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**Two Channels of Consumer Credit  
in the USSR**

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Two Channels of Consumer Credit  
in the USSR

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## Two Channels of Consumer Credit in the USSR

Kimberly C. Neuhauser<sup>1</sup>

### Summary

The opportunities for borrowing by households in the Soviet Union were limited. Credit was planned and rationed by the state and was not readily available for consumer purchases. The household sector adapted to the absence of consumer credit, creating a system of informal credit provision. Under this informal system households were able to borrow and willing to lend relatively large amounts of cash. This paper discusses consumer credit in the USSR as provided by both the state and household sectors. It begins with a discussion of the various types and volumes of consumer credit provided by the state in the 1970s and 1980s. A discussion of the value of consumer credit generated in the household sector follows, based on the Berkeley-Duke Survey. The paper then explores the characteristics of informal credit mechanisms and their applicability in the Soviet command-administrative economy. It is hypothesized that in the Soviet case uncertainty about the availability of goods was in part responsible for this behavior. This paper also identifies some of the determinants of a household's participation in this informal market.

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## I. Introduction

It was not uncommon in the Soviet Union<sup>2</sup> for individuals to borrow or lend relatively large sums of money from/to other individuals. The absence of financial intermediation and the strict rationing of credit from official sources led to the development of an informal mechanism. As is well known, the consumer sector was largely neglected by the Soviet state and treated as a residual. Similarly, the provision of consumer credit was not accorded a high priority, accounting for some 8 percent of total long-term credit provided by the state. Just as individuals developed ways and means to overcome shortages of goods and misallocations generated by the planned economy, they also overcame the shortage of consumer credit. As part of the Berkeley-Duke Project on the Second Economy in the USSR, this paper discusses the informal mechanisms developed by households to generate credit in urban areas of the Soviet Union.

Five percent of the households surveyed for the Berkeley-Duke Project<sup>3</sup> were involved in informal credit transactions during the course of their last normal year (LNY)<sup>4</sup> in the USSR. On average, these households had an outstanding debt of 667 rubles at the end of the LNY. The discussion of consumer credit will proceed in the following manner. In the next section the value of official or state sponsored sources of consumer credit will be discussed. Evidence from the Berkeley-Duke survey will be used in section III to estimate the volume of informal credit, and to discuss the forms

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<sup>2</sup> This study concerns the availability of consumer credit under the centrally planned economy of the USSR and was begun in the summer of 1991. The empirical data used in this study relate to the late 1970s; hence I retain the use of the terms "Soviet," "Soviet Union," "USSR," and "Leningrad" in their traditional meanings.

<sup>3</sup> The Berkeley-Duke Project on the Second Economy in the USSR has been designed around a household budget survey. 1,061 emigre households covering 3,023 individuals were interviewed in various cities in the U.S., and were asked to relate their income and expenditures for the last normal year (LNY) of their existence in the USSR. The survey is described in more detail in Section III.

<sup>4</sup> The last normal year (LNY) is defined as the last calendar year before the decision to emigrate affected the material well being of the household.

that it takes. Section IV has a general discussion of the economic rationale for participating in the informal credit market. My conclusions are presented in Section V.

## II. State Provision of Credit

The Soviet state provided credit in four forms: installment credit extended through the retail trade network for the purchase of consumer durable goods and other "big ticket" items; loans for the construction of cooperative and individual housing; credit provided to trade union members through credit unions (*kassa vzaimopomoshchi* - KVP); and loans extended on the security of valuables by the state-run pawnshops (*lombard*).

The bulk of credit extended by the state was planned and rationed in the USSR in accordance with the quarterly or annual components of the Five Year Plan. The options available for consumers were few. This section briefly describes the characteristics and relative magnitudes of state sponsored credit. These are summarized in Table 1 below. The total value of consumer credit extended increased fairly steadily over this period as can be seen in Table 1. The value of credit extended by the state increased on a per capita basis from an estimated 20.30 rubles per capita in 1970 to 40.23 rubles in 1986.<sup>5</sup>

State sponsored credit extension to the population (hereinafter "state credit" or "formal credit") was characterized by two features. First, credit was usually extended for a specific purpose, such as for the purchase of a durable good or housing. Over 60 percent of formal credit provided was of this type. Second, there was usually an intermediary between the state bank and the consumer, such as a housing cooperative which received funds from state banks on behalf of its members, the retail trade

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<sup>5</sup> These per capita estimates were made on the basis of the entire population of the USSR. While it is probably the case that the value of credit extended differed between republics of the former Soviet Union, and between rural and urban areas, it is not possible to make an estimate taking those differences into account. Data are available on the values of credit extended for loans for housing construction by republic, and these will be discussed in Section II. B.

network, trade union credit unions (KVP) or state pawnshops. The various intermediaries and their roles will be discussed below.

Table 1: Credit Extended to the Population  
(millions of rubles)

	IHC	ZhSK	Installment Credit	KVP	Pawn- shops	Total
1970	160.9	485.3	2333	1373	580	4932.0
1971	157.6	451.4	2861	1407	585	5462.6
1972	168.1	418.2	3302	1443	591	5922.3
1973	171.5	488.0	3448	1479	597	6183.6
1974	173.6	467.2	3568	1517	602	6327.6
1975	168.6	449.5	3635	1555	608	6416.0
1976	156.0	414.0	3789	1585	613	6557.6
1977	182.6	439.6	3917	1616	619	6774.2
1978	212.3	451.7	3881.1	1647	624	6816.9
1979	233.1	429.8	3661.4	1680	630	6633.7
1980	232.3	443.1	3558.5	1712	635	6580.9
1981			3126.3	1728	640	
1982			3958.3	1744	645	
1983	563.0	648.0	5609.0	1760	630	9210.2
1984	652.0	864.0	6383.0	1776	691	10366.5
1985		971.4	7167.9	1793	663	
1986	623.6	1042.2	7105.8	1804	669	11244.3
1987	931.8	1178.2	6620.5	1805	676	11211.3

Notes:

IHC (individual housing construction): Finansy SSSR: statisticheskiy sbornik, various years.

ZhSK (cooperative housing construction): Finansy SSSR: statisticheskiy sbornik, various years.

Installment Credit: 1970 - 1977 from Zakharov [1979], others estimated from data in Torgovlya

KVP (kassa vzaimopomoshchi): 1983 and 1984 from Zakharov [1986], others estimates based on 2.4 rubles per capita

Pawnshops: 1983 and 1984 from Zakharov [1986], others estimated based on 15.22 rubles per employee/worker

For the period of 1970 to 1985 the proportion of installment credit was between 50 and 60 percent of the estimated total provided to the population; the proportion of credit extended by KVP was between 16 and 27 percent; the proportion of housing loans was between 9 and 14 percent; and the proportion of credit provided by state pawnshops was between 6 and 10 percent.<sup>6</sup> Installment credit is by far the single most

<sup>6</sup> The data in Table 1 are derived from several sources and in several cases are estimates (See Notes, Table 1). For the years 1983 and 1984, the values for credit extension are all from the same source [Zakharov, 1986] and are most likely to be internally consistent.

significant type of credit made available to the population. The relative magnitudes are displayed in Table 2.

Table 2: Proportion of Total Credit by Type  
(in percent)

	IHC	ZhSK	Installment Credit	KVP	Pawn- shops	Total
1970	3.26	9.84	47.30	27.83	11.76	100
1971	2.89	8.26	52.37	25.76	10.72	100
1972	2.84	7.06	55.76	24.36	9.98	100
1973	2.77	7.89	55.76	23.92	9.65	100
1974	2.74	7.38	56.39	23.97	9.52	100
1975	2.63	7.01	56.66	24.23	9.48	100
1976	2.38	6.31	57.78	24.17	9.35	100
1977	2.70	6.49	57.82	23.86	9.14	100
1978	3.11	6.63	56.93	42.17	9.16	100
1979	3.51	6.48	55.19	25.32	9.49	100
1980	3.53	6.73	54.07	26.02	9.65	100
1981						
1982						
1983	6.11	7.04	60.90	19.11	6.84	100
1984	6.29	8.33	61.57	17.14	6.67	100
1985						
1986	5.55	9.27	63.19	16.04	5.95	100
1987	8.31	10.51	59.05	16.10	6.03	100

Sources: see Table 1.

Long-term credit extended to the population represented a very small proportion of total long-term credit extended by the state. Data are not available to allow a comparison between the amount of short-term credit extended to the productive and household sectors.<sup>7</sup> Long-term credit is extended to the population for housing construction. As shown in Table 3, this accounts for 8 percent or less of total long-term credit provision. In fact, the proportion of long-term credit provided to the population fell fairly steadily in the 1970s from 8.9 percent in 1970 to 4.5 percent in 1980, although it reached over 14 percent by 1986.

<sup>7</sup> Table A1 in the Appendix shows the value of outstanding credit at the end of the year for both long- and short-term credit. Short-term credit provision overwhelmed long-term credit on a cumulative basis. This is not a surprise in a planned economy where the state was responsible for the daily financial condition of all enterprises and inter-enterprise credit was forbidden.

Table 3: Long-Term Bank Credit to Kolkhozes,  
Population, Enterprises and Organizations;  
Value of Loans Extended during the Year  
(millions of rubles)

	1970	1971	1972	1973	1974	1975	1976
Total	7294.0	8244.5	8721.7	9773.3	10706.7	11363.6	12308.6
Gosbank	5131.2	5634.1	5052.4	6363.4	6949.3	6916.7	7285.7
Kolkhoz*	2183.2	2400.6	2736.8	2961.7	3234.8	3293.9	3774.6
Sovkhoz	290.5	385.5	1301.5	1495.0	1706.1	1447.9	1301.3
Oth State Ent	2049.1	2117.3	1080.2	103.9	1113.8	1102.8	1042.3
Ent. Assocs.	304.2	402.7	501.5	564.2	666.3	778.1	891.6
Cons. Coops	173.3	198.5	190.2	163.7	76.7	142.6	137.8
Population	130.9	129.5	142.2	147.9	151.6	148.4	138.1
Rural ZhSK							-
Stroibank	2162.8	2610.4	2769.3	3409.9	3757.4	4446.9	5022.9
State Ents	1647.5	2130.9	2325.2	2898.3	3268.2	3977.2	4591.0
ZhSK	485.3	451.4	418.2	488.0	467.2	449.5	414.0
Population	30.0	28.1	25.9	23.6	22.0	20.2	17.9
Total Population	646.2	609.0	586.3	659.5	640.8	618.1	570.0
Population as % of Total	8.86	7.39	6.72	6.75	5.99	5.44	4.63
Year	1977	1978	1979	1980	1986	1987	
Total	15706.7	16360.3	15134.1	15067.3	11601.4	13195.8	
Gosbank	7224.0	8458.4	8271.6	8702.7	7729.6	8085.2	
Kolkhoz*	4027.5	4482.9	4496.5	4738.0	3528.7	2720.5	
Sovkhoz	1171.4	1278.3	1094.4	1518.0	1621.2	1873.9	
Oth State Ent	733.7	1248.1	12.6	1057.0	1247.5	1914.8	
Ent. Assocs.	960.3	1078.3	999.4	960.3	393.4	444.6	
Cons. Coops	167.3	177.8	203.3	205.9	329.9	203.2	
Population	163.8	192.9	209.5	205.8	579.5	878.6	
Rural ZhSK	-	0.1	13.1	17.7	29.4	50.0	
Stroibank	8482.7	7901.9	6862.5	6364.6	3871.8	5110.6	
State Ents	8024.3	7430.9	6422.2	5912.7	2814.9	3929.2	
ZhSK	439.6	451.6	416.7	425.4	1012.8	1128.2	
Population	18.8	19.4	23.6	26.5	44.1	53.2	
Population Total	622.2	664	662.9	675.4	1665.8	2110	
Population as % of Total	3.96	4.06	4.38	4.48	14.36	15.99	

Notes: Population Total includes loans to the population and ZhSK.

Sources: Finansy SSSR: statisticheskiy sbornik, various years.

Data are not available to determine whether this was a sudden increase in the early perestroika years or the result of rapid although steady growth in the early 1980s.

Table 4 shows the flow of credit from Gosbank and Stroibank to various sectors of the economy.<sup>8</sup> These values are derived by subtracting the value of loans repaid from the value of credit extended for a given year. We see on balance that the state increased the net value of total credit extended. Considering loans made to the population, for most of the 1970s repayments to Stroibank for individual housing construction in urban areas were greater than the value of loans extended. This was not true for Gosbank loans for individual housing construction in rural areas except for two years, 1970 and 1975. The annual extension of loans for cooperative housing construction were greater than the repayments. When the total value of loans for housing construction from Gosbank and Stroibank are considered, the value of net credit to the population increased each year.

In the 1970s, the population repaid a higher proportion of loans than it received. For example, in 1970, consumers received 8.86 percent of long term credit granted, but in that year they made 9.52 percent of all loan repayment. Again in the perestroika years it appears that the population enjoyed a relative credit flow when the proportion of loans received by consumers was significantly larger than the proportion of loans repaid. It is likely that this is the result of increased lending to the population in the mid-1980s, with repayments of smaller loans made in the past providing the difference.

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<sup>8</sup> The Soviet banking system was dominated by a monopoly bank, Gosbank. Gosbank extended short-term loans to enterprises for working capital, oversaw plan fulfillment and monitored payments to the population, and created money. Stroibank was one of the few specialized banks; it extended credit for capital investment. (See Gregory and Stuart, 1990, pp 197-198.)

Table 4: The Net Flow of Long-Term Credit to Kolkhozes, Population, Enterprises and Organizations; Net Value of Loans Extended during the Year (million rubles)

	1970	1971	1972	1973	1974	1975	1976
Total	3656.8	4100.3	4198.7	4691.2	5568.6	5826.0	6864.9
Gosbank	2254.4	2564.4	1951.3	3150.4	3869.7	3925.0	4569.9
Kolkhoz*	1406.8	1533.1	1854.5	1902.3	2375.3	2646.6	3154.9
Sovkhoz	231.0	289.7	1237.5	1220.6	1003.1	520.9	608.1
Oth State Ents	386.8	372.9	-716.6	-1390.6	-8.7	130.7	100.8
Ent. Assocs	248.6	331.6	416.8	460.9	531.6	593.6	665.0
Cons. Coops	-14.7	34.6	41.5	27.0	-37.8	33.6	40.3
Population	-4.1	2.5	17.6	3.2	6.2	-3.4	0.8
Stroibank	1402.4	1535.9	1347.4	1540.8	1678.9	1901.0	2295.0
State Ents	1098.3	1288.0	1162.3	1313.0	1496.8	1766.7	2230.3
ZhSK	322.3	260.8	198.6	239.9	193.2	142.6	75.0
Population	-18.2	-12.9	-13.5	-12.1	-11.1	-8.3	-10.3
Population Total	-22.3	-10.4	4.1	-8.9	-4.9	-11.7	-9.5
Year	1977	1978	1979	1980	1986	1987	
Total	9994.2	8696.8	6668.3	5783.6	1000.0	1398.1	
Gosbank	5005.2	5035.4	4899.7	4918.9	1943.2	1636.8	
Kolkhoz*	3244.8	3519.5	3498.5	3729.4	1646.6	529.4	
Sovkhoz	701.6	479.6	421.2	576.3	74.9	250.1	
Oth State Ent	294.6	192.2	-1015.3	-59.7	3.5	621.6	
Ent. Assocs	676.6	721.9	588.8	515.2	-214.1	-306.6	
Consumer Co	52.9	53.8	70.3	71.8	118.2	-29.9	
Population	34.7	68.3	82.8	73.3	296.6	536.1	
Stroibank	4989.0	3661.4	1768.6	864.7	-943.2	-238.7	
State Ents	4921.7	3601.8	1770.0	857.1	-1482.5	-894.2	
ZhSK	75.2	63.6	-4.3	2.4	519.5	629.3	
Population	-7.9	-4.0	2.9	6.1	19.8	26.2	
Population Total	26.8	64.3	85.7	79.4	316.4	562.3	

Notes: Population Total includes loans to the population and ZhSK.

Sources: Finansy SSSR: statisticheskiy sbornik, various years.

### A. Installment credit

The single largest type of credit available to the population was installment credit, comprising over 60 percent of total formal credit available to consumers during the 1970s and early 1980s. Installment credit was provided through the retail trade network. Table 5 presents the value of goods sold on installment credit and the associated value of credit extended. Roughly 77 percent of the total value of goods sold on installment credit was extended as credit to the population. The value of installment credit rose fairly steadily over this period. Measured in current rubles, it increased in absolute terms (from 2.3 to 6.2 billion rubles) and on a per capita basis (from 9.65 to 23.50 rubles) between 1970 and 1987.<sup>9</sup> The value of goods sold on installment credit accounted for between 2.8 and 5.7 percent of all non-food goods sold.

The right of citizens to purchase goods on installment credit was codified in a Resolution of the USSR Council of Ministers of August 12, 1959, [Lapidus, 1976a, p. 59] effort to provide the population with a more convenient method of obtaining durable goods, as well as to increase the total turnover in the retail trade sector.

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<sup>9</sup> It should be noted that nominal wages rose steadily over this period as well, from an average monthly wage of 122.0 rubles in 1970 to 202.9 rubles in 1987. Although there was no open inflation in this period, this increase in average monthly wages of 66.3 percent over the 17 years probably represents both increased purchasing power on the part of the population (due to rising productivity) and inflationary pressures on the system. If wage levels are used to deflate the value of installment credit extended by the state, then the value of installment credit increased by a factor of 1.7 over this period. In addition to increases in wages over this period, new products and technologies were introduced in the consumer goods sector, with concomitant higher prices. It is not possible to quantify these effects to create a "real" purchasing power measure of trends in installment credit. Wage data are from Narodnoye Khozyaystvo, various years.

Table 5: The Development of Sales of Goods on Installment Credit  
(million rubles)

	Sales of Goods on Credit	Percent Annual Growth	Share of Non-food Goods Sales	Value of Extended Credit	Share of credit/ Cost
1960	633		1.8	489 <sup>a</sup>	
1961	1110		3.1	857	77.2 <sup>b</sup>
1962	1583	142.6	4.01	1213	76.6
1963	2133	134.7	5.6	1626	76.2
1964	2753	129.1	6.9	2077	75.4
1965	3372	122.5	7.6	2538	75.3
1966	3315	98.3	6.9	2485	75.0
1967	3049	92.0	5.7	2289	75.1
1968	3343	109.6	5.7	2502	74.8 <sup>b</sup>
1969	3307	98.9	5.2	2476	74.9
1970	3122	94.4	4.5	2333	74.7
1971	3766	120.6	5.1	2861	76.0
1972	4266	113.3	5.3	3302	77.4
1973	4464	104.6	5.3	3448	77.2
1974	4602	103.1	5.1	3568	77.5
1975	4696	102.0	4.8	3635	77.4
1976	4907	104.5	4.8	3789	77.2
1977	5039	102.7	4.6	3917	77.7
1978	4994	99.1	4.3	3881 <sup>c</sup>	
1979	4711	94.3	3.8	3661	
1980	4621	98.1	3.5	3591	
1981	4060	87.9	2.8	3155	
1982	5141	126.6	3.5	3994	
1983	7202	140.1	4.8	5596	
1984	8144	113.1	5.2	6328	
1985	9309	114.3	5.7	7233	
1986	9228	99.1	5.3	7170	
1987	8598	93.2	4.9	6681	
1988	8204	95.4	4.3	6375	

a Value of credit extended in 1960 is estimate based on total value of goods sold on credit, with credit extension for 77.2 percent of the total value

b Indicates that my calculated value (in table) differs from Zakharov's

c Values of installment credit extended for 1980 - 1988 are estimated based on 77.7% of total cost of goods sold on installment credit.

Sources:

1961-1977 Zakharov, 1979, p. 75

1960, 1980-1988: Torgovlyya SSSR 1989. Moscow: Goskomstat, p. 170

## 1. Eligibility for Installment Credit

Most members of society are eligible to purchase goods on credit, although there are exceptions. The following social groups were eligible:

workers and employees  
including military personnel of officer rank and sergeant rank

pensioners and graduate students (*aspiranty*)  
if they are studying in the same city where the trade enterprise is located.

Installment credit was not extended to workers on temporary or seasonal work, non-graduate students in higher education institutions, and students in technikums, schools and other institutions of higher learning. Although pensioners were eligible in principal, it is likely that installment credit was extended only to those who were still employed, as an incentive to encourage their participation in the labor force and in an effort to reduce labor mobility. Those that were truly retired probably rarely received installment credit.<sup>10</sup>

## 2. Terms of Credit

Most recently the terms for installment credit were set out by a Council of Ministers Resolution on July 5, 1985, "On the sale of durable goods on credit" [*Izvestiya*, 1985, p. 3]. It stated that the downpayment should be no less than 25 percent of the purchase price. If the price of the good is greater than 3,000 rubles, the downpayment was to be no less than 50 percent of the cost. The remainder of the cost became the amount of extended credit, which was to be repaid by the consumer in a period of 6 months to three years; for goods costing more than 3,000 rubles up to four years. The

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<sup>10</sup> The percent of population employed as workers and employees (i.e., excluding collective farm workers) rose from 37.31 to 42.84 between 1970 and 1982, then fell off to 42.09 in 1987. These figures may be the best indicator of eligibility for installment credit.

consumer secured ownership of the good sold on credit upon the receipt of the downpayment. This included the right to resell the goods.<sup>11</sup>

Other terms of the installment credit agreement included a payment by the consumer to the retail trade shop of 2 percent of the value of the extended credit for a good in value up to 3,000 rubles, and a payment of 3 percent of the value of the extended credit for goods worth more than 3,000 rubles.

To secure the purchase of a durable good on installment credit the consumer had to obtain a document (*porucheniya-obyazatel'stva*) from his or her place of employment signed by the senior bookkeeper verifying the purchaser's salary and signed by the consumer. Upon the dismissal of an employee with outstanding debts, the place of employment was required to inform all creditor organizations within five days of the dismissal. It appears that the employer was liable for the unpaid balance of an employee's debts along with a penalty if the creditor was not informed about a dismissal within the required five days [*Izvestiya* 1986 p. 3]. Late payment of installment credit incurred a penalty of 0.1 percent per day on the unpaid balance.

### 3. State Financing of Installment Credit

Gosbank provided credit to the retail trade network to support sales of durable goods on credit. The retail trade organization paid 2 percent for credit from Gosbank and received between 2 - 3 percent of the total of the loan depending on its length from the customer. The higher percentage received for making loans was designed to cover to some extent additional costs for the retail trade shops of sales of goods on credit [*Makhina*, 1974, pp. 44 - 45].

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<sup>11</sup> St. 30 i 43 Principles (osnov) of civil law, as quoted in "Tovary v kredit," *Izvestiya* March 31, 1986, p. 3.

#### 4. The Pattern of Durable Goods Sales on Installment Credit

Retail trade organizations sold selected goods on credit to consumers. The selection of goods that were available on credit was established by a list determined by the republican Council of Ministers<sup>12</sup>. This list included goods found in sufficient quantities in the retail trade network, but excluded jewelry [*Izvestiya*, 1986, p. 3].

The types of goods most often offered for sale on credit are durable goods such as:

- watches
- radios and radio receivers
- television sets
- cameras
- bicycles and mopeds
- motorcycles and motorscooters
- vacuum sweepers
- sewing machines

Table 5 presented above shows the value of durable goods sales on credit to the population for the years 1960 to 1988.

Over the period 1970-1988 the value of credit extended for goods sold on credit increased fairly steadily from 2.3 billion rubles in 1970, peaking at 7.2 billion rubles in 1985, and then declining in the following years to 6.4 billion rubles in 1988. The annual extension of installment credit grew by a factor of 2.78 between 1970 and 1988. Over this same period, average monthly wages rose by a factor of 1.80, from 120.0 rubles to 219.8 rubles.

Data available from *Torgovlya* allow a view of the structure of durable goods sold on credit. Table 6 shows the calculated percent of durable goods units sold on credit for selected years in the 1970s and 1980s.<sup>13</sup>

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<sup>12</sup> Higher Resolution of the Council of Ministers of July 5, 1985 on credit. See "Tovary v kredit," *Izvestiya* Mar 31, 1986, p. 3.

<sup>13</sup> This table was calculated on the basis of Tables A2 and A3 in the Appendix.

Table 6: Calculated Percent of Sales on Installment Credit

	1970	1975	1980	1985	1988
Radio Equipment	14.19	12.67	9.93	11.40	11.28
Television Sets	0.00	53.08	29.42	38.06	31.91
Cameras	2.39	1.75	1.68	0.00	0.00
Bicycles and Mopeds	7.96	5.91	4.14	3.33	2.54
Motorcycles	25.98	17.33	12.98	26.90	23.52
Sewing Machines	11.77	15.60	4.65	0.00	0.00
Watches	0.48	0.56	0.61	0.38	0.28
Refrigerators /Freezers	0.00	0.00	17.58	22.87	17.46
Washing Machines	0.00	0.00	6.22	2.45	1.63

Source: Tables A2 and A3 in the Appendix

A greater proportion of television sets were sold on credit than any other durable good.<sup>14</sup> Televisions sets began to be offered for sale on installment terms in the mid-1970s. In 1975 over half of all television were sold on credit. In the following years, roughly one third of all televisions sets were sold to the population on installment credit. Following television sets in terms of proportion of sales on installment credit, were the categories of motorcycles and motorscooters, and refrigerators and freezers. Between one-eighth and one-fourth of all motorcycles and motorscooters, and roughly one-fifth of refrigerators and freezers were sold on installment credit.<sup>15</sup> These three types of durable goods were by far the most expensive of the durable goods sold in state and cooperative stores as can be seen in Table A4 in the Appendix. Of other goods sold on credit about 10 percent of radio equipment, 3 percent of washing machines, 2 percent of cameras and less than 1 percent of watches were sold on credit.

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<sup>14</sup> Notably, automobiles are not sold on installment credit. For a discussion of the automobile market see Pyle, 1993.

<sup>15</sup> It appears that refrigerators and freezers were included on the list of available goods sometime in the late 1970s.

## B. Housing Construction Loans

The state provided loans for the construction of cooperative apartment buildings and individual houses. Credit for cooperative housing construction was extended by Stroibank to cooperatives and for the most part occurred in urban areas. Gosbank began to extend credit for rural cooperative housing construction in the late 1970s. Credit for individual housing construction was extended by Gosbank to households in rural areas. A smaller proportion of credit was extended by Stroibank for individual housing construction in urban areas. Credit for cooperative housing construction will be discussed first, followed by credit for individual housing construction.

### 1. Cooperative Housing Construction

Gosbank and Stroibank extended loans to housing construction cooperatives, called "zhilishno-stroitel'nyy kooperativ" or ZhSK. Cooperative housing consisted of multi-story, multi-family apartment buildings. The policy to extend credit for housing construction cooperatives was introduced in the late 1950s after a decision taken by the Communist Party Central Committee and the Council of Ministers. This decision was followed by another taken June 1, 1962 [Zonov, 1983, p. 15]. Both statements noted the significant role of bank credit in the development of these programs.

#### a. Role of Cooperative Housing Construction

Although cooperative housing makes up a small proportion of total living space (just under 3 percent in 1980 and around 4 percent in the second half of the 1980s [Alexeev, 1993a p. 875], it was considered by the Soviet leadership to be an important part of the solution to the "acute problem" of living space (as Gorbachev described it) in drafting the 12th Five Year Plan. The idea behind permitting cooperative housing was

that it would make use of the population's financial resources, and thus create a savings for the state budget. Furthermore, it was envisioned that allowing households to spend their cash on housing would be a good way to bring about a better balance in the aggregate income and expenditures of the population. It was hoped that part of the downpayment would come from cash holdings and some out of savings, and that this would serve to absorb some of the households' cash holdings that the leadership believed were excessive. Cooperative housing construction was also expected to expand the effort by the population in productive activities, as households had to provide some labor for construction of their cooperative housing.

According to one estimate, increasing the share of cooperative housing construction would have allowed the saving of 2.6 billion rubles of budgetary funds for the 12th Five Year Plan, and was expected to help to balance the income and expenditures of the population to a significant degree, along with decreasing the queue for the ZhSK [Chernetsov, 1987, p. 53].

#### b. Sources of Credit for ZhSK

The source of credit for building cooperative or individual housing depended upon the location of the borrower. The majority of cooperative housing construction took place in urban areas, and Stroibank extended loans to urban apartment construction cooperatives. Beginning in 1978 Gosbank began to extend loans for cooperative apartment construction in rural areas. In both rural and urban areas loans for cooperative housing construction were extended to the cooperative, not to the individual. Here the ZhSK served as the intermediary between the ultimate lender and the borrower.

The annual value of loans extended to housing construction cooperatives in the 1970s was on average 446.1 million rubles each year, with no strong trend over that time. The average annual value of loan repayment for this period was 303.5 million rubles

annually, tending to increase over this time period, from 163.0 million rubles in 1970 to 423.9 million rubles in 1980. For every year except 1979 the value of loans received by the ZhSK was greater than the sum of loan repayments, increasing the net flow of loans to ZhSK in those years.

c. Terms of Credit for ZhSK

Loans for cooperative housing construction are made for 70-80 percent of the estimated cost of the housing, to be repaid over 25 years. The terms of the loan are a function of where the housing is to be built. Credit is extended to the ZhSK after the members have amassed 20 - 30 percent of the estimated costs of construction of the apartments [Garbuzov, 1986, p. 454]. The state provided credit carried an annual interest charge of 0.5% [Chernetsov, 1987, p. 55].

The management of an enterprise, in agreement with the trade union, could provide material assistance free-of-charge out of the fund of material incentives ('fond material'nogo stimulirovaniya') for both ZhSK and young adult ZhSK.<sup>16</sup> Eligibility for assistance depended upon tenure. Workers having been with the firm no less than 5 years, and young adult workers having been with the firm no less than 2 years were eligible. The amount of assistance depended upon the location. Generally it could reach 30 percent of the downpayment. Up to 40 percent of the downpayment could be provided in hardship regions such as the North, the Far East, the Far North and similar

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<sup>16</sup> A policy was introduced to create cooperative apartment buildings for young adults, called "molodezhnyy ZhSK," or youth ZhSK. The housing construction cooperatives for young persons (MZhSK), should not be confused with the housing complexes for young adults, molodezhnyy zhilishchnyy kompleks (MZhK). Persons under the age of 30 were eligible for membership. These were to be organized under the auspices of the municipal authorities upon the request of the Komsomol or the trade unions of local enterprises, institutions and other organizations.

Loans were extended to the young adult ZhSK up on the accumulation of 30 percent or more of the estimated cost of the cooperative housing construction. In certain areas the terms were made even more attractive. Young adult ZhSK in cities and villages located in Kazakhstan, Siberia, the Far East, the Far North and similar areas, and also in mining villages were required to amass a minimum of 20 percent of the estimated construction costs.

regions. In the Black earth zone of Russia and other rural regions, up to 15 percent and up to 20 percent respectively of the downpayment could be provided by one's employer [Chernetsov, 1987, p. 55].

#### d. Trends in Credit for Cooperative Housing Construction

The total value of loans extended for cooperative apartment construction rose from 485 million rubles in 1970 to 1.2 billion rubles in 1987, increasing in nominal terms by a factor of 2.4 over the 1970 level. The cost of state owned housing construction also increased over this period, from 149.06 rubles per square meter in 1970 to 254.75 rubles per square meter in 1980. The cost per square meter of new construction increased by a factor of 1.7 over this period. Using the cost per square meter of new construction as a deflator, the total value of loans for cooperative housing construction rose by about 40 percent in terms of purchasing power.<sup>17</sup>

The average annual per capita value of loans to the ZhSK in urban areas was 2.96 rubles in the decade of the 1970s with no discernable trend.<sup>18</sup> This value doubled by 1987 to 6.07 rubles per capita. Again, the absence of data for the first half of the 1980s hampers efforts to uncover a trend in the value of cooperative housing construction loans.

Turning to data on republics, we can see that the loans for cooperative apartment construction are not evenly distributed. Table 7 shows the calculated values per urban resident for state bank credit extended to the ZhSK for the years 1974, 1975, 1979, 1980, 1986 and 1987, by republic.

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<sup>17</sup> See Alexeev [1987, p. 286]. I used the cost of state-owned housing construction as a deflator for the value of cooperative housing construction loans because cooperative housing is usually listed as a part of state-owned housing, in contrast with privately owned housing. Data is also available for the cost of "other" (not state-owned) housing construction. Non-state owned housing construction cost 91.62 rubles per square meter in 1970, and 210.68 rubles per square meter in 1985, the last year for which data is available. When these costs are used as a deflator, the purchasing power of loans for cooperative housing construction increases by about 5 percent.

<sup>18</sup> Loans for rural ZhSK appeared in the Soviet statistical handbooks beginning in 1978.

Table 7: Loans extended to ZhSK for the Year  
(rubles per urban resident)

	1974	1975	1979	1980	1986	1987
USSR	3.14	2.96	2.55	2.56	5.54	6.07
RSFSR	2.88	2.84	2.17	2.15	4.62	5.34
Ukraine	3.54	3.30	3.06	3.09	6.03	6.57
Belorussi	6.06	5.02	5.23	5.48	10.29	12.18
Uzbekista	1.30	0.87	2.38	1.80	6.48	6.21
Kazakhsta	1.41	1.27	1.05	1.08	4.03	3.82
Georgia	6.28	5.14	6.19	5.86	10.70	7.41
Azerbaidz	1.30	0.68	1.09	1.23	2.54	4.89
Lithuania	11.33	10.24	6.60	7.98	19.51	18.57
Moldovia	5.36	4.96	5.16	5.61	15.30	11.70
Lativa	4.67	4.93	3.30	4.01	9.82	7.41
Kirgizia	2.06	1.44	2.05	3.24	4.67	6.50
Tadzhikis	2.66	1.88	3.32	1.63	3.16	5.55
Armenia	4.02	3.27	2.76	2.46	5.66	6.88
Turkmenia	0.00	0.58	0.83	1.26	0.97	1.62
Estonia	5.77	5.49	4.21	5.91	9.42	8.77

Source: Finansy SSSR: statisticheskiy sbornik, various years.

Generally the ruble values per urban resident have the following pattern: The Baltic republics, Moldavia, Belorussia and Georgia received the greatest volume of loans on a per capita basis. The Central Asian republics and Azerbaidzhan fared the worst. Turkmenia and Kazakhstan were consistently in the lowest group of four republics, with frequent appearances by Azerbaidzhan and Uzbekistan.<sup>19</sup>

The mechanism that triggers state bank loans for the ZhSK probably best explains this pattern. The state banks made loans to the ZhSK only after the members had accumulated the necessary downpayment. Hence we would expect to see more loans to regions that generally have higher per capita income, and higher per capita savings. In addition, areas with profitable enterprises would have a higher concentration of housing cooperatives, because the enterprises could provide resources (financial and other) to the cooperative. There are also cultural and traditional differences among the regions of the former Soviet Union that would have an influence on the population's desire to live in cooperative apartment buildings.

<sup>19</sup> Table A5 in the Appendix shows the republics in their rank order by year.

## 2. Individual Housing Construction

Over 10 percent of the new housing stock produced (measured in terms of useful space) was individual housing produced by the population on their own account and with the help of state bank credit. In urban areas individual housing construction accounted for between 8 and 9.5 percent of new housing produced each year between 1970 and 1985. In rural areas this was an even greater proportion - between 16.5 and 35 percent of total new housing construction as shown in Table 8.

Table 8: Newly Constructed Housing  
(million square meters of useable space)

	Total	Private	Urban		Rural	
			Total	Private	Total	Private
1970	106.0	13.0	71.3	6.6	34.7	6.4
1971	107.6	13.0	72.9	6.0	34.7	7.0
1972	106.7	12.5	73.5	6.0	33.2	6.5
1973	110.5	13.2	77.6	6.9	32.9	6.3
1974	110.1	13.0	77.1	6.8	33.0	6.2
1975	109.9	12.6	76.3	6.7	33.6	5.9
1976	106.2	11.4	75.9	6.4	30.3	5.0
1977	107.8	11.5	77.2	6.3	30.6	5.2
1978	106.8	11.2	76.6	6.2	30.2	5.0
1979	101.5	11.4	72.7	6.3	28.8	5.1
1980	105.0	16.1	76.3	6.0	28.7	10.1
1981	106.4	16.2	76.0	6.1	30.4	10.1
1982	107.9	16.0	75.7	5.8	32.2	10.2
1983	112.5	16.3	77.9	5.8	34.6	10.5
1984	112.4	15.5	78.1	5.8	34.3	9.7
1985	113.0	16.3	77.1	5.8	35.9	10.5

Table 9: Proportion of New Construction in Private Hands

	Private as % Total	Private as % Urban	Private as % Rural
1970	12.26	9.26	18.44
1971	12.08	8.23	20.17
1972	11.72	8.16	19.58
1973	11.95	8.89	19.15
1974	11.81	8.82	18.79
1975	11.46	8.78	17.56
1976	10.73	8.43	16.50
1977	10.67	8.16	16.99
1978	10.49	8.09	16.56
1979	11.23	8.67	17.71
1980	15.33	7.86	35.19
1981	15.23	8.03	33.22
1982	14.83	7.66	31.68
1983	14.49	7.45	30.35
1984	13.79	7.43	28.28
1985	14.42	7.52	29.25

Source: Narodnoye khozyaystvo, various years

Loans for individual housing construction rose from 160.9 million rubles in 1970 to 931.8 million rubles in 1987. This was an increase by a factor of 5.8 in nominal terms. However, the cost of non-state construction rose by a factor of 2.3 over this period, from 91.62 ruble per square meter in 1970, to 210.68 rubles per square meter in 1985 (the last year for which data are available). If the cost of construction is used as a deflator for the value of loans for individual housing construction, then the value of state credit rose by a factor of 2.5. This section describes the value and pattern of state provided credit for individual housing construction.

#### a. Sources and Terms of Credit for Individual Housing Construction

Long-term credit was extended for individual housing construction by Gosbank in rural areas and by Stroibank in urban areas.<sup>20</sup> Most credit for individual housing

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<sup>20</sup> In addition to the construction of housing, these credits were also provided for the purchase of livestock, setting up housekeeping upon resettlement, and capital improvements and renovation of housing. In the 1980s a new use was permitted for these types of loans - the improvement of garden plots. Table 10

construction was extended to families who migrated to sovkhozes and kolkhozes. Credit for individual housing construction is usually extended in non-cash form through the bank or the enterprise where the borrower is employed. As with credit for cooperative apartment construction, credit for individual housing construction was not extended directly to individuals. "Loans for individual housing construction, purchase of livestock and domestic outfitting are for the most part given out through kolkhozes, enterprises and organizations under their supervision..." [Zakharov, 1979, p. 23]. Unlike credit for ZhSk, loans for individual housing construction were provided up to certain amounts, depending upon location.

Loan repayment lasted for a period of 15 years and began in the sixth year after the family moved in. The loans carried a 0.5 percent interest rate [Zonov, 1983, p. 22]. According to one economist, roughly half of the sum of credit for individual housing construction in rural areas was repaid from the material incentives fund of the sovkhoz or kolkhoz. These funds were designated to carry out the construction of homes for their workers. Generally, in the late 1970s and early 1980s, a family receiving such a loan did not have to repay all of it. Zonov provided the following example: A family receiving a loan of 10,000 rubles for building a house upon resettlement repaid only a quarter of it, or 2,500 rubles. The farm paid 4,500 rubles, and the remainder, 3,000 rubles, was made up by the state budget [Zonov, 1983, p. 23].

#### b. Specific Uses of Individual Housing Credit.

Table 10 shows that credit was extended for several specific uses, closely related to individual housing construction. In the Soviet statistical handbooks they are often included as "Long-term Credit to the Population." These are discussed briefly below.

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shows the structure of uses for these loans.

### 1. Credit for Settling New Migrants, Building Individual Houses and Setting up Housekeeping.

For the most part, this credit was provided in non-cash (*beznalichnyy*) form through the bank or the enterprise at which the recipient worked [Zonov, 1983, p 20]. These credits were clearly directed at facilitating the migration of citizens to rural areas, and in fact, the maximum size of a loan for housing construction was a function of where the migrant was locating. For example, families moving to the Primorsky and Khabarovskyy krays, and the Amur, Chitinskaya and Kamchatskaya oblasts received up to 12,000 rubles; families moving to other regions of the Black-Earth Zone of Russia, the Eastern and Western Siberian Economic Zones and Kazakhstan received up to 10,000 rubles; and families moving to the irrigated portions of Azerbaidzhan, Bashkir ASSR, Dagestan ASSR, Kalmyk ASSR, and a series of other oblasts in Russia and Ukraine received up to 7,000 rubles [Zonov, 1983, p. 21]. The direction for this program was imbedded in a Resolution of the Central Committee of the CPSU and Council of Ministers of June 19, 1978 [zonov, 1983, p.22]. Loan repayment began with the sixth year after the house was completed and in the possession of the family; the term of the loan was for over 15 years. The interest paid to the state was minimal, 0.5 percent annually [Zonov, 1983, p. 22].

### 2. Credit for Livestock Purchase

Credit was also made available for the purchase of livestock. For example, credit was extended up to 500 rubles for the purchase of cows, and up to 250 for the purchase of calves, with a repayment period of five years. Up to 50 percent of the loan was eligible to be repaid out of the economic stimulation fund of the enterprise where the borrower worked [Zonov, 1983, p. 24].

Table 10: Longterm Bank Credits to the Rural and Urban Population for Individual Housing Construction and Other Purposes

	1974	1975	1979	1980	1986	1987
Total	173.6	168.6	233.1	232.3	623.6	931.8
Rural Population	151.6	148.4	209.5	205.8	340.7	483.7
Indiv Housing Constr	141.0	138.8	173.8	154.0	288.9	406.5
of which						
Workers/Employee	19.9	17.8	40.0	35.8	89.1	150.9
Kolkhozniki	17.7	15.7	30.3	43.5	108.5	149.7
Migrants	103.4	105.3	103.5	74.7	91.3	106.0
Setting up Housekeep	4.3	3.8	21.5	35.8	24.0	47.9
Cows and Calves	6.3	5.8	14.2	16.0	27.8	29.3
Urban Population	22.0	20.2	23.6	26.5	282.9	448.1
of which						
Indiv Housing Constr*	16.9	13.4	17.4	19.6	44.1	53.2
Set up House Keeping	3.2	5.4	5.3	6.1		
Capital Improvements	1.9	1.4	0.9	0.8		
Members of Horticulture Societies**					238.8	394.9
Rural % Total	87.33	88.02	89.88	88.59	54.63	51.91
Urban % Total	12.67	11.98	10.12	11.41	45.37	48.09
Ratio: Rural/Urban	6.89	7.35	8.88	7.77	1.20	1.08
Gosbank % Total	87.33	88.02	89.88	88.59	92.93	94.29
Stroibank % Total	12.67	11.98	10.12	11.41	7.07	5.71

\* A breakdown is not available for 1986-1987

\*\* Credit from Gosbank

Source: Finansy SSSR: statisticheskiy sbornik, various years.

Table 11: Share of Long-term Bank Credits to the Rural and Urban Population for Individual Housing Construction and Other Purposes (in percent)

	1974	1975	1979	1980	1986	1987
Rural Population	100.0	100.0	100.0	100.0	100.0	100.0
Indiv Housing Constr of which	93.0	93.5	83.0	74.8	84.8	84.0
Workers/Employee	14.1	12.8	23.0	23.2	30.8	37.1
Kolkhozniki	12.6	11.3	17.4	28.2	37.6	36.8
Migrants	73.3	75.9	59.6	48.5	31.6	26.1
Setting up Housekeep	2.8	2.6	10.3	17.4	7.0	9.9
Cows and Calves	4.2	3.9	6.8	7.8	8.2	6.1
Urban Population	100.0	100.0	100.0	100.0	100.0	100.0
of which						
Indiv Housing Constr	76.8	66.3	73.7	74.0	15.6	11.9
Set up House Keeping	14.5	26.7	22.5	23.0		
Capital Improvements	8.6	6.9	3.8	3.0		
Members of Horticulture Societies					84.4	88.1

Source: Table 10.

### 3. Credit for Setting up Housekeeping

Young specialists who were settling in the rural regions were eligible to receive a loan of up to 100 rubles to help with resettlement expenses. This type of loan had a five year repayment period.

### 4. Loans for Gardening Cooperatives

Consumer credit was also made available to urban dwellers who were members of garden cooperatives for constructing small buildings and improving their garden plots. This type of consumer credit became available in 1977 after a decision of the Central Committee of the CPSU and the Council of Ministers [Zonov, 1983, p. 25]. The value of this type of consumer credit reached 1,000 rubles per household, with a repayment

period of 5 years. In 1981 the maximum value of the loan was increased to 3,000 rubles, and a ten-year repayment period was established. These credits were provided in cash form from a branch of Gosbank, or through the enterprise or organization where the recipient worked [Zonov, 1983, p. 25; Garbuzov, 1986, p. 454]. Not much information is available about this type of credit for consumers, although in the 1986 and 1987 it was a substantial proportion of credit extended in urban areas as shown in Table 4.

#### d. Regional Pattern of Individual Housing Construction Credit

Out of the total credits available for individual housing construction and other purposes, rural residents have traditionally received the lion's share. This is not a surprise given the Soviet philosophy of valuing communal property over private property, and space constraints in urban areas. Despite the absence of a market for land, it was recognized that land in urban areas was too valuable to be used for low density housing. In 1974 the value of aggregate credit extended to rural residents for individual housing construction and other purposes was 6.8 times as large as that for urban residents. This value rose to 8.8 times in 1979 and then fell sharply to just over parity in 1986 and 1987.<sup>21</sup>

Of the total value of loans available specifically for individual housing construction, rural residents again received the larger share - around 90 percent for the years for which data are available. Table 11 shows that among rural residents the share received by migrants was quite large, at nearly three-quarters of the total credit provided by Gosbank for individual housing construction in rural areas in 1974. That amount fell both relatively and absolutely over the next decade and a half when compared with other rural residents. Credit extended to kolkhozniki and workers and employees for individual housing construction was roughly the same, with workers and employees receiving the larger portion in the 1970s, and kolkhozniki the larger portion in the 1980s.

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<sup>21</sup> Note: at this point data are only available for 1974, 1975, 1979, 1980, 1986, 1987. Figures for 84 and 85 would help identify the beginning of the "garden plots" loans.

Credit for individual housing construction for these two groups rose by a factor of roughly 8.5. (See Tables 10 and 11.)

Credit for urban households for the construction of individual housing and other purposes grew by only 20 percent during the six years from 1974 to 1980, from 22.0 million rubles to 26.5 million rubles. However, over the next seven years it nearly doubled from 26.5 million rubles in 1980 to 53.2 million rubles in 1987. Again, because data on the intervening years are missing it is impossible to tell if this growth was steady but rapid, or was due to a very sudden increase associated with the perestroika years.

Data from Finansy SSSR allow an analysis of individual housing construction credits on a per capita basis. Table 12 displays the ruble value of credit provision per urban and rural resident for individual housing construction and other purposes. The value of credit extended for individual housing construction in urban areas for the USSR as a whole is lower than the rural value by a factor of between 10 and 18. The average amount of credit extended per capita in rural areas for the USSR as a whole for the years 1974, 1975, 1979, and 1980 was 1.79 rubles. The average extended in urban areas for that same period was 0.15 rubles. This probably represents a conscious policy decision, for zoning ordinances in many cities prohibit individual housing construction.

Table 12: Long-term Loans from Gosbank to the Rural Population  
for Individual House Construction and Other Purposes,  
By Republic  
(rubles per capita)

	1974	1975	1979	1980
USSR	1.48	1.46	2.12	2.09
RSFSR	1.11	1.05	1.84	1.56
Ukraine	3.07	3.24	3.74	3.66
Belorussia	0.19	0.17	0.16	0.26
Uzbek	0.49	0.40	0.98	0.84
Kazkah	0.87	0.81	1.01	0.99
Geo	0.97	0.85	2.15	1.70
Azeri	0.63	0.55	0.92	0.91
Lithuan	8.87	9.80	12.87	24.12
Moldovia	0.70	0.65	1.25	1.13
Latvia	1.63	1.19	2.26	5.23
Kirgizia	2.28	1.83	4.90	3.14
Tadzhik	0.68	0.52	0.36	0.47
Armenia	0.59	0.39	0.77	0.86
Turkmenia	0.64	0.62	0.56	0.54
Estonia	0.22	0.22	0.45	0.45

Table 13: Long-term Loans from Stroibank to the Urban Population  
for Individual House Construction and Other Purposes,  
By Republic  
(rubles per capita)

	1974	1975	1979	1980	1986	1987
USSR	0.15	0.13	0.14	0.16	0.24	0.29
RSFSR	0.11	0.11	0.12	0.14	0.19	0.18
Ukraine	0.24	0.19	0.20	0.23	0.30	0.32
Belorussia	0.20	0.17	0.11	0.11	0.11	0.17
Uzbekistan	0.06	0.04	0.08	0.06	0.21	0.30
Kazakhstan	0.18	0.16	0.19	0.21	0.37	0.90
Georgia	0.38	0.25	0.27	0.27	0.56	0.77
Azerbaidzhan	0.25	0.17	0.16	0.12	0.36	0.49
Lithuania	0.11	0.05	0.05	0.09	0.17	0.12
Moldovia	0.45	0.29	0.45	0.44	1.06	1.39
Latvia	0.06	0.06	0.06	0.06	0.11	0.11
Kirgizia	0.49	0.40	0.29	0.22	0.50	0.79
Tadzhikistan	0.08	0.08	0.08	0.07	0.13	0.19
Armenia	-	-	0.05	0.05	0.04	0.04
Turkmenia	0.26	0.25	0.15	0.15	0.71	1.00
Estonia	0.10	-	0.10	0.10	0.18	0.18

Credit for rural individual housing construction accounts for most of the credit extended for individual housing construction -- roughly 86 percent or more. The ruble value of credit for individual housing construction per rural resident differed greatly between republics. For example, in 1980 24.12 rubles worth of credit per rural resident

was extended in Lithuania, compared to only 26 kopeks per rural resident in Belorussia. The overall pattern of credit extension to republics for individual housing construction in rural areas is an interesting one. In a ranking of republics by the amount of credit extended per rural resident for the years for which data are available,<sup>22</sup> a small group of republics occupied the top four positions. Lithuania, Ukraine, Kirgizia appear all four years and Latvia appears three times. This pattern is surprising since the terms of individual housing construction loans are more attractive in hardship areas. Unlike the ZhSK, where the accumulation of the downpayment by the cooperative is necessary to secure a loan, there is no evidence of the need to accumulate a downpayment for individual housing construction. Hence, the regional pattern of ZhSK credit may be linked to areas with higher income, but such a link would not be expected for individual housing construction.

The republics that received the lowest per capita credit for individual housing construction were Estonia and Belorussia which appeared four times in four years. Armenia, Uzbekistan, Turkmenia and Tadzhikistan each appeared twice in a ranking of the lowest per capita receipt of credit.<sup>23</sup> What makes these rankings interesting is that they do not exhibit a north-south pattern such as the one found in credit extension to ZhSK. Northern republics are found among those that receive high per capita credits as well as low: Lithuania and Ukraine in the first position, Estonia and Belorussia in the second.

### 3. Overall Pattern of Housing Construction Credits

In order to assess the relative positions of the fifteen republics in terms of the value of credit extended to households for all types of housing construction, I created an index. The "loan rank" index was computed to establish a relative measure that would

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<sup>22</sup> Data are available for the republics for 1974, 1975, 1979, 1980.

<sup>23</sup> See Table A6 in the Appendix.

indicate which republics received the highest and lowest share of state bank credit for both individual and cooperative housing construction.<sup>24</sup> These figures show that residents of Lithuania have benefited most from state credit for individual and cooperative housing construction, and that residents of Tadzhikistan benefited least. Most of the republics with high loan rank index values were found in the northern parts of the USSR. In order of the rank value they included Lithuania, Moldavia, Kirgizia, Ukraine and Belorussia. The republics receiving the lowest level of per capita credit were mostly located in the south and included Turkmenia, Armenia, Azerbaidzhan, Tadzhikistan, Uzbekistan and Estonia. Overall then, the availability of credit for housing construction, both cooperative and individual, appears to have been biased towards northern regions of the USSR. It should be noted that the pattern observed here is based on data from selected years. A more precise pattern could be determined if more data were available.

### C. State Pawnshops (*Lombard*)

The system of state pawnshops (*lombardy*), established during the reign of Catherine the Great in 1745, is the oldest type of formal consumer credit institution in the Soviet Union. . A state pawnshop offered credit to individuals on the security of valuables. The state controlled all pawnshops and the services offered by them were considered part of the consumer service (*bytovoye obsluzhivaniye*) sector of the economy. Hence, the incomes and expenditures of the state pawnshops are included in the consumer services sector [Churkina, 1972, p. 60].

Two different services were provided by the system of state pawnshops: credit to consumers on the security of valuables and storage of personal and household items.<sup>25</sup>

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<sup>24</sup> See Appendix B: Notes on the Calculation of the Loan Rank Index.

<sup>25</sup> The charge for storing items at a state pawnshop was 4.7 percent annually on the value of the good. In the case of precious metals, the owner paid 4.7 percent on the value established by the State Precious Metals Department, plus the cost of insurance.

According to an economist writing on consumers' use of the services offered by the state pawnshops, "... people do not come to the state pawnshop for credit out of need, but for cash to join a ZhSK, purchase a car, motorcycle, for a summer vacation..." [Churkina, 1972, p. 62]. This view differs from the one offered by emigres, who considered the use of a state pawnshop as a last resort to obtain a loan.

The Typical Regulation concerning the practices of the state pawnshops set limits on the amount of credit that could be extended given the value of the security. The value of the loan could not exceed 75 percent of the value of the goods on collateral, or up to 90 percent of the value of precious stones and metals, pearls, and gold watches. There was no limit to the number of items that a person could place in a pawnshop.

Once again, Gosbank was the ultimate lender, as it extended credit to the state pawnshops on the basis of yearly and quarterly financial-production plans. The credit from Gosbank and the state pawnshop's own profits made up its level of "statutory funding" (*ustavnyy fond*). According to Zakharov "bank credit accounts for up to 70 percent of the balance of the outstanding loans of the population on the secured loan operations of the state pawnshops" [Zakharov, 1979, p. 22].

The value of credit extended to the population by the system of state pawnshops was 630 million rubles in 1983 and 691 rubles in 1984 [Zakharov, 1986, p. 16]. This is approximately 2.3 rubles per capita for those years. In Table 1 this figure is used to make the estimate of credit provided by pawnshops for the other years.

#### D. Trade Union Credit Unions (*Kassa Vzaimopomoshchi*)

The last type of formal consumer credit institution to consider is the Trade Union Credit Union or *kassa vzaimopomoshchi* (KVP).<sup>26</sup> KVP were established by trade unions in enterprises, plants and institutes at the initiative of the workers to provide

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<sup>26</sup> In this paper I translate "*kassa vzaimopomoshchi*" as "trade union credit union." This is not a precise rendering because the word "*kassa*" in Russian is very flexible, having several meanings: cash register, cash disbursement window, and cash fund. "Trade union credit union" best captures the essence of the KVP.

mutual material assistance. They are similar to credit unions in the west in their association with one's place of employment. However, they did not provide savings accounts or offer demand deposits. They were funded through small monthly contributions from members enabling them to provide loans and small grants. Members' contributions or dues were a few rubles a month, for a minimum of 25-30 rubles per year. Members could make larger contributions and hold larger sums of money in the KVP, thus using the KVP like a savings bank. Some of the advantages of holding larger sums in the KVP will be discussed below. The KVP offered short-term credit of two types, very short-term (until the next pay period) and short-term (up to about six months). No interest was paid on these loans. When a member withdrew from a KVP (either through retirement or a change of job) all contributions made to the Fund were returned to the individual, again without interest.

Table 1 above shows that credit extended to the population from KVP was second in size among formal sources, accounting for just under 20 percent of total consumer credit in 1983 and 1984, and for an estimated 24 to 28 percent in the 1970s. The total value of consumer credit extended by KVP was 1,761 thousand rubles in 1983 and 1,777 thousand rubles in 1984. On a per worker and employee basis this was 15.22 and 15.76 rubles respectively. The other values of KVP credit found in Table 1 are estimates based on the 1983 and 1984 data. Thus, values for other years are estimates.

In 1984 in Moscow there were about 10,000 KVPs in operation, with a total membership of over 1.5 million persons.<sup>27</sup> For the year more than 1.2 million loans (for a period longer than the next pay period) were made for a total value of more than 300 million rubles [Krivenko, 1985, p.1].<sup>28</sup> If members took out only one loan then about 80 percent of Moscow's KVP membership took out a loan and the average value of a loan

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<sup>27</sup> This is about 28 per cent of the estimated 5,258.6 thousand workers and employees in Moscow in that year, based on an interpolation of employment data in Moscow from Sotsial'no-ekonomicheskaya razvitiya..., for the years 1980 and 1985.

<sup>28</sup> This 300 million rubles of KVP loans constitutes 16.9 per cent of all KVP loans made in 1984, while Moscow only accounts for 4.5 per cent of workers and employees. Thus all estimates must be taken as very approximate.

was 250 rubles. Unfortunately, no data are available for the decade of the 1970s to make a comparison.

### 1. Structure of the KVP

KVPs were established at enterprises, institutes and organizations by a decision of the trade union. The basic activities of the KVP are outlined in its charter (*ustav*), which was based on the "Typical charter of the KVP" as established by the presidium of the All-Union Central Council of Trade Unions ('VTsSPS') of November 23, 1973.

A KVP has two main supervisory bodies. The first is the management of the KVP. The second body is the auditing committee (*revizionaya komissiya*). The trade union oversaw all KVP activities.

### 2. Membership

Members of the trade union and persons on the trade union lists (such as retirees and female employees staying home to care for small children) in that enterprise, institute or education establishment were eligible for membership in the KVP. Members of the KVP had the right to take out loans, participate in membership meetings, vote on policies, elect and be elected to the management of the KVP. Trade union members who wished to join the KVP submitted a request to the leadership of the KVP. Pensioners who were still members of the trade union but were no longer working, continued to be members of the KVP at the place where they remain on the trade union list. Women temporarily not working in connection with raising children retained the right to membership in the KVP until their removal from the rolls of the trade union.

### 3. Membership Contributions

Members of the KVP made a membership contribution of 0.5 percent of their monthly official salary. This contribution could be increased at the member's request. Non-working pensioners contributed 0.5 percent of their monthly pension; students on stipend contributed 0.5 percent of their monthly stipend; students without a stipend or women temporarily not-working to raise children, contributed 10 kopeks per month. During an extended illness members were not required to make their contributions.

The cumulative total of a member's monthly dues was returned to the member upon transfer to another job. In the event of a member's death, the heirs received the balance of the member's contributions to the KVP after all loan obligations were met. Member contributions that were not claimed after three years become the property of the KVP.

### 4. Loans

Loans were made for periods of up to 6 months (although in certain circumstances they could be extended for up to 10 months). These loans were theoretically limited to one or two times the member's monthly salary. However, as mentioned above, some members kept larger amounts of savings in the KVP. Naturally, these members could draw upon their own funds at anytime, and thus the KVP replaced a saving bank. In addition, the management of the KVP looked favorably upon members with large accounts, as these funds could be used to make loans to others. Having a good relationship with the management increased the amount that a member could borrow beyond the proscribed amount.<sup>29</sup> Very short-term loans were extended until the next pay period. These loans were generally less than 30 rubles. Interest rates were not charged for loans provided by the KVP. However, a penalty of 1 percent per

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<sup>29</sup> This informal arrangement was described to me by a former member of a KVP in a Moscow institute.

month on the outstanding balance of an overdue loan was charged [Garbuzov, 1986 p. 24].

When a loan was not repaid in a timely fashion, the management could take measures of "social" or "material" influence. Measures of social influence included a summons to appear before a meeting of the management or a discussion of pressure to return the loan by the members of the KVP. Measures of material influence included fines for late repayment of the loans, which could be deducted from the member's wages.

## 5. Finances of the KVP

As mentioned above, the cumulative membership contributions were returned to the KVP member upon transfer to a new job. In this way the KVP as provided a limited instrument of saving. The KVP fulfilled a limited role of financial intermediation by providing loans based on the cumulative membership dues.

There were some permanent additions to the KVP funds:

### Net Income to the KVP

- trade union subsidies
- penalty payments
- unclaimed membership contributions

### Expenditures of the KVP

- payments to the management and auditing committee
- loan losses (e.g. death of member with debt)

The enterprise trade union replenished the working capital of the KVP for the payment of salaries and bonuses for active members and permanent staff members of the KVP. In addition, each year the trade union established a subsidy for the KVP in its budget in an amount no less than two percent of the annual plan of receipts of membership fees to the trade union. In the event of a death of a member with an

outstanding loan, greater in amount than the sum of the accumulated membership dues, the management made a request of the trade union for the balance. When the trade union granted a subsidy to the KVP it was recorded as an addition to the working capital on the current account of the KVP.

### III. Informal Credit

In the previous section I discussed the various forms and values of consumer credit made available by the state in the formal sector of the economy. The total value of credit made available to consumers was between 20 and 40 rubles per capita annually in the 1970s and 1980s. This value was very small relative to the total volume of credit provided by the state banking system. Whether the amount of credit provided to the population by the state was sufficient is not clear. From a planner's point of view, the expected demand by Soviet households for credit would have been small: education was free, medical care and housing were highly subsidized, and pensions were guaranteed. However, the existence of an informal system of credit provision parallel to the state sponsored system implies that the supply of formal credit was either too low to meet household needs or was offered in forms or under terms that were unattractive to households.

In this section I discuss the nature of informal credit in the Soviet Union under the command-administrative economy. When individuals needed to borrow money for the purchase of "big-ticket" items such as durable goods, or for special occasion expenses such as weddings or hospital stays, they would turn to friends or relatives for a loan. Unique characteristics of Soviet-type consumption markets shaped this informal credit mechanism and created the demand for credit and the supply of funds.

Soviet consumption markets were characterized by shortages, low quality goods and differential access. The shortages of goods meant that supply was unpredictable. This gave rise to an "opportunity" demand for money -- people carried a lot of cash on their person in case the opportunity for a purchase presented itself. This general

shortage has affected the language. The verb "to purchase" (*pokupat'*) has been replaced by "to procure" or "to obtain" (*dostavat'*). Goods are no longer "sold" (*prodavat'*), rather they are "given out" (*davat'*). Even the name for the ubiquitous string bag (*avos'ka*) that all citizens carried in their pockets has entered the language as an adverb, 'avos', meaning "what if.."

The fact that the supply of durable goods was unpredictable meant that purchases of durable goods could not be postponed. The individual thus had to be able to react fairly rapidly when an opportunity for purchase presented itself, or forego the stream of services provided by the durable good for an undeterminable period.

The generally recognized low quality of consumer goods also contributed to this pattern of carrying cash and reacting quickly. In the rare instance when a high quality good became available, it was often purchased irrespective of the consumer's immediate needs, because it could be resold, traded or perhaps used in the future.

Finally, differential access to goods meant that rubles had different values depending on who had them. This goes beyond the system of closed shops and distributors for the elite, for connections or "blat" determined to some extent what a ruble could buy. Thus, a ruble in the hands of household "A" could not necessarily buy the same bundle of goods as a ruble in the hands of household "B." It can be imagined that rubles would flow to those who could make the best use of them.

The characteristics of Soviet-type consumer markets described above provided the basis for the supply of credit, in that individuals had relatively large amounts of cash on hand. These characteristics also provided the basis of demand, because supply was unpredictable and when presented with an opportunity to purchase a "big-ticket" item, individuals would not want to postpone the purchase.

As a result, consumers could not readily translate wealth into the goods of choice. In addition, the opportunity cost of holding money was negligible. There were no legal investment opportunities, minimal inflation, and savings banks paid a fixed and low interest rate, which facilitated the formation of this informal credit mechanism. One

could fairly quickly and easily go to friends and family for loans because they would have lots of cash readily available.

Relatively large sums of money were transferred between households as loans and grants. Within an extended family these loans can be explained partially by inter-generational transfers. In A Treatise on the Family (1981), Becker presents a model for altruistic behavior as a rational economic response. His model describes the type of behavior that can lead to provision of credit on an informal basis. Within families, this type of credit provision often takes the form of a gift.<sup>30</sup> However, large sums also flow between unrelated households, that is, between friends and colleagues.

#### A. Evidence from the Berkeley-Duke Survey

The Berkeley-Duke survey is an income and expenditure survey that was conducted among 1,601 emigree households comprising 3,023 individuals residing in the U.S. The households emigrated in the 1970s and early 1980s. They were asked about their income and expenditures in both the formal and the informal sectors of the economy during the last normal year (LNY)<sup>31</sup> of their lives in the USSR. On several accounts the sample is not representative of the parent population. First, the Berkeley-Duke sample is almost exclusively urban. Second, only ten of the fifteen Soviet republics are represented in the sample.<sup>32</sup> Third, the sample has a greater share of "white collar" workers and a higher level of educational achievement than the parent population. Finally, because of Soviet emigration policy the sample has a much greater proportion of

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<sup>30</sup> According to a 1990 survey made by Goskomstat, 67% of households responded that the reason for saving was to help out their children [Press Byulletin, No 7, 1990]. This may overstate the proportion of households that actually saved for this reason, because Soviet citizens tend to respond to surveys with an answer they believe is appropriate [Trembl, personal communication].

<sup>31</sup> The last normal year or LNY is defined as the last calendar year before the decision to emigrate effected the household's material well being.

<sup>32</sup> Estonia, Kazakhstan, Kirgizia, Tadzhikistan and Turkmenistan are not represented by emigree households in the sample.

persons of Jewish and Armenian nationality than the parent population.<sup>33</sup> Some of these deviations from the parent population are addressed in the regression analysis in Section 2.b. below.

### 1. Purchase of a Private Home or Apartment

In the Berkeley-Duke survey, 161 of the 1,061 households owned their dwelling places.<sup>34</sup> Unlike the rest of the survey, the survey questions about the purchase of a private home or apartment pertained to the year of purchase, not the last normal year (LNY). The purchase dates for these 161 apartments (apartment will be used in this discussion to refer to all privately held primary dwelling places in the sample) range from 1935 to 1978, with over 50 percent of the purchases made between 1960 to 1975.

The cost of these apartments ranged from 1,800 rubles to 25,000. Because of the vast differences in date of purchase, location, size and other attributes relating to the value of an apartment, it is impossible to make any direct comparisons on price. However, the survey does provide information on the downpayment and how it was obtained.

The sources of funds for the downpayment on an apartment included loans, gifts, loans from KVP, personal savings, receipts from the sale of personal property, and other sources. Twenty-two households turned to KVP for loans, 42 received gifts and 50 households took out private loans. Table 14 shows characteristics of the sample as they relate to these issues:

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<sup>33</sup> For a detailed description of the Berkeley-Duke sample, see the Appendix in Grossman, 1987.

<sup>34</sup> Section VI of the survey asked questions about the purchase of the household's residence; this section of the survey is reproduced in Appendix C.

Table 14: Sources of Funding for the Downpayment on an Apartment\*

	N	Mean (rubles)	(std dev)	min	max
KVP	22	2640.91	(1517.10)	100	5000
Private Loan	48	1445.17	(990.72)	200	5000
Gift	40	1918.25	(1780.30)	50	7000
Personal Savings	107	3781.31	(4465.89)	200	30,000
Sales of Personal Property	22	2472.73	(2033.10)	100	6000

Source: Berkeley-Duke Survey

Note: Households made use of more than one source of funds

\* Includes dachas and other dwellings

As shown in Table 14, households turned to private sources to obtain funds for a downpayment significantly more frequently than to the state sponsored sources. Private credit in this case takes the shape of loans and grants (gifts). The other sources shown in the table were provided by the household, by means of liquidating other assets. Of the households that turned to informal sources of credit, in 36 cases, only loans were used to make the downpayment; gifts alone were used in 28 cases and both were obtained by apartment purchasers in 14 cases.

In all but two cases, family members provided all gifts that were received by the sample respondents. In those two cases, gifts were received from both family and friends. Loans were provided by family in 33 cases (67%), and by friends in 19 cases (40%). As shown in Table 14, the size of a loan ranged from 200 rubles to 5,000 rubles. The value of a gift ranged from 50 rubles to 7,000 rubles.

Data from the sample also make it possible to determine, on average, the relative importance of each of the components of funding for the downpayment. On average, for those who obtained a loan from an informal source, the loan covered 49 percent of the downpayment. For those who received gifts, 57 percent. For those with access to credit from KVP, loans from this source covered 95 percent of the downpayment. On average,

across the 161 households that purchased apartments, loans and gifts made up 21.7 percent of the funds used.

Table 15: Percent of Total Funds Available for the Downpayment on an Apartment

Loans	10.2
Gifts	11.5
Personal Savings	60.6
Sale of Personal Property	8.0
KVP Loans	8.5
Other Sources	1.2
Total	100.0

Source: Berkeley-Duke survey

The data provided by the survey respondents on the funding used to purchase housing, indicates that informal sources of credit are an important source of credit in the absence of state-provided sources.

## 2. Households' Willingness to Lend and Ability to Borrow

Borrowing and lending between households was a relatively common feature of life in the Soviet Union (much more so than in the West). As a part of the Berkeley-Duke survey, households were asked how much they were willing to lend or believed they could borrow for a period of six months.<sup>35</sup> Nine hundred fifty five households (90%) said they could borrow sizeable sums, ranging from 200 to 30,000 rubles. Those

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<sup>35</sup> The question was stated as follows.

If you had needed money for a large purchase, could you have borrowed in the course of a few days from either friends or relative for a six-month period (in the LNY)?

\_\_\_\_\_ Yes \_\_\_\_\_ No

What maximum amount? \_\_\_\_\_ rub.

Appendix C provides an English translation of the parts of the questionnaire that pertain to this study and to household's borrowing, lending and saving habits in the LNY.

households that said they would lend (875 households or 82%) could have made funds available in amounts between 150 to 6,000.

a. Relative Magnitudes of the Amounts Households Could Borrow or Would Lend

The average value of funds that households said they could borrow or would lend, differed by region as shown in Table 16.<sup>36</sup> Regional differences in second economy spending levels have been noted in other studies [Grossman, 1987; Gaddy, 1991].

Table 16: Average Amount Respondents Said They Could Borrow or Would Lend for Six Months <sup>37</sup>

Region <sup>38</sup>	N	Mean (rubles)	StdErr
<u>Borrow</u>			
Armenia	139	3,500	268.48
North	693	1,502	82.51
South	136	2,968	432.08
<u>Lend</u>			
Armenia	175	3,513	263.02
North	721	925	55.32
South	138	2,427	486.49

In order to provide a context for the relative magnitude of the funds available for borrowing and lending it is instructive to look at the ratio of these amounts and several

<sup>36</sup> The averages presented in Table 16 are statistically distinct. The tests for these differences are found in Appendix D.

<sup>37</sup> The last normal year (LNY) in for households in the sample ranged from 1970 to 1981. The ruble values were all indexed to 1977 using the growth in average monthly wages to discount any changes in prices. 1977 was chosen as the "base" year, as it was the mean and mode LNY for the sample.

<sup>38</sup> The republics represented in the sample were classified as North, South or Armenia. North consists of Russia, Ukraine, Belorussia, the Baltic republics and Moldavia. The South consists of Georgia, Azerbaidzhan, Uzbekistan and Kazakhstan. The remaining three republics were not represented in the sample: Kirgiziya, Turkmenistan and Tadjhikistan.

measures of household income and savings. Table 17 presents the means of these ratios for the sample.

Table 17: Ratio of Amount Household Could Borrow or Would Lend to Various Income and Wealth Measures

	<u>Amount Could Borrow</u> (std dev)	<u>Amount Would Lend</u> (std dev)
Savings in Bank <sup>a</sup>	3.9 (25.28)	2.0 (5.08)
Estimated Total Savings <sup>b</sup>	.47 (1.15)	.27 (.38)
Estimated Cash Holdings <sup>c</sup>	1.6 (2.60)	1.2 (1.99)
Total Earnings From All Sources <sup>d</sup>	.62 (2.95)	.46 (1.75)
Estimated Value of Property <sup>e</sup>	.63 (1.18)	.45 (.86)

In this table the amount the household could borrow (would lend) is placed in the numerator, and the various measures of household wealth and income are placed in denominator.

Notes:

a Total amount added to savings in the LNY

b Total value of savings at the end of the LNY

c Estimated as the total additions to cash holding during the LNY

d Includes earnings from work efforts in both the first and second economy

e Value of household possessions as estimated by survey respondents

The data in Table 17 indicate that the amount households believed they could borrow was relatively large -- an average of three times the amount they places in savings in the LNY, and over half of annual income. Households said they were willing to lend on average an amount that was over 40 percent of the household's total income for the year.

Another interesting feature is that 70 percent of the households which said they could borrow funds, said they could do so without signing any sort of promissory note. Customarily interest payments are not expected or paid. This is surprising for Western economists. However, there is a strong moral aversion to charging interest on consumption loans growing out of the early Christian prohibition on interest which was

continued through the Russian Orthodox church.<sup>39</sup> In the Soviet case, this attitude found support in Marxist dogma. This attitude toward interest payments was confirmed in a 1991 study comparing the attitudes of Soviet citizens and Americans about various aspects of a market economy. The investigators found that only 6 percent of the Soviet citizens surveyed would charge interest on a loan of six-months duration, compared with 29 percent of Americans [Shiller et al., 1991, p. 393].<sup>40</sup> Unfortunately, we do not know whether the Soviet respondents interpreted the question as a loan for consumption or a loan for investment purposes.

#### b. Regression Analysis of Households' Abilities to Borrow and Lend

In this section I analyze the determinants of a household's ability to borrow or lend money to friends or relatives in the manner described above. The following model was used for a series of regressions, with the household's ability to borrow as the dependent variable:

$$\text{Borrow} = a + b(\text{Legitimate Income}) + c(\text{Informal Income}) + d(\text{Connections}) + e(\text{Average Age}) + f(\text{Education});$$

and for the household's ability to lend:

$$\text{Lend} = a + b(\text{Legitimate Income}) + c(\text{Informal Income}) + d(\text{Connections}) + e(\text{Average Age}) + f(\text{Education});$$

The value for Borrow or Lend was the value in rubles that the respondent said they could borrow or lend for six months, indexed to 1977 values. Legitimate income

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<sup>39</sup> The prohibition against usury on the part of laymen was codified at the first Council of Carthage in 345 [New Catholic...p. 499]. Centuries later, interest charges became acceptable in the countries that were largely Protestant [Eliade, 1987. p 363]. This development did not occur in regions influenced by Russian Orthodoxy.

<sup>40</sup> It is interesting to note, however, that this is not the case for loans made in hard currency. It is generally expected that interest will be paid on a loan made in hard currency. A former MVD colonel, with responsibilities for economic crimes said in an interview that he had seen little evidence of usury, and in fact that interest payments were not expected unless the project was successful. He estimated that between 20 and 30 per cent of the profits would be considered about right. [personal communication, 1993].

included total wages, transfers, and interest income on saving accounts for the household. Informal income included all the income to the family from non-state sources, such as income from renting out a dacha, selling produce from a private plot, work on own account and so forth. The variable Connections was the respondents' estimates of the ruble value of connections; for example, it included the monetary value of savings by purchasing goods or services through friends and acquaintances. The ruble values for income and connections were also indexed to 1977. The Average Age variable is the average age of the spouses in the household. Education was the highest level of educational attainment by either spouse measured in years. The results are presented in Table 18.

Table 18: Parameter Estimates for Regressions

## Part A: Total Sample

Borrow			Lend		
	Coefficient	t-stat		Coefficient	t-stat
Intercept	697.952	-2.942	Intercept	-608.953	-2.610
Legit. Inc	0.339	7.687	Legit. Inc	0.222	5.145
Other Inc	0.349	12.958	Other Inc	0.406	15.221
Connections	0.307	2.826	Connections	0.179	1.665
Avg Age	14.407	4.351	Avg Age	21.94	6.775
Education	14.7	1.064	Education	-19.863	1.467
N	925		N	989	
Adjusted R <sup>2</sup>	0.244		Adjusted R <sup>2</sup>	0.258	

## Part B: Leningrad

Borrow			Lend		
	Coefficient	t-stat		Coefficient	t-stat
Intercept	-1126.048	-2.706	Intercept	-602.443	1.685
Legit. Inc	0.377	8.140	Legit. Inc	0.236	5.963
Other Inc	0.392	5.284	Other Inc	0.327	5.031
Connections	0.449	3.754	Connections	0.512	4.827
Avg Age	18.116	4.090	Avg Age	16.745	4.338
Education	28.237	1.253	Education	-8.582	0.432
N	280		N	292	
Adjusted R <sup>2</sup>	0.368		Adjusted R <sup>2</sup>	0.332	

## Part C: Yerevan

Borrow			Lend		
	Coefficient	t-stat		Coefficient	t-stat
Intercept	-234.996	0.404	Intercept	-257.326	0.472
Legit. Inc	0.011	0.079	Legit. Inc	0.131	1.132
Other Inc	0.296	7.216	Other Inc	0.376	9.211
Connections	0.786	2.388	Connections	0.478	1.488
Avg Age	11.862	1.263	Avg Age	16.13	1.934
Education	18.909	0.673	Education	-14.890	0.551
N	142		N	176	
Adjusted R <sup>2</sup>	0.397		Adjusted R <sup>2</sup>	0.426	

Source: Berkeley-Duke Survey

In Table 18 the coefficients and t-statistics are presented for regressions on the entire sample and for two cities, Leningrad and Yerevan. For both borrowing and lending in all three areas, the coefficient on education was never significant, signifying that the level of educational attainment is not an important factor in determining a household's ability to borrow and lend. Turning to the entire sample, the coefficients on all other independent variables were significant for both borrowing and lending, except for Connections which was not significant for lending. The results from the regressions on the Leningrad sub-sample follow the pattern of the total sample most closely.

Connections were significant for a household's ability to borrow in all three cases, as I would expect. The coefficients on Legitimate Income and Other Income are significant for both borrowing and lending, and virtually the same for the total sample and for the Leningrad sub-sample. However, Legitimate Income is not significant in either case for the sub-sample from Yerevan. Informal income is the only independent variable with explanatory power for the ability to lend for the Yerevan sub-sample; Informal Income and Connections are the only significant independent variable for explaining the household's ability to borrow. Despite the fact that so few independent variables are significant for the Yerevan sub-sample, they generated the largest value of the R<sup>2</sup>s. This supports other evidence that informal economic activities are especially important in Armenia [See Alexeev, 1993b; Grossman, 1987].

### 3. Other Sources of Informal Credit

#### a. "*Chernaya Kassa*"

Another informal credit mechanism used in the Soviet Union is the "*chernaya kassa*."<sup>41</sup> There is not a good English term for this phenomenon, but by its function it is similar to the rotating credit societies found in developing countries. (See discussion below; also Besley et. al., 1990; Geertz, 1962.) A "*chernaya kassa*" functions in the following manner: a group of people agree to participate, usually colleagues at work or a circle of friends. Each month every participant contributes a fixed amount such as 10 rubles. One person gets the "fund" each month in a predetermined order. In this way the "pot" is passed around equally. Some "*chernaya kassa*" groups deal with fairly sizeable sums of money and the fund is used to buy tools and equipment (Berkeley-Duke Project Interview N2N4-92SEK). For example, large scale underground production of goods require such informal credit arrangements. Unfortunately, the Berkeley-Duke Project has not been able to measure or otherwise quantify them.

#### b. Other informal arrangements

Fairly large scale informal credit arrangements do appear in other spheres. A recent book on organized crime in the USSR described the fairly complex financial arrangements that have grown up to support this new phenomenon [Gurov, 1990]. It appears that there are assistance funds (similar in spirit to the KVP discussed in Section II) called "*obshchak*" set up by members of criminal organizations to support members of the organization in Soviet prisons and work colonies. In addition, pensions and social security for members is provided. "Loans" are made to help new members start out in new "businesses." The funds for this are generated by "taxing" the activities of various

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<sup>41</sup> This term might best be translated as "shadow" funds, for "*chernaya*" means black, but can also mean shadow, and is also used to refer to the "black" markets or "shadow" markets, which are also informal.

actors: drug dealers, thieves, protection racketeers and others. While there is no concrete evidence, there is probably a similar financial infrastructure that has grown up to support the activities of production in the "crypto-private" economy. There is some overlap in the spheres of activity between organized crime and underground production [Vladimir Trembl, 1991 personal communication].

#### Section IV The Sources of Informal Credit

##### A. Origins of Demand for Informal Credit in the USSR

The demand for credit is generated by a mismatch between a household's income and expenditure flows. This is quite understandable especially in the case of the purchase of a durable good which provides a stream of services, but the payment must be made in advance. The demand for informal credit is generated by a shortage in the supply of credit provided by formal sources, which in the Soviet case is by the state banking system. Some of the reasons for turning to informal sources of credit in the Soviet Union are best illustrated by the following transaction.

Recently, a young Moscow professional wanted to move his family from the suburbs to the center of the city to avoid long commutes and make it possible for his son to attend better schools. An older couple renting a government owned apartment in the center of town was willing to make an apartment swap. The "price" for this exchange was 12,000 rubles. The young professional was able to raise 8,000 rubles in one day from friends and family -- an amount greater than one and a half times his annual official salary [personal communication].

This transaction has the main elements that give rise to the demand for informal credit, and reflect the unique Soviet circumstances:

1. a durable good or "big-ticket" item was desired;

2. the transaction was not strictly legal, as the receipt would be construed as "unearned income"; and,
3. the opportunity for the purchase appeared somewhat randomly and could not be postponed.

Uncertainty over the availability of a good (point 3. above), gives rise to an "opportunity" demand for money, somewhat like the precautionary demand for money. For many purchases of this type there is a bribe or side payment included in the actual price the consumer paid. The uncertainty in this transaction is not solely associated with the "addition" to an official price. Gaddy [1991] has shown that there is fairly widespread knowledge of the "hidden wage" component for many occupations in the Soviet Union. The "hidden wage" is the extra income that one has the opportunity to earn associated with one's job or position. In a similar fashion the "bribe" component of the final price of many goods and services (cars, apartment swaps, placement in a particular school, and so forth) would also be widely known.

In addition, because part of the purchase price involves a payment that is not strictly legal (point 2. above), even if consumer credit were more widely available, Soviet citizens would not be able to turn to those sources.

#### B. Source of Supply of Informal Credit

In this section I briefly discuss the literature on informal credit markets and the applicability to the Soviet consumer markets.

##### 1. General Reasons for the Development of Informal Credit Markets and Instruments

Informal credit markets in developing countries have been studied extensively, with most economists agreeing that the informal mechanisms which have grown out of these situations have a sound economic basis, and have responded fairly effectively to

mitigate the problems raised by adverse selection and moral hazard. The discussion that follows is based on Basu [1984], Bell [1988], and Stiglitz [1988].

a. Absence of better savings instruments

Credit is often rationed in developing countries, hence the return for placing funds in an official institution may be much lower than that available in the "market." Similarly when credit is rationed, it may not be possible for an individual to borrow from official sources. Hence, two individuals can be made better off by trading claims over goods in different periods. Financial intermediation is not necessary when two individuals can transact with a double co-incidence of wants.

b. Monitoring costs lowered through knowledge

Local money lenders in developing areas have generally been more successful than state-sponsored institutions in providing credit. Bell shows that this is not strictly a case of monopoly power on the part of the local money lender, but that a local inhabitant is better suited to evaluate the risk of default for any particular loan, and the value of any collateral offered as part of the bargain. Information is also fairly widespread about the ability to pay of individuals and households in small villages or between co-workers. Persons with this sort of intimate knowledge are well placed to evaluate the risk of a loan.

## 2. Rotating Credit Societies

One example of an informal credit mechanism is a rotating credit society. Rotating savings and credit associations (Roscas) are found all across the developing world -- in Asia, Africa, and Latin America. This is similar to the "chernaya kassa" found in the Soviet Union discussed above. These institutions serve primarily as a

means to save up for indivisible or durable goods and for large events. Roscas take many forms, but the basic structure is this: A group of people gather on a regular basis for a fixed number of periods, each contributing a fixed amount to the "fund." The fund is received by one member each period, decided by bidding, lot or in an order agreed upon in advance. After a member has "won" the fund, he or she continues to contribute until the end of the period.

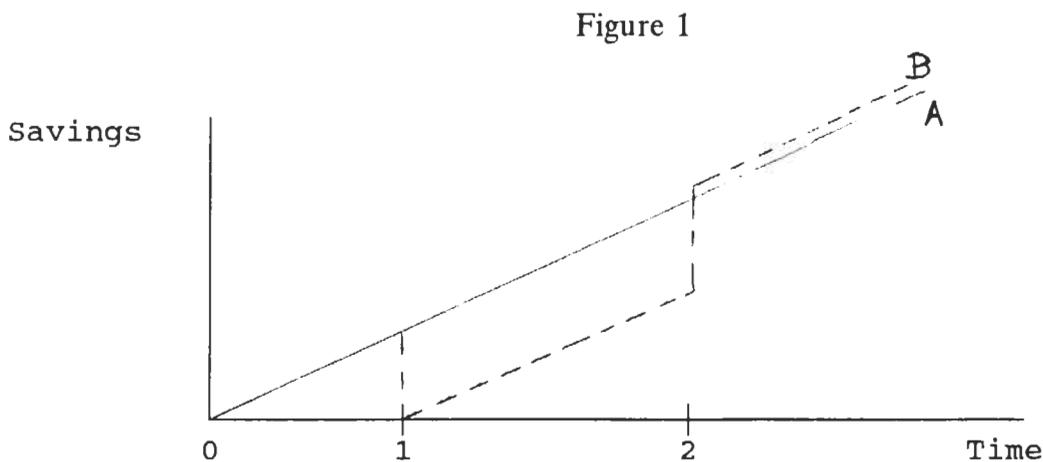
Traditional values (such as honoring obligations) contribute to the successful functioning of the credit society. In addition, mobility is limited, so the likelihood of "skipping town" with the fund before completing one's obligations is low. In addition, since all members know each other well, the cost of monitoring use of the funds is low, and the members are in a good position to evaluate a recipient's ability to repay the loan. Geertz [1962] describes several forms of rotating credit societies from around the world and observes that as the overall economy becomes more monetized and developed, interest repayment plays an increasingly important role in this type of informal credit mechanism.

The nature of inter-household credit in the Soviet-type economy was close in spirit to the rotating credit society. Households knew each other well, hence monitoring costs were not great; mobility was to some extent limited (by virtue of the necessity of procuring permits to live in certain cities and wide-spread housing shortages).

Besley, Coate and Loury [1990] have developed a general equilibrium model of a rotating credit savings and credit association. In their model, individuals are made better off by joining a rosca than trying to save up for a durable good on their own. In addition, they have the surprising result that a random rosca may under certain circumstances yield a higher level of expected utility than a perfectly competitive credit market.

### 3. Specific to the Soviet Case<sup>42</sup>

The conditions in Soviet society under the command- administrative economy system that gave rise to informal household provision of credit may be described by the following example. In Figure 1 savings grow at a fixed rate for a typical individual, denoted by the ray from the origin, 0A. At time  $t=1$  the individual has saved 100 rubles. Also at time  $t=1$ , a friend asks to borrow 100 rubles until time  $t=2$ . If the individual chooses not to make the loan, savings will grow at the rate indicated by 0A. If the loan is made, then savings follows the path indicated by the discontinuous broken line 0B. In this instance, the friend has offered to pay interest on the loan, although as discussed above, this is not important in the individual's decision to make the loan.



Hence, at time  $t=2$  the individual's savings return to their original path, increased by the payment of interest. (Although, as mentioned above interest payments are generally not expected.)

Why is the lender willing to make this loan, drawing his own resources down to zero?

There are several possible reasons:

1. The lender believes the likelihood of default is small;

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<sup>42</sup> A formal model and of this phenomenon is developed in my dissertation, "The Impact of Supply Uncertainty on Informal Credit Mechanisms: The Case of Russia," Duke University, forthcoming.

2. The lender believes in his own ability to raise funds to make a purchase should the opportunity arise in the time period before repayment;
3. The lender recognizes that his provision of a loan increases the likelihood of procuring a loan from the recipient in the future;
4. During the period of the loan (and perhaps afterward) the recipient may be obligated to provide the lender other non-monetary benefits -- use of car, dacha, services. These are not explicit "payments", but may serve the same purpose as interest payments in providing the agent with some benefits for the use of his savings; and
5. More attractive savings instruments may not be available.
6. The agent sees that the opportunity to purchase a good during the period has a probability distribution; that is, the availability of the good is not guaranteed.

One of the significant findings relating to the success of local money lenders in developing countries, is the fact that they know their clientele well, and are in a good position to judge the creditworthiness of potential borrowers. This relates to point 1. above: Who better to judge the creditworthiness of a person than close friends and co-workers? [Bell, 1988]

With respect to the availability of goods, the lender recognized that goods are available only unpredictably. However, the lender may have a belief about what the probability of obtaining a particular good is. The probability may be some function of the following:

connections

age

location

occupation (For example, those in the retail trade sector certainly have greater access to consumer goods, for example)

Because individuals have differing views of their probability of obtaining goods, rubles will have differing values at any point in time. These differences in the subjective value of the ruble also drive part of the informal market for credit in the USSR.

## V. Conclusion

The nature of consumer credit in the former Soviet Union has been poorly researched in both the West and the USSR. This paper describes the formal or state sponsored system of consumer credit, estimates the total value of credit extended, and describes the nature of informal credit mechanisms. Soviet citizens relied heavily upon these informal lines of credit to purchase durable goods and make semi-legal cash transactions.

Several features of the Soviet economic system made these informal credit arrangements possible and necessary. Official sources of credit were planned and rationed, and consumers did not necessarily have equal access to goods and/or credit. The opportunity to make a purchase arose unpredictably and suddenly. This increased the transactions cost of every purchase; hence individuals needed to obtain cash quickly. For many goods much of the purchase "price" of the good included a bribe or were in some other way illegal/semi-legal. In large part these informal credit arrangements developed in response to the uncertainty inherent in the command-administrative economy of the Soviet Union.

Under perestroika and in the current period of economic transition, the levels of uncertainty are even higher than before. Former official sources of credit are undergoing change, and new institutions have not yet taken root. Under these conditions, informal credit markets will continue to play a vital role in providing liquidity. Successful new institutions of financial intermediation should take into account those aspects of Soviet behavior that are manifest in the informal credit markets described above.

## Appendix A: Tables

Table A1: Value of Outstanding Debt at the End of the Year extended by State Banks

	Total	Short- Term	Long- Term	Short% Total
1970	126234	104739	21495	0.83
1971	137029	111565	25464	0.81
1972	150541	120859	29682	0.80
1973	168880	134660	34220	0.80
1974	188709	149269	39440	0.79
1975	204044	160715	43329	0.79
1976	227868	177397	50471	0.78
1977	254037	193733	60304	0.76
1978	274920	206060	68860	0.75
1979	300397	225020	75377	0.75
1980	342464	261394	81070	0.76
1986	452562	356637	95925	0.79
1987	432130	334738	97392	0.77

Source: Finansy SSSR: statisticheskiy sbornik, various years.

Table A2: Sales to the Population of Goods Through State And Cooperative Stores (thousand units)

	1970	1975	1980	1985	1988
Radio Equipment	5870	7591	6634	6894	7081
Television Sets	5580	6002	6523	8116	8409
Cameras	1337	1773	2315	2008	2114
Bicycles and Moped	4198	4368	4639	5132	5669
Motorcycles	816	1033	1210	1171	1288
Sewing Machines	1257	1237	1204	1304	1402
Watches	28240	35536	40257	48581	52428
Refrigerators/Fre	3756	4823	4910	4430	4793
Washing Machines	4135	3241	3538	4487	5536
Tape Recorders	984	21902	2755	4458	5729

Source: Torgovlya SSSR, 1989, pp. 152-157.

Table A3: Installment Credit Sales of Durable Goods to Households (thousand units)

	1970	1975	1980	1985	1988
Radio Equipment	833	962	659	786	799
Television Sets		3186	1919	3089	2683
Cameras	32	31	39	-	-
Bicycles and Moped	334	258	192	171	144
Motorcycles	212	179	157	315	303
Sewing Machines	148	193	56	-	-
Watches	136	199	246	187	147
Refrigerators/Fre	-	-	863	1013	837
Washing Machines	-	-	220	110	90
Camera Equipment	12.3	10.3	9.1	12	12

Source: Torgovlya SSSR, 1989. p. 172.

Table A4: Average Retail Trade Price for Consumer Goods (rubles per unit)

	1970	1975	1980	1985	1988
Radio Equipment	71.25	88.71	105.55	110.63	120.38
Television Sets					
Color	774.34	650.22	706.87	643.99	713.19
Black & White	329.84	313.8	229.36	229.1	216.78
Cameras	33.38	37.58	63.36	71.76	62.63
Bicycles and Mopeds	63.1	64.15	79.04	77.6	81.52
Motorcycles	592.85	668.62	824.99	964.81	1010.79
Sewing Machines	67	87.25	124.8	142.04	149.03
Watches	17.3	21.1	27.77	23.64	24.03
Refrigerators/ Freezers	214.51	244.58	249.66	288.11	316.83
Washing Machines	92.16	87.04	88.61	94.61	94.58

Source: Torgovlya SSSR, 1989, p. 92

Table A5: Long-term Credit Extended to ZhSK by Stroibank for the Year, By Republic (rubles per urban resident)

Sorted by Decreasing Value

1974	1975	1979	1980	1986	1987
Lithuania 11.33	Lithuania 10.24	Lithuania 6.60	Lithuania 7.98	Lithuania 19.51	Lithuania 18.57
Georgia 6.28	Estonia 5.49	Georgia 6.19	Estonia 5.91	Moldovia 15.30	Belorussi 12.18
Belorussia 6.06	Georgia 5.14	Belorussi 5.23	Georgia 5.86	Georgia 10.70	Moldovia 11.70
Estonia 5.77	Belorussi 5.02	Moldovia 5.16	Moldovia 5.61	Belorussi 10.29	Estonia 8.77
Moldovia 5.36	Moldovia 4.96	Estonia 4.21	Belorussi 5.48	Lativa 9.82	Georgia 7.41
Lativa 4.67	Lativa 4.93	Tadzhikis 3.32	Lativa 4.01	Estonia 9.42	Lativa 7.41
Armenia 4.02	Ukraine 3.30	Lativa 3.30	Kirgizia 3.24	Uzbekista 6.48	Armenia 6.88
Ukraine 3.54	Armenia 3.27	Ukraine 3.06	Ukraine 3.09	Ukraine 6.03	Ukraine 6.57
USSR 3.14	USSR 2.96	Armenia 2.76	USSR 2.56	Armenia 5.66	Kirgizia 6.50
RSFSR 2.88	RSFSR 2.84	USSR 2.55	Armenia 2.46	USSR 5.54	Uzbekista 6.21
Tadzhikist 2.66	Tadzhikis 1.88	Uzbekista 2.38	RSFSR 2.15	Kirgizia 4.67	USSR 6.07
Kirgizia 2.06	Kirgizia 1.44	RSFSR 2.17	Uzbekista 1.80	RSFSR 4.62	Tadzhikis 5.55
Kazakhstan 1.41	Kazakhsta 1.27	Kirgizia 2.05	Tadzhikis 1.63	Kazakhsta 4.03	RSFSR 5.34
Uzbekistan 1.30	Uzbekista 0.87	Azerbaidz 1.09	Turkmenia 1.26	Tadzhikis 3.16	Azerbaidz 4.89
Azerbaidzh 1.30	Azerbaidz 0.68	Kazakhsta 1.05	Azerbaidz 1.23	Azerbaidz 2.54	Kazakhsta 3.82
Turkmenia 0.00	Turkmenia 0.58	Turkmenia 0.83	Kazakhsta 1.08	Turkmenia 0.97	Turkmenia 1.62

Source: Finansy SSSR: statisticheskiy sbornik, various years

Table A6: Long-term Credit from Gosbank to the Rural Population for Individual House Construction and Other Goals For the Year, By Republic (rubles per rural resident)

Sorted by Decreasing Value

1974	1975	1979	1980
Lithuania 8.87	Lithuania 9.80	Moldovia 0.45	Moldovia 0.44
Ukraine 3.07	Ukraine 3.24	Kirgizia 0.29	Georgia 0.27
Kirgyzstan 2.28	Kirgyzstan 1.83	Georgia 0.27	Ukraine 0.23
Lativa 1.63	USSR 1.46	Ukraine 0.20	Kirgizia 0.22
USSR 1.48	Lativa 1.19	Kazkah 0.19	Kazkah 0.21
RSFSR 1.11	RSFSR 1.05	Azeri 0.16	USSR 0.16
Georgia 0.97	Georgia 0.85	Turkmenia 0.15	Turkmenia 0.15
Kazakhstan 0.87	Kazakhstan 0.81	USSR 0.14	RSFSR 0.14
Moldova 0.70	Moldova 0.65	RSFSR 0.12	Azeri 0.12
Tadzhikista 0.68	Turkmenista 0.62	Belorussia 0.11	Belorussia 0.11
Turkmenista 0.64	Azerbaidjan 0.55	Estonia 0.10	Estonia 0.10
Azerbaidjan 0.63	Tadzhikista 0.52	Uzbek 0.08	Lithuan 0.09
Armenia 0.59	Uzbekistan 0.40	Tadzhik 0.08	Tadzhik 0.07
Uzbekistan 0.49	Armenia 0.39	Latvia 0.06	Uzbek 0.06
Estonia 0.22	Estonia 0.22	Armenia 0.05	Latvia 0.06
Belorus 0.19	Belorus 0.17	Lithuan 0.05	Armenia 0.05

Source: Finansy SSSR: statisticheskiy sbornik, various years

## Appendix B: Notes on the Calculation of Loan Rank Index

The loan rank index was computed to establish a relative measure of the credit that would indicate which republics received the highest and lowest share of state bank credit for housing construction. Data for ihc was available for rural and urban residents for 1974, 1975, 1979, 1980. Data was available for cooperative housing construction for urban residents for six years - the four listed above plus 1986 and 1987. The value of per capita credit for each republic was ranked for each year. A count was made of the number of times a republic fell in the top four positions and the bottom four positions for the years above. These counts are shown below.

Individual Housing Construction RURAL Max = 4	Individual Housing Construction URBAN Max = 4	Cooperative Housing Construction URBAN Max = 6
<b>Top Four</b>		
Lith 4	Mold 4	Lith 6
Uk 4	Bel 2	Geo 5
Kirg 4	Uzbe 2	Belo 5
Lat 3	Lith 2	Est 4
USSR 1	Geo 2	Mold 4
	Uk 2	
	Kirg 2	
<b>Bottom Four</b>		
Est 4	Arm 4	Kaz 6
Belo 4	Lat 3	Turk 6
Arm 2	Tadz 2	Azer 6
Uzbe 2	Azer 2	Uzbe 2
Turk 2	Est 1	Tadz 2
Tadz 2	Turk 1	Kir 1
	RSFSR 1	RSFSR 1
	Uzbe 1	
	Geo 1	

The number of times the republic appeared was divided by the number of years for each type of credit and these figures were summed to create the loan rank values presented below. A value of 3.00 indicates that the republic appeared in that category every year for which data are available.

Republics receiving highest  
per capita credit for  
housing construction

High Rank Index

Lituania	2.500
Moldavia	1.667
Kirgizia	1.500
Ukraine	1.500
Belorussi	1.333
Georgia	1.333
Lativa	0.750
Estonia	0.667
Uzbekista	0.500
USSR	0.250

Republics receiving lowest  
per capita credit for  
housing construction

Low Rank Index

Turkmenia	1.750
Armenia	1.500
Azerbaid	1.500
Tadzhikis	1.333
Estonia	1.250
Uzbekista	1.083
Belorussi	1.000
Kazakstan	1.000
Latvia	0.750
RSFSR	0.417
Georgia	0.250
Kirgizia	0.167

These figures show that residents of Lithuania have benefited most from state credit for housing construction, and that residents of Tadzhikistan have benefited least. Most of the republics with high loan rank values were found in the northern parts of the USSR, the major exception being Kirgizia, which ranks third on this index. The reverse is true for the ranking of republics receiving the lowest levels of percapita housing construction credit. Five of the six republics which the lowest level of credit were southern, the exception being Estonia. Four of these republics were in Central Asia.

One issue which needs to be cleared up is that of the mechanism which triggers the state credit. If state credit for housing construction is a function of the populations savings then credit for housing construction is most likely to flow to republics with higher incomes. This poses a problem for the two republics that seem misplaced: Kirgizia, with a high value in the in the high credit recipients' column, and Estonia in the other column.

## Appendix C

Translation of the Berkeley-Duke Household Budget Survey  
 Questions that are relevant to the issues of private borrowing  
 and lending.

IX. Family Possessions and Saving in the LNY

4. What was your family's total debt at the end of the LNY?
- a. to state, cooperative and social entities  
 (excluding payments in connection with house or apt)? \_\_\_\_\_ rub.
- b. to private parties \_\_\_\_\_ rub.
5. During the LNY, what amount did your family pay as principal repayment and interest (per month or year)
- |   | Per<br>Month | Per<br>Year |
|---|--------------|-------------|
| a. to state, cooperative and social entities<br>(excluding payments in connection with house or apt)? | _____        | _____       |
| b. to private parties   | _____        | _____       |
6. How much did you family put aside as savings in the course of the LNY?  
 \_\_\_\_\_ rub.
7. As is generally known, in the USSR private persons do not have access to a system of bank credit. As a result, people are frequently forced to borrow from each other to an extent which is less accepted in the West, but which is considered perfectly normal in the USSR. If you had needed money for a large purchase, in the course of a few days could you have borrowed from either friends or relative for a six-month period (in the LNY)?  
 \_\_\_\_\_ Yes \_\_\_\_\_ No
- What maximum amount? \_\_\_\_\_ rub.
8. If a friend or relative had turned to you with such a request and you wanted to help him, what was the maximum amount you could have lent him for a six-month period?  
 \_\_\_\_\_ rub.  
 With a promissory note or without? (underline)

X. The Family's Income in the LNY

5. How much interest did your family earn:
- a. from the state (on passbook savings, bonds, etc.)? \_\_\_\_\_ rub.
  - b. from private parties? \_\_\_\_\_ rub.
6. How much support (non-repayable) did your family receive from relatives? \_\_\_\_\_ rub.
7. Total amount of installment credit received by your family in the LNY: \_\_\_\_\_ rub.
8. Total amount of money borrowed by your family during the LNY:
- a. from credit unions and "chernaya kassa" (to which co-workers voluntarily and systematically contributed certain amounts) \_\_\_\_\_ rub.
  - b. from private persons (including relatives) \_\_\_\_\_ rub.

## Appendix D

## Means Tests to Determine Regional Variation in the Amounts that Households Said They Could Borrow or Lend

Means tests were run to determine whether the values from different regions of the Soviet Union were statistically different. The results are presented in Table D1.

Table D1: Means Tests: Values of t-Statistics

Region	N	Mean	StdErr	t
<u>Borrow</u>				
Armenia	139	3,500	268.48	
Rest	829	1,740	100.53	-6.5360
North	693	1,502	82.51	
South	136	2,968	432.08	-5.4934
Len/Mos	341	1,489	111.05	
North	352	1,515	121.86	-0.1559
<u>Lend</u>				
Armenia	175	3,513	263.02	
Rest	859	1,167	92.63	-9.8981
North	721	925	55.32	
South	138	2,426	486.49	-6.0734
Len/Mos	355	850	72.40	
North	366	998	83.26	-1.3404

Source: Berkeley-Duke survey

The test statistics were calculated according to the following:

$$t = \frac{\mu_1 - \mu_2}{\sqrt{se_1^2 + se_2^2}}$$

Here,  $\mu_1$  and  $\mu_2$  are the computed averages, and  $se_1$  and  $se_2$  are the respective standard errors of the means.

Absolute values of t greater than 1.697, indicate that the averages are statistically different at the 95 percent confidence level. Clearly, Armenia differs from the rest of

the USSR, and there is a difference in the amount a household is willing to lend and believe is able to borrow between the North and the South. There is no statistical difference between Moscow/Leningrad and the rest of the North. This test was conducted to check for any differences between these two largest, most cosmopolitan cities, and the rest of the urban north.

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