4	6.8	10.2
Clerical	3.1	20.6	1.6	21.6	2.7	17.5	3.5	20.8	3.6	21.9
Worker/ Kolkhoznik	79.9	58.9	77.9	48.0	76.6	44.0	73.3	39.4	67.1	31.4
Private Farmer	-	-	-	0.8	3.7	0.4	3.1	0.4	2.5	1.6
Self Employed	-	-	0.8	6.4	1.7	17.9	5.9	21.2	16.1	31.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* 1991 and 1993 surveys are longitudinal. 1991 survey of households in Latonovo; 1993 survey of households in Latonovo; 1997-1999 panel survey, same households and respondents in Latonovo, Vengerovka & Sviattsovo.

more energy to household enterprises (see Tables 1 and 2). This shift in employment reflects the way in which households with less formal education have used household labor as a form of human capital to gain some competitive advantages in an emerging market economy. In short, both forms of human capital, education and hand labor, have played a critical role in the adaptation of rural households to a market economy.

The changes just described have impacted differently on men and women. Table 3 shows that there are gender differences in the movement of workers out of the worker/*kolkhoznik* position and into the self-employed position. The number of men identifying themselves as workers declined by 12.8 percent from 1991 to 1999, but the corresponding decline for women was more than twice that number, 27.5 percent. The percentage of women who are self-employed is almost double that of the men.

Among less educated and lower skilled workers gender differences in occupational opportunity increased greatly during the 1990s. Typically, female employees of the large enterprises,

Table 4.
Russian Agricultural Output by Type of Enterprise, 1991-1999
 (in %)

Type of Enterprise	1991	1995	1997	1999
Large Farms	69	57	47	38
Households	31	40	51	60
Private Farms	0	3	2	2
Total	100	100	100	100

Source: Rossiiskii statisticheskii ezhegodnik 1996 (Moscow: Goskomstat, 1996), p. 550; *Rossia v tsifrakh 2000* (Moscow: Goskomstat, 2001), p. 198.

such as milkmaids and those who work with pigs or poultry, lost their positions as these enterprises closed their livestock facilities in order to become more economically competitive. Women in this situation did not have the choices available to the more highly educated female specialists, such as veterinarians. A large number of less educated women have become self-employed as full time workers in their own household enterprises where they work with livestock to produce and sell meat, dairy products and eggs in farmers' markets and thus contribute to household income.

An exception to the trend of increased differentiation of employment status by gender is found among persons in the highly educated specialist group. As noted earlier (see Table 2), there was a substantial shift by 1999 in the occupational status of persons who were identified as specialists in 1991. Within this group there is not much difference between men and women in the decision to change employment to another type of position, approximately 8 percent among both groups. The human capital advantages of highly educated women in the villages is shown by the fact that they have many more options than their less educated counterparts, both male and female.

The structural changes in employment that we have described are strongly correlated with changes in the proportion of agricultural output by different types of agricultural producers during the decade of the nineties.

Table 4 shows a dramatic change in the positions of different types of agricultural producers in their share of overall agri-

cultural output in Russia during the observed period. In 1991 the large enterprises produced 69 percent while households produced 31 percent of total agricultural output. In 1999, however, large enterprises produced only 38 percent but households produced 60 percent and private farmers produced 2 percent of total agricultural output. As a result of changes in the structure of agricultural enterprises and employment, the sources of income for households in rural Russia changed drastically during the 1990s.

CHANGES IN THE SOURCES OF HOUSEHOLD INCOME AND INFLATION

During the Soviet period, rural Russian households relied on three sources of income: salary and other types of benefits from employment in the large enterprises; transfer payments in the form of pensions for retired persons, as well as payments to disabled persons and single parents; and non-monetary (consumption) income from household plots. Official figures show that the sources of income for collective farm families at the end of the Soviet period, in 1989, were distributed as follows: 51.9 percent - income from the *kolkhoz*, 9.9 percent - salary, 8.9 percent - transfer payments, 24.9 percent - non-monetary income from household private plots and 4.4 percent - other sources.¹¹

Changes in the relative importance of different sources of income for rural households are shown from our data in Table 5.

Even as early as 1995, less than four years after the collapse of the Soviet Union, we can observe some substantial changes in the structure of income for rural Russian households. The most important change is the increasing share of income that comes from household enterprises and the declining share of income that comes from primary salary and transfer payments.

Whereas in 1989 household plots provided 24.9 percent of household income, through non-monetary consumption of food produced by the household, in 1995 all sources of household enterprise income account for 59.8 percent of total household

11 *Narodnoe Khoziaistvo SSSR v 1989* (Moscow: Goskomstat, 1990), p. 89.

Table 5.
The Contribution of Different Sources to Monetary (M) and Total Monetary and Non-Monetary (TI) Income in Three Russian Villages from 1995 to 1999 (in %) (N=422)

Sources of Income		1995		1997		1999	
		M	TI	M	TI	M	TI
Salary & Wages	Primary salary	30.6	19.0	30.5	21.0	19.1	13.2
	Secondary salary	1.0	1.0	4.2	2.9	10.3	6.6
Transfer payments		33.2	20.2	27.6	18.9	19.8	13.7
Household Enterprises	Business	6.0	3.7	9.1	6.1	6.8	3.5
	Benefits	3.2	1.9	4.1	2.8	5.4	2.9
	Agricultural sales	26.0	16.6	25.5	19.5	38.6	25.1
Nonmonetized consumption		—	37.6	—	31.6	—	35.0
Total		100.0	100.0	100.0	100.0	100.0	100.0

income. Moreover, there are several types of household enterprises that are contributing to this share, including agricultural sales and non-agricultural businesses as well as rents received from leasing land to the large enterprises or private farmers. Finally, the contribution of household enterprise sales and services to monetary income received by households is more than one-quarter in 1995. The increased reliance upon household enterprises is even greater in 1999.

An important contributing factor to these trends in restructuring employment and sources of income was the high rate of inflation in Russia during the post-Soviet period, especially in the early 1990s. During this period households lost what had been a stable source of income from employment in the large enterprises or from government transfer payments. They faced a struggle for survival and sought other sources of income, especially from sales in the local and regional marketplaces. The official consumer price index and our calculation of the value of the ruble adjusted to 1991 levels for the period from 1991 to 1999 is shown in Table 6.

The first row in Table 6 shows the number of times that the consumer price index increased in relation to the previous year. The effects of “shock therapy” are shown in the 2,600 percent

Table 6.
Consumer Price Index, Values of Rubles Adjusted to 1991 Levels
and Ruble Exchange Rate for US Dollars from 1991 to 1999

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Consumer Price Index ¹	2.6	26.1	9.4	3.2	2.3	1.2	1.1	1.8	1.4
Value of Ruble ²	1	26.1	245.3	785.1	1805.7	2168.8	2383.5	4290.4/1000 =4.29	6.56
Ruble Exchange Rate ³	~120	414.5	1247	3550	4640	5560	5960	20.65	27.0

Sources: 1 - *Rossia v tsifrakh 2000* (Moscow: Goskomstat, 2000), p. 332; *Rossiiskii statisticheskii ezhegodnik 1996* (Moscow: Logos, 1996), p. 376. 2 - Our calculations of ruble value adjusted to 1991 level for each subsequent year. 3 - *Rossia v tsifrakh 2000* (Moscow: Goskomstat, 2000), p. 384; *Rossiiskii statisticheskii ezhegodnik 1996* (Moscow: Logos, 1996), p. 630.

increase in the consumer price index in 1992. The increase in this index was over 900 percent in 1993. Compared with these early years of post-Soviet Russia, all subsequent years were much less damaging to the economic well-being of ordinary Russian families.

The second row shows the value of the ruble in relation to its value in 1991. In 1992, 26.1 rubles were equal to one ruble in 1991. In 1997, 2383.5 rubles were equal to one ruble in 1991. On January 1st, 1998 the ruble was denominated by dividing the current ruble value by 1000. The value of the ruble of 4290.4 on December 31st 1997 was 4.29 ($4290.4 / 1000 = 4.29$) on January 1st 1998. The figures in row two permit us to adjust the value of rubles for inflation during our observation period from 1991 to 1999. These ruble values, which are adjusted to 1991 levels, will be used in the next section to compare the relative gains and losses of individual households.

The third row shows the end-of-year official ruble exchange rate per one US dollar. This permits the reader to compare the financial situation of rural Russian households from a comparative perspective. It is especially important to note how the devaluation of the ruble is associated with the denomination of the ruble in January 1st of 1998. At the end of December 1997 the

official exchange rate was 5960 rubles per 1 US dollar. In January 1998, after the new denomination (one thousand old rubles equal one new ruble), the exchange rate of slightly more than six rubles per dollar (6.026 rubles = 1 US\$) would equal slightly more than six thousand rubles under the old system (6,026 rubles = 1 US\$).

At the end of 1998, the exchange value of 20.65 rubles per dollar would translate to 20,650 rubles per dollar under the old system. The greatest drop in the value of the ruble was during the financial crisis between August and September of 1998 when the value of the ruble fell from 7.905 to 16.065 rubles per dollar, or a loss of 203.2 percent.¹² The values shown in Table 6 provide us with an important benchmark to compare the relative economic hardships experienced by different households. In the next section we will examine how households with different employment positions and different levels of human and social capital fared in the face of the dangers of high levels of inflation and the new opportunities presented by an emerging market economy.

EFFECTS OF EMPLOYMENT STATUS AND HOUSEHOLD CAPITAL ON INCOME

The changes in the structure of employment and sources of income during the 1990s, that were described above have had different effects on individual households depending upon the employment position of adult household members and the different levels of human and social capital with the household.

Changes in monthly income for families with different employment positions are shown in Table 7. In 1991, there were two main determinants of income differences between households. Households without an employed member made less than one-half of the average income of all households in the villages. Among the remaining households, those with high levels of education, managers and specialists, did better than other households. Managers received more than twice the average monthly income in the village. All other categories of workers received approximately the same income at that time.

¹² *Rossia v tsifrakh 2000* (Moscow: Goskomstat, 2000), p. 385.

Table 7.

The Distribution of Monthly Total Household Income by Employee Position of Persons Eighteen Years of Age and Older in Respondents' Households in Russian Villages from 1991 to 1999*

(adjusted to 1991 rubles**)

Position	1991 (n=300)	1993 (n=252)	1995 (n=563)	1997 (n=547)	1999 (n=525)
Management	1476.0	318.9	477.4	904.4	633.5
Specialist	965.5	310.6	550.5	961.5	632.6
Clerical	830.8	278.4	468.9	887.0	608.0
Worker/kolkhoznik	817.7	325.6	425.5	775.6	552.0
Private Farmer	-	264.2	1125.2	1237.3	769.9
Self Employed	-	234.3	421.5	780.1	593.4
Total for position	819.8	314.2	446.4	790.2	560.1
Total for Families without position	302.2	121.0	234.3	364.8	220.2
Total	694.3	271.0	380.0	651.1	439.3

* 1991 and 1993 surveys are longitudinal. 1991 survey of households in Latonovo; 1993 survey of households in Latonovo; 1997-1999 panel survey, same households and respondents in Latonovo, Vengerovka & Sviattsovo.

** 1 ruble in 1991= 245.3 rubles in 1993=1805.7 rubles in 1995=2383.5 rubles in 1997=6564.3/1000 rubles=6.6 in 1999.

In 1993 we can observe a dramatic change at the beginning of the restructuring period. All occupational categories lost a substantial amount of their income, on average a loss of almost 2.5 times from 1991 income levels. However, the relative losses varied considerably from one employment category to another. In 1993, managers had lost more than four times their 1991 level of income and specialists has lost more than three times the income they received in the earlier period. These two categories lost relatively more than any other category of workers in the Russian villages.

By 1997 we can observe that average income levels for the total sample were beginning to come close to the 1991 level. The distribution of income between households, however, was quite different in 1997 than it had been in 1991. A new category of officially registered private farmers, although small in number, by this time had become the most economically successful

households in the Russian countryside. Many of these private farmers were former managers and specialists in the large enterprises. Two other categories, specialists and clerical workers, had either returned to or had exceeded 1991 income levels. Managers of large enterprises had regained some of their lost advantages but did not return to 1991 levels. Another new category of self-employed, which was made up largely of former workers/*kolkhozniki* were showing significant income gains and had a very slight advantage over households that only contained workers. Moreover, by 1997 the income of households of families without any employed persons (typically pensioners) exceeded their 1991 level.

The financial crisis of 1998, and the ensuing devaluation of the ruble, affected all Russian households, including those in rural areas. However, the average decline in household income in the rural villages in our study did not fall below 1995 levels. The main reason for this is that the majority of these households were able to compensate for lost income sources through additional production from private plots for consumption and sale. The biggest rural losers in the devaluation of the ruble were households made up exclusively of pensioners that could not compensate for lost income. Workers lost 32.5 percent of their 1991 income level, but families without an employed member lost 82 percent of their income during that period. The latter caused a great deal of concern within the Russian federal government and the level of pensions have been increased to come close to the minimum poverty level consumption basket. These adjustments took place after the interviewing of households in 1999. It is interesting to note in this regard that households with a self-employed family member were able to increase their gains over households that only contained workers/*kolkhozniki*. Our expectation is that in 2001 the income of all categories of households will have returned to 1997 levels and some will have exceeded that level.

In a number of previous publications we have identified a complex set of empirical relationships between household capital, production, sales and income.¹³ In this paper we will focus

13 See Footnote 1.

Table 8.**Monthly Total Income by Household Labor (Human Capital) in Russian Villages from 1991 to 1999*** (adjusted to 1991 rubles**)

Household Labor	1991 (n=198)	1993 (n=161)	1995 (n=422)	1997 (n=422)	1999 (n=422)
1) 0-1.74	263.2	110.2	197.7	337.5	199.0
2) 1.75-2.74	655.3	276.2	412.6	691.1	498.2
3) 2.75-3.74	879.9	338.2	449.3	836.0	551.2
4) 3.75-4.74	1319.2	374.8	550.1	957.6	667.8
5) 4.75+	1230.0	355.3	658.6	1309.6	914.8
Total	694.3	271.0	380.0	651.1	439.3

* 1991 1) n=42, 2) n=87, 3) n=49, 4) n=19, 5) n=1; 1993 1) n= 37, 2) n=54, 3) n=41, 4) n=24, 5) n=5; 1995 1) n=119, 2) n=151, 3) n=105, 4) n=33, 5) n=14; 1997 1) n=126, 2) n=159, 3) n=90, 4) n=41, 5) n=6; 1999 1) n=140, 2) n=130, 3) n=94, 4) n=49, 5) n=9.

** See Table 7.

on the association between human and social capital and household income from 1991-1999. Table 8 shows the long-term relationship between household labor and income.

Household labor is a traditional source of capital in peasant moral economies, including rural Russia. This labor can be viewed as a form of human capital that is embedded within a set of labor and social relationships in the household that are based on trust, which is the prototypical form of social capital.¹⁴

In our study, the labor potential of the household is measured by the age of individual household members and then summed. The conceptualization of peasant household labor is historically derived from Chianov's work.¹⁵ The specific weights to indicate household labor potential for different ages within the household in this study, however, were adjusted through empirical observation in the Russian villages during the current time period. The weights are: 0 (less than 8 years of age and 80

14 Netting, *Smallholders, Householders*; Sanders & Nee, "Immigrant Self-Employment"; Scott, *The Moral Economy of the Peasant*.

15 A.V. Chianov, *The Theory of the Peasant Economy* (Homewood, Ill.: R.D. Irwin, 1966); C.D. Deere & A. de Janvry, "Demographic and Social Differentiation Among Northern Peruvian Peasants," *The Journal of Peasant Studies* 8 (1981), pp. 335-366; O'Brien, Patsiorkovski & Dershem, *Household Capital and the Agrarian Problem in Russia*, p. 72.

Table 9.
Monthly Total Income by Number of Non-redundant Network Ties
in Russian Villages from 1995 to 1999* (adjusted to 1991 rubles**)

Non-redundant Ties	1995 (n=422)	1997 (n=422)	1999 (n=422)
1) 0-2	207.6	480.0	270.0
2) 3-5	356.4	576.2	403.3
3) 6-11	437.0	723.5	517.0
4) 12+	318.2	752.1	518.6
Total	380.0	651.1	439.3

* 1995 1) n=33, 2) n=197, 3) n=187, 4) n=5; 1997 1) n=20, 2) n=176, 3) n=218, 4) n=8; 1999 1) n=25, 2) n=234, 3) n=159, 4) n=4.

** See Table 7.

years and older), 0.25 (8 to 11 years, and 75-79 years), 0.50 (12 to 14 years, and 71 to 74 years), 0.75 (15 to 16 years, and 66 to 70 years), and 1 (17 to 65 years).

Despite the large shifts in inflation that were described earlier, Table 8 shows that during the entire period of observation in the villages, there is a strong positive relationship between level of household labor and level of household income. The most dramatic effects of higher amounts of household labor are found between levels 1 and 2 and 3 and 4. The first category is made up largely of retired couples and widows who are operating essentially in a subsistence economy. They grow food but their products are used almost exclusively for consumption. Alternatively, households in levels 4 and 5, which receive almost twice the average income in the village during the entire period typically produce and sell a substantial proportion of their products for sale for cash in the marketplace. These households have moved beyond survival to the beginning of a niche in the emerging market economy.

Unfortunately, we do not have indicators of social capital in the 1991 and 1993 surveys. Therefore, it is difficult to measure the impact of social capital during the whole decade of the 1990s. Nonetheless, the panel surveys, from 1995 to 1999 contain excellent indicators of social capital, including social exchange helping networks and measures of community attachment.

Non-redundant ties refer to the total number of persons who help in a total of six helping areas that are important for the economic adaptation of rural Russian households. This includes help with borrowing money, trade, care of the household plot, assistance with other household tasks and persons with whom one can discuss personal problems. Table 9 shows the impact of non-redundant network ties on the income levels of households in the Russian villages from 1995 to 1999.

Unlike household labor that has a direct linear relationship to income, the effect of non-redundant ties on income is curvilinear. As shown in Table 9, households receive additional advantages as they increase the number of persons helping them up to 11 persons. After eleven persons in the household's network, however, additional network ties are associated with a drop in income. This relationship is due to the fact that households with moderately high levels of non-redundant tie networks are quite different than households with extremely large numbers of persons in their networks. Moderate size helping networks, from 7 to 11 persons, are most likely to consist of husbands and wives and their children and other adult relatives. Households with extremely large numbers of helping ties, 12 or more, consist of single persons or older retired couples who are extremely vulnerable and need a large number of persons to help them on a day-to-day basis.

Another type of social capital, community attachment, measures the frequency with which members of the household are involved in the social and cultural functions of their neighbors and the community at large. This involves, for example, attendance at neighbors' weddings and village annual events. The relationship between this variable and household income is shown in Table 10.

Table 10 shows that there is a strong linear relationship between this "bridging" type of social capital and household monthly income. This is especially interesting because the overall level of community involvement in the study declined substantially from 1995 to 1999. The number of respondents in 1995 who reported a high level of community attachment was 111, but the number reporting this relationship dropped to 69 in 1999.

Table 10.
Monthly Total Income by Level of Community Attachment in Russian Villages from 1995 to 1999* (adjusted to 1991 rubles**)

Community Attachment	1995	1997	1999
Low	297.4 (n=70)	477.8 (n=69)	279.4 (n=86)
Medium	342.5 (n=241)	651.2 (n=297)	443.6 (n=267)
High	520.3 (n=111)	841.9 (n=56)	706.9 (n=69)
Total	380.0 (n=422)	651.1 (n=422)	439.3 (n=422)

* Anova 1995, F (4)=13.924, p<.001; 1997, F (4)=10.005, p<.001; 1999, F (4)=15.937, p<.001.

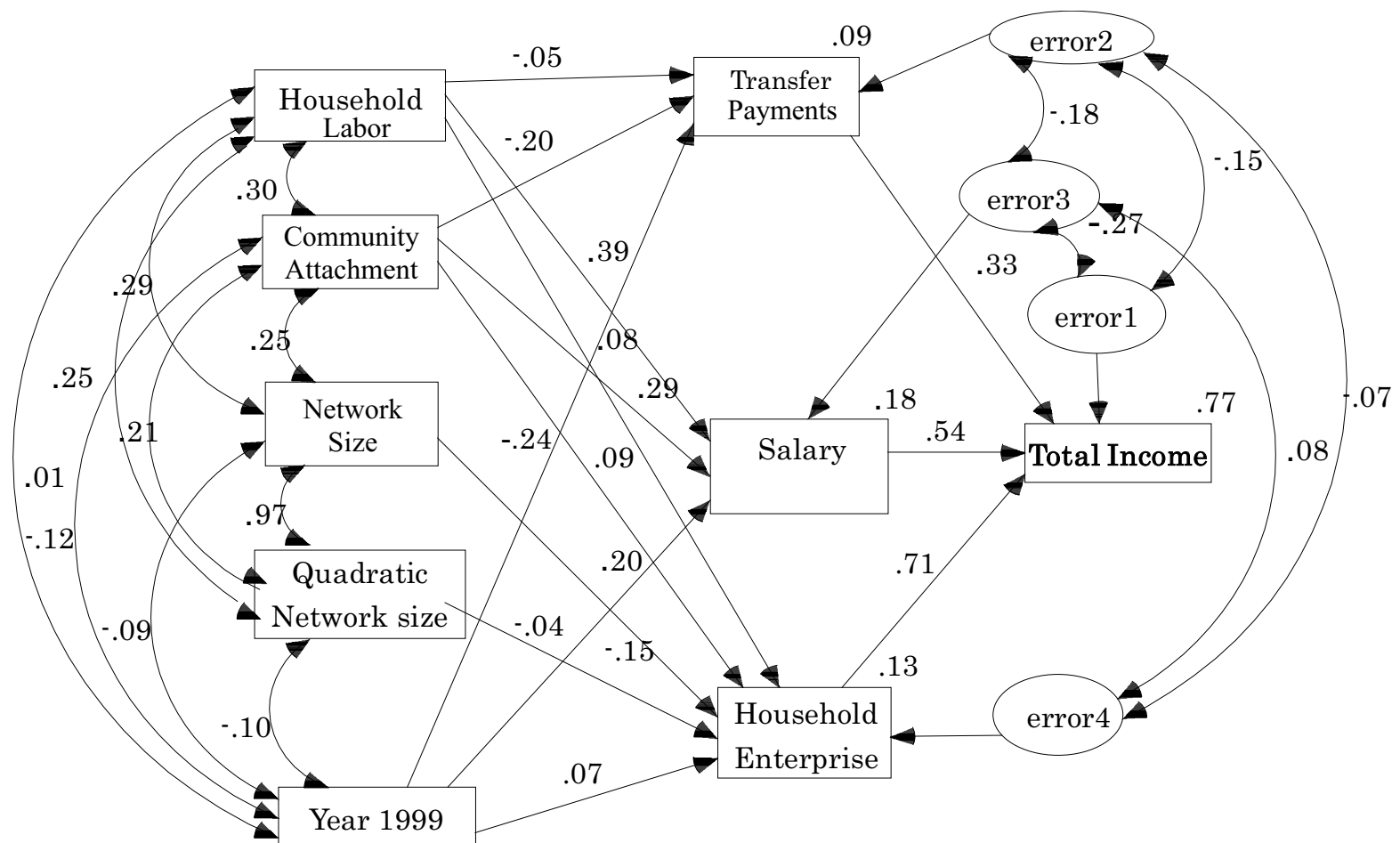
** See Table 7.

Nevertheless, respondents who were able to maintain medium or high levels of involvement with their neighbors and with village cultural functions were better able to maintain income levels in the face of the financial collapse that occurred in 1998. This is very encouraging as an indicator of the importance of broader community-level institutional development in the economic development of Russian rural life.

More precise relationships between different types of human and social capital and household income are shown in Figure 1. The structural equation model illustrated in Figure 1 shows the effects of different types of household capital on different income sources and *monthly monetary household income* from 1995 to 1999. The data used in the structural equation model is "pooled," which means that it includes three years of observations (1995, 1997 and 1999) on each household (N of 422 • ~ 3 = 1266 observations). This permits us to observe the most stable relationships between household capital and income over time.

The Chi Square value shown in Figure 1 is a measure of the overall fit of the empirical and theoretical model of the effects of household capital on income. A Chi Square value of 7.5, with 7 degrees of freedom, has a probability value of .38, which indicates that there is a high degree of fit between the theoretical and empirical models. The model is recursive, which means that there are no feedback loops. Table 11 shows the R² values for each of the endogenous variables in the model, as well as the

Figure 1.
Effects of Household Labor, Community Attachment and Helping Networks on Peasant Household Monthly Monetary Income in Three Russian Villages from 1995-1999 (Chi Square = 7.5, df = 7, p = .38)



standardized regression weights for the paths from observed exogenous to endogenous variables.

The Critical Ratio (obtained by dividing the covariance estimate by its standard error) for 11 of the 14 paths is greater than 1.96 and thus statistically significant. Three paths, the effects of helping networks and its quadratic term on household enterprises (1.94 & -1.48), and the effect of year 1999 on salary (-1.54) do not reach the $p < .05$ level of significance but improve the fit of the model and thus are retained in it.

In addition, the structural equation model permits us to account for covariation between exogenous variables as well as estimating errors for each of the endogenous variables. The exogenous (independent) variables on the left hand side of the model include the three specific types of household capital – household labor, non-redundant network ties and community attachment – that were described earlier (see Tables 8-10).

The year 1999 is also included among the exogenous variable because of the dramatic effect of the 1998 devaluation of

Table 11.
Standardized Regression Coefficients for Observed Exogenous Variables and Explained Variance (R²) for Effects of Household Labor, Community Attachment and Helping Networks on Peasant Household Monthly Monetary Income in Three Russian Villages

Observed Endogenous	R ²	Standardized Regression Weights	Observed Exogenous
Total Monthly Monetary Income	0.77	0.33 0.55 0.71	Transfer Payments Salary Household Enterprise
Transfer Payments	0.09	-0.05 -0.20 -0.24	Household Labor Community Attachment Year 1999
Salary	0.18	0.39 0.09 -0.04	Household Labor Community Attachment Year 1999
Household Enterprise	0.13	0.29 0.09 0.20 -0.15 0.07	Household Labor Community Attachment Network Size Quadratic Network Size Year 1999

$X^2 = 7.50, df = 7, p = 0.38$

the ruble on household incomes in the subsequent year. In the middle of Figure 1 are the main sources of income for rural Russian households. A detailed presentation of these sources is shown in Table 5. The structural equation model required the collapsing of some of the specific sources of income into large categories. Thus, for example, primary and secondary salary and wages from employment is combined as are the three types of household enterprise income.

The final variable on the far right of Figure 1, the endogenous variable of primary interest, is our measure of total monthly per capita household income that is derived from the various income sources to its immediate left and is the result, indirectly,

of the various types of household capital shown on the far left of the diagram.

The model shows the impact of the structural changes in the villages that we have described earlier through relative contributions of different sources to total household monetary income. The strongest relationship (see regression weights in Table 11 and Figure 1) is between household enterprise income and total monthly monetary income (0.71). The weakest relationship is between transfer payments and total monthly income, which illustrates the difficulty faced by households on fixed incomes during the economic transition period.

It is also important to observe that macro-economic difficulties have had much more serious consequences for persons dependent on transfer payments than persons dependent on salaries. The relative strength of the negative effect of the 1998 financial crisis on these two categories is reflected in the stronger regression coefficient (-0.24) for the effect of year 1999 on transfer payments than the weaker negative effect of year 1999 on salaries (-0.04). Most striking is the fact that year 1999 actually had a positive effect on household enterprise income (0.07), which shows that peasant households with human and social capital advantages were able to use these resources to take advantage of new opportunities for sales when prices increased for all types of agricultural products.

Moreover, income from household enterprises depends on a more diverse set of human and social capital than is the case with the other two sources of income. The size of household helping networks, up to a certain point, is positively associated with the ability to gain income from household enterprises. Note the positive sign of the additive term for network size (0.20) and the negative sign for the quadratic term (-0.15). This is entirely consistent with the figures shown in Table 9. Salary income (0.09) and household enterprise income (0.09) are both positively associated with community attachment. These relationships are consistent with the figures in Table 10. Households that are more dependent upon transfer payments (mainly pensioners), however, are more likely to be withdrawn from community activities and this is shown in the negative relationship

between transfer payments and community attachment (-0.20). Similarly, household labor is positively associated with both salary (0.39) and household enterprise income (0.29) but is negatively associated with transfer payments (-0.05).

CONCLUSION

The findings we have reported show that there has been a much more fundamental structural change in the Russian countryside than most observers have reported.

There has been a substantial shift in the nature of employment in the Russian villages and this, in turn, has generated new sources of income for households. Despite the persistence of the large enterprises, they account for a much smaller proportion of average total family income than they did a decade earlier.

These changes in the structure of employment and sources of income have had profound effects on the differentiation between households in rural villages. The opportunities for new sources of income, generated largely by household-based enterprises, have also meant that some families have done much better than others.

One source of differentiation, which is consistent with what would be expected in any society, is the difference between households in human capital in the form of education. We have measured this indirectly through the gains and losses of households which contain adults with different types of occupations.

Other sources of differentiation are also related to household capital, but they are not typically identified in most assessments of household strengths and weaknesses. This includes household labor, household social networks and household community attachment. While household labor has been identified for some time in the classical peasant economy literature, household social exchange helping networks and community attachment pertain to much more generalizable strengths in the development of small business enterprises that are found in industrial as well as developing societies.